1957

GENERAL

RADIO SUPPLY CO.

CAMDEN, N. J.
(AT BRIDGE PLAZA)
WO 4-8383

PHILA. PHONE
WA 2-7037

NORRISTOWN, PA.
BROADWAY 9-1026

The *Radio-Electronic*
MASTER
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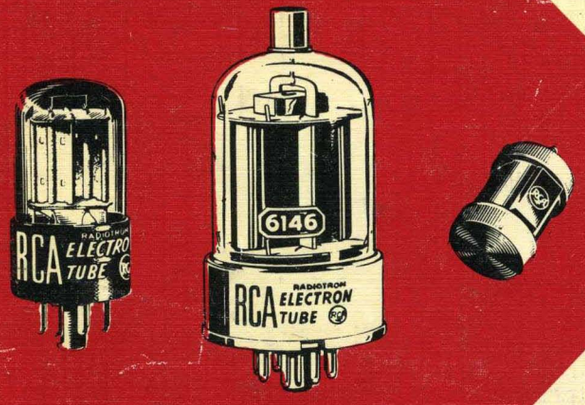

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1957
21st Edition

formerly *Radio's MASTER®*

OFFICIAL

PARTS and EQUIPMENT CATALOG

OF THE

RADIO, TELEVISION & ELECTRONIC INDUSTRY

for products sold by distributors

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- SPECIFICATIONS
- ILLUSTRATIONS
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The Radio-Electronic MASTER

1957 (21st) Edition

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The Radio-Electronic MASTER

Formerly *Radio's MASTER*®

1957 (21st) Edition

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1957 (21st) Edition

PRODUCT SECTION INDEX
By Section and Folio

NOTE: This is a bare outline of the eighteen sections of The MASTER. It will serve for speedy reference and for the purpose of familiarizing yourself quickly with its general contents. Regular use of The MASTER will reveal additional items too numerous to list here — you may also discover an item in a section to which it does not directly relate. For more complete and precise information, consult the detailed General Index which precedes (Index pages 6 through 23).

SECTION A

TUBES—RECEIVING AND TELEVISION, TRANSMITTING, INDUSTRIAL, SPECIAL TUBES—TRANSISTORS, DIODES—DIAL AND PANEL LAMPS

(See Section H for additional Germanium & Selenium Diodes)

Section & Page	*Name of Manufacturer*
A-1 to 5	Radio Corporation of America
A-6	Allen B. Dumont Labs., Inc.
A-7 to 11	General Electric Co.
A-12	CBS-Hytron
A-13 to 18	Raytheon Manufacturing Co.
A-19 to 21	Sylvania Electric Products, Inc.
A-22	Sonotone Corporation
A-23 to 25	Tung-Sol Electric, Inc.
A-26	Telefunken (American Elite, Inc.)
A-27	Lewis & Kaufman, Ltd.
A-28, 29	Amperex Electronics Corp.
A-30, 31	Eitel-McCullough, Inc. (Eimac)
A-32	Penta Laboratories, Inc.
A-33	Electrons, Inc.
A-34	National Electronics, Inc.
A-35	Taylor Tubes, Inc.
A-36	Chatham Electronics
A-37	Radio Receptor Co., Inc.
A-38	International Rectifier Corp.
A-39	General Transistor Corp.

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Section & Page	*Name of Manufacturer*
B-1 to 9	Newcomb Audio Products Co.
B-10, 11	Electro-Voice, Inc.
B-12	Don McGohan, Inc.
B-13	Webster Electric Co.
B-14	Precision Electronics, Inc.
B-15	Fanon Electric Co., Inc.
B-16 to 27	Mark Simpson Mfg. Co., Inc. (Masco)
B-28	Argos Products Co.
B-29 to 31	David Bogen Co., Inc.
B-32 to 34	Talk-A-Phone Co.
B-35	Conrac, Inc. (Fleetwood)
B-36 to 39	Tech-Master Corp.
B-40, 41	Philmore Mfg. Co., Inc.

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C-1	R. T. Bozak Co.
C-2 to 7	University Loudspeakers, Inc.
C-8	Radio Corporation of America
C-9	James B. Lansing Sound, Inc.
C-10 to 15	Electro-Voice, Inc.
C-16	Oxford Electric Corp.
C-17 to 27	Jensen Manufacturing Company
C-28	Sonotone Corporation
C-29	Kingdom Products, Ltd.
C-30	Karlson Associates, Inc.
C-31 to 33	Quam-Nichols Co.
C-34 to 36	Utah Radio Products, Inc.
C-37 to 39	Cletron, Inc.
C-40, 41	Atlas Sound Corp.
C-42, 43	Stephens Mfg. Corp.
C-44 to 47	Racon Electric Co., Inc.
C-48, 49	Bud Radio, Inc.
C-50 to 55	Lowell Mfg. Co.
C-56	D & M Products

SECTION D

MICROPHONES—MICROPHONE STANDS
PICKUPS—CARTRIDGES

D-1 to 8	Shure Brothers, Inc.
D-9 to 13	Turner Company
D-14 to 17	Electro-Voice, Inc.

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Section & Page	*Name of Manufacturer*
D-18 to 21	American Microphone Co., Electronics Div. Elgin National Watch Co.
D-22, 23	Astatic Corporation
D-24, 25	Ronette Acoustical Corp.
D-26, 27	Atlas Sound Corp.
D-28	Webster Electric Co.
D-29	Frank L. Capps & Co., Inc.

HEADPHONES

D-30, 31	Trimm, Inc.
D-32	C. F. Cannon Co.
D-33	Brush Electronics Co.
D-34	Wm. J. Murdock Co.

SECTION E

RECORDERS AND RECORDING EQUIPMENT
TRANSCRIPTION AND REPRODUCING EQUIPMENT
PICKUPS—CARTRIDGES—MOTORS—TURNTABLES
RECORD CHANGERS—DISCS—NEEDLES—TAPE

E-1 to 5	Rek-O-Kut Company
E-6 to 9	Presto Recording Corp.
E-10	Metzner Engineering Corp.
E-11	Electro-Voice, Inc.
E-12	Sonotone Corporation
E-13	Fairchild Recording Equipment Co.
E-14	Components Corp.
E-15 to 17	Pickering & Co., Inc.
E-18	Pacific Transducer Corp. (Clarkstan)
E-19	Ortho-Sonic Instruments, Inc.
E-20	Audak Co., Inc.
E-21	Electro-Sonic Laboratories
E-22	Thorens Company
E-23 to 25	Fenton Company
E-26	British Industries Corp. (Garrard)
E-27	De Jur-Amsco Corporation
E-28, 29	V-M Corporation
E-30	Audiogersh Corp.
E-31	Rockbar Corporation
E-32 to 34	General Industries Co.
E-35	Orradio Industries, Inc.
E-36 to 39	Alliance Mfg. Co.
E-40	Minnesota Mining & Mfg. Co.
E-41	Robins Industries Corp.
E-42, 43	Audio Devices, Inc.
E-44, 45	Duotone Co., Inc.
E-46, 47	Recoton Corporation
E-48, 49	Permo, Inc.
E-50 to 52	Walco Products, Inc., (Electrovox Co., Inc.)

SECTION F

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F-1 to 17	Cinch-Jones Sales Div. Cinch Mfg. Corp.
F-18 to 27	Amphenol Electronics Corp.
F-28 to 30	Eby Sales Co.
F-31	Erie Resistor Co.
F-32 to 41	Cannon Electric Co.
F-42 to 44	Elco Sales Company
F-45	Pomona Electronics Co., Inc.
F-46 to 49	Vector Electronics Co.
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G-1 to 11	Radio Corporation of America
G-12	Sprague Products Corp.
G-13 to 19	Simpson Electric Co.
G-20, 21	Hoyt Electrical Instrument Co.
G-22 to 27	Weston Electrical Instrument Co.
G-28, 29	Chicago Industrial Instrument Co.
G-30, 31	Sterling Manufacturing Co.
G-32, 33	Shurite Meters
G-34 to 55	Hickok Electrical Instrument Co.
G-56, 57	Phaostron Instrument & Electronic Co.
G-58 to 69	Triplett Electrical Instrument Co.
G-70	Aero Instrument Co.
G-71 to 73	Jackson Electrical Instrument Co.
G-74	Electro-Mechanical Instrument Co.
G-75 to 79	J-B-T Instruments, Inc.
G-80 to 83	Electronic Instrument Co. (Eico)
G-84, 85	Waterman Products Co., Inc.
G-86, 87	Electro-Impulse Laboratory, Inc.
G-88	Hycon Mfg. Co.
G-89 to 93	Precise Development Co.
G-94, 95	Superior Instruments Co.
G-96	Nucleonic Co. of America
G-97	Electronic Measurements Corp.
G-98	Jones Electronics Co., Inc.
G-99 to 109	Freed Transformer Co., Inc.
G-110, 111	Berkshire Laboratories
G-112	Industrial Instruments, Inc.
G-113	Radion Corp.
G-114 to 117	Precision Apparatus Co., Inc.
G-118 to 123	Measurements Corporation
G-124	International Instruments, Inc.
G-125	Scala Radio Co.
G-126, 127	Precise Measurements Corp.
G-128	Seco Manufacturing Co.
G-129	Universal Atomics Corp.
G-130	Desco Manufacturing Co.
G-131	Teletest Instrument Corp.

SECTION H

PILOT AND DIAL LIGHTS—ASSEMBLIES

H-1 to 10	Dialight Corporation
H-11	Industrial Devices, Inc.

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H-12, 13	Drake Manufacturing Co.
H-14	E. F. Johnson Company

FUSES

H-15 to 17	Bussman Mfg. Co.
H-18	El-Menco Products Co.
H-19 to 23	Littelfuse, Inc.

RECTIFIERS: DRY DISC, SELENIUM INSTRUMENT
GERMANIUM & SELENIUM DIODES
(See Section A for additional Diodes and Transistors)

H-24	General Electric Co.
H-25	Schauer Mfg. Corp.
H-26	Sarkes Tarzian, Inc.
H-28, 29	Radio Receptor Co., Inc.
H-30	Sanford Miller Co.
H-31	Pyramid Electric Co.
H-32, 33	International Rectifier Corp.
H-34, 35	Federal Telephone & Radio Corp.
H-36	Technical Apparatus Builders (Tabtron)
H-37	Conant Laboratories
H-38	Electronic Devices, Inc.

SECTION J

COMMUNICATION RECEIVERS—TRANSMITTERS
AMATEUR EQUIPMENT AND ACCESSORIES
VARIABLE CAPACITORS—COILS—INSULATORS

J-1	Radio Mfg. Engineers, Inc. (RME)
J-2 to 5	National Company, Inc.
J-6	Harvey-Wells Electronics, Inc.
J-7 to 21	James Millen Mfg. Co., Inc.
J-22	Vibroplex Co., Inc.
J-23 to 39	E. F. Johnson Company
J-40 to 43	Hammarlund Mfg. Co., Inc.
J-44	Stanwyck Winding Co.
J-45	Morrow Radio Mfg. Co.
J-46 to 49	Gonset Company
J-50, 51	Allen D. Cardwell Electronics Productions Corp.
J-52, 53	Jennings Radio Mfg. Co.
J-54	Meissner Products, Div. Thordarson-Meissner
J-55 to 59	J. W. Miller Co.
J-60 to 63	Burnell & Co., Inc.
J-64 to 67	Bud Radio, Inc.

METAL HOUSINGS
RACKS, CABINETS, PANELS, ETC.

J-68 to 79	Bud Radio, Inc.
J-80 to 89	Premier Metal Products Co.
J-90 to 109	Par-Metal Products Co.
J-110	U. M. & F. Mfg. Corp. (SeeZak)
J-111 to 117	Insuline Corp. of America
J-118 to 121	California Chassis Co.
J-122	L. M. Bender Co. (LMB)
J-123 to 125	Middletown Mfg. Co., Inc.
J-126 to 142	Wyco Metal Products, Inc.
J-143	Specific Products
J-144	Hammarlund Mfg. Co., Inc.

CRYSTALS—AMATEUR, COMMERCIAL, SPECIAL

J-145	James Knights Co.
J-146, 147	Monitor Products Co.
J-148, 149	Petersen Radio Co., Inc.
J-150, 151	Bliley Electric Company
J-152	Valpey Crystal Corp.

SECTION K

BOOKS—MANUALS—RADIO DATA SERVICES

K-1	American Radio Relay League
K-2, 3	Radio Corporation of America
K-4 to 6	John F. Rider Publisher, Inc.
K-7	Gernsback Publications, Inc.
K-8, 9	Howard W. Sams & Co., Inc. (Coyne)
K-10	Editors & Engineers, Ltd.
K-11	MacMillan Company
K-12	John Wiley & Sons, Inc.
K-13	Oelrich Publications
K-14	Harry G. Cisin, Publisher

SECTION L

SWITCHES—TIMERS—RELAYS—JACKS—PLUGS
(See Section U for additional Jacks and Plugs)

L-1	Audio Development Co.
L-2 to 5	P. R. Mallory & Co., Inc.
L-6 to 9	Centralab Div. Globe Union, Inc.
L-10, 11	Cutler-Hammer, Inc.
L-12	Hetherington, Inc.
L-13 to 15	Carter Parts Co.
L-16 to 20	J-B-T Instruments, Inc.
L-21 to 31	Carling Electric, Inc.
L-32 to 35	Switchcraft, Inc.
L-36, 37	Licon Switch & Controls Div., Ill. Tool Works
L-38, 39	Tech Laboratories, Inc.
L-40, 41	Line Master Switch Corp.
L-42	Recora Company, Inc.
L-43 to 45	Specialties Mfg. Co.
L-46, 47	General Control Co.
L-48, 49	Grayhill
L-50, 51	Ohmite Mfg. Co.
L-52, 53	Trimm, Inc.

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L-54 to 57	Advance Electric & Relay Div. Elgin National Watch Co.
L-58, 59	Amperite Co., Inc.
L-60 to 63	Potter & Brumfield
L-64, 65	Guardian Electric Mfg. Co.
L-66	Line Electric
L-67	Production Instruments Co.

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PHOTO ELECTRIC UNITS

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L-68, 69	General Electric Co.
L-70, 71	Worner Electronic Devices
L-72	Autotron Company
L-73 to 75	Ripley Co., Inc.

SECTION M

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M-1 to 4	Burgess Battery Co.
M-5	Radio Corporation of America
M-6 to 9	National Carbon Co. (Eveready)
M-10, 11	Ray-O-Vac Company

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GENERATORS, INVERTERS, VIBRATORS, PACKS
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M-12, 13	Mueller Electric Co.
M-14 to 35	American Television & Radio Co. (ATR)
M-36 to 40	P. R. Mallory & Co., Inc.
M-41 to 43	Cornell-Dubilier Electric Corp.
M-44 to 47	Radiart Corporation
M-48	Electro Products Labs
M-49	James Vibrapowr Co.
M-50	Schauer Mfg. Corp.
M-51	Vokar Corporation
M-52	Perma-Power Company
M-53 to 57	Carter Motor Company
M-58, 59	Raytheon Mfg. Co.
M-60 to 63	Superior Electric Co.
M-64	Sangamo Generators, Inc.
M-65 to 67	Spellman Television Co.
M-68, 69	Electronic Research Associates, Inc.
M-70	Associated Specialties Co.
M-71 to 74	Sola Electric Company
M-75	Technical Apparatus Builders (Tabtron)

SECTION N

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(See Section J for additional Coils)

N-1 to 20	Chicago Standard Transformer Corp.
N-21	Utah Radio Products, Inc.
N-22, 23	Altec Lansing Corp., Peerless Div.
N-24	Acro Products Company
N-25 to 73	Freed Transformer Co., Inc.
N-74 to 77	SNC Mfg. Co., Inc.
N-78 to 87	Triad Transformer Corp.
N-88	Rogers Electronics Corp.
N-89 to 109	United Transformer Co. (UTC)
N-110 to 114	Standard Electrical Products Co. (STACO)
N-115 to 117	Ferranti Electric, Inc.
N-118 to 133	Merit Coil & Transformer Corp.
N-134 to 137	Thordarson-Meissner
N-138 to 141	Microtran Company
N-142, 143	Ram Electronics Sales Co.
N-144	Sterling Transformer Corp.

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FIXED CAPACITORS, ALL TYPES
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CAPACITOR TESTERS—PRINTED CIRCUITS

P-1 to 25	Cornell-Dubilier Electric Corp.
P-26 to 34	Erie Resistor Corp.
P-35	Photocircuits Corp.
P-36 to 48	P. R. Mallory & Co., Inc.
P-49	Vitramon, Inc.
P-50 to 53	General Electric Co.
P-54 to 78	Sprague Products Co.
P-79 to 87	Centralab Div. Globe-Union, Inc.
P-88 to 99	Sangamo Electric Co.
P-100 to 126	Aerovox Corporation
P-127 to 141	Arco Electronics, Inc.
P-142, 143	Film Capacitors, Inc.
P-144 to 162	Pyramid Electric Co.
P-163 to 174	Astron Corporation
P-175 to 177	Electronic Fabricators, Inc.
P-178, 179	Planet Sales Corp.
P-180 to 183	Condenser Products Co., Inc.
P-184, 185	Plastic Capacitors, Inc.
P-186	Barco, Incorporated

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RESISTORS—VOLUME CONTROLS—BALLASTS
DECADES, BRIDGES—NOISE FILTERS & SUPPRESSORS
RHEOSTATS, POTENTIOMETERS, ATTENUATORS

R-1 to 21	International Resistance Co. (IRC)
R-22 to 31	Clarostat Mfg. Co., Inc.
R-32 to 37	P. R. Mallory & Co., Inc.
R-38 to 41	Centralab Div. Globe-Union, Inc.
R-42	Girard-Hopkins
R-43 to 47	Dale Products, Inc.
R-48	Aerovox Corporation
R-49 to 51	Lectrohm, Inc.
R-52, 53	Shallcross Mfg. Co.
R-54 to 57	Hardwick, Hindle, Inc.
R-58, 59	Sprague Products Co.
R-60 to 63	Continental Carbon, Inc.
R-64	Victory Engineering Corp.
R-65 to 69	Ohmite Mfg. Co.
R-70 to 72	Ward Leonard Electric Co.
R-73	G-C Electronics Mfg. Co. (Stackpole)
R-74, 75	Amperite Co., Inc.
R-76, 77	Eastern Precision Resistor Corp.
R-78, 79	Tru-Ohm Products
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S-1 to 27	Birnbach Radio Co., Inc.
S-28	Plastoid Corporation
S-29 to 49	Alpha Wire Corporation
S-50 to 53	Cornish Wire Co., Inc.
S-54 to 68	Belden Mfg. Co.
S-69 to 73	National Wire & Cable Corp.
S-74, 75	Federal Telephone & Radio Corp.
S-76 to 79	Consolidated Wire & Associated Cos.
S-80, 81	Columbia Wire & Supply Co.
S-82	Copperweld (Crown Metal Products Co.)
S-83 to 85	Saxton Products, Inc.

SECTION T

ANTENNAS AND SYSTEMS FOR TV-FM-AUTO
ANTENNA INSTALLATION ACCESSORIES
TV ANTENNA ROTATORS, TUNERS, BOOSTERS
TV PARTS — MOBILE ANTENNAS, ACCESSORIES

T-1	Technical Appliance Corp. (Taco)
T-2 to 5	Ward Products Corporation
T-6 to 9	Telrex Labs.
T-10, 11	Radio Merchandise Sales, Inc. (RMS)
T-12 to 15	Radiart Corporation
T-16	Spirling Products Co., Inc.
T-17	Crown Controls Co., Inc.
T-18, 19	Tenna Manufacturing Co.
T-20	Trio Manufacturing Co.
T-21	Thompson Products, Inc.
T-22	Hi-Lo TV Antenna Corp.
T-23 to 25	Master Mobile Mounts, Inc.
T-26, 27	Antenna Specialists, Inc.
T-28, 29	Premax Products
T-30	Webster Manufacturing Company
T-31	Davis Electronics
T-32	Columbia Products Company
T-33	Kenwood Engineering Co., Inc. (Kenco)
T-34 to 39	Jerrold Electronics Corporation
T-40 to 43	Mosley Electronics, Inc.
T-44	Television Hardware Mfg. Co.
T-45 to 47	Blonder-Tongue Labs., Inc.
T-48, 49	Alliance Mfg. Co.
T-50	Kuehne Mfg. Company
T-51	JFD Manufacturing Company, Inc.
T-52, 53	Dynamic Electronics, New York, Inc.
T-54, 55	Baker Manufacturing Co.
T-56	Porcelain Products, Inc.
T-57	Workman TV, Inc.
T-58	Alpar Manufacturing Corp.
T-59	Julius Blum & Company
T-60, 61	South River Metal Products Co., Inc.
T-62, 63	Radio Corporation of America
T-64	Standard Coil Products Co., Inc.

SECTION U

TOOLS: SOLDERING IRONS, PLIERS, WRENCHES, SCREWDRIVERS, NUTDRIVERS, CUTTING TOOLS
NEUTRALIZING & ALIGNMENT TOOLS
CONNECTORS—PLUGS, JACKS, CHEMICALS, OILS, PAINTS, ETC. HARDWARE, SERVICE AIDS OF EVERY DESCRIPTION—KNOBS

Section & Page	*Name of Manufacturer*
U-1	American Electrical Heater Co.
U-2, 3	Electric Soldering Iron Co., Inc.
U-4, 5	Hexacon Electric Co.
U-6, 7	General Electric Co.
U-8	Kwikheat Mfg. Co.
U-9	Weller Electric Co.
U-10, 11	Vulcan Electric Co.
U-12	Ungar Electric Tools, Inc.
U-13	Wen Products, Inc.
U-14, 15	P. Wall Mfg. Company
U-16	Oryx Company
U-17	Multicore Sales Corp.
U-18	Kester Solder Co.
U-19 to 21	Mathias Klein & Sons
U-22, 23	Greenlee Tool Co.
U-24	Utica Drop Forge & Tool Corp.
U-25	International Resistance Co.
U-26 to 29	Vaco Products Co.
U-30 to 33	Kraeuter & Co., Inc.
U-34 to 37	Xcelite, Inc.
U-38, 39	Erikson Specialized Tool Co.
U-40	Kedman Company
U-41	Snap-On Drawer Company
U-42, 43	Industrial Safety Belt Co.
U-44	Decimeter Products Co.
U-45	Permacel Tape Corp.
U-46	Dutch Brand Div., Johns-Manville Sales Corp.
U-47	Atlas E-E Corp.
U-48, 49	Akro-Mils, Inc.
U-50 to 69	Walsco Electronics Corp.
U-70, 71	Krylon, Inc.
U-72	Quietrole Co.
U-73	North Shore Nameplate, Inc.
U-74 to 89	Herman H. Smith, Inc.
U-90, 91	Bud Radio, Inc.
U-92 to 126	General Cement Mfg. Co.
U-127	Newcastle Fabrics Corp.
U-128	Electronic Chemical Corporation
U-129	Radio Corporation of America
U-130 to 135	Jan Hardware Corp.
U-136	Keystone Electronics Corp.
U-137 to 158	Insuline Corp. of America
U-160, 161	Harry Davies Molding Co.
U-162	Rogan Brothers
U-163 to 165	Waldom Electronics, Inc.
U-166 to 169	Gee-Lar Mfg. Co.
U-170 to 172	Kurz-Kasch Inc.
U-174, 175	Electronic Measurements Corp. (EMC)

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RCA ELECTRON TUBES

ENTERTAINMENT RECEIVING TYPES • SEMICONDUCTOR DEVICES

ENTERTAINMENT RECEIVING TYPES

RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*
OZ4	$1.40	5Y3G	1.45	6C4	1.50	6V6GT	1.95	12F8	2.35	80	1.70
OZ4G	1.70	5Y3GT	1.45	6C5	2.20	6W4GT	1.95	12H6	2.20	83V	3.40
1A3	2.50	5Y4GT	1.85	6C5GT	2.15	6W6GT	2.50	12J5GT	1.95	84/6Z4	1.85
1A5GT	2.30	5Z3	2.35	6C6	2.80	6X4	1.40	12J7GT	2.80	117L7GT/	
1A7GT	2.65	5Z4	3.60	6C8G	3.85	6X5GT	1.60	12K5	2.40	117M7GT	6.95
1AD5	3.50	6A7	3.05	6CB5	5.95	6X8	2.80	12K7GT	2.55	117N7GT	5.60
1AX2	2.60	6A8	3.10	6CB6	2.05	6Y6G	2.60	12K8	3.30	117P7GT	5.60
1B3GT	2.55	6A8G	2.95	6CD6G	5.05	7A4	2.30	12L6GT	2.00	117Z3	1.85
1C5GT	2.60	6A8GT	2.90	6CF6	2.15	7A5	2.75	12Q7GT	2.30	117Z6GT	3.15
1E8	3.85	6AB4	1.70	6CG7	2.20	7A6	2.30	12SA7	2.45		
1H5GT	2.15	6AB5/6N5	2.85	6CG8	2.80	7A7	2.25	12SA7GT	2.30	**INDUSTRIAL RECEIVING, POWER CATHODE RAY AND PHOTO TYPES**	
1L4	2.20	6AB7	3.55	6CH8	3.00	7A8	2.80	12SC7	2.50		
1L6	2.90	6AC5GT	3.10	6CL6	3.10	7AD7	4.70	12SF5	2.15		
1LA6	2.90	6AC7	3.25	6CM7	2.40	7AF7	2.75	12SF7	2.75		
1LB4	3.25	6AD7G	4.25	6CS6	2.00	7AG7	2.75	12SG7	2.60		
1LC5	2.90	6AF4A	3.45	6CU5	1.95	7AH7	2.75	12SH7	2.75		
1LC6	2.90	6AF6G	2.85	6D6	2.80	7AU7	2.25	12SJ7	2.25		
1LD5	2.90	6AG5	2.10	6DC6	2.30	7B4	2.20	12SK7	2.25		
1LE3	2.90	6AG7	3.75	6DE6	2.05	7B5	2.15	12SK7GT	2.15		
1LG5	2.90	6AH4GT	2.45	6DQ6A	3.75	7B6	2.35	12SL7GT	2.80		
1LH4	2.90	6AH6	3.45	6DT6	1.85	7B7	2.25	12SN7GT	2.30		
1LN5	2.90	6AK5	4.20	6E5	2.35	7B8	2.60	12SQ7	2.00		
1N5GT	2.60	6AK6	2.30	6F5	2.40	7C5	2.30	12SQ7GT	1.90		
1Q5GT	3.05	6AL5	1.55	6F5GT	2.40	7C6	2.35	12SR7	2.25		
1R5	2.25	6AL7GT	4.10	6F6	2.85	7C7	2.25	12V6GT	1.85		
1S4	2.55	6AM8	2.75	6F6G	2.25	7E7	3.35	12W6GT	2.50		
1S5	1.90	6AN8	2.95	6F6GT	2.25	7F7	2.75	12X4	1.40		
1T4	2.15	6AQ5	1.95	6F7	4.25	7F8	3.45	14A7	2.25		
1U4	2.10	6AQ6	1.70	6F8G	3.85	7G7	3.00	14AF7	2.75		
1U5	1.85	6AQ7GT	3.05	6G6G	3.05	7H7	2.75	14B6	2.35		
1V	2.55	6AR5	2.05	6H6	2.15	7J7	3.65	14C7	2.50		
1V2	1.60	6AS5	2.00	6J5	1.95	7K7	3.25	14F7	2.75		
1X2A	2.60	6AS8	3.00	6J5GT	1.90	7L7	3.10	14F8	3.45		
1X2B	2.60	6AT6	1.50	6J6	2.35	7N7	2.50	14Q7	2.75		
2A3	4.55	6AT8	2.80	6J7	2.75	7Q7	2.75	14R7	3.50		
2AF4A	3.45	6AU4GTA	2.90	6J7GT	2.80	7R7	3.50	19BG6GA	6.00		
2BN4	2.15	6AU5GT	3.45	6K6GT	1.90	7V7	3.50	19J6	2.50		
3A2	2.90	6AU6	1.85	6K7	2.60	7W7	3.50	19T8	2.90		
3A3	2.90	6AU8	3.05	6K7GT	2.55	7X7	3.35	19X8	3.10		
3AL5	1.60	6AV5GA	3.45	6K8	3.35	7Y4	2.00	24A	2.75		
3AU6	1.90	6AV6	1.55	6L6	4.70	7Z4	2.00	25A6	3.50		
3AV6	1.55	6AW8	3.20	6L6G	3.65	12A8GT	2.90	25BQ6GTB/			
3B2	4.45	6AX4GT	2.40	6L7	3.15	12AB5	1.85	25CU6	3.85		
3BC5	2.00	6AX5GT	2.25	6N7	3.25	12AD6	1.95	25CD6GA	4.95		
3BN6	2.75	6AZ8	3.35	6N7GT	3.10	12AE6	1.65	25L6	4.30		
3BY6	2.05	6B4G	4.55	6Q7	2.65	12AF6	1.85	25L6GT	1.95		
3BZ6	2.00	6B8	3.50	6Q7GT	2.30	12AH7GT	3.05	25W4GT	2.10		
3CB6	2.00	6BA6	1.85	6R7	2.80	12AJ6	1.55	25Z5	2.25		
3CF6	2.20	6BA7	2.95	6S4A	1.80	12AL5	1.65	25Z6GT	2.25		
3CS6	2.05	6BC4	4.10	6S7	3.25	12AQ5	1.95	27	2.15		
3DT6	1.90	6BC5	2.05	6S8GT	2.75	12AT6	1.50	35A5	2.55		
3LF4	3.25	6BC7	3.20	6SA7	2.45	12AT7	2.65	35B5	2.10		
3Q4	2.20	6BC8	3.40	6SA7GT	2.30	12AU6	1.85	35C5	1.95		
3Q5GT	2.80	6BD4A	14.25	6SB7Y	3.45	12AU7	2.20	35L6GT	1.95		
3S4	2.15	6BD6	1.80	6SC7	2.55	12AV6	1.45	35W4	1.25		
3V4	2.15	6BE6	1.90	6SF5	2.05	12AV7	3.05	35Y4	2.00		
4BC8	3.50	6BF5	2.25	6SF5GT	2.05	12AW6	2.45	35Z3	2.00		
4BQ7A	3.25	6BF6	1.60	6SF7	2.75	12AX4GTA	2.45	35Z4GT	1.55		
4BZ7	3.45	6BG6G	5.30	6SG7	2.65	12AX7	2.30	35Z5GT	1.45		
5AM8	2.80	6BH6	2.30	6SH7	2.75	12AZ7	2.60	41	2.30		
5AN8	3.00	6BH8	3.05	6SJ7	2.25	12B4A	2.30	42	2.15		
5AQ5	1.95	6BJ6	2.05	6SJ7GT	2.15	12BA6	1.85	43	2.30		
5AS4	1.75	6BK4	6.15	6SK7	2.25	12BA7	2.95	45	2.15		
5AS8	2.85	6BK5	2.75	6SK7GT	2.15	12BD6	1.80	47	5.30		
5AT8	2.80	6BK7A	2.90	6SL7GT	2.80	12BE6	1.90	50A5	2.55		
5AV8	3.00	6BL4	5.25	6SN7GTB	2.30	12BF6	1.60	50B5	2.10		
5AZ4	1.90	6BL7GT	3.45	6SQ7	2.00	12BH7A	2.60	50C5	1.95		
5CG8	2.80	6BN4	2.15	6SQ7GT	1.90	12BL6	1.85	50C6G	3.35		
5J6	2.35	6BN6	2.70	6SR7	2.20	12BQ6GTB/		50L6GT	1.95		
5T4	5.00	6BQ6GTB/		6SS7	2.75	12CU6	3.80	50X6	2.30		
5T8	2.95	6CU6	3.80	6SZ7	2.50	12BY7A	2.65	50Y6GT	2.30		
5U4G	1.80	6BQ7A	3.30	6T4	3.45	12C8	3.95	50Y7GT	2.25		
5U4GB	1.80	6BX7GT	3.35	6T8	2.90	12CA5	2.05	70L7GT	6.95		
5U8	2.90	6BY5GA	3.30	6U5	2.25	12CR6	1.90	71A	2.40		
5V4G	2.55	6BY6	2.00	6U8	2.90	12CU5	1.95	75	2.40		
5X4G	2.05	6BZ6	2.00	6V3A	3.95	12DQ6A	3.80	78	2.40		
5X8	2.80	6BZ7	3.45	6V6	3.65						

RCA TYPE	LIST PRICE*
80	1.70
83V	3.40
84/6Z4	1.85
117L7GT/ 117M7GT	6.95
117N7GT	5.60
117P7GT	5.60
117Z3	1.85
117Z6GT	3.15

INDUSTRIAL RECEIVING, POWER CATHODE RAY AND PHOTO TYPES

OA2	1.75
OA3	1.80
OA4-G	2.10
OB2	1.90
OC3	1.80
OD3	1.80
2D21	2.90
2E24	5.45
2E26	4.55
2X2A	2.60
3A5	1.75
3B28	7.60
3KP4	26.45
5R4-GY	2.70
6AS6	4.85
6AS7-G	6.25
6J4	6.30
10Y	7.40
12A6	2.60
12AY7	3.55
83	1.85
502-A	2.85
884	2.55
885	2.75
921	3.30
927	3.55
991	1.20
1635	2.75
2050	2.55
5618	6.35
5651	2.80
5653	1.60
5696	2.60
5763	3.00
5823	2.05
5879	2.50
6146	5.75
6159	5.75
6198	255.00
6293	7.00
6328	11.40
6417	3.00
6472	12.00
6883	5.75

TRANSISTORS

2N77	4.65
2N104	5.20
2N105	4.70
2N109	3.50
2N139	4.45
2N140	4.65
2N175	12.95
2N215	5.55
2N217	3.50
2N218	4.45
2N219	4.65
2N220	12.95

SEMICONDUCTOR DIODES

IN34-A	.90

TRANSISTORS p-n-p GERMANIUM-ALLOY TYPES

- Heremetically Sealed
- Extreme Stability
- Insulated Metal Envelopes
- Excellent Uniformity of Characteristics

RCA TYPE	Dist. Resale Price*	Description
2N77	$3.00**	Class A AF Amplifier
2N104	3.34**	Class A AF Amplifier
2N105	3.02**	Class A AF Amplifier
2N109	2.25**	Push-Pull Class B AF Amplifier
2N139	2.84**	Class A 455-Kc. IF Amplifier
2N140	3.00**	Converter in 540-1640 Kc Band
2N175	8.34**	Class A low-noise AF Amplifier
2N215	3.58**	Flexible-lead version of 2N104
2N217	2.25**	Flexible-lead version of 2N109
2N218	2.84**	Flexible-lead version of 2N139
2N219	3.00**	Flexible-lead version of 2N140
2N220	8.34**	Flexible-lead version of 2N175

SEMICONDUCTOR DIODES

GERMANIUM POINT-CONTACT TYPES

- Sealed-in-Glass Construction
- Low Shunt and Series Capacitances

RCA TYPE	Dist. Resale Price*	Description
1N34-A	$ .58**	General-Purpose Type
1N38-A	1.40	Large-Signal Type
1N54-A	1.15	High-Back Resistance Type
1N58-A	1.30	Large-Signal Type

*Optional. Prices higher in Hawaii and Alaska.

**For List Price, please see the RCA Receiving Tube List Price Card (3F1).

Prices shown do not include any state or local sales and similar taxes. All prices subject to change or withdrawal without notice.

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RCA ELECTRON TUBES
FOR INDUSTRY AND COMMUNICATIONS

DIRECT REPLACEMENT TYPES

RCA types shown below are direct replacements under all circumstances for corresponding types to be replaced. Tube types covered include: Vacuum Power Tubes, Rectifier Tubes, Thyratrons, Ignitrons, Voltage Regulators, Phototubes, Cathode-Ray Tubes, and Special Types.

Type to be Replaced	Replace by RCA Type
OA3/VR75	OA3
OC3/VR105	OC3
OD3/VR150	OD3
CE-1(A-D)	868, 918
1P29/FJ-401	1P29
1P32	927
2AP1	2AP1-A
2B4	885
2C38	2C39A
2C39	2C39A
ML-381	2C39A
3X100A11	2C39A
ZP572	2C39A
2X2/879	2X2-A
3-50G2	834
3AP1	3AP1-A
3BP1	3BP1-A
3C45	6130/3C45
3D22	3D22A
4D21	4-125A/4D21
4-250A	4-250A/5D22
5BP1	5BP1-A
5CP1	5CP1-A
5CP7	5CP7-A
5D22	4-250A/5D22
5FP7	5FP7-A
5HP1-A	5BP1-A‡
WT-6	6L6
6Q5-G	884
7BP7	7BP7-A
7C24	5762/7C24
7JP1	7VP1
PJ-8	5556
BW-11	834
CE-5(A-D)	927
7JP1	7VP1
CE-11(A-D)	917
RK-11	1623
12DP7	12DP7-A
FG-17	5557
WL-17	5557
CE-20	927
RK-20A	804
CE-21(A-D)	920
CE-23(A-D)	923
PJ-23	868
CE-25(A-D)	927
RK-25	802
RK-25B	802
CE-28(A-D)	928
RK-28	803
RK-28A	803
CE-29(A-D)	929, 1P39
CE-30(A-D)	930, 1P40
CE-30V	925
RK-30	800
FG-32	5558
WL-32	5558
RK-33	2C21/16-42
CE-34	934
RK-39	807
CE-41	921
CE-42	922
RK-44	837
KU-42	6130/3C45
RK-47	814
UH-50	834
CE-55	924
FG-57	5559
WL-57	5559
RK-57	805
RK-58	838
CE-59	5581
R59A	868
R60A	920
HY-61/807	807
R61A	930
CE-64	5583
FG-67	5728/F6-G7
VR75-30	OA3
CE-91R	IP37
FG-95	5560
CE-98	5582
100R	8020
FG-104	5561
Also WL-104	5561
VR105-30	OC3
VR150-30	OD3
WT-210-0001	2D21
WT-210-0003	884
WT-210-0004	2050
WT-210-0006	6H6
WT-210-0008	866-A
WT-210-0009	84/6Z4
WT-210-0011	OC3
WT-210-0012	80
WT-210-0013	5Z3
WT-210-0015	5557
WT-210-0018	OD3
WT-210-0019	83
WT-210-0021	6X5, 6X5-GT
WT-210-0025	117Z6-GT
WT-210-0027	872-A
WT-210-0028	3Q5-GT
WT-210-0029	6C5
WT-210-0031	902-A
WT-210-0037	117L7/M7-GT
WT-210-0038	172
WT-210-0040	6X4
WT-210-0042	5Y3-GT
WT-210-0044	575-A
WT-210-0045	892
WT-210-0048	5U4-G
WT-210-0052	2AP1-A
WT-210-0053	3AP1-A
WT-210-0056	5559
WT-210-0057	5560
WT-210-0058	676
WT-210-0060	OZ4
WT-210-0062	5557
WT-210-0069	5557
WT-210-0070	5550
WT-210-0071	5551
WT-210-0072	5552
WT-210-0073	5553
WT-210-0074	105
WT-210-0078	172
WT-210-0079	105
WT-210-0081	6SJ7
WT-210-0082	6V6
WT-210-0083	7K7
WT-210-0084	6N7-GT, 6N7
WT-210-0085	50B5
WT-210-0086	833-A
WT-210-0087	6K8
WT-210-0088	6J5-GT, 6J5
WT-210-0089	6G6-G
WT-210-0090	6C6
WT-210-0091	OA4-G
211-D	211
FG-235A	5552
FG-238B	5555
WT-245	884
WT-246	2050
HK-257(B)	4E27/8001
FG-258-A	5553
FG-259B	5554
WT-261	6H6
WT-262	866-A
WT-263	84/6Z4
WT-269	OC3
WT-270	80
WT-270X	5Z3
FG-271	5551
WT-272	5557
WT-274B	5R4-GY
WT-294	0D3
WT-301	83
UE-303A	203-A
WE-304B	834
F-307A	207
WT-308	6X5-GT
CE-309	5557
CE-311	3C23
UE-317C	217-C
ML-322A	803
NL-331A	805
350A	807
366-A	866-A
WT-377	117Z6-GT
ML-381	2C39-A
WT-389	3Q5-GT
WT-390	6C5
FJ-401	1P29
403A	6AK5
GL-415	5550
GL-451	8020
ZP522	2C39-A
WT-606	2D21
WL-630, WL-630A	2050
WL-631	5559
KU-634	677
WL-651/656	5552
WL-652/657	5551
WL-653B	5555
WL-655/658	5553
672	672-A
WL-679	5554
WL-681/686	5550
WT-699	5550
NL-715	5557
ML-728	5557
WL-735	868
801	801A
811	811-A
812	812-A
829	829-B
829-A	829-B
UE-830	830-B
832	832-A
833	833-A
857	857-B
862	862-A
866	866-A
866-A/866	866-A
869-A	869-B
872	872-A
872-A/872	872-A
879	2X2-A
889	889-A
889-R	889R-A
893	893-A
902	902-A
UE-905	805
905	905-A
906-P1	3AP1-A
908	908-A
914	914-A
931	931-A
UE-938	838
UE-945	845
UE-949	849
UE-966	866-A
UE-966A	866-A
UE-967	5557
UE-972A	872-A
UE-975A	575-A
1640	6405/1640
1701	5557
1802-P1	5BP1-A
1811-P1	7CP1
1849	1850-A
1850	1850-A
1851	6AC7
1853	6AB7
1854	6474/1854
1904	5728/FG-67
2051	2050
2525A5	5BP1-A
5553	5553-A
5563	5563-A
5604	5604-A
5814	5814-A
ML-5897	5718
ML-5898	5719
8001	4E27/8001
8012	8012-A
8016	1B3-GT
AX-9903	5894
WTT-100	6X4
WTT-102	5Y3-GT
WTT-103	6H6
WTT-104	575-A
WTT-105	892
WTT-111	5559
WTT-112	5560
WTT-113	676
WTT-114	0Z4
WTT-115	117N7-GT
WTT-117	5557
WTT-118	105
WTT-119	172
WTT-122	6SJ7
WTT-123	6V6
WTT-124	7K7
WTT-125	6N7-GT
WTT-126	50B5
WTT-127	833-A
WTT-128	6K8
WTT-129	6J5-GT
WTT-130	6G6-G
WTT-131	6C6
WTT-132	OA4-G
WTT-135	5U4-G
WTT-136	2AP1-A
WTT-137	3AP1-A
WTT-149	172

See next page for a complete listing and suggested user's prices of more than 340 RCA Non-Receiving Tube Types.

‡ Except in high-altitude service.

NOTE: For additional replacement data on RCA Tubes for Industry and Communications, refer to the 20-page RCA Interchangeability Directory (Form ID-1020A) which lists 2000 tube type numbers used by 26 manufacturers.

For complete technical information on RCA Tubes, see your RCA Distributor or write: Commercial Engineering, RCA Tube Division, Harrison, New Jersey.

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RCA ELECTRON TUBES

FOR INDUSTRY AND COMMUNICATIONS

INDUSTRIAL RECEIVING/POWER/CATHODE RAY/PHOTO

RCA Type	Dist. Resale Price Schedule*
CIK/6014	$11.30
C3J/5632	12.10
C3JA/5684	15.10
C6J/5C21	26.40
C6JA/5685	29.30
C16J/5665	57.90
OA2	1.26
OA2-WA	4.95
OA3	1.27
OA4-G	1.48
OB2	1.32
OB2-WA	5.35
OC3	1.27
OD3	1.27
1C21	3.85
1EP1	13.75
1EP2	14.65
1EP11	14.65
1P21	50.00
1P22	14.75
1P28	25.30
1P29	3.30
1P37	2.85
1P39	1.85
1P40	2.60
1P41	3.00
1P42	11.00
2AP1-A	11.85
2BP1	12.05
2BP11	13.70
2C39-A	22.50
2C40	26.00
2C43	23.50
2D21	2.04
2D21-W	2.90
2E24	4.65
2E26	3.85
2F21	144.00
2K26	56.50
2X2-A	2.20
3A4	1.20
3A5	1.22
3AP1-A	22.85
3B25	6.30
3B28	6.45
3BP1-A	17.85
3C23	11.98
3C33	21.25
3C45	See Type 6130/3C45
3D22-A	17.00
3E22	8.30
3E29	20.25
3FP7-A	26.15
3JP1	22.50
3JP7	25.95
3KP1	20.05
3KP4	21.85
3KP7	21.85
3KP11	21.00
3MP1	22.50
3RP1	17.30
3RP1-A	22.80
3RP4	19.95
4-65A	20.00
4-125A/4D21	30.25
4-250A/5D22	41.25
4-1000A	132.00
4C33	195.00
4E27/8001	26.00
4E27A/5-125B	35.75
4J50	350.00
4X150A	38.95
4X150D	38.95
4X500A	121.00
5ABP1	29.50
5ABP4	35.00
5ABP7	35.00
5ABP11	35.25
5ADP1	29.50
5AHP7	35.00
5AHP7-A	42.85
5AUP24	100.00
5AYP4	47.50
5AZP4	94.25
5BP1-A	25.50
5C21	See C6J/5C21
5CP1-A	27.00
5CP7-A	31.40
5CP11-A	31.40
5CP12	31.40
5FP4-A	41.75
5FP7-A	25.15
5FP14	27.85
5FP14-A	28.50
5FP15-A	33.35
5R4-GY	1.90
5UP1	17.50
5UP7	25.40
5UP11	26.45
5WP11	100.00
5WP15	100.00
5ZP16	100.00
6AC7-W	4.20
6AG7-Y	2.35
6AS6	3.46
6AS7-G	4.45
6F4	7.00
6J4	4.48
6J4-WA	7.05
6L4	7.35
6SJ7-Y	1.35
7BP7-A	40.00
7C24	See Type 5762/7C24
7CP1	39.45
7CP4	40.00
7MP7	38.00
7MP14	40.00
7NP4	660.00
7QP4	39.50
7TP4	54.00
7VP1	27.75
7WP4	720.00
8D21	1300.00
9C21	922.00
9C22	1300.00
9C25	1080.00
10KP7	55.00
10SP4	70.70
10-Y	6.30
12A6	1.85
12AY7	2.53
12DP7-A	70.75
12SW7	1.45
12SX7-GT	1.75
12SY7	1.60
16ADP7	81.75
26A6	3.20
26A7-GT	7.25
26C6	2.20
26D6	3.00
83	1.32
105	48.00
172	71.75
207	240.00
217-C	21.17
502-A	2.03
575-A	20.00
579-B	15.00
627	22.00
629	13.00
632-B	28.00
672-A	35.00
673	21.00
676	55.00
677	55.00
800	11.50
801-A	7.85
802	7.55
803	31.00
804	21.65
805	15.90
806	34.25
807	2.90
808	16.50
809	5.65
810	19.50
811-A	5.65
812-A	5.65
813	18.00
814	18.70
815	18.75
816	2.15
826	18.95
827-R	215.00
828	20.95
829-B	16.25
830-B	12.65
832-A	14.20
833-A	49.00
834	14.50
836	9.00
837	6.30
838	16.00
841	4.85
842	4.05
845	15.95
851	340.00
857-B	218.50
860	36.65
861	190.00
862-A	1322.00
865	11.50
866-A	2.65
868	2.85
869-B	138.00
872-A	8.50
878	12.75
880	545.00
884	1.85
885	2.00
889-A	210.00
889R-A	330.00
891	260.00
891-R	410.00
892	255.00
892-R	405.00
893-A	710.00
893A-R	1260.00
898-A	1322.00
902-A	14.15
908-A	24.40
912	155.00
914-A	145.00
917	4.65
918	3.60
919	4.65
920	4.95
921	2.80
922	2.60
923	2.35
924	3.30
925	2.85
926	2.95
927	3.00
928	4.00
929	1.50
930	2.45
931-A	8.60
934	3.40
935	9.15
954	7.40
955	4.00
956	8.00
957	5.35
958-A	8.35
959	8.75
991	.87
1609	14.50
1612	3.00
1613	2.45
1614	2.85
1616	8.65
1619	3.10
1620	6.25
1621	1.95
1622	2.50
1623	4.05
1624	4.00
1625	2.65
1626	1.85
1629	1.40
1631	3.20
1632	3.35
1634	1.55
1635	2.00
1699	‡‡
1850-A	565.00
1854	See Type 6474/1854
1904	Replace by Type 5728/FG-67
1945	135.00
1946	10.90
1947	13.15
1949	11.30
1950	8.35
2020	88.00
2022	3.00
2050	1.85
5527	150.00
5550	41.00
5551	65.00
•5551-A	65.00
5552	99.00
•5552-A	99.00
5553	216.00
5553-A	216.00
•5553-B	216.00
5554	163.00
5555	316.00
5556	18.25
5557	8.50
5558	17.50
5559	22.00
5560	28.00
5561	45.75
5563-A	47.00
5581	2.35
5582	4.30
5583	3.70
5584	4.50
5588	150.00
5592	1229.00
5604-A	570.00
5618	4.52
5632	See Type C3J/5632
5651	1.97
5652	6.55
5653	1.35
5654	3.90
5654/6AK5-W	6.45
5654/6AK5-W/6096	6.45
5665	See Type C16J/5665
5670	5.05
5671	1250.00
5675	13.20
5684	See Type C3JA/5684
5685	See Type C6JA/5685
5690	9.35
5691	8.45
5692	8.15
5693	6.40
5696	1.90
5713	195.00
5718	5.45
5718-A	5.45
5719	5.45
5719-A	5.45
5726	2.10
5726/6AL5-W	2.10
5726/6AL5-W/6097	3.45
5727/2D21-W	2.90
5728/FG-67	53.50
5734	18.00
5749	2.80
5751	3.80
5751-WA	5.55
5762/7C24	205.00
5763	2.11
5770	995.00
5771	543.00
5786	120.00
5814-A	4.15
5814-WA	5.10
5819	55.00
5820	1200.00
5822	116.00
5823	1.46
5825	16.65
5840	7.50
5840-A	7.50
5876	13.55
5879	1.75
5890	44.00
5893	19.40
5894	24.75
5915	1.20
5946	115.00
5963	1.40
5964	1.35
5965	2.15
6012	5.95
6014	See Type CIK/6014
6072	5.30
6073	3.00
6074	3.45
6080	6.00
6080-WA	10.50
6082	5.30
6101	7.25
6101/6J6-WA	7.25
6130/3C45	17.80
6136	3.70
6146	4.90
6159	4.90
6161	115.00
6166	930.00
6173	12.10
6181	835.00
6186/6AG5-WA	4.00
6189/12AU7-WA	4.80
6197	2.40
6198	230.00
6199	50.00
6205	9.50
6211	2.15
6217	70.00
6263	20.00
6264	20.00
6293	6.00
6323	7.95
6326	515.00
6328	9.70
6342	69.00
6372	344.00
6383	122.00
6405/1640	7.15
6417	2.11
6448	4330.00
6472	10.20
6474/1854	1700.00
6499	335.00
6521	225.00
6524	15.75
6570	7.60
6571	57.50
6655	55.00
6694-A	5.35
6806	6185.00
6810	215.00
6850	15.75
6861	915.00
6866	1175.00
6883	4.90
6896/1855	1425.00
8000	21.15
6903	375.00
8003	14.00
8005	12.65
8008	8.50
8012-A	15.50
8013-A	10.30
8020	24.00
8025-A	17.60
9001	4.25
9002	2.85
9003	4.25
9004	3.35
9005	4.40
9006	2.15

Prices shown include Federal Excise Tax where applicable. All prices subject to change or withdrawal without notice.
Prices in effect July 2, 1956.
* Optional. Prices Higher in Hawaii and Alaska.
‡‡ Quotations supplied on request.

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RCA PICTURE TUBES

LIST PRICE* SCHEDULE SEPTEMBER 15, 1956

SILVERAMA ALUMINIZED PICTURE TUBES —BRING OUT THE BEST IN ANY SET!

BLACK & WHITE PICTURE TUBES

RCA TYPE	List Price*	Shape	Envelope	Faceplate	Focus	Deflection	Deflection Angle†
••5TP4	$78.25	Round	Glass	Clear	Electrostatic	Magnetic	50
7DP4	39.75	Round	Glass	Clear	Electrostatic	Magnetic	50
7JP4	29.50	Round	Glass	Clear	Electrostatic	Electrostatic	—
8DP4	19.95	Rectangular	Glass	Filterglass	Electrostatic	Magnetic	90
10BP4-A	22.50	Round	Glass	Filterglass	Magnetic	Magnetic	52
•10FP4-A	26.00	Round	Glass	Filterglass	Magnetic	Magnetic	50
•12KP4-A	30.25	Round	Glass	Filterglass	Magnetic	Magnetic	54
12LP4-A	27.25	Round	Glass	Filterglass	Magnetic	Magnetic	57
14EP4/14CP4	29.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
14HP4	29.25	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	90
14RP4	29.25	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
•14RP4-A	34.75	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
16AP4-A	48.25	Round	Metal	Filterglass	Magnetic	Magnetic	53
16DP4-A	45.75	Round	Glass	Filterglass	Magnetic	Magnetic	60
16GP4-B	48.25	Round	Metal	Frosted Filterglass	Magnetic	Magnetic	70
16LP4-A	44.50	Round	Glass	Filterglass	Magnetic	Magnetic	52
16RP4/16KP4	33.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
•16RP4-A/16KP4-A	38.75	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
16TP4	33.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
16WP4-A	44.50	Round	Glass	Filterglass	Magnetic	Magnetic	70
17AVP4/17ATP4	35.25	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	90
•17AVP4-A/17ATP4-A	40.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	90
17BP4-A	33.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
•17BP4-B	38.75	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
17CP4	43.75	Rectangular	Metal	Frosted Filterglass	Magnetic	Magnetic	70
17GP4	48.25	Rectangular	Metal	Frosted Filterglass	Electrostatic	Magnetic	70
17HP4/17RP4	35.25	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
•17HP4-B	40.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
17JP4	35.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
17LP4/17VP4	35.25	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
•17LP4-A	40.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
17QP4	33.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
•17QP4-A	38.75	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
17TP4	43.75	Rectangular	Metal	Frosted Filterglass	Electrostatic**	Magnetic	70
19AP4-B	52.50	Round	Metal	Frosted Filterglass	Magnetic	Magnetic	66
20DP4-A/20CP4-A	40.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
•20DP4-C/20CP4-D	45.50	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
20HP4-A/20MP4	42.00	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
•20HP4-D	47.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
•21ACP4-A	45.50	Rectangular	Glass	Filterglass	Magnetic	Magnetic	90
•21ALP4-A	47.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	90
•21ALP4-B	47.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	90
•21AMP4-A	45.50	Rectangular	Glass	Filterglass	Magnetic	Magnetic	90
21AP4	50.75	Rectangular	Metal	Frosted Filterglass	Magnetic	Magnetic	70
•21ATP4	47.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	90
21AVP4/21AUP4	42.00	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	72
•21AVP4-A/21AUP4-A	47.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	72
•21AWP4	45.50	Rectangular	Glass	Filterglass	Magnetic	Magnetic	72
21EP4-A	42.00	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
•21EP4-B	47.50	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
21FP4-A	43.75	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
•21FP4-C	49.25	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
21MP4	52.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
21YP4	42.00	Rectangular	Metal	Frosted Filterglass	Electrostatic**	Magnetic	70
•21YP4-A	47.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	70
21ZP4-A	40.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
•21ZP4-B	45.50	Rectangular	Glass	Filterglass	Magnetic	Magnetic	70
•24CP4-A	66.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	90
•24DP4-A	68.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	90
•24VP4-A	66.25	Rectangular	Glass	Filterglass	Magnetic	Magnetic	90
•24YP4	68.50	Rectangular	Glass	Filterglass	Electrostatic**	Magnetic	90
•27MP4	152.50	Rectangular	Metal	Frosted Filterglass	Magnetic	Magnetic	90

COLOR PICTURE TUBES

RCA TYPE	List Price*	Shape	Envelope	Faceplate	Focus	Deflection	Deflection Angle†
15GP22	$265.00	Round	Glass	Clear‡	Electrostatic	Magnetic	45
21AXP22	160.00	Round	Metal	Filterglass	Electrostatic	Magnetic	70
21AXP22-A	160.00	Round	Metal	Filterglass	Electrostatic	Magnetic	70

* Optional
** Low Voltage
• Aluminized Silverama
•• Aluminized

‡ Flat Filterglass screen plate.
† Angle in degrees is horizontal for round tubes and diagonal for rectangular tubes.
List Prices* include Federal Excise Tax.
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

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RCA ALUMINIZED PICTURE TUBES

REPLACEMENT CHART

Replace your customers' worn or "tired" picture tubes with RCA "SILVERAMA" Super-Aluminized Picture Tubes — for the most faithful TV images their sets are capable of delivering! Any way you look at the amazing RCA "SILVERAMA" Picture Tube, you get *clearer, sharper, brighter TV pictures with greater contrast!* RCA's "Advanced Technique" Aluminizing, Screen Color Uniformity, Precision Electron Gun, and Top-Quality Control make the difference!

The service technician will find that the RCA Aluminized Picture Tubes listed below can be used as direct replacements in many cases; in other cases a minimum of alterations is required.

Column 1		DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1										
		External Conductive Bulb Coating Max. $\mu\mu f$		Ion-Trap Magnet Requirement		Type of High-Voltage Connector Required		Final High-Voltage Electrode Max. KV		RCA Type Larger (+ inches) or Smaller (− inches)		
Picture Tube Now In Receiver	Replace With RCA Aluminized Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter or Diagonal	Overall Length	Neck Length
10BP4	10FP4-A	2500	2500	Single	None	Cavity	Cavity	10	12	Same	Same	Same
10BP4-A	10FP4-A	2500	2500	Single	None	Cavity	Cavity	12	12	Same	Same	Same
10BP4-C	10FP4-A	2500	2500	Single	None	Cavity	Cavity	12	12	Same	Same	Same
10BP4-D	10FP4-A	2500	2500	Single	None	Cavity	Cavity	12	12	Same	Same	Same
10CP4	10FP4-A	500*	2500	None	None	Ball	Cavity	12	12	Same	+1	+1
10EP4	10FP4-A	2500	2500	Single	None	Ball	Cavity	10	12	Same	Same	Same
10FP4 10FP4-A	10FP4-A	Direct Replacement										
12JP4	12KP4-A	None	2500	None	None	Ball	Cavity	12	12	+ 1/16	+ 1/8	+ 1/8
12KP4 12KP4-A	12KP4-A	Direct Replacement										
12LP4	12KP4-A	3000	2500	Single	None	Cavity	Cavity	12	12	Same	−1 1/8	−1 3/8
12LP4-A	12KP4-A	3000	2500	Single	None	Cavity	Cavity	12	12	Same	−1 1/8	−1 3/8
12LP4-C	12KP4-A	3000	2500	Single	None	Cavity	Cavity	12	12	Same	−1 1/8	−1 3/8
12QP4	12KP4-A	None	2500	Single	None	Ball	Cavity	12	12	Same	+ 1/8	+ 1/8
12QP4-A	12KP4-A	None	2500	Single	None	Ball	Cavity	12	12	Same	+ 1/8	+ 1/8
12RP4	12KP4-A	None	2500	Single	None	Ball	Cavity	12	12	+ 1/16	+ 1/8	+ 1/8
12TP4	12KP4-A	None	2500	Single	None	Cavity	Cavity	12	12	Same	−1 1/8	−1 1/8
12ZP4	12KP4-A	2500	2500	Single	None	Cavity	Cavity	12	12	Same	Same	Same
12ZP4-A	12KP4-A	2500	2500	Single	None	Cavity	Cavity	12	12	Same	Same	Same
14RP4 14RP4-A	14RP4-A	Direct Replacement										
16KP4 16KP4-A	16RP4-A/ 16KP4-A	Direct Replacement										
16QP4	16RP4-A/ 16KP4-A	None	1500	Single	Single	Cavity	Cavity	16	16	Same	− 3/8	− 3/16
16RP4 16RP4/ 16KP4 16RP4-A 16RP4-A/ 16KP4-A	16RP4-A/ 16KP4-A	Direct Replacement										
16TP4	16RP4-A/ 16KP4-A	2000	1500	Single	Single	Cavity	Cavity	14	16	Same	+ 3/8	+ 3/8
16UP4	16RP4-A/ 16KP4-A	None	1500	Single	Single	Cavity	Cavity	15	16	Same	+ 5/8	+ 5/8
16XP4	16RP4-A/ 16KP4-A	None	1500	Single	Single	Cavity	Cavity	15	16	Same	Same	Same
17AP4	17BP4-B	2000	1500	Single	Single	Cavity	Cavity	16	16	Same	+ 7/8	+ 5/8
17ATP4 17ATP4-A 17AVP4 17AVP4/ 17ATP4 17AVP4-A 17AVP4-A/ 17ATP4-A	17AVP4-A/ 17ATP4-A	Direct Replacement										
17BP4 17BP4-A 17BP4-B 17BP4-C	17BP4-B	Direct Replacement										
17HP4 17HP4-A 17HP4-B	17HP4-B	Direct Replacement										
17JP4	17BP4-B	750	1000	Single	Single	Cavity	Cavity	18	16	Same	+ 1/16	Same
17LP4 17LP4/ 17VP4 17LP4-A	17LP4-A	Direct Replacement										
17QP4	17QP4-A	1500	1500	Single	Single	Cavity	Cavity	16	18	Same	Same	Same
17QP4-A	17QP4-A	Direct Replacement										
17RP4	17HP4-B	1500	1500	Single	Single	Cavity	Cavity	16	16	Same	− 1/16	Same
17VP4	17LP4-A	Direct Replacement										
17YP4	17QP4-A	750	1500	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
20CP4	20DP4-C/ 20CP4-D	None	750	Single	Single	Cavity	Cavity	18	18	Same	+ 1/8	+ 1/8
20CP4-A	20DP4-C/ 20CP4-D	750	750	Single	Single	Cavity	Cavity	18	18	Same	+ 1/8	+ 1/8
20CP4-B	20DP4-C/ 20CP4-D	None	750	Single	Single	Cavity	Cavity	18	18	Same	+ 1/8	+ 1/8
20CP4-C	20DP4-C/ 20CP4-D	None	750	Single	Single	Cavity	Cavity	18	18	Same	+ 1/8	+ 1/8
20CP4-D	20DP4-C/ 20CP4-D	750	750	Single	Single	Cavity	Cavity	18	18	Same	+ 1/8	+ 1/8
20DP4	20DP4-C/ 20CP4-D	None	750	Single	Single	Cavity	Cavity	18	18	Same	− 3/16	− 3/16
20DP4-A	20DP4-C/ 20CP4-D	750	750	Single	Single	Cavity	Cavity	18	18	Same	− 3/16	− 3/16
20DP4-A/ 20CP4-A	20DP4-C/ 20CP4-D	Direct Replacement										
20DP4-B	20DP4-C/ 20CP4-D	None	750	Single	Single	Cavity	Cavity	18	18	Same	− 1/16	− 3/16
20DP4-C	20DP4-C/ 20CP4-D	750	750	Single	Single	Cavity	Cavity	18	18	Same	− 3/16	− 3/16
20DP4-C/ 20CP4-D	20DP4-C/ 20CP4-D	Direct Replacement										
20HP4	20HP4-D	None	1500	Single	Single	Cavity	Cavity	16	16	Same	Same	Same
20HP4-A 20HP4-A/ 20MP4	20HP4-D	Direct Replacement										
20HP4-B	20HP4-D	None	1500	Single	Single	Cavity	Cavity	16	16	Same	Same	Same
20HP4-C	20HP4-D	None	1500	Single	Single	Cavity	Cavity	16	16	Same	Same	Same
20HP4-D 20LP4	20HP4-D	Direct Replacement										
20MP4	20HP4-D	750	1500	Single	Single	Cavity	Cavity	16	16	Same	Same	Same
21ACP4 21ACP4-A	21ACP4-A	Direct Replacement										
21AFP4	21YP4-A	None	750	Single	Single	Cavity	Cavity	18	18	Same	+ 1/2	Same
21ALP4 21ALP4-A	21ALP4-A	Direct Replacement										
21ALP4-B	21ALP4-B	Direct Replacement										
21AMP4 21AMP4-A	21AMP4-A	Direct Replacement										
21ANP4	21ALP4-A	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21ANP4-A	21ALP4-A	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21AQP4	21AMP4-A	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21AQP4-A	21AMP4-A	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21ATP4	21ATP4	Direct Replacement										
21AUP4	21AVP4-A/ 21AUP4-A	750	1500	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21AUP4-A	21AVP4-A/ 21AUP4-A	750	1500	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21AVP4 21AVP4/ 21AVP4 21AVP4-A 21AVP4-A/ 21AUP4-A	21AVP4-A/ 21AUP4-A	Direct Replacement										
21AWP4	21AWP4	Direct Replacement										
21EP4	21EP4-B	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21EP4-A 21EP4-B	21EP4-B	Direct Replacement										
21FP4	21FP4-C	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21FP4-A 21FP4-C	21FP4-C	Direct Replacement										
21YP4 21YP4-A	21YP4-A	Direct Replacement										
21ZP4	21ZP4-B	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21ZP4-A 21ZP4-B	21ZP4-B	Direct Replacement										
24CP4 24CP4-A	24CP4-A	Direct Replacement										
24DP4 24DP4-A	24DP4-A	Direct Replacement										
24QP4	24CP4-A	750	750	Single	Single	Cavity	Cavity	18	20	Same	Same	Same
24TP4	24CP4-A	Direct Replacement										
24VP4 24VP4-A	24VP4-A	Direct Replacement										
24XP4	24CP4-A	None	750	Single	Single	Cavity	Cavity	20	20	Same	Same	Same
24YP4	24YP4	Direct Replacement										
24ZP4	24DP4-A	750	750	None	Single	Cavity	Cavity	20	20	Same	Same	Same
27MP4	27MP4	Direct Replacement										

*Typical Value—Not a Maximum

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TELEVISION PICTURE TUBES

DU MONT

ORIGINAL TELEVISION PARTS

Du Mont television picture tubes, for either replacement purposes or initial equipment, travel side by side throughout the entire assembly process and stringent testing procedures. As a result, every Du Mont picture tube has the same fine quality regardless of its intended end use. Since 1939 Du Mont picture tubes have consistently led the field in new developments for better viewing. Life-like pictures along with unsurpassed dependability and uniformity have made our tubes the choice of the most discriminating receiver manufacturers for original equipment, and the choice of the most conscientious TV servicemen for replacement.

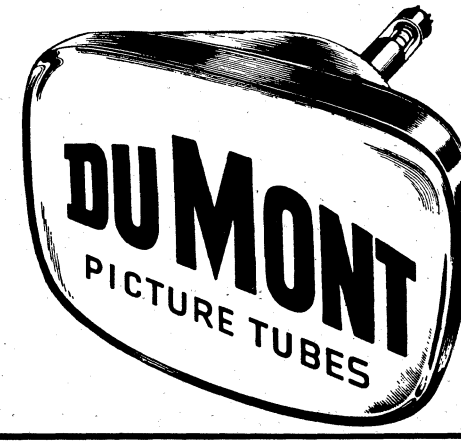
TUBE TYPES OFFERED BY DU MONT AT TIME OF PRINTING

	Description		Description
12LP4A	Round Glass	17KP4	Rect. Glass
12QP4A (B1034)	Round Glass	17L/VP4	Rect. Glass
15DP4A (B1014)	Round Glass	19AP4A	Round Metal
16DP4A	Round Glass	20CP4	Rect. Glass
16GP4	Round Metal	20CP4A	Rect. Glass
16FP4	Round Glass	20JP4	Rect. Glass
16K/RP4	Rect. Glass	20L/HP4A	Rect. Glass
16LP4A	Round Glass	21EP4A	Rect. Glass
16TP4	Rect. Glass	21FP4A	Rect. Glass
16WP4A	Round Glass	21KP4A	Rect. Glass
17AP4	Rect. Glass	21YP4	Rect. Glass
17BP4A	Rect. Glass	21ZP4A	Rect. Glass
17H/RP4	Rect. Glass	21AUP4	Rect. Glass

ALUMINIZED TUBES

	Description		Description
16KP4A/16RP4A	Rect. Glass	21XP4A	Rect. Glass
17BP4B	Rect. Glass	21YP4A	Rect. Glass
17HP4B	Rect. Glass	21ZP4B	Rect. Glass
17LP4A	Rect. Glass	21ALP4A/B	Rect. Glass
17AVP4A	Rect. Glass	21ATP4	Rect. Glass
19AP4C	Round Metal	21AUP4A/B	Rect. Glass
20CP4D	Rect. Glass	21AWP4	Rect. Glass
21EP4B	Rect. Glass	24CP4A	Rect. Glass
21FP4C	Rect. Glass	24DP4A	Rect. Glass

Additional information and specifications on tubes or original television parts can be had upon request; or, we will be glad to supply the name of the Du Mont representative in your area.



ALLEN B. DU MONT LABORATORIES, INC.

Cathode-ray Tube Division

CLIFTON, N. J.

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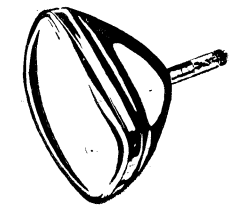
TELEVISION PICTURE TUBES



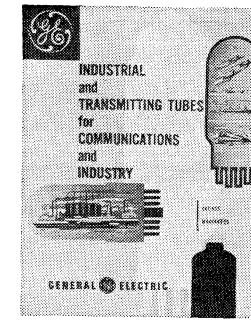
PRICES EFFECTIVE FEBRUARY 15, 1955

ALL PRICES LISTED ARE SUBJECT TO CHANGE WITHOUT NOTICE

Type	List Price	Description	
		Envelope	Faceplate
5TP4	$78.25	Round, Glass	Clear
‡7JP4	29.50	Round, Glass	Clear
8AP4-A	21.50	Round, Metal	Filter, Spherical
9QP4	21.50	Rectangular, Glass	Filter, Spherical
10BP4-A	22.50	Round, Glass	Filter, Spherical
*10FP4-A	26.00	Round, Glass	Filter, Spherical, Aluminized
‡12KP4-A	30.25	Round, Glass	Filter, Spherical, Aluminized
12LP4-A	27.25	Round, Glass	Filter, Spherical
12UP4-B	25.25	Round, Metal	Filter, Etched, Spherical
14CP4	29.25	Rectangular, Glass	Filter, Spherical
†14QP4	31.25	Rectangular, Glass	Filter, Spherical
*14QP4A	36.50	Rectangular, Glass	Filter, Spherical, Aluminized
15GP22	265.00	Round, Glass	Clear, Spherical, Color
16AP4-A	46.72	Round, Metal	Filter, Spherical
16DP4-A	45.75	Round, Glass	Filter, Spherical
16GP4	46.72	Round, Metal	Filter, Spherical
16GP4-B	46.72	Round, Metal	Filter, Etched, Spherical
16KP4	33.25	Rectangular, Glass	Filter, Spherical
*16KP4-A	38.75	Rectangular, Glass	Filter, Spherical, Aluminized
16LP4-A	44.50	Round, Glass	Filter, Spherical
16RP4	33.25	Rectangular, Glass	Filter, Spherical
16TP4	33.25	Rectangular, Glass	Filter, Spherical
16WP4-A	44.50	Round, Glass	Filter, Spherical
*†17AVP4A	40.50	Rectangular, Glass	Filter, Spherical, Aluminized
17BP4-A	33.25	Rectangular, Glass	Filter, Spherical
*17BP4-B	38.75	Rectangular, Glass	Filter, Spherical, Aluminized
17CP4	41.96	Rectangular, Metal	Filter, Etched, Spherical
†17FP4-A	37.25	Rectangular, Glass	Filter, Spherical
†17GP4	46.72	Rectangular, Metal	Filter, Etched, Spherical
*†17HP4B	40.50	Rectangular, Glass	Filter, Spherical, Aluminized
*17LP4A	40.50	Rectangular, Glass	Filter, Spherical, Aluminized
17QP4	33.25	Rectangular, Glass	Filter, Cylindrical Face
†17RP4/17HP4	35.25	Rectangular, Glass	Filter, Spherical
†17TP4	41.96	Rectangular, Metal	Filter, Etched, Spherical
†17VP4/17LP4	35.25	Rectangular, Glass	Filter, Cylindrical Face
19AP4-A	50.70	Round, Metal	Filter, Spherical
19AP4-B	50.70	Round, Metal	Filter, Etched, Spherical
20CP4	40.25	Rectangular, Glass	Filter, Spherical
20CP4-A	40.25	Rectangular, Glass	Filter, Spherical
*20CP4B	45.50	Rectangular, Glass	Filter, Spherical, Aluminized
*20CP4D	45.50	Rectangular, Glass	Filter, Spherical, Aluminized
20DP4-A	40.25	Rectangular, Glass	Filter, Spherical
*20DP4B	45.50	Rectangular, Glass	Filter, Spherical, Aluminized
*20DP4C	45.50	Rectangular, Glass	Filter, Spherical, Aluminized
†20HP4-A/20LP4	42.00	Rectangular, Glass	Filter, Spherical
*†20HP4C	47.50	Rectangular, Glass	Filter, Spherical, Aluminized
*†20HP4D	47.50	Rectangular, Glass	Filter, Spherical, Aluminized
21ACP4/21AMP4-A	45.50	Rectangular, Glass	Filter, Spherical
21ACP4/21AMP4	40.25	Rectangular, Glass	Filter, Spherical, Aluminized
†21ALP4	42.00	Rectangular, Glass	Filter, Spherical
*†21ALP4B/A	47.50	Rectangular, Glass	Filter, Spherical, Aluminized
21AP4	48.96	Rectangular, Metal	Filter, Etched, Spherical
Δ21ARP4	52.40	Rectangular, Glass	Filter, Spherical
*Δ21ARP4-A	58.70	Rectangular, Glass	Filter, Spherical, Aluminized
*†21ATP4	47.50	Rectangular, Glass	Filter, Spherical, Aluminized
*†21AUP4B/A	47.50	Rectangular, Glass	Filter, Spherical, Aluminized
*†21AVP4B/A	47.50	Rectangular, Glass	Filter, Spherical, Aluminized
*21AWP4	45.50	Rectangular, Glass	Filter, Spherical, Aluminized
*†21BAP4	46.00	Rectangular, Glass	Filter, Spherical, Aluminized
21EP4-A	42.00	Rectangular, Glass	Filter, Cylindrical Face
*21EP4-B	47.50	Rectangular, Glass	Filter, Cyl. Face, Aluminized
†21FP4-A	43.75	Rectangular, Glass	Filter, Cylindrical Face
*†21FP4-C	49.25	Rectangular, Glass	Filter, Cyl. Face, Aluminized
†21MP4	50.70	Rectangular, Metal	Filter, Etched, Spherical
*21WP4A	45.50	Rectangular, Glass	Filter, Spherical, Aluminized
21XP4	42.00	Rectangular, Glass	
*†21XP4-A	47.50	Rectangular, Glass	Filter, Spherical, Aluminized
†21YP4	42.00	Rectangular, Glass	Filter, Spherical
*†21YP4-A	47.50	Rectangular, Glass	Filter, Spherical, Aluminized
21ZP4-A	40.25	Rectangular, Glass	Filter, Spherical
*21ZP4-B	45.50	Rectangular, Glass	Filter, Spherical, Aluminized
24AP4	132.29	Round, Metal	Filter, Spherical
*24CP4-A	66.25	Rectangular, Glass	Filter, Spherical, Aluminized
*†24DP4A	68.50	Rectangular, Glass	Filter, Spherical, Aluminized
*27EP4	118.75	Rectangular, Glass	Filter, Spherical, Aluminized
*27RP4	118.75	Rectangular, Glass	Filter, Spherical, Aluminized

†Electrostatic Focus ΔInternal Magnetic Focus ‡Electrostatic Focus and Deflection *Aluminized All unmarked types Electromagnetic Focus

There's a G-E Electronic Tube for Every Purpose:



Ask for—ETX-10
For complete
Descriptions and Ratings.

- Pliotrons
- Ignitrons
- Phasitron
- Glow Tubes
- Thyratrons
- Phototubes
- Ballast Tubes
- High Altitude Devices
- Phanotrons
- Lighthouse Tubes
- Cathode-Ray Tubes
- Microwave Radar Devices
- Kenotrons
- TV Camera Tubes

Prices and other data subject to change without notice.

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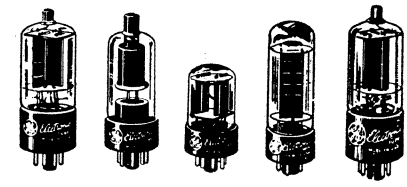
Electronic TUBES

RECEIVING TUBES



Type	List Price
0Z4	$1.40
0Z4A	2.00
0Z4G	1.70
1A4P	4.25
1A5GT	2.25
1A6	3.65
1A7GT	2.70
1AG4	2.85
1AH4	2.90
1AJ5	3.05
1AX2	2.60
1B3GT	2.50
1H5GT	2.15
1L4	2.20
1L6	2.90
1LA4	3.10
1LA6	2.90
1LB4	3.25
1LC5	2.90
1LC6	2.90
1LD5	2.90
1LE3	2.90
1LH4	2.90
1LN5	2.90
1N5GT	2.60
1R5	2.25
1S4	2.55
1S5	1.90
1T4	2.15
1U4	2.10
1U5	1.85
1V	2.55
1V2	1.60
1V6	3.70
1X2A	2.60
1X2B	2.60
2A3	4.55
2AF4A	3.45
2B3	2.55
2BN4	2.15
2V2	4.65
3A2	2.90
3A3	2.90
3AF4A	3.50
3AL5	1.60
3AU6	1.90
3B2	4.45
3BC5	2.00
3BE6	1.90
3BN6	2.75
3BU8	2.55
3BY6	2.05
3BZ6	2.00
3C2	4.50
3CB6	2.00
3CF6	2.20
3CS6	2.05
3DT6	1.90
3LF4	3.25
3Q4	2.20
3Q5GT	2.80
3S4	2.15
3V4	2.15
4BC8	3.50
4BN6	2.75
4BQ7A	3.25
4BU8	2.60
4CB6	2.05
5AM8	2.80
5AN8	3.00
5AQ5	1.95
5AS4	1.75
5AS8	2.85
5AT8	2.80
5AU4	2.90
5AV8	3.00
5AW4	2.75
5AZ4	1.90
5B8	3.00
5BE8	2.90
5BK7A	2.90
5BR8	2.90
5CG8	2.75
5CL8	2.80
5J6	2.35
5T8	$2.95
5U4G	1.75
5U4GA/B	1.75
5U8	2.90
5V4G	2.55
5V4GA	2.55
5V6GT	1.95
5X4G	2.05
5X8	2.80
5Y3GT	1.45
5Y4G	1.85
5Y4GT	1.85
5Z3	2.35
6A7	3.05
6A8	3.10
6AB4	1.70
6AC5GT	3.10
6AC7	3.25
6AD7G	4.25
6AF4	3.40
6AF4A	3.40
6AF6G	2.85
6AG5	2.05
6AG7	3.75
6AH4GT	2.45
6AH6	3.90
6AJ4	4.45
6AK5	4.20
6AK6	2.30
6AL5	1.55
6AL7GT	4.10
6AM4	4.45
6AM8	2.75
6AN8	2.95
6AQ5	1.95
6AQ5A	1.95
6AQ6	1.70
6AQ7GT	3.05
6AR5	2.05
6AS5	2.00
6AS7GA	6.15
6AS8	3.00
6AT6	1.50
6AT8	2.75
6AU4GTA	2.90
6AU5GT	3.45
6AU6	1.85
6AU6A	1.85
6AU8	3.05
6AV5GA	3.45
6AV6	1.50
6AW8	3.20
6AW8A	3.20
6AX4GT	2.40
6AX5GT	2.25
6AZ8	3.35
6B4G	4.50
6B8	3.50
6BA6	1.80
6BA7	2.95
6BA8	3.20
6BA8A	3.20
6BC5	2.00
6BC7	3.20
6BC8	3.45
6BD6	1.80
6BE6	1.90
6BF5	2.15
6BF6	1.60
6BG6G	5.20
6BG6GA	5.20
6BH6	2.30
6BH8	3.05
6BJ6	2.05
6BJ7	2.35
6BK5	2.75
6BK7A	2.90
6BK7B	2.95
6BL7GT	3.45
6BN4	2.15
6BN6	2.70
6BQ6GA/6CU6	3.75
6BQ6GT	3.75
6BQ7A	3.25
6BR8	2.85
6BS8	3.25
6BU8	$2.55
6BV8	2.75
6BX7GT	3.35
6BY5G	3.30
6BY6	2.00
6BZ6	2.00
6BZ7	3.40
6C4	1.50
6C5	2.20
6C6	2.80
6C8G	3.85
6CB6	2.00
6CB6A	2.05
6CD6GA	4.95
6CE5	2.05
6CF6	2.15
6CG7	2.20
6CL6	3.10
6CM6	2.30
6CM7	2.40
6CN7	2.25
6CR6	2.05
6CS6	2.00
6D6	2.80
6DE6	2.05
6DQ6	3.75
6DT6	1.85
6E5	2.35
6F5	2.40
6F6	2.85
6F6GT	2.25
6F7	4.25
6F8G	3.85
6G6G	3.05
6H6	2.15
6J5	1.95
6J5GT	1.90
6J6	2.35
6J6A	2.40
6J7	2.75
6J8G	3.85
6K6GT	1.90
6K7	2.60
6K8	3.35
6L6	4.70
6L6G	3.65
6L6GA	3.65
6L6GB	3.65
6L7G	3.40
6N6G	3.90
6N7	3.25
6N7G	2.45
6N7GT	3.10
6Q6	2.90
6Q6G	2.90
6Q7	2.65
6R7	2.80
6R7GT	2.75
6S4A	1.75
6S7	3.30
6S7G	3.50
6S8GT	2.75
6SA7	2.40
6SA7GT	2.30
6SB7Y	3.45
6SC7	2.55
6SF5	2.05
6SF7	2.75
6SG7	2.75
6SH7	2.75
6SJ7	2.25
6SK7	2.25
6SL7GT	2.80
6SN7GTB	2.25
6SQ7	2.00
6SR7	2.20
6SS7	2.75
6ST7	2.80
6SV7	3.35
6T4	3.45
6T5	3.55
6T7G	3.50
6T8	2.90
6T8A	2.95
6U4GT	2.65
6U5/6G5	2.25
6U6GT	$2.45
6U7G	2.40
6U8	2.85
6U8A	2.90
6V3A	3.95
6V6	3.65
6V6GT	1.95
6W4GT	1.95
6W6GT	2.50
6X4	1.40
6X5G	1.70
6X5GT	1.60
6X8	2.75
6Y6G	2.60
6Y6GT	2.60
7A4/XXL	2.30
7A5	2.75
7A6	2.30
7A7	2.25
7A8	2.80
7AD7	4.70
7AF7	2.75
7AG7	2.75
7AU7	2.25
7B4	2.20
7B5	2.15
7B6	2.35
7B7	2.25
7B8	2.60
7C4	3.65
7C5	2.30
7C6	2.35
7C7	2.25
7C8	2.65
7E5	2.95
7E6	3.00
7E7	3.35
7F7	2.75
7F8	3.45
7G7/1232	3.00
7H7	2.75
7J7	3.65
7K7	3.25
7L7	3.00
7N7	2.50
7Q7	2.75
7R7	3.50
7S7	3.45
7T7	2.75
7V7	3.50
7W7	3.50
7X7/XXFM	3.35
7Y4	2.00
7Z4	2.00
8AU8	3.00
8CG7	2.20
8CM7	2.40
8CN7	2.30
9U8A	2.90
10C8	3.20
10Y	2.45
12A4	2.20
12A5	3.55
12AB5	1.90
12AC6	1.80
12AD6	1.90
12AE6	1.60
12AF6	1.80
12AG6	1.90
12AL5	1.65
12AQ5	1.95
12AT6	1.50
12AT7	2.60
12AU6	1.85
12AU7	2.20
12AU7A	2.20
12AV5GA	3.45
12AV6	1.45
12AV7	3.05
12AW6	2.40
12AX4GTA	2.45
12AX7	2.30
12AZ7	2.60
12B4	2.30
12BA6	1.80
12BA7	2.95
12BD6	$1.80
12BE6	1.90
12BF6	1.60
12BH7A	2.55
12BK5	2.75
12BQ6GA/12CU6	3.80
12BR7	2.30
12BV7	2.55
12BY7A	2.65
12BZ7	2.55
12C5	1.95
12C8	3.90
12CA5	2.05
12CR6	1.90
12CT8	3.00
12DQ6	3.80
12F5GT	2.40
12F8	2.35
12G8	2.40
12H6	2.20
12J5	1.95
12J5GT	1.85
12J7GT	2.80
12K5	2.40
12K7GT	2.55
12K8	3.30
12K8GT	2.95
12L6GT	2.00
12Q7G	2.00
12Q7GT	2.25
12S8GT	2.75
12SA7	2.40
12SC7	2.50
12SF5	2.15
12SF7	2.75
12SG7	2.60
12SH7	2.75
12SJ7	2.25
12SK7	2.25
12SL7GT	2.80
12SN7GTA	2.25
12SQ7	2.00
12SR7	2.25
12V6GT	1.85
12W6GT	2.50
12X4	1.40
12Z3	2.70
14A4	2.75
14A5	4.10
14A7/12B7	2.25
14AF7/XXD	2.75
14B6	2.35
14B8	2.25
14C5	3.00
14C7	2.45
14E6	3.00
14E7	3.35
14F7	2.75
14F8	3.45
14H7	2.75
14J7	3.65
14N7	2.75
14Q7	2.75
14R7	3.50
14S7	3.45
14W7	3.50
14X7	2.75
14Y4	2.45
17AX4GT	2.50
17DQ6	3.80
17H3	1.55
18A5	3.20
19AU4GT	2.90
19AU4GTA	2.90
19BG6G	6.05
19BG6GA	6.05
19J6	2.50
19T8	2.90
24A	2.75
25AV5GA	3.45
25AV5GT	3.45
25AX4GT	2.75
25BK5	2.80
25BQ6GA/25CU6	3.85
25CA5	2.20
25CD6GB	4.95

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G-E RECEIVING TUBES — *continued*

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
45	$2.85	35/51	$2.40	47	$5.30	70A7GT	$3.55	117N7GT	$5.60
25DQ6	3.85	35A5	2.55	48	4.80	70L7GT	6.95	117P7GT	5.60
25L6GT	1.95	35B5	2.10	49	2.85	71A	2.35	117Z3	1.85
25W4GT	2.10	35C5	1.95	50	5.40	75	2.40	117Z6GT	3.15
25W6GT	2.60	35L6GT	1.95	50A5	2.55	76	1.70		
25Z5	2.25	35S/51S	3.55	50B5	2.10	77	2.15	**COMMUNICATION TYPES**	
25Z6	2.20	35W4	1.25	50C5	1.95	78	2.40		
25Z6G	1.50	35Y4	2.00	50C6G	3.30	79	2.85		
25Z6GT	2.25	35Z3	2.00	50L6GT	1.95	80	1.70	6660/6BA6	2.05
26	2.30	36	2.90	50X6	2.30	81	4.80	6661/6BH6	2.55
27	2.15	37	1.85	50Y6G	1.80	82	2.85	6662/6BJ6	2.30
28D7	3.60	38	2.35	50Y6GT	2.35	83	2.60	6663/6AL5	1.80
30	2.35	39/44	2.85	50Y7GT	2.25	83V	3.20	6669	2.15
32	3.85	41	2.30	56	1.90	84/6Z4	1.85	6677	3.35
32L7GT	3.85	42	2.15	57	2.15	85	2.35	6679/12AT7	2.85
33	3.50	43	2.30	58	2.15	89	2.35	6680/12AU7	2.40
34	3.65	45Z3	1.80	59	3.85	117L7/M7GT	6.95	6681/12AX7	2.55

SEMICONDUCTOR products

DIODES • TRANSITORS • RECTIFIERS

Type	Suggested User Price
DIODES	
1N34A	$0.84
1N48	.65
1N48#	1.80
1N51	.47
1N52	1.45
1N52#	3.35
1N58A	1.63
1N63	2.80
1N63#	6.00
1N64	.43
1N65	.68
1N70	2.50
1N72	.87
1N74	12.35
1N285	1.19
1N314	15.85
1N355	2.00
G7A	.87
G7B	1.07
G7C	1.07
# Matched Pairs.	
Junction Transistors PNP (Low Frequency)	
2N43	$4.90
USAF-2N43A	6.50
4JD1A17	6.02
2N44	3.70
2N45	3.05
2N107	.99
PNP (High Frequency)	
2N123	6.44
2N135	2.56
2N136	2.97
2N137	6.55
NPN (High Frequency)	
2N78	4.54
2N167	6.44
2N168	2.64
2N169	2.47
2N170	1.45
2N186	2.39
2N186A	2.48
2N187	2.44
2N187A	2.54
2N188	2.49
2N188A	2.57
2N189	2.14
2N190	2.18
2N191	2.21
2N192	2.24
Junction Rectifiers	
1N91	$ .82
1N92	1.90
1N93	2.64
USN1N93	$3.46
1N315	2.97
1N538	2.56
1N151	2.15
1N152	2.72
1N153	3.55
1N158	5.48

GERMANIUM RECTIFIER (4JA211 Series)

Half Wave

Model Number	Suggested User Price
4JA211FH1AC1	$2.10
FH1AC2	3.65
FH1AC3	5.15
FH1AC4	6.60
FH1AC5	8.00
FH1AC6	9.35
4JA211AH1AC2	5.24
AH1AC3	7.30
AH1AC4	9.40
AH1AC5	11.40
AH1AC6	13.30
4JA211BH1AC2	6.75
BH1AC3	9.50
BH1AC4	12.20
BH1AC5	14.80
4JA2121	8.65
CH1AC3	11.30
CH1AC4	15.65
CH1AC5	19.00
CH1AC6	22.20
4JA211BH2AC2	16.96
BH2AC3	24.08
BH2AC4	30.69
BH2AC5	37.57
BH2AC6	44.12
4JA211CH2AC1	12.08
CH2AC2	21.80
CH2AC3	30.93
CH2AC4	39.47
CH2AC5	48.31
CH2AC6	56.72
4JA211CH3AC1	15.72
CH3AC2	39.03
CH3AC3	43.93
CH3AC4	56.72
4JA211AD1AC1	7.24
AD1AC2	13.08
AD1AC3	18.57
AD1AC4	$23.68
AD1AC5	28.99
AD1AC6	34.03
4JA211BD1AC1	9.39
BD1AC2	16.96
BD1AC3	24.08
BD1AC4	30.69
BD1AC5	37.57
4JA211BD1AC6	44.12
4JA211CD1AC1	8.65
CD1AC2	15.65
CD1AC3	22.20
CD1AC4	28.90
CD1AC5	34.60
CD1AC6	40.60
4JA211BD2AC1	12.20
BD2AC2	22.00
BD2AC3	31.80
4JA211CD2AC1	15.65
CD2AC2	28.40
CD2AC3	40.60
4JA211CD3AC1	22.20
CD3AC2	40.60
Center Tap	
4JA211FC1AC1	3.65
FC1AC2	6.60
FC1AC3	9.35
FC1AC4	17.00
FC1AC5	20.50
FC1AC6	24.40
4JA211AC1AC1	7.24
AC1AC2	13.08
AC1AC3	18.57
AC1AC4	23.68
AC1AC5	28.99
AC1AC6	34.03
4JA211BC1AC1	9.39
BC1AC2	16.96
BC1AC3	24.08
BC1AC4	30.69
BC1AC5	37.57
BC1AC6	44.12
4JA211CC1AC1	12.08
CC1AC2	21.80
CC1AC3	30.93
CC1AC4	39.47
CC1AC5	48.31
CC1AC6	56.72
4JA211BC2AC1	16.96
BC2AC2	30.69
BC2AC3	44.12
4JA211CC20C1	21.80
CC2AC2	39.47
CC2AC3	56.72
4JA211CC3AC1	$30.93
CC3AC2	56.72
Bridge	
4JA211FB1AC1	9.21
FB1AC2	16.69
FB1AC3	23.95
4JA211AB1AC1	13.08
AB1AC2	23.68
AB1AC3	34.03
4JA211BB1AC1	16.96
BB1AC2	30.69
BB1AC3	44.12
4JA211CB1AC1	21.80
CB1AC2	39.47
CB1AC3	56.72
4JA211BB2AC1	30.69
4JA211CB2AC1	39.47
4JA211CB3AC1	56.72
Magnetic Amplifier Bridge	
4JA211FM1AC1	9.21
FM1AC2	16.69
FM1AC3	23.95
4JA211AM1AC1	13.08
4JA211AM1AC2	23.68
AM1AC3	34.03
4JA211BM1AC1	16.96
BM1AC2	30.69
BM1AC3	44.12
4JA211CM1AC1	21.80
CM1AC2	39.47
CM1AC3	56.72
4JA211BM2AC1	30.69
4JA211GM2AC1	39.47
4JA211GM3AC1	56.72
Three Phase Half Wave	
4JA211AY1AC1	10.19
AY1AC2	18.57
AY1AC3	26.35
AY1AC4	34.03
4JA211BY1AC1	13.20
BY1AC2	24.08
BY1AC3	34.17
BY1AC4	44.12
4JA211CY1AC1	15.72
CY1AC2	30.93
CY1AC3	43.93
CY1AC4	56.72
4JA211BY2AC1	24.08
BY2AC2	44.12
4JA211CY2AC1	$30.93
CY2AC2	56.72
4JA211CY3AC1	43.93
Three Phase Bridge	
4JA211AF1AC1	18.57
AF1AC2	34.03
4JA211BF1AC1	24.08
BF1AC2	44.12
4JA211CF1AC1	30.93
CF1AC2	56.72
4JA211BF2AC1	44.12
4JA211CF2AC1	56.72
Star	
4JA211AS1AC1	34.03
AS1AC2	34.03
4JA211BS1AC1	24.08
BS1AC2	44.12
4JA211CS1AC1	30.93
CS1AC2	56.72
4JA211BS2AC1	44.12
4JA211CS2AC1	56.72
GERMANIUM RECTIFIER STACKS (4JA3011 Series)	
4JA3011BH1AC1	$22.75
BH1AB3	65.50
BH1AB4	83.75
BH1AB5	102.00
BH1AB6	119.25
4JA3011BH1AD2	42.50
BH2AB2	83.75
BH2AB3	119.25
4JA3011BH2AD1	42.50
BH3AB1	65.50
BH3AB2	119.25
4JA3011BD1AB2	83.75
BD1AB3	119.25
BD2AB1	83.75
BD3AB1	119.25
4JA3011BC1AB2	83.75
BC1AB3	119.25
4JA3011BC1AD1	42.50
BC2AB1	83.75
4JA3011BC3AB1	119.25
4JA3011BB1AB1	83.75
4JA3011BM1AB1	83.75
4JA3011BY1AB1	65.50
BY1AB2	119.25
BY2AB1	119.25
4JA3011BF1AB1	119.25

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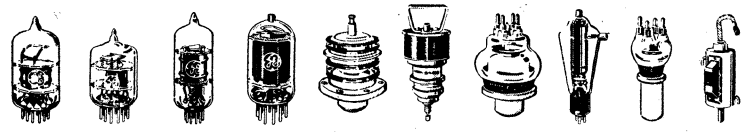
POWER tubes



for Communications and Industry

Type	Suggested User Price
OA2	$1.26
OA3/VR-75	1.27
OA4G	1.48
OB2	1.32
OB3/VR-90	1.65
OC3/VR-105	1.27
OD3/VR-150	1.27
KC-1	685.00
GL-1B24A	43.00
GL-C1J	9.60
GL-1L21	25.00
GL-1L22	39.00
GL-1L23	39.00
GL-1L24	55.00
GL-1L25	21.00
GL-1L31	26.50
GL-1L32	25.00
GL-1L33	46.00
GL-1L36	18.50
GL-1L38	33.25
GL-1P21	50.00
GL-1P39	1.85
GL-1P40	2.60
2AP1-A	10.85
GL-2B22	21.00
GL-2B23	31.50
2BP1	11.00
GL-2C39A	24.00
GL-2C39B	32.15
GL-2C40	26.00
GL-2C42	21.00
GL-2C43	23.50
GL-2C46	21.40
2D21	2.04
2E24	4.65
2E26	3.85
2E30	2.60
GL-2H21	134.75
2X2A	2.20
KC-3	565.00
3AP1A	19.50
GL-3B24W	10.55
3BP1A	16.50
GL-3C23	11.98
3KP1	16.70
3MP1	22.50
3UP1	27.00
GL-3X2500A3	198.00
KC-4	GL5625/KC4
GL-4B32	12.00
GL-4-1000A	135.00
GL-4D21/4-125A	30.25
GL-4X150A	38.95
GL-4-250A/5D22	41.25
5AHP4	33.40
5AHP4A	40.80
5AHP7	33.40
5AHP7A	40.80
5AHP14	37.75
5AHP14A	45.50
5AHP19	42.00
5AHP19A	50.00
5AUP24	93.00
5BP1-A	22.50
GL-5C21/C6J	26.40
GL-5C24	45.00
5CP1-A	27.00
5CP7-A	31.40
5FP7-A	27.50
5FP14	29.50
5FP14A	28.80
5QP4	49.50
5R4GY	1.89
5R4GTY	1.90
5R4GYA	1.90
5UP1	19.65
5Y3WGTB	6.40
B-6	GL-5621/B-6
FA-6	GL-5627/FA-6
6AC7WA	6.33
6AJ5	3.50
6AN5	3.65
6AS6	3.46
6AU6WA	3.68

Type	Suggested User Price
6D4	$2.85
6J4	4.48
6SK7WA	2.58
6X4WA	3.68
7ABP7A	41.75
7BP7-A	40.00
GL-7C29	130.00
GL-7D21	444.00
7UP7	49.50
7UP25	70.00
7VP1	24.00
PJ-8	GL-5556/PS-8
GL-8D21	1300.00
10KP7	55.00
10SP4	65.00
10UP14	49.60
12AT7WA	4.83
12AY7	2.53
12DP7A	61.85
12SP7	47.40
12SP7B	49.50
FA-13	GL-5628/FA-13
FA-14	GL-5629/FA-14
FA-15	GL-5626/FA-15
FG-17	GL-5557/FG-17
17ADP7	160.00
PJ-22	2.50
PJ-23	GL-868/PJ-23
25C6G	3.20
B-25	GL-5622/B-25
FG-27A	35.00
FG-32	GL-5558/FG-32
FG-33	GL-5720/FG-33
FG-41	GL-5830/FG-41
B-46	GL-5624/B-46
B-47	GL-5623/B-47
FB-50	GL-5620/FB-50
FP-54	GL-5740/FB-54
FG-57	GL-5559/FG-57
FP-62	GL-5739/FP-62
FG-67	GL-5728/FG-67
FG-81A	24.25
FG-95	GL-5560/FG-95
FG-97	46.00
FG-98A	40.00
GL-100TH	18.25
FG-104	GL-5561/FG-104
FG-105	48.00
FG-154	77.00
FG-172	71.75
GL-207	240.00
FG-235A	GL-5552/FG-235A
FG-238B	GL-5555/238B
GL-242C	15.50
FG-259B	GL-5554/FG-259B
FP-265	58.00
FG-271	GL-5551/FG-271
FG-280	69.00
GL-393A	11.98
FP-400	55.75
GL-411	416.25
GL-414	161.50
GL-415	GL-5550/GL-415
GL-441	4.50
502A	2.03
GL-506	GL-6228/GL-506
GL-575A	20.00
GL-592	30.25
GL-627	22.00
GL-672A	35.00
GL-673	20.00
GL-678	47.00
GL-801A	7.85
GL-802	7.55
GL-803	31.00
GL-805	15.90
807	2.93
GL-809	5.65
GL-810	19.50
GL-811A	5.65
GL-812A	5.65
GL-813	18.00
GL-814	18.70
GL-815	18.75

Type	Suggested User Price
GL-816	$2.15
GL-826	14.60
GL-828	20.95
GL-829B	16.25
GL-832A	14.20
GL-833A	49.00
GL-836	9.00
GL-837	6.30
GL-838	15.15
842	4.05
GL-845	15.95
GL-851	590.00
GL-857B	218.50
GL-862A	1322.50
GL-866A	2.65
GL-868/PJ-23	2.85
GL-869B	138.00
GL-870A	1982.00
GL-872A/872	8.20
GL-880	510.00
884	1.85
885	2.00
GL-889A	210.00
GL-889RA	295.00
GL-891	260.00
GL-891R	410.00
GL-892	255.00
GL-892R	405.00
GL-893A	710.00
GL-893AR	1260.00
GL-895	950.00
GL-895R	1300.00
GL-898A	1322.00
GL-918	3.60
GL-919	4.65
GL-920	4.95
GL-921	2.80
GL-922	2.60
GL-923	2.35
GL-927	3.00
GL-929	1.50
GL-930	2.45
GL-931A	8.60
955	3.60
957	4.90
GL-1000T	137.50
1612	3.00
1613	2.45
1614	2.85
GL-1616	8.65
1619	3.10
1620	6.25
1621	1.95
1622	2.50
1624	4.00
1625	2.65
1629	1.40
GL-1850A	565.00
2050	1.85
GL-5513	372.00
GL-5516	7.95
GL-5518	774.00
GL-5544	27.00
GL-5545	35.00
GL-5549	459.00
GL-5550/GL-415	41.00
GL-5551A	65.00
GL-5551A/P	67.00
GL-5552A	99.00
GL-5552A/P	101.25
GL-5553B	216.00
GL-5553B/P	218.75
GL-5554/FG-259B	163.00
GL-5555/FG-238B	316.00
GL-5556/PJ-8	18.25
GL-5557/FG-17	8.50
GL-5558/FG-32	17.50
GL-5559/FG-57	22.00
GL-5560/FG-95	28.00
GL-5561/FG-104	45.75
GL-5564/GL-507	870.00
GL-5581	2.35
GL-5588	150.00
GL-5593	87.50

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POWER tubes
for Communications and Industry

- FIVE STAR
- CATHODE RAY
- IGNITRON
- KLYSTRON
- THYRATRON
- PHOTOTUBE
- RECTIFIER
- COMMUNICATION
- INDUSTRIAL RECEIVING

Type	Suggested User Price
GL-5620/FB-50	$22.25
GL-5621/B-6	22.25
GL-5622/B-25	21.75
GL-5623/B-47	21.75
GL-5624/B-46	19.25
GL-5625/KC-4	225.00
GL-5626/FA-15	55.00
GL-5627/FA-16	52.00
GL-5628/FA-13	49.00
GL-5629/FA-14	40.00
GL-5630	1476.68
GL-5632/C35	12.10
5636	10.80
5642	2.60
5651	1.97
5654 (Proto 6AK5)	3.90
5654/6AK5W	3.90
5654/6AK5W/6096	7.35
5662	1.45
5663	2.10
GL-5665/C16J	57.90
5670* (Proto 2C51)	5.05
5670WA	7.35
GL-5674	135.00
GL-5681	1780.00
5686*	3.85
5687	4.50
5691	8.45
5692	8.15
5693	6.40
5696	1.90
5718*	5.45
5718A	5.45
5719*	5.45
5719A	5.45
GL-5720/FG-33	34.75
5725* (Proto 6AS6)	3.80
5725/6AS6W	3.80
5725/6AS6W/6187	10.15
5726* (Proto 6AL5)	2.10
5726/6AL5W	2.10
5726/6AL5W/6097	3.45
5727* (Proto 2D21)	2.90
5727/2D21W	2.90
GL-5728/FG-67	53.50
GL-5736	145.00
GL-5739/FP-62	49.50
GL-5740/FP-54	118.00
5749* (Proto 6BA6)	2.80
5749/6BA6W	2.80
5750* (Proto 6BE6)	3.90
5750/6BE6W	3.90
5751* (Proto 12AX7)	3.80
5751WA	5.55
GL-5762/7C24	205.00
5763	1.93
GL-5779	118.00
GL-5788	420.00
5797*	14.10
5798*	17.45
5814* (Proto 12AU7)	4.15
5814WA	$6.00
GL-5820	1200.00
GL-5822	116.00
5824	3.70
GL-5830/FG-41	320.00
5840*	7.50
5840A	7.50
5844	2.37
GL-5855	70.00
5879	1.75
5881	3.50
GL-5894	22.00
5896*	7.10
5896A	7.10
5899*	7.90
5899A	7.90
5902*	9.55
5902A	9.55
5915A	1.55
GL-5921	40.00
GL-5922	40.00
GL-5948	490.00
5963	1.40
5964	1.35
5965	2.15
GL-5973	310.00
6005* (Proto 6AQ5)	4.60
6005/6AQ5W	4.60
6005/6AQ5W/6095	7.35
GL-6011	12.10
GL-6014/C1K	10.40
GL-6017	340.00
GL-6019	620.00
6021*	8.35
6021A	8.35
GL-6039	830.00
GL-6044	56.00
6046	1.55
6072* (Proto 12AY7)	5.30
6087* (Proto 5Y3GT)	6.40
6089	5.25
6096/CT	4.95
6100/6C4WA	2.90
6111*	9.15
6111A	9.15
6112*	9.15
6112A	9.15
6134* (Proto 6AC7)	6.35
6135* (Proto 6C4)	2.60
6136* (Proto 6AU6)	3.70
6137* (Proto 6SK7)	3.25
6146	4.90
6159	4.90
GL-6161	115.00
GL-6166	905.00
GL-6181	835.00
GL-6182	2100.00
GL-6183	680.00
6189/12AU7WA	4.77
GL-6198	255.00
6201* (Proto 12AT7)	4.85
6202* (Proto 6X4)	$3.70
6203*	4.60
6205	9.55
6211	2.15
6215	3.00
GL-6228/GL-506	3755.00
GL-6251	2200.00
6265* (Proto 6BH6)	4.60
GL-6283	155.00
GL-6299	56.00
GL-6301	120.00
GL-6346	70.75
GL-6347	104.75
GL-6348	221.75
6386*	8.25
GL-6442	37.50
GL-6452	106.00
6463	2.05
6485	1.60
GL-6504	2100.00
GL-6509	420.00
GL-6511	121.75
GL-6512	194.00
GL-6513	347.00
GL-6514	401.00
GL-6515	938.00
6525	2.15
6660/6BA6▲	2.05
6661/6BH6▲	2.55
6662/6BJ6▲	2.30
6663/6AL5▲	1.80
6669 (Proto 6AQ5)▲	2.15
6677 (Proto 6CL6)▲	3.35
6679/12AT7▲	2.85
6680/12AU7▲	2.40
6681/12AX7▲	2.55
GL-6807	29.30
GL-6808	29.40
GL-6809	29.80
6829	7.07
GL-6855/716	9.60
GL-6856/740	19.40
GL-6857/740P	20.10
GL-6858/760	26.40
GL-6859/760P	30.10
GL-6860/C6J/F	30.10
GL-8000	21.15
GL-8002	160.00
GL-8002R	190.00
GL-8005	12.65
GL-8008	8.20
GL-8013A	10.30
GL-8020	24.00
GL-8025A	12.35
9001	4.25
9002	2.85
9003	4.25

* Five-Star Types.

▲ Communication Types.

GASKETS
For Use with Water-cooled, Radio Transmitting Tubes

GASKET CAT. NO.	USED ON TUBE TYPE	SUGG. USER PRICE
15000MSP92 (5182028P1)	GL-862-A, GL-880, GL-898-A	$1.18
15000MSP93 (5182028P2)	GL-858, GL-893-A	.96
15000MSP94 (5182028P3)	GL-207, GL-891, GL-892	.20
15000MSP95 (5182028P8)	GL-889-A	.59
15000MSP96 (5182028P10)	GL-8002	1.18

RADIATOR AND CRATE CREDIT†

TYPE	RADIATOR CREDIT	CRATE CREDIT
GL-889R-A	$ 20.00	None
GL-891R	20.00	$10.00
GL-892R	20.00	10.00
GL-893A-R	110.00	40.00
GL-895-R	65.00	35.00

† These credits are contingent upon purchase of a new tube. Radiator must be returned prepaid to General Electric Company, Schenectady, New York.

Thermostat Kits for Ignitrons

KIT NUMBER	SUGG. USER PRICE
N15272AA	$5.35
N15273AA	5.15
N15286AA	5.65
N15287AA	5.35

McLeod Vacuum Gauges

GAUGE TYPE (Less Mercury)	SUGG. USER
0-300 Microns	$148.50
0-3000 Microns	155.00
GLASS PARTS ONLY	
0-300 Microns	50.40
0-3000 Microns	54.00

IGNITOR LEADS

IGNITOR LEAD NO.	TUBE TYPE	SUGG. USER PRICE
N22006LC	GL-5551/FG271, GL-5552/FG235A, GL-5630, GL-5822	$0.70
N22007LC	GL-5555/FG238B, GL-5553/FG258A	1.29

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CBS TUBES

LIST PRICES OF CBS TUBES

Effective August 1956

CBS-HYTRON

A Division of Columbia Broadcasting System, Inc.

Main Office: Danvers, Massachusetts

Originator of the famous Bantam GT

Original Silver Vision Picture Tubes

TYPE	LIST
0Z4	$1.40
0Z4G	1.70
1A4P	4.25
1A5GT	2.30
1A7GT	2.65
1AG4	2.90
1AH4	2.90
1AJ5	3.00
1AX2	2.60
1B3GT	2.50
1C5GT	2.60
1D8GT	4.55
1G4GT	2.60
1H5GT	2.15
1H6GT	3.50
1L4	2.20
1L6	2.90
1LA4	3.10
1LA6	2.90
1LB4	3.30
1LC5	2.90
1LC6	2.90
1LD5	2.90
1LE3	2.90
1LH4	2.90
1LN5	2.90
1N5GT	2.60
1Q5GT	3.00
1R5	2.25
1S4	2.55
1S5	1.90
1T4	2.15
1U4	2.10
1U5	1.85
1V	2.55
1V2	1.55
1V6	3.70
1X2A	2.60
1X2B	2.60
2A3	4.55
2A6	2.85
2AF4A	3.45
2B3	2.55
2BN4	2.15
3A2	2.90
3A3	2.90
3AL5	1.60
3AU6	1.90
3AV6	1.55
3BC5	2.00
3BE6	1.90
3BN6	2.75
3BU8	2.55
3BY6	2.05
3BZ6	2.00
3C2	4.50
3CB6	2.00
3CF6	2.20
3CS6	2.05
3DT6	1.90
3LF4	3.30
3Q4	2.20
3Q5GT	2.80
3S4	2.15
3V4	2.15
4BC8	3.65
4BQ7A	3.25
4BS8	3.30
4BZ7	3.45
5AM8	2.80
5AN8	3.00
5AQ5	1.95
5AS4	1.75
5AS8	2.85
5AT8	2.80
5AV8	3.00
5AW4	2.50
5AZ4	1.90
5B8	3.00
5BE8	2.90
5BK7A	2.90
5BR8	2.65
5CG8	2.80
5J6	2.35
5T8	2.90
5U4G	1.75
5U4GA/5U4GB	1.75
5U8	2.90
5V4G	2.55
5V4GA	2.55
5V6GT	1.95
5X8	2.80
5Y3G	1.45
5Y3GT	1.45
5Y4GT	1.85
5Z3	2.35
5Z4	3.60
6A7	3.00
6A8	3.10
6A8G	2.95
6A8GT	2.90
6AB4	1.70
6AB7	3.55
6AC5GT	3.10
6AC7	3.25
6AD7G	4.25
6AF4	3.40
6AF4A	3.40
6AG5	2.05
6AG7	3.75
6AH4GT	2.40
6AH6	3.95
6AK5	4.25
6AK6	2.30
6AL5	1.55
6AL7GT*	4.10
6AM4	4.45
6AM8	2.75
6AN8	2.95
6AQ5	1.95
6AQ6	1.70
6AQ7GT	3.05
6AR5	2.05
6AS5	2.00
6AS8	3.00
6AT6	1.50
6AT8	2.75
6AU4GT	2.90
6AU4GTA	2.90
6AU5GT	3.45
6AU6	1.85
6AU8	3.00
6AV5GA	3.45
6AV6	1.50
6AW8	3.20
6AW8A	3.20
6AX4GT	2.35
6AX5GT	2.25
6AZ8	3.35
6B4G	4.55
6B7	3.50
6B8G	3.65
6BA6	1.80
6BA7	1.90
6BA8	3.20
6BC5	2.00
6BC7	3.20
6BC8	3.55
6BD4A	20.45
6BD6	1.80
6BE6	1.90
6BF5	2.05
6BF6	1.60
6BG6G	5.20
6BG6A	5.20
6BH6	2.30
6BH8	3.00
6BJ6	2.05
6BJ7	2.35
6BK5	2.75
6BK7A	2.90
6BL7GT	3.45
6BN4	2.15
6BN6	2.65
6BQ6GT (see 6CU6)	3.75
6BQ7A	3.25
6BR8	2.85
6BS8	3.25
6BU8	2.55
6BV8	2.75
6BX7GT	3.35
6BY5G	3.30
6BY5GA	3.30
6BY6	2.00
6BZ6	2.00
6BZ7	3.40
6BZ8	4.25
6C4	1.50
6C5	2.20
6C5GT	2.15
6C6	2.80
6C8G	3.85
6CB5	5.95
6CB6	2.00
6CD6G	4.95
6CD6GA	4.95
6CF6	2.15
6CG7	2.20
6CG8	2.75
6CL6	3.10
6CM6	2.30
6CM7	2.40
6CN7	2.25
6CR6	2.05
6CS6	2.00
6CS7	2.50
6CU6	3.75
6CU6/6BQ6GA	3.75
6CU6/6BQ6GTA	3.75
6CU6/6BQ6GTB	3.75
6D6	2.80
6DE6	2.05
6DN6	4.95
6DQ6	3.75
6DT6	1.85
6E5*	2.35
6F5	2.40
6F5GT	2.40
6F6	2.85
6F6G	2.25
6F6GT	2.25
6F8G	3.85
6H6	2.15
6H6GT	2.30
6J5	1.95
6J5GT	1.90
6J6	2.30
6J7	2.75
6J7G	2.80
6J7GT	2.80
6J8G	3.85
6K6GT	1.90
6K7	2.60
6K7G	2.40
6K7GT	2.55
6K8	3.35
6L6	4.70
6L6G	3.65
6L6GB	3.65
6L7	3.15
6L7G	3.40
6N7	3.25
6N7GT	3.10
6P5GT	2.50
6Q7	2.65
6Q7G	2.30
6Q7GT	2.30
6R7	2.80
6R7GT	2.75
6S4	1.75
6S4A	1.75
6S7G	3.50
6S8GT	2.75
6SA7	2.40
6SA7GT	2.30
6SB7Y	3.45
6SC7	2.55
6SD7GT	3.35
6SF5	2.05
6SF5GT	2.05
6SF7	2.75
6SG7	2.65
6SH7	2.75
6SJ7	2.25
6SJ7GT	2.15
6SK7	2.25
6SK7GT	2.15
6SL7GT	2.80
6SN7GT	2.15
6SN7GTA	2.15
6SN7GTB	2.25
6SQ7	2.00
6SQ7GT	1.90
6SR7	2.20
6SS7	2.75
6SV7	3.35
6T4	3.45
6T8	2.90
6U5*	2.25
6U7G	2.40
6U8	2.85
6V3A	3.95
6V6	3.65
6V6GT	1.95
6W4GT	1.95
6W6GT	2.50
6X4	1.40
6X5GT	1.60
6X8	2.75
6Y6G	2.60
6Y6GA	2.60
7A4	2.35
7A6	2.30
7A7	2.30
7A8	2.80
7AD7	4.70
7AF7	2.75
7AG7	2.75
7AH7	2.75
7AU7	2.25
7B5	2.15
7B6	2.35
7B7	2.30
7B8	2.60
7C5	2.30
7C6	2.35
7C7	2.30
7E7	3.35
7F7	2.75
7F8	3.45
7G7	3.00
7H7	2.75
7J7	3.65
7L7	3.10
7N7	2.50
7Q7	2.75
7R7	3.50
7V7	3.50
7W7	3.50
7X7 (XXFM)	3.35
7Y4	2.00
7Z4	2.00
12A4	2.20
12A8GT	2.90
12AB5	1.85
12AD6	1.90
12AF6	1.80
12AG6	1.90
12AH7GT	3.00
12AL5	1.65
12AQ5	1.95
12AT6	1.50
12AT7	2.60
12AU6	1.85
12AU7	2.20
12AU7A	2.20
12AV6	1.45
12AV7	3.05
12AX4GT	2.40
12AX4GTA	2.40
12AX7	2.30
12AZ7	2.60
12B4	2.30
12B4A	2.30
12BA6	1.80
12BA7	2.95
12BD6	1.80
12BE6	1.90
12BF6	1.60
12BH7	2.55
12BH7A	2.55
12BK5	2.80
12BR7	2.30
12BV7	2.65
12BY7	2.65
12BY7A	2.65
12BZ7	2.55
12C5	1.95
12CA5	2.05
12CN5	1.95
12CR6	2.05
12CU6	3.80
12CU6/ 12BQ6GA	3.80
12CU6/ 12BQ6GTA	3.80
12CU6/ 12BQ6GTB	3.80
12DQ6	3.80
12G8	2.40
12H6	2.20
12J5GT	1.95
12J7GT	2.80
12J8	3.05
12K7GT	2.55
12K8	3.30
12L6GT	2.00
12Q7GT	2.30
12SA7	2.40
12SA7GT	2.30
12SF5	2.15
12SF7	2.75
12SG7	2.60
12SH7	2.75
12SJ7	2.25
12SJ7GT	2.15
12SK7	2.25
12SK7GT	2.15
12SL7GT	2.80
12SN7GT	2.25
12SQ7	2.00
12SQ7GT	1.90
12V6GT	1.85
12W6GT	2.50
12X4	1.40
14A4	2.90
14A7	2.30
14AF7 (XXD)	2.75
14B6	2.35
14C7	2.50
14E7	3.35
14F7	2.75
14F8	3.45
14H7	2.75
14N7	2.75
14Q7	2.75
14R7	3.50
14S7	3.45
19AU4GT	2.75
19AU4GTA	2.90
19BG6G	6.05
19J6	2.50
19T8	2.90
24A	2.75
25AV5GA	3.45
25AV5GT	3.45
25AX4GT	2.75
25BK5	2.85
25BQ6GT (see 25CU6)	3.85
25CA5	2.20
25CD6GA	4.95
25CU6	3.85
25CU6/ 25BQ6GA	3.85
25CU6/ 25BQ6GTB	3.85
25DQ6	3.85
25L6GT	1.95
25W4GT	2.10
25Z5	2.25
25Z6GT	2.25
26	2.30
27	2.15
32L7GT	3.35
35A5	2.55
35B5	2.10
35C5	1.95
35L6GT	1.95
35W4	1.25
35Y4	2.00
35Z3	2.00
35Z4GT	1.55
35Z5GT	1.45
38	2.35
39/44	2.85
41	2.30
42	2.15
43	2.30
45	2.15
47	5.30
50A5	2.55
50B5	2.10
50C5	1.95
50L6GT	1.95
50X6	2.35
50Y6GT	2.30
50Y7GT	2.25
57	2.15
58	2.15
70L7GT	6.95
75	2.40
76	1.70
78	2.40
80	1.70
81	4.85
84/6Z4	1.85
117N7GT	5.60
117P7GT	5.60
117Z3	1.85
117Z6GT	3.15
5642	2.65
8DP4	19.95
10BP4A	20.75
12LP4A	25.25
14BP4	27.50
14CP4	27.50
14QP4	29.25
14RP4A	36.90
16AEP4	34.00
16AP4A	46.50
16DP4A	44.75
16GP4	46.50
16GP4B	46.50
16JP4A	43.00
16KP4	32.00
‡ 16KP4A	37.50
16LP4A	43.00
16RP4	32.00
16TP4	32.00
16WP4A	43.00
16ZP4	43.00
17AVP4A	39.00
17BP4A	32.00
‡ 17BP4B	37.50
17CP4	42.00
17GP4	46.50
17HP4/17RP4	34.00
‡ 17HP4B	39.00
17JP4	34.00
17LP4/17VP4	34.00
‡ 17LP4A	39.00
17QP4	32.00
‡ 17QP4A	37.50
17TP4	42.00
17YP4	32.00
19AP4A	50.75
19AP4B	50.75
20CP4	39.00
20CP4A	39.00
‡ 20CP4B	44.25
‡ 20CP4D	44.25
20DP4	39.00
20DP4A	39.00
‡ 20DP4B	44.25
‡ 20DP4C	44.25
20HP4	40.75
20HP4A/20LP4	40.75
‡ 20HP4C	46.00
‡ 20HP4D	46.00
21ALP4	40.75
‡ 21ALP4A	46.00
‡ 21ALP4B	46.00
21AMP4/ 21ACP4	39.00
‡ 21AMP4A/ 21ACP4A	44.25
21AP4	48.75
‡ 21ATP4	46.00
‡ 21AUP4A	46.00
‡ 21AVP4A	46.00
‡ 21AWP4	44.25
21EP4A	40.75
‡ 21EP4B	46.00
21FP4	42.25
21FP4A	42.25
‡ 21FP4C	47.75
21MP4	50.75
21WP4	39.00
‡ 21WP4A	44.25
21XP4	40.75
‡ 21XP4A	46.00
21YP4	40.75
‡ 21YP4A	46.00
21ZP4A	39.00
‡ 21ZP4B	44.25
24ADP4	64.75
‡ 24DP4A	67.00
‡ 24TP4/24CP4A	64.75
‡ 24VP4A	64.75
‡ 24YP4	67.00
‡ 27EP4	110.00
‡ 27RP4	110.00

‡ New CBS Silver Vision (Aluminized)

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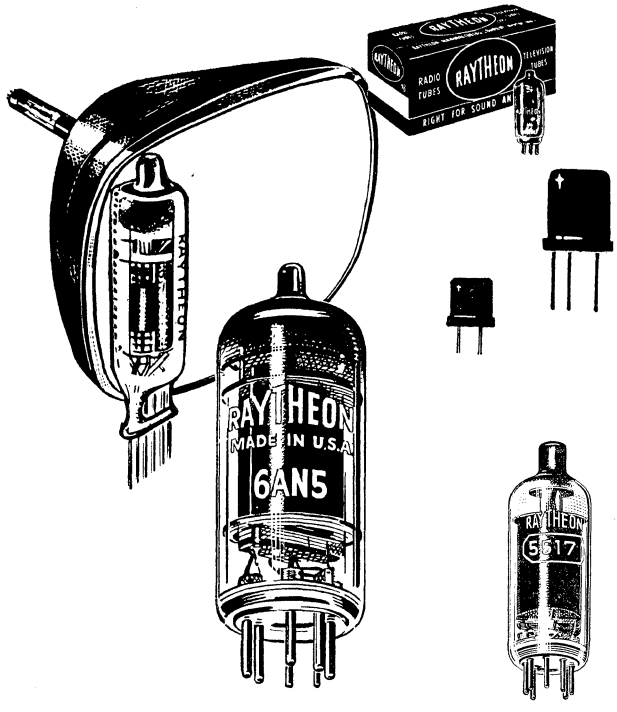

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Type	Price
0Y4	$5.00
0Z4	1.40
0Z4G	1.65
1A3	2.50
1A4P	4.05
1A5GT	2.25
1A6	3.60
1A7GT	2.65
1AG4	2.85
1AH4	2.85
1AJ5	2.90
1AK4	6.00
1AK5	6.00
1AX2	2.60
1B3GT	2.45
1B4P	4.05
1B5/25S	3.60
1B7GT	3.50
1C5GT	2.60
1C6	3.50
1C7G	3.50
1D5GP	4.05
1D7G	3.60
1D8GT	4.55
1E5GP	4.05
1E7GT	4.05
1F4	2.85
1F5G	2.85
1F6	4.05
1F7G	4.05
1G4GT	2.55
1G5G	3.25
1G6GT	2.90
1H4G	2.35
1H5GT	2.15
1H6G	3.50
1J6G	3.35
1J6GT	3.50
1L4	2.15
1L6	2.85
1LA4	3.10
1LA6	2.90
1LB4	3.25
1LC5	2.90
1LC6	2.90
1LD5	2.90
1LE3	2.90
1LG5	2.90
1LH4	2.90
1LN5	2.90
1N5GT	2.60
1P5GT	2.90
1Q5GT	3.05
1R4/1294	2.85
1R5	2.25
1S4	2.50
1S5	1.85
1T4	2.10
1T5GT	2.80
1U4	2.10
1U5	1.85
1V	2.55
1V2	1.50
1V6	3.65
1X2A	2.60
1X2B	2.60
2A3	4.55
2A4G	5.00
2A6	2.85
2A7	2.85
2AF4A	3.50
2B7	3.50
2BN4	2.15
2E5	2.85
2V2	4.60
3A3	2.90
3A8GT	5.00
3AL5	1.60
3AU6	1.85
3AV6	1.50
3B2	$4.40
3B7/1291	5.70
3BC5	2.00
3BE6	1.90
3BN6	2.70
3BY6	2.00
3BZ6	2.00
3C6/XXB	3.75
3CB6	2.00
3CF6	2.20
3CS6	2.00
3D6/1299	4.80
3DT6	1.85
3LF4	3.25
3Q4	2.20
3Q5GT	2.80
3S4	2.10
3V4	2.10
4BC8	3.60
4BQ7A	3.25
4BS8	3.25
4BZ7	3.50
5AM8	2.80
5AN8	2.90
5AQ5	1.95
5AS4	1.75
5AS8	2.85
5AT8	2.80
5AU4	2.90
5AV8	2.90
5AW4	2.50
5AZ4	1.85
5BK7A	2.90
5CG8	2.80
5J6	2.35
5T4	5.00
5T8	2.90
5U4G	1.75
5U4GA	1.75
5U4GB	1.75
5U8	2.90
5V4G	2.55
5V6GT	1.95
5W4GT	1.75
5X4G	2.00
5X8	2.80
5Y3G	1.45
5Y3GT	1.45
5Y4GT	1.85
5Z3	2.35
5Z4	3.60
6A3	3.90
6A6	2.85
6A7	2.90
6A8	3.10
6A8G	2.90
6A8GT	2.90
6AB4	1.65
6AB5/6N5	3.15
6AB7/1853	3.50
6AC5GT	3.10
6AC7/1852	3.25
6AD7G	4.05
6AF4A	3.40
6AF6G	3.15
6AG5	2.00
6AG7	3.75
6AH4GT	2.40
6AH6	3.90
6AH6V	3.90
6AJ4	4.40
6AK5	4.05
6AK6	2.30
6AL5	1.50
6AL7GT	4.50
6AM4	4.40
6AM8	2.70
6AN4	4.40
6AN8	2.90
6AQ5	1.95
6AQ6	$1.65
6AQ7GT	3.05
6AR5	2.00
6AS5	1.95
6AS8	2.90
6AT6	1.45
6AT8	2.75
6AU4GT	2.85
6AU5GT	3.50
6AU6	1.80
6AU8	3.05
6AV5GA	3.50
6AV5GT	3.50
6AV6	1.45
6AW8	3.15
6AX4GT	2.35
6AX5GT	2.25
6AZ8	3.30
6B4G	4.50
6B7	3.50
6B8	3.50
6B8G	3.60
6BA6	1.80
6BA7	2.90
6BC5	1.95
6BC7	3.20
6BC8	3.50
6BD4A	14.25
6BD5GT	3.60
6BD6	1.80
6BE6	1.85
6BF5	2.05
6BF6	1.60
6BG6G	5.25
6BH6	2.30
6BH8	3.05
6BJ6	2.05
6BJ7	2.35
6BK4	6.00
6BK5	2.75
6BK7A	2.85
6BL7GT	3.50
6BN4	2.10
6BN6	2.65
6BQ6GA	3.75
6BQ6GT	3.75
6BQ7A	3.25
6BR8	2.85
6BS8	3.25
6BX7GT	3.35
6BY5GA	3.25
6BY6	2.00
6BY8	2.40
6BZ6	2.00
6BZ7	3.40
6C4	1.45
6C5	2.20
6C5GT	2.10
6C6	2.80
6C8G	3.80
6CB5	7.60
6CB6	1.95
6CD6G	4.95
6CD6GA	4.95
6CF6	2.15
6CG7	2.20
6CG8	2.75
6CL6	3.10
6CM6	2.25
6CM7	2.40
6CR6	2.05
6CS6	2.00
6CS7	2.45
6CU6	3.75
6D6	2.80
6D8G	3.50
6DC6	2.30
6DE6	2.00
6DG6GT	1.85
6DQ6	3.75
6DT6	$1.80
6E5	2.55
6F5	2.40
6F5GT	2.40
6F6	2.85
6F6G	2.25
6F6GT	2.25
6F7	4.05
6F8G	3.90
6G6G	3.05
6H6	2.15
6H6GT	2.30
6J5	1.95
6J5GT	1.85
6J6	2.30
6J7	2.75
6J7G	2.75
6J7GT	2.75
6K5GT	2.65
6K6GT	1.85
6K7	2.60
6K7G	2.40
6K7GT	2.50
6K8	3.35
6K8G	3.50
6L5G	2.85
6L6	4.70
6L6GB	3.60
6L7	3.15
6L7G	3.40
6N7	3.25
6N7GT	3.10
6P5GT	2.45
6Q7	2.65
6Q7G	2.25
6Q7GT	2.25
6R7	2.80
6R7G	2.75
6R7GT	2.75
6R8	3.60
6S4A	1.75
6S7	3.25
6S7G	3.50
6S8GT	2.75
6SA7	2.40
6SA7GT	2.40
6SB7Y	3.50
6SC7	2.55
6SD7GT	3.35
6SF5	2.05
6SF5GT	2.05
6SF7	2.70
6SG7	2.65
6SH7	2.70
6SH7GT	2.50
6SJ7	2.25
6SJ7GT	2.25
6SK7	2.25
6SK7GT	2.25
6SL7GT	2.80
6SN7GT	2.15
6SN7GTA	2.25
6SN7GTB	2.25
6SQ7	2.00
6SQ7GT	2.00
6SR7	2.20
6SS7	2.70
6ST7	2.80
6T4	3.50
6T7G/6Q6G	3.50
6T8	2.85
6U5/6G5	2.45
6U7G	2.40
6U8	2.85
6V3A	3.90
6V6	3.60
6V6GT	1.95
6V8	3.75
6W4GT	1.95
6W6GT	2.50
6W7G	$2.85
6X4	1.40
6X5GT	1.55
6X8	2.75
6Y6GA	2.60
6Z7G	4.05
6ZY5G	2.55
7A4/XXL	2.30
7A5	2.70
7A6	2.30
7A7	2.25
7A8	2.80
7AD7	4.70
7AF7	2.70
7AG7	2.70
7AH7	2.70
7AU7	2.25
7B4	2.20
7B5	2.15
7B6	2.35
7B7	2.25
7B8	2.60
7C4	3.60
7C5	2.30
7C6	2.35
7C7	2.25
7E5	2.90
7E6	2.90
7E7	3.35
7F7	2.70
7F8	3.50
7G7/1232	2.90
7H7	2.70
7J7	3.60
7K7	3.25
7L7	3.10
7N7	2.45
7Q7	2.70
7R7	3.50
7S7	3.50
7V7	3.50
7W7	3.50
7X6	2.35
7X7/XXFM	3.30
7Y4	1.95
7Z4	1.95
10Y	3.90
12A6	3.60
12A8GT	2.90
12AB5	1.85
12AH7GT	3.05
12AL5	1.65
12AQ5	1.95
12AS5	2.15
12AT6	1.45
12AT7	2.60
12AU6	1.80
12AU7	2.20
12AU7A	2.20
12AV6	1.45
12AV7	2.90
12AW6	2.40
12AX4GTA	2.40
12AX7	2.25
12AY7	6.00
12AZ7	2.55
12B4A	2.30
12BA6	1.80
12BA7	2.90
12BD6	1.80
12BE6	1.85
12BF6	1.60
12BH7A	2.50
12BK5	2.80
12BQ6GTB	3.75
12BR7	2.25
12BV7	2.50
12BY7A	2.65
12BZ7	2.50
12C5	1.95
12C8	$3.90
12CA5	2.00
12CU6	3.80
12DQ6	3.80
12F5GT	2.40
12H6	2.20
12J5GT	1.95
12J7GT	2.80
12K7GT	2.50
12K8	3.25
12K8GT	2.90
12L6GT	2.00
12Q7GT	2.25
12S8GT	2.75
12SA7	2.40
12SA7GT	2.40
12SC7	2.50
12SF5	2.15
12SF5GT	2.15
12SF7	2.70
12SG7	2.55
12SH7	2.70
12SJ7	2.25
12SJ7GT	2.25
12SK7	2.25
12SK7GT	2.25
12SL7GT	2.80
12SN7GT	2.25
12SN7GTA	2.25
12SQ7	2.00
12SQ7GT	2.00
12SR7	2.25
12V6GT	1.85
12W6GT	2.50
12X4	1.40
12Z3	2.65
14A4	2.90
14A5	3.90
14A7/12B7	2.25
14AF7/XXD	2.70
14B6	2.35
14B8	2.60
14C5	2.90
14C7	2.45
14E6	2.90
14E7	3.35
14F7	2.70
14F8	3.50
14H7	2.70
14J7	3.60
14N7	2.75
14Q7	2.70
14R7	3.50
14S7	3.50
14W7	3.50
14X7	2.75
14Y4	2.50
19	3.50
19AU4GT	2.90
19BG6GA	6.00
19C8	3.35
19J6	2.45
19T8	2.85
19X8	3.10
22	3.35
24A	2.70
25A6	3.50
25A6G	2.85
25A7GT	6.60
25AV5GA	3.50
25AX4GT	2.75
25BK5	2.85
25BQ6GT	3.80
25C5	2.05
25CD6GA	4.95
25CU6	3.80
25L6GT	1.95
25W4GT	2.10
25Y5	3.10
25Z5	2.25
25Z6GT	$2.25
26	2.25
27	2.10
30	2.30
31	2.85
32	3.80
32L7GT	3.35
33	3.50
34	3.60
35/51	2.40
35A5	2.50
35B5	2.10
35C5	1.95
35L6GT	1.95
35W4	1.25
35Y4	1.95
35Z3	1.95
35Z4GT	1.55
35Z5GT	1.45
36	2.85
37	1.85
38	2.30
39/44	2.85
41	2.30
42	2.10
43	2.25
45	2.10
45Z3	1.80
46	2.90
47	5.25
49	2.85
50	5.25
50A5	2.50
50B5	2.10
50C5	1.95
50C6G	3.30
50CD6G	6.60
50L6GT	1.95
50X6	2.30
50Y6GT	2.30
50Y7GT	2.25
55	2.30
56	1.90
57	2.10
58	2.10
70L7GT	6.60
71A	2.40
75	2.00
76	1.70
77	2.20
78	2.40
79	2.90
80	1.65
81	4.80
83	2.65
83V	3.40
84/6Z4	1.85
85	2.30
89Y	2.30
V99	3.35
X99	3.35
X155/6BZ8	4.25
117L/M7GT	6.60
117N7GT	5.60
117P7GT	5.60
117Z3	1.85
117Z6GT	3.15
5642	2.65

Prices include all manufacturers' Federal Excise Taxes as set forth in the Internal Revenue Code Chap.. 29. Sub Chap. A.
Tube prices listed above are for your convenience and do not necessarily indicate type availability.

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RAYTHEON®

TELEVISION PICTURE TUBES

SUGGESTED LIST PRICES — *Effective March 1, 1956*

BLACK AND WHITE TUBE TYPE	ALUMINIZED SCREEN	ENVELOPE	FACE	TYPE OF FOCUS	TYPE OF DEFLECTION	EXTERNAL CONDUCTIVE COATING	ION TRAP	SUGGESTED LIST PRICE
7JP4	No	Glass	Clear	Elect.	Elect.	No	None	$27.75
8BP4	No	Glass	Clear	Elect.	Elect.	No	None	32.00
10BP4A	No	Glass	Filter	Mag.	Mag.	Yes	Double	20.75
10FP4	Yes	Glass	Clear	Mag.	Mag.	Yes	None	19.25
10FP4A	Yes	Glass	Filter	Mag.	Mag.	Yes	None	25.40
12KP4A	Yes	Glass	Filter	Mag.	Mag.	Yes	None	29.75
12LP4A	No	Glass	Filter	Mag.	Mag.	Yes	Double	25.25
*14BP4	No	Glass	Filter	Mag.	Mag.	Yes	Double	27.75
*14CP4	No	Glass	Filter	Mag.	Mag.	Yes	Single	27.75
16AP4A	No	Metal	Filter	Mag.	Mag.	—	Double	44.75
16DP4A	No	Glass	Filter	Mag.	Mag.	No	Double	44.75
16GP4	No	Metal	Filter	Mag.	Mag.	—	Single	44.75
16GP4B	No	Metal	Filter	Mag.	Mag.	—	Single	44.75
*16KP4	No	Glass	Filter	Mag.	Mag.	Yes	Single	32.00
*16KP4A	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	37.50
*16RP4	No	Glass	Filter	Mag.	Mag.	Yes	Double	32.00
*16TP4	No	Glass	Filter	Mag.	Mag.	Yes	Single	32.00
16ZP4	No	Glass	Filter	Mag.	Mag.	Yes	Double	43.00
*17AP4	No	Glass	Filter	Mag.	Mag.	Yes	Single	37.50
*17AVP4	No	Glass	Filter	Elect.	Mag.	Yes	Single	34.00
*17AVP4A	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	39.00
*17BP4A	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	32.00
*17BP4B	No	Glass	Filter	Mag.	Mag.	Yes	Single	37.50
*17CP4	No	Metal	Filter	Mag.	Mag.	—	Single	40.00
*17GP4	No	Metal	Filter	Elect.	Mag.	—	Single	44.75
*17HP4	No	Glass	Filter	Elect.	Mag.	Yes	Single	34.00
*17HP4B	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	39.00
*17JP4	No	Glass	Filter	Mag.	Mag.	Yes	Single	34.00
*17LP4	No	Glass	Filter	Elect.	Mag.	Yes	Single	34.00
†*17LP4A	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	39.00
†*17QP4	No	Glass	Filter	Mag.	Mag.	Yes	Single	32.00
19AP4A	No	Metal	Filter	Mag.	Mag.	—	Single	48.75
19AP4B	No	Metal	Filter	Mag.	Mag.	—	Single	48.75
*20CP4	No	Glass	Filter	Mag.	Mag.	No	Single	39.00
*20CP4A	No	Glass	Filter	Mag.	Mag.	Yes	Single	39.00
*20DP4A	No	Glass	Filter	Mag.	Mag.	Yes	Single	39.00
*20DP4C	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	44.25
*20HP4A	No	Glass	Filter	Elect.	Mag.	Yes	Single	40.75
21ALP4	No	Glass	Filter	Elect.	Mag.	Yes	Single	40.75
*21ALP4A	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	46.00
*21AP4	No	Metal	Filter	Mag.	Mag.	—	Single	47.00
*21AMP4A	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	44.25
*21ATP4	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	46.00
*21AUP4A	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	46.00
*21AVP4	No	Glass	Filter	Elect.	Mag.	Yes	Single	40.75
*21AVP4A	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	46.00
*21AWP4	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	44.25
†*21EP4A	No	Glass	Filter	Mag.	Mag.	Yes	Single	40.75
†*21EP4B	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	46.00
†*21FP4A	No	Glass	Filter	Elect.	Mag.	Yes	Single	42.25
†*21FP4C	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	47.75
*21MP4	No	Metal	Filter	Elect.	Mag.	—	Single	48.75
*21WP4	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	39.00
*21WP4A	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	44.25
*21YP4	No	Glass	Filter	Elect.	Mag.	Yes	Single	40.75
*21YP4A	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	46.00
*21ZP4A	No	Glass	Filter	Mag.	Mag.	Yes	Single	39.00
*21ZP4B	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	44.25
*24CP4	No	Glass	Filter	Mag.	Mag.	Yes	Single	62.75
*24CP4A	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	64.50
*24DP4	No	Glass	Filter	Elect.	Mag.	Yes	Single	64.75
*24DP4A	Yes	Glass	Filter	Elect.	Mag.	Yes	Single	66.50
*27EP4	Yes	Glass	Filter	Mag.	Mag.	No	Single	110.00
*27RP4	Yes	Glass	Filter	Mag.	Mag.	Yes	Single	110.00

*Rectangular face.

†Cylindrical face to reduce reflections.

COLOR TUBE TYPE	ALUMINIZED SCREEN	ENVELOPE	FACE	TYPE OF FOCUS	TYPE OF DEFLECTION	EXTERNAL CONDUCTIVE COATING	ION TRAP	SUGGESTED LIST PRICE
15GP22	Yes	Glass	Clear	Elect.	Mag.	Yes	None	$265.00
19VP22	Yes	Glass	Filter	Elect.	Mag.	Yes	None	265.00
21AXP22	Yes	Metal	Filter	Elect.	Mag.	No	None	175.00

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RAYTHEON® SEMICONDUCTOR DIODES & TRANSISTORS

SUGGESTED RESALE AND LIST PRICES — *Effective March 15, 1956*

TYPE		SUGG. RESALE PRICE	SUGG. LIST PRICE
1N34	Diode	$ .65	$1.20
1N38	Diode	1.27	—
1N60	Diode	.41	.72
1N66	Diode	.65	1.20
1N67	Diode	1.57	—
1N68	Diode	1.57	—
1N82A	Diode	1.00	—
1N294	Diode	.70	1.40
1N295	Diode	.41	.72
1N297	Diode	1.35	—
1N298	Diode	.95	1.90
1N300	Diode	5.55	—
1N300A	Diode	6.35	—
1N301	Diode	5.55	—
1N301A	Diode	6.35	—
1N302	Diode	6.35	—
1N302A	Diode	7.90	—
1N303	Diode	5.55	—
1N303A	Diode	6.35	—
1N305	Diode	2.00	—
1N306	Diode	2.00	—
1N307	Diode	2.60	—
1N432	Diode	5.55	—
1N432A	Diode	6.35	—
1N433	Diode	5.55	—
1N433A	Diode	7.00	—
1N434	Diode	5.55	—
1N434A	Diode	7.00	—
1N436	Diode	5.55	—
1N437	Diode	6.35	—
1N438	Diode	6.35	—
1N439	Diode	5.55	—
1N460	Diode	5.55	—
1N460A	Diode	6.35	—
2N63	Transistor	3.55	—
2N64	Transistor	3.95	—
2N65	Transistor	4.35	—
2N106	Transistor	4.35	—
2N111	Transistor	2.80	—
2N111A	Transistor	2.90	4.50
2N112	Transistor	—	5.25
2N112A	Transistor	2.90	4.50
2N113	Transistor	7.60	—
2N114	Transistor	9.50	—
2N130	Transistor	2.05	—
2N131	Transistor	2.05	—
2N132	Transistor	2.05	—
2N133	Transistor	2.40	—
2N138	Transistor	2.05	—
2N138A	Transistor	2.25	3.50
CK705	Diode	Use 1N66	
CK705A	Diode	Use 1N294	
CK706A	Diode	Use 1N295	
CK707	Diode	Use 1N67	
CK708	Diode	Use 1N68	
CK709	Quad. Diode	9.40	—
CK710	Diode	.87	1.75
CK711	Quad. Diode	9.40	—
CK713A	Diode	Use 1N298	
CK715	Diode	.65	1.20
CK717	Diode	9.40	—
CK719	Diode	9.40	—
CK721	Transistor	2.40	—
CK722	Transistor	.99	—
CK725	Transistor	2.80	—
CK735	Diode	Use 1N300	
CK735A	Diode	Use 1N300A	
CK736	Diode	Use 1N301	
CK736A	Diode	Use 1N301A	
CK737	Diode	Use 1N302	
CK737A	Diode	Use 1N302A	
CK738	Diode	Use 1N303	
CK738A	Diode	Use 1N303A	
CK739	Diode	Use 1N305	
CK740	Diode	Use 1N306	
CK742	Diode	Use 1N307	
CK751	Diode	2.50	3.90
CK766	Diode	2.90	4.50
CK766A	Diode	2.90	4.50
CK768	Diode	1.50	—
CK774	Diode	31.50	—
CK775	Diode	29.75	—
CK775-1	Diode	31.25	—
CK776	Diode	33.50	—
CK776-1	Diode	40.50	—
CK790	Transistor	57.00	—
CK791	Transistor	92.00	—
CK793	Transistor	92.00	—
CK801	Diode	2.00	—
CK802	Diode	2.00	—
CK840	Diode	12.50	—
CK841	Diode	12.50	—
CK842	Diode	14.75	—
CK843	Diode	15.50	—
CK844	Diode	16.50	—
CK845	Diode	20.50	—
CK850	Diode	Use 1N436	
CK851	Diode	Use 1N437	
CK852	Diode	Use 1N438	
CK853	Diode	Use 1N439	
CK856	Diode	Use 1N432	
CK856A	Diode	Use 1N432A	
CK858	Diode	Use 1N460	
CK858A	Diode	Use 1N460A	
CK860	Diode	Use 1N433	
CK860A	Diode	Use 1N433A	
CK861	Diode	Use 1N434	
CK861A	Diode	Use 1N434A	
CK863	Diode	9.40	—
CK863A	Diode	11.00	—
CK870	Diode	6.70	—
CK871	Diode	11.50	—

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SUGGESTED RESALE AND LIST PRICES — *Effective May 7, 1956*

TYPE	SUGG. RESALE PRICE	SUGG. LIST PRICE
0A2	$ 1.26	$1.75
0A3/VR75	1.27	1.80
0A4G	1.48	2.10
0B2	1.32	1.90
0B2WA	4.90	—
0B3/VR90	1.65	2.45
0C3/VR105	1.27	1.80
0D3/VR150	1.27	1.80
†0Z4A/CK1003	1.00	—
†1AD4	3.05	4.25
†1AE4	1.55	—
1AG5	1.90	3.80
1B90	14.25	—
2D21	2.00	2.75
2E24	4.65	5.45
2E26	3.85	4.55
2E30	2.60	—
†2E31	2.12	4.10
†2E32	2.12	4.10
†2E35	3.05	4.25
†2E36	3.05	4.25
2E41 (Use 1AG5)	—	—
2E42 (Use 1AG5)	—	—
†2G21	4.15	5.80
†2G22	4.15	5.80
RK2J23	192.50	—
RK2J24	192.50	—
RK2J27	192.50	—
RK2J28	192.50	—
RK2J29	192.50	—
RK2J30	151.50	—
RK2J31	151.50	—
RK2J32	151.50	—
RK2J33	151.50	—
RK2J34	151.50	—
RK2J42	99.00	—
RK2J49	131.00	—
RK2J50	131.00	—
RK2J51	308.00	—
RK2J51A	425.00	—
RK2J55	126.00	—
RK2J56	126.00	—
RK2J66	506.00	—
RK2J67	506.00	—
RK2J68	506.00	—
RK2J69	506.00	—
RK2J70	152.00	—
RK2J71	320.00	—
RK2K22	56.50	—
RK2K25	38.00	—
RK2K26	56.50	—
RK2K28	55.00	—
RK2K28A	55.00	—
RK2K29	61.00	—
RK2K33	384.00	—
RK2K45	98.50	—
RK2K48	78.50	—
RK2K56	98.75	—
2X2A	—	2.55
†3A4	1.20	—
3A5	—	1.75
3B4	2.75	—
RK3B24W	10.50	—
RK3B26	16.00	—
RK3B29	10.50	—

TYPE	SUGG. RESALE PRICE	SUGG. LIST PRICE
RK4B31	35.25	—
4C35	20.25	—
RK4D22	27.50	—
RK4D32	27.50	—
RK4J30	225.00	—
RK4J31	225.00	—
RK4J32	225.00	—
RK4J33	225.00	—
RK4J34	225.00	—
RK4J35	225.00	—
RK4J36	353.00	—
RK4J37	353.00	—
RK4J38	353.00	—
RK4J39	353.00	—
RK4J40	353.00	—
RK4J41	353.00	—
RK4J53	256.00	—
RK4J57	270.00	—
RK4J58	270.00	—
RK4J59	270.00	—
RK4J61	385.00	—
RK4J62	385.00	—
RK4J63	385.00	—
RK4J64	385.00	—
5D23/RK65	45.00	—
RK5J26	423.00	—
†5R4GY	1.89	2.65
†5R4WGY	7.25	—
†6AJ5	3.50	—
6AKW (Use CK5654/6AK5W)	—	—
6AN5	3.55	—
6AN5WA	10.30	—
6AR6	5.75	—
†6AS6	3.46	4.85
6AS7G	4.45	6.25
6BL6	41.00	—
†6C4W	7.90	—
6D21	320.00	—
†6J4	4.48	6.30
†6J5WGT	4.79	—
†6SN7WGT	2.45	—
†6X4W	1.80	—
†6X5WGT	1.89	—
7AK7	6.30	—
†12J5WGT	4.85	—
RK61	3.30	—
RK65 (Use 5D23/RK65)	—	—
RK72 (Use 3B24W)	—	—
RX120	29.00	—
RX120A	30.50	—
QK140 (Use QK290)	—	—
QK172	1660.00	—
RX212	35.75	—
QK226 (Use QK293)	—	—
QK227 (Use QK294)	—	—
QK241	2310.00	—
QK246	577.00	—
QK253	609.00	—
QK264	3846.00	—
QK288	513.00	—
QK289	384.00	—
QK290	384.00	—
QK291	384.00	—
QK292	384.00	—
QK293	384.00	—

TYPE	SUGG. RESALE PRICE	SUGG. LIST PRICE
QK294	384.00	—
QK295	513.00	—
QK306	384.00	—
QK313	1520.00	—
QK329	320.00	—
QK366	577.00	—
QK367	192.50	—
QK381	150.00	—
QK390	225.00	—
QK404	67.85	—
QK411	1282.00	—
QK422	256.00	—
QK436 (Use RK6316)	—	—
QK488	577.00	—
QK456	320.00	—
QK461	107.00	—
QK463	384.00	—
QK464 (Use RK6835)	—	—
QK470	4870.00	—
QK472	145.00	—
CK501AX	2.55	5.10
CK502AX	2.10	4.20
CK503AX (Use CK5854)	—	—
CK506AX	1.50	—
CK510AX	2.78	—
QK510	577.00	—
CK512AX	2.40	—
CK518AX	2.15	—
QK518	932.00	—
CK522AX (Use CK6088)	—	—
QK522	1346.00	—
CK526AX	1.90	3.80
CK527AX	2.55	5.10
CK529AX	1.98	3.95
QK529	1346.00	—
CK531AX	2.55	3.10
CK532AX	2.55	3.10
CK533AX	2.40	4.80
CK534AX	2.45	4.90
CK535AX	2.15	4.30
CK536AX	1.58	3.15
CK539AX	2.55	5.10
CK542DX	2.55	5.10
CK42DXS	2.65	5.30
CK546DX (See CK6519)	—	—
CK547DX	2.55	5.10
CK548DX (Use CK6418)	—	—
CK549DX (Use CK6419)	—	—
CK556AX (Use CK5676)	—	—
CK569AX (Use CK5678)	—	—
CK571AX (Use CK5886)	—	—
CK573AX (Use CK6029)	—	—
CK574AX (Use CK6281)	—	—
CK628 (Use CK6247)	—	—
RK707B	67.85	—
RK715C	63.00	—
RK725A	131.00	—
RK726C	49.75	—
RK730A	151.00	—
RK807	2.50	—
RK811A	5.00	—
RK812A	5.00	—
RK813	18.00	—
RK814	$ 14.25	—
RK816	2.15	—

†Types subject to 10% Federal Excise Tax, which has been included.

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SUGGESTED RESALE AND LIST PRICES — *Effective May 7, 1956 (Continued)*

TYPE	SUGG. RESALE PRICE	SUGG. LIST PRICE
RK829B	16.25	—
RK832A	12.90	—
RK837	5.80	—
RK866A	2.45	—
RK872A	8.20	—
884	1.85	$2.55
885	2.00	2.75
†954	7.40	—
†955	4.00	—
†956	8.00	—
†957	5.35	—
†CK1005	1.00	1.90
†CK1006	5.85	—
†CK1007	1.10	—
CK1017 (Use CK5962)	—	—
CK1018	14.25	—
CK1019	14.25	—
CK1020	10.25	—
CK1021	10.25	—
CK1022	12.65	—
CK1023	10.25	—
CK1024	3.80	—
CK1026	3.35	—
CK1027 (Use CK6174)	—	—
CK1029	15.50	—
CK1030	30.00	—
CK1031	30.00	—
CK1033	30.00	—
CK1034	7.70	—
CK1036 (Use CK6436)	—	—
CK1037 (Use CK6437)	—	—
CK1038	7.70	—
CK1039 (Use CK6438)	—	—
CK1042 (Use CK6659)	—	—
CK1045 (Use CK6542)	—	—
CK1047	4.10	—
CK1049	5.60	—
1614	2.85	—
RK1625	2.65	—
2050	1.85	2.55
2051	1.90	—
CK5517	3.55	—
RK5551	65.00	—
RK5552	99.00	—
RK5586	352.00	—
RK5609	112.00	—
CK5639	10.00	—
CK5651	1.90	2.75
CK5651WA	4.00	—
†CK5654	3.55	—
†CK5654/6AK5W	3.55	—
†CK5654/6AK5W/6096	6.70	—
†CK5656	20.55	—
RK5657	355.00	—
†CK5670	4.65	—
†CK5670WA	6.75	—
†CK5672	2.30	—
CK5675	13.55	—
CK5676	2.85	—
†CK5678	2.30	—
†CK5686	3.30	—
CK5687	4.50	—
CK5692	8.15	—
CK5693	6.40	—
CK5702	5.85	—
CK5702WA	9.30	—
CK5703	2.20	—
CK5703WA	9.30	—
CK5704	2.85	—
RK5721	190.00	—
†CK5725	3.77	—
†CK5726	2.06	—
CK5744	2.70	—
CK5744WA	8.00	—
†CK5749	2.79	—
†CK5750	3.86	—
†CK5751	3.78	—
CK5755	9.90	—
CK5763	2.11	3.00
RK5777	208.00	—
RK5778	208.00	—
CK5783	5.60	—
CK5783WA	7.90	—
CK5783WB	9.50	—
CK5784	7.90	—
CK5784WA	11.85	—
CK5785	2.35	—
CK5787	7.90	—
CK5787WA	11.85	—
CK5787WB	13.00	—
CK5794	7.35	—
CK5814 (Use CK5814A)	—	—
†CK5814A	3.80	—
†CK5814WA	5.50	—
CK5829	4.70	—
CK5829WA	7.90	—
RK5836	89.00	—
RK5837	89.00	—
CK5851	8.70	—
CK5854	2.05	—
CK5875	2.85	—
CK5876	13.55	—
CK5879	—	2.50
CK5881	3.50	—
CK5886	4.70	—
CK5889	11.85	—
CK5893	19.40	—
CK5910	.95	—
CK5962	11.85	—
CK5963	1.40	—
CK5965	2.15	—
CK5967	15.00	—
CK5969	15.00	—
CK5971	5.60	—
CK5972	5.25	—
CK5975	4.00	—
RK5976	68.00	—
RK5981	115.00	—
RK5982	577.00	—
RK6002	577.00	—
†CK6005	4.59	—
CK6021	9.50	—
CK6029	4.70	—
RK6037	340.00	—
RK6043	67.85	—
CK6050	2.85	—
CK6080	6.00	—
CK6088	2.60	—
†CK6096	4.95	—
CK6110	9.90	—
CK6111	10.25	—
CK6112	10.25	—
RK6115A	97.00	—
RK6116	237.00	—
RK6133 (Use 2K28A)	—	—
†CK6135	3.68	—
CK6146	4.90	5.75
CK6148 (Use CK5702WA)	—	—
CK6149 (Use CK5703WA)	—	—
CK6150 (Use CK5784WA)	—	—
CK6151 (Use CK5744WA)	—	—
CK6152	9.30	—
CK6174	3.55	—
RK6177	314.00	—
RK6178	449.00	—
†CK6201	4.83	—
CK6213	4.70	—
RK6229	475.00	—
RK6230	555.00	—
RK6236	228.00	—
CK6245	11.85	—
CK6247	15.00	—
RK6253	384.00	—
RK6254	384.00	—
CK6281	2.20	—
†CK6286	2.90	—
RK6310	237.00	—
RK6312	237.00	—
RK6316	186.00	—
RK6344	1025.00	—
4RK6390	228.00	—
CK6397	7.90	—
RK6406	1603.00	—
RK6410	1603.00	—
CK6418	2.55	—
CK6419	2.05	—
CK6436	7.90	—
CK6437	7.90	—
CK6438	7.90	—
†CK6485	1.65	—
RK6517	1660.00	—
RK6518	1665.00	—
CK6519	2.55	—
CK6526	6.30	—
CK6533	15.00	—
CK6540	10.25	—
CK6542	11.85	—
RK6573	513.00	—
CK6611	18.50	—
CK6612	23.00	—
CK6659	9.50	—
CK6763	4.20	—
RK6835	1025.00	—
†9001	4.25	—
†9002	2.85	—
†9003	4.25	—
†9005	4.40	—
†9006	2.15	—

Subminiature Tube Test Adapters

5AX51 (For 5 lead tubes)	7.50	—
7AX51 (For 6 lead tubes)	9.80	—
8CV50 (For 8 lead tubes)	9.80	—

†Types subject to 10% Federal Excise Tax, which has been included.

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All Prices Subject to Change or Withdrawal Without Notice

For maintenance or original equipment

Specify Sylvania Tubes

"GOLD-BRAND" SUBMINIATURES—for extra premium performance in tubes built to close design centers

5636A	pentode mixer
5639A	video output pentode
5641A	rectifier
5643	thyratron
5644A	voltage regulator
5647A	t-1 detector
5718A	medium mu triode
5719A	high mu triode
5840A/6205A	sharp cut-off pentode
5896A	double diode detector
5899A/6206A	semi-remote cut-off pentode
5902A	audio power pentode
5977A	low mu triode
6021A	medium mu double triode
6110	double diode detector
6111A	low mu double triode
6112A	high mu double triode

RELIABLE AND RUGGEDIZED TUBES—for reliability under severe environmental conditions

6AU6WA	sharp cut-off pentode
6J6WA	medium mu double triode
12AT7WA	high mu double triode
5654/6AK5W	sharp cut-off pentode
5654/6AK5W/6096	sharp cut-off pentode
5670	medium mu double triode
5670WA	medium mu double triode
5725/6AS6W	dual control sharp cut-off pentode
5725/6AS6W/6187	dual control sharp cut-off pentode
5726/6AL5W	double diode
5726/6AL5W/6097	double diode
5727/2D21W	tetrode thyratron
5749/6BA6W	semi-remote cut-off pentode
5751	high mu double triode
5751WA	high mu double triode
5814	medium mu double triode
5814A	medium mu double triode
5814WA	medium mu double triode
6005/6AQ5W/6095	beam power pentode
6135	medium mu triode
6SN7WGTA	medium mu double triode
5933WA	beam power pentode
6819/12AU7WA	medium mu double triode
5Y3WGT	full-wave rectifier
6SJ7WGT	sharp cut-off pentode
6SL7WGT	high mu double triode
6SN7WGT	medium mu double triode
6X4W	full-wave rectifier
6X5WGT	full-wave rectifier
7F8W	high mu double triode
28D7W	double beam power tube
5930	half-wave rectifier
5931	full-wave rectifier
5932	beam power amplifier
5933	beam power amplifier

GAS-FILLED TUBES—for important electronic control applications

0A2	voltage regulator
0A4G	relay and grid controlled rectifier
0A5	trigger tube
0B2	voltage regulator
0B3	voltage regulator
0C3	voltage regulator
0D3	voltage regulator
1B59/R1130B	glow modulator diode
1D21/SN4	strobotron
2D21	relay and grid controlled rectifier
2D21W	relay and grid controlled rectifier
R4330	strobotron
S413	strobotron
SA309	strobotron
1237	full-wave rectifier
5643	relay tube
5644	voltage regulator
5651	voltage reference
5823	relay, rectifier
6D4	relay, relaxation osc. noise generator
6308	voltage reference
6483	trigger tube

SYLVANIA INDUSTRIAL TUBES

Type 579B	high vacuum rectifier
Type 632B	thyratron
Type 672A	thyratron
Type KU676	thyratron
Type 5796	thyratron
Type 677	thyratron
Type 678	thyratron
Type 5685	thyratron
Type 5550/681	ignitron
Type 5551A/652	ignitron
Type 5552A/651	ignitron
Type 5553B/655	ignitron
Type 892	high vacuum amplifier
Type 5736	high vacuum amplifier

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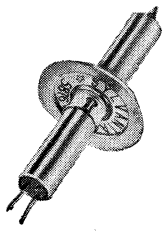
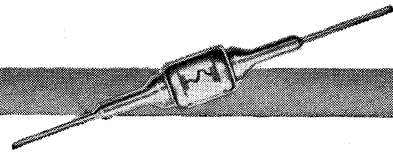
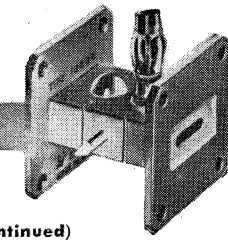


High Quality from Crystal Diodes to





These are the Sylvania products which are making possible new and better ways to design commercial and military electronic equipment. For complete data on any of these products write to Dept. J-36R, Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.

MICROWAVE CRYSTAL DIODES

1N21A . . . . . 3000 mc Mixer
1N21B . . . . . 3000 mc Mixer
1N21C . . . . . 3000 mc Mixer
1N21D* . . . . . 3000 mc Mixer
1N23A . . . . . 10,000 mc Mixer
1N23B . . . . . 10,000 mc Mixer
1N23C . . . . . 10,000 mc Mixer
1N23D* . . . . . 10,000 mc Mixer
1N25 . . . . . 1000 mc High Burnout Mixer
1N25A* . . . . . 1000 mc High Burnout Mixer
1N26 . . . . . 24,000 mc Mixer
1N31 . . . . . 10,000 mc Video Detector
1N32 . . . . . 3000 mc Video Detector
1N53* . . . . . 35,000 mc Mixer
1N76 . . . . . 9000 mc Video Detector
1N78 . . . . . 16,000 mc Mixer
1N78A* . . . . . 16,000 mc Mixer
1N79 . . . . . Meter Rectifier
1N150* . . . . . 7000 mc Mixer

*These types are available in reverse polarities and as matched pairs of either normal, reverse or mixed polarities.

CRYSTAL DIODES

1N34 . . . . . General Purpose Diode
1N34A . . . . . General Purpose Diode (Glass)
1N35 . . . . . Twin Matched Diode—1N34's
1N38 . . . . . 100 Volt Diode
1N38A . . . . . 100 Volt Diode (Glass)
1N39 . . . . . 200 Volt Diode
1N39A . . . . . 200 Volt Diode (Glass)
1N40 . . . . . Varistor—Plug In
1N41 . . . . . Varistor—Lug Type
1N42 . . . . . Varistor—Matched 1N38's
1N54 . . . . . High Resistance Diode
1N54A . . . . . High Resistance Diode (Glass)
1N55 . . . . . 150 Volt Diode
1N55A . . . . . 150 Volt Diode (Glass)
1N56 . . . . . High Conduction Diode
1N56A . . . . . High Conduction Diode (Glass)

CRYSTAL DIODES (Continued)

1N58 . . . . . 100 Volt Diode
1N58A . . . . . 100 Volt Diode (Glass)
1N60 . . . . . TV Video Detector Diode
1N63 . . . . . General Purpose Diode
1N65 . . . . . General Purpose Diode
1N67 . . . . . High Resistance Diode
1N69 . . . . . General Purpose Diode
1N70 . . . . . 100 Volt Diode
1N71 . . . . . Varistor—Low Impedance—Plug In
1N77A . . . . . Photo Diode
1N81 . . . . . High Resistance Diode
1N82 . . . . . 700 mc Mixer
1N82A . . . . . 700 mc Mixer
1N105 . . . . . Type 1N60 without Pigtails
1N109 . . . . . Harmonic Generator
1N111 . . . . . Computer Diode
1N112 . . . . . Computer Diode
1N113 . . . . . Computer Diode
1N114 . . . . . Computer Diode
1N115 . . . . . Computer Diode
1N119 . . . . . Computer Diode
1N120 . . . . . Computer Diode
1N132 . . . . . Video Detector
1N134 . . . . . UHF Detector
1N193 . . . . . High Temperature Computer Diode
1N194 . . . . . High Temperature Computer Diode
1N195 . . . . . High Temperature Computer Diode
1N196 . . . . . High Temperature Computer Diode

TRANSISTORS

2N34 . . . . . PNP Junction—Amplifier
2N35 . . . . . NPN Junction—Amplifier
2N68 . . . . . PNP Medium Gain, High Power
2N94 . . . . . NPN High Gain, High Frequency
2N94A . . . . . NPN High Gain, High Frequency
2N95 . . . . . NPN Medium Gain, High Power
2N101 . . . . . PNP Medium Gain, High Power (no cooling fins)
2N102 . . . . . NPN Medium Gain, High Power (no cooling fins)

MISCELLANEOUS

0A5 . . . . . Trigger Tube (Cold Cathode)
1237 . . . . . Full Wave Argon Rectifier
6476 . . . . . 10 Cathode Output 4000 pps Counting Rate
6482 . . . . . Single Cathode Output 4000 pps Counting Rate
6483 . . . . . Trigger Tube (Cold Cathode)

TRAVELING WAVE TUBES

6493 . . . . . Low Level Amplifier
6496 . . . . . 10 to 1 voltage Tunable Oscillator
6559 . . . . . Medium Power Amplifier

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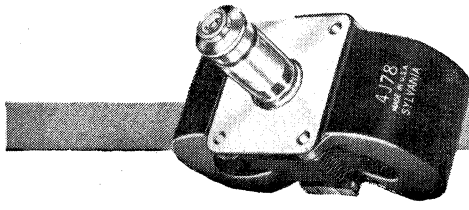
Electronic Products

Magnetrons to Transistors



MAGNETRONS

2J42 ..... X-Band Frequency 9345 to 9405 (mc/sec.)
2J55 ..... X-Band Frequency 9345 to 9405 (mc/sec.)
4J50 ..... X-Band Frequency 9345 to 9405 (mc/sec.)
4J52 ..... X-Band Frequency 9345 to 9405 (mc/sec.)
4J78 ..... X-Band Frequency 9003 to 9168 (mc/sec.)
5789 ..... K_A Band Frequency 34,512 to 35,208 (mc/sec.)
6002 ..... X-Band Frequency 9230 to 9404 (mc/sec.)
6027 ..... X-Band Frequency 9345 to 9405 (mc/sec.)

GAS PRESSURE MEASURING TUBES

R1111 ..... Pirani Tube
R1111M ..... Matched Pair of R1111

TR & ATR TUBES

1B24A ..... X-Band TR
1B35A ..... X-Band ATR
1B37A ..... X-Band ATR
1B40 ..... L-Band TR
1B44 ..... S-Band ATR
1B55 ..... S-Band TR
1B56 ..... S-Band ATR
1B58 ..... S-Band TR
1B63A ..... X-Band TR
5790 ..... K_A Band TR
5791 ..... K_A Band ATR
5792 ..... S-Band ATR
5793 ..... S-Band ATR
5853 ..... S-Band TR
5863 ..... X-Band TR (Restricted)
5864 ..... ATR (Restricted)
5865 ..... C-Band TR
5883 ..... ATR (Restricted)
5921 ..... ATR (Restricted)
5922 ..... ATR (Restricted)
5927 ..... TR (Restricted)
6214 ..... X-Band ATR

TR & ATR TUBES (Continued)

6232 ..... X-Band TR
6334 ..... X-Band Dual TR
6545 ..... K_A Band High Power TR
6546 ..... K_A Band High Power ATR
6563 ..... X-Band (6334 with shutter)

KLYSTRONS

6BL6 ..... Broad Band, 1600-6500 mc
6BM6 ..... Broad Band, 550-3800 mc
6BM6A ..... Broad Band Pulse Type, 550-3800 mc
5836 ..... Broad Band Pulse Type, 1600-6500 mc
5837 ..... Broad Band Pulse Type, 1600-3000 mc

ROCKET TUBES

2C36 ..... Pulse-Modulated and C.W. Oscillator
2C37 ..... C.W. Oscillator, Amplifier and Multiplier
5764 ..... Pulse-Modulated Oscillator
5765 ..... Broad Band C.W. Oscillator
5767 ..... C.W. Oscillator
5768 ..... C.W. Amplifier
6503 ..... C.W. Oscillator
RT-434 ..... C.W. Oscillator, Amplifier and Multiplier

SELENIUM RECTIFIERS

NA-5 ..... 65 ma.
NB-5 ..... 75 ma.
NC-5 ..... 100 ma.
ND-5 ..... 150 ma.
NE-5 ..... 200 ma.
NF-5 ..... 250 ma.
NK-5 ..... 350 ma.
NM-5 ..... 450 ma.
NO-5 ..... 400 ma.
NP-5 ..... 300 ma.
NR-5 ..... 450 ma.

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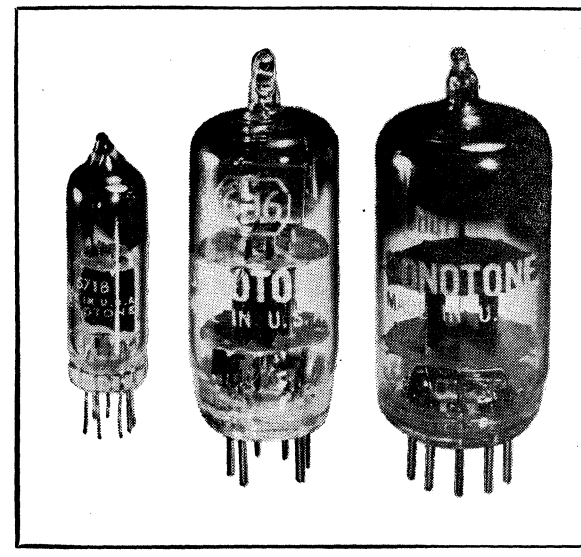
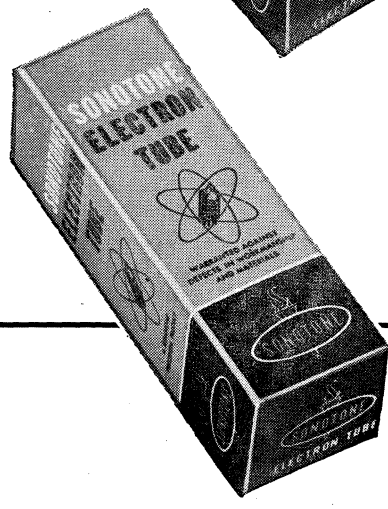
SONOTONE MINIATURE AND SUBMINIATURE TUBES

FOR PERFORMANCE WITHOUT PROBLEMS

Because of our extensive experience in the techniques of extreme miniaturization, Sonotone has become a major supplier of miniature and subminiature tubes to industry and the military.

These tubes are now available in individually packaged form through leading electronic distributors.





Reliable-type Subminiature Tubes

5639	5977	6221
5718	6021	6222
5719	6111	6223
5840	6112	6224
5899	6205	6225
5902	6206	

Reliable-type Miniature Tubes

6J4WA	6J6WA
6J6W	6101/6J6WA

Sonotone Commercial Tubes

2AF4A	6AF4A
5J6	6J4
	6J6

Electronic Applications Division **SONOTONE®** *CORPORATION*

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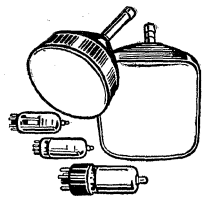

TUNG-SOL
ELECTRON TUBES

REVISED JANUARY 1, 1956

This Price List Is Supplied For Your Convenience By Tung-Sol Electric Inc.

All prices are subject to change without notice. The listing of price for any tubes does not necessarily indicate availability.

Type	Suggested Retail Price
OZ4	$1.40
OZ4G	1.70
IA4P	4.25
IA5GT	2.10
1A6	3.65
1A7GT	2.65
1AB5	5.70
1AF4	3.60
1AG4	2.90
1AH4	2.90
1AJ5	3.00
1AK4	4.55
1AK5	4.55
1AX2	2.60
1A6	3.65
1B3GT	2.50
1B4P	4.05
1B5	3.50
1B7GT	3.50
1C5GT	2.60
1C6	3.50
1C7G	3.50
1D5GP	4.05
1D7G	3.65
1D8GT	4.55
1E5GP	4.25
1E7GT	4.25
1F4	2.75
1F5G	2.85
1G4GT	2.60
1G5GT	3.25
1G6GT	3.00
1H4G	2.35
1H5G	2.15
1H5GT	2.15
1H6G	3.50
1J6G	3.50
1J6GT	3.50
1L4	2.15
1L6	2.90
1LA4	2.95
1LA6	2.75
1LB4	2.95
1LC5	2.75
1LC6	2.75
1LD5	2.75
1LE3	2.75
1LG5	2.75
1LH4	2.75
1LN5	2.75
1N5GT	2.60
1N6G	1.80
1P5GT	2.90
1Q5GT	3.05
1R5	2.25
1S4	2.55
1S5	1.90
1T4	2.10
1U4	2.10
1U5	1.85
1V	2.55
1V2	1.55
1V6	3.70
1X2A	2.60
1X2B	2.60
2A3	4.55
2A4G	4.80
2A5	2.35
2A6	2.85
2AF4	3.45
2AF4A	3.45
2B7	3.40
2G5	2.35
3A8GT	5.00
3AL5	1.60
3AU6	1.90
3AV6	1.50
3B7	5.70
3BC5	2.00
3BE6	2.05
3BN6	2.70
3BY6	2.05
3BZ6	2.00
3C6	3.75
3CB6	2.00
3CF6	2.20
3CS6	2.05
3D6/1299	4.65
3LF4	3.10
3Q4	2.20
3Q5GT	2.80
3S4	2.10
3V4	2.10
4BQ7A	3.25
4BZ7	3.45
5AM8	2.80
5AN8	3.00
5AQ5	1.95
5AS8	2.85
5AT8	2.80
5AV8	3.00
5AW4	2.50
5AZ4	1.55
5BK7A	2.90
5BR8	2.65
5J6	2.35
5T8	2.90
5U4G	1.65
5U4GB	1.80
5U8	2.90
5V4G	2.55
5V4GA	2.55
5V6GT	1.90
5W4GT	1.75
5X4G	2.05
5X8	2.80
5Y3G	1.45
5Y3GT	1.40
5Y4G	1.85
5Z3	2.35
5Z4	3.60
6A3	3.90
6A7	3.05
6A8	3.10
6A8G	2.95
6A8GT	2.90
6AB4	1.70
6AC5GT	3.10
6AC7/1852	3.10
6AE5GT	1.80
6AE6G	1.80
6AF4	3.45
6AF4A	3.45
6AF5G	1.80
6AG5	2.05
6AG7	3.65
6AH4GT	2.40
6AH6V	3.95
6AK5	4.20
6AK6	2.30
6AL5	1.50
6AL7GT*	4.10
6AM8	2.75
6AN8	2.95
6AQ5	1.95
6AQ6	1.70
6AQ7GT	3.05
6AR5	2.05
6AS5	2.00
6AT6	1.50
6AT8	2.75
6AU4GT	2.90
6AU5GT	3.45
6AU6	1.85
6AU7	2.20
6AU8	3.05
6AV5GT	3.45
6AV6	1.50
6AW8	3.20
6AX4GT	2.35
6AX5GT	2.05
6AX7	2.30
6B4G	4.50
6B5	3.45
6B8G	3.65
6BA6	1.80
6BA7	2.60
6BC5	2.00
6BC7	3.20
6BC8	3.45
6BD6	1.80
6BE6	1.90
6BF5	2.75
6BF6	1.60
6BG6G	5.20
6BH6	2.30
6BH8	2.90
6BJ6	2.05
6BK5	2.75
6BK7A	2.90
6BL7GT	3.45
6BN4	1.90
6BN6	2.65
6BQ6GA/6CU6	3.75
6BQ6GT	3.75
6BQ7A	3.25
6BR8	2.65
6BX7GT	3.35
6BY5G	3.30
6BY6	2.00
6BZ6	2.00
6BZ7	3.40
6C4	1.50
6C5	2.20
6C5GT	2.10
6C6	2.80
6CB6	2.00
6CD6G	4.95
6CD6GA	4.95
6CF6	2.15
6CG7	2.20
6CL6	3.10
6CM6	2.30
6CM7	2.40
6CR6	2.05
6CS6	2.00
6CU6	3.75
6D6	2.80
6D8G	3.50
6DE6	2.05
6DG6GT	1.85
6E5*	2.35
6F5	2.40
6F5GT	2.40
6F6	2.65
6F6G	2.00
6F6GT	2.00
6F7	4.25
6F8G	3.85
6G6G	3.05
6H6	2.00
6H6GT	2.30
6J5	1.90
6J5GT	1.90
6J6	2.30
6J7	2.65
6J7GT	2.80
6J8G	3.85
6K5GT	2.65
6K6GT	1.90
6K7	2.55
6K7G	2.40
6K7GT	2.55
6K8	3.35
6K8GT	2.75
6L5G	2.90
6L6	4.70
6L6G	3.65
6L6GB	3.65
6L7	3.15
6L7G	3.30
6N6G	3.90
6N7	3.25
6N7GT	3.10
6P5GT	2.50
6Q7	2.65
6Q7G	2.10
6Q7GT	2.10
6S4A	1.75
6S7	3.25
6S7G	3.50
6S8GT	2.75
6SA7	2.30
6SA7GT	2.30
6SB7Y	3.45
6SC7	2.50
6SD7GT	3.35
6SF5	2.05
6SF5GT	2.00
6SF7	2.70
6SG7	2.60
6SH7	2.75
6SJ7	2.15
6SJ7GT	2.15
6SK7	2.15
6SK7GT	2.15
6SL7GT	2.80
6SN7GT	2.15
6SN7GTA	2.15
6SN7GTB	2.15
6SQ7	1.90
6SQ7GT	1.90
6SR7	2.05
6SS7	2.70
6T4	3.40
6T7G	3.35
6T8	2.90
6U5/6G5*	2.25
6U7G	2.40
6U8	2.85

Bold Face Type—represents 90% of Demand.
* Non-Taxable

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(Continued next page)

TUNG-SOL ELECTRON TUBES —(cont.)

Type	Suggested Retail Price
6V3	3.70
6V3A	3.90
6V6	3.60
6V6GT	1.85
6V7G	1.80
6W4GT	1.95
6W6GT	2.40
6X4	1.40
6X5GT	1.60
6X8	2.75
6Y6G	2.80
6Z7G	4.05
7A4	2.05
7A5	2.60
7A6	2.15
7A7	2.20
7A8	2.35
7AD7	4.70
7AF7	2.40
7AG7	2.55
7AH7	2.55
7AU7	2.25
7B4	2.00
7B5	1.90
7B6	2.25
7B7	2.05
7B8	2.30
7C5	2.15
7C6	2.10
7C7	2.15
7E5	2.80
7F7	2.55
7F8	3.45
7G7	3.00
7H7	2.50
7J7	3.65
7K7	3.20
7L7	3.00
7N7	2.35
7Q7	2.60
7R7	3.50
7S7	3.25
7V7	3.50
7W7	3.50
7X6	2.20
7X7	3.30
7Y4	1.80
7Z4	1.80
9U8	3.00
12A8GT	2.90
12AB5	1.85
12AH7GT	3.05
12AL5	1.65
12AQ5	1.95
12AT6	1.50
12AT7	2.60
12AU6	1.85
12AU7	2.20
12AU7A	2.20
12AV6	1.45
12AV7	3.00
12AX4GTA	2.40
12AX7	2.30
12AY7	4.55
12AZ7	2.60
12B4A	2.30
12BA6	1.80
12BA7	2.60
12BD6	1.80
12BE6	1.90
12BF6	1.60
12BH7	2.55
12BH7A	2.55
12BH7B	2.55
12BQ6GT	3.85
12BQ6GTA	3.85
12BQ6GTB	3.85
12BY7A	2.65
12BZ7	2.55
12CR6	2.05
12CU6	3.85
12DQ6	3.85
12E5GT	2.20
12F5GT	2.40
12J5GT	1.95
12J7GT	2.80
12K5	2.25
12K7GT	2.55
12K8GT	2.95
12L6GT	2.00
12Q7GT	2.10
12S8GT	2.75
12SA7	2.30
12SA7GT	2.30
12SC7	2.50
12SF5GT	2.15
12SF7	2.70
12SG7	2.60
12SH7	2.75
12SJ7	2.15
12SJ7GT	2.15
12SK7	2.15
12SK7GT	2.15
12SL7GT	2.80
12SN7GT	2.15
12SQ7	1.90
12SQ7GT	1.90
12SR7	2.15
12SR7GT	2.00
12V6GT	1.85
12W6GT	2.40
12X4	1.40
12Z3	2.60
14A4	2.65
14A5	3.90
14A7/12B7	2.25
14A8	2.10
14AF7	2.50
14B6	2.25
14B8	2.25
14C5	3.00
14C7	2.50
14E6	2.90
14E7	3.35
14F7	2.55
14F8	3.45
14H7	2.50
14J7	3.65
14N7	2.65
14Q7	2.60
14R7	3.50
14S7	3.45
14W7	3.35
14Y4	2.40
19	3.50
19AU4	2.75
19BG6G	6.00
19J6	2.50
19T8	2.90
24A	2.70
25BQ6GA	3.85
25BQ6GT	3.85
25CD6GA	4.95
25L6GT	1.95
25W4GT	2.10
25Z5	2.25
25Z6GT	2.15
26	2.30
27	2.10
30	2.30
31	2.75
32	3.70
32L7GT	3.20
33	3.50
34	3.65
35/51	2.40
35A5	2.25
35B5	2.10
35C5	1.90
35L6GT	1.95
35W4	1.20
35Y4	1.80
35Z3	1.80
35Z5GT	1.45
36	2.90
37	1.85
38	2.30
39/44	2.75
40	2.20
41	2.30
42	2.15
43	2.30
45	2.10
45Z3	1.80
46	3.05
47	5.30
50	5.15
50A5	2.25
50B5	2.10
50C5	1.90
50L6GT	1.95
50X6	2.25
50Y6GT	2.30
50Y7GT	2.25
53	2.65
55	2.30
56	1.90
57	2.10
58	2.10
59	3.70
70L7GT	6.95
71A	2.40
75	2.00
76	1.70
77	2.20
78	2.40
79	2.75
80	1.70
81	4.65
82	2.65
83	2.65
84/6Z4	1.85
85	2.30
117L7/M7GT	6.95
117P7GT	5.60
117Z3	1.85
117Z4GT	3.00
117Z6GT	3.15

Bold Face Type—represents 90% of Demand.

* Non-Taxable

FLASHLIGHT AND LANTERN TYPES

TUNG SOL LAMP NO.	SUGGESTED RETAIL PRICE PER LAMP	BULB	BASE	BEAD COLOR	VOLTS	AMPS.	USE
40	$0.15	T-3¼	Min. Sc.	Brown	6-8	.15	Dial, Misc.
41	.15	T-3¼	Min. Sc.	White	2.5	.50	Dial, Misc.
42	.15	T-3¼	Min. Sc.	Green	3.2	.35	Dial
43	.15	T-3¼	Min. Bay.	White	2.5	.50	Dial, Misc.
44	.15	T-3¼	Min. Bay.	Blue	6-8	.25	Dial, Misc.
45	.15	T-3¼	Min. Bay.	Green	3.2	.35	Dial
46	.15	T-3¼	Min. Sc.	Blue	6-8	.25	Dial, Misc.
47	.15	T-3¼	Min. Bay.	Brown	6-8	.15	Dial, Misc.
48	.15	T-3¼	Min. Sc.	Pink	2.0	.06	Dial, Misc.
49	.15	T-3¼	Min. Bay.	Pink	2.0	.06	Dial, Misc.
50	.15	G-3½	Min. Sc.	White	6-8	.20	Dial, Auto Misc.
51	.12	G-3½	Min. Bay.	White	6-8	.20	Dial, Misc.
52	.20	G-3½	Min. Sc.	.....	12-16	.....	Auto, Misc.
53	.14	G-3½	Min. Bay.	White	12-16	.10	Auto, Misc.
55	.12	G-4½	Min. Bay.	White	6-8	.40	Auto, Misc.
57X	.16	G-4½	Min. Bay.	.....	12-16	.....	Auto, Misc.
63	.15	G-6	S.C.	.....	6-8	.63	Auto, Misc.
291	.25	T-3¼	Min. Bay.	White	2.9	.....	Dial
292	.25	T-3¼	Min. Sc.	White	2.9	.18	Dial
313	.30	T-3¼	Min. Bay.	Black	28	.....	Misc.
1446	.15	G-3½	Min. Sc.	Blue	12	.20	Toy Train
1447	.20	G-3½	Min. Sc.	Brown	18	.15	Toy Train
1458	.15	G-5	Min. Bay.	White	20	.25	Toy Train
1481	.25	T-3¼	Min. Sc.	Green	14	.15	Indic., Misc.
1490	.15	T-3¼	Min. Bay.	White	3.2	.16	Dial
1891	.15	T-3¼	Min. Bay.	.....	12-16	.23	Auto, Misc.
1892	.15	T-3¼	S.C.	.....	14	.....	Auto, Misc.

ABBREVIATIONS

C. P.—Candlepower
D. C.—Double Contact Bayonet
D. C. Pf.—Double Contact Prefocused
Min. Bay.—Miniature Bayonet
Min. Flg.—Miniature Flanged
Min. Sc.—Miniature Screw
S. C. Pf.—Single Contact Prefocused
S. C.—Single Contact Bayonet

*Taxable at 2.3% of list. All other taxable at 2.3% of list.

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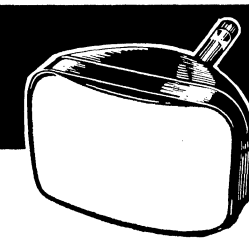
TUNG-SOL



PICTURE TUBES

EFFECTIVE APRIL 1, 1956

TYPE	SUGGESTED DEALER PRICE	SUGGESTED LIST PRICE	SHAPE	MATERIAL	FACE	FOCUS	SCREEN	NOM. DEF. ANGLE(Mag.)
10BP4A	15.50	20.75	Round	Glass	Filter	Magnetic		50
12LP4A	19.00	25.25	Round	Glass	Filter	Magnetic		54
14BP4	20.65	27.50	Rec.	Glass	Filter	Magnetic		70
14CP4	20.65	27.50	Rec.	Glass	Filter	Magnetic		70
16AP4A (M)	34.80	46.40	Round	Metal	Filter	Magnetic		53
16GP4B (M)	34.80	46.40	Round	Metal	Fil.-Fr.	Magnetic		70
16KP4	24.00	32.00	Rec.	Glass	Filter	Magnetic		70
16RP4	24.00	32.00	Rec.	Glass	Filter	Magnetic		70
16TP4	24.00	32.00	Rec.	Glass	Filter	Magnetic		70
17AVP4	25.50	34.00	Rec.	Glass	Filter	E *		90
17AVP4A	29.25	39.00	Rec.	Glass	Filter	E *	Alum.	90
17BP4A	24.00	32.00	Rec.	Glass	Filter	Magnetic		70
17BP4B	28.00	36.75	Rec.	Glass	Filter	Magnetic	Alum.	70
17CP4 (M)	31.45	41.95	Rec.	Metal	Fil.-Fr.	Magnetic		70
17GP4 (M)	34.80	46.40	Rec.	Metal	Fil.-Fr.	E		70
17HP4/17RP4	25.50	34.00	Rec.	Glass	Filter	E		70
17HP4B	29.25	39.00	Rec.	Glass	Filter	E	Alum.	70
17LP4/17VP4	25.50	34.00	Rec.	Glass	Filter	E		70
17LP4A	29.25	39.00	Rec.	Glass	Filter	E	Alum.	70
17QP4	24.00	32.00	Rec.	Glass	Filter	Magnetic		70
19AP4B (M)	38.15	50.85	Round	Metal	Fil.-Fr.	Magnetic		66
20CP4A/20DP4A	29.20	39.00	Rec.	Glass	Filter	Magnetic		70
20CP4D/20DP4C	33.20	44.25	Rec.	Glass	Filter	Magnetic	Alum.	70
20HP4A/20MP4	30.50	40.75	Rec.	Glass	Filter	E *		66
21ALP4A/21ALP4B	34.50	46.00	Rec.	Glass	Filter	E *	Alum.	90
21AP4 (M)	36.65	48.90	Rec.	Metal	Fil.-Fr.	Magnetic		70
21AUP4A/21AUP4B	34.50	46.00	Rec.	Glass	Filter	E	Alum.	72
21AWP4	33.20	44.25	Rec.	Glass	Filter	Magnetic	Alum.	72
21EP4A	30.50	40.75	Rec.	Glass	Filter	Magnetic		70
21EP4B	34.50	46.00	Rec.	Glass	Filter	Magnetic	Alum.	70
21FP4A	31.75	42.25	Rec.	Glass	Filter	E		70
21FP4C	35.75	47.75	Rec.	Glass	Filter	E	Alum.	70
21MP4 (M)	38.15	50.85	Rec.	Metal	Fil.-Fr.	E		70
21YP4	30.50	40.75	Rec.	Glass	Filter	E		70
21YP4A	34.50	46.00	Rec.	Glass	Filter	E	Alum.	70
21ZP4A	29.20	39.00	Rec.	Glass	Filter	Magnetic		70
21ZP4B	33.20	44.25	Rec.	Glass	Filter	Magnetic	Alum.	70

Type	Description	Tax Included Dist. Net Price	Tax Included Sug. Dist. Resale Price
1AD4	Submin. Sharp—Cutoff Pentode	1.41	1.95
2C51	Min. Double Triode	3.85	5.50
★2E22	Pentode Power Amplifier Oscillator	5.00	6.00
3A4	Miniature Pentode Power Amplifier	.83	1.20
★5A6	Min. Beam Pentode Power Amplifier	4.00	5.50
5R4GY	Full-Wave Hi-Vacuum Rectifier	1.36	1.89
6AJ5	Min. Pentode	3.03	3.50
★6AR6	Beam Pentode Power Amplifier	4.50	5.75
★6AR6W	Beam Power Amplifier	10.00	13.00
6AS6	Dual Control Sharp—Cutoff RF Pentode	2.23	3.45
6AS7G	Low Mu Twin Power Triode	3.69	4.87
6AU6WA	Miniature Sharp—Cutoff RF Pentode	1.70	2.20
6L6WGB	Beam Pentode Power Amplifier	3.95	5.75
★6SC7GTY	Double Triode Amplifier	2.50	3.25
6SN7WGT	Twin Triode Medium Mu Amplifier	1.76	2.45
★6SU7GTY	Hi-Mu Double Triode Amplifier	3.50	4.25
6X4W	Min. Double Diode full-wave Rectifier	1.27	1.80
12AT7WA	Miniature Twin Triode	3.20	4.15
26E6WG	Beam Power Amplifier	6.35	9.50
26Z5W	Miniature Double Diode Rectifier	2.85	4.00
★5636	Subminiature Mixer UHF Pentode	9.00	12.85
★5636A	Dual Control Subminiature UHF Pentode	9.35	12.50
5639	Subminiature Video Pentode	8.30	11.85
5654/ 6AK5W	Miniature Sharp-Cutoff RF Pentode	2.41	3.15
5654/ 6AK5W/ 6096	Miniature Sharp-Cutoff RF Pentode	5.90	8.25
5670	Min. Double Triode	3.73	4.85
5670WA	Miniature HF Double Triode	6.27	8.10
5672	Subminiature Pentode Power Amplifier	1.16	1.60
★5676	Submin. HF Oscillator Triode	1.33	1.90
5678	Subminiature Pentode	1.16	1.60
★5687	Min. Medium Mu Double Triode	3.25	4.50
★5687WA	Min. Medium Mu Double Triode	5.50	8.75
5725/ 6AS6W/ 6187	Min. Semi Remote Cutoff RF Pentode	6.60	9.50
5726/ 6AL5W	Miniature Double Triode	1.12	1.45
5726/ 6AL5W/ 6097	Miniature Double Diode	2.31	3.00
5749/ 6BA6W	Min. Remote-Cutoff Amplifier Pentode	1.54	2.00
5751	Min. Hi-Mu Double Triode	2.59	3.35
5751WA	Miniature Twin Triode	3.70	4.80
5829WA	Subminiature UHF Double Diode	8.10	12.40
★5875	Subminiature Pentode	1.47	2.10
★5881	Beam Pentode Power Amplifier	2.20	3.50
★5998	Double Triode	7.00	11.00
6021	Medium Mu Subminiature Twin Triode	6.37	8.50
★6098/ 6AR6WA	Beam Power Amplifier	9.00	12.85
★6188	Hi-Mu Double Triode Amplifier	5.57	7.75
★6188/ 6SU7WGT	Medium Mu Twin Triode	5.75	8.00
★6550	Pentode Power Amplifier	3.05	4.35

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* Low Voltage.

Abbreviations: Rec.—Rectangular. Fil.-Fr.—Filter Frosted. E— Electrostatic. (M)—Metal. (A)—Aluminized. Mag.—Magnetic

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TELEFUNKEN

Europe's Largest Selling Electronic Tubes
Now Available
to the discriminating American Tube buyer
—at standard prices.

TUBE NO.	*LIST PRICE*	*TUBE NO.*	*LIST PRICE*
1AB6	$2.15	6AU6	$1.85
1AC6	2.40	6AV6	1.50
1AH5	1.85	6BA6	1.80
1AJ4	2.50	6BE6	1.90
1B3GT	2.50	6BQ6GT/6CU6	3.75
1L4	2.20	6CB6	2.00
1R5	2.25	6SN7GT	2.25
1S5	1.90	6SN7GTB	2.25
1T4	2.15	6CS6	2.00
1U4	2.10	6T8	2.90
1X2A	2.60	6U8	2.85
3C4	2.10	12AL5	1.65
3Q4	2.20	12AT7	2.60
3S4	2.15	12AU6	1.85
3V4	2.15	12AU7	2.20
5U4GB	1.75	12AV6	1.45
6AB4	1.70	12AX7	2.30
6AL5	1.55	12BA6	1.80
6AQ5	1.95	12BE6	1.90

Request the Telefunken Tube Manual from your jobber.

not just a replacement— but an improvement

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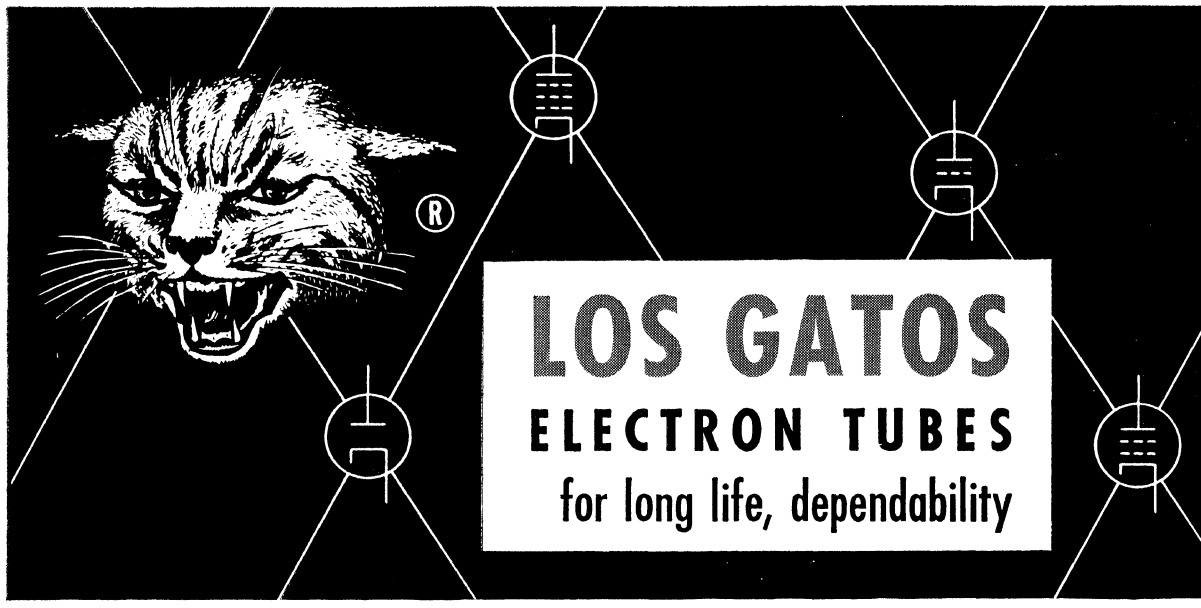

LOS GATOS TYPE NUMBER	TUBE TYPE	USER PRICE	LOS GATOS TYPE NUMBER	TUBE TYPE	USER PRICE
3B24W	Rectifier	$11.80	**250R**	Rectifier	$22.00
3C24/24G	Triode	12.00	**250TH**	Triode	33.00
4D21/4-125A	Tetrode	30.25	**250TL**	Triode	33.00
4E27/8001	Pentode	26.00	**254**	Triode	21.19
UH50	Triode	22.00	**705A**	Rectifier	19.92
100R	Rectifier	14.93	**715C**	Tetrode	63.00
100TH	Triode	18.25	**719A**	Clipper Diode	35.56
100TL	Triode	18.25	**8020**	Rectifier	14.93

Los Gatos Brand Tubes in both JAN and commercial types are setting new performance records throughout the electronic field. Exclusive new SINTERCOTE® black-body surface on molybdenum anodes improves heat dissipation, keeps tubes hard during operation. Send for technical data bulletins.
Inquiries are welcomed for special tubes designed to your specifications.

LEWIS and KAUFMAN, Ltd.

LOS GATOS 3 CALIFORNIA

LOS GATOS LONG LIFE ®

Export Representatives: MINTHORNE INTERNATIONAL CO., INC.
15 Moore Street, New York 4, N. Y. Cable Address "Minthorne"

In Canada: RADIO VALVE COMPANY, LIMITED.
189 Dufferin Street, Toronto 1, Ontario, Canada

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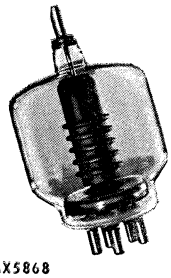

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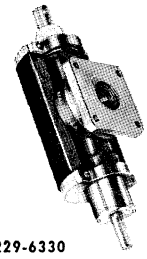

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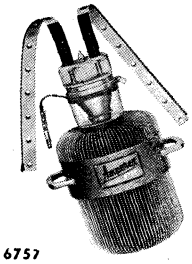

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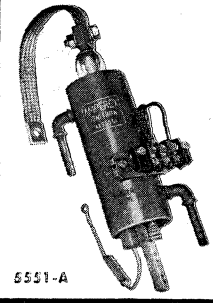

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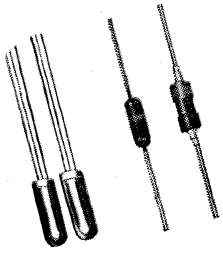
RADIATION DETECTION • SPECIAL PURPOSE



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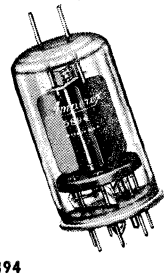

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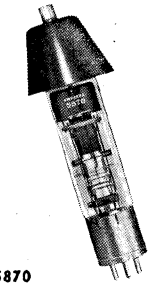

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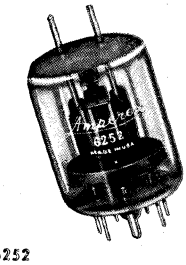

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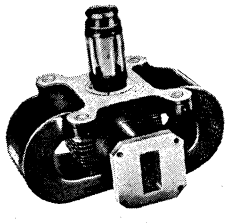
SEMICONDUCTORS • INDUSTRIAL • ELECTRO-MEDICAL



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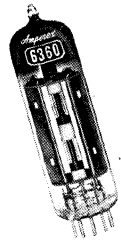

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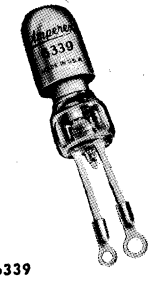

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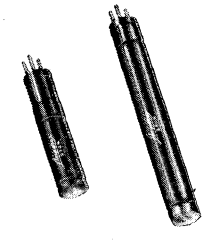
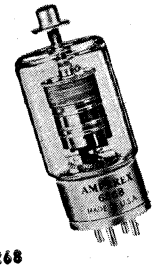


230N-240N

COMMUNICATION • RECTIFICATION • AMATEUR



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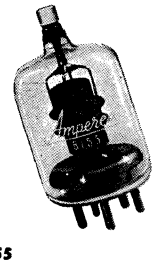

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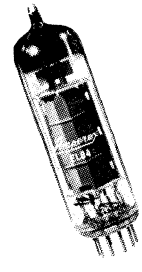

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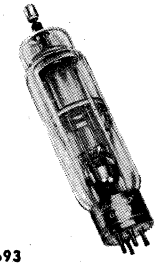

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HELPFUL CHARTS & LITERATURE FREE:

Write for CONDENSED TUBE CATALOG, information at a glance, rapid tube data reference tables, 28 pages of condensed information arranged for quick reference. Address your distributor or Amperex direct.

Detailed Data Sheets on any of these tubes, and application engineering service are yours for the asking.

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ELECTRON TUBES

Detailed Data Sheets on any of these tubes, and application engineering service are yours for the asking.

Type No.	Price
BEAM POWER TUBES	
813	$18.00
829B	16.25
6146	5.75
VACUUM CONDENSERS	
VC25/20	20.00
VC25/32	23.25
VC50/20	24.25
VC50/32	27.50
VC100/20	30.00
VC100/32	33.00
VC250/32	70.00
DECADE COUNTER	
E1T/6370	16.50
GEIGER COUNTERS	
75N	10.00
75NB3	10.00
90NB	20.00
100C	35.00
100N	35.00
100NB	37.50
120C	75.00
120N	75.00
120NB	77.50
150N	50.00
150NB	52.50
153C	65.00
200C	45.00
200CB	47.50
200N	45.00
200NB	47.50
230N	30.00
240C	35.00
240N	35.00
912NB	35.00
CLIPPER DIODE	
6339	35.00
IGNITRONS	
5550	41.00
‡5551-A/652	65.00
5552/651	99.00
‡5552A	99.00
‡5553B/655	216.00
5554/679	163.00
5555/653B	316.00
5822	116.00
INDICATOR TUBE	
DM70/1M3	1.50

Type No.	Price
REFLEX KLYSTRON	
2K25	$41.00
MAGNETRONS	
2J48	250.00
2J55	165.00
2J56	165.00
4J47	500.00
4J52	275.00
4J57	270.00
4J58	270.00
4J59	270.00
5586	417.00
5657	417.00
6229	550.00
6230	550.00
6507	**
6589	**
6823	**
6824	**
6828	**
PENTODES	
E81L	5.00
E83F	4.50
E180F	8.00
828	18.30
6084	3.75
6227	3.75
AX9909/6083	13.50
PENTODES—HI-FI	
6CA7	4.35
EL84	2.40
EF86	2.75
PENTODES Secondary Emission	
EFP60	8.75
PENTODES Subminiature	
6007/5913	1.50
6008/5911	1.50
HI-FI VACUUM RECTIFIERS	
GZ34	3.50
EZ80	1.50
EZ81	1.60

Type No.	Price
MERCURY RECTIFIERS	
255B	$145.00
575A	20.00
673	20.00
857B	218.00
866AX	2.45
869B	132.00
872AX	8.20
6508	80.00
6693	30.00
8008	8.25
VACUUM RECTIFIERS	
5R4GY	2.65
8080	24.00
XENON RECTIFIERS	
3B28	7.60
4B32	12.00
VOLTAGE REFERENCE TUBES	
0E3/85A1	2.50
0G3/85A2	2.50
5651	2.30
VOLTAGE REGULATORS	
0A2	1.75
0B2	1.90
90C1	2.50
6354/150B2	3.00
TETRODES	
4X150A	38.95
807	2.50
6075/AX9907	225.00
6076/AX9907R	275.00
6079/AX9908	60.00
6155/AX4-125A	27.50
6156/AX4-250A	37.50
TWIN TETRODES	
832A	12.90
5894/AX9903	22.00
6085	3.75
6360	4.00
THYRATRONS	
3C23	11.98
632B	28.00

Type No.	Price
HYDROGEN THYRATRONS	
4C35	$32.50
6268/AX9911	32.50
6279/AX9912	37.50
INERT GAS THYRATRONS	
2D21	2.00
5727	2.70
MERCURY THYRATRONS	
FG17/1701/967/5557	8.50
AX105/FG105	49.50
678	47.00
5559	22.00
5560/FG95	28.00
5869/AGR9950	25.00
5870/AGR9951	100.00
6786	200.00
XENON THYRATRONS	
2050	2.55
5544	27.00
5545	35.00
5685/C6J	26.40
TRIODES	
2C39A	22.50
3X2500A3	198.00
3X2500F3	198.00
6Q4	3.25
6R4	2.50
HF200	35.00
HF201A/468	28.50
203H	30.00
207	240.00
220C	365.00
228A	325.00
250TH	33.00
250TL	33.00
279A	355.00
HF300	35.00
450TH	77.00
450TL	77.00
501R/5759	225.00
502/5760	210.00
502R/5761	235.00
504R	245.00
508/6246	500.00
750TL	137.50
805	13.50
810	16.25

Type No.	Price
811-A	5.00
812A	5.00
833A	49.00
834	14.50
838	15.15
845	13.75
849	145.00
849A	145.00
880	510.00
889A	210.00
889RA	295.00
891	230.00
891R	380.00
892	230.00
892R	380.00
Z83200	350.00
5604	540.00
5619	390.00
5666	230.00
5667	310.00
5736	145.00
5771	510.00
5866/AX9900	20.00
5867/AX9901	30.00
5868/AX9902	50.00
5923/AX9904	150.00
5924/AX9904R	1900.00
6077/AX9906	1675.00
6333	230.00
6445	375.00
6446	255.00
6447	400.00
6617	360.00
6618	495.00
6756	**
6757	**
GLOW DISCHARGE TRIODE—Miniature	
5823	2.50
HI-FI TWIN TRIODES	
ECC81/12AT7	2.60
ECC82/12AU7	2.20
ECC83/12AX7	2.30
TWIN TRIODES	
E92CC	1.75
5920	2.00
6252/AX9910	22.00
TUNGAR BULBS	
1163	5.50
1164	10.00

* These prices currently apply when a new tube is purchased and the old tube radiator in original shipping container is returned prepaid in good condition with the replacement order.

† The Amperex types 6268/AX-9911 and 6279/AX-9912 are improved versions but completely interchangeable in every respect with the standard types 4C35 and 5C22 respectively. They have a minimum guaranteed life of 1000 hours due to the self-contained, self-regulating source of hydrogen.

** Price on request. ‡ 10,000 hour life tubes. Prices subject to change without notice.

RENEWAL PRICES* ON RADIATOR TYPE FORCED AIR-COOLED TUBES

TUBE TYPE	USERS NET
889RA	$275.00
891R, 892R	360.00
5604	465.00
5667	290.00
6445	345.00
6447	370.00
6757	**

***Retube with* AMPEREX**

Amperex ELECTRONIC CORP.

Hicksville, Long Island, N. Y.

Canada: Rogers Majestic Electronics Ltd., 11-19 Brentcliffe Road, Leaside (Toronto 17)

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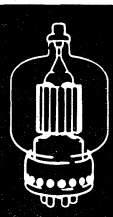
Eimac Symbol of Power in



TETRODES

4-65A, 4-125A, 4-250A, 4-400A, 4-1000A, 4PR60A, 4W300B, 4W20000A, 4X150A, 4X150D, 4X150G, 4X250B, 4X250F, 4X250M, 4X500A, 4X500F, 4X5000A

TRIODES

2C39A, 2C39B, 3C24, 3W5000A3, 3W5000F3, 3W10000A3, 3X2500A3, 3X2500F3, 3X3000A1, 3X3000F1, 6C21, 25T, 35T, 35TG, 75TH, 75TL, 100TH, 100TL, 152TH, 152TL, 250TH, 250TL, 304TH, 304TL, 450TH, 450TL, 592/3-200A3, 750TL, 1000T, 1500T, 2000T

PENTODE

4E27A/5-125B

RECTIFIERS

2-01C, 2-25A, 2-50A, 2-150D, 2-240A, 2-2000A, 250R, 253, 8020 (100R), 2X1000A, 2X3000F, KY21A, RX21A, 866A, 872A

KLYSTRONS

3K2500SG, 3K3000LA, 3K3000LQ, 3KM3000LA, 3K20, 000LA, 3K20, 000LF, 3K20, 000LK, 3K50, 000LA, 3K50, 000LF, 3K50, 000LK, 4K50,000LQ, 4K50,000LQ, 1K015XA, 1K015XG

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

TETRODES

EIMAC TUBE TYPE	PRICE	MAXIMUM RATINGS: Plate Dissipation Watts	Plate Voltage	Plate Current Milliamperes	Grid Dissipation Watts	Screen Voltage	Screen Dissipation Watts	ELECTRICAL CHARACTERISTICS: Filament, Volts	Filament, Amperes	Amplification Factor	Transconductance umhos
4-65A	$ 20.00	65	3000	150	5	400	10	6	3.5	5	4000
4-125A	30.25	125	3000	225	5	400	20	5	6.5	5.9	2450
4-250A	41.25	250	4000	350	10	600	35	5	14.5	5.1	4000
4-400A	60.50	400	4000	350	10	600	35	5	14.5	5.1	4000
4-1000A*	132.00	1000	6000	700	25	1000	75	7	21	7	10,000
4PR60A*	90.00	60	20,000	†	†	1500	8	26	2.25	†	†
4W300B	42.50	300	1250	250	2	300	12	6	2.6	5	12,000
4W20,000A**	1850.00	20,000	8000	15,000	60	1500	200	10	30	5.5	75,000
4X150A*	38.95	150	1250	250	2	300	12	6	2.6	5	12,000
4X150D*	38.95	150	1250	250	2	300	12	26.5	.57	5	12,000
4X150G*	54.00	150	1250	250	2	300	15	2.5	6.25	5	12,000
4X250B*	42.50	250	2000	250	2	300	12	6	2.1	5[2]	12,000
4X250F*	42.50	250	2000	250	2	300	12	26.5	0.50	5	12,000
4X250M*	54.00	250	2000	250	2	300	12	26.5	0.57	5	12,000
4X500A*	121.00	500	4000	350	10	500	30	5	13.5	6.2	5200
4X500F*	93.50	500	4000	350	10	500	30	5	13.5	6.2	5200
4X5000A	395.00	5000	7500	2500	75	1500	..	7.5	75	5	35,000

TRIODES

EIMAC TUBE TYPE	PRICE	Plate Dissipation Watts	Plate Voltage	Plate Current Milliamperes	Grid Dissipation Watts	Screen Voltage	Screen Dissipation Watts	Filament, Volts	Filament, Amperes	Amplification Factor	Transconductance umhos
2C39A*	22.50	100	1000	125‡	2	...	..	6.3	1	100	22,000
2C39B*	32.15	100	1000	125‡	2	...	..	6.3	1	100	22,000
3C24	12.00	25	2000	75	7	...	..	6.3	3	24	2500
6C21	77.00	300	30,000	†	†	...	..	8.2	17	30	6100
3W5000A3**	198.00	5000	6000	2500	150	...	..	7.5	51	20	20,000
3W5000F3**	198.00	5000	6000	2500	150	...	..	7.5	51	20	20,000
3W10,000A3**	957.00	10,000	5000	10,000	100	...	..	10	30	20	55,000
3X2500A3*	198.00	2500	6000	2500	150	...	..	7.5	51	20	20,000
3X2500F3*	198.00	2500	6000	2500	150	...	..	7.5	51	20	20,000
3X3000A1*	198.00	3000	6000	2500	50	...	..	7.5	51	5	11,000
3X3000F1*	198.00	3000	6000	2500	50	...	..	7.5	51	5	11,000
25T	11.00	25	2000	75	7	...	..	6.3	3	24	2500
35T	12.00	50	2000	150	15	...	..	5	4	39	2850
35TG	16.00	50	2000	150	15	...	..	5	4	39	2850
75TH	16.00	75	3000	225	16	...	..	5	6.25	20	4150
75TL	16.00	75	3000	225	13	...	..	5	6.25	12	3350
100TH	18.25	100	3000	225	20	...	..	5	6.3	38	4500
100TL	18.25	100	3000	225	15	...	..	5	6.3	14	3000
152TH	32.00	150	3000	450	30	...	..	5 or 10	12.5 or 6.25	20	8300
152TL	32.00	150	3000	450	25	...	..	5 or 10	12.5 or 6.25	12	7150
250TH	33.00	250	4000	350	40	...	..	5	10.5	37	5600
250TL	33.00	250	4000	350	35	...	..	5	10.5	14	2650
304TH	60.50	300	3000	900	60	...	..	5 or 10	25 or 12.5	20	16,700
304TL	60.50	300	3000	900	50	...	..	5 or 10	25 or 12.5	12	16,700
450TH	77.00	450	6000	600	80	...	..	7.5	12	38	6650
450TL	77.00	450	6000	600	65	...	..	7.5	12	18	5000
592/3-200A3	30.25	200	3500	250	25	...	..	10	5	25	3600
750TL	137.50	750	10,000	1000	100	...	..	7.5	21	15	3500
1000T	137.50	1000	7500	750	80	...	..	7.5	15.5	35	9050
1500T	220.00	1500	8000	1250	125	...	..	7.5	24	24	10,000
2000T	275.00	2000	8000	1750	150	...	..	10	23.5	23	11,000

PENTODE

EIMAC TUBE TYPE	PRICE	Plate Dissipation Watts	Plate Voltage	Plate Current Milliamperes	Grid Dissipation Watts	Screen Voltage	Screen Dissipation Watts	Filament, Volts	Filament, Amperes	Amplification Factor	Transconductance umhos
4E27A/5-125B	35.75	125	4000	200	5	750	20	5	7.5	5	2150

KLYSTRONS

EIMAC TUBE TYPE	PRICE	Frequency Range Mc.	Collector Dissipation Watts	Beam Voltage	Beam Current Amperes	TV Peak Synchronizing Level	CW Power Amplifier
3K2500SG*	2500.00	1700-2400	3000	7000	0.575	1500	1250
3K3000LA*	2360.00	375-570	3000	9000	0.59	2700	2000
3K3000LQ*	2360.00	700-1000	3000	9000	0.59	2700	2000
3KM3000LA*	2470.00	375-570	3000	9000	0.59	2700	2000
3K20,000LA**	2975.00	470-580	20,000	14,000	1.7	5500	3000
3K20,000LF**	2975.00	580-720	20,000	14,000	1.7	5500	3000
3K20,000LK**	2975.00	720-890	20,000	14,000	1.7	5500	3000
3K50,000LA**	4200.00	470-580	50,000	19,500	2.56	12,000	6000
3K50,000LF**	4200.00	580-720	50,000	19,500	2.56	12,000	6000
3K50,000LK**	4200.00	720-890	50,000	19,500	2.56	12,000	6000
3K50,000LQ**	4200.00	850-1000	50,000	19,500	2.56	12,000	6000
4K50,000LQ**	4560.00	700-1000	50,000	20,000	2.5	12,000	6000

EIMAC TUBE TYPE	PRICE	D-C Resonator Voltage	Resonator Dissipation	D-C Cathode Current	D-C Repeller Voltage	Heater Voltage	Heater Current	Frequency Range
1K015XA	180.00	350	15	45	0 to -500	6.3	0.80	8700-9400
1K015XG***	180.00	350	15	45	0 to -500	6.3	0.80	8700-9400

*Requires forced-air cooling
**Water-cooled
***Waveguide output connections

‡Cathode Current
†Pulse Moderator

[1] Pulse Clipper Service
[2] Grid-to-screen amplication factor

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Electronics Around the World

Continuing research and development adds constantly to the Eimac products list.
For latest information, contact our Technical Services Department.

RECTIFIERS

TYPE	PRICE	FILAMENT VOLTAGE	FILAMENT CURRENT AMPS.	PEAK INVERSE VOLTAGE	CURRENT PEAK PLATE AMPS.	AVERAGE PLATE CURRENT MA.
HIGH VACUUM TYPES						
2-01C	$ 15.25	6.3	0.4	1,000	0.010	...
2-25A	11.00	6.3	3.0	25,000	1.0	50
2-50A	13.75	5.0	4.0	30,000	1.0	75
2-150D	19.25	5.0	13.0	30,000	3.0	250
2-240A	40.00	7.5	12.0	40,000	4.0	500
2-2000A	214.50	10.0	25.0	75,000	12.0	750
250R	22.00	5.0	10.5	60,000	2.5	250
253	20.50	5.0	10.0	15,000	2.5	275
8020(100R)	15.00	5.0	6.5	40,000	1.5	100
2X1000A*	60.00	26.5	2.25	25,000	25.0[1]	1250
2X3000F	140.00	7.5	51.0	25,000	12.0	3000
MERCURY VAPOR TYPES						
*KY21A	13.25	2.5	10.0	11,000	3	750
RX21A	9.00	2.5	10.0	11,000	3	750
866A	2.45	2.5	5.0	10,000	1	250
872A	8.20	5.0	7.5	10,000	5	1250

VACUUM CAPACITORS

TYPE	PRICE	VARIABLE CAPACITY	RATING RF PEAK
VVC60-20	$66.00	10-60 mmfd	20-KV
VVC2-60-20	147.50	Split Stator 5-30 mmfd	40-KV
		Parallel 20-120 mmfd	20-KV
VVC4-60-20	284.00	Split Stator 10-60 mmfd	40-KV
		Parallel 40-250 mmfd	20-KV

TYPE	PRICE	FIXED CAPACITY	RATING RF PEAK
VC6-20	$15.00	6 mmfd	20-KV
VC6-32	17.25	6 mmfd	32-KV
VC12-20	16.50	12 mmfd	20-KV
VC12-32	20.00	12 mmfd	32-KV
VC25-20	20.00	25 mmfd	20-KV
VC25-32	23.25	25 mmfd	32-KV
VC50-20	24.25	50 mmfd	20-KV
VC50-32	27.50	50 mmfd	32-KV

AIR SYSTEM SOCKETS & CHIMNEYS

SOCKETS (WITHOUT CHIMNEY)

SK-300	(4X-5000A/4001)	$47.50
SK-400	(4-400A/4001)	12.00
SK-500	(4-1000A/4001)	17.00
SK-600	(4X150A/4001)	15.25
SK-610	(4X150A/4011)	17.10

CHIMNEYS

SK-406	(4-400A/4006)	$6.00
SK-506	(41000A/4006)	7.50
SK-606	(4X150A/4006)	.45

HEAT DISSIPATING CONNECTORS

TYPE	PRICE	HOLE DIA.
HR-1	$0.60	.052
HR-2	.60	.0625
HR-3	.60	.070
HR-4	.80	.1015
HR-5	.80	.125
HR-6	.80	.360
HR-7	1.60	.125
HR-8	1.60	.570
HR-9	3.00	.570
HR-10	1.60	.500

4X150 TUBE EXTRACTOR

Price $0.55

A spring steel extractor for use with the 4X150 series and 4X250 series.

VACUUM SWITCH

Single pole double throw switch within a high vacuum adaptable for high voltage switching. Contact spacing .015". Switch will handle R-F potentials as high as 20 Kv. In DC switching will handle approximately 1.5 Amps. at 5 Kv.

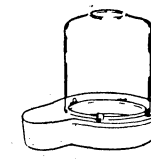
	PRICE
VS-2	$18.00
VS-5	24.00
VS-6	32.00
Coils	
12V	7.50
24V	8.50

PREFORMED CONTACT FINGER STOCK

A prepared strip of spring material slotted and formed into a series of fingers designed to make sliding contact.

Single Edge	Width	Price	Double Edge	Width	Price
CF-100	17/32	1.65/ft.	CF-200	13/16	2.10/ft.
CF-300	31/32	1.80/ft.	CF-400	1-17/32	2.55/ft.
CF-500	1-3/8	2.00/ft.	CF-600	2-1/4	2.95/ft.

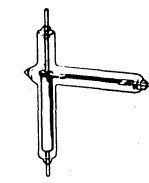
Klystron Types	Price	
CF-700	1.90/ft.	Used as contact between klystrons and
CF-800	1.85/ft.	klystron amplifier circuit assemblies.



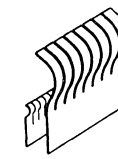
AIR SYSTEM SOCKETS

SK-300 SK-610
SK-400 SK-406
SK-500 SK-506
SK-600 SK-606

HR HEAT DISSIPATING CONNECTORS



VACUUM SWITCH
VS-2, 5, 6



CONTACT FINGER STOCK

17/32 13/16
31/32 1-17/32
1-3/8 2-1/4

VARIABLE VACUUM CAPACITORS
VVC60-20
VVC2-60-20
VVC4-60-20

VACUUM CAPACITORS

VC6-20 VC25-20
VC6-32 VC25-32
VC12-20 VC50-20
VC12-32 VC50-32

TUBE EXTRACTOR
4X150

*Grid Controlled

Eimac

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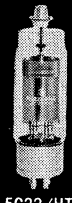
high-efficiency

POWER TUBES

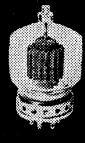
Major electronic equipment manufacturers specify Penta high vacuum and hydrogen thyratron tubes where long life, uniform high quality, and adherence to specifications are strict requirements. Thorough quality control and life testing under conditions simulating actual use assures maximum durability.

Whether your requirements are for the new beam pentodes — for applications where superior linearity and low distortion at high efficiency are critical requirements — the new miniaturized hydrogen thyratrons — or the older conventional types — Penta is your logical source.

PL-172 Beam Pentode

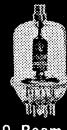


PL-5C22/HT-415 Hydrogen Thyratron



PL-4-400A Tetrode

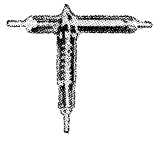
PL-165 Hydrogen Thyratron



PL-6549 Beam Pentode

Type	Fil. Volts	Fil. Current Amps.	Plate Diss. Max. W.	Plate Volt Max.	Plate Current Ma., Max.	Screen Volt. Max.	List Price
BEAM PENTODES							
PL-172 †	6.0	7.5	1000	3,000	1000	600	$135.00
PL-175*	5.0	14.5	400	4,000	350	800	55.00
PL-177*	5.0	3.3	75	2,000	175	600	21.50
PL-178*	5.0	6.5	175	3,000	225	800	36.00
PL-6549	6.0	3.3	75	2,000	175	600	21.50
TETRODES							
PL-4D21 (4-125A)	5.0	6.5	125	3,000	225	600	30.25
PL-4D21A	5.0	6.5	175	3,000	225	600	32.75
PL-5D22 (4-250A)	5.0	14.5	250	4,000	350	800	41.25
PL-4-400A	5.0	14.5	400	4,000	350	800	50.00
TRIODES *(Grounded-Grid Types)*							
PL-6569	5.0	14.5	250	4,000	300	μ=45	32.50
PL-6580	5.0	14.5	400	4,000	300	μ=45	40.00
HIGH-VOLTAGE RECTIFIER							
PL-250R	5.0	10.5	.....	60,000**	250	.....	22.00
HYDROGEN THYRATRONS *(Low-Jitter Types)*							
PL-5C22/HT-415	6.3	10.5	.....	16,000	325 amp.	.....	40.00
PL-161	6.3	10.5	.....	16,000	325 amp.	.....	56.00
PL-165	6.3	10.5	.....	12,000	325 amp.	.....	56.00

* *Zero-Suppressor Voltage Type*
** *Peak Inverse Voltage Rating*
† *External Anode Type*



PL-169A Vacuum Switch

VACUUM SWITCHES				
PL-R1	S.P.D.T.	21 Kv. Max. Volt.	6-A avg., 150-A peak current, Max.	33.00
PL-169A	S.P.D.T.	21 Kv. Max. Volt.	30-A avg., 500-A peak current, Max.	40.00

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ELECTRONS, INC., TUBE SELECTION GUIDE

RECTIFIERS

EL 1C
FULL WAVE RECTIFIER

D. C. Output (Amps.)	1.0
Peak Anode Current	4.0
Peak Inverse Volts	725
Filament Volts	2.5
Filament Amperes	6.0
Overall Length	5½"

EL 3B
HALF WAVE RECTIFIER

D. C. Output (Amps.)	2.5
Peak Anode Current	20.0
Peak Inverse Volts	920
Filament Volts	2.5
Filament Amperes	9.0
Overall Length	5¼"

EL 3C
FULL WAVE RECTIFIER

D. C. Output (Amps.)	2.5
Peak Anode Current	10.0
Peak Inverse Volts	725
Filament Volts	2.5
Filament Amperes	11.5
Overall Length	7"

EL 6C
FULL WAVE RECTIFIER

D. C. Output (Amps.)	6.4
Peak Anode Current	25.6
Peak Inverse Volts	725
Filament Volts	2.5
Filament Amperes	17.0
Overall Length	7½"

EL 6B & EL 6F
HALF WAVE RECTIFIER

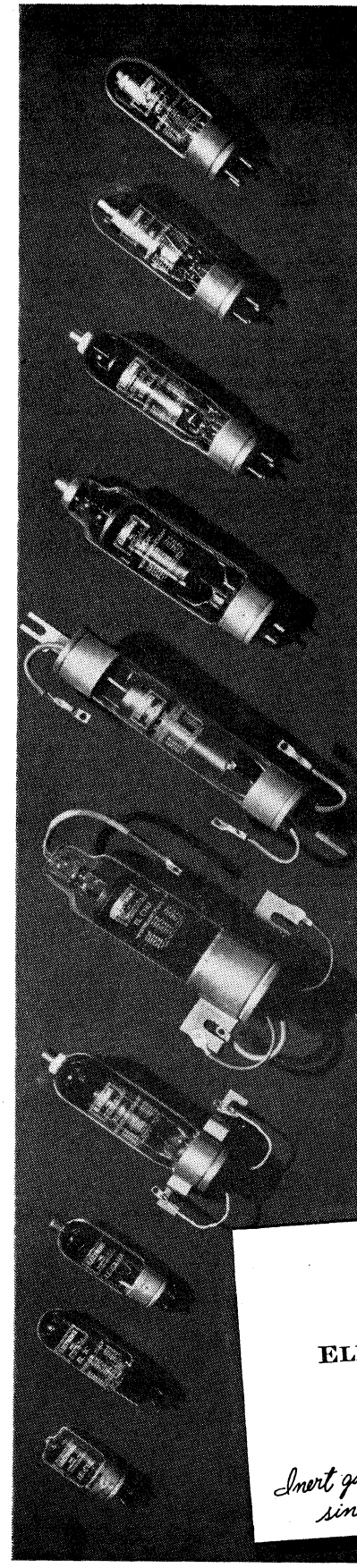
D. C. Output (Amps.)	6.4
Peak Anode Current	40.0
Peak Inverse Volts	920
Filament Volts	2.5
Filament Amperes	21
Overall Length (6B)	8½"
Overall Length (6F)	8"

EL 6F (Panel Mounting)

EL 16F
HALF WAVE RECTIFIER

D. C. Output (Amps.)	16.0
Peak Anode Current	96.0
Peak Inverse Volts	620
Filament Volts	2.5
Filament Amperes	36
Overall Length	15⅝"

(Panel Mounting)



GRID CONTROL RECTIFIERS
(THYRATRONS)

EL C1K

D. C. Output (Amps.)	1.0
Peak Anode Current	8.0
Peak Forward Volts	1000
Peak Inverse Volts	1250
Filament Volts	2.5
Filament Amperes	6.3
Overall Length	4⅛"

EL C1K/B

D. C. Output (Amps.)	1.0
Peak Anode Current	8.0
Peak Forward Volts	2000
Peak Inverse Volts	2000
Filament Volts	2.5
Filament Amperes	6.3
Overall Length	4⅛"

EL C3J

D. C. Output (Amps.)	2.5
Peak Anode Current	30.0
Peak Forward Volts	900
Peak Inverse Volts	1250
Filament Volts	2.5
Filament Amperes	9.0
Overall Length	5¾"

EL C3J/A

D. C. Output (Amps.)	2.5
Peak Anode Current	30.0
Peak Forward Volts	1000
Peak Inverse Volts	1250
Filament Volts	2.5
Filament Amperes	9.0
Overall Length	5¾"

EL C4J & EL C4J/F

D. C. Output (Amps.)	4.0
Peak Anode Current	30.0
Peak Forward Volts	900
Peak Inverse Volts	900
Filament Volts	2.5
Filament Amperes	21.0
Overall Length (C4J)	9"
Overall Length (C4J/F)	8½"

EL C4J/F (Panel Mounting)

EL C6J

D. C. Output (Amps.)	6.4
Peak Anode Current	77.0
Peak Forward Volts	750
Peak Inverse Volts	1250
Filament Volts	2.5
Filament Amperes	21.0
Overall Length	9"

EL C6J/A & EL C6J/F

D. C. Output (Amps.)	6.4
Peak Anode Current	77.0
Peak Forward Volts	1000
Peak Inverse Volts	1250
Filament Volts	2.5
Filament Amperes	21.0
Overall Length (C6J/A)	9"
Overall Length (C6J/F)	8½"

EL C6J/F (Panel Mounting)

EL C6J/K & EL C6J/KF

D. C. Output (Amps.)	6.4
Peak Anode Current	77.0
Peak Forward Volts	1000
Peak Inverse Volts	1250
Max. Commutation Factor	130
Filament Volts	2.5
Filament Current	21.0
Overall Length (C6J/K)	8½"
Overall Length (C6J/KF)	7¾"

EL C6J/KF (Panel Mounting)

EL C6C

D. C. Output (Amps.)	6.4
Peak Anode Current	77.0
Peak Forward Volts	2000
Peak Inverse Volts	4000
Filament Volts	2.5
Filament Amperes	24.0
Overall Length	11"

EL C16J

D. C. Output	16.0 or 18.0
Pk. Anode Cur.	160 or 100
Peak Forward Volts	1000
Peak Inverse Volts	1250
Filament Volts	2.5
Filament Amperes	31.0
Overall Length	10"

(Panel Mounting)

FOR SPECIAL APPLICATIONS

EL C3P14	EL C6M	EL C16/A
EL C3R14	EL C6P	EL 3C/L
EL C5F14	EL C6J/KL	EL 6B/L

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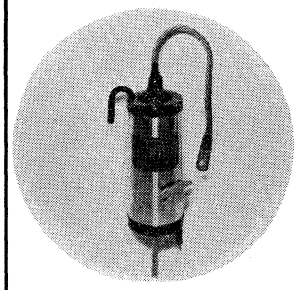
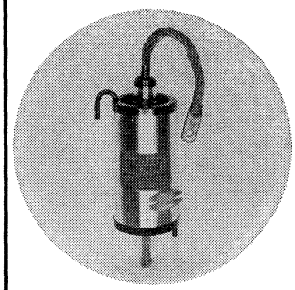
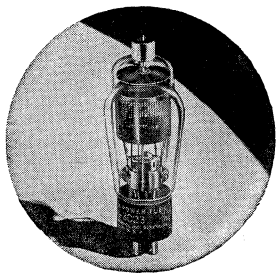
ELECTRONIC TUBES FOR INDUSTRY



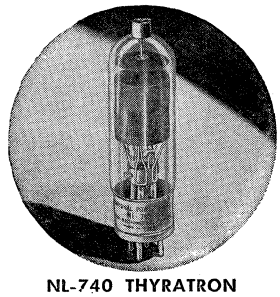
NL-1051 IGNITRON



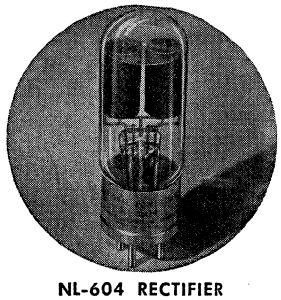
NL-1052 IGNITION



NL-3C23 THYRATRON



NL-740 THYRATRON



NL-604 RECTIFIER

WRITE FOR INDIVIDUAL TUBE DATA SHEETS FOR FULL DETAILS.

IGNITRONS

TYPE NUMBER	VOLTS	MAXIMUM RATINGS				TYPE OF COOLING
		Maximum Demand	Corresponding Current DC-Amps	Maximum Current DC-Amps	Corresponding Demand	
NL-1001	250 - 600	150 Kva	4.9	9.0	50 Kva	Convection
NL-1005	250 - 600	600 Kva	30.2	56	200 Kva	Forced air
NL-1022	1500 peak	1200 peak	16	56	336 peak	Water
NL-1051	250 - 600	600 Kva	30.2	56	200 Kva	Water
NL-1052	250 - 600	1200 Kva	75.6	140	400 Kva	Water
NL-1053	250 - 600	2400 Kva	192	355	800 Kva	Water
NL-5550	250 - 600	300 Kva	12.1	22.4	100 Kva	Water clamp

THYRATRONS

TYPE NUMBER	GAS FILLING	DC OUTPUT AMPS.	PEAK RATING AMPS	PEAK INVERSE VOLTS	FILAMENT VOLTS	FILAMENT AMPS	TYPE OF COOLING
NL-3C23	Arg & Merc.	1.5	6	1250	2.5	7	Convection
NL-323B	Arg & Merc.	1.5	6	1250	2.5	7	Convection
NL-393A	Arg & Merc.	1.5	6	1250	2.5	7	Convection
NL-632B	Mercury	2.5	30	2500	5.0	5	Convection
NL-710/6011	Arg & Merc.	2.5	30	1500	2.5	9	Convection
NL-714	Arg & Merc.	1	3	1250	2.5	5	Convection
NL-715/5557	Mercury	1	3	5000	2.5	5	Convection
NL-716	Arg & Merc.	1	8	1250	2.5	6.3	Convection
NL-730	Arg & Merc.	3.2	40	1500	2.5	12	Convection
NL-733	Mercury	30	225	1500	2.5	50	Convection
NL-740,L,P	Arg & Merc.	4	50	1500	2.5	16	Convection
NL-741	Mercury	4	50	5000	2.5	16	Convection
NL-760,L,P	Arg & Merc.	6.4	77	1500	2.5	21	Convection
NL-761	Mercury	6.4	77	5000	2.5	21	Convection
NL-5559/FG57	Mercury	2.5	15	1000	5.0	4.5	Convection
NL-5560/FG95	Mercury	2.5	15	1000	5.0	4.5	Convection
NL-5720/FG33	Mercury	2.5	15	1000	5.0	4.5	Convection
NL-6014/C1K	Xenon	1	8	1250	2.5	6.3	Convection

HALF WAVE RECTIFIERS

NL-614	Xenon	2.5	15	900	2.5	8.5	Convection
NL-615	Mercury	2.5	10	2000	2.5	7	Convection
NL-617	Mercury	5	20	1000	2	12	Convection
NL-618,L,P	Xenon	6.4	40	900	2.5	18	Convection
NL-619	Mercury	6	20	300	2	12	Convection
NL-623	Mercury	15	45	500	2.5	20	Convection
NL-633	Mercury	30	225	900	2.5	50	Convection
NL-635,L,P	Mercury	6.4	77	1000	2.5	18	Convection
NL-643	Mercury	15	90	700	2.5	23	Convection
NL-649/5834	Mercury	2	10	900	2.5	7	Convection
NL-653/5835	Mercury	3	12	900	2.5	10	Convection
NL-5558/FG32	Mercury	2.5	15	5000	5	4.5	Convection

FULL WAVE RECTIFIERS

NL-604,L	Arg & Merc.	2.5	10	900	2.5	12	Convection
NL-606,L	Arg & Merc.	6.4	25.6	900	2.5	17	Convection

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Taylor CUSTOM BUILT Tubes

CHICAGO 47, ILLINOIS

TRANSMITTING TRIODES

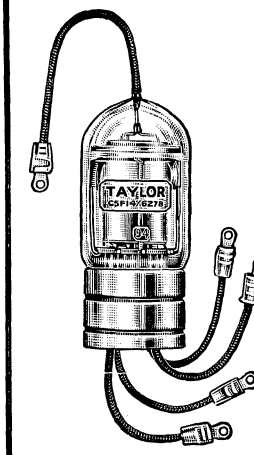
Type	Filament Volts	Filament Amps.	Max. Plate Dissipation Watts	Max. Plate D.C. Volts	Max. Grid D.C. M.A.	Max. Grid Drive Watts	Amp. Factor	Base	Max. Mc. for 100% Input	List Price
UX-CV11	10.0	2.5	75	1500	165	8.0	14	Spec.	30	$15.40
T-20	7.5	1.75	20	750	85	3.5	20	A4-10	60	4.00
T-40	7.5	3.0	40	1500	150	9.0	25	A4-10	60	7.70
TZ-40	7.5	3.0	40	1500	150	9.0	62	A4-10	60	7.70
T-55	7.5	3.0	55	1500	150	7.0	20	A4-10	60	11.50
HF-60	10.0	3.0	60	1500	150	7.5	15	A4-10	60	12.50
T-60	10.0	3.0	60	1500	150	9.0	15	A4-10	60	11.50
T-200	10.0	5.75	200	2500	350	20.0	17	A4-29	30	25.00
T-300	10-11	6.0	300	3000	300	18.0	23	A4-30	30	30.00
805	10.0	3.25	125	1750	210	10.0	45 App.	A4-29	30	13.50
810	10.0	4.5	125	2250	275	15.0	36	A4-29	30	16.25
845	10.0	3.25	100	1230	175	10.0	5	A4-29	20	13.75
8000	10.0	4.5	125	2500	250	20.0	16.5	A4-29	30	16.30

GRID-CONTROLLED RECTIFIERS

Type	Filament Volts	Filament Amps.	Anode Volts Peak Inverse	Amps. Peak	Amps. Average	Base	List Price
C3J	2.5	9.0	1250	30.0	2.5	A4-10	$12.10
5684/C3J/A	2.5	9.0	1250	30.0	3.0	A4-10	15.04
C3R14	14.0	2.5	500	30.0	3.0	A4-81 Spec.	42.58
C6J	2.5	21.0	1250	77.0	6.4	A4-81	26.40
C6L	2.5	17.0	500	77.0	6.4	A4-81	32.20
873	5.0	6.75	3000	10.0	2.5	A4-29	17.25
5557/TT-17	2.5	5.0	2500	2.0	0.5	A4-10	8.50
5685/C6J/A	2.5	21.0	1250	77.0	6.4	A4-81	29.30
6044	2.5	17.0	500	77.0	6.4	Spec.	43.00
6278	14	2.5	500	60	5	A4-81	50.75
6278/C5F14	14.0	2.5	500	60.0	5.0	A4-81 Spec.	42.58
6478	2.5	7.5	2200	20.0	1.5	A4-9	14.29

RECTIFIERS

3B	2.5	9.0	1000	25.0	3.0	A4-10	$ 8.60
3B28	2.5	5.0	10000	1.0	0.250	A4-10	7.15
4B31	5.0	5.0	16,000	12	.060	Spec.	35.25
6B	2.5	21.0	920	40.0	6.4	A4-81	11.05
TR-40M	5.0	10.5	60000	1.0	0.25	A4-29	20.00
249-B, C	2.5	7.5	10000	1.5	0.375	A4-10	9.00
249-R, S	2.5	7.5	5000	0.5	0.125	A4-10	7.75
258-B	2.5	7.5	10000	1.5	0.375	Spec.	11.00
866-A	2.5	5.0	10000	0.5	0.250	A4-10	2.45
866 Jr.	2.5	2.5	5000	0.5	0.125	A4-10	1.95
872-A	5.0	6.75	10000	5.0	1.25	A4-29	8.20
875-A	5.0	10.0	15000	6.0	1.5	A4-29	21.00
6288	2.5	2.0	7500	2.5	0.175	A4-5	7.46
6484	2.5	11.5	725	10.0	2.5	A4-81	10.36
8008	5.0	6.75	10000	5.0	1.25	A4-18	8.20
8013-A	2.5	5.0	40000	0.15	0.02	A4-9	10.30
8020	5.0	6.0	40000	0.75	0.10	A4-10	24.00



In addition to its many lines of standard power tubes, Taylor designs and manufactures special tube types for industrial and commercial applications. Special purpose tubes can be economically produced to your exacting requirements.

Contact our Application Engineering Department for information regarding standard or special tube types.

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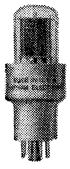
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

CHATHAM ELECTRONICS

TUBES, SELENIUM RECTIFIERS, POWER SUPPLIES, CUSTOM-DESIGNED EQUIPMENT

The dependable Chatham Tubes listed are available from stock. Other types can be supplied on order for immediate delivery. Design and engineering service is available for the manufacture of special tubes to specifications. Write for catalog or recommendations on specific requirements.

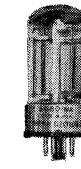


• THYRATRONS

2D21W	5594	395-A
3C23	2050W	5696
323B	884	6D4

• TWIN POWER TRIODES

6336	6520	6080WA
6AS7G	5998	6080



• HYDROGEN THYRATRONS

VC-1257	5948/1754	
	5949/1907	1258

• RECTIFIERS

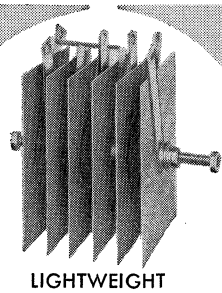
1Z2	4B32	5R4WGA
3B25	5R4WGY	5R4WGB
3B28		6H6WGT

• VOLTAGE REGULATOR and REFERENCE TUBES

OC3W	5651WA
OD3W	6626/OA2WA
5651	6627/OB2WA

• SPECIAL PURPOSE TUBES

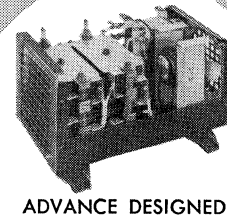
719-A and 583 Clipper Diodes
High Voltage Vacuum Fuses
High Voltage Vacuum Switches



LIGHTWEIGHT

SELENIUM RECTIFIERS

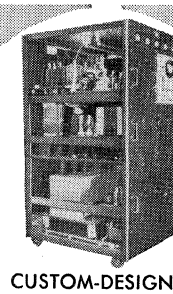
Both electrically and mechanically, Chatham Selenium Rectifiers offer important design advantages. Combine lighter weight with smallest efficient size, and built rugged to last longer. Improved design assures longer short circuit loads, twice the voltage surge of ordinary rectifiers.



ADVANCE DESIGNED

AIRBORNE CONVERSION EQUIPMENT

Type 28V100 Power Supply illustrated provides substantial weight savings, reduced size, greater reliability and improved electrical characteristics. Ruggedized throughout. Type 28V100 exceeds MIL-P-7212 requirements. Weight under 17 lbs.



CUSTOM-DESIGNED

EQUIPMENT

CHATHAM specializes in the development, design and production of equipment built to customers' needs. Our engineers will supply estimates on receipt of your drawings and specifications. Illustrated: High power Radar Modulator built to government specifications.

Chatham Electronics

Division of Gera Corporation

LIVINGSTON, NEW JERSEY, U.S.A.

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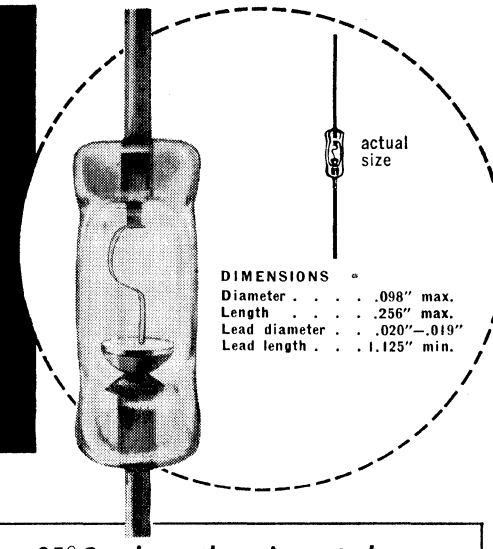
RADIO RECEPTOR

High Conductance Germanium GLASS DIODES

Subminiature • Gold Bonded



DIODE CHARACTERISTICS . . . *All values measured at 25° C unless otherwise noted*

CODE NO.	MIN. FWD. D.C. CUR. AT 1 VOLT (MA)	MAX. CONT. REV. D.C. OPER. VOLTS	MAX. REV. D.C. CURRENT UA AND CORRESPONDING RESIST. (OHMS) AT INDICATED VOLTAGES
1N67A	4	80	5 (1 meg) @ 5V; 50 (1 meg) @ 50V
1N68A	3	100	625 (160K) @ 100V
1N89	3.5	80	8 (625K) @ 5V; 100 (500K) @ 50 V
1N90	5	60	500 (100K) @ 50V
1N95	10	60	500 (100K) @ 50V
1N96	20	60	500 (100K) @ 50V
1N97A	20	80	8 (625K) @ 5V; 100 (500K) @ 50V
1N98A	40	80	8 (625K) @ 5V; 100 (500K) @ 50V
1N99A	20	80	5 (1 meg) @ 5V; 50 (1 meg) @ 50V
1N100A	40	80	5 (1 meg) @ 5V; 50 (1 meg) @ 50V
1N116A	10	60	100 (500K) @ 50V
1N117A	20	60	100 (500K) @ 50V
1N118A	40	60	100 (500K) @ 50V
1N126	5	60	50 (200K) @ 10V; 850 (59K) @ 50V
1N127	3	100	25 (400K) @ 10V; 300 (167K) @ 50V
1N128	3	40	10 (1 meg) @ 10V
1N198	5	45	75 (133K) @ 10V; 250 (200K) @ 50V–@ 75°C
DR301	400	100	100 (500K) @ 50V
DR302	400	80	100 (500K) @ 50V
DR303	400	60	50 (400K) @ 20V
DR305	200	100	100 (500K) @ 50V
DR306	200	80	100 (500K) @ 50V
DR307	200	60	50 (400K) @ 20V
DR310	100	120	50 (2 meg) @ 100V
DR311	100	120	100 (1 meg) @ 100V
DR312	100	100	20 (5 meg) @ 100V; 5 (2 meg) @ 10V
DR314	100	80	50 (1 meg) @ 50V
DR315	50	120	50 (2 meg) @ 100V
DR316	50	100	100 (1 meg) @ 100V
DR317	50	80	50 (1 meg) @ 50V
DR319	50	60	5 (2 meg) @ 10V
DR321	200	100	125 (400K) @ 50V–@ 75°C
DR322	100	100	200 (250K) @ 50V–@ 75°C
DR323	100	50	200 (250K) @ 50V–@ 75°C
DR324	100	50	500 (100K) @ 50V–@ 75°C
DR325	100	45	75 (133K) @ 10V; 250 (200K) @ 50V–@ 75°C

In addition to the diodes shown above, the electrical characteristics of the following types are available in the subminiature hermetically sealed case.

1N34	1N43	1N47	1N54	1N56	1N63	1N69	1N86	1N113	1N297
1N34A	1N44	1N48	1N54A	1N56A	1N64	1N70	1N88	1N114	1N298
1N38	1N45	1N51	1N55	1N58	1N65	1N75	1N111	1N115	1N355
1N38A	1N46	1N52	1N55A	1N58A	1N66	1N81	1N112	1N294	

Semiconductor Division

RADIO RECEPTOR COMPANY, INC.

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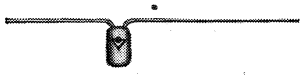
International Rectifier
CORPORATION

• SELENIUM DIODES



These subminiature selenium diodes, small and compact, are provided with pigtail leads for easy wiring into crowded chassis. Stable operation in ambient temperature range of: −50° C to +100° C.

SELENIUM DIODE KITS: An assortment of over $18.00 worth of selenium diodes packaged in a 6 compartment plastic case. Types available

Type SDK-1 consists of:
10−1T1, 2−2T1, 5−1U1, 2−2U1, 2−3U1, 2−4U1.

Type SDK-2 consists of 2 each 1T1, 2T1, 1U1, 2U1, 3U1, 4U1, 5U1, 1V1, 1Y1.

Type SDK-3 consists of 2 each 6U1, 7U1, 8U1, 4V1, 5V1, 3Y1.

Type	DC Output* Volts	DC Output* Ma	Max. Input Volts (RMS)	Max. Freq.	Dimensions (Inches) Tolerance: ± .015 W	L	Color Coding Body	Tip	Type
1S1	20	0.1	26	200Kc	0.120"	0.210"	Yellow	Brown	1S1
2S1	40	0.1	52	200Kc	0.150"	0.210"	Yellow	Red	2S1
1T1	20	0.2	26	200Kc	0.120"	0.210"	Green	Brown	1T1
2T1	40	0.2	52	200Kc	0.150"	0.210"	Green	Red	2T1
1U1	20	1.5	26	100Kc	0.160"	0.250"	Gray	Brown	1U1
2U1	40	1.5	52	100Kc	0.175"	0.250"	Gray	Red	2U1
3U1	60	1.5	78	100Kc	0.175"	0.250"	Gray	Orange	3U1
4U1	80	1.5	104	100Kc	0.250"	0.250"	Gray	Yellow	4U1
5U1	100	1.5	130	100Kc	0.250"	0.250"	Gray	Green	5U1
6U1	120	1.5	156	100Kc	0.330"	0.250"	Gray	Blue	6U1
7U1	140	1.5	182	100Kc	0.330"	0.250"	Gray	Violet	7U1
8U1	160	1.5	208	100Kc	0.330"	0.250"	Gray	Gray	8U1
1V1	20	5.0	26	25Kc	0.300"	0.320"	Gray	**	1V1
2V1	40	5.0	52	25Kc	0.305"	0.325"	Gray	**	2V1
3V1	60	5.0	78	25Kc	0.305"	0.325"	Gray	**	3V1
4V1	80	5.0	104	25Kc	0.345"	0.360"	Gray	**	4V1
5V1	100	5.0	130	25Kc	0.380"	0.380"	Gray	**	5V1
1Y1	20	11.0	26	10Kc	0.415"	0.460"	Gray	**	1Y1
2Y1	40	11.0	52	10Kc	0.445"	0.450"	Gray	**	2Y1
3Y1	60	11.0	78	10Kc	0.450"	0.450"	Gray	**	3Y1

* Into Capacitive Load.

** Part Number is Stamped on Body.

• GERMANIUM DIODES

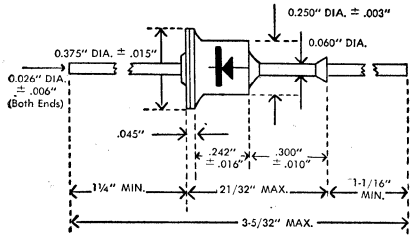
These point-contact germanium diodes are made from high quality crystals to assure maximum uniformity. They are designed for long life, dependability and for superior resistance to humidity, shock and temperature-cycling.

TYPE	DESCRIPTION	TYPE	DESCRIPTION
1N34	Low Back Voltage	1N70	High Back Resistance
1N34A	Low Back Voltage	1N75	High Back Resistance
1N38	100 Volt Back Voltage	1N81	Descriminator Diode
1N38A	100 Volt Back Voltage	1N87	Video Detector
		1N91	Power Junction Diode
1N48	General Purpose	1N92	Power Junction Diode
1N51	General Purpose	1N93	Power Junction Diode
1N52	High Back Resistance	*1N265	High Temperature
		*1N266	High Temperature
1N54	High Back Resistance	*1N267	High Temperature
1N54A	High Back Resistance	*1N268	High Temperature
1N55	150 Volt Back Voltage	G14	High Temperature
1N56	High Forward Current	*G44	High Temperature
		G46	Computer Diode
1N57	General Purpose	G47	Computer Diode
1N58	100 Volt Back Voltage	*G66	High Temperature
1N58A	100 Volt Back Voltage	*G71	High Temperature
		G72	Computer Diode
1N60	Video Detector	*G75	High Temperature
1N63	High Back Resistance	G02A	UHF Mixer
1N64	Video Detector	G02H	Meter Protection Diode
1N65	D.C. Restorer	G02M	Meter Protection Diode
1N69	General Purpose		

* "RED DOT" Series High Temperature Germanium Diodes.

• SILICON POWER DIODES

HERMETICALLY SEALED HOUSING



power supply types

for Industrial Rectifier Applications

magnetic amplifier types

for Applications Requiring Extremely Low Leakage Current and High Forward Conductance

Diode Type	Maximum Ratings at 100° C: Peak Inverse Voltage[1] volts	Max. RMS Input Voltage volts	Max. Rectified DC Output Current[2,3] ma.	Max. Continuous D.C. Current[2,4] ma.	Max. Surge Current (0.1 Sec.) ma.	Characteristics at 25° C: Max. D.C. Volt Drop at Rated Output Current volts	Max. D.C. Reverse Current at Rated P.I.V. ma.
3AS1	50	35	300	400	2000	2.0	.025
3BS1	100	70	300	400	2000	2.0	.025
3CS1	150	105	300	400	2000	2.0	.025
3DS1	200	140	300	400	2000	2.0	.025
3ES1	300	210	300	400	2000	2.0	.025
3FS1	400	280	300	400	2000	2.0	.025
3GS1	500	350	300	400	2000	2.0	.025
3AS2	50	35	300	400	2000	1.5	.001
3BS2	100	70	300	400	2000	1.5	.001
3CS2	150	105	300	400	2000	1.5	.001
3DS2	200	140	300	400	2000	1.5	.001
3ES2	300	210	300	400	2000	1.5	.001
3FS2	400	280	300	400	2000	1.5	.0015
3GS2	500	350	300	400	2000	1.5	.002

1. Maximum Continuous D.C. Voltage for Blocking Applications.
2. Derate Output Current 2% per degree C above 100° C ambients.
3. Resistive or Inductive Loads.
4. For blocking valve applications up to 100% duty cycle.

A WORLD OF DIFFERENCE THROUGH RESEARCH

International Rectifier
CORPORATION

El Segundo, California • In Canada: Atlas Radio Corp., Ltd., Toronto, Ontario

Descriptive literature available on request. Write Product Information Department on your letterhead.

THE WORLD'S LARGEST SUPPLIER OF INDUSTRIAL METALLIC RECTIFIERS

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DIFFUSED P-N-P JUNCTION TRANSISTORS

Recognized for fine quality, depenability and capable service — no wonder General Transistor is rapidly becoming one of the largest manufacturers of transistors in the world.

★ Audio transistors ★ Switching circuit transistors ★ Sub-miniature hearing aid transistors
★ High frequency and computor transistors ★ Low noise audio transistors
★ High voltage switching transistors ★ Symmetrical transistors ★ Phototransistors

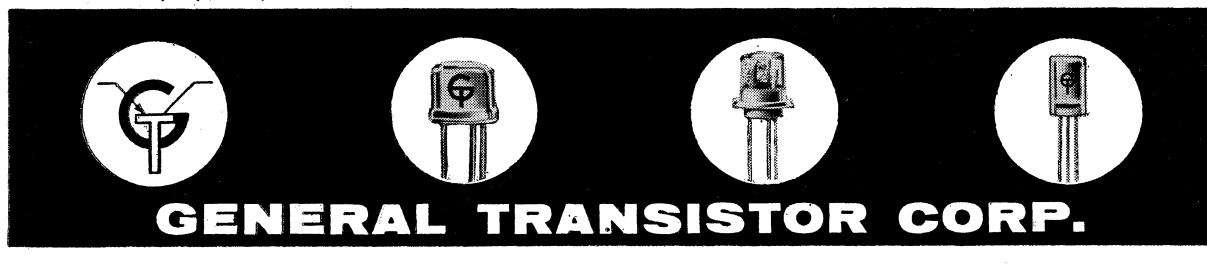
General Transistor Corp. Type	Maximum Ratings		Typical Operation						Application
	Collector Volts	Collector Dissipation (@ 25°C.) mw	Collector Cutoff Current μA (max.)	Collector Volts	Emitter Current mA	Power Gain db	Base Current Ampli. Factor β	Noise Figure db	
GT-222	−12	125	20	−4.5	−1	30	20	30	Audio
GT-14(2N63)	−25	125	10	−4.5	−1	36	28	16	Audio
GT-20(2N64)	−25	125	10	−4.5	−1	40	45	16	Audio
GT-34	−25	125	10	−4.5	−1	32	15	16	Audio
GT-81(2N65)	−25	125	10	−4.5	−1	42	90	16	Audio
GT-109	−25	125	10	−4.5	−1	42	90	16	Audio, matched pair
2N43	−45	150	10	−4.5	−1	40	40	16	Audio
2N44	−45	150	10	−4.5	−1	36	24	16	Audio
2N45	−45	150	10	−4.5	−1	33	20	16	Audio
GT-14H	−12	90	10	−4.5	−1	36	28	12	Sub-min., hearing aid
GT-20H	−12	90	10	−4.5	−1	40	45	12	Sub-min., hearing aid
GT-24H	−12	90	10	−4.5	−1	35	30	12	Sub-min., hearing aid
GT-81H	−12	90	10	−4.5	−1	42	90	12	Sub-min., hearing aid
GT-66	−12	90	10	−4.5	−1	42	100	20	Phototransistor

Maximum junction temperature: 85°C.

General Transistor Corp. Type	Maximum Ratings		Typical Operation								Application
	Collector Volts	Collector Dissipation (@ 25°C.) mw	Collector Cutoff Current (max.) μA	Emitter Cutoff Current (max.) μA	Collector Volts	Emitter Current mA	Power Gain db	Base Current Ampli. Factor β	Fα mc	Noise Figure db	
GT-83	−25	125	10	10	−4.5	−1	40	45	0.7	16	Switching-computer
GT-87	−25	125	10	10	−4.5	−1	36	38	0.5	16	Switching-computer
GT-88	−25	125	10	10	−4.5	−1	42	80	1	16	Switching-computer
GT-122	−25	125	10	10	−4.5	−1	42	80	1.5	16	Switching-computer
GT-759(2N111)	−20	90	1	5	−4.5	−1	24*	20	2.5	16	Hi-freq., computer, & IF
GT-760(2N112)	−15	90	1	5	−4.5	−1	28*	40	5	16	Hi-freq., computer, & IF
GT-761(2N113)	−12	90	1	5	−4.5	−1	32*	75	10	16	Hi-freq., computer, & RF
GT-762(2N114)	−6	90	1	5	−4.5	−1	34*	100	20	16	Hi-freq., computer, & RF
GT-763	−6	90	1	5	−4.5	−1	35*	120	30	16	Hi-freq., computer, & RF
GT-34S	−25	100	10	10	−4.5	−1	32	15		16	Symmetrical, switching, computer
GT-34HV	−50	125	10	10	−4.5	−1	32	15		16	High voltage, neon light switching

Maximum junction temperature: 85°C. *@ 455 kc

Transistor Kit No. 1 (Audio kit) Contains 1 ea. GT-14, GT-20, GT-34, GT-81, GT-83, GT-87, GT-88
Transistor Kit No. 2 (Radio kit) Contains 1—GT-761 (converter-oscillator), 2—GT-760 (intermediate frequency), 1—GT-81 (driver), 2—GT-109 (audio)
Transistor Kit No. 3 (Computer kit) Contains 1 ea. GT-122, GT-759, GT-760, GT-761, GT-762, GT-34S, GT-34HV



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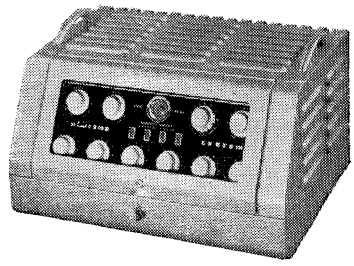
When ordering products shown in this book or writing for additional information, please be sure to mention the 1957 MASTER and the respective pages and catalog numbers. This will avoid confusion and expedite delivery.

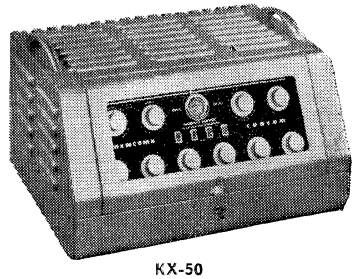
The *Radio-Electronic* **MASTER**

NEWCOMB

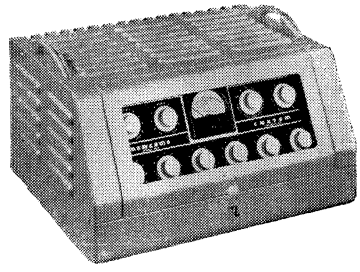
AMPLIFIERS • CUSTOM SERIES



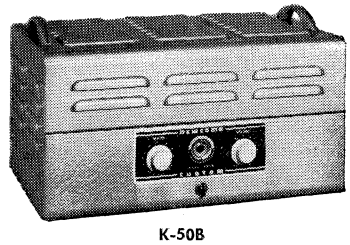
KX-25



KX-50



KX-6A



K-50B

Without equal at any price. The best examples why the name Newcomb is so revered by Engineers and Owners alike. Will improve any system. A must when using the new 2-way wide range speakers. Check these important features and specifications.

- 20-20,000 cycles ± 1 db
- Less than 3% distortion
- 90% of rating at less than 1%
- Full power any output tap
- Audio bandwidth selectors
- Hum and noise level — 80 db.
- Remote control provision — all inputs
- U/L Approved
- Continuous duty — longer life parts
- Key locked control cover
- Sensitive volume and overload indicators
- Wired for plug-in input transformers

Full audio power, 50 to 5000 cycles (region of all major power requirements) within ± ¼ db. less than 5% distortion. Separate tone controls for Bass and Treble Boost or Attenuation of advanced design for better curve shape, greater range. Feedback controlled, 2 stage mike pre-amplifiers. Hum balancing control, all models but booster. Linear mixer frequency response. All but Pre-Amplifier have output impedance of 4, 8, 16, 250, 500 ohms, PLUS a 70 volt "constant voltage" tap, with convenient, simple, impedance selector. Multistage inverse feedback. Large, heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installation. A. C. convenience outlet in rear, all models except booster. CABINETS: Heavy gauge welded steel beautifully styled. FINISH: Silver Grey Hammertone Baked Enamel. PANELS: Etched metal, illuminated. KNOBS: Round, large, skirted type, for easy operation. Additional specifications given under specific model numbers.

KX-25: 25 watts power output design center, rating, 30 watts max. at less than 3% distortion any output tap. PEAK POWER: 40 watts design center, 48 watts max. INPUTS (6): 5 mike (2 meg.), gain 123 db; 1 phono either Magnetic input gain 99 db based on 27000 ohm input, bass equalization +10 db or Crystal input ½ meg. gain 90 db. REMOTE CONTROL: Use RC-6 remote control unit. BASS TONE CONTROL: Range — 16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —75 db crystal phono. —65 db mike and magnetic pickup inputs (Referred to rated output). CONTROLS (15): 5 mike, 1 phono, 1 bass, 1 treble, 4 bandwidth, 1 master, 1 volume indicator (all under keylocked control cover) A.C. power switch. TUBES (15): 6-6SC7, 2-6J5, 1-6J7, 1-6SQ7, 1-6SN7, 2-6L6G, 1-6AF6G, 1-5U4G. POWER CONSUMPTION: 135 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾" WEIGHT: 38½ lbs. LIST: (with tubes) **$450.00.** PLUG KIT: **$6.92.**

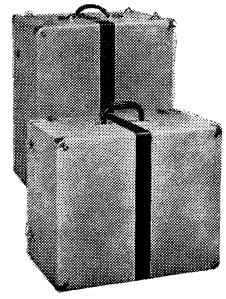
KX-50: 50 watts power output design center rating, 60 watts max. at less than 3% distortion any output tap. PEAK POWER: 80 watts design center, 90 watts, max. BOOSTER COUPLING JACK for connecting K50B Boosters for 100 watts or more. All other characteristics identical with KX-25 except gains, which are all 3 db higher than KX-25. TUBES (18): 6-6SC7, 2-6J5, 1-6SQ7, 1-6J7, 1-6SN7, 4-6L6G, 1-6AF6G, 2-5U4G. POWER CONSUMPTION: 235 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾", WEIGHT: 46 lbs. LIST: (with tubes) **$525.00.** PLUG KIT: **$7.03.**

KX-6A: A 6 channel mixer pre-amplifier designed to feed broadcast lines or boosters for finest quality. OUTPUT: +31 VU, less than 3% distortion, +30 VU at less than 1%. Has built in power supply and genuine VU meter with meter range extension switch. INPUTS: for 5 mikes (2 meg.) gain 97 db and 1 phono either crystal (½ meg.) gain 64 db or magnetic (27,000 ohms) gain 73 db. Use RC-6 Unit for remote control. Includes Master Volume Control and same fine Dual Tone Controls and Audio Bandwidth Selectors as in KX-25 and KX-50. BASS TONE CONTROL: Range —16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —80 db crystal —75 db mike and magnetic. CONTROLS (12): 5 mike, 1 phono, 1 bass, 1 treble, 1 master, 1 four position bandwidth (all under key locked cover), 1 A.C. power switch, 1 VU meter range switch (in rear). TUBES (12): 6-6SC7, 4-6J5, 1-6J7, 1-6X5. POWER CONSUMPTION 35 WATTS, 117 volts 60 cycles A.C. MAX. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾". WEIGHT: 30 lbs. LIST (with tubes) **$395.00.** PLUG KIT: **$5.29.**

K50B: Booster Amplifier. Performance, power and output impedance same as KX-50 with but one input of ½ meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Built for continuous duty with long life parts, separate plate, and filament power transformers, individually fused, permits dependable plate power switching. Includes volume and overload indicators as in KX-50. Ample multistage feedback to minimize effects of speaker load variations. Etched metal panel. TUBES (10): 1-6SJ7, 1-6SN7, 1-6SQ7, 5-6L6G, 1-6AF6G, 2-5U4G, POWER CONSUMPTION: 230 watts 117 volts 60 cycles. 129 volts max. DIMENSIONS: 9⅜" x 17¾" x 12¼". WEIGHT: 41 lbs. LIST: (with tubes) **$225.00.** PLUG KIT: **$2.50.**

NEWCOMB

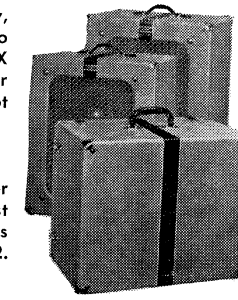
PORTABLE SYSTEMS • CUSTOM SERIES



KX-2512X: Portable system with KX-25 amplifier and two heavy duty, extremely efficient speakers, each with 50' cable. System is carried in two cases: Model KA for the amplifier, size 19" x 11¾" x 16⅞"; Model K-212X for two speakers, size 18½" x 12½" x 22½". Speakers face inside for maximum protection when split case is closed. Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) **$645.57.**

KA: Amplifier case fits all model K amplifiers. LIST: **$35.00.**

KX-25R12X: Portable system identical to KX-2512X but with each speaker mounted in an individual portable reflex baffle. Model KR-112X, for utmost tone quality. Speaker cases size, 18½" x 12½" x 24½". Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) **$716.82.**



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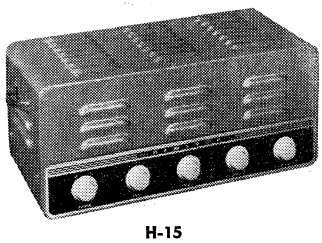
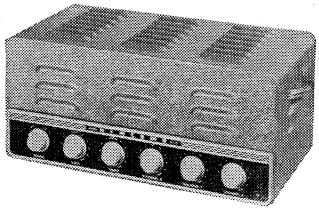
NEWCOMB

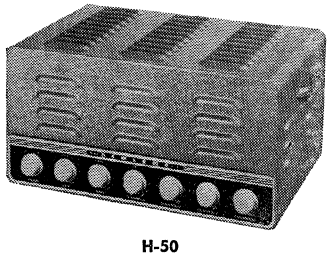
AMPLIFIERS • DELUXE SERIES



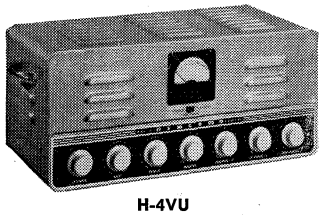
H-15



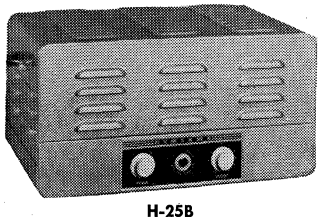
H-25



H-50



H-4VU



H-25B

For Performance, Dependability and Value check these features and specifications:

- 20-20,000 cycles ± 2 db
- Full Power any output top
- Less than 5% distortion
- 90% of rated power at less than 2%
- Remote Control provision — all mikes
- U/L Approved
- Continuous duty—longer life parts
- Wired for plug-in input transformers

Full Audio Power, 50 to 5000 cycles (region of all major power requirements) within ± ½ db. less than 5% distortion. Individual boost and attenuate type bass and treble tone control in new distortion free circuit. Linear mixer frequency response. All models but pre-amplifier have output impedances of 4, 8, 16, 250, and 500 ohms PLUS a 70 volt "constant voltage" tap, with easily-operated impedance selector. Multi-stage inverse feedback. Large heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installations. A. C. convenience outlet in rear, all models except boosters. CABINETS: Heavy gauge welded steel beautifully styled in modern functional simplicity that endures. FINISH: Silver Grey Hammertone Baked Enamel. PANEL: Etched metal, illuminated. KNOBS: Large, round, skirted type, for ease of operation. Additional specifications under specific model numbers.

H-15: 17 watts power output design center rating, 20 watts max. at less than 5% distortion, **any output tap.** PEAK POWER: 26 watts design center, 31 watts max. INPUTS (3): 2 mike (2 meg.), gain 120 db; 1 phonograph (½ meg.), gain 80 db. BASE TONE CONTROL: Range —16 to +14 db. TREBLE TONE CONTROL: —34 to +13 db. HUM: —72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (5): 1 mike-phono, 1 mike, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-2 remote control unit. TUBES (7): 2-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5Z4. POWER CONSUMPTION: 85 watts, 117 volts 60 cycles. A.C. Max. input 129 volts. DIMENSIONS: 8¼" x 19" x 10⅛". WEIGHT: 20 lbs. LIST: (with tubes) **$179.50.** PLUG KIT: **$4.09.**

H-25: 25 watts power output design rating, 30 watts max. at less than 5% distortion, **any output tap.** PEAK POWER: 40 watts design center, 48 watts maximum. INPUTS (4): 3 mike (2 meg.), gain 124 db; 1 phonograph (½ meg.), gain 80 db. BASS TONE CONTROL: —18 to +15 db. TREBLE TONE CONTROL: Range —27 to +10 db. HUM: —72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (6): 2 mike, 1-mike-phono, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-3 remote control unit. TUBES (8): 3-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5U6G. POWER CONSUMPTION: 125 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 8½" x 19" x 10⅛". WEIGHT: 24 lbs. LIST: (with tubes) **$210.00.** PLUG KIT: **$5.03.**

H-50: 50 watts power output design center rating, 60 watts max. at less than 5% distortion, **any output tap.** PEAK POWER: 80 watts design center, 90 watts max. INPUTS (5): 4 mike (2 meg.), gain 124 db. 1 phono (½ meg.), gain 81 db. BOOSTER COUPLING JACK for connecting H-25B or H-50B Boosters for 75 to 100 watts or more. BASS TONE CONTROL: Range —21 to +16 db. TREBLE-TONE CONTROL: Range —27 to +10 db. HUM: —72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (7): 3 mike, 1 mike-phono, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-4 remote control. TUBES (12): 4-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 2-5U4G. POWER CONSUMPTION: 225 watts, 117 volts, 60 cycles A.C. Max Input 129 volts. DIMENSIONS: 9¼" x 19" x 12½". WEIGHT: 37 lbs. LIST: (with tubes) **$279.50.** PLUG KIT: **$6.10.**

H-4VU: Mixer Pre-Amp. with built-in power supply. Extremely low hum. Suitable for feeding telephone lines or booster amplifiers such as the H-25B or H-50B. Output +22 db at less than 5% distortion. +21 db at less than 2%. INPUTS for three mikes (2 meg.), gain 90 db, 1 phono (½ meg.), gain 51 db. HUM: Better than, —80 db from phono input or —75 db, mike inputs. Use RC-3 Unit for remote control. Includes master control and genuine VU meter with meter range extension switch. BASS TONE CONTROL: Range —16 to +14 db. TREBLE TONE CONTROL: Range —27 to +13 db. TUBES (7): 3-6SF5, 1-6SJ7, 1-6SN7, 1-6J5, 1-6X5, POWER CONSUMPTION: 30 watts, 117 volts, 60 cycles A.C. Max Input 129 volts. DIMENSIONS: 8½" x 19" x 10⅛". WEIGHT: 17½ lbs. LIST: (with tubes) **$225.00.** Without VU meter: **$179.50.** PLUG KIT: **$3.44.**

H-25B: Booster Amplifier — Performance Power and Output Impedances same as H-25 with but one input of ½ meg. impedance, gain 68 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. power switch and volume control. Ideal for use with H-4 Pre-amplifier. Built for long life. TUBES (5): 1-6SJ7, 1-6J5, 2-6L6G, 1-5U4G POWER CONSUMPTION: 120 watts, 117 volts. 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 8⅛" x 19" x 10⅛". WEIGHT: 22 lbs. LIST: (with tubes) **$149.50.** PLUG KIT: **$1.69.**

H-50B: Booster Amplifier — Performance, Power and Output Impedances are same as H-50 with but one input of ½ meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. switch and volume control. Built for long life. Ideal for use with H-4 Pre-Amp. TUBES (8): 1-6SJ7, 1-6J5, 4-6L6G, 2-5U4G. POWER CONSUMPTION: 220 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9¼" x 19" x 12½". WEIGHT: 33½ lbs. LIST: (with tubes) **$189.50.** PLUG KIT: **$1.69.**

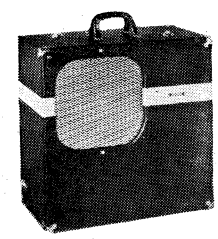
NEWCOMB

DELUXE PORTABLE SYSTEMS

H-50B

H-1512R: Portable system with H-15 amp. and two 12" speakers, each with 25' cable, in split case Model EH-212R, size 11⅛" x 20½" x 21", covered in washable fabricoid. Kickproof metal grills protect speakers. Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) **$283.09.**

H-2512R: Portable system with H-25 amp. and two 12" speakers, each with 25' cable in split case, Model EH-212R. Size, 20½" x 11⅛" x 21". Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) **$314.53.**



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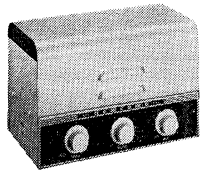
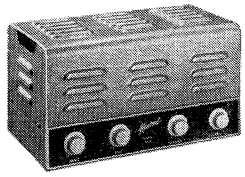
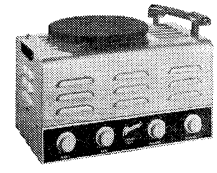
NEWCOMB | AMPLIFIERS • SPECIAL SERIES (E)

The same fine workmanship and materials as the incomparable KX- and H-Series. Designed to lead the low-price field. For performance, dependability and economy the E-Series is today's best combination of high quality and low cost. All models U/L Approved.



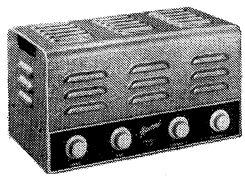
E-10A: Delivers 10 watts from push-pull 6V6 tubes. Separate mike and phono controls. Multistage inverse feedback circuit. POWER OUTPUT: 10 watts at less than 5%. FREQUENCY RESPONSE: 40 to 15,000 cycles ± 2 db. INPUTS: (2) 1 mike (2 meg.) gain 116 db. Wired for plug-in input transformers. 1 phono (½ meg.) gain 77 db. TONE CONTROL: Range 0 to —24 db. OUTPUT IMPEDANCES: 4, 8, 16 and 500 (70 Volt Tap) ohms to octal socket. TUBES: (5) 1-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. FINISH: Silvergrey hammertone baked enamel. PANEL: Genuine etched enamel. POWER CONSUMPTION: 60 watts at 117 volts, 60 cycles A.C. SIZE: 5¾" x 10⅜" x 6¾". WEIGHT: 9½ lbs. Less cover, 7½ lbs. LIST: (with tubes, without cover) **$69.50.** Cover **$7.21.** PLUG KIT: **$1.71.**

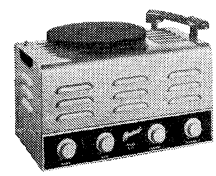




E-17P3: A conservative 17 watt model with 3 speed phono. Separate bass and treble controls, phono bass boost, multi-stage inverse feed-back circuit. Input controls for mike and phono. POWER OUTPUT: 17 watts at less than 5%. FREQUENCY RESPONSE: ± 2 db. 40 to 15,000 cycles. INPUTS: 1 mike (2 meg.) gain 115 db, Wired for plug-in input transformers. 1 phono (½ meg.) gain 77 db. OUTPUT IMPEDANCES: 4, 8, 16, 290 (70 Volt Tap) and 500 ohms. TUBES: (5) 1-12AX7, 1-6SJ7, 2-6L6G, 1-5V4G. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal, lighted. POWER CONSUMPTION: 75 watts at 117 volts, 60 cycles A.C. SIZE: 8⅜" x 14⅛" x 8". WEIGHT: 15½ lbs. LIST: (with tubes) **$151.55.** PLUG KIT: **$2.28.**

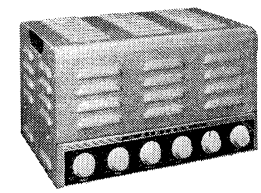
E-17: A 17 watt amplifier without 3 speed phono. Otherwise identical to model E-17P3. LIST: (with tubes and cover) **$107.50.** PLUG KIT: **$2.28.**

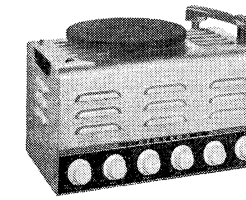




E-25: A dependable, full 25 watts with inputs for 2 mikes and 1 phono, separate bass and treble controls, phono bass boost, multi-stage inverse feedback circuit. POWER OUTPUT: 25 watts at less than 5%. FREQUENCY RESPONSE: ± 2 db. 40 to 15,000 cycles. INPUTS: (3) 2 mike (2 meg.) gain 117 db, Wired for plug-in input transformers. 1 phono (½ meg.) gain 77 db. OUTPUT IMPEDANCES: 4, 8, 16, 196 (70 Volt Tap) and 500 ohms. TUBES: (6) 1-12AX7, 1-6SC7, 1-6J5, 2-6L6G, 1-5V4G. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal, lighted. POWER CONSUMPTION: 90 watts, 117 volts, 60 cycles A.C. SIZE: 8⅜" x 14⅛" x 8". WEIGHT: 18¼ lbs. LIST: (with tubes and cover) **$139.50.** PLUG KIT: **$3.24.**

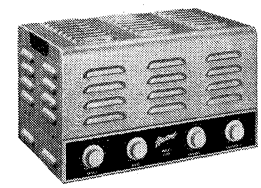
E-25P3: A 25 watt amplifier with 3 speed phono. Otherwise identical to model E-25. LIST: (with tubes) **$183.18.** PLUG KIT: **$3.24.**



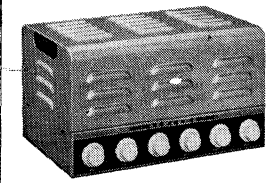


E-254P3: A highly versatile, yet economical 4 channel, 25 watt amplifier with 3 speed phono. FEATURES: High gain, inputs for 3 mikes and 1 phono, separate bass and treble tone controls, phono bass boost, multi-stage inverse feedback circuit. Pickup is high-grade turnover crystal. POWER OUTPUT: 25 watts at less than 5% distortion. FREQUENCY RESPONSE: ± 2 db, 40 to 15,000 cycles. 3 MIKE INPUTS: 2 meg., gain 123 db. Wired for plug-in input transformers. PHONO INPUT: ½ meg., gain 83 db. OUTPUT IMPEDANCES: 4, 8, 16, 196 (70 Volt Tap) and 500 ohms. TUBES: (8) 3-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5V4G, FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal illuminated. CONTROLS: 3 mike, 1 phono, 1 bass, 1 treble and power switch. POWER CONSUMPTION: 105 watts at 117 volts, 60 cycles A.C. SIZE: 8⅜" x 14⅛" x 8". WEIGHT: 18¼ lbs. LIST: (with tubes) **$213.18.** PLUG KIT: **$3.90.**

E-254: A 25 watt amplifier without 3 speed phono. Otherwise identical to model E-254P3. LIST: (with tubes and cover) **$169.50.** PLUG KIT: **$3.90.**



E-50: A distortion-free, conservatively rated 50 watts using push-pull parallel 6L6 tubes and multi-stage inverse feedback circuit. Has inputs for 2 mikes, 1 phono, separate bass and treble controls, phono bass boost. Same as E-25 except as follows: POWER OUTPUT: 50 watts at less than 5%. Mike gain 120 db, Wired for plug-in input transformer Phono gain 79 db. OUTPUT IMPEDANCES: 4, 8, 16, 98 (70 Volt Tap) and 250 ohms. TUBES: (9) 1-6SJ7, 1-12AX7, 1-6J5, 4-6L6G, 2-5V4G. POWER CONSUMPTION: 170 watts at 117 volts, 60 cycles A.C. SIZE: 11¼" x 14¾" x 8½". WEIGHT: 29 lbs. LIST: (with tubes and cover) **$196.50.** PLUG KIT: **$3.24.**



E-504: A 4 channel 50 watt amplifier featuring; high gain, inputs for 3 mikes and 1 phono, separate bass and treble tone controls, phono bass boost, multi-stage inverse feedback, push pull parallel output system for lowest distortion at all power levels. POWER OUTPUT: 50 watts at less than 5% distortion. FREQUENCY RESPONSE: ± 2 db, 40 to 15,000 cycles. THREE MIKE INPUTS: 2 meg., gain 126 db. Wired for plug-in input transformers. PHONO INPUT: ½ meg., gain 86 db. OUTPUT IMPEDANCES: 4, 8, 16, 98 (70 Volt Tap) and 250 ohms. TUBES: (11) 3-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 2-5V4G. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal, illuminated. CONTROLS: 3 mike, 1 phono, 1 bass, 1 treble and power switch. POWER CONSUMPTION: 180 watts, 117 volts, 60 cycles A.C. SIZE 11¼" x 14¾" x 8½". WEIGHT: 30 lbs. LIST: (with tubes and cover) **$239.50.** PLUG KIT: **$3.90.**

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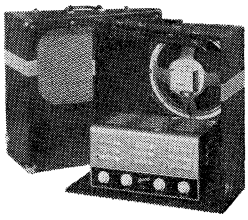
NEWCOMB — PORTABLE AMPLIFIERS (E) SERIES

E-1010S: A 10 watt basic portable consisting of one E-10 amplifier with plugs and one E-110S case assembly with efficient 10" P.M. speaker protected by a kick-proof metal grill. Speaker cable 25'. Overall size: 12¼x 15¾x8¾".

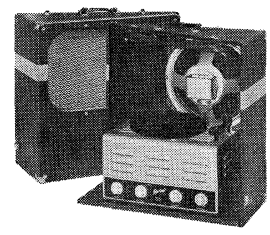
Weight: 19 lbs. LIST: (less mike and stand) $126.82.



E-1712R: A 17 watt dual speaker portable system consisting of one EH-212R split speaker and amplifier case assembly with two 12" high quality P.M. speakers, each with 25' cable, protected by kick-proof grills, and one E-17 amplifier with plugs. Size: 11⅛ x 20½ x 21". Weight: 40 lbs. LIST: (less mike and stand) $209.28.

E-2512R: A 25 watt dual speaker portable system with model E-25 amplifier. Weight 42½ lbs. LIST: (less mikes and stands) $242.24.

E-25412R: A 25 watt dual speaker portable system consisting of one EH-212R split case assembly with two 12" P.M. speakers each with 25' cable, and model E-254 four channel amplifier. LIST: (less mikes and stands) $272.90.



E-17P312R: A 17 watt dual speaker portable system with 3 speed phono. Consists of model E-17P3 amplifier in EH-212R split case assembly. LIST: (less mike and stand) $252.96.

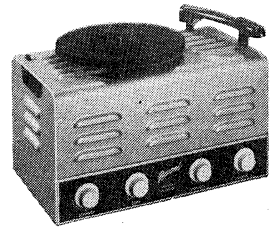
E-25P312R: A 25 watt dual speaker portable system with 3 speed phono. Model E-25P3 amplifier in EH-212R split case assembly. LIST: (less mikes and stands) $285.92.

E-254P312R: A 25 watt dual speaker portable system with 3 speed phono. Same as E-25412R but with 3 speed phono top amplifier model E-254P3. LIST: (less mikes and stands) $316.58.

ALL NEWCOMB
tuners, amplifiers, phonographs
and sound systems are
U/L APPROVED

NEWCOMB — MOBILE AMPLIFIERS (E) SERIES

6-VOLT



E-25MP: A 25 watt mobile amplifier with 78 RPM phono. For use on 6 V. storage battery or 117 V.A.C. Consumes minimum current per watt output. Has standby switch, separate power and turntable switches, heavy duty Jones plugs and receptacles for dependable connections to battery or A.C. power, POWER OUTPUT: 25 watts at less than 5%. RESPONSE: ± 2 db, 50 to 15,000 cycles. INPUTS: 2 mikes (2 meg.) gain 119 db. wired for plug-in input transformers, 1 phono (½ meg.) gain 78 db. HIGH FREQ. ATTENUATOR: Range 28 db. CIRCUIT: Multi-stage inverse feed-back, resistance capacity coupling, phase correction for phono motor, 2000 V. hermetically sealed oil buffer condenser. OUTPUT IMPEDANCES: 4, 8, 16, and 500 ohms plus 70V. tap to 2 octal speaker sockets and impedance selector. PHONO: Constant speed 78 rpm. PICKUP: Crystal. TUBES: (7) 1-12AX7, 1-6SJ7, 1-6J5, 2-6L6, 2-6X5GT. POWER CONSUMPTION: 107 watts, 117 volts, 60 cycles A.C. or 20.5 amps, including phono from 6V. battery. FINISH: Silvergrey hammertone baked enamel: PANEL: Etched metal, lighted. SIZE: 8¾x14⅛x10". WEIGHT: 26 lbs. LIST: (with tubes) $215.00. Plug Kit $3.24.

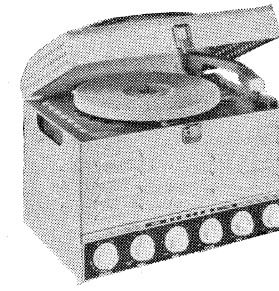
E-25M: Same as E-25MP without phono. POWER CONSUMPTION: 91 watts A.C. or 17 amps. from 6 V.D.C. SIZE: 8⅜x14⅛x8". WEIGHT: 23 lbs. LIST: (with tubes) $195.75. Plug Kit: $3.24.

E-25MP3: Same as model E-25MP except with 3 speed phono. LIST: (with tubes) $239.43. Plug Kit $3.24.

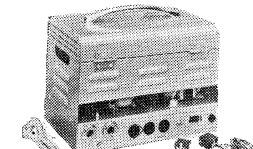
E-10M: A 10 watt mobile amplifier. For use on 6 V.D.C. or 117 V.60 cycles A.C. Features push-pull beam power output tubes with inverse feedback for low distortion, standby, battery saver switch, new freedom from vibrator hash, special mounting for easy removal of chassis, inputs for mike and phono, sturdy Jones connectors for battery and A.C. cables. POWER OUTPUT: 10 watts at less than 5%. FREQUENCY RESPONSE: ± 2 db. 50 to 15,000 cycles. INPUTS: Mike (2 meg.) gain 115 db. phono (½ meg.) gain 75 db. OUTPUT IMPEDANCES: 4, 8, 16 ohms. TUBES: (5) 1-6SC7, 1-6SF5, 2-6V6GT, 1-6X5GT, POWER CONSUMPTION: 60 watts. 117 volts, 8 amps. at 6 V.D.C. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal with pilot lamp. SIZE: 6⅛x6¾x8¼". WEIGHT: 9¾ lbs. LIST: (with tubes) $99.75. Plug Kit $1.39.

All Newcomb equipment U/L approved. Prices and specifications subject to change without notice.

12-VOLT



Newly developed E-253M Series Newcomb Amplifier designed for use anywhere. Ultra modern 25 watt unit available in several styles with and without turntable (see below). May be used on either 12-volt storage battery or 117 volt 60 cycle AC power source with equal effectiveness. Consumes as much as 20% less battery current, weighs up to 30% less. Separate bass and treble tone controls; two microphone channels each with the new standard broadcast type connectors and convertible to low impedance with Newcomb humless plug-in input transformers; high gain separate phono channel for ceramic pickups; extra input for tape; standby switch to reduce idle battery consumption more than 70%; new freedom from vibrator hash; heat resistant ceramic pickup and turret type motor in 3-speed phono top; completely U/L Approved.



POWER OUTPUT: 25 watts at less than 3% total harmonic distortion, peak power 40 watts. FREQUENCY RESPONSE: 30 — 20,000 cycles ± 2 db. HUM LEVEL: 70 db below 25 watts. INPUTS: Two mike (2 meg.) gain 122 db; one phono (2 meg.) gain 90 db; and one tape (2 meg.) gain 90 db. Mike inputs convertible to low impedance using Newcomb plug-in transformers. CONTROLS: One stand-by switch, one power switch and treble tone control, one bass tone, one phono, two microphone, one phono motor control (on phono top models), and one hum balance control. OUTPUT IMPEDANCE: 4, 8, 16, and 500 ohms and a 70 volt tap to impedance selector and two output sockets. POWER CONSUMPTION: On 117 volts 60 cycles AC, 100 watts. On 12 volts DC, 8.85 amps (with phono top, 10.3 amps.). Stand-by current less than 3 amps. SIZE: 14⅛x9½x8" high (with cover (height 10¼"). TUBES: 1-12AX7, 1-12AU6, 2-6L6G, 2-6X5GT, 1-12AV7, E-253M — plain top model, list price $214.50. (Weight, 24 lbs.). E-253M3 — 3-speed phono-top model, list price $249.50. (Weight, 28¼ lbs.). PC — Protective turntable cover with "king-sized" handle for use on Model E-253M3 only, list price $15.00. (Weight, 2¾ lbs.). Above prices include both battery and AC power cables.

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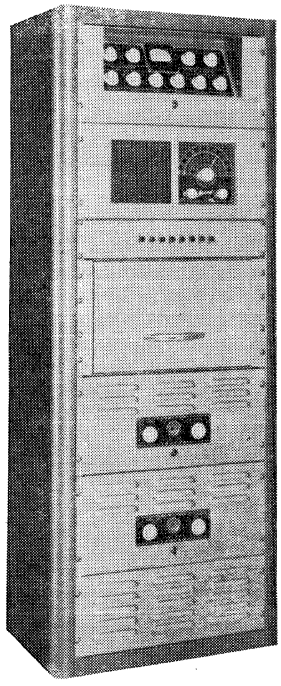
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

NEWCOMB | RACK AND PANEL ASSEMBLIES



Any standard Newcomb amplifier may be obtained panel mounted on special order in 19" x 8¾" panels, thus giving the custom designer a wide choice of equipment to meet any need.

MODEL 595-19 CABINET: (illustrated) Supplies a demand for a beautifully finished housing that is fully in keeping with the Newcomb tradition and reputation for quality. Panel space is 56". Design accepts standard 19" wide panels. Mounting holes are RMA standard 1¼" and ½" spacings. Panel mounting holes are tapped in ⅛" stock. Fully ventilated rear door provides easy accessibility. Entire cabinet is a complete welded assembly ready for use as you receive it. Finish is dark grey hammertone. Provision is made in the rear for nine ½" conduits. Included is a removable terminal strip mounting plate located near conduit inlets. OVERALL DIMENSIONS: 59½" x 23" wide x 16" deep. SHIPPING WEIGHT: 92 lbs. LIST: **$189.50.**

MODEL 385-19 CABINET: Provides 35" of panel space for standard 19" panels. OVERALL DIMENSIONS: 38½" x 23" wide x 16" deep. SHIPPING WEIGHT: 72 lbs. LIST: **$149.50.**

In addition to the panel mounted amplifiers Newcomb also provides a wide selection of other equipment designed for custom rack installations.

MODEL 1050-C PHONOGRAPH CHANGER PANEL is a practical solution to mounting a phono changer in cabinet 595-19. Ball bearing drawer with wood motor board is adaptable for mounting most popular changers. Panel size 19" x 10½". All panels are finished in silver-grey hammertone baked enamel. MODEL E2-525 PRE-AMPLIFIER answers the need for a simple, dependable but economical pre-amp for rack use. MODEL TB2-525 INTERCOM AMPLIFIER has built-in power supply, speaker, talk-listen switch and separate talk and listen volume controls.

MODEL B-100-875 AM RADIO is the Newcomb B-100 radio mounted on an 8¾" panel. (See listing page B-7.) MODEL 700-MP MONITOR is available for installation of any 6" speaker. LEVER KEY PANELS are provided for use with CRL keys, 3½" deep with slots for 6, 8, 10 or 12 keys. LOUVERED PANELS for additional ventilation and BLANK PANELS are made in assorted sizes.

SPECIAL PANELS are made to order to fit special equipment. Templates or suitable drawings must accompany order for any special sheet metal work. Full details of Newcomb rack and panel equipment available on request.

NEWCOMB | ACCESSORIES FOR (H) AND (K) SERIES

REMOTE CONTROLS

For mixing and fading all H Series mike inputs. With K Series amplifiers all mikes and phono may be controlled. Up to 2000 feet of cable may be used. No inductive pickup.

RC-2 for H-15 amp. Requires ordinary 3 wire cable, 2¾" x 6" x 2⅛". WEIGHT: 1 lb. LIST: (less cable) **$10.50.**

RC-3 for H-25 or H-4 amps. Requires ordinary 4 wire cable. 2¾" x 6" x 2⅛". WEIGHT: 1 lb. LIST: (less cable) **$15.50.**

RC-4 for H-50 amp. Requires ordinary 5 wire cable. 2¾" x 7⅝" x 2⅛". WEIGHT: 1¼ lbs. LIST: (less cable) **$19.50.**

RC-6 for KX-25, KX-50, KX-6 amps. Requires ordinary 7 wire cable. 2¾" x 11¼" x 2⅛". WEIGHT: 2 lbs. LIST: (less cable) **$27.50.**

PLUG-IN TRANSFORMERS

TR-91: Features sextuple alloy and copper shielding for quiet operation right in amp. proper. Alloy core and specially designed windings for extended frequency response from 20 to 20,000 cycles. Plug base for easy installation. For use between 30-50 or 200-250 ohm mikes and grid. WEIGHT: 1¼ lbs. LIST: **$32.50.**

TR-92: Input impedance 5,000 ohms to grid for bridging a 500-600 ohm line. When plugged into sockets on K50B, H50B, H25B it converts for use as bridging amps. WEIGHT: 1¼ lbs. LIST: **$29.50.**

TR-100: Identical to TR-91 but for use between 125-150 or 500-600 ohm mikes and grid. LIST: **$32.50.**

All prices and specifications subject to change without notice.

COMPLETE BID SPECIFICATIONS AVAILABLE

Available from Newcomb are complete bid specifications for public address amplifiers, phonographs, transcription players, and radios. A must for schools, states, or federal governments as well as commercial institutions requiring specifications to be shown. These Newcomb bid specifications spell out the proper details and may be included directly on prints or purchase orders.

All Newcomb equipment approved by Underwriters Laboratory.

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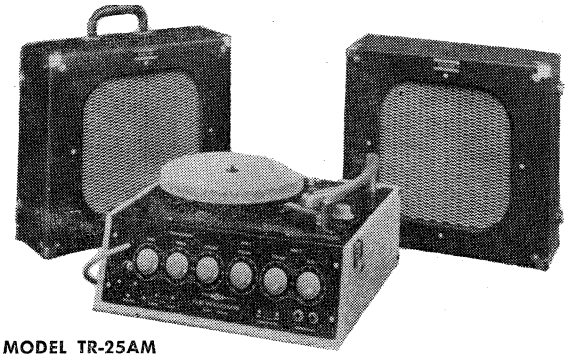
NEWCOMB

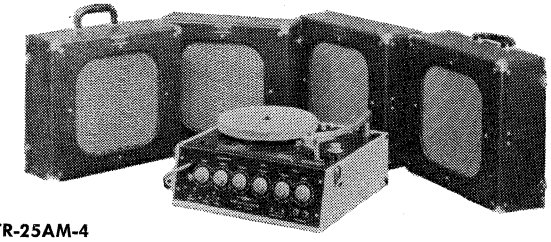
COMBINATION TRANSCRIPTION PLAYER / P.A. SYSTEMS



MODEL TR-25AM

25-watt, two-speaker, 3-speed player and p.a. system for all records up to 17¼". G. E. variable reluctance pickup with dual jewelled needles. Scratch suppressor. New Speed-O-Scope speed indicator and patented Newcomb variable speed motor. Two mike inputs with separate tone and volume controls independent of record player. "Floating sound" mounting.

Two heavy-duty 12-inch speakers, each with 25-foot cable. Newcomb Phono-Monitor jack provides voice-free music for connection to an external amplifier and speaker (M-5). Frequency response ± 2 db 40 to 15,000 cycles. U/L Approved. Packs in two cases. Main case 16⅜" x 16⅜" x 8⅜", weight 36 pounds. Dual speaker case 14⅝" x 15¾" x 11⅞", weight 19 pounds. LIST: **$382.50.**



TR-25AM-4

25 watt four speaker transcription player and p.a. system. Gives added coverage for large or difficult halls. A three case system consisting of standard TR-25AM plus a matching set of Model T-212E dual extension speakers. The choice of the advanced professional square dance caller. All other features identical to TR-25AM. LIST: **$482.00.**

ADDITIONAL SPEAKERS

T-212E

Dual extension speakers for use with any TR-25AM to give a total of four speakers where needed. Includes 2 identical 12" Alnico 5 PM high-frequency speakers in a matching case. Each has 25-foot cable, and plug. WEIGHT: 19 pounds. LIST: **$99.50.**

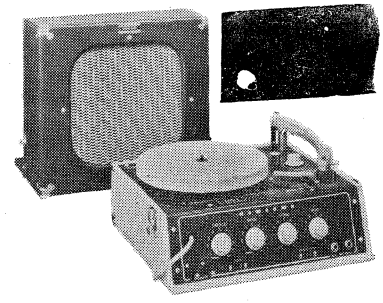
T-112R

Additional speaker for use with TR-16 systems. Consists of a matching 12" Alnico 5 PM dynamic speaker with 25-foot cable. WEIGHT: 12 pounds. LIST: **$65.85.**

MICROPHONE CR-11

Hand or desk microphone for use with all Newcomb TR models and R-16 series. Operates on a new controlled reluctance principle that combines good voice reproduction with extreme ruggedness. Not affected by humidity or temperature variation. Convenient on-off switch. Complete with 7-foot cable shielded plug and unique mounting bracket for carrying in system case. LIST: **$23.75.**

All Newcomb equipment U/L Approved.



MODEL TR-16AM

Versatile single speaker transcription player and p.a. system combined, packs into one case. Plays records to 17¼" at all three speeds. Variable speed control with Newcomb Speed-O-Scope for easy setting to exact speed setting or slowing to speed required by instructor, with no wows. Heavy 10-inch turntable. G.E. variable reluctance pickup with twist-type dual needles in a 12" cast metal tone arm and needle pressure adjustment. Scratch suppressor. Individual bass and treble controls. Microphone input unaffected by record bass control. Large 12" Alnico 5 PM speaker built into removable lid with 25-foot cable. Exclusive Newcomb "floating sound". Fabricoid covered case. 10 watt 100% AC operated amplifier. WEIGHT: 33 pounds. SIZE: 14⅝" x 15¾" x 11¾". LIST: **$257.50.**

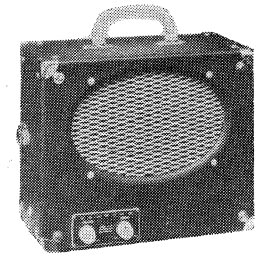
MODEL TR-16C

Similar to the TR-16AM (above) except without the scratch suppressor switch and the pickup cartridge is a heat and humidity resistant ceramic type encased in a sturdy metal arm. LIST: **$233.25.**

MODEL TR-16AM-2

A two-case, two-speaker version of the TR-16AM. The division of the system into two cases gives best weight distribution for easiest handling. Amplifier and turntable case assembly, 16¼" x 16¼" x 7-7/7" in size, and weighs 27 pounds. The two 12" speakers fit into one case 16¼" x 16¼" x 12", and weighs 19 pounds (25-foot cable with each). LIST **$315.85.**

New MUSIC MONITOR



MODEL M-5

Designed for use by callers of square or round dancing, with the Newcomb TR-25 series systems only. Provides clear monitoring of the music only, without the voice to confuse the caller. Self-contained 5 watt amplifier system complete with built-in 9" oval speaker designed specifically for connection to the special Phono-Monitor jack of the TR-25 series. Has its own volume and tone control conveniently located on the front. Portable unit, in sturdy case covered with fabricoid. WEIGHT: 10 pounds. SIZE: 12" x 9½" x 5½". U/L Approved. LIST: **$99.50.**

Prices and specifications subject to change without notice.

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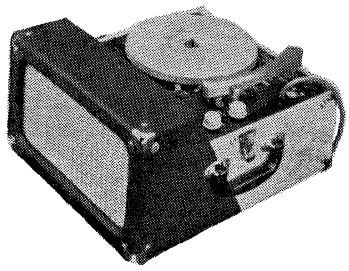


THE Ballerina

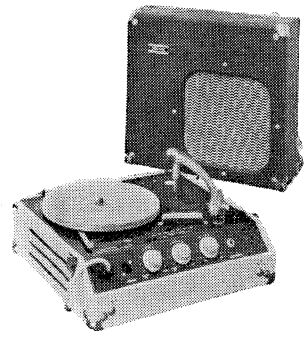
MODEL C-12V

High fidelity portable phonograph, plays 33-1/3, 45, 78 RPM records, with Newcomb variable speed control to permit slowing any record to the exact speed desired for dance instruction. Big 11-inch extended range speaker. Heat and humidity resistant ceramic pick-up cartridge in cast metal arm with dual needles, protective drop pad and screw type hold down clamp. Exclusive Newcomb "floating sound" vibration absorbing feet protect against needle skipping. Compensated volume control, wide range tone control. 5-watt transformer powered inverse feedback circuit amplifier. Sturdy 3/8" plywood carrying case covered with washable maroon and grey fabricoid. U/L Approved. WEIGHT: 21 pounds. SIZE: 16" x 14⅛" x 8". LIST: **$126.75** (plus excise tax).

THE Coloratura MODEL C-12

3-speed high fidelity phonograph the same as above but without variable speed feature. Plays all 33-1/3, 45, and 78 RPM records with lifelike tone. Big 11-inch speaker and other features as listed above. LIST: **$104.50** (plus excise tax).

COMBINATION TRANSCRIPTION PLAYER / P.A. SYSTEM WITH VARIABLE SPEED (Model R-16CV)

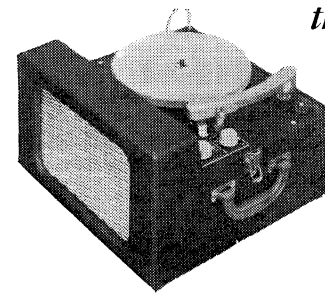


A complete portable system for playing transcriptions or records up to 17¼", with microphone input and separate volume control to permit mixing microphone with recorded music. Dependable continuously variable control of speed at all three settings (33-1/3, 45 and 78 RPM). Full starting torque at any speed. Sturdy 12" cast metal transcription type pick-up arm with adjustable needle pressure. Heat and humidity resistant ceramic cartridge, with jewelled, easy-to-replace needles. Protective pad for needle drop. Screw-type hold-down clamp for arm in transit. Newcomb "floating sound" vibration absorbing feet protect against needle skipping. Balanced-design 5-watt inverse-feedback-controlled, transformer-powered amplifier, humidity protected output transformer. Removable 10" speaker has a 25-foot cable for use at a distance from amplifier. Compensated record volume control and wide range tone control. Fabricoid covered 3/8" plywood carrying case with metal corners, kickproof metal speaker grill. U/L Approved. WEIGHT: 22 pounds. SIZE: 14" x 15" x 8⅝". LIST: **$149.50** (plus excise tax).

MODEL R-16C

Same as above but without variable speed feature. Has 3-speed turntable motor. Ceramic pick-up, heat and humidity resistant. LIST: **$126.75** (plus excise tax).

All prices and specifications subject to change without notice

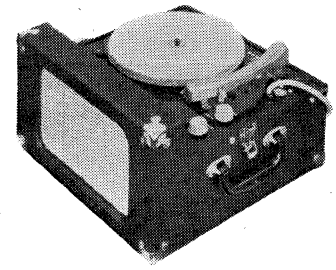


the "Pacemaker"

MODEL P-12C

The lowest price ever for a Newcomb portable phonograph. Plays 33-1/3, 45 and 78 RPM records to 12".

FEATURES: Big 7" oval speaker, inverse feedback controlled beam powered amplifier, humidity protected output transformer, compensated volume control, wide range tone control, pilot light to indicate when on. Heat and humidity resistant ceramic cartridge encased in a sturdy cast metal arm with positive screw-type hold down clamp. Dual sapphire needle points give long life to records. Rubber crash pad. Maroon and grey fabricoid cover over 3/8" plywood case. U/L Approved. WEIGHT: 16 pounds. SIZE: 14⅛" x 14⅛" x 8". LIST: **$74.95** (plus excise tax).



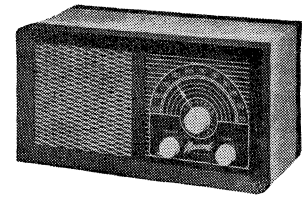
the "Soloist"

MODEL R-12

High fidelity portable three speed phonograph with big 9-inch extended range speaker and 5-watt amplifier. Newcomb "floating sound" vibration absorbing feet protect against skipping. Turnover-type, two-needle, wide-range crystal pick-up. Cast metal pick-up arm with positive screw-type hold down clamp. Fine transformer powered 5-watt inverse feedback controlled amplifier. Wide-range tone control. Compensated volume control. Sturdy 3/8" plywood case covered with washable fabricoid U/L Approved. WEIGHT: 20 pounds. SIZE: 14⅛" x 14⅛" x 8". LIST: **$89.95** (plus excise tax).

MODEL R-12C

A ceramic pick-up version of the famous R-12 (above) for use in areas of exceptionally high heat and humidity. LIST: **$94.50** (plus excise tax).



SCHOOL AM RADIO

MODEL B-100

Rugged long-range AM radio for schools, etc. Big 6-inch extended range speaker. Transformer powered AC construction. Extreme sensitivity designed for fringe areas. Amplifier utilizes inverse feedback circuit and beam powered output. Output jack for headset, or for use in supplying AM radio to public address system. Twist proof stringless full-vision dial. Unbreakable plexiglass dial cover. Heavy metal grill protects speaker. Covered in two-tone fabricoid material. WEIGHT: 13¼ pounds. SIZE: 7⅝" x 14¼" x 8". LIST: **$85.95** (plus excise tax).

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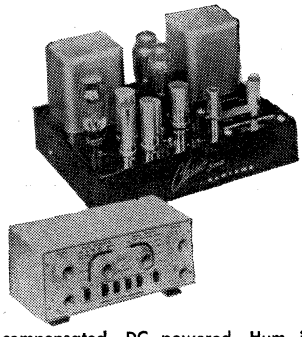
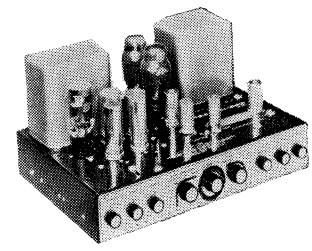
NEWCOMB | HIGH FIDELITY AMPLIFIERS

CLASSIC SERIES



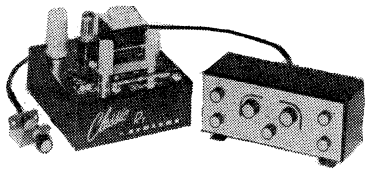
MODEL 2500R

Remote controlled Laboratory Standard amplifier / preamp. Satin gold finished remote chassis 3¾" x 3⅞" x 9". Main chassis 15" x 10¾" x 7¾". Remote unit may be used up to 100 feet from main chassis. Response inherently excellent to 100,000 cycles. Deviates less than 1/10 db between 10 and 30,000 cycles. Distortion less than 1/100% up to 10 watts. Less than 2/10% at 20 watts and less than 1% at 25 watts. Preamp fully compensated, DC powered. Hum is better than 95 db below 25 watts. Exclusive "Audi-Balance" (pat. applied for) developed by Newcomb assures perfect, easily maintained, balance of output tubes year after year. Separate bass crossover and treble rolloff controls, each with six positions to permit 36 recording curves to be duplicated. Dual range bass and treble tone controls. Bass range, —16 db to +23 db. Treble range, —25 db to +23 db. Panel controlled rumble filter. Separate loudness and level controls work as a team to bring every possible volume level without loss of frequency response. Seven inputs for radio, dynamic microphone, two magnetic pick-ups, crystal pick-up, tape recording, and aux. "Petite" no-glare pilot light. Outputs include a special jack for tape recording. Speaker output matches 8 or 16 ohm speakers. TUBES: (main chassis) 2-12AX7, 1-12AU7, 2-6L6G, 1-5U4G. (Remote control unit) 1-12AX7, 1-12AV6. WEIGHT: 33 pounds AUDIOPHILE NET: **$297.50.**



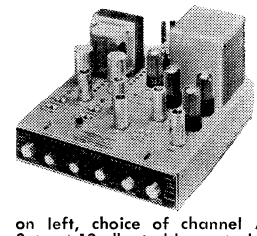
MODEL 2500

Laboratory Standard "Classic" 25 watt amplifier / preamp unit, built into one chassis but otherwise the same as 2500R (left). Exclusive patented "Adjusta-Panel", developed by Newcomb, allows easy installation in a cabinet, or it may be built in without additional control panel equipment. TUBES USED: 2-12AX7, 2-12AU6, 2-6L6G, 1-5U4G. SIZE: 15" x 10¾" x 7¾". WEIGHT: 30 lbs. AUDIOPHILE NET: **$249.50.**



MODEL R-7

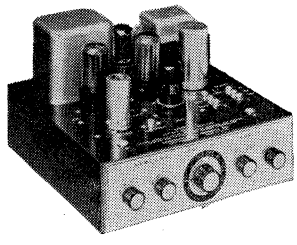
Modernize present amplifiers with this remote controlled preamp which may be added to present equipment. Will operate as far as 50 feet from the hi-fi system. All controls necessary for operation of equipment on the panel of this remote unit, which is only 3¾" x 3⅞" x 9". Beautiful cabinet will complement the decor of any home setting. Frequency response ±1 db at 10 to 30,000 cycles. Seven inputs including radio, dynamic microphone, two magnetic pick-ups, crystal pick-up, tape recorder, and auxiliary jack for TV. Tape output permits listening while recording. Panel controls include bass tone control, range —17 db to +20 db; treble tone control, range —20 db to +18 db; input and rumble filter selector; six position bass crossover selector; six position treble selector; level control; loudness control, "Petite" pilot light on front panel of remote unit. MAIN CHASSIS SIZE: 9" x 8" x 5½". WEIGHT: 9¾ pounds complete. TUBES: 2-12AX7, 2-6AU6, 1-6X5GT. AUDIOPHILE NET: **$149.50.**



MODEL 3-D12

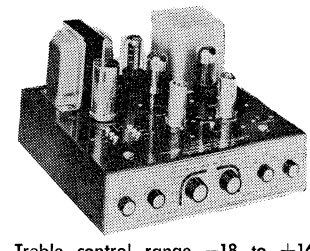
Two-channel stereophonic amplifier, for use in reproducing either stereo or monaural programs from records, radio, or tape. Separate bass and treble controls in distortion-free circuitry provide for control of both channels simultaneously. Channel selector provides choice of stereo or "enhanced" monaural reproduction, reverses channels to put "violins" on left, choice of channel A or B separately, base control range 0 to +18 db, treble control range —24 to +13 db. Fletcher-Munson compensated volume control for utmost low level realism. Response ±1 db 20-20,000 cycles. Hum and noise 80 db below 12 watts. POWER OUTPUT: Each channel, 12 watts at less than 2%. 10 watts at less than 1%. Output impedance 8 and 16 ohms to speakers at each output strip. Inputs to both channels provide for crystal pickups, high level magnetics (.008 volts), low level magnetics (.025 volts), radio (1 volt), tape (1 volt). SIZE: 12⅛" wide, 12½" deep, and 7⅜" high. WEIGHT: 19 lbs. AUDIOPHILE NET: **$179.50.**

'D' SERIES



MODEL D-10

Fine quality, yet low in price. Less than 1% distortion at its 10 watt rated power output. Response is 20 to 20,000 cycles ±1 db. Six position record crossover selector, for six basic recording curves. Separate bass and treble tone controls in new "Interlocking" tone circuit. Built-in rumble filter. Tape recorder jack permits recording while listening. Built-in preamp for use of magnetic pick-up. SIX INPUTS INCLUDE: Radio, dynamic microphone, two magnetic pick-ups, crystal pick-up and tape recorder. Hum balance control maintains lowest hum. Hum is better than 75 db below 10 watts. Patented "adjusta-Panel" for easy installation. SIZE: 9" x 9" x 6". WEIGHT: 9 lbs. POWER CONSUMPTION: 60 watts. 117 volts, 60 cycles, A.C. only. TUBES: 1-6SC7, 1-12AX7, 2-6V6GT, 1-6AX5GT. AUDIOPHILE NET: **$69.50.**



MODEL D-12

Here are quality features at an amazingly low price. Response of this 12 watt combination amplifier / preamp is 20 to 100,000 cycles with deviation less than ±1 db between 20 and 20,000 cycles. Distortion at 12 watts is less than 1%. Separate dual range bass and treble tone controls. Bass control range —15 db to +18 db. Treble control range —18 to +16 db. Separate bass and treble crossover controls provide up to 36 different curves to precisely match any recording curve. Rumble filter may be cut in or out. Loudness control with special frequency compensation to correct for hearing losses at low volume. Hum balance control for magnetic pick-ups. Hum is better than 80 db below 12 watts. INPUTS INCLUDE: Radio, dynamic microphone, two magnetic pick-ups, crystal pick-up, and tape recorder jack permits monitoring programs being recorded. Patented Newcomb "Adjusta-Panel". Output impedances 8 and 16 ohms. SIZE: 10" x 10" x 6¾". POWER CONSUMPTION: 75 watts, 117 volts, 60 cycles. WEIGHT: 12 pounds. TUBES: 2-12AX7, 2-6V6GT, 1-5Y3. AUDIOPHILE NET: **$99.50.**

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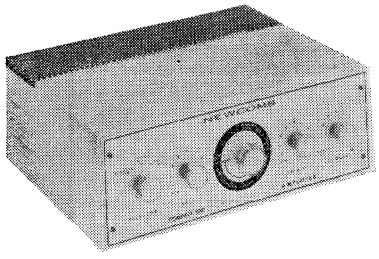
NEWCOMB

DECORATOR-STYLED AMPLIFIERS AND TUNERS

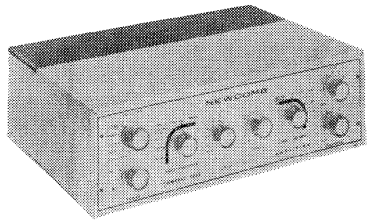
COMPACT SERIES HIGH FIDELITY AMPLIFIERS

COMPACT 1010 AMPLIFIER



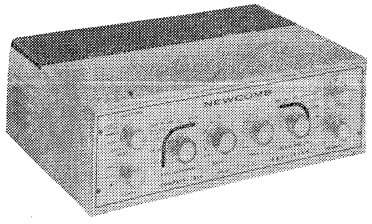
Complete 10 watt amplifier/preamp and control unit only 3 13/16" high, 7 7/8" deep, and 9 1/4" wide. Response 20 to 20,000 cycles ±1 db. Distortion below 1% at 10 watts. Panel controls include: (1) input and rumble filter selector; (2) bass control range −24 to +16 db; (3) recording curve selector providing a choice of 6 important curves; (4) treble tone control range −27 to +14 db; (5) loudness control and power switch. Loudness compensation is removable by switch. INPUTS: Radio, microphone, 2 magnetic pick-up, crystal pick-up, and tape. "Output-to-tape" jack for recording while listening. Features removable etched panel and patented Newcomb "Adjusta-Panel" for easy installation in cabinetry where desired. Hum balance control. Hum is better than 75 db below 10 watts. Non-glare "Petite" pilot light. 8 and 16 ohm output impedances. TUBES: 2-12AX7, 2-6V6, 1-6AX5GT. WEIGHT: 8½ pounds. AUDIOPHILE NET: **$89.50.**

COMPACT 1012 AMPLIFIER



High performance 12 watt amplifier and preamp unit of unusually high gain. Only 4⅛" high, 9⅛" deep, and 12½" wide. Response inherently good to 100,000 cycles, with performance well within the rating of ±1 db at 20 to 20,000 cycles. Distortion less than 1% at 12 watts. Eight panel controls include: (1) power switch; (2) 5-position input and rumble filter selector; (3) 6-position bass crossover selector; (4) 6-position treble rolloff selector; (5) bass tone control range −24 to +16 db; (6) treble tone control −27 to +16 db; (7) level control gives maximum effectiveness to loudness control compensation; (8) loudness control, frequency compensated. INPUTS: Radio, microphone, 2 magnetic pick-up; crystal pick-up, tape, and auxiliary. "Output-to-tape" for recording while listening. Features removable etched panel and patented Newcomb "Adjusta-Panel" for easy installation in cabinetry where desired. "Petite" Pilot light. Output 8 and 16 ohms. Hum balance control. Hum 80 db below 12 watts. TUBES: 2-12AX7, 1-6AU6, 2-6V6, 1-5Y3. WEIGHT: 15½ pounds. AUDIOPHILE NET: **$129.50.**

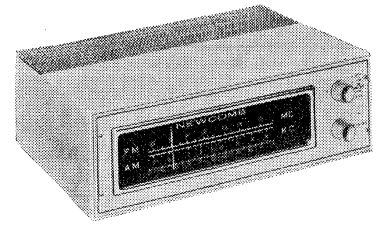
COMPACT 1020 AMPLIFIER



Combination amplifier/preamp rated at 20 watts. Engineered for the most critical of perfectionists, the design combines high power (20 watts at less than 1% distortion) with unusually low average level distortion (less than .05%). Response, inherently excellent to 100,000 cycles is within ±1 db at 20 to 20,000 cycles. Eight panel controls include: (1) power switch; (2) 5-position input and rumble filter selector; (3) 6-position bass crossover selector; (4) 6-position treble rolloff control; (5) bass tone control range −24 db to +16 db; (6) treble tone control range −27 db to +16 db; (7) level control gives maximum effectiveness to loudness control; (8) loudness control. INPUTS FOR: Radio, microphone, 2 magnetic pick-ups, crystal pick-up, tape, and auxiliary. "Output-to-tape" jack to permit recording while listening. Hum balance control. Hum 80 db below 20 watts. Features removable etched panel and patented Newcomb "Adjusta-Panel" for easy installation in cabinetry where desired. Output impedances 8 and 16 ohms. TUBES: 1-6AV6, 2-12AX7, 2-6L6GB, 1-5U4GA. WEIGHT: 20½ pounds. AUDIOPHILE NET: **$159.50.**

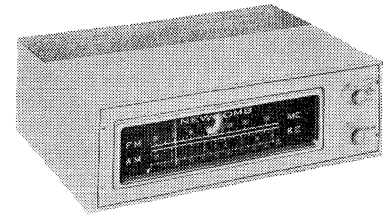
COMPACT SERIES HIGH FIDELITY FM-AM TUNERS

COMPACT 100 TUNER



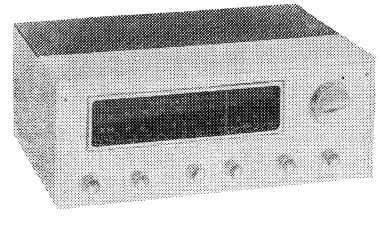
An economical self-powered 2-knob FM-AM tuner of dependable high fidelity performance. For use with amplifier having its own controls. It features an important new multiplex output jack that makes it adaptable for reception of stereophonic or binaural broadcasts. Smooth flywheel tuning action. Temperature controlled oscillators and snap-in automatic frequency control for FM with a defeat switch. Advanced FM detector system with double limiting action which, with other circuit advantages, decreases distortion at all modulation percentages, gives excellent adjacent channel rejection, and provides effective limiting on weak as well as strong signals. Output 2 volts at less than 1% distortion. Radiation far below minimum FCC requirements. OUTPUTS (3): One FM multiplex; one to amplifier; one to recorder. All high impedance. FM section sensitivity 5 microvolts for 30 db of quieting. Response ±1 db 20 to 20,000 cycles. Accepts 72 or 300 ohm antennas. AM sensitivity is 25 microvolts. Bandwidth 8 KC. SIZE: 12½" x 9" x 4⅛". WEIGHT: 10½ lbs. AUDIOPHILE NET: **$129.50.**

COMPACT 200 TUNER



Deluxe 2-knob FM-AM tuner with fast-acting visual tuning eye for both FM and AM. For use with amplifier having its own controls. Superior reception even in poor signal areas. Special multiplex output jack makes it adaptable for reception of stereophonic or binaural broadcasts. Smooth acting fly-wheel tuning knob. Temperature-controlled oscillators. Snap-in automatic frequency control (AFC) for FM with a defeat switch. New FM detector system with triple limiting action. Maximum output 10 volts. Audio response ±½ db. 20 to 20,000 cycles. Distortion less than 2/10% at 5 volts. Hum is better than 75 db below 10 volts. Radiation far below minimum FCC requirements. OUTPUTS (3): One FM multiplex, one to amplifier, and one to tape recorder. Cathode follower allows placement up to 200 ft. from amplifier. FM section: RF stage. Sensitivity 2 microvolts for 30 db of quieting. Accepts 72 or 300 ohm antennas. AM sensitivity is 5 microvolts. Bandwidth 8 KC. SIZE: 12½" x 9" x 4⅛". WEIGHT: 11 lbs. AUDIOPHILE NET: **$169.50.**

COMPACT 712 AMPLIFIER-TUNER



COMBINATION FM-AM tuner, 12-watt amplifier, preamp, and controls in one beautiful decorator-styled case. Edge-lighted tuning dial, velvety flywheel tuning. FM sensitivity exceeds 5 microvolts for 30 db of quieting. Radiation far below FCC requirements. Automatic frequency control (with defeat switch), temperature-controlled oscillators for drift-free FM. Amplifier 20-20,000 cycles ±1 db. Total harmonic distortion less than 1% at 12 watts. Multiplex jack for FM multiplex reception. 6-position record response control. Level and loudness controls, 8-position program selector. Inputs for magnetic pickups, crystal, tape, and aux. Size 14 5/8" x 5 5/8" x 10". WEIGHT 20 lbs. AUDIOPHILE NET: **$249.50.**

Specifications and prices subject to change without notice.

NEWCOMB AUDIO PRODUCTS CO. • HOLLYWOOD 38, CALIFORNIA

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Net

Electro-Voice POWER AMPLIFIERS

NEW E-V CIRCLOTRON POWER AMPLIFIERS

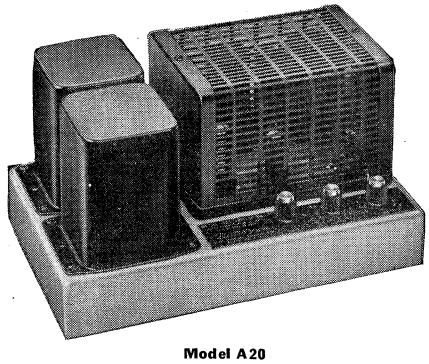
FEATURING . . .

- **CIRCLOTRON CIRCUIT**
- **EXCLUSIVE CRITICAL DAMPING CONTROL**
- **MODERN STYLING**

A complete, beautifully-styled line—the result of a new approach to design and development of high-fidelity amplifiers. All power amplifiers and preamplifiers, except Model A100, feature a brushed-brass and rich brown baked enamel finish. Custom knobs have matching finish. The fine styling of these beautiful amplifiers matches E-V's new companion line of stereophonic FM-AM tuners and will blend with contemporary room decors.

E-V's New Circlotron Circuit removes all DC output current from the output transformer through the use of a bridge circuit. All switching transients are eliminated through unity coupling between output tubes. Allows cool optimum, efficient utilization of output tubes . . . extends their life . . . reduces distortion. The primary impedance of the output transformer is one quarter of that found in conventional amplifier output circuits, allowing an increase in power output at extremes of the frequency spectrum.

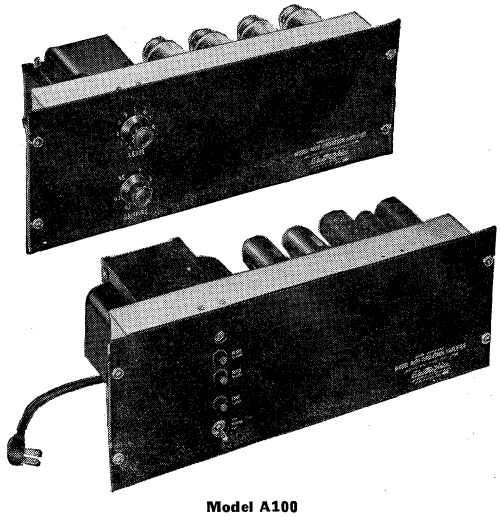
E-V's New Critical Damping Control permits perfect match of amplifier to the critical damping resistance of the loudspeaker, as well as to type of enclosure. Operates optimumly into the variable impedance of a speaker load rather than a purely resistive load as in previous amplifiers. Control eliminates speaker bass losses from over-damping . . . minimizes low-frequency distortion . . . subdues hangover due to underdamping. Assures most efficient sound reproduction. Control is continuously variable, covering all commercially available high-fidelity speakers and enclosures.



Model A20

Model A15 Circlotron Amplifier—Power output: 15 watts rated, 30 watts on peaks. Response: ±.5 db 20-50,000 cps. Harmonic distortion at rated output less than 0.3%. Intermodulation distortion at rated output less than 0.9%. Hum and noise level: 85 db below rated output. Output impedances: 4, 8, 16. Feedback: 38 db negative. Damping factor: Adjustable between 0.1 and 15. Tubes: 6 tubes as follows: 1-12AX7, 1-12BH7A, 2-EL84, 2-6X4. 110-120 volts 60 cycle AC. Size: 12¼" w., 8¼" d., 5⅞" h. Shipping Weight, 18 lbs. Net.....**$69.50***

Model A20 Circlotron Amplifier—Power output: 20 watts rated, 40 watts on peaks. Response: ±.5 db 20-60,000 cps. Harmonic distortion at rated output less than 0.5%. Intermodulation distortion at rated output less than 1%. Hum and noise level: 85 db below rated output. Output impedances: 4, 8, 16. Feedback: 33 db negative. Damping factor: Adjustable between 0.1 and 15. Tubes: 6 tubes as follows: 1-12AX7, 1-12BH7A, 2-6V6GT, 2-6X4. 110-120 volts 60 cycle AC. Size: 12¼" w., 8¼" d., 6¾" h. Shipping Weight, 21 lbs. Net.....**$85.00***



Model A100

Model A30 Circlotron Amplifier—Power output: 30 watts rated, 60 watts on peaks. Response: ±.5 db 20-75,000 cps. Harmonic distortion at rated output less than 0.3%. Intermodulation distortion at rated output less than 0.5%. Hum and noise level: 85 db below rated output. Output impedances: 4, 8, 16, and 70-volt line balanced. Feedback: 28 db negative. Damping factor: Adjustable between 0.1 and 15. Tubes: 6 tubes as follows: 1-12AX7, 1-12BH7A, 2-1614, 2-5X3GT. 110-120 volts 60 cycle AC. Size: 13¾" w., 9" d., 7" h. Shpg. Wt., 24 lbs. Net.....**$108.00***

Model A50 Circlotron Amplifier—Power output: 50 watts rated, 100 watts on peaks. Response: ±.5 db 20-75,000 cps. Harmonic distortion at rated output less than 0.5%. Intermodulation distortion at rated output less than 1%. Hum and noise level: 85 db below rated output. Output impedances: 4, 8, 16, and 70-volt line balanced. Feedback: 30 db negative. Damping factor: Adjustable between 0.1 and 10. Tubes: 6 tubes as follows: 1-12AX7, 1-12BH7A, 2-6550, 2-5U4GB. 110-120 volts 60 cycle AC. Size: 16½" w., 10½" d., 8½" h. Shpg. Wt., 45 lbs. Net...**$169.00***

Model A100 Circlotron Amplifier—Power output: 100 watts rated, 200 watts on peaks. Response: ±.5 db 20-50,000 cps. Harmonic distortion at rated output less than 0.5%. Intermodulation distortion at rated output less than 1.2%. Hum and noise level: 85 db below rated output. Output impedances: 4, 8, 16 unbalanced, 70 volts balanced, 600 ohms balance available in chassis. Feedback: 29 db negative. Damping factor: Adjustable between 0.1 and 10. Tubes: 8 tubes as follows: 1-12AX7, 1-12BH7A, 4-6550, 2-5U4GB. 110-120 volts 60 cycle AC. Two units, each 19" w., 8" d., 7" h. Shpg. Wt., 85 lbs. Net **$261.00***

*Price slightly higher west of the Rocky Mountains.

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Electro-Voice AMPLIFIERS, TUNERS

E-V AMPLIFIERS, MUSIC CONTROL CENTERS, FM-AM TUNERS

Model A15CL Music Control Center and 15-Watt Power Amplifier—Handsomely styled, finished in rich brown and mocha. Incorporates E-V Circlotron circuit. Similar in appearance to Model A20CL. Power output: 15 watts rated, 30 watts peak. Frequency response 20 to 20,000 cps ±1.5 db. Distortion: Harmonic less than 0.5%, I.M. less than 1.2%. Hum and noise: 75 db below rated output, −60 db magnetic channel. Controls include Power—Bass, Treble, Volume, Playing Selector (tuner, phono [RIAA, EUR], tape, TV), Phono-Selector switch, Variable Damping. Output impedances: 4, 8, 16 ohms. Also includes tape recording output and switched AC outlet. Tubes: 3-12AX7, 1-12BH7A, 2-EL84, 2-6X4. 110-120 volts 60 cycle AC. Size: 15″ w., 12″ d., 4⅛″ h. Shipping Weight, 21 lbs. Net.....**$99.50***

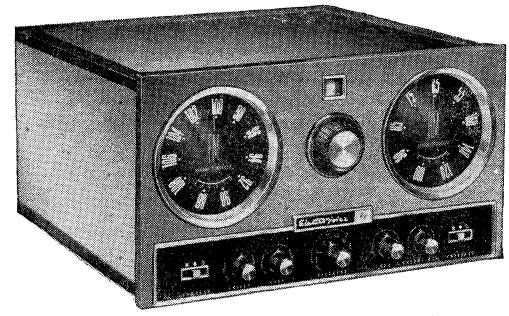
Model A20CL

Model A20CL Music Control Center and 20-Watt Power Amplifier—Beautifully styled, finished in rich brown and mocha to compliment E-V Tuners. Features Circlotron circuit and unique "Presence" control; 20 watts rated, 40 watts peak output. Response 20 to 20,000 cps ±1.0 db. Distortion: Harmonic, less than 0.5%; I.M., less than 0.8%. Hum and noise: 75 db below rated output, −60 db magnetic channel. Controls include Playing Selector (tuner, phono [RIAA, LP, EUR 500X, EUR 300X, 78-500X, 78-300X], tape, TV, Aux.). Loudness, Presence, Power—Bass, Treble, Volume, Phono-Selector switch, Variable Damping. Output impedances: 4, 8, 16 ohms. Also has one switched and one live AC outlet and tape recording output. Tubes: 3-12AX7, 1-12BH7A, 2-6V6GT, 2-5Y3GT. 110-120 volts 60 cycle AC. Size 15″ w., 12″ d., 4⅛″ h. Shipping Weight, 23 lbs. Net. **$124.50***

Model PC1

Model PC1 Music Control Center—Similar to Model A20CL in styling and finish. Serves as control for power amplifiers; has self-contained shielded, low-noise power supply. Features exclusive E-V "Presence" control. Response ±1 db 20 to 20,000 cps. Distortion: Harmonic, less than 0.3%; I.M., less than 0.5%. Hum and noise: 75 db below rated output, −65 db magnetic channel. Other controls include Playing Selector (tuner, tape, TV, Aux.; RIAA, LP, EUR 500X, EUR 300X, 78-500X, 78-300X phono compensation), Loudness, Bass, Treble, 3-position Bass Cut, 3-position High Cut, Volume, Power. Includes record output jack, and four individual level balance controls, switched and live AC outlets. Tubes: 2-12AX7, 1-12AT7, 1-6X4, 110-120 volts 60 cycle AC. Size: 15″ w., 8¼″ d., 4⅛″ h. Shpg. Wt., 12 lbs. Net.**$99.50***

Model PC2 Music Control Center—Similar in appearance to Model PC1. Provides control for power amplifiers; has self-contained shielded, low-noise power supply. Response and distortion: Same as PC1. Hum and noise: 70 db below rated output; −60 db magnetic channel. Controls include Playing Selector (tuner, tape, TV; RIAA, EUR phono compensation), Power—Bass, Treble, Volume, Includes record output jack, magnetic-ceramic switch, switched AC outlet. Tubes: 2-12AX7, 1-6X4. 110-120 volts 60 cycle AC. Size: 15″ wide, 6¼″ d., 4⅛″ h. Shipping Weight, 11 lbs. Net.....**$67.00***



Model 3303

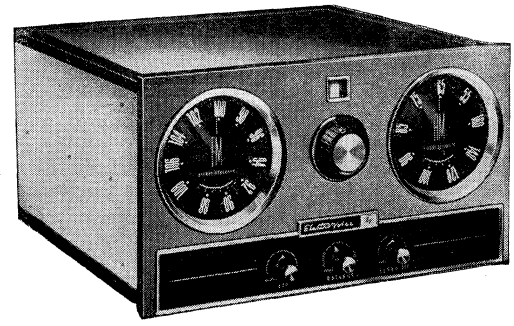
ELECTRO-VOICE STEREOPHONIC FM-AM TUNERS

Model 3303 FM-AM Tuner with Preamplifier—Custom-styled high-fidelity tuner with latest deluxe circuit features. Combines excellent sensitivity, micro-accurate tuning and drift-free operation. Completely independent AM and FM sections, including separate tuning dials, permit reception of stereophonic broadcasts. Included among its features are dual signal strength meters, magic eye tuning aid, preamplifier with individual power supply.

Other features include dual limiters, cascode RF stage and audio squelch circuit in FM section to provide extreme sensitivity and noise rejection; variable AFC allows complete versatility in tuning. Unique AM section has squelch circuit as well as RF amplifier stage; 10 kc whistle filter eliminates interstation heterodyning. Additional FM and AM output jacks bypass preamplifier allowing simultaneous separate operation if desired. Sensitivity: FM, 1 μv for 20 db quieting; AM, 1 μv for 6 db noise reduction.

Preamplifier section has cathode follower output and record output jack. Response ±1 db 20 to 20,000 cps. Distortion: Harmonic, less than 0.3%; I.M., less than 0.5%. Hum and noise: 75 db below rated output, −65 db magnetic channel. Rated output: 1.25 volts from cathode follower output, 0.5 volt from record out jack. Controls: Selector for tuner, tape, TV, auxiliary and phono inputs; 3-position "Presence" switch; 3-position loudness control; 6-position equalizer, phono switch (magnetic or ceramic-crystal); bass, treble and volume.

Tubes: 1-6J6, 1-6BK7A, 2-12AX7, 3-12AT7, 1-6AL5, 1-6U8, 3-6BA6, 3-6AU6, 1-6BE6, 1-1N294 diode plus 5Y3GT, 6X4 rectifiers and 6AL7 tuning eye. Finished in handsome Mocha baked enamel with dark brown escutcheon and brushed brass trim. Mocha chassis with brown cover. 15″ w., 15¾″ d., 8¼″ h. For operation with 110-120 volts 60 cycle AC. Shipping Weight, 30 lbs. Net.....**$279.50***



Model 3304

Model 3304 Basic FM-AM Tuner—Similar to Model 3303 but for use with separate preamp and amplifiers having complete set of controls. Has AFC, volume and FM-AM level balance controls. Tubes: 1-6J6, 1-6BK7A, 1-12AX7, 2-12AT7, 1-6AL5, 1-6U8, 3-6BA6, 3-6AU6, 1-6BE6, 3-1N294 diodes plus 5Y3GT rectifier and 6AL7 tuning eye. Size 15″ w., 15¾″ d., 8¼″ h. For 110-120 volts 60 cycle AC. Shipping Weight 29 lbs. Net.....**$239.50***

*Price slightly higher west of the Rocky Mountains.

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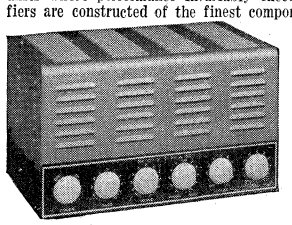
Net

McGOHAN

PUBLIC ADDRESS AMPLIFIERS and SYSTEMS

McGohan Amplifiers have long been recognized as high quality, sensibly priced units whose performance invariably exceeds the rated specifications. These amplifiers are constructed of the finest components to assure you a dependable performance under the toughest operating conditions. Each is capable of fine fidelity distortionless sound at its full rated output. All units are guaranteed for 1 year, exclusive of tubes. A few typical amplifiers and systems are listed below.



50 WATT AMPLIFIER

A high power amplifier capable of handling the public address requirements of theatres, auditoriums, factories, etc. With the proper trumpets this powerful unit will cover up to 180,000 square feet. It has less than 3% distortion at 50 watts, less than 5% at 60 watts. There are 3 microphone inputs and 1 phono input. The M-50 uses the new 6550 tubes.

Power Output: 60 watts at less than 5% distortion. 50 watts at less than 3% distortion. **Frequency Response:** ± 2 db, 30-20,000 cps. **Inputs:** 3 microphone, gain (2 meg) 123 db; phono, gain (½ meg), 80 db. **Output Impedances:** 4, 8, 16, 250, 500 ohms and a 70 v. constant voltage output at 50 watts. **Bass Tone Control:** — 15 to + 15 db. **Treble Tone Control:** — 25 to + 10 db. **Tubes:** 4-6AU6, 2-6SN7GT, 2-6550, 2-5V4G, 1-0C3. **Hum:** — 70 db. **Dimensions:** 15″ x 11½″ x 8¾″. ILLUMINATED PANEL. **Power Consumption:** 165 watts at 117 volts, 60 cycles AC. Weight 40 lbs.

McGohan Model M-50—List Price..... **$220.00**

30 WATT AMPLIFIERS

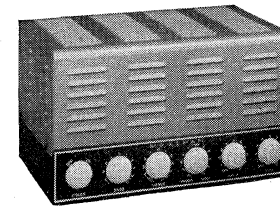
An all-purpose amplifier that is powerful enough for almost any indoor public address installation. Can also be used for outdoor applications up to 100,000 sq. ft. This low distortion unit has three microphone inputs (provision for converting one mike input to magnetic reluctance input equalized to NARTB-RIAA curve), one phono input. Separate bass and treble controls. Six output impedances and a 70 v. constant voltage output at 30 watts.

Power Output: 30 watts at less than 5% distortion, 25 watts at less than 3% distortion. **Frequency Response:** ± 2%, 30-20,000 cps. **Inputs:** 3 microphone, gain (2 meg), 123 db; 1 phono, gain (½ meg), 80 db. **Output Impedances:** 2, 4, 8, 16, 250, 500 ohms and a 70 v. constant voltage output at 30 watts. **Bass Tone Control:** — 15 db to + 15 db. **Treble Tone Control:** — 25 to + 15 db. **Tubes:** 4-6AU6, 1-6SN7, 2-6L6G, 1-5V4G, 1-0A3. **Hum:** 70 db. below.

Power Consumption: 105 watts at 117 v., 60 cycle AC. **Size:** 14″ x 9″ x 8¼″ high. ILLUMINATED PANEL. Silver and gray hammerloid finish. Wgt. 24 lbs

McGohan No. M-30—List Price..... **$130.00**

McGohan No. M-30PH—Same with three-speed phono top with turn-over ceramic cartridge and two sapphire needles. NARTB-RIAA equalization curve. Wt. 31 lbs. List Price..... **$165.00**



30-WATT PORTABLE SYSTEMS

McGohan No. M-30S—Amplifier M-30 plus System A below. Weight 56 lbs.
List Price..... **$227.75**

McGohan No. M-30PHS—Same but with phono top. Weight 63 lbs
List Price..... **$262.75**

30-WATT OUTDOOR SYSTEMS

McGohan No. M-30D—Amplifier M-30 plus System B below. Weight 56 lbs.
List Price..... **$259.00**

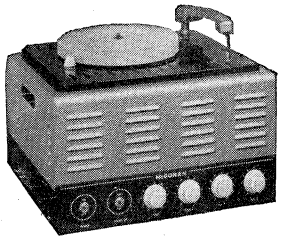
McGohan No. M-30PHD—Same but with phono top. Weight 63 lbs.
List Price..... **$294.00**

30-WATT OUTDOOR SYSTEMS

McGohan No. M-30I—Amplifier M-30 plus System C below. Weight 40 lbs.
List Price..... **$208.00**

McGohan No. M-30PHI—Same but with phono top. Weight 47 lbs.
List Price..... **$243.00**

25 WATT MOBILE AMPLIFIERS



McGohan Mobile Amplifiers operate from either 6 or 12 volt and 117-volt power supplies. Specify if 6 or 12 volt operation is desired. They are ruggedly constructed to withstand the extreme conditions of mobile operation. A standby "battery saver" switch makes for minimum power consumption during mobile operation. Model M-25MPH has built-in 3-speed phonograph with turn-over ceramic cartridge and sapphire needles. NARTB-RIAA equalization curve. Also available without phono top.

Power Output: 25 watts at less than 5% distortion. **Frequency Response:** ± 2 db, 40-18,0000 cps. **Inputs:** 2 microphone, gain (2 meg), 120 db; 1 phono, gain (½ meg), 80 db. **Tone Control Range:** 21 db at 10,000 cycles. One standby "power saver" switch and one heavy duty power switch. **Output Impedances:** 4, 8, 16, 250, 500 ohms and a 70 v. constant voltage output. **Tubes:** 3-6AU6, 1-6SN7GT, 2-6L6G, 2-6X5GT. **Hum:** 70 db below 25 watts. **Power Consumption:** 105 watts at 117 v., 60 cycles AC; 20 amps at 6 v. DC. **Size:** 14½″ x 13″ x 8¼″ high. Silver and gray hammerloid finish. Weight 28 lbs.

McGohan No. M-25MPH—25-watt Amplifier with phono top. List Price..... **$199.75**

McGohan No. M-25M—Same, without phono top. List Price..... **$164.75**

25-Watt Portable Systems. Amplifier with carrying case and System A, plus additional separate carrying case for amplifier.

McGohan No. M-25MPHS—Portable System with phono top amplifier. Weight 71 lbs.
List Price..... **$282.45**

McGohan No. M-25MS—Portable System without phono top. Wt. 64 lbs.
List Price..... **$247.45**

McGohan No. M-25MPHD—Outdoor System with phono top amplifier. Weight 67 lbs.
List Price..... **$330.40**

McGohan No. M-25MD—Outdoor system without phono top. Wt. 60 lbs.
List Price..... **$295.40**

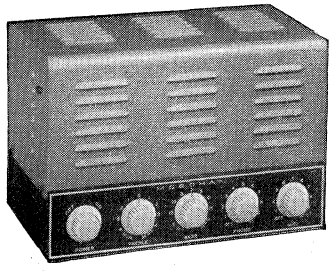
SYSTEMS FOR 25 WATT MOBILE AND 30 WATT AMPLIFIERS

Portable System A consists of luggage type, fabric-covered, 2-piece wood carrying case, 21″ x 13¾″ x 17¾″, with two Jensen 12″ extended range speakers mounted in it. Case separated into two individual speaker baffles. Has ample room for amplifier and accessories. Supplied with 25′ speaker cables and plugs, Astatic HR microphone with 15′ cable and connectors.

Outdoor System B consists of two Jensen Hypex trumpets and Astatic JT-30 microphone with 15′ cable and connectors.

Indoor System C consists of two 12″ Jensen extended range speakers, mounted in neutral two-tone, fabric-covered, non-resonant plywood wall baffles, 14″ x 14″ x 9″, and Astatic JT-30 microphone with 15′ cable and connectors.

10-WATT AMPLIFIERS



The McGohan M-10 has separate bass and treble tone controls and an inverse feedback circuit that supplies 12 watts of power at less than 4% distortion.

SPECIFICATIONS

Power Output: 10 watts at less than 2% distortion. **Frequency Response:** ±1 db, 20-20,000 cps. **Inputs:** Microphone, gain (2 meg.) 123 db; phono, gain 80 db. **Output Impedances:** 4, 8, 16, 250 ohms and a 500 ohm 70 v. output. **Bass Tone Control:** —15 to +16 db. **Treble Tone Control:** —25 to +10 db. **Tubes:** 2-12AX7, 2-6V6GT, 1-5Y3GT. **Hum:** 70 db below 10 watts. **Power Consumption:** 65 watts at 117 v., 60 cycles AC. **Size:** 12″ x 7″ x 8″ high. ILLUMINATED PANEL. Gray and Silver hammerloid finish. Weight 15 lbs.

McGohan No. M-10—List Price..... **$71.00**

10-WATT INDOOR SYSTEM

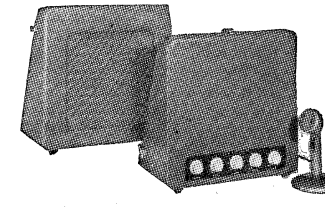
The M-10 Amplifier, a Jensen 12″ extended range speaker mounted in non-resonant plywood wall baffle, Astatic HR microphone with switch and a 15-ft. cable with connectors. Weight 30 lbs.

McGohan No. M-10I—List Price... **$120.00**

10-WATT OUTDOOR SYSTEM

One M-10 Amplifier, one Jensen VH-15 Hypex Trumpet, Astatic HR Microphone and switch, and a 15-ft. cable with connectors. Weight 31 lbs.

McGohan No. M-10D—List Price.. **$144.50**



10-WATT PORTABLE SYSTEM

A compact and versatile unit that answers the need for a small, easily movable PA system. Amplifier and speaker are carried in a single attractive case. System consists of a 10-watt Amplifier, two-piece luggage type wood carrying case with a Jensen 12″ extended range speaker, Astatic HR microphone and switch and 15-ft. cable with connectors. Weight 32 lbs.

McGohan No. M-10S—List Price.... **$143.00**

Prices and specifications subject to change without notice. Prices approximately 5% higher west of Denver.

SEE YOUR DISTRIBUTOR OR WRITE FOR THE COMPLETE McGOHAN CATALOG OF PUBLIC ADDRESS AMPLIFIERS AND SYSTEMS

DON McGOHAN, INC. • CHICAGO 37, ILLINOIS

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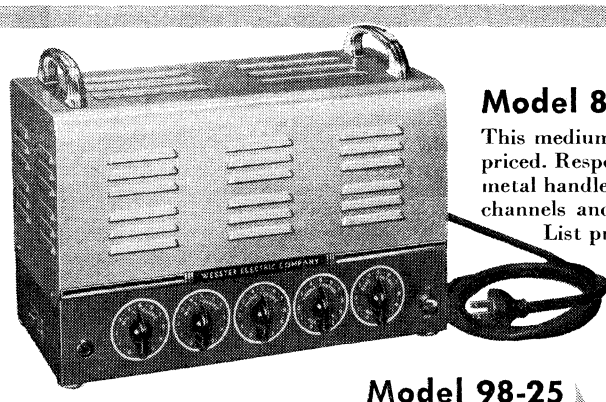
WEBSTER ELECTRIC
RACINE WISCONSIN

Amplifiers and Portable Sound Systems

Here are a few of the most popular sellers from the famous WEBSTER ELECTRIC Amplifier line. Each one represents top dollar-for-dollar value—each one delivers excellent fidelity, fine performance and virtual freedom from maintenance and service problems throughout its long life. Competitively priced for fast turn-over.

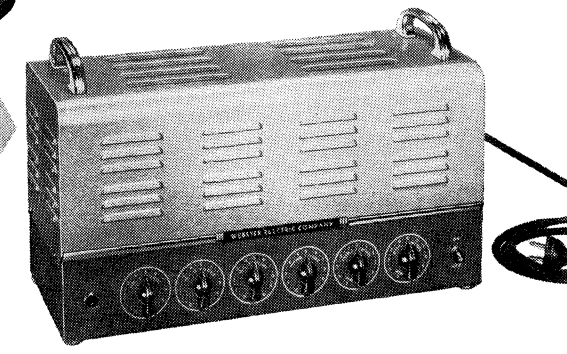


Model 81B-15 15-watt Amplifier

This medium-power, high-gain, 15-watt model is very favorably priced. Response: 60-15,000 cycles within 2 db. All-steel case with metal handles. Separate gain controls for each of the two "mike" channels and phono channel. Selector device to match output. List price **$123.75.**

Model 98-25 25-watt Amplifier

Gives outstanding performance where 25-watt output is needed. Provision for plug-in microphone transformers on each of the three microphone inputs to convert from high impedance to low impedance. Response: 30-15,000 cycles within 2 db. Full range of output impedances; rotary tap switch permits selection. Output-input receptacles, power cord and fuse holder are all located on back panel. List price **$173.75.**

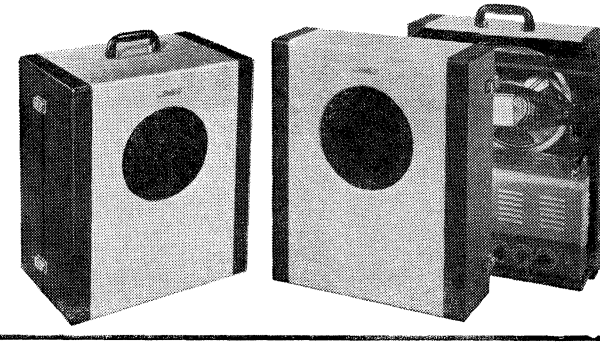


Model 95-25 25-watt Mobile Amplifier

For mobile use outdoors on sound trucks, at fairs and carnivals, etc.; also, indoors, in churches, schools, auditoriums. Operates from 6v. DC or 115v. AC power supply. Has 3-speed phono turntable with lightweight pickup and ceramic cartridge. Response: 50 to 10,000 cycles. All controls on front and sides; has carrying handles. List price **$249.50.**

Model SS-464 Portable Sound System

The **Model SS-464** has two 10" Alnico V-type speakers, mounted in handsome split-type plywood carrying case covered with scuff-proof plastic. Sliding shelf at bottom accommodates our 15 or 25-watt amplifier. Has fine reproduction qualities. List price **$83.75.**



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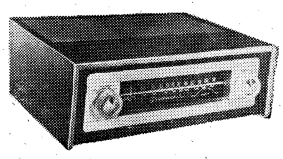
PRECISION ELECTRONICS, INC., FRANKLIN PARK, ILLINOIS

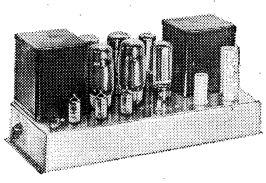


GROMMES MODEL GRT-3 HIGH FIDELITY FM-AM TUNER

Matching FM-AM Tuner for Grommes amplifiers. Tuning simplified by flywheel drive, tuning meter and AFC on FM. Circuit employs tuned RF stage on FM and AM, dual limiters, wide band IF coils with high sensitivity.

Sensitivity—FM: 2 microvolts for 20 DB quieting, AM: 3 microvolts. **Selectivity** — FM: 200 KC, AM: 10 KC bandwidth. **Frequency Response** — FM: ±0.5 DB, 20 to 20,000 CPS, AM: ±3 DB, 20 to 6,000 CPS. **Distortion** — 1% or less. **Hum and Noise** — FM: 65 DB below 100% mod. AM: 55 DB below 100% mod. **Audio section** — One volt average output from cathode follower. AM section includes infinite impedance detector, 10KC whistle filter. **Tubes** — 6BQ7, 6AB4, 12AT7, 6BE6, 2-6BA6, 2-6AU6, 6AL5, 2-12AU7 and 6X4. **Other features** — charcoal gray and brass finish; 12¾ W x 4 H x 9" D; net wgt. 14 lbs.; fused; for 110-120 volts 50-60 cycles.

Net $129.50

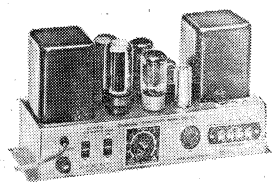


GROMMES 260 60 WATT HIGH FIDELITY BASIC AMPLIFIER

For the ultimate Hi-Fi system! New advanced circuitry with stability built around an Ultra-Linear output stage. Features direct coupling; cathode coupled phase inverter; feedback cathode follower drivers, push pull 6550 tubes with fixed bias. Requires pre-amp such as 212.

Power Output — 60 watts, 120 watts peak. **Distortion** — 0.25% harmonic, 0.5% intermod. at 60 watts; (all distortions under 0.1% at 20 watt level or less). **Frequency Response** — ±.5 DB, 5 to 50,000 CPS. **Power Response** — ±.5 DB, 20 to 20,000 CPS at 60 watts. **Square Wave Response** — Excellent with fundamentals from 10 to 20,000 CPS. with: (1) No load. (2) Resistor load, (3) Capacity load, (4) Speaker load. **Stability** — No oscillation with instantaneous pulses. **Damping Factor** — variable from +3 through infinity. **Negative Feedback** — 25 DB plus current feedback from damping control. **Sensitivity** — 1 volt for full output. **Controls** — (4) Input Gain; Balancing for Output Stage; Bias; DC Balance. **Output** — 4, 8 and 16 ohms. **Hum and noise** — 95 DB below output. **Tubes** — 3-12AU7, 2-6550, 2-5U4GB. **Other features** — Adaptable to rack panel mounting; two fuses; 2 AC outlets; Size: 14 W x 8¼ H x 8" D; Net wgt. 36 lbs; 110 to 120 volts, 50 to 60 cycles AC.

Net $175.00

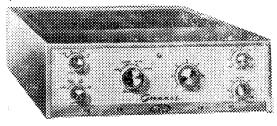


GROMMES 221 20 WATT HIGH FIDELITY BASIC AMPLIFIER

Features exclusive circuitry, high grain, Ultra-Linear output stage, and variable impedance control for exact speaker-matching. An unbeatable combination with the 207 pre-amp.

Power Output — 20 watts; 40 watts peak. **Distortion** — 0.5% harmonic and 1% intermod. at 20 watts. **Frequency Response** — ±0.5 DB, 10 to 50,000 CPS. **Power Response** — ±1 DB, 20 to 20,000 CPS at 20 watts. **Feedback** — 20 DB plus current feedback from damping control. **Damping Factor** — variable from +2 through infinity. **Sensitivity** — 1 volt for 20 watts output. **Output** — 4, 8 and 16 ohms. **Hum and Noise** — 90 DB below rated output. **Tubes** — 2-12AU7, 2-5881/6L6GB and 5U4GB. **Other Features** — Supplies power for pre-amp; fused; 2 — AC outlets; Size 13 W x 4½ D x 6¾" H; wgt. 18 lbs. net; 110-120 volts 50-60 cycles AC.

Net $69.50



GROMMES MODEL 15PG 12 WATT HIGH FIDELITY AMPLIFIER

Deluxe amplifier that is the best buy in the medium priced field. The all-new 15PG has greater flexibility of controls and the most advanced circuitry. Features feedback throughout, separate turnover and roll-off record compensators, new loudness control, wide range bass and treble controls, rumble and scratch filters, 6 inputs including tape head.

Power Output — 12 watts, 20 watts peak. **Frequency Response** — ±0.5 DB, 20 to 30,000 CPS at 1 watt. **Power Response** — ±1 DB, 30 to 20,000 CPS at 10 watts. **Distortion** — 1% harmonic and 2% intermod. at 12 watts. **Feedback** — Better than 70 DB throughout; 15 DB around output transformer. **Controls** — (1) Input selector for Aux; Tuner; Tape; phono. (2) Turnover for Tape head; RIAA 500; LP 500; 300. (3) Roll off for Tape head; 6; RIAA 13.7; LP 16. (4) Loudness. (5) Bass —20 DB to +20 DB at 50 CPS. (6) Treble —15 DB to +15 DB at 10,000 CPS. **Slide Switches** — (1) Rumble filter. (2) Scratch filter. (3) Loudness off-on. (4) Power off-on. **Outputs** — 4, 8, and 16 ohms plus tape. **Sensitivity** — Aux.; Tuner; Tape — .4 volts and mag. phono — .008 volts for 12 watt output. **Hum and Noise** — 75 DB below rated output on high level inputs. **Tubes** — 3-12AX7, 2-6V6GT and 5Y3GT. **Other Features** — charcoal gray and brass finish; Size 12¾ W x 4 H x 9" D; net wgt. 13 lbs.; 2 — AC outlets; fused; 110-120 volts AC.

Net $69.50

GROMMES MODEL 20PG 20 WATT HIGH FIDELITY AMPLIFIER

All the new features of the deluxe 15PG plus higher power in the output stage.

Power Output — 20 watts; 30 watts peak. **Frequency Response** — ±0.5 DB, 15 to 30,000 CPS at 1 watt. **Power Response** — ±1. DB, 27 to 20,000 at 20 watts. **Distortion** — 1% harmonic and 2% intermod. at 20 watts. **Tubes** — 3-12AX7, 2-5881/6L6GB and 5U4GB. **Other Features** — charcoal gray and brass finish; Size 12¾ W x 4¾ H x 9" D; net wgt. 18 lbs.; 2 — AC outlets; fused; 110-120 volts AC.

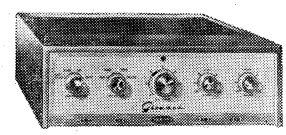
Net $89.50

GROMMES MODEL 207 HIGH FIDELITY PRE-AMPLIFIER

Ideal control unit for Grommes 221 or 260 basic amplifier. True flexibility is obtained from 10 controls. Circuit features feedback throughout for low distortion and wide response. Cathode follower output.

Frequency Response — ±0.5 DB, 20 to 20,000 CPS., **Distortion** — 0.2% harmonic and 0.5% intermod. **Controls** — Controls same as 15PG. **Outputs** — Main amplifier and tape. **Sensitivity** — Aux.; Tuner; Tape amp. — .2 volts and mag. phono — .005 volts for one volt output. **Hum and Noise** — 75 DB on high level inputs and 60 DB below 2 volts output on phono. **Tubes** — 2-12AX7 and 12AU7. **Other Features** — charcoal gray and brass finish; Size 12¾ W x 4 H x 7" D; net wgt. 4½ lbs.; Power requirements 6.3V and 1.1 amp. and 250 to 350V at approx. 8ma.; cable supplied for use with models 221 or 260 amplifier.

Net $57.50

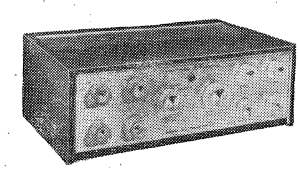


GROMMES MODEL 10PG 10 WATT HIGH FIDELITY AMPLIFIER

New styling—Simple efficient flat compact design. Features modern. feedback circuitry, record compensator, loudness control, wide range bass and treble controls, rumble and scratch filters, 6 inputs including one for tape head.

Power Output — 10 watts; 18 watts peak. **Frequency Response** — ±0.5 DB 20 to 20,000 CPS at 1 watt. **Power Response** — ±1. DB 30 to 10,000 CPS at 10 watts. **Distortion** — 2.% harmonic and 3% intermod. at 10 watts. **Feedback** — Better than 70 DB throughout; 15 DB around output transformer. **Controls** (1) Input selector for aux.; tuner; tape phono. (2) Record compensator for 500-Flat; RIAA; Early LP; Tape head. (3) Loudness. (4) Bass —20 DB to +20 DB. (5) Treble —15 DB to +15 DB. **Slide Switches** — (1) Rumble filter. (2) Scratch filter. (3) Loudness off-on. (4) Power off-on. **Outputs** — 4, 8 and 16 ohms plus, tape. **Sensitivity** — Aux. tuner and tape — .35 volts and mag. phono — .005 volts for 10 watts output. **Hum and Noise** — 70 DB below rated output on high level inputs. **Tubes** — 3-12AX7, 2-6V6GT, and 5Y3GT. **Other Features** — charcoal gray and brass finish; Size 12¾ W x 4 H x 9" D; net wgt. 12 lbs.; 2 — AC outlets; fused; 110-120 volts AC.

Net $57.50

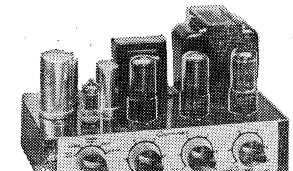


GROMMES MODEL 212 HIGH FIDELITY PRE-AMPLIFIER

The 212 is a deluxe equalizer pre-amplifier control center designed for those who want the ultimate in high fidelity. Self powered with DC filaments enables it to be used with any high quality basic power amplifier. Has 13 front panel controls.

Frequency Response — ±0.1 DB 10 to 20,000 CPS. **Distortion** — .05% harmonic and 0.1% intermod. at 10 volts output. Not measurable up to 2 volts output. **Controls** — (1) input selector for Aux.; Tuner; Tape; Phono-1; Phono-2; Microphone. (2) Turnover for Tape head; 800; 500 RIAA; 500 LP; 300 CPS.; Mic. (3) Roll off for "O" Tape head; 10-12; 13.7 RIAA.; 16 DB; High Frequency cut off. (4) Loudness. (5) Bass —15 DB to +15 DB at 50 CPS. (6) Treble —15 to +15 DB at 10,000 CPS. (7) Low frequency balance for boosting low bass. (8) Presence for peaking 6 DB. **Slide Switches** — (1) Rumble filter. (2) Loudness off-on. (3) Turnover for L.F. Bal. 150-100 CPS. (4) Presence peak 2500-3000 CPS. (5) Power off-on. **Outputs** — basic amplifier and tape recorder. **Input Level Controls** — Aux. Tuner; Tape; Phono-1; Phono-2. **Sensitivity** — Aux., Tuner, Tape — .2 volts and Phono Channels — .005 volts for 2 volts output. **Hum and Noise** — 85 DB on high level channels and 70 DB below 2 volts output on phono. **Tubes** — 4-12AX7 and 6X4. **Other Features** — charcoal gray and brass finish. Size 12¾ W x 4 H x 7" D; net wgt. 9 lbs.; 3 — AC outlets; fused; for 110-120 volts 50-60 cycles.

Net $129.50



GROMMES LJ-5 AMPLIFIER

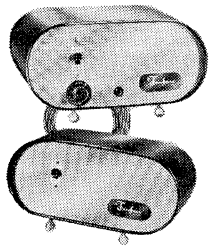
Highest value 10 watt amplifier in the low priced field. Features include built-in pre-amp., record compensator, 4 inputs, bass and treble controls. Unique arrangement enables volume control to be used as a loudness control.

Power Output — 10 watts; 15 watts peak. **Distortion** — 2.% harmonic and 3.% intermod. at 8 watts. **Frequency Response** — ±1. DB 20 to 20,000 CPS at 1 watt. **Controls** (1) Selector for aux; tuner; phono flat; RIAA; Early LP. (2) Volume control. (3) Bass control gives flat response and up to 15 DB boost. (4) Treble control gives flat response and up to 18 DB attenuation. **Sensitivity** — Tuner and Tape channels require .5 volts and pickup channel requires .005 volts for 10 watts output. **Output** — 4, 8 and 16 ohms. **Hum and Noise** — 80 DB below output (tuner channel). **Tubes** — 2-12AX7, 2-6V6GT and 5Y3GT. **Other Features** — Fused; 1 — AC outlet; Charcoal gray and brass finish; Size 10 W x 6 H x 6" D; net wgt. 9 lbs.; 110-120 volts 60 cycles AC.

Net $39.50

Fanfare INTERCOMS

The complete intercom line styled for the modern office and home at economy prices.



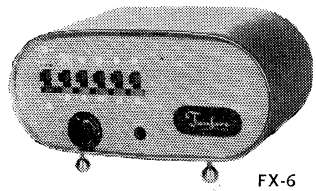
FX-2

FS

The complete line uses the same proven circuit and components: Three tubes — 12AU6, 50C5 and 35W4. • 3½" Alnico V speaker • Neon pilot light • Press-to-talk switch with long lasting "Coil-Spring" return • AC or DC • Remotes may be private or non-private • 2½ watt output • 20 watt power consumption • Dimensions: 8" x 4" x 4" • Decorator colors in Grey, Tan, Black and White. Brushed Brass at slight additional cost.

Model FX-2, TWIN — Master and one Remote with 50 ft. cable. Ready for use — nothing else to buy. Ideal for home use as a babysitter — extremely sensitive; picks up slightest whisper. Remote has talk-listen switch to permit originating calls to Master. Additional Remote may be added. Shipping weight: 6 lbs.

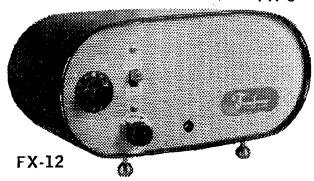
Model FX-2 (Complete system) ..... List $29.95
Additional FS Remote ..... List $11.25



FX-6

Model FX-6, CHIEF — A six station master. Use with up to 5 remotes or six masters. Slide switch on back of units selects either "All-Master" or "Master-to-Remote" installation. Talk to any number or all stations in the system simultaneously. To be used in conjunction with remotes having "Call" switch, Model FC. Shipping weight: 4 lbs.

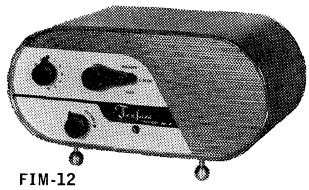
Model FX-6 ..... List $29.95
Model FC ..... List $11.95



FX-12

Model FX-12, MANAGER — A twelve station master, ideal for extensive commercial and industrial installations. Use with as many as 11 remotes or 12 masters. Slide switch on back of units selects type of installation desired. For remote installations use remote Model FC, with "Call" switch. Shipping weight: 4 lbs.

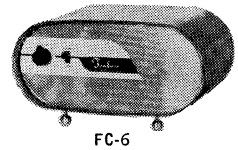
Model FX-12 ..... List $34.95
Model FC ..... List $11.95



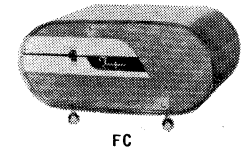
FIM-12

Model FIM-12, EXECUTIVE — A deluxe twelve station intermix master which can be used in any combination of masters and/or remotes. Each master has 3 position Talk-Listen-Dictate switch. Use in conjunction with two types of remote stations: Model FC-6, which can call and speak to 6 masters, and Model FC, which can call and speak to only one master. Shipping weight: 4 lbs.

Model FIM-12 ..... List $44.95
Model FC-6 ..... List $19.95
Model FC ..... List $11.95



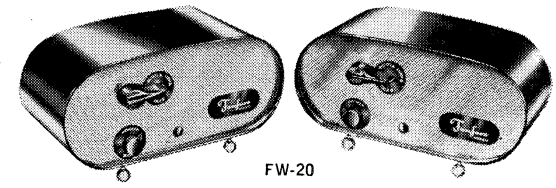
FC-6



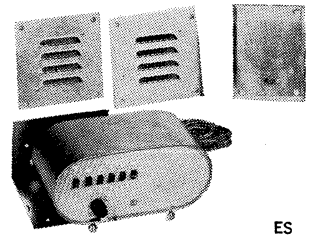
FC

Model FW-20, WIRELESS — A complete two station intercom system ready to operate. No wires — No installation. Just plug into any AC or DC outlet. Four tubes and germanium diode — Three position Talk-Listen-Dictate switch. Extremely sensitive — makes it ideal for baby-sitting. 2½ watt output. Standard model in black cabinet with gold panels. Deluxe model in brushed-brass cabinets. Shipping weight: 9 lbs. per pair.

Model FW-20 (2 stations) ..... List $79.50
Model FW-20D, deluxe (2 stations) ..... List $84.50
Single station FW ..... List $39.75
Single station FW-D ..... List $42.25



FW-20



BC

ES

ENTRY-SENTRY — A new door-reply and intercom system. Ideal for the "Do-it-yourself" trade. Adds security and comfort to the home. No special wiring or installation. ENTRY-SENTRY "package" consists of one 5-station master with invisible wall-mounting bracket, two weatherproof door remotes, 100 ft. of 2 conductor wire and hardware. Master can accommodate three remotes in addition to those supplied in package. Use remotes BC for flush wall installation or remote FC for desk use. Shipping weight: 6 lbs.

Complete ENTRY-SENTRY system ..... List $49.95
Additional Remote BC ..... List $ 9.95
Additional Remote FC ..... List $11.95

West of Rockies, add 5% to all list prices.

Write for catalogs on complete phonograph line.

INTERCONNECTING CABLE (per 100 ft.)

2W — 2 conductors twisted, for Master to remote without call-originating feature. ..... List $4.00
3W — 3 conductor twisted, for Master to remote system with call-originating feature. ..... List $6.00
7W — 7 conductor cable with vinyl jacket overall for up to 6 station All-Master System or 1 Master with up to 5 remotes. ..... List $25.00
13W — 13 Conductor cable with vinyl jacket overall for up to 12 station All-Master system or 1 Master with up to 11 Remotes. ..... List $31.50
3S — 2 Conductor and 1 shielded conductor with vinyl jacket overall for individual Remote FC in intermix installation. ..... List $12.00
1S — 1 shielded conductor with vinyl jacket overall for FC-6 installation. ..... List $ 6.00

ACCESSORIES

YX — Wall bracket for any Master ..... List $1.50
YF — Wall bracket for any Remote ..... List $1.50
JO — Junction box with 16 screw terminal ..... List $9.95
PH-5 — Paging horn ..... List $24.95
FA-30 — Isolation transformer ..... List $9.95

Fanfare

FANON ELECTRIC CO., Inc. Brooklyn 8, N.Y.

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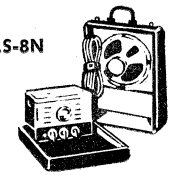
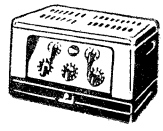
MASCO AMPLIFIERS • PORTABLE SYSTEMS

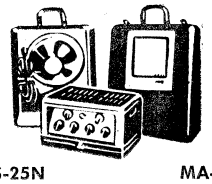
MAS-8N



MA-8N

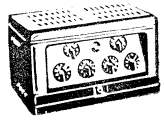
MA-17N





MAS-25N MA-25N

MA-35N



MA-125

AUDIO AMPLIFIERS

WITH TAPPED LINE AND VOICE COIL IMPEDANCES

MA-8N 8 WATT AMPLIFIER — MAS-8N PORTABLE SYSTEM

Mike and phono inputs separately controlled . . . tone control . . . light, compact, sturdy . . . for ballyhoo, demonstrations, meetings, garages, clubs, etc. List Prices: **MA-8N** amplifier with tubes less cover **65.00**; cover **12.00**; kit matched plugs and connectors **1.73**. **MAS-8N** Complete Portable System with case, 10" PM speaker, mike, cable, connectors **132.50**.

MA-17N 17 WATT AMPLIFIER — MAS-17N PORTABLE SYSTEM

1 phono, 2 mike inputs . . . individual volume, separate bass, treble controls . . . dial illumination . . . for orchestras, paging, schools, churches, demonstrations, clubs, etc. List Prices: **MA-17N** amplifier with tubes **116.00**; kit matched plugs and connectors **2.65**. **MAS-17N** Complete Portable System with case, 2-12" PM speakers, mike, cable, connectors **211.00**.

MA-25N 25 WATT AMPLIFIER — MAS-25N PORTABLE SYSTEM

Four inputs . . . 4-channel electronic mixing . . . separate bass, treble controls . . . for large area paging, auditoriums, carnivals, night clubs, etc. List Prices: **MA-25N** amplifier with tubes **145.00**; kit matched plugs and connectors **3.24**. **MAS-25N** Complete Portable System with case, 2-12" PM speakers, mike, cable, connectors **240.00**.

MA-35N 35 WATT AMPLIFIER — MAS-35N PORTABLE SYSTEM

Four inputs . . . 4-channel electronic mixing, individually controlled . . . separate bass, treble controls . . . for bathing beaches, fairs, airports, RR terminals, carnivals, etc. List Prices: **MA-35N** amplifier with tubes **180.00**; kit matched plugs and connectors **3.24**. **MAS-35N** Complete Portable System with case, 2-12" PM speakers, mike, cable, connectors **298.75**.

MA-77 75 WATT AMPLIFIER — MCO-77 75 WATT OUTDOOR SYSTEM

Five inputs . . . electronic mixing, individually controlled . . . separate bass, treble controls . . . for airports, RR yards, terminals, church towers, large auditoriums, etc. List Prices: **MA-77** amplifier with tubes **280.00**; kit matched plugs and connectors **3.67**. **MCO-77** Complete Outdoor System with 3 trumpets, 3 drivers, mike, cable, connectors **490.00**.

MA-125 125 WATT HI-POWER AMPLIFIER

Four inputs . . . electronic mixing, individually controlled . . . high power, low distortion . . . rack mounting available . . . for continuous heavy duty operation in very large areas, shipyards, stadia, sports arenas, mills, etc. List Prices: **MA-125** amplifier with tubes and cover **312.50**; kit matched plugs and connectors **3.24**.

	Power Output	Inputs	Shipping Weight	Dimensions	Power Consumption
MA-8N **MAS-8N**	8 watts 13 watts peak	Two: 1 microphone 1 phono	 14 lbs. 30 "	 10"x6"x7½" high	75 watts 117 volts 60 CPS
MA-17N **MAS-17N**	17 watts 26 watts peak	Three: 2 microphone 1 phono	 20 " 45 "	 13"x8"x8⅜" high	125 watts 117 volts 60 CPS
MA-25N **MAS-25N**	25 watts 40 watts peak	Four: 3 microphone 1 phono	 30 " 60 "	 15"x8½"x8⅜" high	145 watts 117 volts 60 CPS
MA-35N **MAS-35N**	35 watts 50 watts peak	Four: 3 microphone 1 phono	 32 " 63 "	 15"x9½"x8⅜" high	190 watts 117 volts 60 CPS
MA-77 **MCO-77**	75 watts 90 watts peak	Five: 4 microphone 1 phono	 45 " 100 "	 16"x11"x8⅜" high	275 watts 117 volts 60 CPS
MA-125	125 watts 175 watts peak	Four: 3 microphone 1 phono	 61 "	 17"x13"x9" high	310 watts 117 volts 60 CPS

MB-77

MB-125

BOOSTER AMPLIFIERS

MB-77 75 WATT BOOSTER AMPLIFIER — MB-77P SAME WITH STANDARD RACK PANEL

For use with **MA-77** or **MA-125** where greater power is required . . . zero-level input . . . parallel operation . . . master gain control . . . List Prices: **MB-77** with tubes, less cover **190.00**. **MB-77P** with tubes and 10½" x 19" panel, less cover **207.50**.

MB-125 125 WATT BOOSTER AMPLIFIER — MB-125P SAME WITH STANDARD RACK PANEL

For use with **MA-77** or **MA-125** where maximum power is required . . . optional 500 ohm balanced input transformer, O DB sensitivity . . . optional press-to-talk relay . . . List Prices: **MB-125** with tubes and cover **237.50**. **MB-125P** with tubes and 10½" x 19" panel, less cover **249.00**. **Model IN-525** 500 ohm balanced input transformer **37.50**. Optional built-in press-to-talk relay **23.75**.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
WEST OF ROCKIES, ADD 5% TO LIST PRICES

Masco MARK SIMPSON MFG. CO. LONG ISLAND CITY 3, N. Y.

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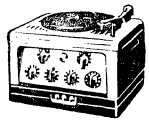
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

INDUSTRIAL AND INSTITUTIONAL EQUIPMENT

MC-126 P-3

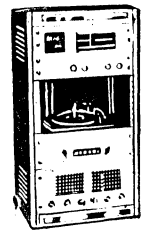
MC-25 PN-3



MS-36

MPS-40

BR-60



12 WATT MOBILE AMPLIFIERS

1 mike and 1 phono, individually controlled . . . low battery drain . . . lightweight, rugged . . . AC or 6 volt battery . . . 3-speed phono and turnover cartridge . . . List Prices: **MC-126P-3** Phono Top Mobile Amplifier (6 volts DC, 117 volts AC) with tubes and cables **151.25**. **MC-126** same less phono **100.00**. **MAC-126P-3** Phono Top Portable Mobile System with case, 10" PM speaker, cables, plugs, mike **216.25**. **MCO-126P-3** Mobile Outdor System with speaker, cables, plugs, mike **216.25**. For either system without phono top, deduct **51.25** from List Price. For 12 volt equipment, write to factory for prices.

25 WATT MOBILE AMPLIFIERS

1 mike and 3 phono inputs, individually controlled . . . can intermix . . . standby "battery-saver" switch . . . 3-speed phono and turnover cartridge . . . List Prices: **MC-25PN-3** Phono Top Mobile Amplifier with tubes **250.00**. Kit matched plugs and connectors **3.24**. **MAC-25PN-3** Phono Top Portable Mobile System with case, 2-12" PM speakers, cables, plugs, mike **345.00**. **MCO-25PN-3** Mobile Outdoor System with 2 trumpets, 2 driver units, cables, plugs, mike **409.25**.

MS SERIES FOR SCHOOLS AND INSTITUTIONS

6 to 60 stations

28 watt amplifier . . . built-in intercom channel . . . two-way conversation . . . external phono-radio-microphone provision . . . simultaneous or selective paging . . . individual volume controls. List Prices: **MS-6** Control Amplifier with tubes, for 6 stations **232.50**; **MS-12** ditto for 12 stations **237.50**; **MS-18** ditto for 18 stations **242.50**; **MS-24** ditto for 24 stations **250.00**; **MS-30** ditto for 30 stations **257.50**; **MS-36** ditto for 36 stations **272.50**. For additional stations, write Factory.

MPS SERIES FOR SCHOOL AND INSTITUTIONS — with AM-FM Radio and Record Player

10 to 60 stations

28 watt amplifier . . . sensitive AM-FM tuner . . . optional built-in 3-speed transcription player or Webcor 3-speed record changer . . . selective or group paging . . . input for microphone. List Prices: **MPS-10** Control Amplifier with tubes, AM-FM tuner and three-speed manual phonograph for 10 stations **628.75**; **MPS-20** ditto for 20 stations **650.00**; **MPS-30** ditto for 30 stations **666.25**; **MPS-40** ditto for 40 stations **685.00**. To substitute Webcor changer in above systems, add **65.00**. Units for 50 and 60 stations available on special order. Write factory for details..

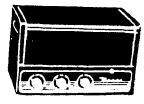
BR-60 SOUND BROADCASTER 60 WATTS

For heavy duty . . . oversized components for trouble-free service . . . three inputs . . . built-in monitor speaker . . . sensitive AM-FM tuner . . . 3-speed Webcor record changer . . . steel cabinet, hinged rear door . . . for use in airports, hospitals, institutions, schools, playgrounds . . . shipping weight 160 pounds . . . List Price: **BR-60** Sound Broadcaster **900.00**.

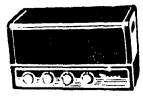
ECONOMY LINE—8 to 125 WATTS

MES-8

ME-18



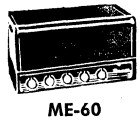
ME-27



ME-36

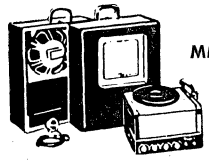
MES-36

ME-60



MM-15P-3

MMS-27P-3



8 WATT SOUND SYSTEM

For 1 mike and 1 phono . . . may be mixed . . . individual volume controls. List Prices: **ME-8** amplifier with tubes **56.00**; 3030 portable carrying case **26.48**; **MES-8** Complete Portable System with case, 10" PM speaker, mike, cables, connectors **101.00**.

18 WATT SOUND SYSTEM — available with 3-speed phono top with turnover cartridge. For 1 mike and 1 phono . . . may be mixed . . . individual volume controls. List Prices: **ME-18** amplifier with tubes, with cover **77.50**; **ME-18P-3** amplifier with tubes, with 3-speed phono top **112.50**; 3040 portable carrying case **33.48**; **MES-18** Complete Portable System with case, 2-12" PM speakers, mike, cables, connectors **152.50**; **MES-18P-3** same with phono **187.50**.

27 WATT SOUND SYSTEM — available with 3-speed phono top with turnover cartridge. For 2 mikes and 1 phono . . . may be mixed . . . individual volume controls. List Prices: **ME-27** amplifier with tubes, with cover **96.25**; **ME-27P-3** amplifier with tubes, with 3-speed phono top **131.25**; 3050 portable carrying case **38.34**; **MES-27** Complete Portable System with case, 2-12" PM speakers, mike, cables, connectors **176.25**; **MES-27P-3** same with phono **211.25**.

36 WATT SOUND SYSTEM — available with Webcor 3-speed automatic changer. For 2 mikes and 1 phono . . . may be mixed . . . treble, bass controls, individual volume controls. List Prices: **ME-36** amplifier with tubes, with cover **125.00**; **ME-36R** amplifier with Webcor changer, with tubes **257.50**; 3050 portable carrying case **38.34**; **MES-36** Complete Portable System with case 2-12" PM speakers, mike, cables, connectors **205.00**.

60 WATT HI-POWER AMPLIFIER

For 2 mikes and 1 phono . . . may be mixed . . . treble, bass controls, individual volume controls . . . 70 and 140 volt constant voltage taps . . . special output for driving booster amplifier . . . optional built-in standby relay. List Price: **ME-60** amplifier with tubes, with cover **197.50**.

15 WATT MOBILE AMPLIFIER — 6 volt DC, 117 volt AC. All mobile amplifiers complete with Battery and AC power cables.

For 1 mike and 1 (built-in) phono . . . may be mixed . . . individual volume controls . . . tone control . . . standby "battery-saver" switch. List Prices: **MM-15P-3** mobile phono top amplifier with tubes, 3-speed phono, cables **156.25**; **MMS-15P-3** Complete Portable Mobile System with 3040 carrying case, 2-12" PM speakers, mike, cables, connectors **231.25**; **MMO-15P-3** Complete Mobile Outdoor System with 2-188 complete paging horns, mike, cables, connectors **251.00**.

27 WATT MOBILE AMPLIFIER — 6 volt DC, 117 volt AC with 3-speed phono top and turnover cartridge. For 2 mikes and 1 (built-in) phono . . . may be mixed . . . individual volume controls . . . standby "battery-saver" switch . . . tone control. List Prices: **MM-27P-3** mobile phono top amplifier with tubes **190.00**; 3050 portable carrying case **38.34**; **MMS-27-3** Complete Portable Mobile System with case, 2-12" PM speakers, mike, cables, connectors **270.00**; **MMO-27-3** Complete Outdoor System with Masco-University MA-25 driver units, 2 Masco-University PH Reflex Trumpets, mike, cables, connectors **336.75**..... ....

See additional amplifiers and systems on pages B-18 and B-19

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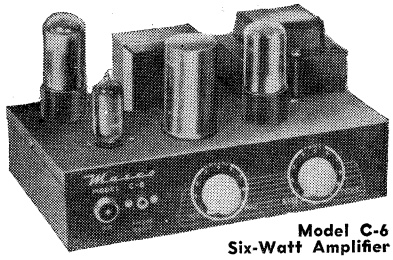
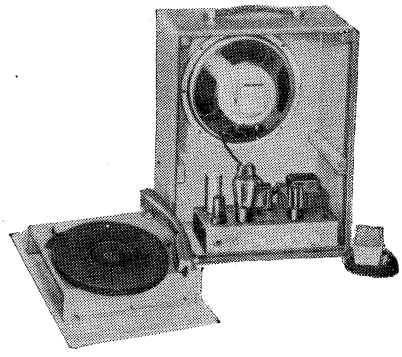
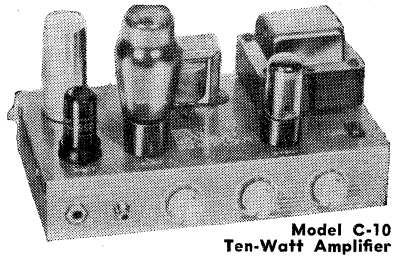
AMPLIFIERS AND SELF-CONTAINED PORTABLE PUBLIC ADDRESS SYSTEMS



Model C-6
Six-Watt Amplifier



"Ballyhoo" and "Midway"
Self-contained P.A. Systems
With Optional Phonograph



Model C-10
Ten-Watt Amplifier

MASCO BALLYHOO

A LOW COST, HIGH PERFORMANCE 6 WATT PORTABLE SOUND SYSTEM

For carnivals, store demonstrators, window salesmen, garages, cab stands, auctioneers, etc. . . complete in every detail . . . optional 3-speed phonograph built-in and easily demountable for table use . . . complete system weighs less than 20 lbs . . . voice and music may be mixed; separate inputs for mike and phono . . . best for bingo . . . strong plywood case, handsomely covered with dark gray pigskin and light gray tweed leatherette . . . nothing to assemble, ready to use . . . heavy-duty speaker built into acoustically designed case . . . all sockets and controls readily accessible for easy servicing . . . frequency range 50 to 12,000 cps ±2 db.

List Prices

CS-6P-3 Complete Ballyhoo System (C-6 amplifier, speaker, mike, etc.), with 3-speed built-in demountable phono with turnover crystal cartridge **110.00**

CS-6 Complete Ballyhoo System, less phono, with built-in 8" PM speaker, mike, cables, connectors **75.00**

C-6 Six Watt Amplifier only, with tubes, volume and tone controls, finished in gray hammertone, power consumption 35 watts at 117 volts, 50-60 cycles AC **30.00**

MASCO MIDWAY

A LOW COST, POWERFUL 10 WATT PORTABLE SOUND SYSTEM

For larger crowds and areas . . . lectures, clubs, carnivals, meetings, bingo . . . self-contained . . . optional 3-speed built-in phonograph easily demountable for table use . . . separate mike and phono inputs for mixing voice and music . . . strong plywood case with two-toned gray covering . . . controls and sockets readily accessible for easy servicing . . . lightweight, only 27 lbs., including phono . . . tone control . . . 10" heavy-duty speaker in acoustically designed case provides excellent tone and volume . . . completely assembled, ready to use . . . C-10 amplifier ruggedly built for long life and hard use . . . frequency range 50 to 12,000 cps ±2 db.

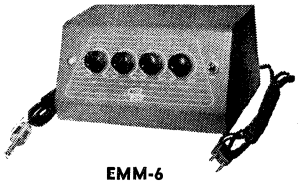
List Prices

CS-10P-3 Complete Midway System (C-10 amplifier, speaker, mike, etc.), with 3-speed built-in demountable phono with turnover crystal cartridge **127.50**

CS-10 Complete Midway System, less phono, with built-in 10" PM speaker, mike, cables, connectors **92.50**

C-10 Ten Watt Amplifier only, with tubes, tone control, separate controls for mike and phono, finished in gray hammertone, power consumption 75 watts at 117 volts, 50-60 cycles AC **44.00**

ELECTRONIC MICROPHONE MIXER AND PRE-AMPLIFIER



EMM-6

An all-electronic microphone mixer for up to 4 mikes and 2 radio-phonograph channels. 20 db gain on mike, 8 db on phonograph. Cathode follower output permits use up to 400 ft. from amplifier.

List Price

EMM-6 Electronic Microphone Mixer and Pre-Amplifier, complete with 8-ft. Cable and Plug. Shipping Weight: 4 lbs. $65.00

MM-4 FOUR CHANNEL MICROPHONE MIXER

A 4-channel, high impedance, non-electronic microphone mixer for use with high impedance microphone input of any amplifier. Easiest and cheapest way to mix four microphones into one input.

List Price

MM-4 Four Channel Mixer with 4-ft. Cable and Connector $21.25
Shipping Weight: 4 lbs.

For additional information on any Masco product, write to factory for individual catalog.

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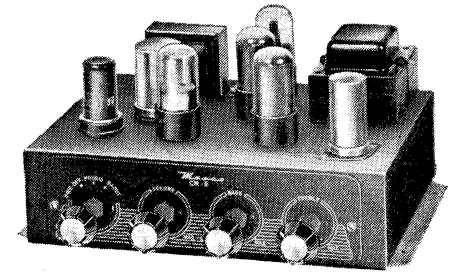
HI-FI AMPLIFIERS and TAPE RECORDER

MASCO CM-EIGHT

A BUDGET 8 WATT HIGH FIDELITY AMPLIFIER WITH LESS THAN 1% DISTORTION

Includes pre-amplifier with separate bass and treble tone controls for perfect equalization of all records • Three-position Selector Switch • Inputs for Radio, Crystal Phono Pickup, Magnetic Phono Pickup • Beautifully styled black and gold front panel, removable for custom installation • Performance compares with expensive amplifiers • Frequency Response 20 to 20,000 cycles ±1 db • Auxiliary AC Power Outlet • 105-125 volts, 50-60 cycles AC • Extra-long control shafts supplied for custom cabinet installation.



List Price

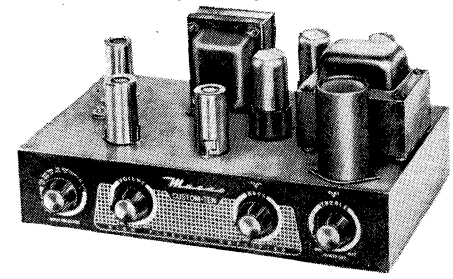
Custom Ten 10 Watt High Fidelity Amplifier, with tubes **59.75**

Shipping Weight 9 lbs.

MASCO CUSTOM TEN

A TEN WATT HIGHEST QUALITY HIGH FIDELITY AMPLIFIER AND PRE-AMPLIFIER AT LOW COST

Eight-position Equalization Selector for all recordings • Separate bass and treble tone controls • Ten watts output, eighteen watts peak • Less than 1% distortion • Fletcher-Munson Loudness Control for balanced sound at lowest volume • Four Inputs: Radio or TV or Tape Recorder, Crystal Phono Pickup, Magnetic Phono Pickup • Output jack for recording while listening • 15db feedback over three stages for complete stability at all frequencies • Frequency Response 20 to 20,000 cycles ±½db • Removable front panel beautifully styled in black and gold • Two internally fused Auxiliary AC Power Outlets • 105-125 volts, 50-60 cycles AC • Pilot Light socket and plug supplied • Extra-long control shafts supplied for custom cabinet installation.



List Price

Custom Ten 10 Watt High Fidelity Amplifier, with tubes **106.25**

Shipping Weight 12 lbs.

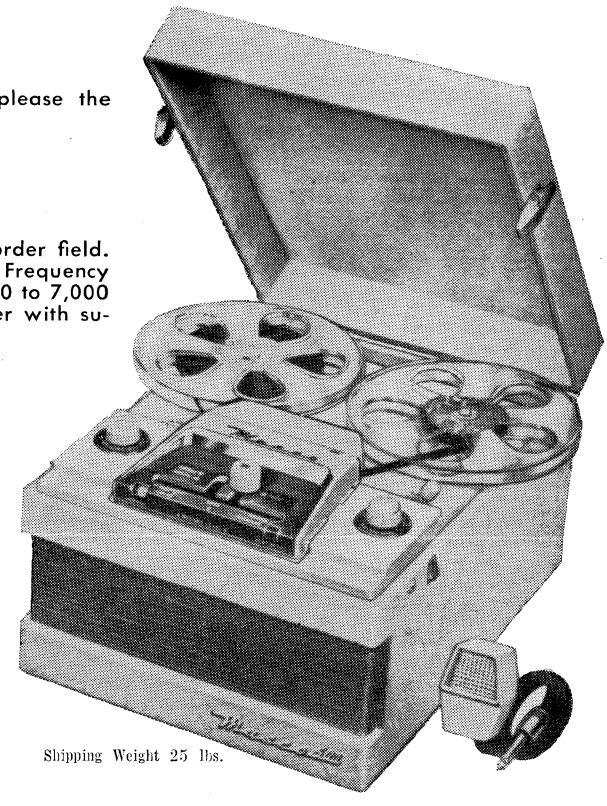
MASCO 500 TAPE RECORDER

"Truly A Masterpiece"

The popular priced Tape Recorder with features to please the experts.

- Simple One-Knob Operation
- High Fidelity Tone Quality
- Real Lightweight Portability
- Exciting New Styling

The best-by-test in the home and semi-professional recorder field. Two speeds, dual track • 7½" and 3¾" per second • Frequency response 50 to 12,000 cps ±3 db at 7½" per second; 50 to 7,000 cps ±3 db at 3¾" per second • 5" x 7" oval speaker with superb tone quality • Only 23 lbs. carrying weight; retractable spring handle • Two recording level indicators assure successful recordings every time • Ultra-modern styling; covered with white and brown-mottled DuPont Fabrikoid; mechanism styled in ivory and gold • High Speed Forward and Rewind; 1½ minutes for 1,250 feet • Instant reversal from Fast Forward to Rewind, or vice versa, with no danger of tearing or spilling tape • Two Inputs: 1 microphone, 1 radio-phono • Two Outputs: 1 external amplifier, 1 external speaker • Safety "Record Lock" Button prevents accidental erasure • Wow: less than 0.3% • Power Output 5 watts • Signal-to-noise Ratio 45 db • Tubes: 6AU6, 6SL7GT, 6V6GT, 6AQ5, 6X5GT (Rectifier) • Power Consumption 100 watts at 117 volts, 60 cps AC • Dimensions 14½" deep x 11⅜" wide x 8⅜" high.



Shipping Weight 25 lbs.

List Price

Masco 500 complete, with ceramic microphone with 10 foot cable and plug; one reel of tape and one takeup reel; 6 foot "patch" cord **168.50**

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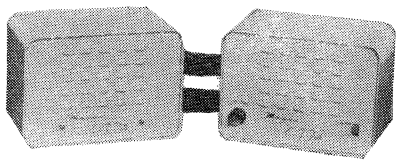
INTERCOM

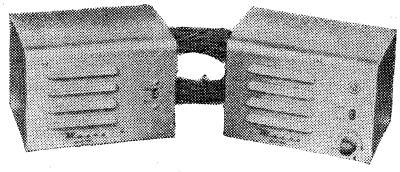
Complete 2-Station Systems for Every Need



E-Z Talk

E-Z TALK COMPLETE TWO-STATION INTERCOM SYSTEM — **$16.95 List**

Completely electronic • Ideal for Baby-Sitting • Perfect for Home or Small Office • Unbreakable metal cabinet, styled in ivory for the modern home and office • Master has volume control and separate Talk-Listen switch • Remote is always open—there is no switch to operate • High sensitivity • Nothing more to buy • Shipping Weight of Complete System: **6½lbs.**

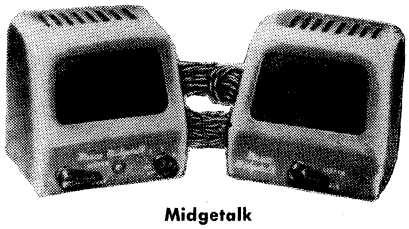


Small Talk

SMALL TALK COMPLETE TWO-STATION INTERCOM SYSTEM — **$29.95 List**

Complete with 50 ft. cable—nothing more to buy • the intercom everyone can afford • for homes, nurseries, restaurants, offices, stockrooms, factories • Unbreakable all-steel cabinets • On-Off Pilot Light • Master has volume control with On-Off Switch and separate Press-to-Talk Switch • Remote has Press-to-Talk Switch to originate calls to Master • Remote can be left "open" for Baby-Sitting or Dictation, or closed for privacy, but still able to receive calls from Master • Sensitive and powerful • May be used with one additional Remote Station • Finished in attractive brown hammertone. Shipping Weight **6½ lbs.**

Extra Remote Station, shipping weight 2½ lbs. ..... **List Price 10.00**
Model C-3 3-Wire Cable for extending Small Talk System or adding one extra remote station ..... **List Price .065 per foot**

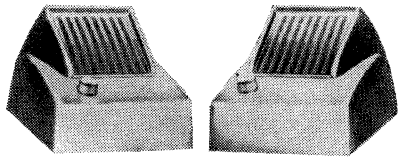


Midgetalk

MIDGETALK COMPLETE TWO-STATION INTERCOM SYSTEM — **$43.15 List**

Value-Packed • Your "Best Buy" in Intercoms • Complete with 50 ft. cable • Durable cast zinc unbreakable housing • Very sensitive—clear and natural voice reproduction • Cable may be extended to 2,000 feet • One extra Remote Station may be added • Master Station has Volume Control with On-Off Switch, separate Press-to-Talk Switch and On-Off Pilot Light • Remote has Talk-Listen Switch to originate calls to Master • Remote can answer calls from distance without operating switch • Units attractively finished in mahogany • Cabinets designed to permit hanging on wall • Rubber feet cannot mar polished surfaces • 117 volt AC-DC, extremely low power consumption. **Shipping Weight 7½ lbs.**

MRL Extra Remote Station, Ship. Wt. 3 lbs. ..... **List Price 14.40**
Model C-3 3-Wire Cable for extending Midgetalk System or adding one extra remote station ..... **List Price .065 per foot**

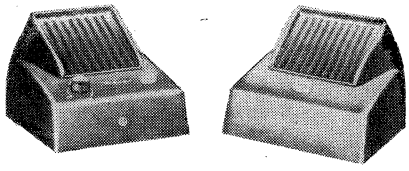


JMR

JMR COMPLETE TWO-STATION INTERCOM SYSTEM — **$56.70 List**

A De Luxe System, with handsome, cast aluminum cabinets • Complete with 50 ft. cable, which may be extended up to 2,000 feet • Extremely sensitive—can pick up sounds 40 feet away • clear and natural voice reproduction • Remote may be used for two-way conversation without operating switch, making it ideal for Baby-Sitting or Sick-Room use • Remote may also be installed for completely private operation • Pilot Light • Units finished in attractive walnut hammertone. **Shipping Weight 9¼ lbs.**

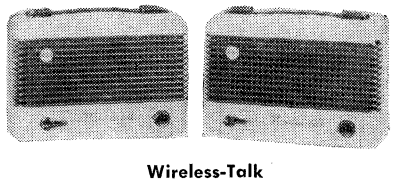
Model JR—Extra Remote Station, shipping weight 3¼ lbs. ..... **List Price 16.20**
Model C-3 3-Wire Cable for extending **JMR** System or adding one **JR** Remote Station, shipping weight, ½ oz. per foot. ..... **List Price .065 per foot**



Wirelessfone

WIRELESSFONE AND **WIRELESS-TALK** COMPLETE TWO-STATION WIRELESS INTERCOMS

Ready to operate immediately • No installation costs or problems • Simply plug each station into any regular 105-125 volt electrical outlet, AC or DC • Distinct, clear voice reproduction • Powerful sound amplification of 2½ watts Can be used between adjacent power circuits or on either side of 220 volt line without special jumpers • More than two stations may be used and messages will be heard over the entire system • Pilot Light On-Off indicator • "Dictate" (lock) position of Talk-Listen Switch enables a secretary to take notes of a conference without actually being present and is perfect for Baby-Sitting • The WIRELESSFONE has rugged cast aluminum cabinets, finished in walnut hammertone, and is ideal for industrial and institutional use. The WIRELESS-TALK is beautifully styled in maroon and ivory plastic cabinets and is recommended for homes and de luxe offices.



Wireless-Talk

	List Prices
Model WF-2 Wirelessfone Two-Station Intercom System, complete, per pair	95.00
Model SSW Single Wirelessfone Stations, each	47.50
Shipping Weight: 11½ lbs. per pair	
Model WFP Wireless-Talk Two-Station Intercom System, complete, per pair	95.00
Model XFP Single Wireless-Talk Stations, each	47.50
Shipping Weight: 9 lbs. per pair	

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

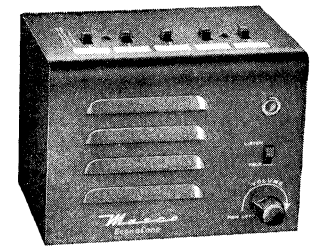
SYSTEMS

Economy Multiple Station Intercoms

ECONOFONE

A Dual-Purpose System for one Master with up to five Remote Stations, or up to six Masters in an All-Master System. The most economical multiple station intercom system available. Master has volume control with on-off switch, Talk-Listen switch, pilot light and 5 individual station selector switches • Remote Stations have a Talk-Listen switch which provides complete privacy at the Remote or permits it to be "open" for Baby-Sitting or for allowing calls to be answered from a distance • In an All-Master System, up to three separate conversations or a conference of all stations may be held • Units have unbreakable steel housings finished in attractive brown hammertone.

	List Price
Model ST-5 Econofone Master Station, Shipping Weight 4½ lbs.	**26.50**
Model ST Remote Station, Shipping Weight 2 lbs.	**10.00**

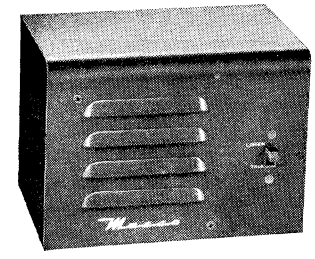


ST-9 Master

MASCOFONE

An economical AC-POWERED INTERMIXED System of Masters and Remotes. 3½ watts audio power output • Quiet, efficient operation • Can be used for paging with paging horn.

	List Price
Model CAM-5 5-Station Master	**74.00**
Model CAM-10 10-Station Master	**82.50**
Shipping Weight, either Master: 6 lbs.	
ACS-6 Remote Station with 6-position Master Selector Switch and push-bar Talk-Listen Switch	**33.13**
ACS Remote Station with Talk-Listen Switch	**20.00**
ACL Remote Station less Talk-Listen Switch	**16.65**
Shipping Weight, Remotes: 3½ lbs.	

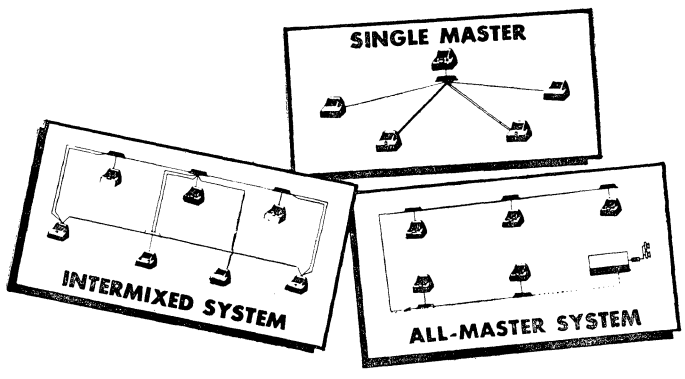


ST Remote

MULTIFONE

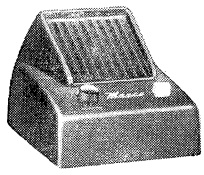
An economical INTERMIXED System of Masters and Remotes. The Five-Station Master can be connected to a combination of up to 5 other Masters and/or Remotes, and the Ten-Station Master to 10 other Masters and/or Remotes • New type Push-Bar, rugged Talk-Listen switch on both Masters and Remotes • Switch on Masters has a lock-in position for "dictate" purposes • All units have newly styled unbreakable cast aluminum cabinets attractively finished in mahogany • Pilot Light • AC-DC • Low power consumption.

CAM-10 Master

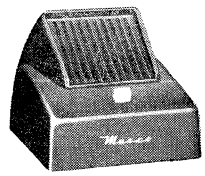


MULTIFONE

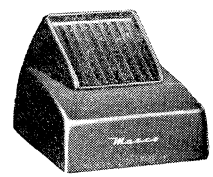
MF-10 Master



JS-6



JS



JL

	List Price
Model MF-5 5-Station Master	**57.50**
Model MF-10 10-Station Master	**65.50**
Shipping Weight, either Master: 6 lbs.	
Model JS-6 Remote with 6 position Selector Switch	**32.40**
Model JS Remote with Talk-Listen Switch	**19.65**
Model JL Remote Less Switch	**15.20**
Shipping Weight: 3½ lbs.	

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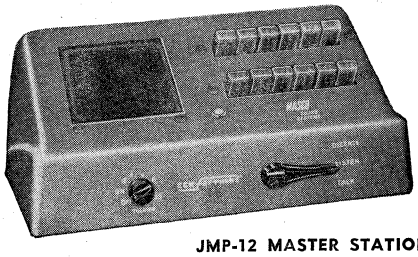
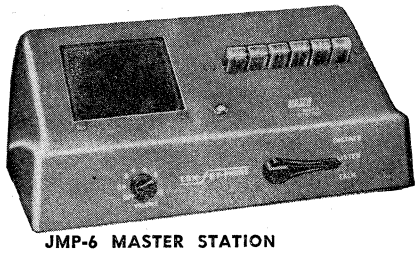
I N T E R C O M S



JMP-12 MASTER STATION



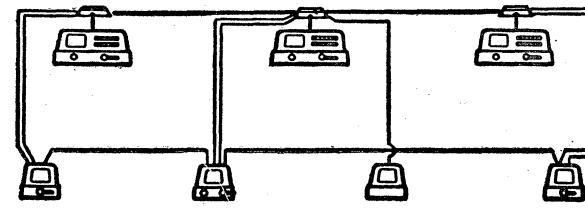
JMP-6 MASTER STATION

- For Master-to-Remote Installation
- For Master-to-Master Installation
- For Master-to-Master-to-Remote Intermixed Installation
- Available in 6 and 12 Station Masters

MASCO CON-fer-PHONE

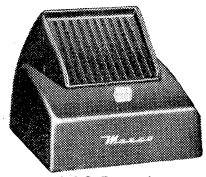
The **Completely** Flexible Master for Any Combination System

Pushbutton station selection • Remote Stations can originate calls to Master • Masters may have personal Remotes • Individual or group conversation • Master has Press-to-Talk switch with Dictate position • Volume Control with On-Off Switch • Pilot Light • AC-DC operation • Finished in attractive walnut hammertone.



	List Prices
JMP-6 Six-Station Master, with tubes	71.28
JMP-12 Twelve-Station Master, with tubes	83.16
JL Remote less Call Switch	15.20
JS Remote with Call Switch to One Master	19.65
JS-6 Remote with 6-Position Master Station Selector and Call Switch	32.40

AC-24 Master Station



ACS Remote

President Series

DE LUXE 12 AND 24 STATION AC POWERED INTERMIX SYSTEMS
THE INTERCOM THAT DOES EVERYTHING

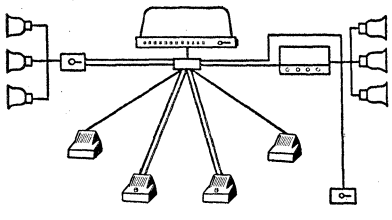
For any type of Intermixed Intercom System • Extremely flexible in operation • Incoming and outgoing volume controls • Busy signal on Masters • Sockets on Masters permit plugging in telephone-type handset for complete privacy • AC powered for quiet operation • Audio power output 3½ watts • Can drive up to 3 MIL-45 horns connected to any one station for paging.

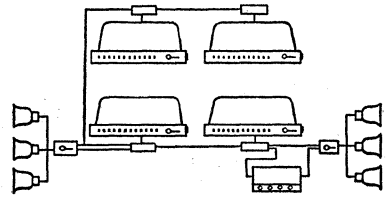
	List Prices
AC-12 Twelve-Station DeLuxe AC Master, with tubes	140.00
AC-24 Twenty-four-Station DeLuxe AC Master, with tubes	174.00

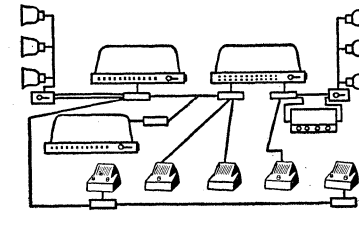
Master Station Shipping Weight 15 lbs.

ACL Remote Station less Talk-Listen Switch	16.65
ACS Remote Station with Talk-Listen Switch	20.00
ACS-6 Remote Station with 6-Position Master Selector and Talk-Listen Switch	33.13

Remote Station Shipping Weight 3½ lbs.







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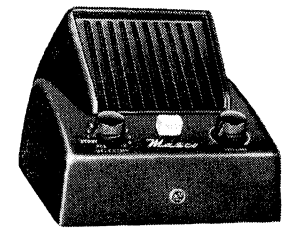
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

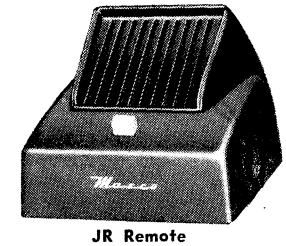
DUAL-PURPOSE INTERCOMS

ALL-MASTER SYSTEMS: Up to 11 Stations
MASTER-TO-REMOTE SYSTEMS: One Master plus up to 10 Remotes
IJM-5 IJM-10

Low cost Masters for use in All-Master Systems or Master-to-Remote Systems without requiring internal modification . . . a flip of the built-in switch does the trick.
ALL-MASTER SYSTEM . . . two sizes of Master . . . the IJM-5 can be used with up to 5 other Masters . . . the IJM-10 can be used with up to 10 other Masters . . . Remote cannot be used in an All-Master System . . . stations may be as far apart as 2,000 feet . . . any station may call any other station, without interference or cross-talk . . . a Master can call another Master even if the latter's power is off . . . individual pairs of conversations may be held simultaneously, up to 5 in a full IJM-10 System . . . for AC or DC operation . . . only 27 watts per Master . . . unbreakable cast aluminum cabinets, finished in dark mahogany . . . long-life operation, heavy-duty parts used . . . Pilot Light to indicate On-Off . . . selector switch for calling individual stations or all simultaneously . . . lock-in position on Talk-Listen Switch for dictation, baby-sitting, sick-room and other continuous use . . . in a noisy area, a Paging Horn may be substituted for a Master . . . in a very noisy area, a Paging Ampifier may be connected in series with the Paging Horn . . . horn cannot reply to Master.

MASTER-TO-REMOTE SYSTEM . . . IJM-5 may be used with up to 5 Remotes . . . IJM-10 may be used with up to 10 Remotes . . . two types of Remotes . . . the JL is non-private . . . the JR is private or non-private, at will . . it can receive and answer and can originate calls to the Master, although it cannot talk with other Remotes . . . only JR Remotes may be used in a private system . . . Master can call any one Remote or all simultaneously . . . Standby position on Master's selector switch holds Master ready and silent until called by a Remote . . . a Paging Horn may be substituted for a Remote and can reply to Master . . . with Paging Amplifier and ICS Switch, horn can originate calls to Master . . . lock-in position of Master's Talk-Listen Switch permits two-way continuous use for baby-sitting, dictation, sick-rooms, etc . . . Remotes match Masters in style and material . . . Remotes consume no power.


IJM-10 Master


JR Remote

	List Prices
IJM-5 Dual-Purpose 5-Station Master, with tubes	45.90
IJM-10 Dual-Purpose 10-Station Master, with tubes	53.75
JR Remote Station, with Push-Bar Talk-Listen Switch	16.20
JL Remote Station, less Switch	15.20

Shipping Weights: Master 6 lbs., Remote 3½ lbs.

COMPARISON OF MASCO FLUSH-MOUNTING SYSTEMS

	ELECTRONIC BUTLER	AMF	MAESTRO	ECONICOM	MUSICOM	MULTI-TALK
INTERCOM SERVICE	YES	NO	NO	YES	YES	YES
MUSIC DISTRIBUTION	NO	YES	YES	NO	YES	OPTIONAL
DOOR ANSWERING	YES	NO	NO	YES	YES	YES
TYPE OF SYSTEM	MASTER-TO-REMOTE	AM RADIO MUSIC DISTRIBUTION TO 5 OR MORE ROOMS	AM RADIO MUSIC DISTRIBUTION TO 5 OR MORE ROOMS BUILT-IN CLOCK	CENTRAL AMPLIFIER MASTER-TO-REMOTE ALL-MASTER MASTERS AND REMOTES INTERMIX (10 station system)	MASTER-TO-REMOTE ALL-MASTER MASTERS AND REMOTES INTERMIX (7 station system)	MASTER-TO-REMOTE OR ALL-MASTER
NUMBER OF MASTERS	OPTIONAL	ONE	ONE	UP TO 6	UP TO 7 IN ALL-MASTER SYSTEM	UP TO 6 IN ALL-MASTER SYSTEM
NUMBER OF REMOTES	TWO	OPTIONAL	OPTIONAL	UP TO 4	UP TO 6 WITH ONE MASTER	UP TO 5 WITH ONE MASTER
FINISH OF MASTER PANEL	GOLD	GOLD	GOLD COPPER STAINLESS STEEL	GOLD	GOLD	GOLD COPPER STAINLESS STEEL
REMOTES WHICH MAY BE USED	FB, FO	F, K-5, K-8, K-12	K-5, K-8, K-12	F, FO, FB	F, FO, FB, FS, FS-6, K-5, K-8, K-12	K-5, K-8, K-12, F, FO, FB
DIMENSIONS OF MASTER PANEL	9¼"w x 8"h	9¼"w x 8"h	17"w x 8⅞"h	9¼"w x 8"h	9¼"w x 8"h	10"w x 9¾"h
DIMENSIONS OF MASTER WALL BOX	7⅜"w x 6⅝"h x 3"d	8⅛"w x 7⅜"h x 4"d	12⅝"w x 6⅜"h x 3¾"d	7⅝" x 6¼" x 4"	8⅛"w x 7⅜"h x 4"d	8"w x 7⅜"h x 4"d
LIST PRICE OF MASTER	HCM 65.00 PCM 77.50	AMF 85.00 AMP 99.50	MDC-6 (GOLD) 125.00	CMC-9 MASTER 32.50 CA-2 CENTRAL AMP. 65.00	FM-6 75.00 PM-6 85.00	ST-5F (GOLD) 60.00
PRIVATE OR NON-PRIVATE REMOTES	NON-PRIVATE ONLY	—	—	NON-PRIVATE ONLY	BOTH	EITHER

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
WEST OF ROCKIES, ADD 5% TO LIST PRICES

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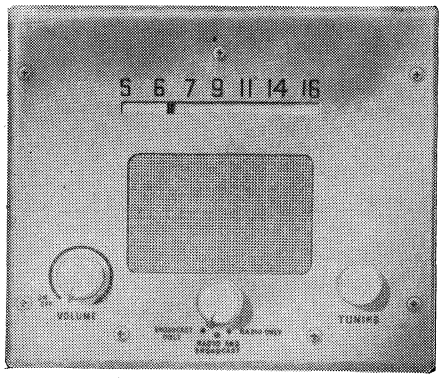
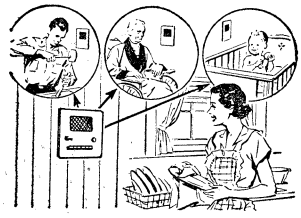
FLUSH-MOUNTING INTERCOMS for the



AMF MASTER RADIO



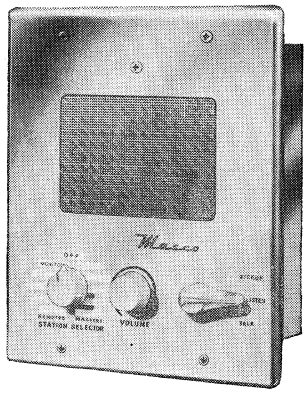
MASCO Model AMF

MUSIC DISTRIBUTION SYSTEM

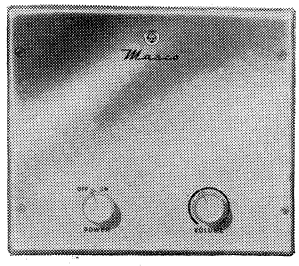
An economical home music distribution system with a sensitive, powerful flush-mounted radio and any optional number of room stations • Music or other program material for every room in the house is controlled by one master unit • Beautiful tone • Individual volume controls optional • Finished in handsome gold metallescent Panel measures 9¼" wide x 8" high; rear box measures 8⅛" wide x 7⅜" high x 4" deep.

	List Prices
AMF Flush-mounted Master Radio	85.00
Model K-5 Remote Station (5"), less volume control	11.25
Model K-12 Remote Station (12") Complete with volume control	28.75
Model VCA-75 Volume Control	5.00

FOR ADDITIONAL INFORMATION ON ANY MASCO PRODUCT, WRITE TO FACTORY FOR INDIVIDUAL CATALOG



CMC-9
MASTER



CA-2
CENTRAL
AMPLIFIER

MASCO ECONICOM

A Revolutionary Low-Priced Flush-Mounted Intercom and Door Answering System

For any combination of up to six Masters and four Remotes • Tops for economy and flexibility • Central amplifier operates entire system of Masters and Remotes, avoiding costly individual amplifiers • Electric Door Latch Release optional for convenience and safety • Central amplifier's power is turned on and off by Masters • Instant-heating tubes require no warmup time • Dimensions of Central Amplifier are 8" x 9¼" x 4" deep; dimensions of CMC-9 Master are the same.

	List Prices
CA-2 Central Amplifier	65.00
CMC-9 Master	32.50
Model F Remote Station	12.50
Model FB Door Remote Station, with pushbutton	15.00
Model FO Door Remote Station, less pushbutton	15.00
DAS Electric Door Latch Release	21.25

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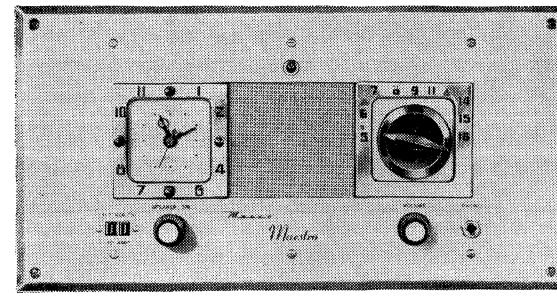
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

MASCO MAESTRO

A FLUSH-MOUNTED HOME MUSIC DISTRIBUTION SYSTEM WITH ELECTRIC CLOCK

Hear favorite music and radio programs throughout the house • Powerful, sensitive superheterodyne radio distributes programs through six stations—its own speaker and five remote speakers • Excellent, full tone • Individual-room volume controls for every speaker • Volume control on Master radio's speaker does not affect volume of remote speakers • Master radio has phono jack for plugging in phonograph to play Hi-Fidelity records throughout the system • Master radio has auxiliary AC outlet, which works with built-in clock to turn on coffee, toaster, etc., automatically • Clock may be preset to turn on radio or any electrical appliance; turns system off automatically at "Sleep" setting • Styled in gold; remotes are styled in ivory.



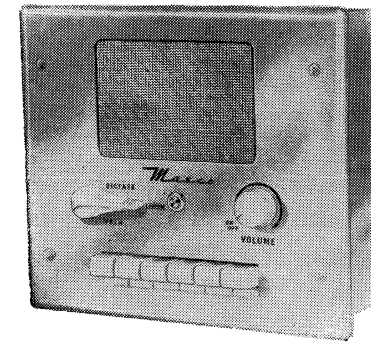
MDC-6 MASTER RADIO

	List Prices
MDC-6 Master Radio with clock	125.00
Model K-5 Remote Station (5"), less volume control	11.25
Model VCA-75 Volume Control	5.00
Model K-12 (12") Remote Station, complete with volume control	28.75

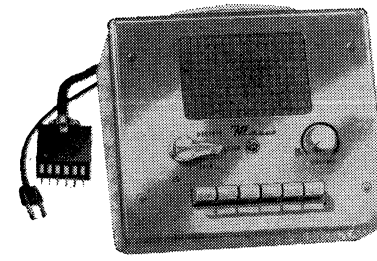
MASCO MUSICOM

The DeLuxe Home Music and Intercom System for Gracious Modern Living

For any combination of Masters and Remotes, up to a maximum of seven • Conferences, non-private and private operation • AC-DC • Masters have On-Off Pilot Light • Designed for flush-mounting in wall or for portable table-top or wall-hanging operation • Powerful, sensitive superheterodyne radio with beautiful, full tone • Radio programs may be sent to remote stations or other Masters without being heard at Master station to which radio is connected • A completely flexible system.



FM-6 MASTER



PM-6 MASTER

	List Prices
Model FM-6 Flush-Mount Master 9½" x 8" x 4" deep	75.00
Model PM-6 Master for Portable or Wall-Hanging Use 9½" x 8" x 6¾"	85.00
Model IB-6 Outlet Box	9.50
Model AMF Flush-Mount Radio 9¼" x 8" x 4" deep	85.00
Model AMP Radio for Portable or Wall-Hanging Use 9½" x 8" x 6¾"	99.50
Model IB-18 Outlet Box	11.50
Model F Remote Station, less Talk-Listen Switch	12.50
Model FS Remote Station, with Talk-Listen Switch	15.00
Model FS-6 Remote Station, with 6-Position Selector and Talk-Listen Switch	19.00
Model FB Remote Door Station, with pushbutton for buzzer, bell or chimes	15.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
WEST OF ROCKIES, ADD 5% TO LIST PRICES

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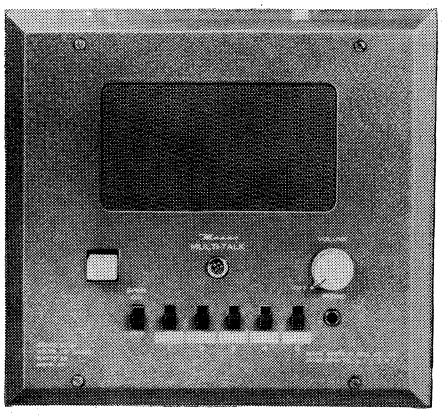
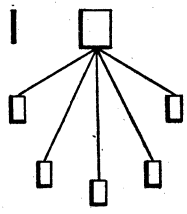
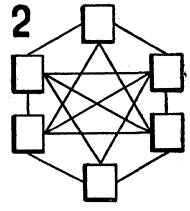
FLUSH-MOUNTING INTERCOMS





MULTI-TALK MASTER AND REMOTE SYSTEM
The Master can call and talk with any Remote Station or any group of Remote Stations simultaneously.
Private or non-private conversations
Remotes can talk with each other or with Master.
Entire System completely controlled by Master.



MULTI-TALK ALL-MASTER SYSTEM
Any Station can call and talk with any other Station or any group of Stations. A conference of any group of Stations may be held.
As many as three pairs of Stations can converse at the same time, without interference or cross-talk.

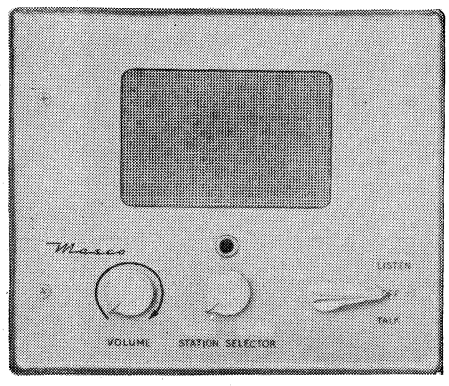
MASCO MULTI-TALK

The modern Home Intercom, Music Distribution and Door Answering System that may be expanded as required

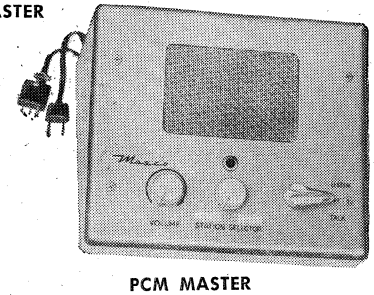
For one Master and up to five Remote Stations or for two-to-six Masters • Any radio may be plugged into a Master for Music distribution or Masco MDC-6 Radio may be built in for ideal flexibility • Door answering for convenience and safety from intruders • Beautifully finished in Stainless Steel, Copper or Gold • Units are supersensitive; perfect for baby-sitting • Economical to buy and to operate.

	List Price
ST-5F Master Station (Gold)	**$60.00**
K-5 Remote Room Station	**11.25**
FB Remote Door Station, with pushbutton	**15.00**
FO Remote Door Station, less pushbutton	**15.00**
DAS Electric Door Latch Release	**21.25**

For Additional Information on Any Masco Product, Write to Factory for Individual Catalog



HCM MASTER



PCM MASTER

ELECTRONIC BUTLER

Door Answering Intercom System for Safety and Convenience

Flush-mounted, Portable or Wall-hanging Masters and Flush-mounted or Surface-mounted Door Remotes • FB Door station has pushbutton for activating buzzer, bell or chimes • Door stations consume no power; Masters use power only when actually being spoken into • Pilot Light on Master indicates operating • Extremely economical, costs about one cent per month to operate, with average use • Dimensions of Master are 9¼" wide x 8" high x 3" deep.

	List Price
Model HCM Flush-Mounted Master	**$65.00**
Model PCM Master for Portable or Wall-Hanging Use	**77.50**
Model IB-3 Outlet Box	**9.00**
Model FB Remote Door Station, with pushbutton	**15.00**
Model FO Remote Door Station, less pushbutton	**15.00**

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
WEST OF ROCKIES, ADD 5% TO LIST PRICES

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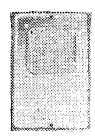
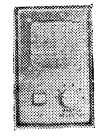
ACCESSORIES



F Remote (Less Switch)

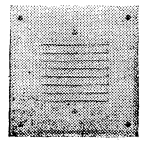
FS Remote (With Call-Origination Switch)



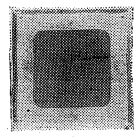
FS-6 Remote (With Selector Switch)

ROOM REMOTES — **LIST PRICES**

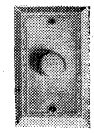
F Flush-mounting Remote, less talk-listen switch **12.50**
FS Flush-mounting Remote, with talk-listen switch **15.00**
FS-6 Flush-mounting Remote with 6-position selector switch and talk-listen switch **19.00**



K-5



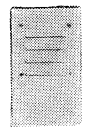
K-8

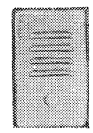


VCA-75

HOME MUSIC DISTRIBUTION REMOTES

K-5 Flush-mounting Speaker Station with heavy-duty 5" PM Speaker and Plaster Ring, less Volume Control **11.25**
K-8 Flush-mounting Speaker Station with heavy-duty 8" PM Speaker and Plaster Ring, with Volume Control **20.00**
K-12 Flush-mounting Speaker Station with heavy-duty 12" PM Speaker and Plaster Ring, with Volume Control **28.75**
VCA-75 Volume Control, for use with **K-5, F, FS,** .... FS-6 ..... **5.00**

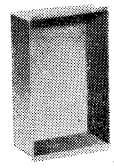




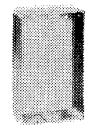
FO **FB**
Weatherproof For Outside Doors

DOOR ANSWERING REMOTES

FO Flush-mounting weatherproof Remote, with waterproof speaker, for mounting on door frame or wall, with rubber gasket, less pushbutton **15.00**
FB Flush-mounting weatherproof Remote, with waterproof speaker, for mounting on door frame or wall, with rubber gasket and pushbutton for operating standard bell, buzzer or chimes **15.00**



WMB



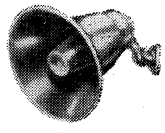
FMB

WALL MOUNTING BOXES

WMB for use with **FO** and **FB** Remotes, for mounting flush to wall. Mounts to a wall stud; serves as plaster ring, dust cover and mounting base. 3¾" x 6" x 2" deep **6.50**
FMB For use with **FO** and **FB** Remotes, for mounting Remote on surface of wall. Gold finished. 4" x 6¼" x 2" deep **7.25**

ELECTRIC DOOR LATCH RELEASE

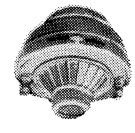
DAS An electrically operated door release to fit any standard front or rear door. Allows door lock to be released from a remote point. Complete with brass electric door latch, pushbutton switch mounted on gold finished standard switch plate, 4" gem box, transformer and 75 ft. of 2-conductor cable **21.25**



IB-8

MIL-45

PH



MA-25

PAGING HORNS

MIL-45 A weatherproof outdoor speaker complete with mounting bracket, 8½" diam. x 7" high **26.25**
IB-8 A weatherproof reflex trumpet rated at 12 watts continuous duty. 8 ohm voice coil. 8½" diam. x 9" high **32.50**
MA-25 and **PH** 25 watt driver unit and reflex trumpet which fit together to make up a heavy-duty paging horn. 16 ohm voice coil. 20" diam. x 20" high **58.50**

CABLE FOR INTERCOMS AND MUSIC SYSTEMS

List Prices Per 100 Feet

S 2-Conductor Cable	4.32	**TW-4** 4-Pair Cable	32.94
POSJ 2-Conductor Cable	6.50	**C-5** 5-Conductor Cable	24.00
SC 2-Conductor Shielded	7.83	**C-7** 7-Conductor Cable	29.00
SCB 2-Conductor Shielded, with outer covering	11.61	**TW-7** 7-Pair Cable	32.94
SW Weatherproof 2-Conductor	12.50	**C-12** 12-Conductor Cable	31.25
C-3 3-Conductor	6.50	**TW-13** 13-Pair Cable	55.08

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
WEST OF ROCKIES, ADD 5% TO LIST PRICES

MARK SIMPSON MFG. CO. LONG ISLAND CITY 3, N. Y. Masco

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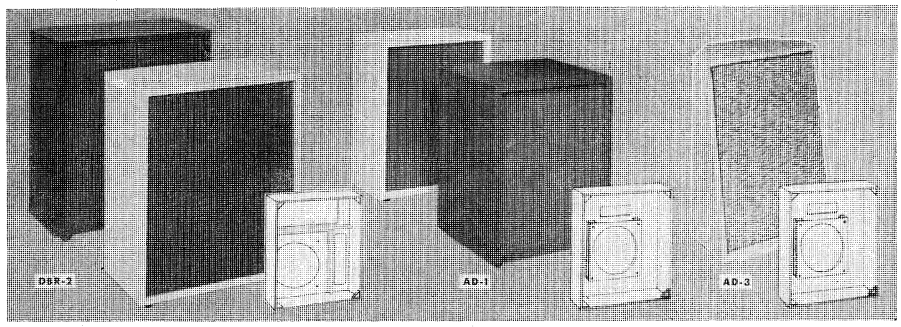
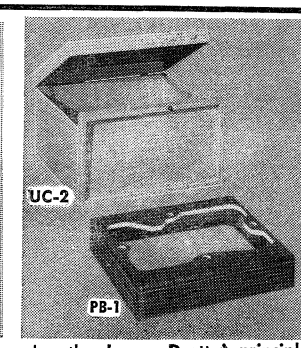
Argos PRODUCTS COMPANY — *Craftsmanship in Cabinets*

NEW HI-FI CABINETS, BAFFLES, TUBE CADDIES





These Argos cabinets are made of extra heavy wood, covered with pyroxylin-coated fabric (much heavier than used on ordinary cabinets). This covering is both scuff and moisture-resistant.

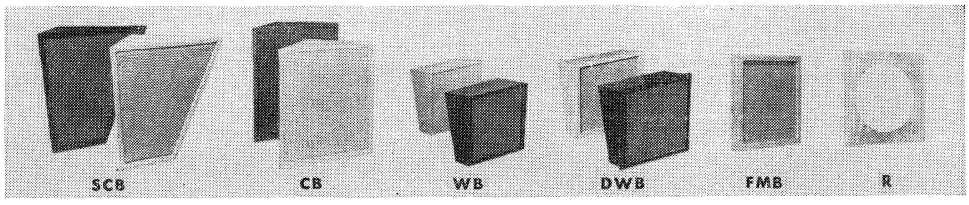
The smaller units AD-1, AD-3 employ the **Jensen Duette† principle,** which has been so successfully used in **table model** speakers to obtain full reproduction of low bass notes in small size.

DE LUXE SPEAKER CABINET
4.2 cu. ft. capacity provides full bass tone. Acoustic padding on interior. Beautiful woven plastic grille. Takes either 12- or 15-inch speaker; reducing ring and two sets of mounting screws with nuts already installed. Front panel reinforced to prevent sympathetic vibration. Holes cut for large speaker and bass reflex port; detachable mounting panel for tweeter and medium range speaker. Blond or Mahogany.
DBR-2—Size 24" w. x 29" h. x 15" d. Shpg. Wt. 42 lbs. .....List **$58.00**

DUETTE* SPEAKER CABINET
Small size consoles with better tone than many full size cabinets because of famous Jensen Duette* principle. Ideal height for use as lamp table. Heavy wood construction; acoustic padding on interior. Suitable for either 12- or 8-inch speaker with or without tweeter. Blond or Mahogany, same price.
AD-1—19½" w. x 23⅜" x 13½" d. Shpg. Wt. 27 lbs. List **$37.50**

NEW SLANTING CORNER CABINET
Like AD-1 at left only specially shaped for use in corner. Slanting front projects sound toward audience. Corner location is best because walls and floor serve as extension surfaces for speaker.
AD-3—Size 19¼" w. x 27" h. x 14¼" d. Ship Wt. 27 lbs. .....List **$47.50**

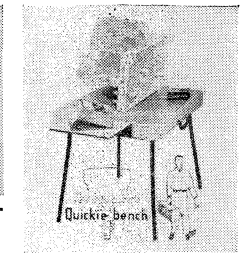
RECORD PLAYER CABINET Takes almost any changer. 17" w. x 10¼" h. 15¾" d. Blond or Mahogany.
UC-2—Wt. 14½ lbs. .....List **$29.50**
RECORD CHANGER BASE Cut to fit Garrard RC88-98 and RC121, Thorens CD-43, Callaro RC-54, VM900 Series and 1200 Series, Webcor 1121 and 1631-1641 or blank panel. Size 15¾" w. x 13¼" d. x 4" h. Blonde or Mahogany.
PB-1—Ship. Wt. 4½ lbs. **List $7.85**



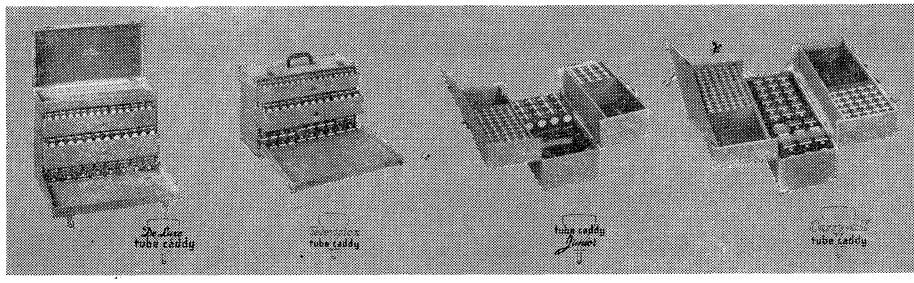
SCB—NEW SLANTING CORNER BAFFLES. Best tone because slanting panel aims sound downward. Bass reflex. Heavy ribbed fabric, Mahogany or blonde, same price.
CB—REGULAR CORNER BAFFLES. Bass reflex. Heavy ribbed fabric over thick plywood. Mahogany or blonde.
WB—WALL BAFFLES. Heavy ribbed fabric over thick plywood or hardboard. Mahogany or blonde, same price.
DWB—DELUXE WALL BAFFLES in genuine wood. Blonde Mahogany or walnut-finished mahogany, same price.
FMB—CEILING MOUNTING BAFFLE. 12" sq. size for fitting into standard acoustic ceiling tiles. Heavy ribbed fabric.
R-8/12 REDUCING RING for mounting 8" speaker in any 12" cabinet (baffle or console). All hardware included. Ship. Wt. .....List **$1.65**
R-12/15 REDUCING RING. Same only 12"—15" size. Ship. Wt. 1½ lbs. .....List **$2.25**

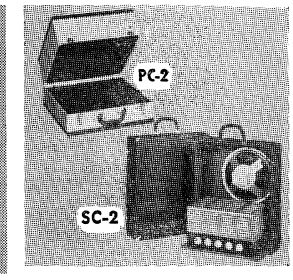
°Shipping weight of 2 in carton.

Model	Speaker In.	Width, Height Depth, In.	Ship. Wt. Lbs.	List Price
SCB-8	8	21 x15 x10	5	$12.35
SCB-12	12	21 x21¼x10½	9	17.05
CB-8A	8	12¼x14 x6	4½	12.35
CB-12A	12	18 x20¼x9	9	17.05
WB-4/5A	4/5	6 x 6 x4¼	2½°	4.34
WB-6A	6	7½x 8½x5	3½°	5.25
WB-8A	8	9⅜x10½x6½	5½°	6.25
WB-10A	10	11½x12¼x7¾	7½°	7.40
WB-12A	12	13¼x14¼x9	9½°	8.65
DWB-8	8	9⅜x10½x6½	5½°	9.10
DWB-12	12	13¼x14¼x9	10°	12.75
FMB-6	6	12 x12 x1½	4°	6.50
FMB-8	8	12 x12 x1½	4°	6.50



NEW TECHNICIAN'S QUICKIE BENCH. Speeds repairs on the spot, increases profit per call, builds customer satisfaction. Strong, versatile, carries easily — folds to 26" long x 11" high x 6¼" thick. Work surface 22 x 26, in., 25" high. Ship Wt. 15 lbs.
QB-1 Dlr. Net.....$9.95





TUBE CADDIES* SPECIALLY DESIGNED FOR TV SERVICEMEN

They make work easier and quicker and you are more efficient. Regimented drawers give INVENTORY at a GLANCE—missing cartons are easily spotted. Shop owners say a tube caddy PAYS FOR ITSELF IN THREE WEEKS' TIME. Men are checked in and out faster and always arrive on the job with the tools they need. This means more calls per day, lower cost per call. Durable tweed-gray fabric.

DE LUXE TUBE CADDY*
Combines convenient tool tray (2⅛" deep) with drawers for up to 225 tubes. Slip-out hinges on cover. 18" w. x 14½" h. x 9¼" d. Ship. Wt. 14½ lbs.
TC-3—Net **$15.50**

ORIGINAL TUBE CADDY*
Holds up to 249 tubes. Drawer partitions removable for tools and meter. Slip-out hinges on cover. 21" w. x 15" h. x 8" d. Ship. Wt. 14½ lbs.
TC-1C—Net **$14.50**

TUBE CADDY* JUNIOR
Easy-to-carry size for quick trips. Holds up to 143 tubes, or less with tools and meter. Size: 15¾" w. x 12½" h. x 8" d. Ship. Wt. 13 lbs.
TC-2A—Net Each **$9.50**

CARRY-ALL TUBE CADDY*
"Break-away" design gives quick availability to all items. Holds up to 262 tubes, plus tools and meter. 21" w. x 15" h. x 8" d. Ship. Wt. 13 lbs.
TC-4—Net Each **$14.50**

SOUND CADDY
Accommodates two 12" speakers and amplifier. Brackets for cables. Heavy plywood, steel corner angles. Brown fabric covering. 17" w. x 23" h. x 13" d. Shipping Wt. 22 lbs.
SC-2A—Net $19.50

RECORD CHANGER CASE
Handsome mahogany and linen fabric covering. Clearance above board, 6¾", under board 3¼". Takes any standard changer. 17" w. x 10½" h. x 15¼" d. Ship. Wt. 16 lbs.
PC-2—List $22.50

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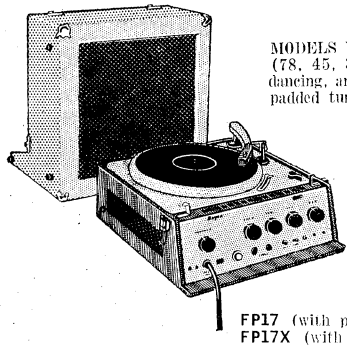
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Bogen SOUND SYSTEMS

PORTABLE TRANSCRIPTION PLAYERS



MODELS VP17 and VP17X are high-fidelity phonographs featuring instantaneous selection of any of the four standard speeds (78, 45, 33, and 16 r.p.m.) plus **variable speed control** over the range from 29 to 86 r.p.m. Ideal for instruction, square dancing, and other applications in business, school or recreation. Incorporate 4-pole constant velocity motor, weighted and rubber-padded turntable, 10-watt high-fidelity amplifier and 12-inch speaker, all carefully matched and housed in an attractive and compact carrying case. These models will play all records up to 16" in diameter with splendid sound quality and minimum record wear. "Wow" is negligible. Separates bass and treble tone controls are provided. Scratch filter. Plug-in head. Shock mounting. A microphone input with separate volume control enables the units to serve also as 10-watt portable P.A. systems. U.L. Approved.

VP17 (with piezo electric cartridge) ..... **List Price: $168.10**
VP17X (with GE magnetic cartridge) ..... **List Price: $181.90**

MODELS FP17 and FP17X offer 78, 45, and 33 r.p.m. speeds, with the same amplifier (including tone controls and scratch filter), speaker and carrying case described above, for all applications where intermediate speed variations are not required.

FP17 (with piezo electric cartridge) .... **List Price: $139.00**
FP17X (with GE magnetic cartridge) ... **List Price: $150.25**

PORTABLE RECORD PLAYERS

MODEL VP12 provides the four standard speeds, each variable within ±5%; a microphone input; mic and phono volume controls; separate bass and treble tone controls.

MODELS PE5 and PE3 are 3-speed phonographs, incorporating volume and tone controls, offering excellent performance with compactness and economy.

NEW COMMUNO-PHONE SYSTEMS

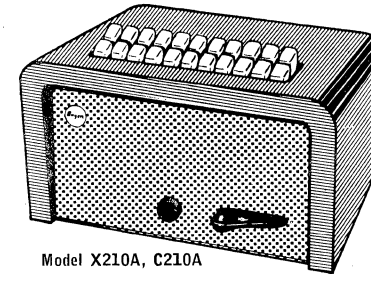
Five Versatile Models to Solve Every Intercommunication Problem

SERIES "X"—Completely universal. Will serve installations requiring single master and several remote stations—installations requiring several masters—or installations requiring several masters and several remotes. Model X410A has ten selector buttons; Model X210A has twenty. Gray steel cabinets; typewriter keyboard action; automatic busy signal; provision for plug-in of handset; 117-volt, A.C., power supply; U.L. Approved.

SERIES "C"—Serves installations requiring either a single master and several remote stations or several master stations only. Will not serve installations requiring a combination of several masters and remotes. Operates on voice coil lines. A.C.-D.C.; no busy signal; similar to Series "X" in other respects.

MODEL "TWIN"—Complete 2-station wireless system, requiring no cable between stations. Simply plug stations into regular power line and talk. Additional stations available; all will receive when any one transmits. Any can be locked in "continuously transmitting" position. U.L. Approved.

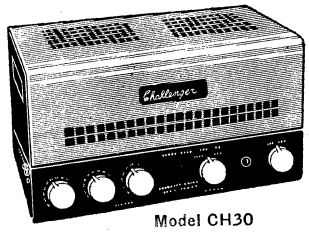
TWIN (2 stations) ..... **List Price: $95.00**



Model X210A, C210A

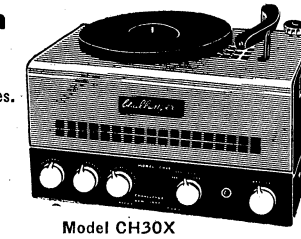
CHALLENGER SOUND EQUIPMENT by Bogen

30-WATT P.A. AMPLIFIER AND SYSTEMS



Model CH30

- Individual controls for two microphones, phonograph, tone control.
- Terminal strip and 2 speaker plug-in sockets for connection of speaker lines.
- Moulded bakelite sockets throughout.
- Inverse feedback for better response and regulation.
- Extractor type fuse. • Recessed carrying handles.
- Output Impedances: 4, 8, 16 ohms, 70 volts.
- Dimensions: CH30: 15" w. x 8" h. x 10" d.
- 117-volt, A.C., power supply.
- Underwriters' Lab. Approved.



Model CH30X

MODEL CH30—30-watt amplifier, tubes and cage. **List Price** **$96.75**

MODEL CH30P—Complete portable system containing 1-CH30 amplifier with tubes, cage; 2-12" Alnico V PM speakers, each with 25 ft. cable and plug, mounted in split portable case which also carries amplifier; 1 Astatic JT30 Crystal Microphone with handle, interlocking base, 15 ft. cable and plug.
List Price **$177.80**

Challenger 8-watt (**CH8—L.Pr. $54.50**), 18-watt (**CH18 — L.Pr. $81.50**) and 60-watt (**CH60—L.Pr. $164.50**) P.A. amplifiers also available, as well as indoor, outdoor and portable systems.

MODEL CH30X—30-watt amplifier, tubes and built-in 78 r.p.m. phonograph top. **List Price** **$118.75**
(With 3-Speed Phono, $129.25)

MODEL CH30XP—Complete portable system containing 1-CH30X amplifier with tubes; 2-12" Alnico V PM speakers, each with 25 ft. cable and plug, mounted in split portable case which also carries amplifier; 1 Astatic JT30 Crystal Microphone with handle, interlocking base, 15 ft. cable and plug.
List Price **$199.80**

MODEL CH612 18-WATT UNIVERSAL MOBILE AMPLIFIER

For 117-Volt A.C. and 12-Volt or 6-Volt D.C. Operation

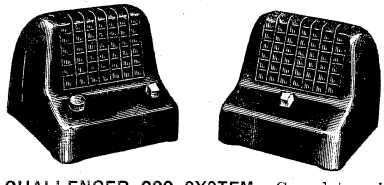
Features individual controls for microphone, phono, tone; inverse feedback for better response and regulation; constant voltage output for easy speaker matching. Built-in 78 r.p.m. phonograph. Output Impedances: 4, 8, 16 ohms, 70 volts. Complete with tubes and cage. Dimensions: 15" wide x 10" high x 10" deep. Underwriters' Lab. Approved.
List Price ..... **$166.75** (With 3-Speed Phono ..... **$177.25**)

MODELS CD6, CD12

6-Watt mobile amplifiers for operation from 6-volt and 12-volt D.C. storage batteries. Complete with tubes, cage and D.C. cable.

CD6 ..... **List Price: $67.50**
CD12 ..... **List Price: $67.50**

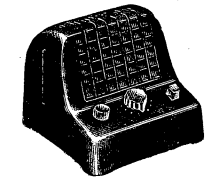
CHALLENGER INTERCOM SYSTEMS



CHALLENGER 200 is a complete system—a master, a remote station and 50 ft. of cable. Operates 117v. AC-DC. Dual-Duty volume control keeps remote "alive" or permits master to silence it. Excellent for nursery, restaurant, business use. Underwriters' Lab. Approved.

CHALLENGER 200 SYSTEM—Complete with 50 ft. of cable and plugs.
List Price **$43.95**

CHALLENGER 600 & 1200 masters may be used in two types of systems: a single master with multiple remote stations or an all master system. 600 calls 5 other stations individually or all at once; 1200 calls 11 individually, no all-call. 117 v. A.C.-D.C. In sturdy beautiful polystyrene cabinets. Remotes can initiate calls also. Underwriters' Lab. Approved.



CHALLENGER 600 MASTER with tubes. **List Price: $39.05**
CHALLENGER 60R REMOTE STATION. **List Price $12.93**
CHALLENGER 1200 MASTER with tubes. **List Price: $49.05**

PRICES APPROXIMATELY 5% HIGHER WEST OF THE ROCKIES • **ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE**

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DAVID BOGEN CO., INC. • New York 14, N. Y.

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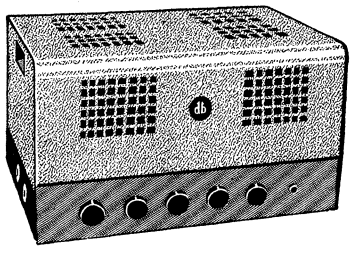
Bogen SOUND SYSTEMS



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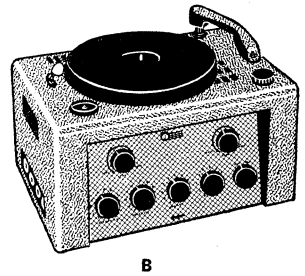

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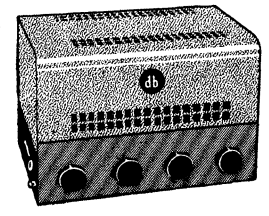

C

Public address, paging, music distribution, and intercommunication systems for every need—indoor, outdoor, portable or mobile—for the large factory, school, church, stadium, or the small office, auditorium, bus or store—designed and built by the country's largest manufacturer of sound systems.

Bogen amplifiers range in power from 10 watts to 125 watts and are available in a wide variety of "package" systems including different microphones and loudspeakers for different applications. In addition, if you have a special problem, the Bogen Custom Engineering Division will design and assemble a system for your particular installation, regardless of size.

The table below lists the Bogen P.A. amplifiers and package systems. All are conservatively rated in accordance with accepted engineering standards. Each has a frequency response carefully selected to insure optimum performance in the applications for which the model has been designed.

Each amplifier marked with an asterisk (*) carries Underwriters' Laboratories approval. Each is finished in tasteful tones of green and buff or green and gray. All, except the mobile and phonograph top models, are available on panels for mounting in standard steel racks, if so ordered. (Panel mounting adds $24.25 or $30.75 to the list price, depending on the model.)

Deluxe models JX50 and JX30 incorporate the exclusive Bogen ANTI-FEEDBACK CONTROL, which permits the tuning out of acoustic feedback and hence the use of more power in the system. These models also feature separate, continuously variable bass and treble tone controls, and provision for plug-in remote volume control of two input channels. (Order remote control unit separately—SCR50 [50-ft. cable] at $16.75 list price, or SCR100 [100-ft. cable] at $21.75 list price.)

Amplifier		Rated Output (Watts, Distortion)	Illustration	Controls	Built-in Phonograph Top	Power Supply
(Deluxe)	JX50*	50 at 3%	F	4 microphone channels, 1 phonograph channel, bass tone, treble tone, anti-feedback control	.....	117 volts, AC
	JX30*	30 at 2%			.....	
(Standard)	J50*	50 at 3%	A	2 microphone channels, 1 phonograph channel, bass tone, treble tone	.....	
	J330*	30 at 5%	B, less phono top	3 microphone channels, 1 phonograph channel, bass tone, treble tone, power switch,	.....	
	J330Y*		B	plus phono speed control and power switch on J330Y	3 speed	
	J130*		A	1 microphone channel, 1 phonograph channel, bass tone, treble tone, power switch,	.....	
	J130Y*		A, plus phono top	plus phono speed control and power switch on J130Y	3 speed	
	J15*	15 at 3%	E	2 microphone channels, 1 phonograph channel, bass tone, treble tone, plus phono speed control and power switch on J15Y	.....	
	J15Y*		E, plus phono top		3 speed	
	HE10*	10 at 4%	C	1 microphone channel, 1 phonograph channel, tone corrector, power switch	.....	
(Mobile)	J1623	AC:23 at 5% DC:20 at 5%	B	2 microphone channels, 1 phonograph channel, bass tone, treble tone, power switches, phono speed control	3 speed	117 volts, AC or 12 or 6-volt, DC storage battery (automatic changeover)
(Preamplifiers —Broadcast Quality)	JOH*	8 volts	F	4 microphone channels, 1 phonograph channel, master gain control, tone corrector	.....	117 volts, AC
	JOL*	8 volts or 1 mw at 1% 20 mw at 3.5%	F, plus output meter		.....	
	RP-1 (with CAGVU cage and meter)		D	1 microphone channel, 1 phonograph channel, power switch	.....	
(Boosters)	J0100*	100 at 2½% 125 at 3%	A, less controls	Power switch	.....	
	J050*	50 at 3%			.....	
	JO30*	30 at 5%			.....	

PRICES APPROXIMATELY 5% HIGHER WEST OF THE ROCKIES • **ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE**

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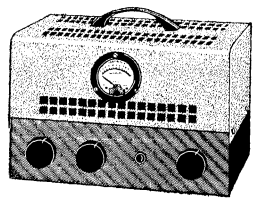
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Bogen SOUND SYSTEMS



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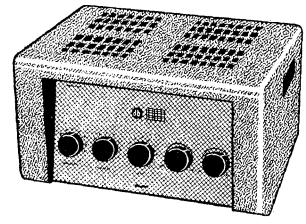

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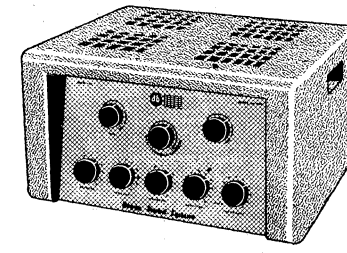

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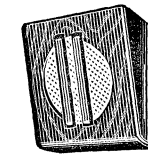
All "J" models (except J1623) have provision for easy plug-in of low impedance input transformers, when it is desired to use low impedance microphones located a considerable distance from the amplifier. Order plug-in transformers separately for desired number of low impedance inputs: T155, T156, T157, for 200, 500, 50 ohms, respectively. For low impedance input on J0100, J050 or J030, order T161 (500 ohms). In addition, models HE10 and RP1 may be ordered as low impedance versions HEL10 and RP-1L for $13–$25 additional to the list price. "J" models also feature broadcast-type microphone connectors, with positive lock and quick disconnect.

For simple, rapid impedance matching between amplifier and speakers, constant voltage output taps (70 volts, 140 volts) are provided on all Bogen amplifiers where there is likely to be need for them in addition to conventiona constant impedance taps. These eleminate the involved calculations previously required to determine the necessary speaker matching transformers, if any.

All indoor systems include a microphone and two or four speakers mounted in wall baffles (G), with connecting cables and plugs. Outdoor systems include a microphone with cable and plug and one, two or three trumpets. Portable systems include a microphone and two speakers mounted in a carrying case (H), with cables and plugs. The case, which also carries the amplifier, divides into two speaker baffles ready for instant use.

No matter what your requirements, you cannot buy a sound system of finer performance or greater dependability than a Bogen..

Dimensions (W. x H. x D.)	Shipping Weight	Output Impedance Taps	Indoor System	Outdoor Systems	Portable System	Amplifier List Price
17" x 9" x 14"	47 lbs.	4-8-16 ohms 70-140 volts	JX50B	JX50TU JX50TJ	.....	$279.50
	40 lbs.	4-8-16-500 ohms 70 volts	JX30B	JX30TU JX30TJ	.....	219.50
17" x 9¼" x 12½"	43 lbs.	4-8-16 ohms 70-140 volts	J50B	J50TU J50TJ	.....	196.50
15½" x 7¾" x 10¾"	30 lbs.	4-8-16-500 ohms 70 volts	J330B	J330TU J330TJ J330FR	J330P	139.50
15½" x 9" x 10¾"	35 lbs.		J330YB	J330YTU J330YTJ J330YFR	J330YP	172.00
15" x 8¾" x 10"	30 lbs.		J130B	J130TU J130TJ J130FR	J130P	113.50
15" x 9½" x 10"	35 lbs.		J130YB	J130YTU J130YTJ J130YFR	J130YP	146.00
15½" x 7¾" x 10¾"	26 lbs.	4-8-16 ohms 70 volts	J15B	.....	J15P	114.00
15½" x 9" x 10¾"	31 lbs.		J15YB	.....	J15YP	146.50
11" x 7⅗" x 7"	15 lbs.	4-8-16-500 ohms 70 volts	HE10B	.....	HE10P	75.00
15¼" x 10⅓" x 10⅞"	35 lbs.	4-8-16 ohms 70 volts	J1623B	J1623TU J1623TJ	.....	224.40
15¼" x 8" x 11"	17 lbs.	10,000 ohms	.....	.....	.....	132.75
	19 lbs.	10,000 ohms or 50-200-500 ohms	.....	.....	.....	172.00
11" x 8½" x 8½" (6½" high without cage)	18 lbs.		.....	.....	.....	81.25 (RP-1)+ 31.25 (CAGVU)
17⅛" x 9⅜" x 12½"	59 lbs.	110 ohms 70-140 volts	.....	.....	.....	215.75
	45 lbs.	4-8-16 ohms 70-140 volts	.....	.....	.....	167.50
15" x 8¼" x 10"	30 lbs.	4-8-16-500 ohms 70 volts	.....	.....	.....	108.75



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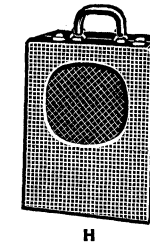

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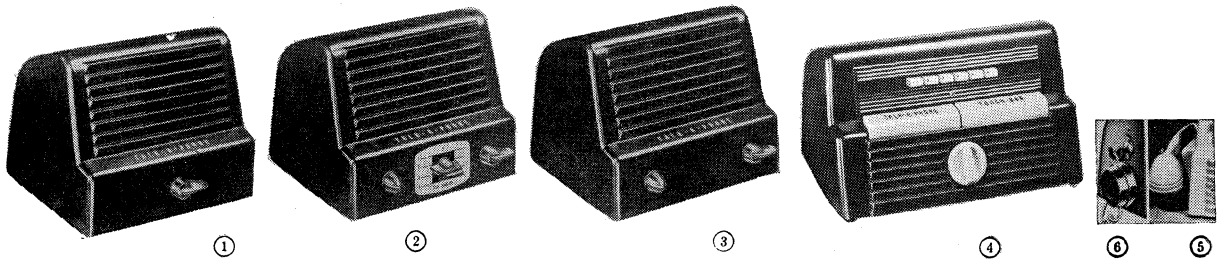
TALK-A-PHONE *Intercommunication Systems*

For the Home, Farm, Professional Man, Office and Business. A flick of a finger gives you instant and direct two-way conversation between any two points—anywhere. Designed to withstand continuous day and night use, TALK-A-PHONE operates at but a fraction of a cent a day . . . and it can be installed by anyone. All units are complete, ready to plug in. Walnut impact bakelite cabinets. Cabinets measure 8¼" x 6¼" x 7½".



① ② ③ ④ ⑥ ⑤

NEW TALK-A-PHONE WIRELESS INTERCOMS

with the Exclusive "Sonic Gate" Circuit

New 2-Station Wireless System (Figure 3)

A quality wireless intercom system for use in Homes, Apartments, Offices, Stores, Factories and Farms. No installation, no wiring, no cables. Just plug in any electrical outlet and talk. More stations can be added at any time; all stations will receive any messages transmitted by any other station. Mobile-units can be moved anywhere an electrical outlet is available. Uni-Trans gives you dictation and supervisory control. When set for Uni-Trans, unit provides continuous transmission to other unit, to dictate or to "listen in" . . . for example, on baby's room. The "Sonic Gate," together with the Talk-A-Phone "Squelch," effectively suppresses line noises and hum while system is in actual operation as well as when in stand-by position. Beautifully styled in sturdy, impact bakelite cabinets, finished in rich walnut or executive gray. For 110-120 volt AC-DC. All units in system must operate from same electric service transformer. Size 8¼" x 6¼" x 7½". Complete with tubes and instructions.

LC-33 consists of two master stations. Shipping weight 14 lbs. Walnut cabinets. List Price complete $120.00.....Net **69.95**

LC-17 Additional single station. Shipping weight 7 lbs. Walnut Cabinet. List Price complete $60.00.....Net **35.00**

The New 6-Station Selective Wireless System (Figure 4)

Simple to install, no wiring, simply place each Master where needed, plug into an electrical outlet, and talk! Where changes of location are desired, simply pick-up the unit and move it. Each Master Station has a 6-Channel Selector and can converse with any other station selectively; and can receive calls on any channel it elects. Hold as many as 3 separate conversations with 6 Masters. Masters can also setup conferences. Where some locations need not originate calls, but must reply when called, Wireless Staff Stations are available. Wireless Staff Stations can also be used to receive Paging calls simultaneously from any Selective Wireless Master Station in the system. Use as many Wireless Staff Stations as needed (all Staffs must operate on same channel for this purpose). Equipped with the most effective noise-free circuit ever developed, the "SONIC GATE CIRCUIT". Operates universally on 110-120 Volts, AC-DC. All units in system must operate from same electric service transformer. Size: Masters—12" x 9" x 7", Wt. 12½ lbs. Staff—8¼" x 6¼" x 7½", Wt. 7 lbs.

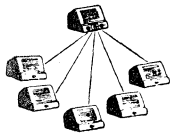
MODEL LCM-8806—6-Station Selective Wireless Master, complete with tubes and instructions, ready to use. List Price Each $110.00.....Net Each **64.00**

MODELS LCS-801* LCS-802*, LCS-803*, LCS-804*, LCS-805* and **LCS-806***; Wireless Staff Stations which receive and reply on single channel only. List Price Each $60.00.....Net Each **35.00**

***Last number indicates the only channel number on which staffs can receive and reply. (Example: LCS-806 can receive and reply on channel 6 only).**

NEW TALK-A-PHONE DELUXE SYSTEMS

Master Selective Systems (Figs. 1 & 2)



A system consisting of one Master Station and one to ten Sub-Stations. Master Station can talk and listen to any one Sub-Station or with all simultaneously. Sub-Stations do not communicate with each other. Only the Master Station plugs into an electrical outlet. You may start with only one Master and one or two Sub-Stations and then add later when necessary. Installation of system has optional feature whereby Sub-Stations can be connected "Privately," or "non-privately" and still originate calls to the Master under either application. Once a conversation has been initiated with a "non-private" system, persons at Sub-Stations need operate no controls and can reply from a distance. When the system is connected "privately," Master unit cannot "listen in" on Sub-Stations. However, they can reply when called, and also originate calls to the Master. Operates universally on 110-120 volts, AC-DC. U.L. Approved. The AC-5406 and AC-5411 Master Stations operate as above with the added feature of 10 times volume output. A desirable feature for large areas or noisy locations. Operates on 110-120 volts, AC only. **Only one master station can be used in these systems.**

Model LM-5 Master Selective Station for 5 Sub-tions, complete with tubes and easy-to-follow instructions. Wt. 7 lbs. List Price each $45.00. .....Net each **26.45**

Model LM-10 Master Selective Station for 10 Sub-Stations, complete with tubes and easy-to-follow instructions. Wt. 7 lbs. List Price each . .58.00. .....Net each **34.00**

Model LR-3 Sub-Station for use with LM-5 or LM-10 Masters. Wt. 5 lbs. List Price each $15.95. .....Net each **9.35**

Model LR-3M Sub-Station in brown metal case. Wt. 3 lbs. List Price each $15.95 .....Net each **9.35**

Model AC-5406 Master Station. 5 sub-station capacity. High Volume Output. Wt. 8 lbs. List Price each $55.00 .....Net each **32.35**

Model AC-5411 Master Station. 10 sub-station capacity. High Volume Output. Wt. 8 lbs. List Price each $68.00.....Net each **39.95**

Model AR-3 Sub-Station for use with AC-5406 or AC-5411 Masters. Wt. 5 lbs. List Price each $16.95. .....Net each **9.95**

Model AR-3M Same as AR-3 above, but in brown metal case. Wt. 3 lbs. List Price each $16.95. .....Net each **9.95**

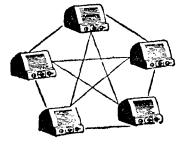
Model HP-3 Hi-Power Staff Station for wall mounting. Brown metal case. Wt. 8 lbs. List Price each $25.00.....Net each **14.70**

Model C-20 Nine-Inch Weatherproof Re-Entrant Horn. Wt. 5 lbs. List Price each $44.95. Net each **26.50**

S-100 Wall Switch for origination of call through C-20 or HP-3. List Price each $5.00. . . .Net each **2.95**

No. 5303 (3-conductor) Cable for connecting Sub-Stations to Master. List Price per foot 5c. .....Net per foot **.03**

Super Selective Systems (Fig. 2)



A system of all Master Stations. Any Station can call any other Station. Several completely private 2-way conversations are possible at same time. A versatile, low cost intercom system offering extreme flexibility, meeting many requirements in industry, offices, homes, etc. Any Station can call and carry on a conversation with any other Station in the system with absolute "privacy." Have a visitor in your office and your mind is at ease that no one can eavesdrop on your conversation. Stations can be located even 1000 feet apart. Variable volume, adjustable at each unit, controls incoming voice. You can start with two or three masters, and then add later as required. Operates universally on 110-120 volts, AC-DC. U.L. Approved.

Model LS-5 Super Selective Station for five Masters, complete with tubes and easy-to-follow instructions. Wt. 7 lbs. List Price each $45.00.....Net each **26.45**

Model LS-10 Super Selective Station for ten Masters, complete with tubes and easy-to-follow instructions. Wt. 7 lbs. List Price each $58.00 .....Net each **34.00**

No. 5506 (6-conductor) Cable for connecting LS-5 Masters. List Price per foot 13c .....Net per foot **.07½**

No. 9911 (11-conductor) Cable for connecting LS-10 Masters. List Price per foot 24c. Net per foot **.14**

2—Station Inter-Communication System

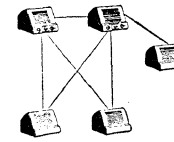
(Figs. 1 & 3)

Provides voice communication between any two points. For homes, stores, offices, farms, etc. Ideal for nursery. No more getting up and down to see if baby is all right with "Elsie" on the job. "Elsie" is a packaged item, complete with a Master Station, a Sub-Station and 50 feet of interconnecting cable. Additional cable lengths are available for greater distances. "Elsie's" Sub-Station can optionally be operated "privately," so that the Master cannot listen in (but Sub-Station can answer calls and also originate calls), or "non-privately," allowing the Master to "listen in" and enabling persons at a distance from the Sub-Station to answer without operation of any controls. The volume can be adjusted from a bare whisper to the full output of the powerful high gain amplifier. Operates universally on 110-120 volts, AC-DC. All units are complete, ready to plug in. Walnut impact bakelite cabinets. Cabinets measure 8¼" x 6¼" x 7½". Underwriters Laboratories Approved.

Model LC-2 2-Station System complete with tubes, easy-to-follow instructions, and 50 feet of cable. Wt. 11 lbs. List Price complete $51.00. Net complete **29.95**

No. 5303 (3-conductor) Cable. For use where additional lengths are required between the Master and the Sub-Station. List price per foot 5c..... .....Net per foot **.03**

Combination Systems (Fig. 2)



For the more flexible type of system requiring operation of more than one Master Station, along with Sub-Stations which need not originate calls. Personnel can answer incoming calls even though they are 25 to 40 feet from their unit. Master Stations may talk to each other and to all Sub-Stations in the system selectively; or you can have one or more Sub-Stations which are exclusive to only one Master Station (as illustrated in the diagram above). Master Stations have the option of making themselves "private" or "non-private" at will. You can begin with two stations (at least one must be a Master) and add other units as required. Model CL-5 Master Station has a total inter-connecting capacity of five stations, including Masters and Sub-Stations; while Model CL-10 Master Station has a total capacity of ten stations. Sub-Stations are not plugged in to a source of electric current. Operates universally on 110-120 volts, AC-DC. U.L. Approved.

Model CL-5 Combination Master for five station use, complete with tubes and easy-to-follow instructions. Wt. 7 lbs. List Price each $55.00.....Net each **32.35**

Model CL-10 Combination Master for ten station use, complete as above and with addition of junction box attached by 6' cable to unit. Wt. 8½ lbs. List Price each $74.00.....Net each **43.50**

Model LR-2 Sub-Station for use with either of above Masters. List Price each $15.95.....Net each **9.35**

Model LR-2M Same as LR-2, but in brown metal case. Wt. 3 lbs. List Price each $15.95. . .Net each **9.35**

Model HP-3 Hi-Power Sub-Station for wall mounting in brown metal case. Wt. 8 lbs. List Price each $25.00.....Net each **14.70**

Model C-20 Nine-inch weatherproof re-entrant horn. List Price each $44.95.....Net each **26.50**

No. 6212 (6-pair) Cable for interconnecting CL-5 Masters. List Price per foot 24c.....Net per foot **.14**

No. 6224 (12-pair) Cable for interconnecting CL-10 Masters. List Price per foot 47c .....Net per foot **.28**

No. 6902 (2-conductor) Cable for connecting Sub-Stations to CL-5 or CL-10. List Price per foot 3½c. .....Net per foot **.02**

How To Determine Cable Requirements

All Models

For **Master Selective Systems** measure from each Sub-Station to the Master and order total. For **Super Selective Systems**—measure from first Master to second Master only, from second Master to third Master only, etc., and total. Cable between first and last Master not necessary. For **Combination Systems**—Master cable; measure from first Master to second Master only, from second Master to third Master only, etc., and total; Sub-Station cable; measure from each Sub-Station to nearest Master only.

EARPHONE—(Fig. 6)—Available for all units above. List Price per station, add $20.00. . . . . Net, add **12.00**

CRADLE PHONE—(Fig. 5)—Available for units above. List Price per station, add $45.00. . . . . Net, add **26.45**

EXECUTIVE GRAY Cabinets available at additional cost. For LC-2, and LC-33. List Price, add $5.00. . . . . Net, add **3.00**
For LCM-8806, List Price, add $4.00. . . . . Net, add **2.50**
All other units, List Price, add $2.50. . . . . Net, add **1.50**

For more complex installations . . . Send for information on the **TALK-A-PHONE "CHIEF"** Intercom Systems.

Prices slightly higher west of the Rockies.

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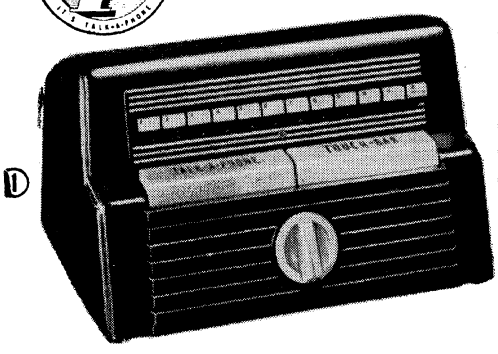
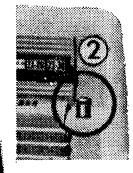
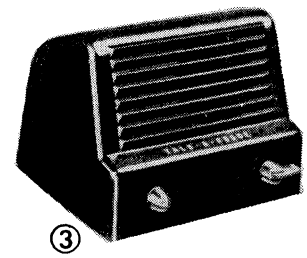
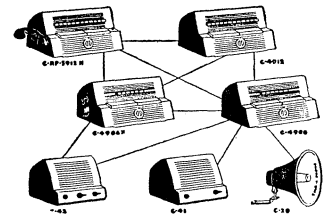
TALK-A-PHONE The Intercom with the "Built in Brain"

World's Finest, Most Complete Line of Intercommunication Systems









New "CHIEF" Talk-A-Phone

THE ONE MODEL THAT MEETS EVERY REQUIREMENT

The Answer to Your Intercommunication Problem

Setting a new standard in versatility and flexibility, the Talk-A-Phone "CHIEF" meets every intercommunication need of office, factory, institution or home. A touch of a button gives you instant, direct two-way Communication with every department. Saves time, increases efficiency, reduces loads on busy switchboards and enables executives and key personnel to cover more ground. It pays for itself many times over. Beautifully styled in streamlined impact bakelite cabinets. Walnut-finish.

"Chief" Universal Master Stations (Figure 1)

The "Chief" with its exclusive Dynasonic Design can be used in any combination—with all Master Stations—one Master and Staff Stations—or a number of Masters combined with Staff Stations. Six, 12, 20, 30, 40, 50, and 60, Station Masters, together with Staff Stations can be intermixed in same system. Masters can talk with any other Master, as well as with Staffs. Staff Stations can answer all Masters and can originate calls to as many as six Masters, depending upon Staff's capacity. Staff Stations are not connected to electrical outlet.

Exclusive Features: (1) DYNASONIC DESIGN—permits intermixing of units, variation of performance and additions to system at any time. Some Staff Stations can be "private," others "non-private." Any Staff Station can be "non-private" to one or more Masters and "private" to others. **(2) MULTI-MAGIC SELECTOR**—enables selection of up to 40 stations with 12 push buttons (50 and 60 stations with 14 push buttons). **(3) UNI-TRANS**—for dictation . . . with no operation of controls necessary while speaking.

Optional: LD "Long Distance" (Figure 8)—for use between Master Stations over cables 2,000 ft., 5,000 ft., 10,000 ft. or even greater distances without loss of volume. Built-in at factory. At slight additional cost.

BUSY SIGNAL—on Master Stations. (Figure 7.) Visual indication when Master Station called is busy. Built-in at factory. At slight additional cost.

"CHIEF" (Figure 1) Master Stations are complete with tubes, junction box with 6-foot cable and instructions. Universal operation, 110-120 volts AC-DC. With push button selector and talk-listen control. Volume control with translucent light indicating when unit is on. Beautifully styled in streamlined impact bakelite cabinets. Walnut finish. Size 12" wide, 7" high and 9" deep.

C-4906 Master 6 station capacity. Wt. 13 lbs. List Price per station $ 89.50...Net **52.50**

C-4912 Master 12 station capacity. Wt. 14 lbs. List price per station $106.00...Net **62.25**

C-4920 Master 20 station capacity. Wt. 17 lbs. List Price per station $125.00...Net **73.50**

C-4930 Master 30 station capacity. Wt. 20 lbs. List Price per station $144.00...Net **84.50**

C-4940 Master 40 station capacity. Wt. 23 lbs. List Price per station $163.00...Net **95.50**

C-4950 Master 50 station capacity. Wt. 26 lbs. List Price per station $182.00...Net **107.00**

"Chief" Redi-Power Master Stations (Figure 2)

"Chief" Redi-Power Master Stations have all the operational features listed above, plus the additional feature of built-in extra power for use when needed. This added power (up to 20 watts), gives you the additional volume needed, for example: when calling a number of stations at one time or calling noisy locations. Return speech from called stations is received at normal volume. Needs no separate power booster which would eliminate return speech. "Chief" Redi-Power has self-compensating volume, whether you call 2, 10 or 20 stations simultaneously. Each station receives its pre-determined volume with no division of output when you call more stations at one time. One or more Redi-Power Masters can be combined with regular Chief Masters and Staff Stations in same system. 110-120 volts. AC only.

Redi-Power Master Stations are also available with the added feature of pre-selected paging for each master unit as Model C-RP-5911. Provides 11-station capacity with one selector button for paging. Each Master may page its own pre-selected stations without any external paging equipment. 110-120 volts. AC only.

C-RP-5912 Redi-Power Master 12 station capacity. Wt. 18 lbs. List Price per station $160.00.....Net **94.00**

C-RP-5911 Redi-Power Master. 11 station capacity with pre-selective paging button. Wt. 18 lbs. List Price per station $190.00.....Net **112.00**

C-RP-5920 Redi-Power Master 20 station capacity. Wt. 21 lbs. List Price per station $179.00.....Net **105.25**

"Chief" Models Available in Executive Gray Cabinets

For C-41 and C-42 Staff Stations. List Price each add $2.50.....Net add **$1.50**
For all Master Stations and C-46 Staff Station. List Price each add $4.00....Net add **2.50**

How to Determine Cable Requirements

To inter-connect Master Stations, measure from first Master to second Master only, from second to third Master only, etc., until the last unit in the system is reached, and total. For C-4920 and C-RP-5920, use two lengths of 6224 Cable, and for C-4930 use three lengths of 6224 Cable, etc. To connect C-41, C-20, HP-2 or HP-3 Staff Stations, measure from Staff Station to the one Master to which Staff Station originates calls. To connect C-42 and C-46 Staff Stations measure a separate length of cable from Staff Station to each Master Station to which Staff originates calls (for each C-42 or C-46 , follow same procedure).

"Chief" Staff Stations (Figure 3)

For use with any "Chief" Master, Staff Stations may be connected "privately" or "non-privately." Connected "non-privately," persons can answer Master at a distance from the Staff without operation of any controls. Persons at "non-private" Staffs may reply to all Masters in the system (whether connected directly to them or not) and can originate calls to one, two, or up to six Masters, depending upon its capacity. Connected "privately" no one can "listen-in," but any Master can call. Private Staff can originate calls and reply to 1, 2 or 6 Masters depending on its capacity. Staff Stations do not need electrical outlet. Handsomely styled in molded impact bakelite cabinets. Walnut finish. Size: 8¾" wide, 6¼" high, 7½" deep.

C-41 Staff Station for origination of call to one Master. Wt. 5 lbs. List Price each $22.00.....Net each **12.95**

C-41M Same operation as C-41, but in brown metal case. Wt. 3 lbs. List Price each $22.00.....Net each **12.95**

C-42 Staff Station for origination of call to two Masters. Wt. 5 lbs. List Price each $29.00.....Net each **17.00**

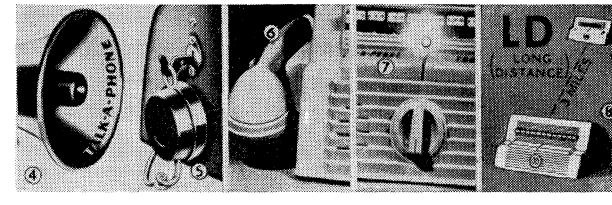
C-42M Same operation as C-42, but in brown metal case. Wt. 3 lbs. List Price each $29.00.....Net each **17.00**

C-46 Push Button Staff Station for origination of call to six Masters. Wt. 9 lbs. List Price each $65.00.....Net each **38.00**

HP-3 Hi-Power Staff Station for wall mounting. Brown metal case. 5 watt capacity. Wt. 8 lbs. List Price each $25.00.....Net each **14.70**

HP-2 Super Staff Station for wall mounting. Brown metal case. 15 watt capacity. Wt. 9 lbs. List Price each $44.95.....Net each **26.50**

C-20 Nine-inch Weatherproof Re-Entrant Horn. For greater volume. (Fig. 4.) Capacity, 15 watts, with bracket for wall mounting. Wt. 5 lbs. List Price each $44.95. Net each **26.50**



Optional Equipment

Cradle Phone (Fig. 6) Available on all Models, except metal staffs. Add "H" to Model No. when ordering. List Price each—add $45.00.....Net add **26.45**

Earphone (Fig. 5) Available on all Models. Add "X" to Model No. when ordering. List Price each—add $20.00.....Net add **12.00**

Busy Signal (Fig. 7) Available on all "Chief," and "Chief REDI-POWER" Masters. Add "B" to Model No. when ordering. List Price each—add $12.00 ...Net add **7.00**

LD—Long Distance Feature (Fig. 8) Available on "Chief," and "Chief REDI-POWER" Masters. Add "LD" to Model No. when ordering. List price each—add $20.00. .....Net add **11.75**

S-101 Wall Switch For origination of call through C-20, HP-2 or HP-3 in Chief systems. List Price each $5.00.....Net **2.95**

S-102 Wall Switch For origination of call to two Masters through C-20, HP-2 or HP-3 in Chief systems. List Price each $9.00.....Net **5.25**

RW-10 Right-of-Way Relay. For use with C-RP-5912-5920 Masters. To call any group of stations with single button. Capacity 10 stations. Add relays for greater number. Connects to one Master, others in system also utilize facility. List price each $56.00. .....Net **32.95**

HP-30 **Power Booster.** Designed for Hi-Power Paging in conjunction with TALK-A-PHONE Intercommunication systems. 30 watts output. Use with separate paging speakers, such as Models C-20 and HP-2. Size: 12"L x 7½"W x 8½"H. Wt. 24 lbs. List Price each **$125.00.** Net **73.50**

Cable

6204 Cable for connecting C-41, C-42, C-46, HP-3, C-20 and HP-2. List price per ft. 10c.....Net per ft. **$ .06**

6212 Cable for inter-connecting C-4906 Masters. List Price per ft. 24c . Net per ft. **.14**

6224 Cable for inter-connecting C-4912, C-4920, C-4930, C-4940, C-4950, C-RP-5911, C-RP-5912 and C-RP-5920 Masters. List Price per ft. 47c. . Net per ft. **.28**

6902 Cable for connecting HP-3, C-20 and HP-2 without origination of call. List Price per ft. .03½c.....Net per ft. **.02**

Prices slightly higher west of the Rockies.

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New! AUTOMATION IN INTERCOM...

The New TALK-A-PHONE Super Chief

TWO NEW SUPER CHIEF AUTOMATION SERIES

to meet the intercommunication needs of modern business.

- ***Series 7700 featuring Sensational New AUTOMATIC VOICE CONTROL and AUTOMATIC TRAFFIC CONTROL.***
- ***Series 7600 featuring AUTOMATIC TRAFFIC CONTROL and manually operated TOUCH CONTROL.***

Both *VOICE CONTROLLED* and *TOUCH CONTROLLED* Series can be intermixed.

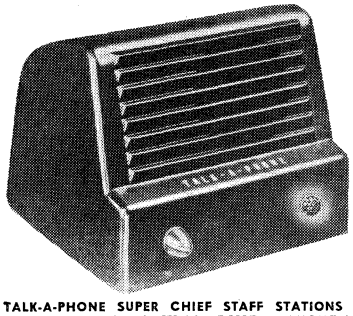
For the discriminating executive.
The TALK-A-PHONE SUPER CHIEF system features many exclusive achievements in inter-communication engineering.

- **BUILT-IN AUTOMATION** — Only the new TALK-A-PHONE SUPER CHIEF system gives you AUTOMATION—an exclusive TALK-A-PHONE feature which provides for AUTOMATIC VOICE CONTROL*, AUTOMATIC TRAFFIC CONTROL, and AUTOMATIC MONITORING SIGNAL*, as well as "closed circuit" CONFERENCES — all automatically.

- **AUTOMATIC VOICE CONTROL*** — An exclusive TALK-A-PHONE feature. No longer is it necessary to manually operate a Talk-Listen Control during conversation; yet you have "private" and "selective" communication. Your own voice automatically operates the Talk-Listen Control for you. Operates automatically on VOICE CONTROLLED MASTERS, even when conversing with TOUCH CONTROLLED§ MASTERS. (Only TOUCH CONTROLLED UNITS need manually operate Touch Talk-Listen Control.)

- **AUTOMATIC TRAFFIC CONTROL** — Automatically determines and controls the traffic on the line. GREEN VISUAL SIGNAL . . . line is "clear" . . . communication established by you . . . voice goes through. RED VISUAL SIGNAL . . . line is "busy" . . . communication cannot be established by you . . . voice cannot go through. AMBER VISUAL SIGNAL . . . line is being called . . . communication is established with you . caller's voice comes through . . ready for your reply.

*A feature of Series 7700. §Applicable to Series 7600.



TALK-A-PHONE SUPER CHIEF STAFF STATIONS are available in both the TOUCH CONTROLLED and VOICE CONTROLLED series. Staff Stations can reply, when called, to any Master Station of either series in the system, but cannot originate calls. Model ACS-7701 VOICE CONTROLLED Staffs can reply at a distance without operating any controls, and are equipped with AUTOMATIC MONITORING SIGNAL which visually indicates when Staff is being monitored. Model ACS-7601 TOUCH CONTROLLED Staff, must manually operate Talk-Listen Control to reply. For locations where reply is not necessary use SUPER CHIEF Sub-Stations. Both VOICE CONTROLLED and TOUCH CONTROLLED Masters can call Subs but Subs cannot reply or originate calls.

HOW TO DETERMINE CABLE REQUIREMENTS

For Master Stations, measure from first Master to second Master only; from second Master to third Master only; etc., until the last Master in the system is reached, and total. For ACS-7720 and ACS-7620 use 2 lengths of 6224 cable; and for ACS-7730 and ACS-7630 use 3 lengths of 6224 cable, etc. Connect each Staff Station and each Sub-Station of either series to nearest Master only with TALK-A-PHONE No. 6204 cable (Although Staff and Sub-Stations are directly connected to only one Master, all Masters in system can call any Staff or Sub-Station; and can receive a reply from Staff, but not from Sub). Connect Power Supply Unit to one Master Station only with TALK-A-PHONE No. 6902 cable.

EXECUTIVE GRAY CABINETS available at additional cost.

For ACS-7701 and ACS-71	List Price, add **$2.50**	Net, add **$1.50**
For ACS-7704, ACS-7710, ACS-7720, ACS-7730 and ACS-7740	List Price, add **$4.00**	Net, add **$2.50**
For ACS-7601	List Price, add **$2.50**	Net, add **$1.50**
For ACS-7604, ACS-7610, ACS-7620, ACS-7630 and ACS-7640	List Price, add **$4.00**	Net, add **$2.50**

- **AUTOMATIC REPLY** — Directs your reply automatically only to the station calling you. It is not necessary to know which station is calling; and no other station can listen-in. When called at a VOICE CONTROLLED MASTER, simply depress and lock AUTOMATIC REPLY BUTTON* and continue your conversation without further use of any control. AUTOMATIC REPLY BUTTON may be left depressed when not in conversation so that you may answer calls instantly from VOICE CONTROLLED MASTERS without touching unit. When called at a TOUCH CONTROLLED MASTER, simply depress TOUCH BAR to talk; release TOUCH BAR§ to listen. Your reply will automatically be directed only to the station calling you.

- **CONFERENCE CONTROL** — Provides for "private" "closed-circuit" conferences between as many as four Master Stations. VOICE CONTROLLED* and TOUCH CONTROLLED§ MASTERS can be INTERMIXED in a conference. Stations not selected to be "in" on the conference cannot interrupt or listen-in to conference.

- **DYNASONIC DESIGN** — Assures maximum flexibility. Provides for intermixing of VOICE CONTROLLED* and TOUCH CONTROLLED§ TALK-A-PHONE SUPER CHIEF units. 4, 10, 20, 30 and 40-Station Masters, Staffs and Subs can be used within the same system.

- **MULTI-MAGIC SELECTOR** — The patented TALK-A-PHONE feature that gives you 4, 10, 20, 30 and 40 station capacity in the SAME BEAUTIFUL CABINET. Up to 20 station capacity with only 12 push buttons; 30 and 40 station Masters have 14 push buttons.
- **AUTOMATIC MONITORING SIGNAL*** — A feature of Model ACS-7701 Staff Station which visually indicates to the Staff that it is being monitored.
- **TOUCH CONTROL WITH UNI-TRANS§** — Convenient TOUCH-BAR§ operates Talk-Listen Control. Depress TOUCH-BAR to "talk"; release TOUCH-BAR to "listen". Depress and Lock TOUCH-BAR in UNI-TRANS position for dictating without further operation of controls.
- **CRADLE PHONE** (Optional accessory) — Live Microphone. Provides greater listening and speaking privacy. Use in noisy areas to diminish background noises. WHEN CRADLE PHONE IS USED WITH ANY MASTER OR STAFF STATION OF THE SUPER CHIEF SERIES, INCLUDING TOUCH CONTROLLED UNITS, PERSONS AT SUCH UNITS NEED NOT OPERATE ANY CONTROLS TO TALK AND TO LISTEN while conversing over Cradle Phone.
- **POWER PAGING** — Can be added at any time. To provide the latest and most modern power paging circuit whereby any Master can page, add Model HP-30 (30-watt) Power Booster and auxiliary speakers, (Models HP-3 and C-20.)

Distinctively styled in the World-famous TALK-A-PHONE manner. Sturdy impact bakelite cabinets finished in rich walnut tone. Available in executive gray cabinets at slight additional cost. TALK-A-PHONE is at home in any scheme of decor.

SERIES 7700 — WITH THE SENSATIONAL NEW AUTOMATIC VOICE CONTROL. Your own voice automatically operates the Talk-Listen Control for you.

MODEL ACS-7704 — Push Button Automation Voice Control Master Station—4-Station capacity. Wt. 16 lbs.
List Price each $200.00 ..... Net each **$117.00**

MODEL ACS-7710 — Push Button Automation Voice Control Master Station—10-Station capacity. Wt. 16 lbs.
List Price each $225.00 ..... Net each **$131.00**

MODEL ACS-7720 — Push Button Automation Voice Control Master Station—20-Station capacity. Wt. 17 lbs.
List Price each $265.00 ..... Net each **$155.00**

MODEL ACS-7730 — Push Button Automation Voice Control Master Station—30-Station capacity. Wt. 18 lbs.
List Price each $305.00 ..... Net each **$179.00**

MODEL ACS-7740 — Push Button Automation Voice Control Master Station—40-Station capacity. Wt. 19 lbs.
List Price each $345.00 ..... Net each **$203.00**

MODEL ACS-7701 — Automation Voice Control Staff Station (can reply, but cannot originate calls). With visual signal to indicate when monitored. Wt. 8 lbs.
List Price each $160.00 ..... Net each **$94.00**

SERIES 7600 — Provides all of the quality features of the 7700 Series, except Automatic Voice Control; and is equipped with manually operated TOUCH CONTROL.

MODEL ACS-7604 — Push Button Automation Touch Control Master Station—4-Station capacity. Wt. 16 lbs.
List Price each $150.00 ..... Net each **$88.00**

MODEL ACS-7610 — Push Button Automation Touch Control Master Station—10-Station capacity. Wt. 16 lbs.
List Price each $167.00 ..... Net each **$98.00**

MODEL ACS-7620 — Push Button Automation Touch Control Master Station—20-Station capacity. Wt. 17 lbs.
List Price each $187.00 ..... Net each **$110.00**

MODEL ACS-7630 — Push Button Automation Touch Control Master Station—30-Station capacity. Wt. 18 lbs.
List Price each $207.00 ..... Net each **$122.00**

MODEL ACS-7640 — Push Button Automation Touch Control Master Station—40-Station capacity. Wt. 19 lbs.
List Price each $227.00 ..... Net each **$134.00**

MODEL ACS-7601 — Automation Touch Control Staff Station (can reply, but cannot originate calls). Wt. 8 lbs.
List Price each $102.00 ..... Net each **$59.95**

POWER SUPPLY, SUB-STATIONS, PAGING POWER BOOSTER and ACCESSORIES
For use with both Series 7700 Voice Controlled Masters and 7600 Touch Controlled Masters.

MODEL ACS-71 — SUPER CHIEF Automation Sub-Station to receive calls from both Voice Controlled and Touch Controlled Masters, (cannot reply, and cannot originate calls). Wt. 5 lbs.
List Price each $34.00 ..... Net each **$19.95**

MODEL ACS-71M — Same as Model ACS-71, but in metal cabinet suitable for wall mounting. Wt. 6 lbs.
List Price each $34.00 ..... Net each **$19.95**

MODEL ACS-73 — SUPER CHIEF Automation Hi-Power Sub-Station to receive calls from both Voice Controlled and Touch Controlled Masters, (cannot reply, and cannot originate calls). Wt. 9 lbs.
List Price each $42.50 ..... Net each **$24.95**

MODEL ACS-77 — SUPER CHIEF Automation Power Supply Unit. Will accommodate a system of up to 10 stations. Only one required per system, except where stations are more than 500 feet from Power Supply Unit. Wt. 11 lbs.
List Price each $51.00 ..... Net each **$29.95**

MODEL ACS-77A — SUPER CHIEF Automation Power Supply Unit. Will accommodate a system of up to 20 stations. Only one required per system, except where stations are more than 500 feet from Power Supply Unit. (For 30 and 40-Stations use two ACS-77A Power Supply Units). Wt. 12 lbs.
List Price each $66.00 ..... Net each **$39.00**

CRADLE PHONE (Optional) — Live Microphone. When used with any Super Chief Master or Staff Station, persons at such units do not operate any controls to talk and to listen while conversing over Cradle Phone.
List Price per station, add $45.00 ..... Net, add **$26.45**

MODEL HP-30 — Power Booster. Designed for Hi-Power Paging in conjunction with TALK-A-PHONE Intercommunication systems. 30 Watts output. Use with separate paging speakers, such as Models C20 and HP-3. Size: 12" L x 7½" W x 8½" H. Wt. 24 lbs.
List Price each $125.00 ..... Net each **$73.50**

CABLES
(See "How to Determine Cable Requirements")

6902 — Cable (1-pair) for connecting Power Supply Unit to SUPER CHIEF Master Station.
List Price per foot .035 ..... Net per foot **.02**

6204 — Cable (2-pair) for connecting ACS-7701 and ACS-7601 Staff Stations and ACS-71, ACS-71M and ACS-73 Sub-Stations to SUPER CHIEF Master. Approx. dia. 7/32".
List Price per foot .10 ..... Net per foot **.06**

6212 — Cable (6-pair) for interconnecting ACS-7704 Masters and ACS-7604 Masters. Approximate dia. 3/8"
List Price per foot .24 ..... Net per foot **.14**

6224 — Cable (12-pair) for interconnecting ACS-7710, ACS-7610, ACS-7720, ACS-7620, ACS-7730, ACS-7630, ACS-7740 and ACS-7640 Masters. Approximate dia. 1/2".
List Price per foot .47 ..... Net per foot **.28**

All Masters, Staffs and Power Supply Units operate on 115-120 volts, 60 cycles, Alternating Current only. All Masters and Staffs come complete with tubes. All units have complete instructions and are ready to install.

Master Station cabinets measure 12" W x 9" D x 7" H, and come complete with **junction box attached** to Master with 6 ft. length of flexible cable; Staff and Sub-Station cabinets measure 8¼" W x 7½" D x 6¼" H; Hi-Power Sub-Station measures 12" x 12" x 8" Metal Sub-Station Cabinets measure, 6" W x 4" D x 7" H

Prices slightly higher west of the Rockies.

Fleetwood Custom Television

with EXCLUSIVE DEFINITION CONTROL

Fleetwood's definition control varies the picture quality from hard and sharp to soft and diffused . . . lets you see the picture as you like it. Full electronic remote control Fleetwood models put all of the normal operating controls at viewing distance. Fleetwood . . . designed for custom installation . . . can be used with high fidelity systems.

Fleetwood picture fidelity is the perfectionist's choice. It's the same outstanding quality usually seen only on TV station monitors . . . also made by Fleetwood.

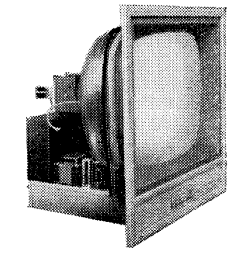
Set employs 27 tubes in addition to picture tube and provides audio power for a speaker, as well as a detector output to connect to high fidelity sound systems. The picture chassis is relay operated by the on-off switch on the separate tuner chassis for full remote control. Both units are attractively finished. An eye-catching, gold finished, hinged escutcheon plate is furnished for easy access to secondary controls.

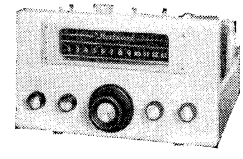
The separate tuner unit has simulated leather front panel, with edgelit dial and individual channel pilot lamps. Includes the off-on/volume, contrast, brightness, definition, channel selector/fine tuning controls. The tuner is of the Super Cascode type and is completely adaptable for Ultra High Frequency reception, by a simple interchange of tuning strips and insertion of the correct channel identification number. The illuminated channel numbers are readily replaceable and a full set of numerals, from 2 to 82, is provided. The four video I.F. stages provide full four megacycle bandpass, and there are separate cathode followers for audio and video circuits. Three audio outputs are provided: (a) low level high impedance, and (b) low level cathode follower, both for connection to existing high fidelity music systems, and (c) power amplifier to operate a loud speaker.

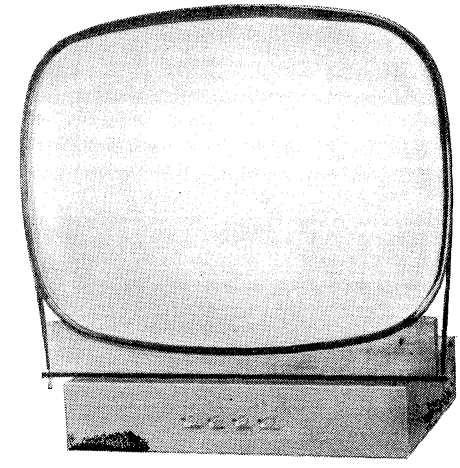
CHASSIS DIMENSIONS

Tuner Chassis	7"	11½"	9"
800 or 810 Chassis (21AMP4 Mounted)	21¼"	21"	21⅛"
800 or 810 Chassis (24CP4A or 24TP4 Mounted)	23¾"	23¼"	22¼"
800 or 810 Chassis (27EP4 Mounted)	26¼"	26"	24"
610B Chassis (21ZP4B or 21AWP4 Mounted)	21¼"	21"	24"

Picture chassis finished in gray and black baked enamel. Tuner chassis has brown pebbled, simulated leather front and gold-colored escutcheon.







FLEETWOOD 800: Full Remote Control Receiver for 21", 24" and 27" rectangular 90° picture tubes. Includes tuner chassis and picture chassis. Supplied with 27 tubes, 14 pilot lamps, 40 feet of cable, ion trap, all knobs, and matching hinged cover for secondary controls. (Shipping Weight: 65 lbs.) **Users Net $299.50**

FLEETWOOD 810: Complete Television Chassis for 21", 24" and 27" rectangular 90° picture tubes. Non-remote control. Supplied with 24 tubes, ion trap, all knobs and matching hinged cover for secondary controls. (Shipping Weight: 50 lbs.) **Users Net $229.50**

FLEETWOOD 610B: Complete Television Chassis for 21" rectangular 70° picture tubes. Non-remote control. Supplied with 22 tubes, ion trap, all knobs, and matching hinged cover for secondary controls. (Shipping Weight: 50 lbs.) **Users Net $199.50**

All chassis less picture tube, speaker and mounting brackets.

MOUNTING AND ACCESSORY KITS

Accessory kits contain wood frame, safety glass and royalite picture tube mask. Wood frame of accessory kit extends down over the secondary controls. The extension is cut out for the secondary controls to allow easy mounting of the escutcheon plate. Holes for main controls of Non-Remote unit, are partially drilled. They may be punched through and panel reversed to present clean hole side. Brackets for mounting accessory kit on picture chassis are provided, thus allowing easy drawer-like installations. Mounting kits include tube supports, tie-down straps and all hardware for mounting picture tube on chassis. Consult chart below for appropriate kits.

27" Picture Tube, Models 800 and 810

Tube Type	Mounting Kit	Accessory Kit
27EP4/27RP4	807B	(28½" x 30" O.D.) 827BF

24" Picture Tube, Models 800 and 810

Tube Type	Mounting Kit	Accessory Kit
24CP4A/24TP4	804B	(25" x 25" O.D.) 824BF

21" Picture Tube, Models 800 and 810

Tube Type	Mounting Kit	Accessory Kit
21AMP4A/21ACP4A	801B	(23" x 23½" O.D.) 821BF

21" Picture Tubes, Model 610B Only

Tube Type	Mounting Kit	Accessory Kit
21AWP4	601C	(23" x 23½" O.D.) 821BF
21ZP4B	601B	(18" x 24" O.D.) 621C

(Note: 621C Kit does not include knob panel and cannot be mounted to chassis.)

Fleetwood made by

CONRAC, INC. • SINCE 1939 • GLENDORA, CALIFORNIA

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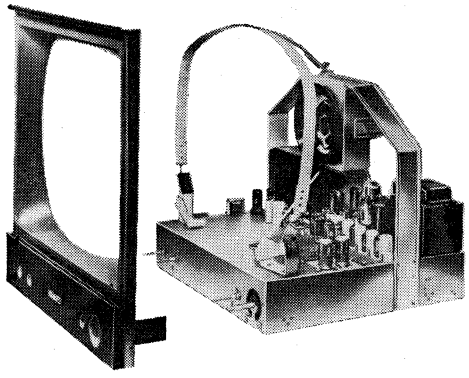
TECH-MASTER Custom Built TV Chassis

The World's Most Powerful, Most Dependable TV Receivers



Model 630-5T — The "Videophile" . . . for all 90° picture tubes, from 21" to 27"

Dimensions: 19" W. x 17⅜" D.

Shipping Weight: 58 lbs.....**Net Price $249.50**

The "VIDEOPHILE"

HIGH FIDELITY TV TUNER FOR HIGH FIDELITY AUDIO SYSTEMS

The ultimate in TV receivers, for owners of home music systems who want to enjoy the sound quality of their own high fidelity system plus equivalent picture quality, not provided by mass-produced TV sets.

The picture fidelity of the "Videophile's" powerful 28-tube chassis matches the audio quality of the finest sound installations. Noise-free sound take-off for feeding into external Hi-Fi audio system. Undistorted FM signal at ratio detector stage is fed through cathode follower for matching any amplifier circuit.

FEATURES

- AFC Horizontal Hold—using synchro-lock discriminator transformer.
- Stabilized Vertical Hold.
- 3-Stage Sync. Chain — with high transconductance noise-limiting sync. amplifier.
- Antiblooming circuit.
- Full Horizontal and Vertical Blanking.
- Accommodates both magnetic-and electrostatic-focus kinescopes.
- Supersensitive — 5 microvolt sensitivity. Cascode tuner.
- AGC Level and Area Control — for adjusting reception to any signal area.
- Video IF Carrier Frequency — 45.75 mc.
- 4-Stage Video IF and 2-Stage Video Amplifier.

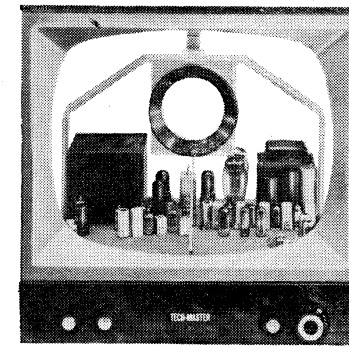
The "VIDEO THEATRE"

The 'theatre-in-the-home,' with an incomparable combination of fidelity in Audio and Video reproduction!

Long acknowledged as the leader in the field of quality custom television, Tech-Master now brings you the 'Video Theatre' with outstanding performance provided by means of a multi-network, basic "630," 31-tube circuit. There are no short cuts in the design, engineering or construction of the 'Video Theatre.' By every advanced engineering method and with the use of the finest available components, Tech-Master is able to offer at a realistic price **the finest in sight combined with the finest in sound.**

COMPARE THESE OUTSTANDING FEATURES:

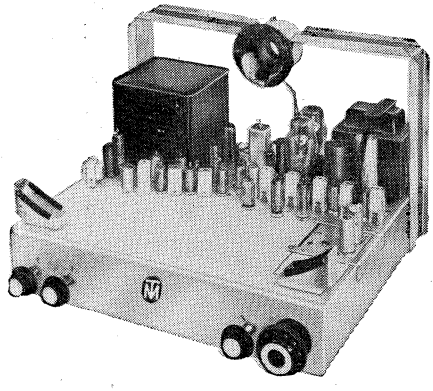
- 31 tube, 630-type chassis.
- Push-Pull, 6-Watt Output — with inverse feedback. 4-8-16 Ohm match.
- Wide-Range Tone Control.
- Input — for phonograph, radio tuner or microphone.
- 2-Stage Audio Amplifier.
- Sound IF Carrier Frequency — 41.25 mc.
- PLUS — all the exceptional video features of the "Videophile" described above.



Model 630-5 — The 'Video Theatre,' for all 90° picture tubes from 21" to 27".

Dimensions: 19" W. x 17⅜" D.

Shipping Weight: 65 lbs.....**Net Price $254.50**



The Gold Medal

The new rugged Gold Medal TV chassis combines the time proven RCA 630 Type circuitry with the most advanced engineering. Designed for long life and dependability. Flawless video plus versatility in audio. By means of simple external switching arrangement, you may use either the completely self contained high quality amplifier and 12" loud speaker of the Gold Medal receiver, or feed the sound thru your own hi-fi system.

- New system of picture-sound-synchronization.
- Latest 630 type circuit uses only finest available components.
- Advanced cascode turret tuner.
- Quick-action, keyed AGC circuit for stabilized control.
- New Hi-sweep auto transformer system.
- 5 μv sensitivity for good fringe area reception.
- Full horizontal and vertical blanking.
- Local-distance area control switch on front panel.
- Picture-Expander control for low line voltage conditions.
- Chassis beautifully plated in gleaming nickel.
- Audio Takeoff for feeding to hi-fi system.
- Phono input.

Model 2430-N — 90° picture tubes, 21" to 27", with quality 12" PM speaker and universal kine mounting brackets.

Dimensions: 20¼" W. x 16¼" D.

With kine brackets removed, chassis is 19" wide for rack panel mounting.

Shipping Weight: 65 lbs.

Net Price $194.50

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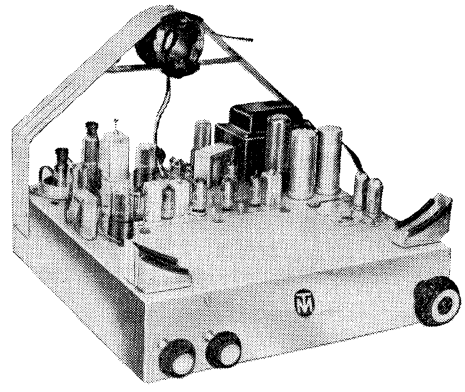
TECH-MASTER TV RECEIVERS AND FM TUNER

Videola STAR CHASSIS

BUILT BY TECH-MASTER



A star performer for conventional cabinet or built-in custom installation. AC, transformer powered model, not commercially mass-produced, but crafted with the same care as our higher priced receivers. Designed for use where economy is a major consideration. Supersensitive for fringe or troublesome areas. Videola Star TV receiver operates efficiently with any standard indoor antenna in normal signal areas. 16-tube, power-packed circuit delivers bright, sharp, rock-steady picture and clean, undistorted static-free sound.

OUTSTANDING FEATURES OF VIDEOLA TV RECEIVER

- Automatic Gain Control.
- 3-Stage, stagger-tuned IF.
- Auto-transformer high voltage system.
- Wired for low-voltage electrostatic focus kinescopes.
- For 90 degree picture tubes from 21" to 27".
- Sensitivity 6 uv at 20V peak-to-peak.
- 2-stage video amplifier sweep circuit.
- Tube complement: 6J6, 6BC5, 2—6CB6, 6AU6, 6T8, 6AQ5, 2—12AU7, 6SN7, 12BH7, 6BQ6, 5U4GA, 1X2B, 6W4, 6AM8.
- Dimensions: Chassis measures only 12 x 16. Size of picture tube really determines space requirements with this compact, easily mounted unit.
- Shipping Weight: 35 lbs.
- Complete with mounting hardware, speaker and knob kit.

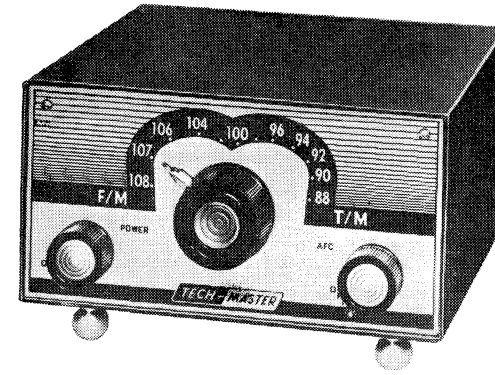
The Constellation **$129.50 Net**

The Cantata:

HIGH FIDELITY FM TUNER

A complete high fidelity FM tuner with self-contained AC power supply. Compactly constructed for versatile installation, yet a veritable giant in performance.

- Cathode follower and high impedance outputs.
- Covers the full FM band (88-108 Mc.).
- Limiter and AFC circuit for easy pin-point tuning.
- Manually controlled AFC cutoff to pick up weak signal stations adjacent to strong signal stations.
- Sensitivity is 4 microvolts for 20 db quieting.
- Uses balanced ratio detector and grounded-grid RF amplifier.
- Full power transformer operation for line isolation.
- Standard de-emphasis network automatically regulates high-frequency response.
- Micro-Vernier tuning.



The CANTATA complete with mounting instructions, tubes — 6AU6, 6C4, 6AL5, 6BA6, 2/12AT7, and selenium rectifier, less cabinet.....**$49.50 Net**

Dimensions: 4½" H. x 8" W. x 7" D.

Shipping Weight: 7 lbs.

Model C 18 Cabinet.....**$7.50 Net**

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Net

TECH-MASTER QUALITY KITS
TELEVISION and RADIO

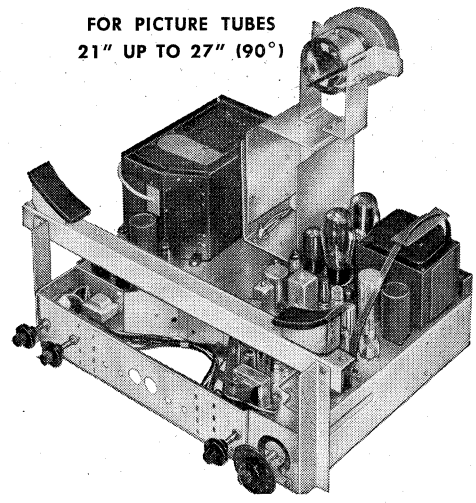
Model 630-9 America's Finest TV Kit

The world famous RCA-630 type circuit modified and improved by Tech-Master. Components used are the best available. Special Tech-Master schematic and pictorial diagrams guide every move for ease in wiring and assembly. Model 630-9 is used by leading schools: Ideal for comprehensive television training because it uses established multiple tube circuits, which are more easily understood, rather than compromise modified circuits.

No Other TV Kit Offers All Of These Important Features

- ADVANCED CASCODE TURRET TUNER — adaptable to UHF without tools: High signal-to-noise ratio results in a sharper picture, with a minimum of "snow" even in weak signal areas.
- AFC horizontal synchronization employing 6AL5 phase detector, 6AC7 Reactance tube, and synchro-lock discriminator transformer in a Hartley Oscillator circuit assures optimum noise immunity and horizontal stability.
- 3-Stage Sync. Amplifier, Clipper and Separator circuit provides unexcelled interlace.
- 4-Stage stagger tuned Video IF system produces full 4 MC band width and complete picture definition.
- Adjacent Channel Trap.
- 2-Stage Video Amplifier.
- Direct Coupling Used for Keyed AGC Circuit.
- 5 microvolt sensitivity.
- Complete front panel controls allow simple individual adjustments; brightness, horizontal and vertical hold, volume, contrast-On/Off, channel selector and fine tuning.

FOR PICTURE TUBES 21" UP TO 27" (90°)



CHASSIS DIMENSIONS: 21¾" wide x 15¾" deep.

SHIPPING WEIGHT: Approximately 65 lbs.

DE LUXE KIT: MODEL 630-9 — Supplied complete with all components, mounting brackets, speaker, and all tubes (less kine, wire and solder).

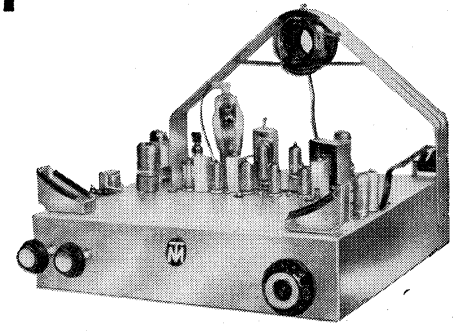
$169.50 Net

New TECH-MASTER TV CRAFT KIT

The most up-to-date TV kit, with the latest improvements in tubes and circuitry. Ideal for student work or home project. This kit not only provides excellent training in television, but builds into a first class, modern receiver that anyone would be proud to own. Coils are preadjusted and tuned at the factory. Quality components, carefully selected and packed by personnel experienced in the TV-kit field, insure satisfaction. Step-by-step instructions with pictorial and schematic diagrams are easy to follow — leave nothing to the imagination. Sockets, terminal strips and connectors riveted on chassis.

- Advanced and improved, super-selective, 12-channel turret tuner.
- New, 600 milliampere, rugged low-drain tubes.
- Operates new low-voltage electrostatic-focus kinescopes (17" and 21").
- High-efficiency circuit-sensitivity of 9 microvolts at 20 V peak-to-peak.
- Three-stage stagger-tuned IF, using high-gain bil-filar coils.
- Automatic gain control.
- Synchro-guide horizontal hold with AFC.
- Ceramic core horizontal output transformer with beam power amplifier.
- Size: 17" x 17" x 9". Weight: 26½ lbs.

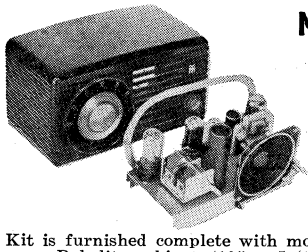
FOR PICTURE TUBES UP TO 21" (70°)



Model 5516R — Complete with tubes, hardware, mounting brackets, detailed instructions (less kine, wire, solder). **$89.50 Net**

Model 5516C — Same as 5516R but uses continuous type tuner. **$79.50 Net**

Model 5516W — Same as above but with IF section fully wired and aligned. Uses Standard tuner (sensitivity 7 μv). **$94.50 Net**

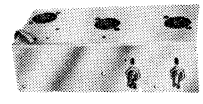


NEW DELUXE SUPERHET AC-DC RADIO KIT

Kit is furnished complete with modernly styled, handsome Bakelite cabinet (10" x 5½" x 5½"), attractive station selector and control knob.
Only the finest components are furnished with this kit. Tunes all standard AM broadcasts from 550-1720 KC. Super-sensitive, high gain circuit assures outstanding reception with built-in loop antenna. Automatic volume control circuit to eliminate blasting or fading.
Tube Complement: 12SA7, 12SK7, 12SQ7, 50L6 and 35Z5 rectifier. Detailed schematic and pictorial diagrams with clearly illustrated assembly instructions provide easy-to-follow directions for quick assembly. Operates 115-125 volts, 50-60 cycles, AC or DC. Shipping weight: 6 lbs.

MODEL 3B5-K — Complete with tubes and cabinet. (Wire and solder not included).

$19.95 Net



WIRED PHONO AMPLIFIER

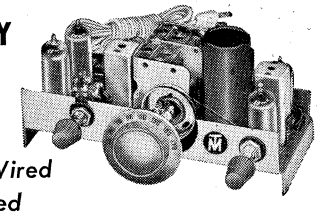
Easily mounted, compact chassis

Tone control and volume control with on/off switch. Operated on 110-120V AC, 50 or 60 cycle and DC. For crystal or ceramic cartridge. Uses 35Z5, 12SQ7, 50L6.

Model P-3 less tubes.
Ship. Weight: 1 lb.

$3.59 Net

The MIGHTY VERSATILE MIDGET



Completely Wired and Aligned

3 - INSTRUMENTS - IN - 1

- A Complete AM Superhet Receiver which connects to any speaker system.
- A Sensitive AM Tuner with output connections for external amplifier.
- A Complete Audio Amplifier with input connections for high-impedance microphone or phono-pick-up.

This compact, versatile, 3-in-one chassis adds radio, phono, or P. A. operation to any TV receiver, speaker system, or record player, at minimum cost. Fits into front recess of 630-type chassis.

Model B-15 — All tubes included.
Shipping Weight: 2½ lbs.
Dimensions: 7⅛" x 3⅝" x 3⅜".

$19.95 Net

Net

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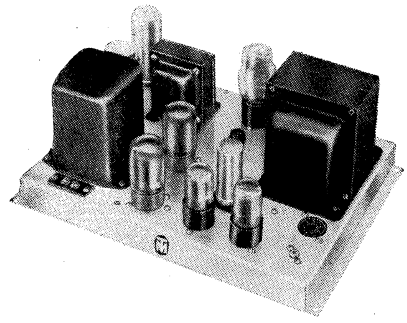
TECH-MASTER HIGH FIDELITY KITS



NEW TECH-MASTER TM-15A
DELUXE U.L.* WILLIAMSON TYPE
20 WATT AMPLIFIER KIT

Uses famous WILLIAMSON circuit with unique modification for true high fidelity reproduction at increased power output. Only top quality parts used: specially wound, high fidelity output transformer. Frequency response flat and smooth through entire audible range, with distortion less than .0025 at normal listening levels, and excellent transient characteristics. Kit is complete, including tubes and detailed instructions. Sockets, terminal strips and connectors mounted.

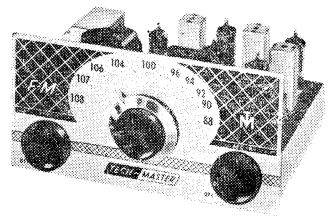
Power Output	20 watts undistorted
Output Impedance	4-8-16 ohms
Input Impedance	High for crystal pickups, tuners, pre-amps, etc.
Input Voltage	1.1 VRMS (for 20W out)
Intermodulation and Harmonic Distortion	.25% at 10W .5% at 15W
Hum and Noise Level	70 db below rated output
Feedback	20 db
Response at 5 Watts	8 cps to 100,000 cps 1 db
Response at 15 Watts	10 cps to 70,000 cps 1 db
Power Requirements	2/6SN7, 2/5881, 1/5V4G
Tube Complement	105.125V, 50-60 cycles, 120W

Dimensions: 9 x 12 x 6½". **Weight:** 27 lbs.

Model TM-15A ..... **$49.95 Net**

***Ultra linear operation — screen-tapped primary output XFMR.**

New TECH-MASTER HI-FI FM TUNER KIT



Designed for optimum performance and fidelity at a minimum cost. Advanced, drift-free circuit. Excellent selectivity and clean, faithful reproduction of the entire audio spectrum. Self-contained power supply. Complete, detailed instructions make assembly a breeze for anyone who can handle a screwdriver and soldering iron. Look at these professional-studio-equipment features:

- Tuning range 87-109 Mc.
- IF Bandwidth 200 Kc.
- Grounded grid RF stage
- Automatic Frequency control
- Manual AFC cutoff
- Micro-vernier tuning
- No drift ratio detector
- Sensitivity 4 microvolts for 20 db quieting
- Standard de-emphasis network
- Cathode follower output .8 V RMS
- High impedance output 3.2 V RMS
- Input impedance 300 ohms
- AC receptacle for on/off control
- 2/12AT7, 6BA6, 6AU6, 6AL5, 6C4, Sel. Rect.
- Size: 4½ x 8 x 6¼"
- Weight: 6½ lbs.

Model FM-18 — Complete with punched chassis, all tubes, hardware and detailed instructions (less wire and solder).

$29.50 Net

Model 18 C Cabinet ..... **$ 7.50 Net**

NEW TECH-MASTER TM-16SP
DELUXE SELF-POWERED
PREAMP-EQUALIZER KIT

Beauty and versatility at low cost! Modernly styled in smart two-tone black and gold, the new Model TM-16SP will provide new beauty and versatility to your music reproduction system.

Anyone can complete the simple wiring of this new Tech-Master kit. Simple diagrams guide you down to the last connection. You will be proud of this professional instrument that will provide you with countless hours of finest audio reproduction.

Kit is complete with all tubes, cabinet and detailed instructions. Sockets, terminal strips and connectors riveted on chassis. CATHODE FOLLOWER OUTPUT — Uses single shielded lead connection. LOUDNESS-COMPENSATING CONTROL.

Input Selector — Phono Pre-Amp — Tone Control

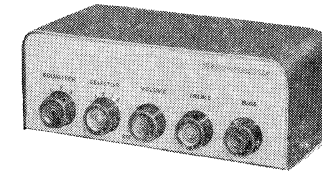
Four Input channels	One-low level-high gain Three-hi-impedance
Bass frequency control	15 db boost or attenuation at 20 cycles
Treble frequency control	15 db boost or attenuation at 20 KC

EQUALIZATION CONTROL

5 Positions — 78 rpm. — old 78's — RIAA — FFRR — AES
AC Power supply — transformer isolated. 115V - 60 cycles.
Tube Complement: 1-12AX7, 1-12AU7, 6C4, Selenium Rect.
Dimensions: 9⅞ x 3⅜ x 4½". Weight: 4 lbs.

TM-16SP ..... **$24.50 Net**

TECH-MASTER TM-17P ECONOMY PREAMPLIFIER *KIT*
with Cathode Follower Output



TECH-MASTER design and TECH-MASTER quality for discriminating listeners. AC outlet on chassis permits amplifier and associated equipment to be controlled by master switch. Power is obtained from main amplifier. Kit furnished complete with tubes, gold-tone cabinet, and detailed instructions; sockets, terminal strips and connectors riveted on chassis.

- 4 input channels — one low-level, three hi-impedance.
- Separate bass and treble controls — ±15 db boost or attenuation.
- True-taper volume control.
- 3-position equalizer — 78 rpm., RIAA, AES.
- Power requirement — 125V DC at 6 ma, 6.3V at 600 ma. (Plug-in connection for TM-15A).

Tube Complement: 12AX7, 12AU7, 6C4.
Dimensions: 9⅞ x 3⅜ x 4½". Weight: 4 lbs.

TM-17P ..... **$19.95 Net**

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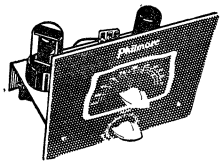
Net

Philmore GUARANTEED Electronic PRODUCTS

2-TUBE (Incl. Rectifier Tube) AC-DC RADIO KIT

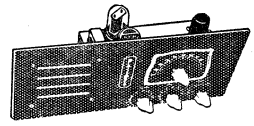


Designed purposely for easy construction yet uses the most efficient type of circuit. Kits are replicas of parts and circuits used and thoroughly tested in master models and standardized. Simple instructions and diagrams. Uses 1 each 35Z5GT and 12SJ7 tubes. Supplied with punched and formed chassis. Silk screen panel and gray hammertone finish. Attractively packaged in sturdy box.

No. 7001B—Complete, less tubes and headset.....List Price $12.50

NOTE: Wire and Solder not included with 7001B and 7001C Kits.

3-TUBE (Incl. Rectifier Tube) AC-DC RADIO KIT



More elaborate than the one-tube and much greater in signal strength—permitting use of a 4" P.M. speaker. Simple instructions with pictorial, schematic diagrams. Silk screen panel and gray hammertone finish. Superior in tone and selectivity to many manufactured radios! Uses 1 each 35Z5GT, 50L6GT and 12SJ7 tubes. Completely assembled, you have a TWO-BAND set, covering standard broadcast (550-1700 Kc) and SHORT WAVE (6-18 Mc).

Cat. No. 7001C—Complete with Speaker, less tubes .....List Price $20.00

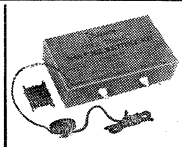
TRANSISTOR BATTERY RADIO KIT

Model TR-101

Includes Germanium Diode Crystal Detector and Transistor amplifier. Uses one 1½-volt Penlite "A" Battery, Eveready type 915 or equivalent, which fits inside cabinet, gives long service. Features High "Q" Litz wound coil tuned by variable condenser. Attractive molded polystyrene cabinet, 3¾ x 2½ x 1⅛". Weight, with battery: 4 oz. Wire and solder not included.

MODEL TR-101 Including Earphone (less battery) .....List Price $9.75

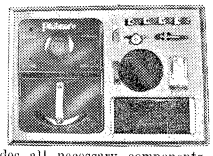
"LITTLE MIRACLE" One-Tube Portable Battery Radio Kit



Easy to build—works like a Big Set! 550 Kc. to 1650 Kc. Has regular variable condenser and Litzwound coil. Has sensitive regenerative detector circuit. Light, compact. The Carton is the Cabinet! Uses standard A & B Batteries.

No. 7501—Complete with earphone, 3V4 Tube, and antenna wire (less batteries, solder, hookup wire)....List Price $12.25

"Supertone" Crystal Radio Receiver KIT

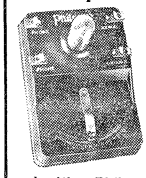


Includes all necessary components, ready wound tuning coil, single phone, with headband, hardware, instructions.

No. 7001A.....List $4.90*

*Plus Fed. Excise Tax

"Supertone" RADIO RECEIVING SET

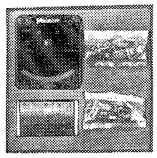


Built to give everlasting service. Brings in broadcasting loud and clear without distortion or noises. Equipped with a Philmore Super-sensitive Crystal which will give excellent results.

Cat. No. 7001.....List Price $2.25

Plus Federal Excise Tax

NEW ECONOMY MODEL "LITTLE WONDER" Radio Receiver KIT



Outstanding value! Includes molded bakelite base, precision-wound coil, crystal, all hardware. Less phone and aerial wire.

No. 7000K.....List $2.00

Plus Fed. Excise Tax

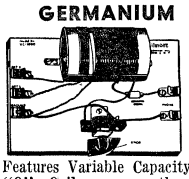
"LITTLE WONDER" RADIO RECEIVING SET

Compact in size but big in results. The open type detector permits fine adjustments. Includes Philmore Super-sensitive Crystal.

Cat. No. 7000.....List Price $1.75

Plus Federal Excise Tax

NEW "SELECTIVE" GERMANIUM DIODE Radio Receiver KIT

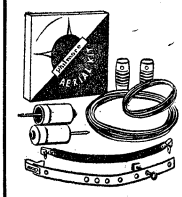


Features Variable Capacity Tuning, High "Q" Coil, permanently fixed crystal. Plywood baseboard, with template label. Easy to assemble. All hardware, step-by-step instructions, including earphone.

No. VC-1000.....List $5.00

Plus Fed. Excise Tax

PHILMORE AERIAL KIT



A complete kit of parts for assembly of a professional antenna. Attractively packaged in a multi - colored display box.

1 coil 50 ft. stranded aerial wire.
1 coil 25 ft. lead-in wire.
1 Ground clamp. 2 Nail-it knobs.
1 Lead-in strip. 1 Instruction sheet.
2 Porcelain insulators.

Cat. No. 2103.....List Price $1.65

Economy Model "LITTLE WONDER" CRYSTAL RADIO SET KIT

One of the outstanding values in the crystal set field! This kit contains same essential components as our standard Little Wonder Outfit, including molded bakelite base, precision wound coil, Supersensitive crystal and all necessary hardware in kit form, including phone and antenna lead-in wire. No soldering required.

Cat. No. 7000KW.....List Price $4.15

Plus Federal Excise Tax

Includes single phone and antenna lead-in wire.

5-TUBE AC-DC RADIO KITS 1 and 2 Band Models

Latest model compact hi-fi quality radios. Single Band: 550-1600 Kc. Two Band: 550-1600 Kc and 5.5-16 Mc. Sturdy walnut bakelite cabinets, loop antenna, punched chassis. All Parts and Tubes included: 12SA7GT, 12SK7GT, 12SQ7GT, 50L6GT, 35Z5GT. Size: 9⅛ x 5½ x 5¼".

Model No. 201 Single Band AC/DC.....List Price $34.00

Model No. 202 2-Band AC/DC.....List Price 39.00

(Wire and Solder not included.)

HAND MICROPHONE *Carbon Type*

Talk or sing through the radio speaker. Button switch cuts mike in and out of broadcast. Simple to install. Equipped with 9 ft. cord.

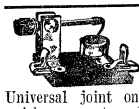
Cat. No. 500H.....List Price $3.25

Junior MICRO-PHONE *Carbon Type*

For home broadcasting. Push button switch cuts off radio programs and brings in the home broadcaster's voice very clearly. Sensitive, with excellent volume, shock-proof. Easily attached to any set without rewiring and can remain attached without interfering with regular broadcasting.

Cat. No. 500.....List Price $2.50

Open Type CRYSTAL DETECTOR



Universal joint on swivel arm provides quick, accurate adjustment. Completely assembled. Includes crystal.

Cat. No. 7003.....List Price $.55

Fixed CRYSTAL DETECTOR

Ideal for reflex or crystal sets. Sensitivity fixed permanently. Enclosed in a bakelite case.

Cat. No. 7002.....List Price $1.20

Glass Enclosed CRYSTAL DETECTOR

Delicately adjustable. Includes Super-sensitive Crystal. Dustproof.

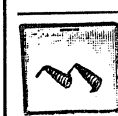
Cat. No. 7008 List Price $.90

METER TESTED CRYSTAL

No. 7004—Galena Crystal. Indiv. boxed....List $.25

No. 7005—Galena Crystal. Display Card....List $.20

CAT'S WHISKER



Display card.

No. 7006—Set of 2. List Price $.20

Unmounted DETECTOR

Includes stand, crystal cup, arm with cats-whisker, hardware. Less crystal.

Cat. No. 7010.....List Price $.25

PHILMORE DOUBLE HEADPHONES

Accurately matched. Each unit consists of "double high flux" magnets. Ruggedly constructed of lightweight metal. Polished bakelite ear caps. Concealed terminal type. Braid covered adjustable headband and cord 4½ feet long. 2000 ohm impedance.

Cat. No. 2260.....List Price $5.25

SINGLE HEADPHONES

Same construction, head band is of spring steel. 1000 ohm impedance.

Cat. No. 2261.....List Price $2.75

PHILMORE "OMEGA" DOUBLE HEADPHONE

Here's a superlative value in headphones! This ruggedly built yet lightweight headset is practically unbreakable. Double High Flux Magnet, highly polished bakelite shell and cap. Hardened steel headband, adjustable. High impedance of these headphones provides very sensitive performance. Equipped with 5-ft. tinsel braided cord.

Cat. No.	Impedance	List Price
2263	4000 Ohms	$5.00
2264	2000 Ohms	4.50

PHILMORE MFG. CO. INC. . . . . New York 3, N. Y.

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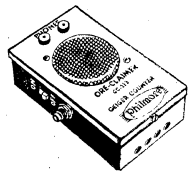
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Philmore
GEIGER COUNTERS

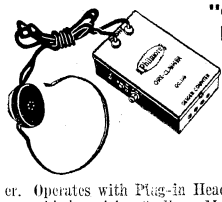


"ORE-CLAIMER" Model GC-113

Small, self-contained, has built-in speaker and plug-in headphones. Includes sensitive 900-volt Geiger Tube. If Uranium ore is present in the ground or rocks, the "Ore-Claimer" will produce rapid audible clicks in the speaker and headphone. Uses standard batteries, easily replaced. Completely assembled weight 2¼ lbs. Metal cabinet with Gray Hammertone finish: 5¾ x 3½ x 2". Complete with tubes (CK 1026 and 1U5), speaker, batteries (Bright Star #11P 1½-volt "A" and Eveready #415 45-volt "B"), headphone, instructions, and sample pieces of radioactive ore.

Model GC-113 Kit.....**Dealer's Net Price $24.50**

Model GC-113 Wired
Ready to operate.....**Dealer's Net Price $29.95**

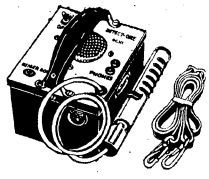


"ORE-CLAIMER" Model GC-114 Using Headphone

Popular economy model, similar to GC-113 Geiger Counter, but supplied without speaker. Operates with Plug-in Headphone only. Completely assembled weighs 2 lbs. Metal cabinet with Gray Hammertone finish: 5¾ x 3½ x 2". Complete with tubes (CK1026 and 1U5), batteries (Bright Star #11P 1½-volt "A" and RCA VS084 22½-volt "B"), Headphone, Instructions, and sample pieces of radioactive ore.

Model GC-114 Kit.....**Dealer's Net Price $15.95**

Model GC-114 Wired
Ready to operate.....**Dealer's Net Price $19.95**



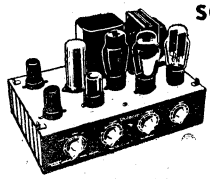
"DETECT-ORE" Professional Type Geiger Counter

Highly sensitive. Ruggedly constructed for field service. The speaker produces loud clicks for all radiation which includes Beta, Gamma and Cosmic rays. The Geiger tube is housed in a brass, chrome-plated probe with directional openings. FEATURES: Built-in speaker, Carrying Handle, Automatic opeation, 900-volt Geiger Tube in Probe, Shoulder Strap, Constant Voltage Regulator. Supplied complete with tubes (CK 5785, 5841, 3S4, 1B85 Victoreen), Batteries (3 Eveready #950 1½-volt "A", Eveready #467 67½-volt "B"), Headphone, Probe, Shoulder Strap, samples of radioactive ore and instructions. Wt. 5 lbs. completely assembled. Metal Cabinet with Gray Hammertone finish: 6¼ x 5 x 4½".

Model GC-111 Wired
Ready to operate.....**Dealer's Net Price $89.50**

Model GC-112 Deluxe "Detect-Ore" Wired
Ready to operate, similar to above except equipped with Bismuth 3X sensitive Geiger Tube in place of the 1B85 Victoreen Tube.
Dealer's Net Price $119.50

HI-FIDELITY 20-WATT SOUND AMPLIFIER KIT



Tubes, 6SC7, 6SF5, 6SN7, 2-6L6, 5U4G

Including Preamplifier
20-30,000 Cycles
Flat Response
±0.5 db.

Features "Clean-Sound—Crisp Tone." Up to date circuiting, embodying simplicity, economy, ease of construction. Famous Peerless High Fidelity Output Transformer. Pictorial wiring diagrams, detailed step-by-step instructions, including tubes.

DeLuxe Model AA620DL.....**Dealers Net Price $51.95**
Standard Model, with standard hi-fi Output Transf., 30 to 20,000 cycles. Flat response ±1.0 db.
Standard Model AA620S.....**Dealer's Net Price $44.95**
Model MC620—Matching Cover.....**Net Price $5.35**

"LITTLE WONDER" RADIO RECEIVING SET OUTFIT

Complete with
- **Phone**
- **Aerial Kit No. 2103**

Outstanding favorite with young and old! Compact in size but big in results. Open type detector permits fine adjustments. This set includes Philmore Supersensitive Crystal for quick results when "looking" for a station. Ready for operation, nothing else needed. Specially designed hookup affords good reception up to 100 miles from broadcast station! Completely assembled.

Cat. No. 7000W.....**List Price $5.50**
Plus Federal Excise Tax

"SUPERTONE" RADIO RECEIVING SET OUTFIT

Complete with
- **Phone**
- **Aerial Kit No. 2103**

Built to give everlasting service. Brings in stations loud and clear, up to 100 miles under favorable conditions! Equipped with enclosed detector and supersensitive crystal for excellent results. Completely assembled, nothing else needed for operation. Includes Headphone and our No. 2103 Aerial Kit. Attractively packaged.

Cat. No. 7001W.....**List Price $6.00**
Plus Federal Excise Tax

RADIO *Remote Control* KITS

For PLANES BOATS TRAINS

TRANSMITTER - RECEIVER

Perfect for Hobbyists! Easy to build . . . Economical . . . Foolproof and Stable in Operation . . . Easy-to get station license.

The TRANSMITTER

Operates on 27.255 Mc. Uses one 3A4 tube. Surprisingly wide control with only 2.75 watts power input. Metal cabinet 9"x6"x5". 3½ lbs. less batteries.
No. RC222T (less batteries).
List Price $33.50

JR. TRANSMITTER

Model RC333T—Similar to above. Cabinet: 6x6x3¾". Wt. less batts.: 2 lb. 6 oz.
Less batteries.....**List $26.00**

THE RECEIVER

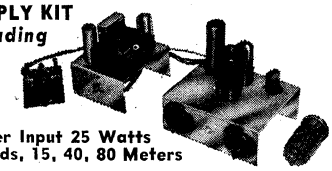
Compact, only 3½ oz.! 2⅞" x1⅛"x1¾". Complete instructions, pictorial, schematic diagrams. Includes 3-element Thyratron Tube.
No. RC222R (less batteries).
List Price $26.50

ESCAPEMENT UNIT
Model RCEU.
Optional for receiver. Wired.
List $5.50

COMBINATION OFFERS
(less escapement unit)

No. 1—RC-222T transmitter & RC-222R Receiver kits..**$57.95**
No. 2—RC-333T transmitter & RC-222R Receiver kits..**$50.75**

NOVICE TRANSMITTER AND POWER SUPPLY KIT *Including Key*



Power Input 25 Watts
3 Bands, 15, 40, 80 Meters

Easy to assemble, easy to operate. Untuned Pierce type Xtal Osc., uses 6V6 tube tuned output Amp., uses 6L6 tube. Power supply uses 5Y3 tube, 370 V DC at 100 Ma. With tubes and standard key. Foolproof instructions.

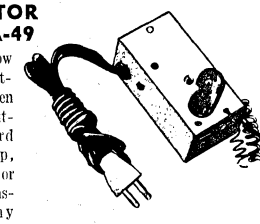
Model NT-200.....**Amateur Net Price $29.40**

NOVICE RECEIVER KIT

Companion for above or other popular models. Plug-in coils for 40-80 meter bands. Coil winding data for 15, 40, 80 meters. Includes 6SN7GT Tube.

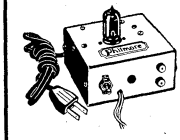
Model NR-300.....**List $24.50**

PHONO OSCILLATOR Model PA-49



Actually a low powered transmitter, this unit when connected to output from record player pickup, enables music or speech to be transmitted to any number of radio sets in the house, without any wire connections. Can be tuned to any dead point on radio dial from 1000 to 1500 Kc. Very simple to adjust. Small and compact, can be secured permanently to record player. Oscillator employs one 12AX7 type tube. Works on 110 volts AC or DC.

Model No. PA49 (Less Tube).....**List Price $8.75**



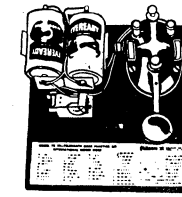
CODE PRACTICE OSCILLATOR

Model
#CO205—Wired
#CO206—Kit

This unit is contained in metal case 4 x 4 x 2" with attractive gray hammertone finish. The circuit is completely isolated from case, insuring maximum safety. Tone pitch is fixed but may be varied by simple circuit change as shown in diagrams supplied. Designed for operation with Earphones. Both models supplied less tube (12AX7 or 12AT7), phone and key. Operates on 110 volts AC or DC.

Model No. CO205—Wired.....**List Price $12.50 Ea.**
Model No. CO206—Kit.....**List Price 8.50 Ea.**

CODE PRACTICE TELEGRAPH SET Model TC-50



Compact, sturdy unit, ideal for beginners learning to transmit and receive code. It employs high grade Signal Corps type key having all adjustments for touch tension and depth to suit any operator's requirements. Adjustable buzzer. Entire unit is assembled on plywood base, with clasp holders for two flashlite cells. Can be used singly for individual practice; or two units can be connected over a distance by 3-wire cable for two-way telegraphic communication. Complete instructions included.

Model No. TC50 (less batteries).....**List Price $5.25**

PHILMORE MFG. CO. INC. . . . . New York 3, N. Y.

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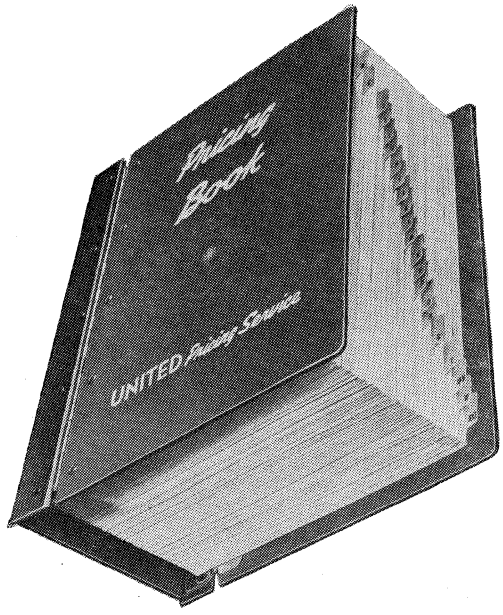

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BOZAK

THE R. T. BOZAK SALES COMPANY

Quality Loudspeakers

The Bozak Loudspeakers and Speaker Systems are recognized as being the most suitable of any available today for use in wide-range, low-distortion music systems. The line includes only three basic units — Treble, Mid-Range and Bass — all of which are of equal quality and compatible design. Each is designed solely for optimum performance in its range, and for use in multiples with other Bozak Speakers to form various two-way and three-way systems of power-handling capacities from 15 Watts up. Existing Bozak Speaker Systems may easily be expanded at any time by the addition of more Bozak units and without problems of balancing and leveling. Each Bozak Speaker System, properly mounted and powered, offers the finest transient response, lowest distortions, widest usable frequency and dynamic ranges, that can be had at anywhere near its price. Experienced listeners agree that Bozaks are unrivalled for realism and listening ease. All Bozak Speakers, being of the direct-radiating type with gradual rolloff, are completely compatible with each other. No leveling controls or pads are required for use in multiples. The "slow" crossover rate of 6 db per octave is achieved through non-resonant networks that cannot cause the "ringing" (transient distortion) commonly associated with sharp-cutoff networks.

Mounting should be in an infinite baffle (large wall), or a true horn, or in a rugged, acoustically-lined, completely-enclosed box. Under no circumstances should a "tuned" or resonant chamber be used for Bozak Speakers, because this type of enclosure destroys the perfect transient response inherent in the drivers, and introduces spurious peaks that distort the smooth, robust, true-pitch bass.

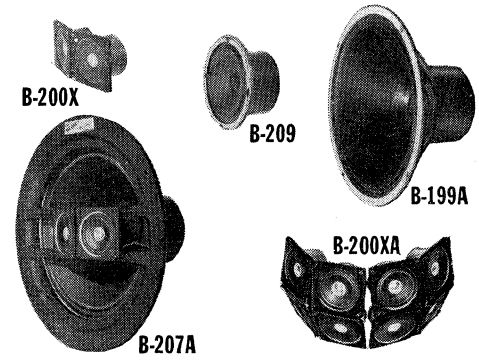
Associated Equipment must be of uniformly high quality *throughout*, because even a Bozak Speaker cannot compensate for deficiencies in the signal fed to it. Turntables must be free of rumble, because the range of the Bozaks extends well down into the 30-cycle region. The amplifier must have low distortion under speaker load, as well as in steady-state tests, and should have a power of at least 20 Watts for a B-207A Coaxial and proportionately higher for the larger systems.

Efficiency is *not* a measure of quality, but "high efficiency" is an indication of unbalanced response (specifically, too-heavy a mid-range). Because of the uniformity and realism of their response throughout the entire audible range, Bozak Speaker Systems will not sound as loud as other systems of similar size with equal inputs of power. Therefore, in A-B Tests the amplifier gain should be adjusted so that all speakers *sound equally loud;* this will put "efficiency" and *quality* in their proper relationship, and emphasize the realism and freedom from listening fatigue that distinguish the Bozaks.

BOZAK LOUDSPEAKERS

Bozak Speakers	Range cps	Impd ohms	Resonance	Power Rating	Mntg Hole	Weight lbs	Retail Price
B-200X Treble	2000 - 16,000	8	—	15W*	6″x3″	2¾	$30.00
B-209 Mid-Range	200 - 3500	4-8 16	none	50W*	5½″ diam	6½	48.00
B-199A Bass	30 - 4500	8	below 40 c	15W*	11½″ diam	8	49.50
B-200XA Tweeter Array	1500 - 20,000	8	—	50W*	†	11¼	132.00
B-207A Coaxial	Two-way System— see B-300 in "Systems" Table				12¼″ diam	13	83.85

*—For use in Systems of indicated wattage
†—Mounts outside woofer cavity.



BOZAK SPEAKER SYSTEMS

COMPLETE SYSTEMS IN ENCLOSURES*

Bozak Systems	Retail* Price	Speaker Complement B-199A	B-209	B-200X	B-200XA	Network **	Enclosure	Impd Ohms	Power Rating	Range cps
B-300	$162.60	1	—	1	—	4-mfd	E-300	8	15W	40c-16kc
B-302A	235.60	1	1	1	—	N-101	E-300	8	20W	40c-16kc
B-305	390.00	2	1††	2	—	N-102	E-305	16	30W	35c-16kc
B-310	723.00	4	1	—	1	N-104	B-310	8	50W	28c-16kc

*—Wired and installed in infinite-baffle enclosures of Mahogany, Birch or Walnut veneer. See additional price information at bottom of page.
**—For Crossover Frequencies see "Networks" Table below.
#—In cast-aluminum frame fitting over standard cutouts for 12″ or 15″ speakers.

PANEL-MOUNTED SYSTEMS†

Model	Dimensions	Retail Price
B-207A#	12¼″ diam	$ 83.85
P-302AP	23″ x27½″	165.00
P-305P	34½″x24″	210.00
P-310P	36″ x48″	474.00

†—Speakers and Networks, wired and installed on ¾″ fir plywood panels (1½″ for P-310P). Ready for installation in a wall or suitable infinite-baffle enclosure; for minimum enclosed volumes see "Enclosures" Table below.
††—16-Ohm Unit; 8-Ohm for other Bozak Speaker Systems.

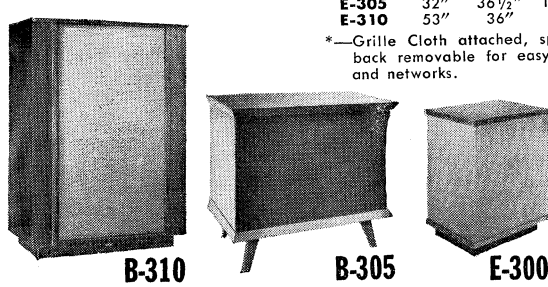
ENCLOSURES*

Enclosure Model	Outside Dimensions hght	wdth	dpth	Vol cu ft	Retail Price
E-300	30½″	24″	17″	5	$ 75.00
E-305	32″	36½″	18½″	8	141.00
E-310	53″	36″	19″	16	300.00

*—Grille Cloth attached, speaker openings pre-cut, back removable for easy installation of speakers and networks.

NETWORKS

Bozak Networks	used with	Crossovers cps	Impd ohms	Retail Price
4-mfd	B-207A	2500	8	$ 1.50
N-101	B-302	800-2500	8	25.00
N-102	B-305	800-2500	16	25.00
N-103	B-305	400-2500	16	37.50
N-104	B-310	400-2500	8	37.50



All prices are FOB Factory, Norwalk, Connecticut; add 5% in extreme South and Far West. Prices and Specifications subject to change without notice. All Bozak products are covered by a one-year Guaranty against defective materials and craftsmanship, subject to registration with us within 10 days of purchase by the original retail purchaser.

BOZAK

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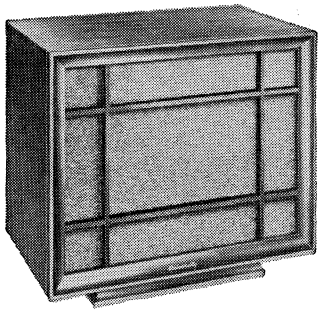
Net

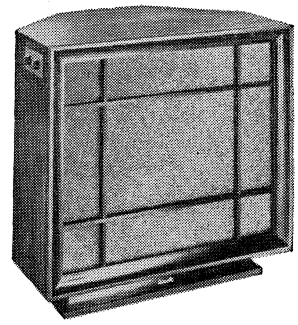
THE CROWNING ACHIEVEMENT IN SPEAKER SYSTEMS

University *Decor-Coustic* Speaker Systems that make a living room a concert hall



Model S-8 "Classic" Deluxe 3-Way Speaker System

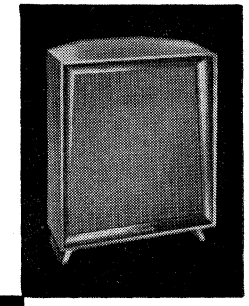
The CLASSIC represents University's many engineering advances. Components comprise the incomparable C15W 15" woofer, Cobreflex—2 wide-angle dual exponential horn with T-30 driver for rich, full-bodied middles; the new HF-206 Super Tweeter and N-3 Acoustic Baton network, with *Brilliance* and *Presence* controls. The enclosure is a versatile front-loaded, folded horn operating the C15W woofer as a compression driver for maximum efficiency. Thus, the CLASSIC functions independently of walls and floor. May be used as "lowboy" console or "highboy". Response: 30 cps. to inaudibility. 50 watt* power handling capacity; 8 ohms; available in mahogany and blond; 34½" H., 40½" W., 24¾" D. Shpg. wt.: 210 lbs. Net price: ***Mahogany*—$450.00, *Blond*—$460.00.**



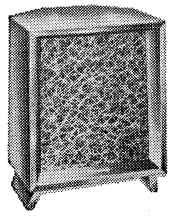
Model S-7 "Dean" Deluxe 3-Way Speaker System

Employing the same high quality components and exclusive "Decor-Coustic" design as the "Classic." The DEAN is *truly* a "cornerless-corner" cabinet. This enclosure is a compression-type, front-loaded, folded horn, that functions completely independent of walls and floor. Just listen to the results of the C15W 15" woofer, Cobreflex-2 with T-30 driver for the mid-range, the HF-206 for the highs and the N-3 Acoustic Baton network crossing over at 350 and 5000 cycles. It will be difficult for your ears to believe that such magnificent sound can be produced by a speaker. Response: 30 cycles to inaudibility; Handles 50 watts*; 8 ohms; available in mahogany or blond; Size: 36¼" H., 36" W., 22" D. Shpg. wt.: 170 lbs.; Net price: ***Mahogany*—$450.00, *Blond*—$460.00.**

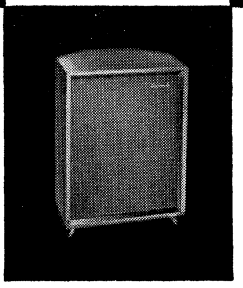
Model S-6 "The Master"—3-Way Speaker System — Provides the full response and dynamic range of music...at an unbelievably low price. Just listen to the results of the C15W 15" Woofer, the 4409 "reciprocating flare" horn with heavy duty compression driver, the HF-206 Super Tweeter for natural highs, with the Acoustic Baton completing this quality team of components. Performance competes with speaker systems considerably larger in size and higher in cost. Handles up to 50 watts*. All are installed in a "Decor-Coustic" horn-loaded, phase inverter "cornerless-corner" enclosure which permits use either in a corner or flat against wall. 37" H., 28" W., 19¼" D. Available in mahogany and blond. Shpg. wt.: 120 lbs. Net price: ***Mahogany*—$285.00, *Blond*—$290.50.**



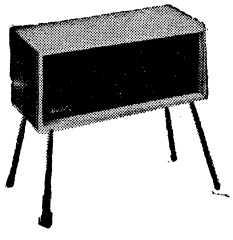
BIG PERFORMANCE IN A SMALL PACKAGE



Model S-3TM "Tiny Mite" 3-Way Speaker System — Suitable for corner installations or against a flat wall this well-proportioned, "Decor-Coustic" unit with Model 308 8" 3-way Diffaxial Speaker actually accomplishes what is often wishfully claimed for small systems. A powerhouse of acoustic energy, the best features of horn loading, phase inversion and direct radiation are integrated to achieve balanced extended range performance with high output. 25 watt* power handling capacity, 8-16 ohms. 21" H., 15½" W., 12½" D.: Available in mahogany and blond. Shpg. wt.: 30 lbs. **Net price: *Mahogany*—$75.75, *Blond*—$78.25.**



Model S-5 "The Senior" 3-Way Speaker System — Fulfills the need for a top quality performer where space and budget are limited. Using the basic C12W Woofer, 4408 "reciprocating flare" horn speaker for mid-range; HF-206 Super Tweeter for highs and Acoustic Baton...this team of PSE speaker and network components performs with excellent efficiency to beyond audibility handling up to 30 watts*. Installed into University's NEWEST "Decor-Coustic" horn-loaded, phase inverter enclosure...the result is smooth, natural reproduction of music and speech. Made by master craftsmen with same quality of material, workmanship and finish as the finest furniture. Available in mahogany and blond. 30" H., 21½" W., 15¾" D. Shpg. wt. 95 lbs. **Net price: *Mahogany*—$185.00, *Blond*—$188.50.**



Model S-1 "Companionette" 2-Way Speaker System — Decorative and smartly styled, ideal speaker system for limited space application or as extension speaker to an existing high fidelity installation. Makes every room a music room with this *true* 2-way divided speaker system using the Model 4401 wide-angle Tweeter and Model C8W Woofer. The "Decor-Coustic" enclosure employs the "distributed port" phase inversion principle for deep, rich bass reproduction. The cabinet is skillfully constructed of the finest and fully cured woods. Ideal for bookcase installation or MD-4 legs may be used to convert system for floor use. Response to 15,000 cps. Handles 25 watts*, 8 ohms. Available in mahogany and blond. Size: 9⅝" H., 24" W., 10" D. Shpg. wt.: 25 lbs. **Net price: *Mahogany*—$59.50, *Blond*—$61.25. *MD-4 Wrought Iron Legs*—$5.00.**

**Integrated Program*

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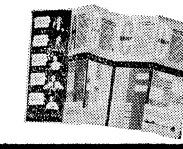

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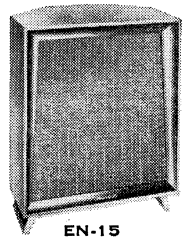
University DECOR-COUSTIC ENCLOSURES...A TREAT TO THE EYE—A DELIGHT TO THE EAR



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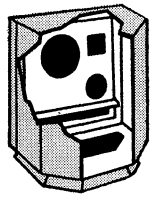
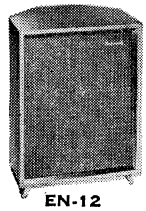
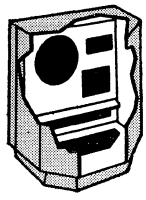


KEN-15
INTERIOR VIEW SHOWING BAFFLE



EN-12



KEN-12
INTERIOR VIEW SHOWING BAFFLE

The EN-Series — Cornerless-corner enclosures embrace best features of rear horn loading, phase inversion and direct radiation. Designed for most popular P.S.E. combinations, the EN-Series will accomodate multi-speaker systems as well as wide-range coaxial and diffaxial speakers. Versatile speaker mounting board has pre-cut speaker openings. Unique adapter boards permit wide selection of components. Full ¾" wood used throughout. No mechanical resonance, rigidly braced. Use in corner or against wall. Mahogany, blond and unfinished.

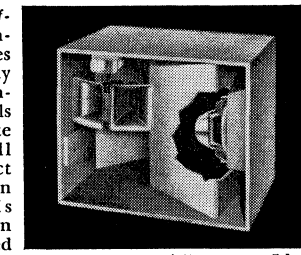
Model EN-15— Speaker mounting board pre-cut for: 15" speaker; factory fitted with removable adapter for 12" speaker; 8" mid-range speaker with adapter for mounting "reciprocating flare" horn speaker; tweeter opening for HF-206, UXT-5, 4401, 4408, or 4409. Tweeter and mid-range adapters serve as blocking plates when used with 12" or 15" wide range, coaxial or diffaxial speakers. 37"x28"x19¼". Shpg. wt.; 80 lbs. **EN-15M, $125.00 Net; EN-15B, $130.50 Net; EN-15U, $102.00 Net.**

Model EN-12— Speaker mounting board pre-cut for: 12" speaker; mid-range opening for 4408 or 4409; tweeter opening for HF-206, UXT-5, or 4401. Tweeter and mid-range adapters serve as blocking plates when used with 12" wide-range, coaxial or diffaxial speakers 30"x21½"x15¾". Shpg. wt.; 48 lbs. **EN-12M, $75.00 Net; EN-12B, $78.50 Net; EN-12U, $64.50 Net.**

KEN Series KwiKits — Do-it-yourself version of EN Series enclosures. Similar in every respect except that KwiKits employ a simplified front frame design. Finest grade ¾" Birch hardwood cabinet plywood. Almost all of assembly done with screwdriver. Kit contains: all pre-machined and pre-shaped wood sections; glue; hardware; plastic wood; sandpaper; easy to follow instructions.

KEN-15—37"x28"x19¼"; shpg. wt. 70 lbs. **$49.75 Net. KEN-12**—30"x21½"x15¾"; shpg. wt. 45 lbs. **$39.75 Net.**

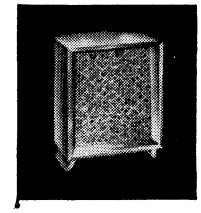
Model EN-CB Unfinished-Utility Enclosure



A *true* folded *self-contained* exponential horn, operates with highest quality wherever placed, independently of walls or floors. Complete in itself with all acoustically correct elements always in place, EN-CB is identical in design to the enclosure used in the famous "Classic" *"Decor-Coustic"* system. Ideal for the do-it-yourself home decorator...the many ways to finish the EN-CB is limited only by the imagination. Can be used horizontally or vertically. Fully assembled, constructed of Grade 1, ¾" Fir plywood with locked mitre joints and braced with heavy glue blocks. Supplied unfinished, less base and frame, but with necessary hardware for mounting speaker. Recommended components are: Model C15W Dual Impedance Woofer, Model HF-206 Super Tweeter, Model Cobreflex—2 Mid-range Horn with T-30 Driver, Model N-3 Crossover Network. 40"x30"x24". Shpg. wt. 150 lbs. **$120.00 Net.**

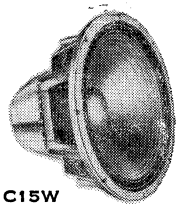
"Tiny-Mite" Enclosure

The *smallest cornerless-corner* enclosure for both 12" and 8" extended range speakers. Also suitable for multi-speaker systems employing an 8" woofer and tweeter combination. Highly efficient University horn-loaded phase inversion principle actually achieves a quality of performance that surpasses other designs based on theories comprised down to smaller size. Extends the bass range, lowers distortion, and increases power handling ability of speaker. Decor-Coustic in every detail, versatile design and shape permits use in room and ceiling corners, or along a flat wall. Even chairside, since *all* exteriors including the back are finished. Simplified front mounting. Full ¾" wood used throughout. Supplied with mounting board cut out for 12" speaker; adapter for 8" speaker with ample space for tweeter opening is available. Mahogany or blond, also unfinished birch. Measures only 21" h. x 15½" w. x 12½"d. Shpg. wt. 25 lbs.



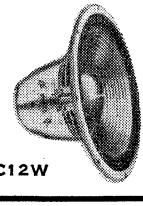
TM-812M Mahogany—$39.75 Net
TM-812B Blond—$42.25 Net
TM-812U Unfinished—$34.00 Net

University WOOFERS THAT REALLY GO DOWN

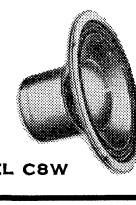


MODEL C15W

MODEL C63W



MODEL C12W



MODEL C8W

Model C15W Dual Impedance Range Woofer

Maximum conversion is maintained by a new type voice coil with greatest axial depth and excursion ever attained. Exclusive twin spider arrangement and 6 lb. all-Alnico 5 Gold Dot magnet reduces distortion to virtually broadcast level. Response from below 30 to 3000 cps. Up to 50 watts integrated program. *Exclusive* dual impedance voice coil assembly enables use in any system of 4 to 20 ohms, facilitating altering or expanding systems. 10½" deep; Shpg. wt., 24 lbs. **$75.00 Net.**

Model C12W 12" Adjustable Response Woofer

Built-in facilities enable high-end adjustment response to 700, 2500 or 5000 cps. suiting requirements of most tweeters. Crossover points can be changed to achieve best tonal balance. When used with N-1 adjustable high-pass filter, combination forms a complete L/C network. 1½ lbs. super-sensitive all-Alnico 5 Gold Dot magnet. Response: 40 to 6000 cps. (overall). 8 ohms. Up to 30 watts integrated program. 6½" deep. Shpg. wt.: 8 lbs. **$33.00 Net.**

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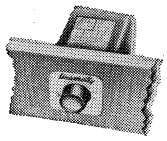
West Coast Prices Slightly Higher

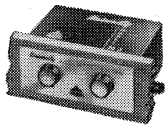
Net

EXCLUSIVE *University* ADJUSTABLE NETWORKS



Model N-1 Adjustable Filter

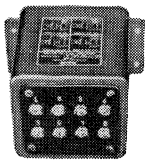
Adjustable high pass filter with built-in "Brilliance" Control. Crossover and impedance combinations: 2500, 5000, 10,000 cps. at 8 ohms; 1250, 2500, 5000 cps. at 16 ohms; 5000, 10,000 cps. at 4 ohms. Can be used with N-2A L/C network in 3-way system. Fits panels up to 1" thick. 3⅜"x3¼"x3". Shpg. wt. 3 lbs. **$10.50 Net.**



Model N-3 *Acoustic Baton* Network

An *adjustable* L/C network for 3-way systems. Connections for either 350 or 700 cps. crossover between mid-range and woofer. Tweeter crossover is 5000 cps. Built-in "Presence" and "Brilliance" controls. Adjustable for vertical or horizontal mounting. Fits panels up to 1" thick. 8 ohms. 7"x5"x3". Shpg. Wt. 5 lbs. **$28.00 Net.**

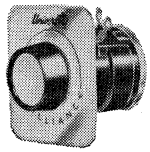
Models N-2A and N-2B Adjustable L/C Dividing Network



With either or both these units, any combinations of speakers can be used in a great variety of voice coil impedances and popular crossover points. N-2A and N-2B can be used in combination for 3-way speaker systems. 3⅜"x 3¼"x 3". Shpg. wt., each, 3 lbs.

N-2A ADJUSTABLE CROSSOVER. 6 db/oct. 2-way L/C network. May be used in pairs as 12 db/oct. network, or singly as 12 db/oct. low or high-pass filter. Crossover—350 or 700 cps. at 8, 16 ohms; 700 cps. at 4 ohms. **$18.00 Net.**

N-2B ADJUSTABLE CROSSOVER. 6 db/oct. 2-way L/C network. May be used in pairs as 12 db/oct. network, or singly as 12 db/oct. low or high-pass filter. Crossover—1250, 2500 or 5000 cps. at 8 ohms; 2500 or 5000 cps. at 16 ohms; 2500 at 4 ohms. **$14.00 Net.**



Model AP-8 "Balance" Control

Effective and efficient attenuator pad for balancing sound according to room acoustics and personal taste. Ideal for use with N-2A and N-2B networks. Complete with polished brass escutcheon and knob, etched on both sides plate is marked "PRESENCE" for use in mid-range circuits, and "BRILLIANCE" for use with tweeters. Suits 8-16 ohms systems. Fits panels up to 1" thick. Shpg. wt.: 7 oz. **$3.75 Net.**

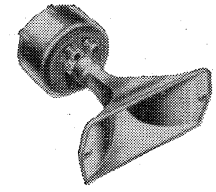
Model C63W Adjustable Response 15" Woofer

A new highly versatile low frequency speaker, with *exclusive* built-in features. Adjustable response limiter sets response to 700, 2500, and 5000 cps. to suit crossover requirements of most tweeters. Combination with N-1 Adjustable High Pass Filter forms an L/C network with "Brilliance" control. Bass response is smooth to better than 30 cps. with lowest distortion. One-piece molded cone of special pulp content for increased stability. 1½ lbs. of super-sensitive all-Alnico 5 Gold Dot magnet. Response from 30 to 6000 Cps.; 30 Watts Integrated Program; 8 Ohms; 10" D.; Wt. 13½ lbs. **$47.70 Net.**

Model C8W 8" Woofer

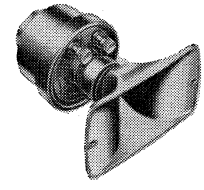
Ideal for assembling a compact, high quality speaker system. Perfect also as a mid-range in low cost 3-way systems and is suitable for crossover up to 5000 cps. Heavy super-sensitive all-Alnico 5 Gold Dot magnet. Response to 50 cps. is achieved when properly baffled. Up to 25 watts of integrated program. 8 ohms. 4¼" deep. Shpg. wt.: 4 lbs. **$13.50 Net.**

University TWEETERS FOR HIGHEST VALUE



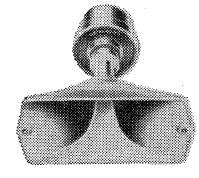
Model HF-206 Super-Tweeter

High-frequency far beyond audibility. Employs improved, die-cast aluminum wide-angle horn based on "reciprocating-flare" principle providing 120° horizontal and 50° vertical dispersion. New super-efficient driver also housed in die-cast aluminum casing. Low end cut-off 3500 cps. Power capacity: 25-50 watts,* depending on crossover frequency used and speaker system set-up. 8 ohms. N-1 or N-2B network recommended. 6"x3¼"x6⁹⁄₁₆". **$27.00 Net.**



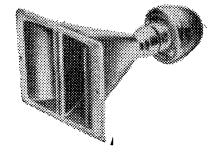
Model UXT-5 Super Tweeter

A compact super-tweeter assembly for crossover at 5000 cps. or above. Employs a genuine compression driver with super-sensitive Alnico 5 magnet coupled to University's *exclusive* and *patented* "reciprocating flare" horn. Uniform wide-angle response, high conversion efficiency. N-1 or N-2B L/C network recommended. Response from 4500 to 17,500 cps.; 120° horizontal and 50° vertical dispersion; 25-50 watts.* 8 ohms; 4"x2¾"x4⅜"; Shpg. wt. 2½ lbs. **$21.00 Net.**



Model 4401 Tweeter

Sturdy one-piece die-cast horn using "reciprocating-flare" principle results in 120° horizontal high frequency dispersion and 50° vertical dispersion. High conversion efficiency due to use of "driver" mechanism and light weight duralumin voice coil suspension. Hermetically sealed construction. Response from 2000-15,000 cps. 8 ohms. Handles up to 25 watts.* N-1 or N-2B dividing network recommended. 9½"x2⅝"x5⁵⁄₁₆". Wt. 2 lbs. **$16.50 Net.**

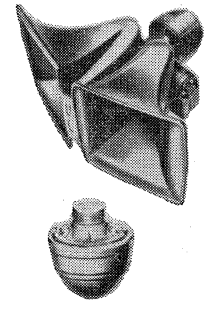


Model 4409 Tweeter

Wide-range reproduction with crossover as low as 600 cps. "reciprocating flare" horn is *one-piece* heavy aluminum casting. 120° horizontal and 60° vertical dispersion. N-2A L/C network recommended. Response from 600 to 15,000 cps.; Up to 50 watts.* 8 ohms; 5¹³⁄₁₆"x7⅜"x10½"; Wt. 5 lbs. **$29.50 Net.**

Model 4408 Tweeter — Medium power version of 4409. 30 watts.* 8 ohms; 5¹³⁄₁₆"x7⅜"x11⅛"; Shpg. wt. 5 lbs. **$21.00 Net.**

Model H-600 Horn — The horn used on Model 4409. Fits all drivers with 1⅜"-18 thread. One-piece heavy aluminum casting. 5¹³⁄₁₆"x7⅜"x7½"; Shpg. wt. 3 lbs. **$12.00 Net.**



Model Cobreflex 2 Horn

Unsurpassed as a mid-range horn in 3-way systems when used with T-30 compression driver unit. 27" exponentially-flared air column permits crossover as low as 350 cps. *Exclusive* twin-flare design for uniform wide-angle dispersion, 120° horizontal and 50° vertical. One-piece die-cast of extra heavy aluminum. 1⅜"—18 throat size; 10¼"x18½"x9¼"; Wt. 11 lbs. **$23.00 Net.**

Model T-30 Compression Driver

For use with Cobreflex 2 Horn. High efficiency, heavy super-sensitive Alnico 5 Gold Dot magnet. Response from 250 to 15,000 cps.; Up to 50 watts.* 1⅜"—18 Thread; 8 ohms; 3½"x3⅞"; Shpg. wt. 3 lbs. **$20.00 Net.**

**In multi-speaker systems*

University LOUDSPEAKERS, INC., WHITE PLAINS, N. Y.

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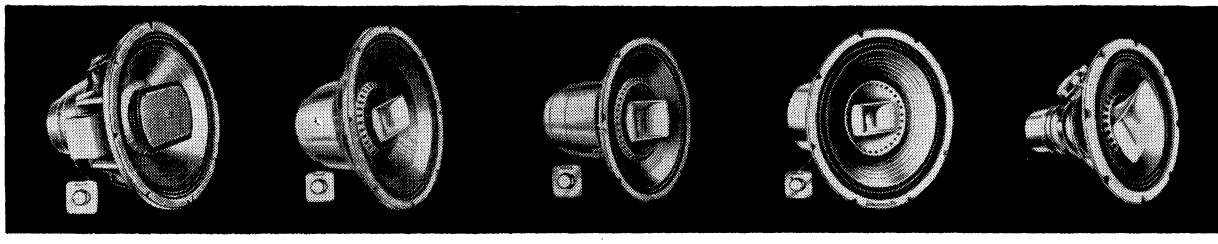
DIFFAXIALS have "Functional Design"

The DIFFAXIAL is a high quality extended-range speaker, capable of the most magnificent, natural, wide-range reproduction of sound.

The most advanced principles of audio and acoustic engineering have been combined to produce a speaker of exceptional quality...the **DIFFAXIAL**...principles which **also** embrace the modern concept of Functional Design.

Here are features that make University 3-way Diffaxials different:

1. Exclusive **patented** diffusicone design. **2.** Genuine compression driver tweeter with **patented** "reciprocating flare" principle. **3.** Most advanced and highest efficiency magnet assembly. **4.** True "thru-the-axis" construction with tweeter horn projected through center of woofer.



Model 315 15"3-way Diffaxial Speaker

"Reciprocating Flare" horn tweeter is projected *true-axially* through center of woofer. Ultra highs distributed by acoustic screen of tweeter. Full-bodied mid-range reproduced by *patented* deluxe multi-sectional Diffusicone element. Woofer performance is equivalent to Model C15W. Crosses over mechanically at 1000 cps. and electrically at 5000 cps. through built-in L/C network with "Brilliance" control. 6½ lbs. of all-Alnico 5 Gold Dot Magnet. Frequency response to inaudibility. Handles 50 watts*, 8-16 ohms; 12" D. Wt., 34 lbs. **$132.00 Net.**

Model 6303 15"3-way Diffaxial Speaker

Medium power version of the Model 315. Sonorous bass with full-bodied mid-range provided by *patented* deluxe multi-sectional Diffusicone element crossing over mechanically at 1000 cps. Complete high efficiency tweeter, with "Reciprocating Flare" horn, is projected *true-axially* through the center of the woofer. Built-in L/C network crossing over at 5000 cps. "Brilliance" control; 2 lbs. of all-Alnico 5 Gold Dot magnet. Response from 30 cps. to inaudibility; Handles 30 watts*; 8-16 ohms; 10" deep. Shpg. wt., 15 lbs. **$80.10 Net.**

Model 312 12"3-way Diffaxial Speaker

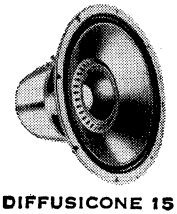
A completely engineered package . . . University's HF—206 super-tweeter is *true-axially* projected *through* the center of the 12" woofer. Full-bodied mid-range reproduction is handled by *patented* deluxe multi-sectional Diffusicone element. Built-in L/C network and variable "Brilliance" control. Crossover is mechanical at 1000 cps. and electrical at 5000 cps. Contains extra heavy 2 lbs. of all-Alnico 5 Gold Dot Magnet. Frequency response to inaudibility; 25 watt* power handling capacity; 8-16 ohms; 8" deep; Shpg. wt., 12 lbs. **$64.50 Net.**

Model UXC-123 12"3-way Diffaxial Speaker

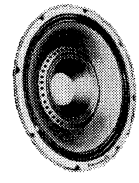
New integrated 3-way speaker assembly completely wired with built-in L/C network and "Brilliance" control. Employs *exclusive* standard uni-sectional diffusicone element. New UXT-5 super-tweeter with "Reciprocating Flare" horn mounted *through* the center axis of woofer assembly. Highest efficiency, lowest distortion, and *true* uniform wide-angle dispersion. Super-sensitive all-Alnico 5 magnet. Crosses over mechanically at 1000 cps., and electrically at 5000 cps. Response from 45 to 17,500 cps.; 25 watts*; 8-16 ohms; 8¼" deep; Shpg. wt., 6½ lbs. **$59.50. Net.**

Model 308 8"3-way Diffaxial Speaker

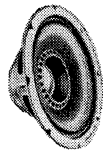
Features University's exclusive *true-axial* construction with compression tweeter projected *through* center of woofer. Tweeter employs University's "Reciprocating Flare" principle crossing over electrically at 5000 cps....mid-range is reproduced from *patented* deluxe multi-sectional Diffusicone element through a 1000 cycle mechanical crossover. Woofer has extra large voice coil for enhanced bass response. 1¼ lbs. of all-Alnico 5 Gold Dot magnet. Response: 50 to 15,000 cps. Handles 25 watts*; 8-16 ohms; 6¼" deep; Shpg. wt., 5 lbs. **$37.50 Net.**



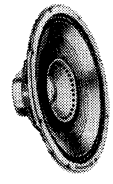
DIFFUSICONE 15



DIFFUSICONE 12



DIFFUSICONE 8



MODEL UXC-122

MODEL 6200

MODEL 6201

EXCLUSIVE UNIVERSITY 2-WAY DIFFAXIALS

University's 2-way diffaxials with *patented* deluxe multi-sectional diffusicone element in all 3 sizes. Unique design with 1000 cps. mechanical crossover. Coaxial dual horn loading at apex of cone extends mid and high frequency response. Uniform wide-angle dispersion of highs by means of radial projector with aperture diffraction for full fidelity at all listening points off speaker axis. All models contain super-sensitive all-Alnico 5 Gold Dot magnet for high efficiency.

DIFFUSICONE 15 — Response from 30 to 14,000 cps.; 30 watts*; 1½ lbs. of all-Alnico 5 magnet; 8-16 ohms; 10" deep; Shpg. wt.: 12½" lbs. **$45.00 Net.**

DIFFUSICONE 12 — Response from 40 to 14,000 cps.; 30 watts*; 1½ lbs. of all-Alnico 5 magnet; 8-16 ohms; 4¼" deep; Shpg. wt.: 6 lbs. **$33.00 Net.**

DIFFUSICONE 8 — Response from 70 to 13,000 cps.; 25 watts*; A full pound of all-Alnico 5 magnet; 8-16 ohms; 3⅜" deep; Shpg. wt.: 5 lbs. **$23.50 Net.**

MODEL UXC-122

New 12" Diffaxial speaker employing *exclusive* standard uni-sectional diffusicone element with 1000 Cps. mechanical crossover. Coaxial dual horn loading at the apex of the cone extends mid and high frequency response. Uniform wide-angle dispersion by means of radial projector plus aperture diffraction for full fidelity at all listening points off speaker axis. Extra-large voice coil and one-piece molded woofer cone of special pulp content provide long, trouble-free life and high power capacity. Contains super-sensitive all-Alnico 5 magnet. Response from 45 to 13,000 cps.; 25 watts*; 8-16 ohms; 4" deep; Shpg. wt.: 5½ lbs. **$29.75 Net.**

Model 6200 12" Extended Range Speaker

Shallow design perfect for wall, flush ceiling, and limited space installations. Contains a full pound of super-sensitive all-Alnico 5 magnet. *One-piece* molded cone of special pulp content for long, trouble-free life. High efficiency, requires a fraction of the power needed for ordinary 12" speakers. Response from 45 to 10,000 cps.; 30 watts*; 8-16 ohms; 4" deep; Shpg. wt.: 5 lbs. **$23.50 Net.**

Model 6201 Dual Range Coaxial Speaker

A *true* dual range coaxial system. The tweeter, with compression driver and "reciprocating flare" horn is mounted *through* the center-axis of the woofer cone. High efficiency, wide-angle, uniform treble reproduction. Contains super-sensitive all-Alnico 5 Gold Dot magnet. Built-in L/C network with "Brilliance" control. Response from 45 to 15,000 cps.; 25 watts*; 8-16 ohms; 8¼" deep; Shpg. wt.: 7 lbs. **$49.50 Net.**

***Integrated Program*

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West Coast Prices Slightly Higher

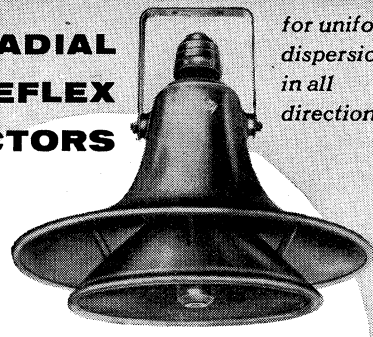
Net

LOUDSPEAKERS BY University

a complete line for every commercial sound and public address need

RADIAL REFLEX PROJECTORS

for uniform dispersion in all directions



- Reduces the total number of loudspeakers required to cover a given area.
- More efficient—driver-driven radial speakers provide as much as 500% greater output than cone speaker radials.
- Versatile—ideal for spacious areas necessitating suspension installation, such as hangars, church towers, warehouses, etc. Suitable for voice and music.

MODEL	RLH	RPH	RSH
LOW FREQUENCY CUTOFF	120 cps.	140 cps.	180 cps.
SOUND DISTRIBUTION	360°	360°	360°
AIR COLUMN LENGTH	5 ft.	4 ft.	3 ft.
BELL DIAMETER	28⅛″	25⅛″	18⅞″
*OVERALL HEIGHT	18½″	14″	11″
*LIST PRICE	$59.00	$45.00	$38.50

**Less Driver Unit*

REFLEX TRUMPETS

for directional sound projection

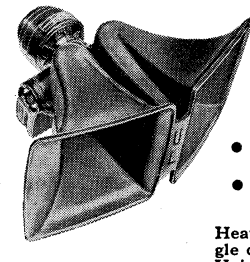
Pioneered by University, the most efficient modern method of sound distribution.

- Economical—More sound output for less amplifier power.
- Ruggedly constructed—weatherproof . . . install it and forget it.
- Five trumpet sizes to cover varied response and coverage requirements.

MODEL	GH	LH	PH	SMH	4A4**
LOW FREQUENCY CUTOFF	85 cps.	120 cps.	150 cps.	200 cps.	200 cps.
SOUND DISTRIBUTION	65°	75°	85°	95°	80 degs.
AIR COLUMN LENGTH	6½ ft.	4½ ft.	3½ ft.	2½ ft.	2½ ft.
BELL DIAMETER	30⅞″	25⅝″	20¼″	16¼″	16⅞″
*HORN LENGTH	27⅞″	19″	15¾″	12″	20½″
*LIST PRICE	$65.00	$44.50	$31.00	$26.00	$93.00

**Less Driver Unit*
***This model takes 4 drivers—produces 100 watts.*

FOR WIDE ANGLE HORIZONTAL DISPERSION

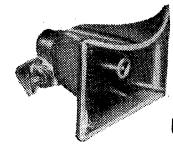


The New COBREFLEX-2

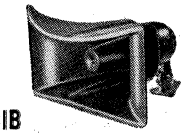
Meets every requirement for:

- Paging and Talk-Back installations
- Heavy industry applications
- Fixed or Mobile systems
- 2 or 3 way hi-fi systems

Heavy-duty design provides wide angle dispersion of sound. Use with any University drive 1-pc. die-casting.



NEW!



CMIL **CIB**

Provide moderate power with maximum intelligibility and wide angle dispersion pattern. Built-in hermetically sealed driver. In 4, 8, and 45 ohms.

See specs below.

PAGING AND TALK-BACK SPEAKERS

for maximum penetration through areas with high noise density.

MODEL IB8
High efficiency provides maximum coverage with minimum power. Features high power capacity . . . high sensitivity . . . rising frequency characteristics.

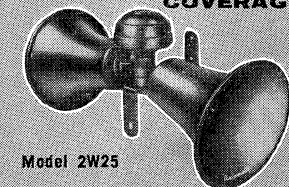
MODEL MIL
For installations requiring concentrated power to cover small areas. High conversion efficiency conserves amplifier power, ideal for low level systems.

MODEL MIS
Designed for flange or flush mounting in cabinets, walls, ceilings, bulkheads, etc. Ideal for replacement of cone speakers to increase output.

MODEL IBR
Small radial speakers, complete with built-in driver unit. Affords 360° horizontal dispersion resulting in wide coverage with a minimum of speakers.

MODEL CR
Reflex speaker conservatively rated at 20 watts continuous duty, and featuring built-in driver unit. Excellent tonal balance for music.

FOR BI-DIRECTIONAL COVERAGE



Model 2W25

- Covers two opposite areas with a single driver unit (driver supplied).
- Reduces installation and equipment costs.
- Versatile bracket arrangement provides 4 different mounting positions.
- Built for continuous heavy duty service.

MODEL	IB8	MIL	MIS	IBR	CR	2W25	CMIL	CIB	Cobreflex-2
Cont. Power	15 watts	5 watts	5 watts	15 watts	20 watts	25 watts	5 watts	15 watts	Dependent on University Driver Unit used.
Impedances	8 ohms	8 ohms	8 ohms	8 ohms	16 ohms	16 ohms	8 ohms	8 ohms	
Frequency	300-13,000	400-13,000	500-13,000	300-10,000	250-6000	350-6000	400-13,000	300-13,000	
Dispersion	90°	120°	150°	360°	90°	120° each horn	120° x 60°	120° x 60°	120° x 60°
Dimensions	8½″ dia., 9″ high	6⅜″ dia., 7″ high	3⅞″ deep, 5½″ O.D., 4⅞″ mt. dia.	12 29/32″ dia., 10 7/32″ high	11½″ dia.	20½″ lg. bell 8½″ dia. mouth	6 7/32″ high 9½″ wide 8 7/16″ long	7⅜″ high 14″ wide 12″ long	10¼″ lg. bell, 18½″ x 9¼″ mouth
List Price	$33.50	$26.00	$21.50	$39.00	$42.00	$48.00 (inc. driver)	$29.75	$41.00	$38.35
4Ω	$35.00	$27.25	$22.75				$31.00	$43.00	
45Ω	$35.00	$27.25	$22.75				$31.00	$43.00	

UNIVERSITY LOUDSPEAKERS, INC. • • WHITE PLAINS, NEW YORK

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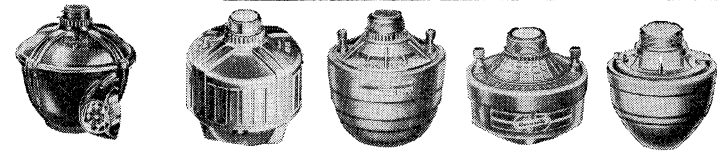
RELIABLE RUGGED DRIVER UNITS

with these exclusive built-in features

- W-shaped Alnico 5 magnet results in maximum efficiency by reducing reluctance losses and surface leakage.
- Built-in transformers provide installation flexibility to meet any impedance and constant voltage system requirement.
- Bi-sectional mechanism with foolproof automatic "rim-centered" diaphragm voice coil assembly assures immunity to shock and vibration.
- Full selection to meet all power, frequency response, impedance and mechanical requirements.

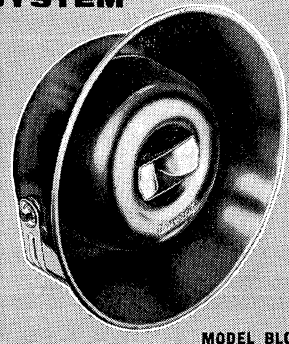
University LOUDSPEAKERS

are **APPLICATION ENGINEERED** *to provide optimum performance with maximum economy.*



MODEL	PA-30	SA-30	SA-HF	MA-25	T-30
Continuous Power	30 watts	30 watts	25 watts	25 watts	20 watts
Frequency Response	80-10,000 cps.	90-10,000 cps.	90-10,000 cps.	90-6000 cps.	250-15,000 cps.
Voice Coil Impedance	16 ohms	16 ohms	16 ohms	16 ohms	8 ohms
Transformer Impedances	165/250/500/ 1000/2000 ohms	45/165/250/500/ 1000/2000 ohms	—	—	—
Constant vol. sys. pwr.	30-20-10-5-2½ watts	30-20-10-5-2½ watts	—	—	—
Diameter, Overall	6¾"	5"	4½"	4⅛"	3½"
Length, Overall	6¾"	6¾"	5"	3¾"	3⅞"
List Price	**$50.00**	**$45.00**	**$35.00**	**$27.50**	**$33.34**

WIDE RANGE WEATHERPROOF COAXIAL SYSTEM



MODEL BLC

designed to simplify indoor and outdoor "high quality" sound installations.

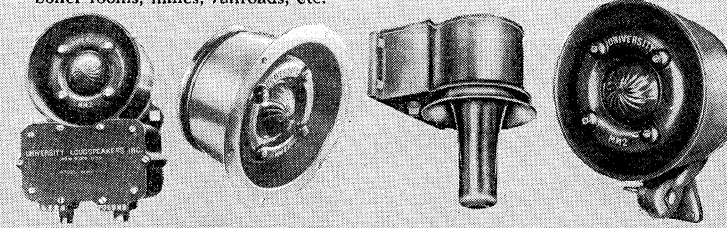
Two versions of a fine speaker system . . . both offering the finest reproduction found in P.A. The WLC Theatre System has successfully proven itself in deluxe stadium and outdoor theatre installations. The BLC, a smaller, more compact version, is excellent for general application in public address work. Both units feature separate drivers for the woofer and tweeter sections.

MODEL	BLC	WLC
Power Cap.	25 w	30 w
Imped.	8 ohms	8 ohms
Resp.	70-15,000 cps.	50-15,000 cps.
Disp.	120°	90°
Diam.	22½"	33½"
Depth	9"	20"
List	**$79.17**	**$250.00**

SUBMERGENCE PROOF SPEAKERS

immune to salt spray, gases, live steam, fungi, and all harmful dirt and dusts.

Designed to U. S. Navy submergence specs . . . provide reliable uninterrupted service with negligible maintenance under the most gruelling conditions. Numerous commercial and industrial applications: docks, bridges, boiler rooms, mines, railroads, etc.

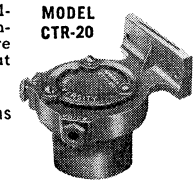


MODEL	MM-2TC	MM-2F	MSR	MM-2
Continuous Power	15 watts	15 watts	15 watts	15 watts
Impedance	16 ohms	16 ohms	16 ohms	16 ohms
Dispersion	120°	150°	360°	150°
Frequency	300-6000 cycles	300-6000 cycles	250-6000 cycles	300-6000 cycles
Dimensions	10" high 4⅛" depth 6¼" wide	7¼" O.D. 3¾" depth 6⅝" mtg. hole dia.	10¾" high 8¼" depth 7¾" wide	6" O.D. 4¾" depth
List Price	**$65.00**	**$40.00**	**$65.00**	**$42.00**

WEATHERPROOF LINE MATCHING TRANSFORMERS

Designed to afford maximum utility in application and utmost convenience of installation . . . assure perfect performance throughout the entire audio spectrum.

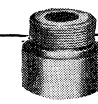
MODEL CTR-20



PRIMARY IMP.	45, 500, 100, 1500, 2000 ohms
SECONDARY IMP.	4-8-16 ohms
POWER HANDLING	cap. 25 watts
SHIPPING WEIGHT	3 lbs.
LIST PRICE	**$15.00**

Model 5420—Same as above, but for indoor use; strap mtg. List **$6.00**

ADAPTERS



WEA Adapter
Adapts WE and RCA Horns for use with any University driver. List **$2.50**

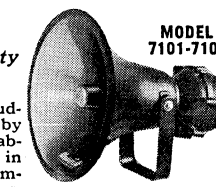
2YC Connector
Used with two driver units, provides to 60 watts for any trumpet or projector. List **$10.00**

PMA Adapter
For mounting University "U" bracket speakers on standard ½" pipe. List **$1.50**

EXPLOSION PROOF SPEAKERS

designed for hazardous duty

MODEL 7101-7102



Only complete loudspeakers approved by Underwriters' Laboratories for use in locations where flammable liquids, gases, dust and other combustibles are present.

Model 7101—for Class I, Groups C and D. **$125.00** list.

Model 7102—for Class I, Groups C and D, and Class II, Groups E, F and G .....**$150.00** list.

Cont. Power	25 watts
Voice Coil Impedance	16 ohms
Transformer Impedance	45, 500, 1,000 1500, 2,000 ohms
Frequency	200-10,000 cps.
Dispersion	95°
Dimensions	19" length 15¾" height

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West Coast Prices Slightly Higher

Net

RCA ELECTRONIC COMPONENTS
GOLD LABEL SPEAKERS

RCA SPEAKERS — Quality Engineered for Superior Performance

- Alnico V magnets used for all PM types.
- Rugged mechanical construction with welded housing assembly.
- Moisture-resistant cone and voice-coil suspension assures high efficiency and dependability.
- Dust-sealed and rust resistant.
- RETMA mounting standards are followed.
- Speaker mounting bracket supplied with all 4", 4" x 6", and 5" PM types.
- Universal transformer mounting bracket supplied on all 4", 4" x 6", and 5" PM types.

A Complete Line for Your Replacement Needs

PERMANENT-MAGNET TYPES

List* Price	SIZE inches	TYPE	ALNICO V MAGNET WEIGHT ounces	VOICE-COIL IMPEDANCE ohms	POWER RATING watts	MOUNTING DIMENSIONS - inches												MAX. DEPTH-Inches	
						FIG.	A	B	C	D	E	F	G	H	J	K	L	M	FIG.	P
$4.90	2¾	222S1	1.0	12	0.25	1	1⅛												9	1 5/16
4.75	2 x 3	214S1	1.0	12	0.125	2		1½	2 7/32										9	1 9/16
3.70	3	216S1	1.0	3.2	2	3				3⅜									9	1 31/32
4.35	3	231S1	1.47	3.2	2	3				3⅜									9	1 31/32
3.80	4	223S1	0.68	3.2	3	3				4 11/16									9	2
4.00	4	304S2	1.0	3.2	3	3				4 11/16									9	2
4.35	4	404S2	1.47	3.2	3	3				4 11/16									9	2
4.50	4 x 6	227S1	1.0	3.2	3	4					3⅜	4⅝							9	2 3/16
4.20	4 x 6	246S2	0.68	3.2	3	4					3⅜	4⅝							9	2 3/16
4.75	4 x 6	446S2	1.47	3.2	3	4					3⅜	4⅝							9	2 3/16
4.00	5	205S2	0.68	3.2	3	5							4 11/16						9	2 5/16
4.35	5	228S1	1.0	3.2	3	5							4 11/16						9	2 5/16
4.60	5	405S2	1.47	3.2	3	5							4 11/16						9	2 5/16
4.00	5¾	217S1	1.0	3.2	4	5							5 13/32						9	2½
7.00	5 x 7	232S1	3.16	3.2	7	6								4 11/32	4 11/32				9	3¼
6.45	5 x 7	233S1	2.15	3.2	6	6								4 11/32	4 11/32				9	3¼
5.75	5 x 7	257S1	1.47	3.2	6	6								4 11/32	4 11/32				9	3 1/16
5.25	6½	224S1	1.47	3.2	5	5							6⅛						9	2⅞
4.90	6½	229S1	1.0	3.2	4	5							6⅛						9	2⅞
6.75	6½	230S1	3.16	3.2	6	5							6⅛						9	3 9/64
9.00	6 x 9	235S1	2.33	3.2	8	7										6 9/16	4⅝		9	2 15/16
7.80	6 x 9	238S1	2.15	3.2	8	7										6 9/16	4⅝		9	3½
7.20	8	208S2	2.15	3.2	8	5							7⅝						9	3⅝
7.50	8	208S4	2.15	6-8	8	5							7⅝						9	3⅝
8.45	8	225S1	3.16	3.2	8	5							7⅝						9	3 9/16
11.75	8	234S1	6.8	3.2	9	5							7⅝						9	4⅛
13.25	10	215S1	6.8	6-8	10	8												9⅝	9	4 25/32
9.40	10	236S1	2.15	3.2	7	8												9⅝	9	4 11/32
10.40	10	237S1	3.16	3.2	8	8												9⅝	9	4 11/32
10.50	12	112S1	2.15	3.2	12	8												11 9/16	9	5
10.80	12	226S1	2.9	3.2	12	8												11 9/16	9	4 25/32
13.75	12	412S6	6.8	3.2	12	8												11 9/16	9	5 7/16
15.00	12	412S7	6.8	6-8	12	8												11 9/16	9	5⅝
5.50	2⅛	239S1	0.43	12	0.25	3				2⅜									9	2 1/32

FIELD-COIL TYPES

Price*	SIZE inches	TYPE	FIELD-COIL RESISTANCE ohms	FIELD-COIL CURRENT ma	VOICE-COIL IMPEDANCE ohms	POWER RATING watts	MOUNTING DIMENSIONS - inches												MAX. DEPTH-Inches	
							FIG.	A	B	C	D	E	F	G	H	J	K	L	M	FIG.	P
$ 6.00	4 x 6	746S1	450	65	3.2	3	4					3⅜	4⅝							9	2⅜
6.00	5	705S1	450	65	3.2	3	5							4 11/16						9	2½
8.25	6 x 9	869S1	6	1000	3.2	8	7										6 9/16	4⅝		9	4¼
14.00	12	712S2	1000	70	3.2	12	8												11 9/16	9	6

DIMENSIONAL OUTLINES

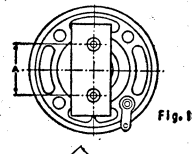
Fig. 1

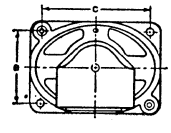
Fig. 2

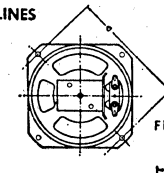
Fig. 3

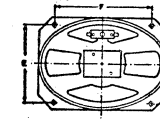
Fig. 4

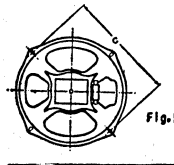
Fig. 5

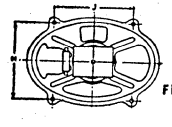
Fig. 6

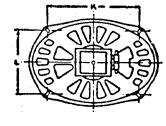
Fig. 7

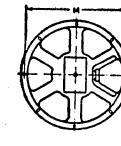
Fig. 8

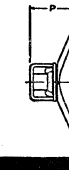
Fig. 9

HIGH FIDELITY SPEAKERS

HIGH-FIDELITY SPEAKER	List Price *	Size Inches	Frequency Response cps	Resonant Frequency cps	Voice-Coil Impedance Ohms	Alnico V Magnet Weight Ounces	Power Rating Watts	RCA Type
	$41.95	12	40 to 16000	55 to 65	8	14.5	12	502S1
* (Optional)	55.95	12	40 to 18000	55 to 65	8	14.5	12	501S1

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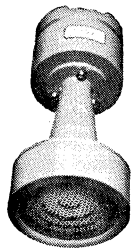
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

signature sound

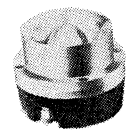
JBL

HIGH FREQUENCY UNITS



The 175DLH High Frequency Assembly features the **Signature** Koustical Lens, giving smooth distribution over 90° solid angle without transmission loss. Impedance, 16 ohms; power input 25w above 1200 cps. Shipping weight, 12 lbs.

User Net $118.50

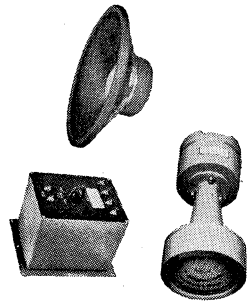


The 075 High Frequency Ring Radiator employs a new principle for generating undistorted highs. Adds brilliance to the performance of **Signature** extended range speakers. Impedance, 16 ohms; power input, 20w above 2500 cps. Shipping wt., 8 lbs.

User Net $54.50

COMPLETE TWO-WAY SYSTEM KITS

The D001 and D050 speaker systems can be purchased as a kit for installation in your own cabinet or for built-in installations.

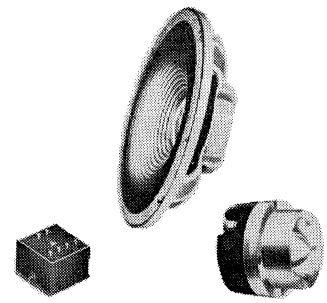


D001—2-unit, 2-way system for use in C34, C35, C37, C39 and C435 Enclosures. Components: 1 D130A LF unit; 1 175DLH HF Assembly; 1 N1200 Dividing Network. Shipping weight: 42 lbs.

User Net $226.50

D050—3-unit, 2-way system for use in C31, C32 and C550 Enclosures. Components: 2 D130B LF units; 1 175DLH HF Assembly; 1 N1200 Dividing Network. Shipping weight: 65 lbs.

User Net $299.25



D002—2-unit, 2-way system for use in C35, C36, C37, C38 and C39 Enclosures. Components: 1 D123 Ext. Range unit; 1 075 HF unit; 1 N2500 Dividing Network. Shipping weight: 25 lbs.

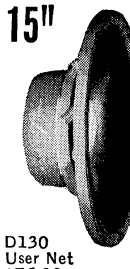
User Net $124.00

D004—2-unit, 2-way system for use in C35, C37 and C39 Enclosures. Components: 4 D123 Ext. Range units. 1 075 HF unit; 1 N2500 Dividing Network. Shipping weight: 61 lbs.

User Net $233.00

EXTENDED RANGE SPEAKERS

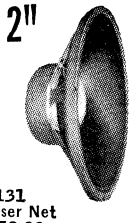
15"



D130
User Net
$76.00

VOICE COIL DIAMETER	4"
POWER INPUT	25 watts
IMPEDANCE	16 ohms
FREE CONE RESONANCE	37 c.p.s.
OUTSIDE DIAMETER	15 3/16"
DEPTH	5 5/8"
FIELD	
SHIPPING WEIGHT	23#

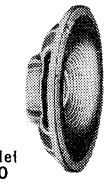
12"



D131
User Net
$72.00

	4"
	20 watts
	16 ohms
	36 c.p.s.
	12 1/8"
	5"
	Permanent Magnet
	22#

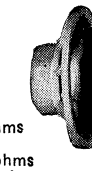
12" WALL MOUNTING



D-123
User Net
$54.50

	3"
	20 watts
	16 ohms
	35 c.p.s
	12 1/8"
	3 5/8"
	Permanent Magnet
	12#

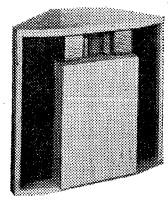
8"



D208, 8 ohms
D216, 16 ohms
User Net
$25.92

	2"
	12 watts
	8 ohms
	68 c.p.s.
	8 1/4"
	2 7/8"
	Permanent Magnet
	6#

ENCLOSURES: System-tested for use with SIGNATURE Sound Systems. Standard finishes: Mahogany (dark or blond), Limba-Blond, Birch. Premium finishes: Walnut, Primavera, Oak, Maple, Ebony (brown). Prices listed are for standard finish. Dimensions are height x depth x front width.

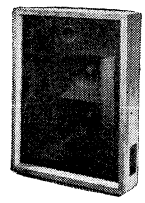


C30 The HARTSFIELD

For use with the 085 theatre components system. Experts' choice for high fidelity "Dream Set."

Height .....45 3/4"
Depth .....24 1/2"
Front Width .....47"
Shipping Wt.....199 lbs.
Mahogany, enclosure only

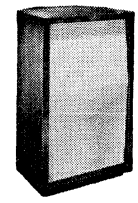
User Net $309.00



C31 Horn-Reflex

for 050 System only. Dim.: 49" x 28" x 37 1/2". Shipping Wt.: 157 lbs.

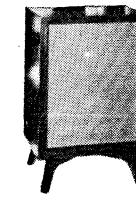
User Net: $240.00



C34 Rear-Loaded Horn

for D130 or 001 System. Dim.: 39 3/4" x 22 1/2" x 23 3/4". Shipping Wt.: 111 lbs.

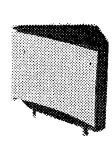
User Net: $135.00



C36 Reflex

for D208, D123, 002. Dim.: 29 1/2" x 15 7/8" x 19 3/8". Shipping Wt.: 48 lbs.

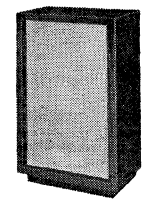
User Net: $51.30



C39 The HARLAN

for D123, D130, 001, 002, 004. Dim.: 35 3/4" x 23" x 31 1/2". Shipping Wt.: 65 lbs.

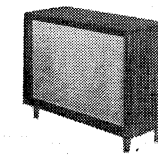
User Net: $132.00



C35 Console Reflex

for D130, D131, 001, 002, 004. Dim.: 38 1/2" x 16" x 23 7/8". Shipping Wt.: 85 lbs.

User Net: $96.75



C37 Lo-Boy Reflex

for D130, D131, 001, 002, 004. Dim: 29 1/2" x 16" x 36". Shipping Wt.: 69 lbs.

User Net: $104.00

JAMES B. LANSING SOUND, INC. • Los Angeles 39, Calif.

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Net

Electro-Voice HI-FI SPEAKERS

TRX TRIAXIAL 3-WAY SPEAKERS

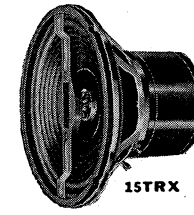
Concentric mounting of all elements, augmented bass response, silky HF reproduction; tailored mid-range. Includes AT37 brilliance control and crossover network.

Model 15TRXB—Integrated 3-way assembly completely wired with HF Control. Overall diam. 15⅛″. Resonance 38-48 cps. 20 watts. Magnet weight 1 lb. 2 oz. Response 30-15,000 cps in EMPIRE. Mechanical crossover 2000 cps; electrical crossover 3500 cps. Depth behind mounting panel 7⅝″. Impedance 16 ohms. Sens. rtg. 47 db. Shipping Weight 17 lbs. X36 not required. Net Each.....**$79.00**

Model 15TRX—15⅛″ diameter overall. Resonance 35-45 cps. 30 watts. Magnet weight, 5¾ lbs. Response, 30-15,000 cps in recommended REGENCY enclosure. Depth behind panel, 9⅛″. Mechanical crossover 2000 cps, electrical crossover, 3500 cps. Impedance, 16 ohms. Sens. rtg., 51 db. Shipping Weight 48 lbs. With X36 and AT37. Net Each.....**$145.00**

Model 12TRXB—Integrated 3-way assembly completely wired with HF control. Overall diam. 12¼″. Resonance 45 cps. 20 watts. Magnet wt., 1 lb., 2 oz. Response, 35-15,000 cps in ARISTOCRAT. Mech. crossover, 2000 cps; built-in electrical crossover, 3500 cps. Depth behind panel 6⅛″. Imp., 16 ohms. Sens. Rtg. 46 db. Shipping Weight 14 lbs. X36 is not required. Net Each.....**$64.00**

Model 12TRX—Overall diameter 12¼″. Resonance, 40 cps. 25 watts. Magnet weight, 3½ lbs. Response, 30-15,000 cps in recommended ARISTOCRAT enclosure. Mechanical crossover, 2500 cps; electrical crossover, 3500 cps. Depth behind mounting panel, 8″. Impedance, 16 ohms. Sens. rtg. 49 db. Shipping Weight 32 lbs. With X36 and AT37. Net Ea..**$120.00**


15TRX

RADAX COAXIAL SPEAKERS

The EV Radax Principle is an economical, super-efficient method of using two coaxial cones, both operating from a single voice coil, to divide the audible spectrum for clean, sparkling reproduction.

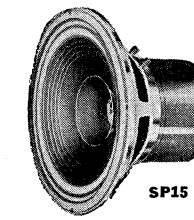
Model SP8B Radax Super-Eight—8″ speaker. Resonance, 55-65 cps. 20 watts. Response 35-13,000 cps. 16 ohms impedance. Sens. rtg. 45 db. Crossover, 6000 cps. 1 lb. Alnico V magnet 8⅜″ diam., 7″ baffle opening. 4⅜″ depth behind panel. Shpg. Wt. 9 lbs. Net Each.....**$29.50**

Model SP12B Radax Twelve—12″ speaker. Resonance, 40-50 cps. 20 watts. Response, 30-13,000 cps. 16 ohms impedance. Sens. rtg., 46 db. Crossover, 4500 cps. 1 lb. Alnico V magnet. 12¼″ diameter. 11″ baffle opening. 6″ depth behind panel. Shpg. Wt. 12 lbs. Net.**$33.00**

Model SP15B Radax Fifteen—15″ speaker. Resonance 38 cps. 15-20 watts. Response 30-13,000 cps. 16 ohms impedance. Sens. rtg 47 db. Crossover 3500 cps. 1 lb. Alnico V Magnet. 15⅛″ diam., 13½″ baffle opening. 7⅜″ depth behind mtg. panel. Shipping Weight 15 lbs. Net Each.....**$43.00**

Model SP12 Radax Super-Twelve—12″ speaker. Resonance, 35-45 cps. 25 watts. Response, 30-13,000 cps. 16 ohms impedance. Sens. rtg., 48 db. Crossover, 4000 cps. 3 lb. Alnico V magnet. 12¼″ diameter. 11″ baffle opening. 7½″ depth behind panel. Shipping Weight 25 lbs. Net Each.....**$65.00**

Model SP15 Radax Super-Fifteen—15″ speaker. Resonance, 40 cps. 30 watts. Response 30-13,000 cps. 16 ohms impedance. Sens. rtg., 50 db. Crossover, 3000 cps. 5¼ lb. Alnico V magnet. 15⅛″ diameter, 13½″ baffle opening 9″ depth behind panel. Shipping Weight 41 lbs Net Each.....**$85.00**


SP15

LOW-FREQUENCY DRIVERS

Model 12BW—12″ LF driver. Resonance, 40-50 cps. Used in EV 108 system. 1 lb. Alnico V magnet. 20 watts. Impedance, 16 ohms. Sens. rtg., 45 db. 12¼″ diam., 11″ opening, 6″ depth behind panel. Shipping Weight 12 lbs. Net Each.....**$33.00**

Model 12W—12″ LF driver. Resonance, 35-45 cps. 3 lb. Alnico V magnet, 25 watts. 16 ohms impedance. Sens. rtg. 48 db. 12¼″ diameter, 11″ max. baffle opening, 7½″ depth behind panel. Shipping Weight 25 lbs. Net.**$65.00**

Model 12WK—Above, but 3.2 ohms DC (for indirect radiator horns). 16 ohms. Net Each.....**$65.00**

Model 15BW—15″ LF driver. Resonance, 38-48 cps. 1 lb. Alnico V magnet. 20 watts. 16 ohms impedance. Sens. rtg. 47 db. 15⅛″ diam., 13½″ max. baffle opening. 7⅜″ depth behind mtg. panel. Shpg. Wt. 15 lbs. Net..**$43.00**

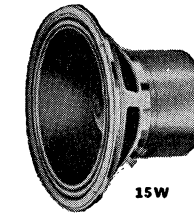
Model 15BWK—Above, but 3.2 ohms DC, (for indirect radiator horns). 16 ohms. Net Each.....**$43.00**

Model 15W—15″ LF driver. Resonance, 25-35 cps. 5¼ lb. Alnico V magnet. 30 watts. 16 ohms impedance. Sens. rtg., 50 db. 15⅛″ diam., 13½″ max. opening, 9″ behind panel. Shipping Weight 41 lbs. Net Each..**$85.00**

Model 15WK—Above, but 3.2 ohms DC, 29 cps resonance (for indirect radiator horns). Net Each.....**$85.00**

Model 18W—18″ LF driver, 30 watts. Resonance, 25-35 cps. 16 ohms impedance. Sens. rtg., 53 db. 18¼″ diam., 16½″ max, opening, 10″ behind panel. 5¼ lb. Alnico V magnet. Shipping Weight 43 lbs. Net Each.**$115.00**

Model 18WK—Above, but 3.2 ohms DC, 20-30 cps resonance (for indirect radiator horns). Net Each.....**$115.00**


15W

MID-BASS DRIVER AND HORN ASSEMBLY

As used in Patrician IV loudspeaker system, KD1 enclosure, and Model 115 utility enclosure.

Model 828HF—Driver unit, 20 watts. Response with A8419 horn, when used in 200-cycle horn, 150-1000 cps. Impedance, 16 ohms. Sensitivity rating, 52 db; 3¾″ diam., 3⅞″ deep. Throat diameter, ⅞″. Shipping Weight 4½ lbs. Net Each.....**$26.00**

Model A8419—Special folded horn. Concentric phenolic horn sections, must be used with 200-cycle diffraction horn, as in Patrician IV, KD1, or Model 115. Cut-off frequency, 100 cycles. Response, 150-1000 cps. 4¼″ diam., 12¾″ deep. Shipping Weight 2½ lbs. Net Each.**$12.00**

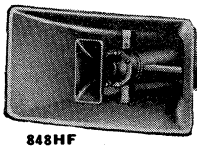
Model 118—Consists of two 828HF drivers, two A8419 horn sections, and mounting hardware. Shipping. Weight. 14 lbs. Net Each.....**$78.00**

828HF with A8419

COAXIAL MIDRANGE DRIVER

Model 848HF—Coaxial compression type mid-bass and treble assembly, 25 watts from 300-10,000 cps. Outer fiberglass horn fed from back of 2″ diaphragm for fine acoustical properties; smaller metal horn works from front of same diaphragm through acoustical 1000 cps crossover. ½ lb. magnet in close tolerance gap of high flux density; impedance, 16 ohms. Sens. rtg., 52 db. Size: 20½″ wide, 10½″ high, 20″ deep over all. Mounting hardware supplied. Shipping Weight, 18 lbs. Net Each..**$52.00**

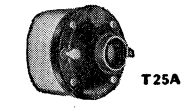
Model 847HF—Similar in design to 848HF but 12 watts from 300-10,000 cps; 1500 cps acoustical crossover. 1½″ diaphragm; sens. rtg., 51 db. Size 11¾″ wide, 7¾″ high, 10″ deep. Shipping Weight, 9 lbs. Net Each.....**$33.00**


848HF

HIGH-FREQUENCY DRIVERS

Model T25A—HF driver, 20-30 watts. Response, 400-13,000 cps. Impedance, 16 ohms. Sens. rtg., 53 db. 1 lb. Alnico V magnet. 3¾″ diam., 4⅛″ deep. Throat diam., ⅞″. Shipping Weight 6 lbs. Net Each.....**$58.00**

Model T10A—HF driver, 20 watts. Response 400-13,000 cps. Impedance, 16 ohms. Sens. rtg., 51 db. ½ lb. Alnico V magnet. 3¾″ diameter, 3¼″ deep. Throat diameter, ⅞″. Shipping Weight 4 lbs. Net Each.....**$42.50**

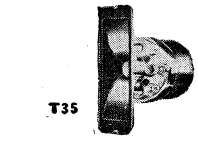

T25A

SUPER-SONAX VHF DRIVERS

Model T35—At least one more octave of silky highs is afforded through use of T35 for high efficiency systems. Uniform response, 3500 cps to beyond audible range. Wide dispersion of 180°. Impedance, 16 ohms. Diffraction horn cutoff 1500 cps. High sens. rtg., 56 db, requires use of AT37 level control for most systems; X36 crossover also required. Horn 4½″ long, 1¼″ wide; pot size 2⅛″ diameter, 3¼″ depth overall. Shpg. Wt. 3 lbs. Net Each.**$33.00**

Model T35B—Same as T35 but for systems with speakers using smaller magnet size. Sens. rtg., 53 db. Pot size, 1¾″ diameter, 3″ deep overall. Shpg. Wt. 3 lbs. Net Each..**$21.00**

Note: Sensitivity ratings are RETMA standard.


T35

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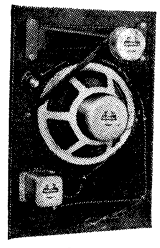
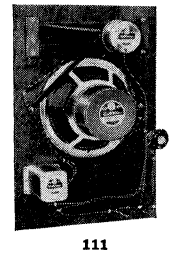
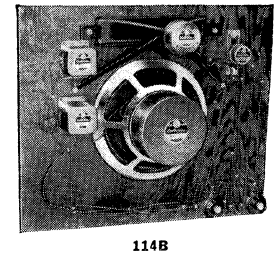
Electro-Voice SYSTEMS AND COMPONENTS



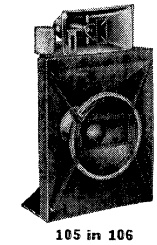
108



111



114B



105 in 106

SEPARATE MULTI-WAY SYSTEMS

Model 108. As used in Aristocrat I. Separate 2-way system, 800-cps crossover. Consists of 12BW LF driver, T10A HF driver with 8HD horn, X825 crossover, AT37 level control, 8614, cable harness, baffle board. May be expanded to 108A by addition of BB1 kit. Can be used in custom installations. Size 27″ h., 18″ w., 12½″ d. Shipping Weight 39 lbs. Net Each.....**$114.00**

Model 108A. As used in Aristocrat IA. Identical to 108 except C8614 harness with addition of T35B VHF driver, X36, AT37. Shpg. Wt. 50 lbs. Net Each.....**$149.00**

Model 111. As used in Aristocrat II. Deluxe separate 2-way system, 800-cps crossover. Consists of 12W LF driver, T25A HF driver with 8HD horn, X8 crossover, AT37 level control, A8614, cable harness, baffle board. May be expanded to 111A by addition of BB2 kit. Size 27″ h., 18″ w., 12½″ d. Shipping Weight 60 lbs. Net Each.....**$176.00**

Model 111A. As used in Aristocrat III. Identical to 111 except B8614 harness with addition of T35 VHF driver, X36, AT37. Shpg. Wt. 66 lbs. Net Each.....**$223.50**

Model 116. As used in Regency I and Empire I. Separate 2-way system, 800-cps crossover. Consists of 15BW LF driver, T10A HF driver with 8HD horn, X825 crossover, AT37 level control, mounting kit, cable harness, baffle board. May be expanded to 116A by addition of BB1 kit. Size 26⅜″ h., 32½″ w., 12½″ d. Shipping Weight 65 lbs. Net Each.....**$125.00**

Model 116A. As used in Regency IA and Empire IA. Identical to 116 except with addition of T35B VHF driver, X36, AT37. Shipping Weight 68 lbs. Net Each.....**$161.00**

Model 114A. As used in Regency II. Deluxe separate 2-way system, 800-cps crossover. Consists of 15W LF driver, T25A HF driver with 8HD horn, X8 crossover, AT37 level control, A8588 cable harness, baffle board. May be expanded to 114B by addition of BB2 kit. Size 26⅜″ h., 32⅜″ w., 13½″ d. Shipping Weight 95 lbs. Net Each.....**$195.50**

Model 114B. As used in Regency III. Identical to 114A except 8588 harness with addition of T35 VHF driver, X36, AT37. Shpg. Wt. 107 lbs. Net Each.....**$243.00**

Model 117 Package. Driver components only, as used in Centurion. Includes complete instructions for constructing exclusive Electro-Voice "W" single-path bass section. Consists of 15BWK LF driver, 847HF coaxial mid-range assembly, T35B VHF driver. X336 crossover network, two AT37 level controls, cable harness. Shpg. Wt. 80 lbs. Net Each.....**$145.00**

Model 105 Package. Driver components only, as used in Georgian and Centurion. Includes complete instructions for constructing "K" bass section and outer furniture housing for Georgian. Consists of 15WK LF driver, 848HF coaxial mid-range assembly, T35 VHF driver, X336 crossover network, two AT37 level controls, cable harness. Shpg. Wt. 97 lbs. Net Each.....**$217.00**

Model 106. Klipsch "K" bass horn only as used in Georgian. For 15WK LF driver; painted flat matte black. Size 38½″ h., 26¾″ w., 23½″ d. Shpg. Wt. 88 lbs. Net Each.....**$97.00**

Model 103C Package. Driver components only, as used in Patrician. Includes complete instructions for constructing indirect radiator bass horn. Consists of 18WK VLF driver, two 828HF drivers with two A8419 LF horn sections, T25A HF driver with 6HD horn, T35 VHF driver, X2635 crossover network, three AT37 level controls, cable harness. Shpg. Wt. 103 lbs. Net Each.....**$393.00**

Model 115. Klipsch "K" basic VLF driver horn only, as used in Patrician. For 18WK VLF driver; includes mid-bass horn bell for LF horn sections. Painted flat matte black. Size 57⅛″ h., 34½″ w., 26⅛″ d. Shpg. Wt. 168 lbs. Net Each.....**$200.00**

BUILDING BLOCK KITS

Designed to provide convenient package additions to any full-range speaker or separate two-way system, E-V Building Block Kits contain matched sets of components complete with wiring harness and individual instruction sheets for each unit. Without obsoleting any existing components, the proper Building Block Kit will add exciting new listening pleasure to your present ensemble.

Model BB1. For use with existing 2-way systems (low-frequency driver with treble driver) and coaxial speakers having one-pound magnets. Includes T35B Super-Sonax VHF driver, X36 crossover network, and AT37 level control with wiring harness. Shipping Weight 5 lbs. Net Each.....**$34.50**

Model BB2. For use with existing 2-way systems (low-frequency driver with treble driver) and coaxial speakers having three-pound magnets or greater. Includes T35 Super-Sonax VHF driver, X36 crossover network, and AT37 level control with wiring harness. Shipping Weight 5 lbs. Net Each.....**$46.50**

Model BB3. For use with existing low-frequency drivers and coaxial speakers having one-pound magnets. Includes T10A driver, 8HD diffraction horn, X825 ¼-section crossover network, and AT37 level control with wiring harness. Shipping Weight 10 lbs. Net Each.....**$83.50**

Model BB4. For use with existing low-frequency drivers and coaxial speakers having three-pound magnets or greater. Includes T25A driver, 8HD diffraction horn, X8 ½-section crossover network, and AT37 level control with wiring harness. Shipping Weight 13 lbs. Net Each.....**$112.00**

CROSSOVERS

All EV crossovers use high-Q air core coils and paper condensers. Low insertion loss; attenuation 12 db per octave in ½ section, 6 db per octave in ¼ section crossovers.

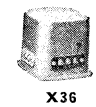
Model X425 Crossover. ¼ section. Crossover point, 400 cps. Impedances 16 ohms in and out. Size 4¹¹⁄₁₆″ h., 4⁷⁄₁₆″ w., 3⅜″ d. Shipping Weight 4 lbs. Net Each.....**$32.00**

Model X825 Crossover as used in EV 108 system. ¼ section. Crossover point, 800 cps. Impedances 16 ohms in and out. Size 3⁷⁄₁₆″ h., 4⁷⁄₁₆″ w., 3⅜″ d. Shpg. Wt. 3 lbs. Net Each....**$19.00**

Model X8 Crossover. ½ section. Crossover point, 800 cps. Impedances 16 ohms in and out. Size 4¹¹⁄₁₆″ h., 4⁷⁄₁₆″ w., 3⅜″ d. Shipping Weight 4 lbs. Net Each.....**$32.00**

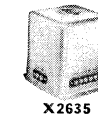
Model X6 Crossover. ½ section. Crossover point, 600 cps. Impedances 16 ohms in and out. Size 5⁵⁄₁₆″ h., 5¼″ w., 4⅜″ d. Shipping Weight 7 lbs. Net Each.....**$39.00**

Model X336 Crossover designed for Georgian and Centurion systems. Crossover points at 300 and 3500 cps. Impedances 16



X36

X336



X2635

ohms in and out. Size 5⁵⁄₁₆″ h., 5¼″ w., 4⅜″ d. Shipping Weight 9 lbs. Net Each.....**$39.00**

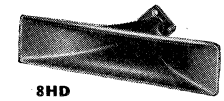
Model X36 Crossover. Recommended for use with T35 and T35B. ½ section. Crossover point, 3500 cps. Impedances 16 ohms in and out. Size 3⁷⁄₁₆″ h., 4⁷⁄₁₆″ w., 3⅜″ d. Shipping Weight 2 lbs. Net Each.....**$9.50**

Model X2635 4-Way Crossover. ¼ and ½ sections. Crossover points, 200, 600, and 3500 cps. Impedances 16 ohms in and out. Size 6⁷⁄₁₆″ h., 5⅛″ w., 5¼″ d. Shipping Weight 11 lbs. Net Each.....**$75.00**

DIFFRACTION HORNS

Model 8HD Diffraction Horn. New principle provides perfect dispersion of high frequencies through a 120° solid angle. Actual cutoff 600 cps, crossover 800 cps, eliminating cutoff disturbances. Made of fiberglass. For T10A and T25A drivers. 3⅜″ h., 14¼″ w., 7½″ d. Mounting hardware included. Shpg. Wt. 4 lbs. Net Each.....**$18.00**

Model 6HD Diffraction Horn. For systems utilizing 600 cps crossover. Horn designed with actual 400 cps cutoff; prevents response disturbances associated with operation too near actual cutoff point. Diffraction principle effects 120° dispersion. 3½″ h., 19¾″ w., 12″ d. For T10A and T25A drivers. Mounting hardware included. Shpg. Wt. 6 lbs. Net Each.....**$22.00**



8HD

AT37

Model AT37 Level Control. 16 ohm "L" pad. For use with T35, T35B, T10A, T25A, 848HF drivers and similar applications. Adjusts output level to individual taste. Mahogany dial. Net Each.....**$3.90**

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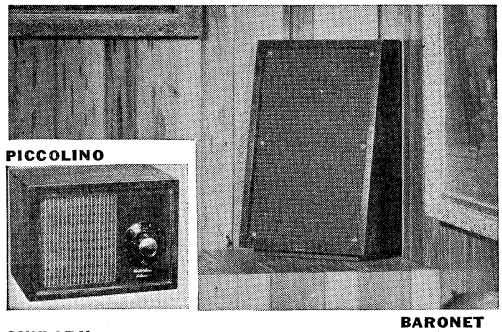
Net

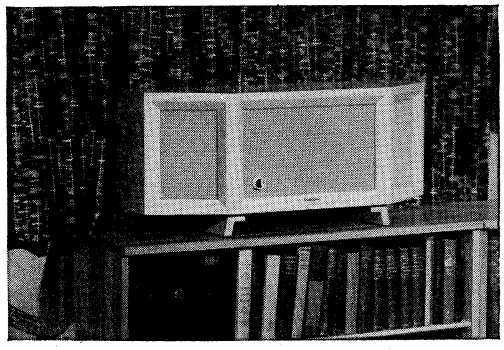
Electro-Voice ENCLOSURES AND SYSTEMS



PICCOLINO

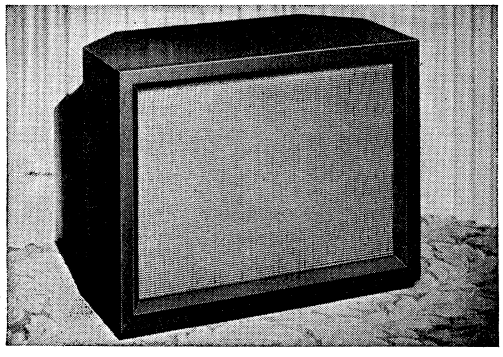
BARONET

SKYLARK



ARISTOCRAT

EMPIRE



The Piccolino. Compact housing for T35 or T35B driver, X36 crossover, and AT37 level control. An attractive addition to any Hi-Fi installation; provides silky, extended high frequencies for better listening. Lumite grille cloth. Size 6⅜″ h., 8″ w., 5⅝″ d. Shipping Weight 6 lbs.

Mahogany Cabinet Only—Net Each **$10.00**
Blonde (Limed Oak) Cabinet Only—Net Each **11.00**

The Baronet. For EV or other full-range 8″ speaker. Response down to 35 cps. Conservative styling with graceful sloping front. Hand-rubbed hardwood veneers. Can be used anywhere. May be expanded to multi-way system by addition of BB1 kit. Size 22⅞″ h., 14½″ w., 13¾″ d. Shipping Weight 20 lbs.

Mahogany Cabinet Only—Net Each..... **$44.00**
Blonde (Limed Oak) Cabinet Only—Net Each..... **$47.00**

The Skylark. 3-way speaker system in attractive functional design for bookcase or table use, vented with two tapered low-frequency ports to load properly SP8C 8″ coaxial driver for excellent bass and midrange. Special crossover feeds T35B VHF driver from 3500 cps to beyond range of audibility. Brilliance control. Impedance 16 ohms; sens. rtg. 44 db. Size 14″ h., 33″ w., 10¾″ d. 11¾″ high with feet removed. Shipping Weight 28 lbs.

Mahogany Complete—Net Each..... **$95.00**
Blonde (Limed Oak) Complete—Net Each..... **$98.00**

The Aristocrat. For EV or any full-range 12″ speaker or EV separate 2 or 3-way systems, without modifications. Unusually smooth reproduction down to 35 cps. Selected Mahogany veneers. Brushed brass grille. Size 29⅜″ h., 19″ w., 16⅛″ d. Shipping Weight 44 lbs.

Mahogany Cabinet Only—Net Each..... **$69.00**
Blonde (Limed Oak) Cabinet Only—Net Each..... **$76.00**

Aristocrat I. Includes EV Model 108 2-way system completely wired and installed in Aristocrat enclosure. May be expanded to Aristocrat IA system by addition of BB1 kit. Shpg. Wt. 56 lbs.

Mahogany Complete—Net Each..... **$189.00**
Blonde (Limed Oak) Complete—Net Each..... **$196.00**

Aristocrat 1A. Includes Model 108A 3-way system. Completely wired and installed in Aristocrat enclosure. Shpg. Wt. 61 lbs.

Mahogany Complete—Net Each..... **$225.00**
Blonde (Limed Oak) Complete—Net Each..... **$232.00**

Aristocrat II. Includes Model 111 deluxe 2-way system completely wired and installed in Aristocrat enclosure. May be expanded to Aristocrat III system by addition of BB2 kit. Shpg. Wt. 71 lbs.

Mahogany Complete—Net Each..... **$250.00**
Blonde (Limed Oak) Complete—Net Each..... **$257.00**

Aristocrat III. Includes EV Model 111A 3-way system completely wired and installed in Aristocrat enclosure. Shpg. Wt. 74 lbs.

Mahogany Complete—Net Each..... **$297.00**
Blonde (Limed Oak) Complete—Net Each..... **$304.00**

The Empire. For EV or other 15″ speakers and EV separate two or three-way systems, without modifications. An economical enclosure of pleasing proportions and high style. Takes all drivers and systems used in famous Regency. May be used with 12″ drivers by using baffle adapter board included. Beautiful hardwood veneers. Size 29⅜″ h., 32″ w., 16″ d. Shipping Weight 56 lbs.

Mahogany Cabinet Only—Net Each..... **$85.00**
Blonde (Limed Oak) Cabinet Only—Net Each..... **$91.00**

Empire I. Includes Model 116 separate 2-way system. Completely wired and installed in Empire enclosure. May be expanded to Empire IA system by addition of BB1 kit. Shipping Wt. 75 lbs.

Mahogany Complete—Net Each..... **$215.00**
Blonde (Limed Oak) Complete—Net Each..... **$221.00**

Empire IA. Includes Model 116A separate 3-way system. Completely wired and installed in Empire enclosure. Shpg. Wt. 80 lbs.

Mahogany Complete—Net Each..... **$250.00**
Blonde (Limed Oak) Complete—Net Each..... **$256.00**

Empire II. Includes Model 114A separate 2-way system. Completely wired and installed in Empire enclosure. May be expanded to Empire III system by addition of BB2 kit. Shpg. Wt. 99 lbs.

Mahogany Complete—Net Each..... **$285.00**
Blonde (Limed Oak) Complete—Net Each..... **$291.00**

Empire III. Includes Model 114B separate 3-way system. Completely wired and installed in Empire enclosure. Shpg. Wt. 104 lbs.

Mahogany Complete—Net Each..... **$332.00**
Blonde (Limed Oak) Complete—Net Each..... **$338.00**

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Electro-Voice ENCLOSURES AND SYSTEMS

NEW CONCEPTS IN COMPACT CORNER CABINETS PROVIDE EXTENDED BASS RANGE

Utilizing an advanced indirect horn-radiator principle, EV design extends the lows, enhances the highs. Employs the room walls as an extension of the exponential horn air load—assures one full octave of added bass with unprecedented efficiency. Provides direct front radiation of higher frequencies; smoother, cleaner overall musical balance. Increases power handling capacity of any speaker.

The Regency. For EV or other 15″ speaker, or EV 2 or 3-way systems, without modifications. Has integral "built-in corner". Can be used in corner or against flat wall. Response down to 30 cps. Selected mahogany veneers. Grille in brushed brass finish. Size 29⅞″ h., 33½″ w., 19″ d. Shipping Weight 90 lbs.

Mahogany Cabinet Only—Net Each.....**$127.50**
Blonde (Limed Oak) Cabinet Only—Net Each.....**$137.00**

Regency I. Includes Model 116 separate 2-way system. Completely wired and installed in Regency enclosure. May be expanded to Regency IA system by addition of BB1 kit. Shipping Wt. 107 lbs.

Mahogany Complete—Net Each.....**$255.00**
Blonde (Limed Oak) Complete—Net Each.....**$264.50**

Regency IA. Includes Model 116A separate 3-way system. Completely wired and installed in Regency enclosure. Shpg. Wt. 110 lbs.

Mahogany Complete—Net Each.....**$294.00**
Blonde (Limed Oak) Complete—Net Each.....**$303.50**

Regency II. Includes Model 114A separate 2-way system. Completely wired and installed in Regency enclosure. May be expanded to Regency III system by addition of BB2 kit. Shpg. Wt. 130 lbs.

Mahogany Complete—Net Each.....**$327.00**
Blonde (Limed Oak) Complete—Net Each.....**$336.50**

Regency III. Includes EV Model 114B 3-way system completely wired and installed in Regency enclosure. Shpg. Wt. 135 lbs.

Mahogany Complete—Net Each.....**$375.00**
Blonde (Limed Oak) Complete—Net Each.....**$384.50**

The Centurion IV. Complete 4-way system incorporating all design features of the magnificent Electro-Voice Georgian, but on a smaller scale. Uses exclusive EV "W" single path indirect radiator folded horn with 15BWK LF driver from 30-300 cps. X336 crossover feeds 847HF coaxial mid-bass and treble assembly with acoustical crossover at 1500 cps. 3500-cps section of X336 feeds T35B VHF driver to beyond audibility. Two AT37 level controls for presence and brilliance. Sensitivity rating 48. Power handling 20 watts program material, 40 watts peak. Size 42″ h., 29″ w., 22½″ d. Shipping Weight 127 lbs.

Mahogany Complete—Net Each.....**$325.00**
Blonde (Limed Oak) Complete—Net Each.....**$335.00**

The Senior Centurion IV. Similar to the Centurion IV in appearance, size and construction, but includes highly efficient Model 105 components, as used in the EV Georgian. Sensitivity rating 51 db. Power handling 35 watts program material, 70 watts peak. Shipping Weight 163 lbs.

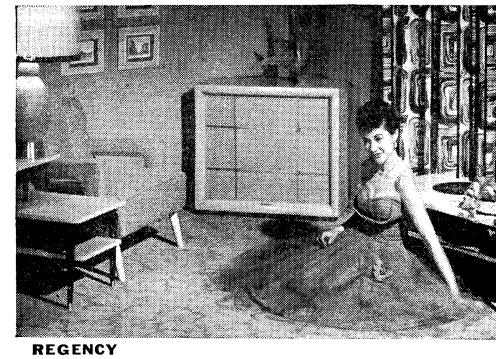
Mahogany Complete—Net Each.....**$395.00**
Blonde (Limed Oak) Complete—Net Each.....**$405.00**

The Georgian. A complete 4-way system of exceptional cleanliness in handsomely styled cabinet of medium proportions. Uses Klipsch "K" indirect radiator folded corner horn with 15WK LF driver from 30-300 cps. X336 crossover feeds 848HF coaxial mid-bass and treble assembly with acoustic crossover at 1000 cps. 3500 cps section of X336 feeds T35 VHF driver to beyond audible range. Two AT37 level controls adjust presence and brilliance to balance room acoustics. Sens. Rtg. 51 db. Power Handling 35 watts program material, 70 watts peak. Size 53″ h., 34″ w., 26″ d. Shipping Weight 290 lbs.

Mahogany Complete—Net Each.....**$525.00**
Blonde (Limed Oak) Complete—Net Each.....**$545.00**

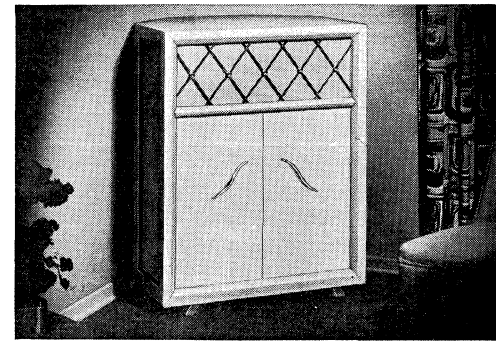
The Patrician IV. Complete 4-way speaker system in custom-crafted corner cabinet for very finest in reproduction. Divides audio spectrum between four drivers, each specifically designed for distortion-free fidelity. Includes EV 18WK 18″ LF driver; two EV 828HF drivers for mid-bass, each with an A8419 LF phenolic horn section, T25A treble driver with 6HD horn, T35 super tweeter, three AT37 level controls, X2635 4-way crossover. Crossover frequencies 200, 600 and 3500 cps. Entire system wired and installed in elegant cabinet of selected woods. Heirloom finish in exquisite hand-rubbed mahogany or blonde (limed oak). Special models available to custom-finish specifications at higher price. Size 62″ h., 39″ w., 29″ d. Shipping Weight 390 lbs.

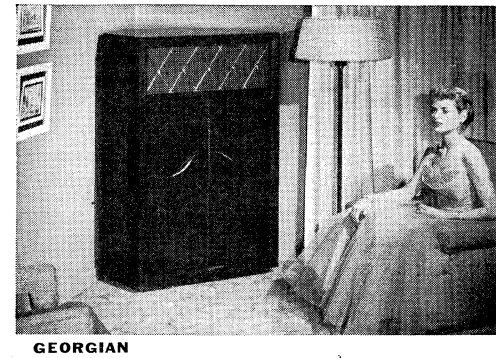
Mahogany Complete—Net Each.....**$865.00**
Blonde (Limed Oak) Complete—Net Each.....**$885.00**



REGENCY

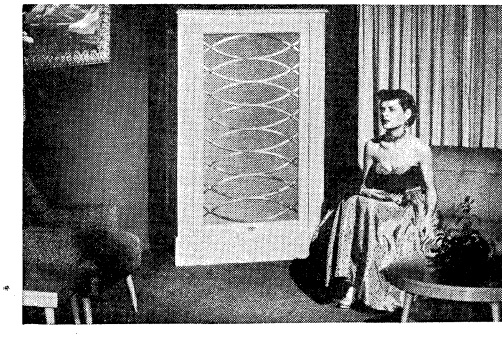
CENTURION





GEORGIAN

PATRICIAN



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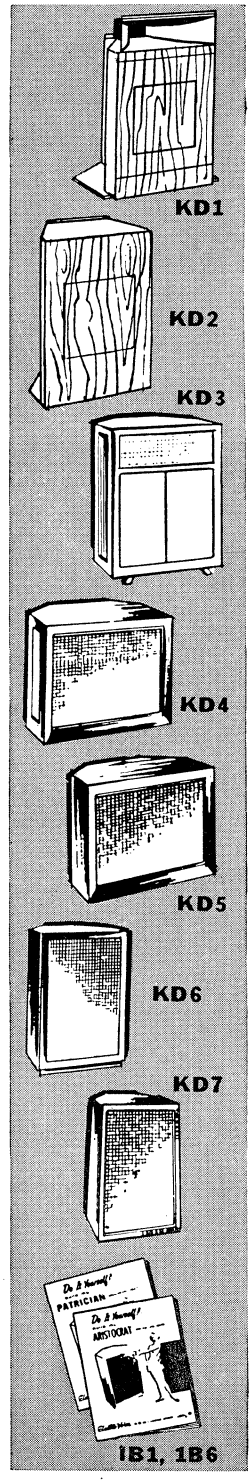
Electro-Voice DO-IT-YOURSELF ENCLOSURE KITS



Now you can own an acoustically correct Electro-Voice high-fidelity, folded-horn speaker enclosure for your home music system and save up to one-half! Build it yourself . . . seven models to choose from . . . wall types . . . corner models . . . for full-range loudspeakers . . . for separate two, three and four-way speaker systems.

These superlative, completely engineered kits, designed and styled by Electro-Voice, are ready to assemble. All lumber parts are precut with exterior surfaces of clear-grained birch; glue, screws and nails are included. Easy, step-by-step instructions show you how to "do-it-yourself".

Model KD1 Patrician IV Interior Assembly—For those desiring the ultimate in reproduced music. Acclaimed "world's finest", this augmented design of the famous "K" horn bass section is scaled up approximately 30% to deliver an added full octave of bass. Designed for use with E-V Model 103C Patrician IV four-way driver components. Size 57⅞" h., 34½" w. and 26⅞" d. Shipping Weight, 150 pounds. Net Each.....**$118.00**

Model KD2 Georgian Interior Assembly—Duplicates bass section of authentic indirect radiator used in famous "K" horn. Exceeded in range only by the Patrician IV. Designed for use with Model 105 or Model 117 four-way package of driver components. Size 38½" h., 26¾" w. and 23½" d. Shipping Weight, 88 pounds. Net Each.....**$65.00**

Model KD3 Centurion—A folded-horn, corner-type enclosure using exclusive E-V "W" single-path indirect radiator for propagation of extended bass. Has sealed cavity behind 15-inch LF driver cone to promote superlative transient response, subdue cone excursions, lower distortion. Designed for use with E-V Model 105 or Model 117 four-way systems. Size 42" h., 29" w. and 22½" d. Shipping Weight, 66 pounds. Net Each.....**$87.00**

Model KD4 Regency—Functional, low-boy style, folded-horn enclosure for use in a corner or against a wall. The Regency will improve the bass response of any 15-inch loudspeaker and is particularly effective when employed with E-V Models SP15 or SP15B coaxial speakers, 15TRX or 15TRXB three-way reproducers, and systems using Models 15W or 15BW woofers. Size 29⅝" h., 33½" w. and 19" d. Shipping Weight, 55 pounds. Net Each.....**$73.00**

Model KD5 Empire—An economical enclosure incorporating unique, E-V-designed, bilinear-lenticular-slot rear loading principle. A smart distinctive furniture piece and a highly efficient loudspeaker enclosure. Accepts all 15-inch loudspeakers, components and systems used in the Regency. Size 29⅝" h., 32" w. and 16" d. Shipping Weight, 45 pounds. Net Each....**$51.00**

Model KD6 Aristocrat—A deluxe, space-saving, folded-horn corner enclosure. Extends bass range one full octave and increases power-handling capacity of loudspeakers in the lower range by as much as 50%. For use with 12-inch drivers such as E-V SP12 or SP12B coaxial speakers, 12TRX or 12TRXB three-way reproducers, and separate two- and three-way systems using Model 12W or 12BW woofers. Size 29⅝" h., 19" w. and 15¾" d. Shipping Weight, 36 pounds. Net Each **$39.00**

Model KD7 Baronet—Phenomenal performance from a folded-horn corner enclosure of modest proportions. Adds an additional two octaves of bass when enclosure is positioned properly. Designed for use with E-V Model SP8B 8-inch Radax reproducer. E-V T35 or T35B Super-Sonax VHF driver can be added for a separate two-way system. Size 23" h., 14" w. and 13" d. Shipping Weight, 15 pounds. Net Each.....**$26.00**

FINISHING KITS

Electro-Voice finishing kits make it easy for you to obtain professional-like furniture finishes. These kits, prepared especially for the home finisher, are complete with stain filler, sealer, shellac, high gloss and satin varnishes, finishing paper, brushes and simple, easy-to-follow instructions. Available in the following finishes:

Model FK10—Walnut. **Model FK30**—Fruitwood. **Model FK50**—Golden Oak.
Model FK20—Cordovan Mahogany. **Model FK40**—Cherry. **Model FK60**—Ebony.

Net Each.....**$5.00**

DECORATIVE TRIM KITS

Addition of these custom grille and trim sets will provide, for your enclosure, a smart, finished appearance to compliment any interior decor.

Model AK3—Trim kit for Patrician and Georgian style exteriors, consisting of two "Line of Beauty" simulated handles and modern crossbar grille. Finished in brushed and lacquered antique brass. Handles are 7" long, 1" wide overall. Grille cut for sight-size of 10" by 29½".Shipping Weight, 4 pounds. Net Each.....**$12.00**

Model AK4—Similar to above but for KD3 Centurion. Handles are 5" long, ¾" wide overall. Grille sight-size 8" by 25". Shipping Weight, 3 pounds. Net Each.....**$9.00**

Model AK5—For KD4 Regency. Lacquered, antique brushed brass crossbar grille cut for sight-size of 24" by 29½". Shipping Weight, 3 pounds. Net Each.....**$6.00**

Model AK6—KD6 Aristocrat grille, similar to above but smaller size. Shipping Weight, 3 pounds. Net Each.....**$4.80**

DO-IT-YOURSELF INSTRUCTION BOOKS

These complete, easy-to-follow instruction books, supplied with Electro-Voice KD kits, are available separately for the home workshop enthusiast. Each book tells you how to build the E-V high-fidelity enclosure of your choice with clear, concise, step-by-step illustrations. Full construction details include tips on selecting lumber, layout and sawing of parts, and recommended E-V speakers and systems for your finished enclosure.

Model IB1 Patrician Instruction Book—Net Each.....**$1.50**
Model IB2 Georgian Instruction Book—Net Each..... **1.50**
Model IB3 Centurion Instruction Book—Net Each..... **1.00**
Model IB4 Regency Instruction Book—Net Each..... **1.00**
Model IB5 Empire Instruction Book—Net Each..... **1.00**
Model IB6 Aristocrat Instruction Book—Net Each..... **1.00**
Model IB7 Baronet Instruction Book—Net Each ..... **.75**

Net
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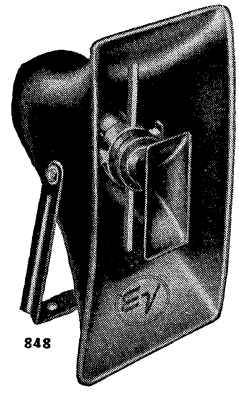
Electro-Voice P. A. PROJECTORS

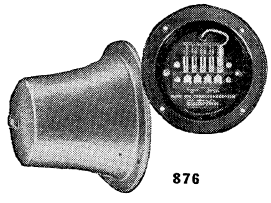
FOR PERFECT
VOICE PENETRATION AND
FULL RANGE MUSICASTING


848

Electro-Voice Compound Diffraction Projector* provides a loudspeaker system so advanced in concept—so efficient in performance—that there is no basis for comparison with conventional P.A. reentrant horns. The "CDP" works in the same manner as an optical slit. When the slit width is of a shorter dimension than the wave length of the sound it passes, the sound energy is highly dispersed in the direction of this short dimension. Polar response of the "CDP" is phenomenal.

An increase in efficiency of three db over multicellular horns is achieved with better dispersion. There is no pinpointing effect since there are no cells to beam the sound path. Elimination of multiple throats at the driver mouth permits greater high-frequency efficiency as compared to multi-cellular horns. The direct path and optimum throat dimension of the "CDP" also has these advantages over the reentrant horns, resulting in a greater transfer efficiency and smooth extended high-frequency response.

The "CDP" bell and diaphragm are fabricated of molded fibreglass. Other parts are die-cast zinc and steel treated against corrosion. Edgewise-wound copper ribbon voice coil puts 30% more conductor in the gap, raises the efficiency 20%. In E-V tests the "CDP" driver has been subjected to months of continuous operation under 30 watts of power at 60 cycles AC without failure for any reason whatsoever. Should it become necessary, the diaphragm is easily replaced in a moment. Silver contacts eliminate the need for soldering operations. The "CDP", with its higher sensitivity and power handling on a basis of distributed signal, provides superior coverage of the listening area with fewer units and at far lower cost. The "CDP" unit is weatherproof, splash-proof, and blast-proof, and virtually indestructible. It represents something so entirely new in public address efficiency and fidelity that it is indeed hard to believe such reproduction is possible.


876

Model 848 25-Watt CDP—Conservatively rated at 25 watts, the Model 848 provides peak-free response 200 to 10,000 cps—delivers 2½ octaves more musical range than usual P.A. units of even larger size. Speech articulation index is substantially increased. Polar distribution pattern exceeds 120°. The Model 848 utilizes two coaxially mounted horns working from opposite sides of a single diaphragm. Each horn is designed for optimum reproduction within its own range. Lower response is augmented by 100-cps horn taper, which insures at least one-half octave added bass over that possible from larger conventional P.A. horns. Nominal impedance is 16 ohms. The attractive neutral gray color is molded right into the bell material, which is impervious to acids, alkalies and most solvents. Hang up bracket has two mounting positions. Projector may be installed horizontally or vertically for augmented dispersion. Dimensions at mouth: 10½" wide, 20½" high. Overall depth 20". Shipping Weight. 17 lbs. List Price..... **$75.00**

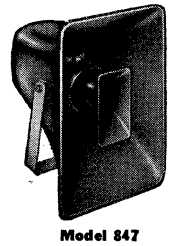
ACCESSORIES FOR MODEL 848 CDP

879

Model 876 25-Watt Line Matching Transformer—In protective case for mounting on rear of Model 848 System. Primary taps for 25, 10, 5, and 2.5 watts with 70-volt line. Impedance taps of 45, 200, 500, 1000 and 2000 ohms. Transformer bypasses frequencies below Model 848 Horn cutoff. Case extends 3½" behind Projector when mounted. 5¼" maximum diameter. Shpg. Wt., 3 lbs. List Price.... **$16.50**

Model 879 Joining Kit—Required for fastening multiple projectors together in any array; use one Model 879 kit for each junction between horns. Shpg. Wt., 1 lb. List Price.... **$2.75**

Model 877 Line Matching Transformer—Same as Model 876, but with added full-range thermal bimetallic relay for maximum protection against overload. Size: Same as Model 876. Shipping Weight, 3 lbs. List Price.. **$17.50**


Model 847

Model 847 12-Watt CDP—Compact, extremely efficient wide-range paging unit. Has low distortion and gives high articulation, permitting lower volume levels with high intelligibility. Response ±5 db 300 to 10,000 cps; allows clear, clean music reproduction because of unusual low-frequency balance. RETMA sensitivity rating is 51 db. Polar coverage is 135 degrees; power handling is 12 watts. Impedance is 16 ohms. Weatherproof, splash-proof and blast-proof. Size 11¾" wide, 7¾" high, 10" deep. Shipping Weight, 7 lbs. List Price..... **$46.33**

Model 870 12-Watt Line Matching Transformer for above mounts on side. Primary taps for 12, 8, 4, 2, 1 watts with 70-volt line; impedance taps for 45, 500, 2500 and 5000 ohms. Size 2½" x 2½" x 3". Shipping Weight, 2 lbs. List Price..... **$16.50**

*Design Patent 169,904.
Additional Patent Pending.

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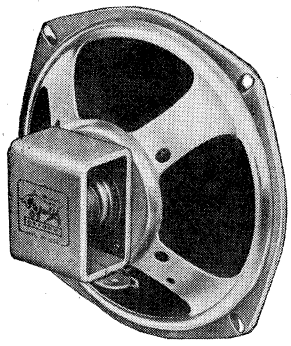
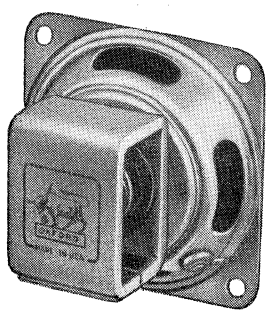
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

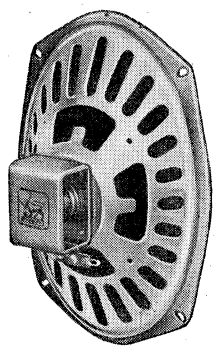
OXFORD Speakers—



For Radio & Television



For Portables



For Auto Radios

PERMANENT MAGNET SPEAKERS—STANDARD REPLACEMENT LINE

SIZE	MODEL NO.	MAG. WT.	LIST PRICE
2″	2AMS	.68 oz.	$ 3.75
2″	2CMS	1.47	4.35
3″	3AMS	.68	3.75
3″	3CMS	1.47	4.35
4″	4AMS	.68	4.00
4″	4BMS	1.00	4.25
4″	4CMS	1.47	4.60
5″	5AMS	.68	4.25
5″	5BMS	1.00	4.50
5″	5CMS	1.47	4.85
5″	5PAMS	.68	4.35
5″	5PBMS	1.00	4.60
5″	5PCMS	1.47	5.00
5¼″	52AMS	.68	4.35
5¼″	52BMS	1.00	4.60
5¼″	52CMS	1.47	5.00
5½″	55CMS	1.47	5.25
6″	6AMS	.68	4.85
6″	6BMS	1.00	5.10
6″	6CMS	1.47	5.50
6″	6CVS	1.47	5.75
6″	6EVS	2.15	6.00
6″	6FOS	3.16	6.85
7″	7CVS	1.47	6.50
8″	8CMS	1.47	6.85
8″	8CVS	1.47	7.10
8″	8EVS	2.15	7.35
8″	8FOS	3.16	8.50
8″	8HBS	4.64	10.00
8″	8JBS	6.80	12.00
10″	10CVS	1.47	8.75
10″	10EVS	2.15	9.50
10″	10FOS	3.16	10.50
10″	10HBS	4.64	12.00
10″	10JBS	6.80	13.50
12″	12CVS	1.47	9.75
12″	12EVS	2.15	10.50
12″	12FOS	3.16	11.50
12″	12HBS	4.64	13.00
12″	12JBS	6.80	14.50
4″x6″	46AMS	.68	4.50
4″x6″	46BMS	1.00	4.75
4″x6″	46CMS	1.47	5.25
5″x7″	57CMS	1.47	5.75
5″x7″	57EVS	2.15	6.50
5″x7″	57FOS	3.16	7.85
6″x9″	69CVS	1.47	7.10
6″x9″	69EVS	2.15	7.85
6″x9″	69FOS	3.16	9.25

ELECTRO DYNAMIC SPEAKERS—STANDARD REPLACEMENT LINE

SIZE	MODEL NO.	FIELD	LIST PRICE
4″	4V45S	450 Ohm	$ 4.75
5″	5V45S	450	5.00
6″	60A100S	1000	6.00
6″	60A180S	1800	6.00
6″	60A250S	2500	6.00
8″	80A100S	1000	7.50
8″	80A180S	1800	7.50
8″	80A250S	2500	7.50
10″	10E100S	1000	11.00
10″	10E250S	2500	11.00
12″	12E100S	1000	13.50
12″	12E250S	2500	13.50
4″x6″	46V45S	450	5.50

Preferred for Original Equipment
Proven for Replacement!

EXTENDED RANGE SPEAKERS

SIZE	MODEL NO.	MAG. WT.	LIST PRICE
8″	HF8JB	6.8 oz.	$15.00
10″	HF10JB	6.8	17.50
12″	HF12JB	6.8	20.00
12″	HF12LN	14.0	35.00
15″	HF15LN	14.7	42.50

TV REPLACEMENT SPEAKERS

SIZE	MODEL NO.	FIELD	LIST PRICE
6″ Pin Cushion	6K8S	85 ohm	$6.40
8″ Round	8K8S	85 ohm	7.90
10″ Round	10K8S	85 ohm	11.40
12″ Round	12K8S	85 ohm	13.90

AUTO REPLACEMENT SPEAKERS

SIZE	MODEL NO.	MAG. WT. or FIELD	LIST PRICE
5″	5CMS	1.47 oz.	$ 4.85
5¼″	52CMS	1.47	5.00
6″	6EVS	2.15	6.00
7″	7EVS	2.15	7.10
7″	7FOS	3.16	8.00
8″	82EVS	2.15	7.50
6″x9″	69EVS	2.15	7.85
6″x9″	69FOS	3.16	9.25
5″	5VO4S	4 Ohm	5.00
5¼″	52VO4S	4	5.25
6″	60AO4S	4	6.00
7″	70AO4S	4	7.25
6″x9″	690AO4S	4	9.00

PUBLIC ADDRESS SPEAKERS

SIZE	MODEL NO.	MAG. WT.	LIST PRICE
8″	8JBS-7	6.80 oz.	$12.50
10″	10JBS-7	6.80	14.00
12″	12JBS-7	6.80	15.00

INTERCOM SPEAKERS

SIZE	MODEL NO.	MAG. WT.	LIST PRICE
3″	3BMXS	1.00 oz.	$ 4.75
4″	4BMXS	1.00	5.00
5″	5BMXS	1.00	5.25
8″	8EV-13	2.15	7.35

WEATHERPROOF and DRIVE-IN THEATRE SPEAKERS

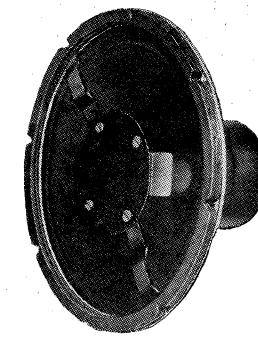
SIZE	MODEL NO.	MAG. WT.	LIST PRICE
3″	3CMWS	1.47	$ 4.85
4″	4AM65	.68	3.92
4″	4CM13	1.47	5.81
5″	5BA3	.68	4.45
5″	5CM51	1.47	5.32
6″	6CMWS	1.47	6.15

REAR DECK SPEAKERS

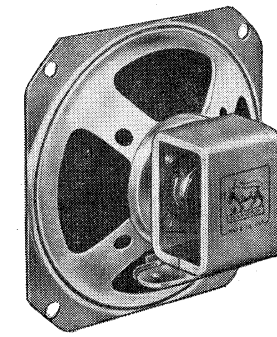
SIZE	MODEL NO.	MAG. WT.	LIST PRICE
5″x7″	RD-57	2.15	$12.15
6″x9″	RD-69	2.15	13.40

"H" SERIES SPEAKERS

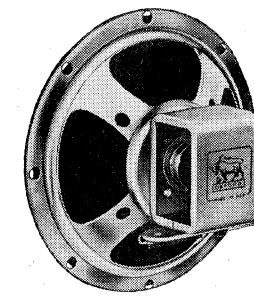
SIZE	MODEL NO.	MAG. WT.	LIST PRICE
2½″	H2A	.68	$ 3.10
3½″	H3A	.68	3.10
4″	H4A	.68	3.10
5″	H5A	.68	3.25
4″x6″	H46A	.68	3.55



Coaxial for Hi-Fidelity



For Outdoor Applications



For Intercoms

There is an OXFORD SPEAKER to meet every requirement and need . . . TV, FM, AM, Auto, Public Address, High Fidelity, and Outdoor Application . . from 2″ to 15″ units.

OXFORD **ELECTRIC CORPORATION** • Chicago 15, Illinois

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO • EXPORT: ROBURN AGENCIES, NEW YORK CITY

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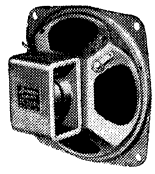
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



Jensen *Speakers*

CONCERT SERIES

These well known loudspeakers offer the best for replacement service and for original equipment in sound reinforcing systems of all kinds. All models are dustproof. PM models use Alnico 5 magnets; field coil models include hum neutralizing coils. Cones are chosen for high sensitivity and optimized response characteristics.

New P275-Y Miniature Speaker

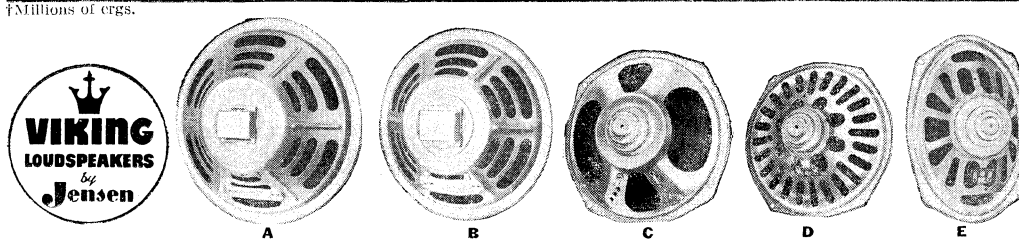
CONCERT SERIES PM SPEAKERS

Nominal Size	Model No.	Stock No.	†Gap Energy Level	Dimensions, Inches			Voice Coil			List Price
				O.D.	Depth	Baffle Opening	Diam., Inches	Imped., Ohms	Power, Watts	
15″	P15-N	ST-654	6.6	15 1/8	8	13 1/4	1 1/2	8	20.0	$70.50
15″	P15-P	ST-655	4.6	15 1/8	8	13 1/4	1 1/2	8	18.0	54.75
12″	P12-N	ST-656	6.6	12 1/16	7	10 1/2	1 1/2	8	18.0	52.50
12″	P12-P	ST-657	4.6	12 1/8	6 7/16	10 1/2	1 1/2	8	16.0	33.60
12″	P12-R	ST-103	2.2	12 1/8	6 1/16	10 1/2	1	6–8	12.0	16.50
12″	P12-S	ST-102	1.5	12 1/8	6 1/16	10 1/2	1	6–8	10.0	14.75
12″	P12-S	ST-871	1.5	12 1/8	6 1/16	10 1/2	1	3–4	10.0	14.75
12″	P12-T	ST-101	1.1	12 1/8	6 1/16	10 1/2	1	6–8	9.0	13.60
12″	P12-T	ST-872	1.1	12 1/8	6 1/16	10 1/2	1	3–4	9.0	13.60
10″	P10-S	ST-873	1.5	10 1/8	5 1/4	8 3/4	1	3–4	9.0	13.40
10″	P10-T	ST-119	1.1	10 1/8	5 1/4	8 3/4	1	6–8	8.0	10.50
10″	P10-T	ST-874	1.1	10 1/8	5 1/4	8 3/4	1	3–4	8.0	10.50
8″	P8-R	ST-169	2.2	8 1/2	4	6 3/4	1	6–8	9.0	12.50
8″	P8-S	ST-104	1.5	8 1/8	3 13/16	6 3/4	1	6–8	8.0	10.80
8″	P8-S	ST-851	1.5	8 1/8	3 13/16	6 3/4	1	3–4	8.0	10.80
8″	P8-T	ST-117	1.1	8 1/8	3 5/8	6 3/4	3/4	3–4	7.0	9.20
8″	P8-U	ST-116	.74	8 1/8	3 1/2	6 3/4	3/4	3–4	6.0	8.25
8″	P8-V	ST-115	.51	8 1/8	3 3/8	6 3/4	3/4	3–4	5.0	6.95
6″ x 9″	P69-V	ST-810	.51	9 1/4	3 1/4	8 1/8	3/4	3–4	5.0	6.75
6″	P6-T	ST-112	1.1	6 11/16	3 7/16	5 1/4	3/4	3–4	6.0	6.75
6″	P6-V	ST-110	.51	6 11/16	2 15/16	5 1/4	9/16*	3–4	4.0	5.50
6″	P6-X	ST-108	.25	6 11/16	2 3/4	5 1/4	9/16	3–4	3.0	4.95
5″ x 7″	P57-V	ST-859	.51	5 x 7 1/4	4 1/2 x 6 3/4	5 15/16	3/4	3–4	4.0	6.05
5 1/4″	P525-V	ST-803	.51	6	2 1/2	4 1/2	9/16	3–4	4.0	5.50
5″	P5-V	ST-107	.51	5	2 7/16	4	9/16	3–4	3.5	5.30
5″	P5-X	ST-105	.25	5	2 1/4	4	9/16	3–4	2.5	4.85
5″	P5-X	ST-740	.25	5	2 1/4	4	9/16	45–50	2.5	4.95
4″ x 6″	P46-W	ST-910	.36	4 1/8 x 6 3/16	3 11/16 x 5 11/16	2 1/8	9/16	3–4	3.0	5.35
4″	P4-X	ST-113	.25	5	2	3 1/2	9/16	3–4	2.0	4.65
4″	P4-X	ST-739	.25	5	2	3 1/2	9/16	45–50	2.0	4.80
2 3/4″	P275-Y	ST-921	.165	2 3/4	1 1/8	2 3/8	9/16	16	0.15	6.25

CONCERT SERIES FIELD COIL SPEAKERS

Nominal Size	Model No.	Stock No.	†Gap Energy Level	Dimensions, Inches			Voice Coil			Field		List Price
				O.D.	Depth	Baffle Opening	Diam., Inches	Imp., Ohms	Power, Watts	Resist., Ohms	Power, Watts	
12″	F12-S	ST-173	1.5	12 1/8	6 1/16	10 1/2	1	3–4	10.0	1000	8.5	$15.20
10″	F10-S	ST-175	1.5	10 1/8	5 3/8	8 3/4	1	3–4	9.0	1500	8.5	14.20
8″	F8-W	ST-736	.36	8 1/8	3 3/8	6 3/4	3/4	3–4	4.0	1000	5.0	8.25
6″	F6-X	ST-189	.25	6 11/16	2 15/16	5 1/4	9/16	3–4	3.0	450	4.5	5.95
6″	F6-X	ST-883	.25	6 11/16	2 15/16	5 1/4	9/16	3–4	3.0	85	4.5	5.95
5″ x 7″	F57-W	ST-884	.36	7 1/4 x 5	2 3/4	6 1/2 x 4 1/4	9/16	3–4	3.5	85	5.0	7.95
5″	F5-X	ST-882	.25	5	2 1/16	4	9/16	3–4	2.5	85	4.5	5.85
5″	F5-X	ST-194	.25	5	2 1/16	4	9/16	3–4	2.5	450	4.5	5.85
4″	F4-X	ST-196	.25	5	2 1/4	3 1/2	9/16	3–4	2.0	450	4.5	5.70

†Millions of ergs.



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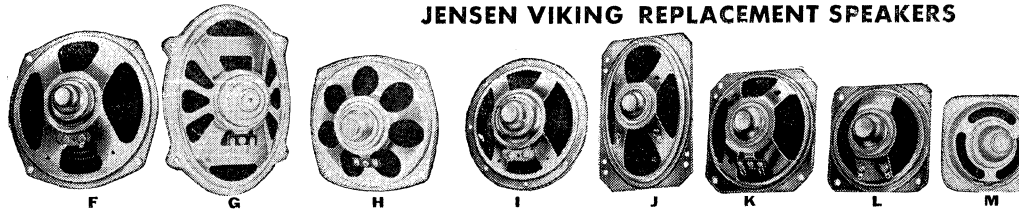
JENSEN VIKING REPLACEMENT SPEAKERS



F G H I J K L M

CTM-1 Bracket. For mounting up to 1/2″ x 1/2″ transformer on speaker and speaker on chassis. Fits speakers up through 6″ size, except 5″ x 7″, but including 4″ x 6″. Furnished no charge on request by your distributor.

Nom. Size In.	Model No.	Magnet Weight	Fig.	Dimensions O.D.	Dimensions Depth	List Price
12	12J10	1.76	A	12 1/8	4 3/8	$10.00
10	10J10	1.76	B	10 1/8	3 3/8	9.00
8	8J9	1.47	C	7 11/16	2 15/16	6.25
7	7J9	1.47	D	6 7/8	2 15/16	6.25
6 x 9	69J9	1.47	E	9 1/4 x 6 5/8	3	6.50
6	6J6	.85	F	6 11/16	2 5/16	4.45
5 x 7	57J9	1.47	G	7 1/4 x 5	2 7/8	5.85

Nom. Size In.	Model No.	Magnet Weight	Fig.	Dimensions O.D.	Dimensions Depth	List Price
5 1/4	525J6	.85	H	5 5/16	2 1/8	$4.15
5	5J6	.85	I	5	1 15/16	4.05
4 x 6	46J6	.85	J	6 1/8 x 4 1/8	1 15/16	4.80
4	4J6	.85	K	4 1/8	1 3/4	3.60
3 1/2	35J6	.85	L	3 1/2	1 7/16	3.80
3	3J6	.85	M	3	1 7/16	3.70

All Viking speakers have 3-4 ohm voice coils.

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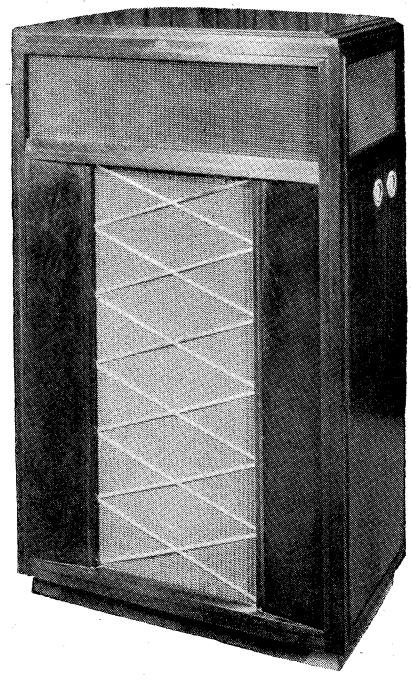
Jensen *Hi-Fi Sound Reproducers*



Imperial

The Ultimate in High Fidelity

In the search for pure high fidelity, completely authentic, with smooth coverage of the complete frequency range from lowest bass to upper limits of audibility, Jensen designed the RS-100 Laboratory Reference Standard Reproducer (see below) for use as a standard of comparison in high fidelity. For those who pursue the ultimate, the very same reproducer is offered here as the Imperial PR-100 in cabinetry that bespeaks a place of honor in the distinguished home. There's a totally new, smooth sound, utterly real—undoubtedly the finest sound you've ever heard. Voices come to life and there's a new almost geometrical separation of instruments. A three-way system (we'd have used **six** channels if necessary, but three were far and away the best), with 1-f unit loaded by a new-design reactance-annuling trilateral-mouth horn for bass; selected compression-driver horn-loaded mid-channel with intrarange equalizer for a final touch to precise balance and coloration elimination; and superlatively smooth, space-blended supertweeter top. Expensive to be sure . . . but priceless in performance. Place it on a sidewall or in a corner as you choose. Individually serial numbered, laboratory tested with signed certificate and guarantee of performance, accompanied by handsome descriptive presentation brochure. Impedance 16 ohms, power rating 35 watts. 54¼″ H.; 32⅝″ W.; 24⅜″ D. Shipping Weight 222 lbs.

PR-100 "IMPERIAL" REPRODUCER

Selected Mahogany. Net Price.....**$570.00**
Satin Blonde Korina. Net Price..... **580.00**

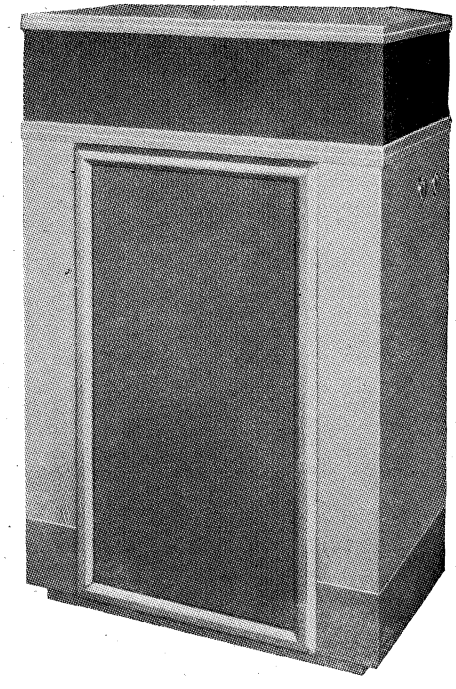
Laboratory Standard RS-100

Designed Especially for Ultra-Critical Applications

Intended especially for ultra-critical applications. Designed by the Jensen engineering staff as a reference standard for comparison of high fidelity reproduction, the RS-100 is a new and important tool for sound engineers and psycho-acoustic laboratory specialists. It also will find extremely wide application in broadcast and TV station monitoring, recording studios and other installations requiring exacting sound reproduction. Music lovers and audiophiles, too, will find ready usage for the RS-100 in experimental or permanent home tuner-amplifier-record player and tape-recorder set-ups. It embodies the same electrical and acoustical characteristics as the PR-100.

The cabinet is made of plywood—modern—artistically styled and finished in two-tone, blue gray. Each RS-100 is individually, laboratory tested and accompanied by a signed certificate and guarantee of performance, and a descriptive brochure. 52⅝″ H. x 33″ W. x 25½″ D. Shipping Weight: 222 lbs.

Net Price.....**$475.00**



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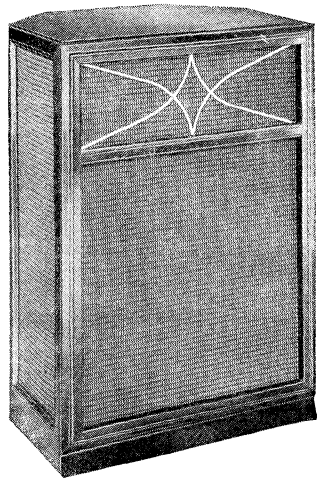
Jensen *Hi-Fi Sound Reproducers*

THE GREATER TRi-PLEX
3-WAY SPEAKER SYSTEM



Jensen's new **greater** TRi-PLEX is offered to you with the conviction that in quality of reproduction, it will outperform any comparable speaker system. Bass response has been enhanced with the new Bass-Ultraflex enclosure. The design objective has been the attainment of the full high-fidelity frequency range with extreme smoothness, precisely adjusted intra-range balance, and complete elimination of all false coloration effects. The result is a reproducer which in its outstanding listening qualities will delight the discriminating listener who seeks completely faithful music reproduction without harshness or exaggeration.

Technically, the TP-200 represents a high point in the development of the true 3-way system. Three completely independent reproducers divide the frequency range as indicated in the specifications, the combined total result being blended into a superb unity which cannot be approached with short-cut designs which simulate, but do not afford comfortable, livable listening quality. For example, both mid-frequency and high-frequency channels employ horn-loaded compression-driver units with plastic diaphragm moving systems in precision sound chambers for utmost smoothness—there are no metallic elements to introduce harsh or irritating effects. Individual controls are provided at the side of the cabinet for exact adjustment of response balance, presence and brightness to fit **your** surroundings and precise taste.

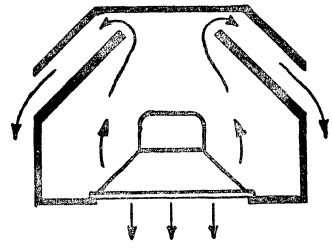
New cabinet styling is a natural blend of simplicity and elegance which will merge gracefully with traditional or modern decor. Woods are offered in a choice of fine selected Mahogany or satin Blonde Korina veneers with genuine solid matching hardwood trim, all finely crafted in the best furniture-making traditions.

Each TRi-PLEX is individually tested and is accompanied by a certificate and guarantee of performance meeting the high engineering standards established for the design.

SPECIFICATIONS

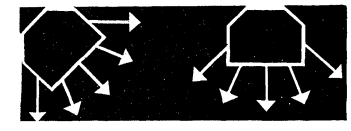
Input Impedance: 16 ohms.
Power Rating: 35 watts maximum speech and music signal input.
Components
High Channel: RP-302 Ultra High Frequency Unit (4,000 cycles to limits of audibility).
Mid Channel: RP-201 High Frequency Unit (600-4000 cycles).
Low Channel: P15-LL Low Frequency Unit (below 600 cycles). A-402 Crossover Network (4000 cycles). A-61 Crossover Network (600 cycles).
Controls: H-F Balance Control (in RP-302 circuit). M-F Balance control (in RP-201 circuit).
Dimensions: 38⅜" high, 25⅞" wide, 19⅜" deep.
Shipping Wt.: 124 lbs.

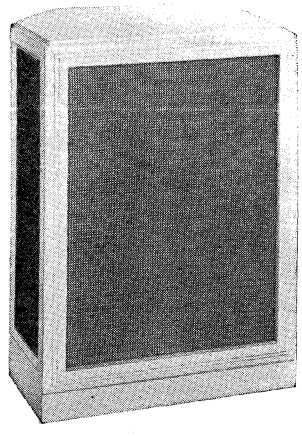
Model TP-200. TRi-PLEX Reproducer— **$347.00**
Selected Mahogany. Net Each.....
Satin Blonde Korina. Net Each..... **$352.00**



New Bass—Ultraflex. Enclosure principle used in the new TRi-PLEX TP-200, 2-way CT-100 and BL-220 and BL-250 cabinets, is the latest result of Jensen's advanced research on enclosure acoustics. Precisely matching "woofer" characteristics to enclosure volume, Bass—Ultraflex gives more true balanced bass response than previous methods employed in medium sized cabinets.

May be used either in a corner or against a sidewall with excellent results.





THE NEW *Concerto*
2-WAY SPEAKER SYSTEM

Here is high fidelity reproduction in a compact enclosure which fits even the crowded living space, yet embodying the smoothness balance and extreme frequency range coverage of the most expensive true coaxial speakers. There is economy too—with fine music reproduction not approached except at far greater cost.

The CT-100 is a true 2-way system with separate "woofer" and "tweeter". The low frequency unit is the new P12-NL 12-inch speaker which was especially designed for this reproducer. In combination with the Bass-Ultraflex cabinet, the system gives ample, full bass response. High frequencies above 2000 cycles are handled by the RP-102 High Frequency Unit which provides exceptional smoothness and range approaching the practical upper limits of audibility. A full 2-channel crossover network is employed. H-F Balance Control is located at the side of the cabinet.

The new cabinet design reflects fine proportions and clean sculptured appearance appropriate to fine traditional or modern interior decor. Available in your choice of selected Mohagany or Blonde Korina veneers. Reproducer is fully assembled and carefully tested at the factory. 30½" high, 22⅝" wide, 17⅛" deep. Shipping Weight 62 lbs.

Model CT-100. Concerto 2-Way Reproducer **$189.50**
Selected Mahogany. Net Each.....
Satin Blonde Korina. Net Each..... **$194.50**

• JENSEN • JENSEN • JENSEN • JENSEN • JENSEN •

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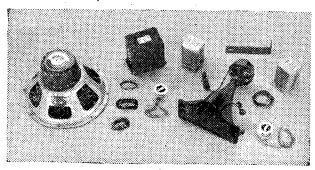
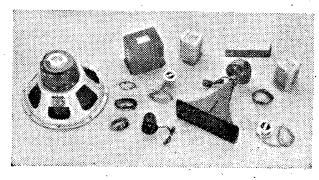
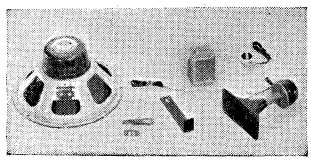
Jensen *Hi-Fi Speaker System Kits*



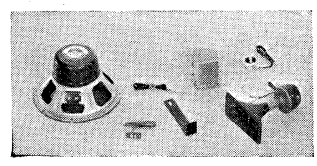
KT-31 IMPERIAL KIT
3-way system. The ultimate in performance. Specially designed 15″ "woofer", compression type mid-range and "supertweeter" units. 600- and 4000-cycle crossover networks, intrarange equalizer, special controls, brackets, cables. Recommended enclosure 25 cu. ft. in back-loading folded-horn. 16 ohms. 35 watts. Net Each..... **$184.50**



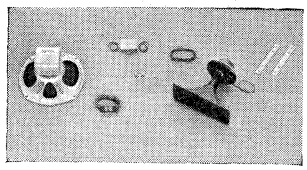
KT-32 TRI-PLEX KIT
3-way system. Superlative performance in moderate space; approx. 10 cu. ft. suggested. 15″ "woofer", compression type mid-range and "supertweeter" units. 600- and 4000-cycle crossover networks intrarange equalizer, controls, brackets, cables. 16 ohms. 35 watts. Net Each..... **$169.50**



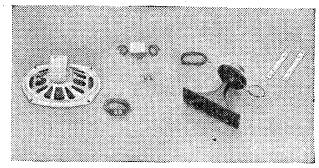
KT-21 CONCERTO-15 KIT
2-way system. An outstanding system with 15″ "woofer" and compression type "tweeter", 2000-cycle crossover network and balance control, bracket and cables 10 cu. ft. enclosure suggested. 16 ohms. 30 watts. Net Each..... **$99.50**



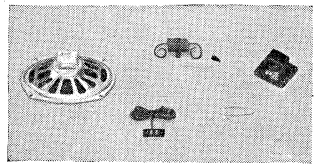
KT-22 CONCERTO-12 KIT
2-way system. Excellent performance in scaled-down size (recommended enclosure as small as 6 cu. ft.). Like KT-21 except 12″ "woofer". 16 ohms. 25 watts. Net Each..... **$73.00**



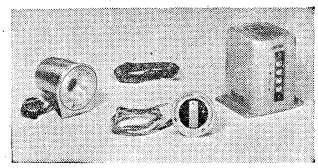
KDU-10 TREASURE-CHEST DUETTE KIT
2-way system. Special 8″ "woofer", compression driver "tweeter" and frequency division for compact reproducer (1½ cu. ft. Duette enclosure or 2½ cu. ft. Bass-Ultraflex type.) Includes wiring materials. 8 ohms. 20 watts. Net Each..... **$24.75**



KDU-11 TABLE DUETTE KIT
2-way system. Specially designed for chairside or table TV use. May also be used in 1½ cu. ft. Duette enclosure. Heavy duty 6″ x 9″ "woofer", compression driver "tweeter", frequency division unit and wiring materials. 3-4 ohms. 20 watts. Net. **$23.75**



KDU-12 BUDGET DUETTE KIT
2-way system. For maximum results at lowest cost. May be installed in table or 1½ cu. ft. regular Duette or in 2½ cu. ft. Bass-Ultraflex enclosures. 6″ x 9″ "woofer" direct radiator "tweeter" frequency dividing unit plus wiring materials. 3-4 ohms, 15 watts. Net Each.... **$10.50**



KTX-1 RANGE EXTENDER SUPERTWEETER KIT
Adds smooth, clean highs from 4000 cycles to limits of audibility to any single unit, coaxial or 2-way system. Complete with crossover network, balance control and cable. For systems rated up to 35 watts. Net Ea.. **$43.75**

Specially designed Cabinart (G & H Wood Products) enclosures are available for all Jensen Loudspeaker Kits.

IT'S EASY TO BUILD YOUR OWN HI-FI SPEAKER SYSTEMS WITH JENSEN SPEAKER KITS

Now you can have famous **Jensen** authentic high fidelity loudspeaker performance plus the fun and satisfaction of building your own choice of cabinet or built-in unit for your home. You get the same high quality loudspeaker matched components used in **Jensen's** factory assembled complete reproducers: you "do-it-yourself" and save. Select the Jensen loudspeaker kit that best fits your needs and budget—follow simplified plans—and enjoy fine sound reproduction.

JENSEN SPEAKER KITS ARE COMPLETE

Every **Jensen** authentic high fidelity loudspeaker comes packed in a single carton with all the matched components, frequency division units, controls, mounting brackets and wiring for easy installation in your own free-standing cabinet or built-in music area. Detailed constructional plans help you build the acoustically correct enclosure.

BUILD WITH CONFIDENCE—AT LOW COST

No technical skill is required. You build the enclosure with confidence that your system will give the excellent reproduction you would expect from **Jensen** loudspeakers.

BIG 36-PAGE MANUAL WITH 18 DESIGNS FOR BUILDING YOUR OWN SPEAKER ENCLOSURES

Select the kit and cabinet you want from this complete manual of do-it-yourself designs.

Complete instructions for building self-contained or built-in single speaker and two-way and three-way speaker systems; "Duette", Bass-Ultraflex and Back-Loading Folded Horn cabinets.

You can build an authentic high fidelity speaker system of your own selection—everything from the famous **Jensen** three-way Imperial to a compact, budget cost "Duette" two-way system—with Jensen's complete 36-page manual of 18 easy-to-build enclosure designs. Simplified detail drawings of free-standing cabinets and build-in construction plans to fit your exact needs.

The Jensen manual gives you complete information: parts lists, speaker data, exploded views and simplified wiring instructions—all planned to help you have fun and save money building your own Jensen Authentic High Fidelity Speaker System. **Jensen Manual 1060**..... **50c**

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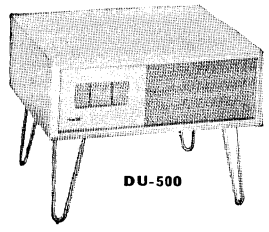
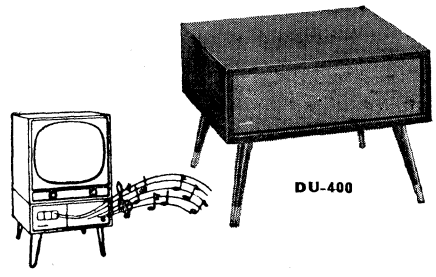
Jensen Duette Hi-Fi Reproducers



DU-500

"Hear the other half of your TV programs"



DU-400

NEW TV Duette

Model DU-500 TV Duette

Add **Authentic** High Fidelity to your TV. Combining the finest furniture craftsmanship with advanced acoustic design, the DU-500 TV Duette sets a new high standard of beauty and performance for compact hi-fi loudspeakers. Richly defined music and live voice quality gives you a new experience in sound. Selected genuine hardwood veneer, matching solid hardwood trim with fine lines and trim proportions, choice of Blonde Oak or Ribbon Striped Mahogany. Genuine gold plated insignia, grille bars and knob. Speaker complement consists of a special 6″ x 9″ oval "woofer" plus a full compression driver Hypex horn-loaded "tweeter" with frequency division system—a truly authentic hi-fi speaker system that will serve with distinction for all of your hi-fi needs. Handy "Show-Off Switch" reverts the set to the use of its original speaker and also will transfer the Duette from TV to your changer-amplifier, tape recorder or FM radio, thus allowing the TV Duette to serve all of your hi-fi speaker needs. **Size:** 24″ wide, 22″ deep; top 17¼″ above floor. **Impedance:** 4 ohms. **Power Rating:** 20 watts.

Jensen Model DU-500 "TV-Duette". Blonde Oak, brass hairpin legs. Shpg. Wt. 35 lbs. Net Each..... **$85.50**

Ribbon Striped Mahogany, wood legs. Shpg. Wt. 31 lbs..... **$82.50**

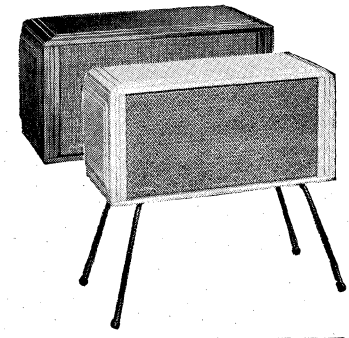
Model DU-400 TV Duette

An expertly engineered, finely balanced hi-fi speaker system using two different specially designed speaker units in "woofer" and "tweeter" combination for full range reproduction. Brings a new dimension to TV sound . . . gives you authentic high fidelity for records, tape or radio. **Size:** 24″ wide, 22″ deep, 17¼″ high. **Impedance:** 4 ohms. **Power Rating:** 15 watts. Has 6″ x 9″ oval "woofer" and 3″ "tweeter". Choice of attractive finishes on genuine plywood; matching wood legs with brass ferrules.

Jensen Model DU-400 "TV Duette". Choice of Korina Blonde or Ribbon Mahogany finish. Shipping Wt. 28 lbs. Net Each..... **$49.50**

Duette Treasure Chest

Now the Duette becomes an elegant addition to traditional or modern home decor with these new "Treasure Chest" models. Handsomely styled chest design is available in both selected Mahogany and Blonde Oak veneers with genuine matching hardwood trim. Fits on bookshelf or table in small space. For a free-standing piece, add the graceful modern wrought iron legs (not furnished—must be ordered separately).



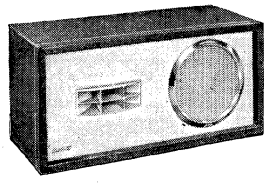
Duette "Treasure Chest" gives the full performance of the true two-way system with its special 8-inch woofer and compression driver tweeter in an unusually compact scientifically designed acoustic enclosure. Ideal for small space hi-fi system, excellent as an improvement addition for true hi-fi from existing radio, TV, phonograph or tape recorder. Capable of adequate bass reproduction even at low listening levels. Clean, smooth response with the unmistakable presence of the true two-way reproducer. **Size:** 11″ high, 23¼″ wide, 10″ deep. **Impedance:** 4 and 8 ohms. **Power Rating:** 20 watts.

Jensen Model DU-300 Duette "Treasure Chest" Reproducer. Net Each.... **$76.50**

(Order ST-861 Mahogany, ST-860 Blonde Oak.)

ST-862. Set of wrought iron legs. Shipping Wt. 26 lbs. Net Each..... **$4.25**

Duette DU-201



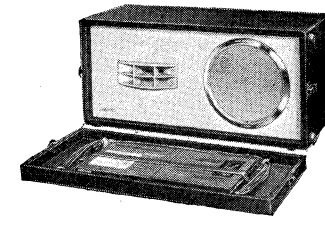
2-WAY HIGH FIDELITY REPRODUCER
Measures only 23¼″ x 11″ x 10″

First to give you real high fidelity in a small package . . . with the advantages of the two-way system principle, the new JENSEN "Duette" is the answer to the need for truly fine music reproduction when space for equipment is limited. Can be used on a table, in bookshelves or on the floor, either on its side or standing on end. Ideal for improving the performance of portable phonographs, radio and TV sets, as well as for a basic hi-fi system in a small space. Excellent as an additional living room speaker for spacial effects, as a pair for binaural sound and for hi-fi speaker extension. Comprises a special 8-inch "woofer" plus a multicell horn-loaded compression driver "tweeter", with built-in frequency division system, in a small compact enclosure designed for adequate bass potential. (Some bass boost is desirable under most listening conditions but more than enough is available in modern amplifiers.) Capable of adequate, satisfying bass reproduction even at low listening levels. Clean, smooth reproduction with the remarkable power handling capacity and the unmistakable "presence" of the two-way hi-fi reproducer. Corner position gives excellent performance with additional bass due to acoustic loading effect of corner. **Impedances:** 4 and 8 ohms. **Power Rating:** 20 watts maximum speech and music input. **Size:** 11″ high, 23¼″ wide, 10″ deep. **Shipping Weight:** 24 lbs. Rich, attractive burgundy pigskin-grained Fabrikoid finished cabinet with contrasting front panel and cast metal trim burnished copper.

Jensen Model DU-201 "Duette" Reproducer. Shipping Wt. 25 lbs. Net Each..... **$62.50**

Duette PORTABLE . . . LETS YOU TAKE HI-FI WITH YOU!

Here is the first truly portable two-way loudspeaker system with "big speaker" performance . . . the Duette "Portable". Ideal for use with tape recorders, portable record players, electronic musical instruments, for band sound reinforcement . . . by professional recording engineers, lecturers, musicians and hi-fi listeners. Two rugged receptacles on back of case allow you to plug in at either 4 or 8 ohms as needed. Lid holds 25-foot cable with plug, plus handy storage for two 7″ or three 5″ boxes of tape held by retaining strap. "Carry tested" rattle-proof handle on end of case. Sturdy construction, yet weighs only 21 lbs.



Gives the full performance of the true two-way system with its special 8″ "woofer" and multi-cell horn-loaded compression driver "tweeter". Built-in frequency division system. Small, compact enclosure designed for adequate bass potential. Can be used either on its side or standing on end. **Impedance:** 4 and 8 ohms. **Power Rating:** 20 watts maximum speech and music input. **Size:** 11″ high, 24¼″ wide, 10″ deep. Finished in black leatherette case with contrasting gray panel.

Jensen Model DU-202 Duette Portable. Shipping Wt. 27 lbs. Net Each..... **$77.50**

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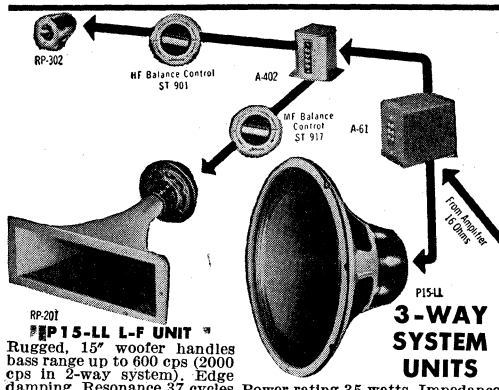
Net

Jensen *High Fidelity Loudspeakers*



3-WAY SYSTEM UNITS

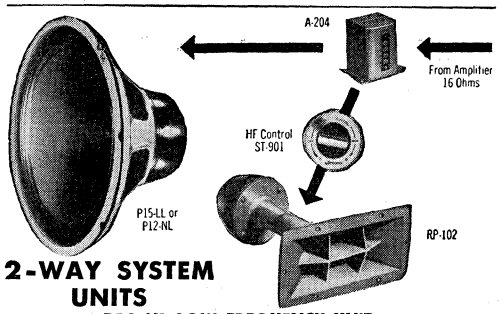
P15-LL L-F UNIT
Rugged, 15″ woofer handles bass range up to 600 cps (2000 cps in 2-way system). Edge damping. Resonance 37 cycles. Power rating 35 watts. Impedance 16 ohms. Shipping Weight 18 lbs. ST-904. Net Each..... **$56.80**

RP-201 H-F UNIT
Reproduces the range from 600 to 4000 cycles as the mid-channel in a 3-way system. Driver unit loaded by cast aluminum Hypex horn. Coverage angle, 115° Impedance, 16 ohms. Power rating with A-61 network, 35 watts speech and music signal input to system. Shipping Weight, 8 lbs. ST-897. Net Each..... **$42.60**

RP-302 ULTRA H-F UNIT
Covers the top of the range from 4000 cycles to the highest audible frequencies with unexcelled smoothness and freedom from distortion. Coverage angle, 120°. Impedance, 16 ohms. Power rating with A-402 network, 35 watts speech and music signal input to system. Mounts in 1 11/16″ hole in baffle or on bracket. Satin finish. Shipping Weight, 3 lbs. ST-899. Net Each..... **$33.60**

A-402 CROSSOVER NETWORK
Two-channel type; high pass transmits everything above 4000 cycles, low-pass everything below this frequency. 180° constant-resistance type. 4 5/8″ high, 3 1/2″ wide, 3 1/4″ deep. Shipping Weight, 3 lbs. ST-898. Net Each..... **$10.90**

A-61 600 CYCLE NETWORK
Sends frequencies above 600 cycles to A-402 for further division; below 600 cycles to the P15-LL unit. Two-channel, 180° constant-resistance type, with 12 db/octave attenuation outside pass band. 5 1/4″ high, 7″ wide, 4 5/8″ deep. Shipping Weight, 5 1/4 lbs. ST-896. Net Each..... **$19.75**



2-WAY SYSTEM UNITS

P12-NL LOW FREQUENCY UNIT
New, rugged 12″ "woofer" especially designed for 2-way systems. Handles bass up to 2000 cycle crossover. Impedance, 16 ohms. Power rating, 25 watts. Shpg. Weight, 10 lbs. ST-912. Net Each..... **$36.50**

RP-102 HIGH FREQUENCY UNIT
A new advanced design "tweeter" for use in 2-way systems crossing over at 2000 cycles. Reproduces an unusually wide range from 2000 cycles to extremely high frequencies with smooth response, excellent balance and very low distortion. Impedance, 16 ohms. Power rating, 35 watts speech and music signal to input of 2-way system when used with A-204 network. Shipping Weight, 6 1/2 lbs. ST-895. Net Each..... **$28.35**

A-204 CROSSOVER NETWORK
Two-channel type, High-pass section transmits everything above 2000 cycles, low-pass, everything below this frequency. 180° constant-resistance type. 4 5/8″ high, 3 1/2″ wide, 3 1/4″ deep Shipping Weight, 3 3/4 lbs. ST-894. Net Each..... **$13.00**

BALANCE AND LEVEL CONTROLS
Flush satin brass cup escutcheons, appropriately marked, mounting 1 11/16″ holes, and matching bar knobs. 25″ leads.
H-F Balance Control—For adjusting balance of H-F units. 16 ohms. ST-901. Net Each..... **$5.00**
M-F Balance Control—For adjusting balance of M-F units. 16 ohms. ST-917. Net Each..... **$5.25**
Level Control—Input control to speaker. 16 ohms. ST-880. Net Each..... **$5.25**
Z-3422 Autotransformer—For matching any 2 of 16/8/4 ohm impedances. Net Each..... **$5.15**

G-610 TRIAXIAL®
The G-610 consists of 3 independently driven elements each covering a portion of the range and a Crossover and Control Network. Crossovers are at 600 and 4000 cycles. Low frequencies reproduced by a heavy duty curvilinear diaphragm unit. Mid frequency section has compression driver unit, flared cone of L-F unit acting as final section of horn. Special small H-F tweeter at front covers high end to limits of audibility. Combination smoothly covers the widest range available today! Power rating 35 watts. Impedance 16 ohms. Mounts in any cabinet for 15″ speaker; BL-151 cabinet recommended for outstanding results. Baffle opening 13 3/4″; OD 15 3/4″; depth 10 3/4″. Shipping Wt., 50 lbs. ST-900. Net Each..... **$252.75**

TRANSFORMERS FOR G-610
These transformers are high fidelity units, mounting directly on network chassis, with plug-in connections, to give alternate input impedances.
Model T-201—ST-846. 4 and 8 ohms. Net Each..... **$12.35**
Model T-202 — ST-847. 500-600 ohms. Net Each..... **$12.35**

H-530 COAXIAL
In wide range extension, in the unusual degree of smoothness and the fine balance of response, this new coaxial has been acclaimed as a new milestone in speaker engineering. Low frequencies are reproduced by a highly efficient 15″ L-F unit designed especially for a smooth transition in the crossover region. Upper channel is a new compression driver perfectly matched to a special H-F divided cellular Hypex horn to reproduce a wide frequency range above 2000 cycles. Impedance, 16 ohms. Power rating, 30 watts speech and music signal input. Complete with network and H-F control. Baffle opening, 13 1/4″; O.D., 15 1/8″; depth, 10 1/2″. Shpg. Wt. 25 lbs. ST-893. Net Ea. **$129.50**

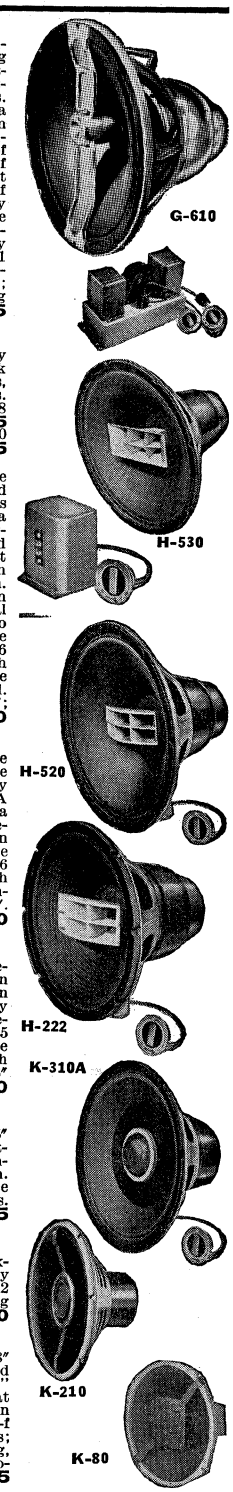
H-520 COAXIAL
A new coaxial loudspeaker with the smoothness, fine balance and wide range response you expect in a truly advanced-design 2-way system. A compression driver unit loaded by a 6-cell Hypex horn reproduces frequencies above 2000 cycles. An efficient 15″ L-F unit handles the lower frequencies. Impedance, 16 ohms. Power rating, 25 watts speech and music signal input. Baffle opening, 13 1/4″; O.D., 15 1/8″; depth, 9 3/4″. Shipping Weight, 16 lbs. ST-892. Net Each..... **$79.50**

MODEL H-222 COAXIAL
Outstanding, efficient, new wide-range 12″ coaxial with compression driver tweeter and 6-cell H-F horn brings a new meaning to high fidelity in a small speaker. Integral frequency division. Power rating 25 watts. Impedance 16 ohms. Baffle opening 10 1/2″; OD 12 1/8″; depth 8 1/4″. Has h-f balance control on 36″ cord. Shipping Weight, 12 lbs ST-875. Net Each.... **$58.50**

MODEL K-310A COAXIAL
A fine, low cost true two-way 15″ high fidelity speaker that will outperform many at higher prices. Integral frequency division system. Power rating 16 watts. Impedance 16 ohms. Shipping Weight, 18 lbs. ST-891. Net Each..... **$39.75**

MODEL K-210 COAXIAL
A 12″ high fidelity speaker at extremely low cost. Integral frequency division system. Power rating 12 watts. Impedance 8 ohms. Shipping Weight, 7 lbs. ST-831. Net Each..... **$27.50**

MODEL K-80 COAXIAL
New, economical, true two-way 8″ coaxial speaker. Electrically and acoustically independent "woofer" and "tweeter" units. Crossover at 3000 cps to h-f unit with diffraction plate for smooth, wide angle h-f response. Power rating, 8 watts; impedance, 8 ohms; baffle opening, 6 3/4″; OD 8 1/8″; depth, 3 1/2″. Shipping Weight, 2 1/2 lbs. ST-926. Net Each..... **$16.75**



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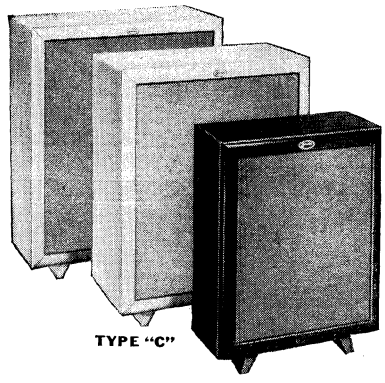
Jensen *Cabinets and Enclosures*

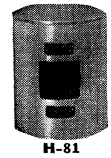
BASS REFLEX CABINETS



TYPE "C"

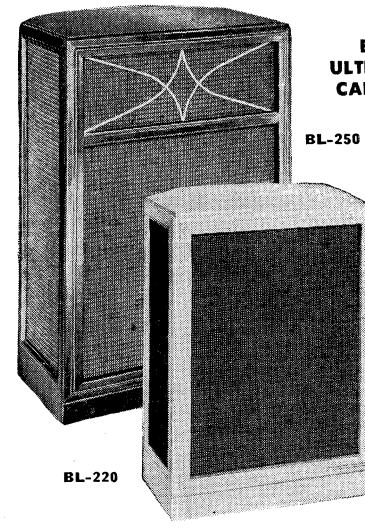
Type "C" enclosures combine acoustically correct performance with attractive modern wood cabinetry at moderate cost. A fine cabinet with Bass-Reflex for low budget high fidelity audio systems. Models to fit 8", 12" or 15" speakers, in choice of Blonde or Mahogany finishes. Two concealed cut-outs in Model C-151, one cut-out in Model C-121, for easy installation of flush H-F and Level Controls or RP-302 "Supertweeter".

Type "H" Sector Cabinet for 8" speakers, was especially designed for installations where multiple speakers are required. With front curved to a 14¼" radius, they fit anywhere—in corners, on walls, at intersection of ceiling and wall or on posts. May be mounted in pairs or clusters for wide-angle distribution. Wood composition built around a frame of solid wood. Fine furniture craftsmanship. Finished in brown lacquer. Brackets and screws furnished for mounting.



H-81

BASS ULTRAFLEX CABINETS



BL-250

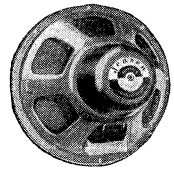
BL-220

These new Type "BL" Cabinets are beautifully-styled loudspeaker enclosures offering improved efficiency in bass response and achieving a new high in flexible adaptability to mounting of coaxial or triaxial speakers, mid-channel and high-frequency units, woofers, supertweeters, in any desired combination without sawing or cutting! All units are easily mounted from the rear of the cabinet and are concealed behind the Transacoustic plastic grille cloth. Unused pre-cut openings in front baffle are automatically blocked by adapter baffle. Easy to follow instructions make mounting a matter of moments.

The new cabinets are designed to fit in a corner or they may be placed against a sidewall. Low frequency rediation is augmented by carefully coordinated acoustic passages opening into the sides of the cabinet.

Simple yet graceful styling with finely sculptured lines qualify these beautiful cabinets for a place in distinguished modern or traditional interiors. Choice of selected Mahogany or Korina Blonde plywoods with genuine matching solid wood trim.

Jensen No.	Stock No.	Speaker Size	Finish	Dimensions Inches Height	Width	Depth	Shipping Wt. Lbs.	Net Each
BL-250	ST-856	15"	Blonde Korina	38⅜	26	19 1/16	86	$130.90
BL-250	ST-857	15"	Cordovan Mahogany	38⅜	26	19 1/16	86	128.00
C-151	ST-868	15"	Blonde Mahogany	32	28	15	53	46.35
C-151	ST-869	15"	Cordovan Mahogany	32	28	15	53	46.35
BL-220	ST-852	12"	Blonde Korina	30½	22⅝	17 1/16	48	92.50
BL-220	ST-853	12"	Cordovan Mahogany	30½	22⅝	17 1/16	48	89.50
C-121	ST-866	12"	Blonde Mahogany	29	25	13½	42	39.40
C-121	ST-867	12"	Cordovan Mahogany	29	25	13½	42	39.40
H-81	ST-141	8"	Brown Lacquer	22¾	17¾	8½	14	15.42
C-81	ST-864	8"	Blonde Mahogany	23½	20	9	26	28.75
C-81	ST-865	8"	Cordovan Mahogany	23½	20	9	26	28.75

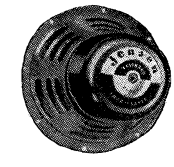


EXTENDED RANGE SINGLE-UNIT SPEAKERS DIRECT-RADIATOR TYPE

These units, ranging from 5-inch to 15-inch size classes, attain a high level of performance by proper extension of the frequency range and control of all factors which lend "presence" to reproduction.

The selection of a direct-radiator loudspeaker from this series, in size or cost appropriate to the application, insures the best quality obtainable in a "one-way" speaker. Alternate models in the same size group differ mainly in efficiency and power rating.

JENSEN Extended Range loudspeakers are ideal as replacement-improvement units for less worthy speakers in radio, television and record playing equipment. The logical choice for better reproduction on a low budget.



Nominal Size	Model No.	Stock No.	*Gap Energy Level	Dimensions, Inches O.D.	Depth	Baffle Open	Voice Coil Diam., In.	Imped., Ohms	Power Watts	†Transformer Size	Net Each
15"	P15-NX	ST-817	6.6	15⅛	8	13¼	1½	6-8	18.0	1" x 1"	$46.05
12"	P12-NX	ST-819	6.6	12 1/16	7	10½	1¼	6-8	16.0	1" x 1"	35.25
	P12-RX	ST-885	2.2	12⅛	6 1/16	10½	1	6-8	11.0	⅞" x ⅞"	12.40
	P12-SX	ST-821	1.5	12⅛	6 1/16	10½	1	6-8	9.0	⅞" x ⅞"	11.35
10"	P10-SX	ST-823	1.5	10⅛	5¼	8¾	1	6-8	8.0	¾" x ¾"	10.54
8"	P8-RX	ST-887	2.2	8⅛	4	6¾	1	6-8	8.0	¾" x ¾"	8.50
	P8-SX	ST-825	1.5	8⅛	3 13/16	6¾	1	6-8	7.0	¾" x ¾"	7.48
6"	P6-TX	ST-826	1.1	6 1/16	3 3/16	5¼	¾	3-4	5.0	⅝" x ⅝"	5.05
5"	P5-TX	ST-827	1.1	5	2 11/16	4	¾	3-4	4.0	½" x ½"	4.90

*Millions of Ergs. †Size Recommended.

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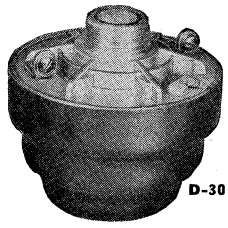
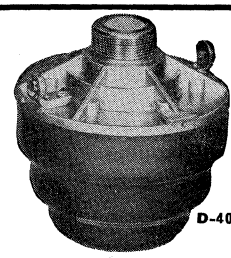
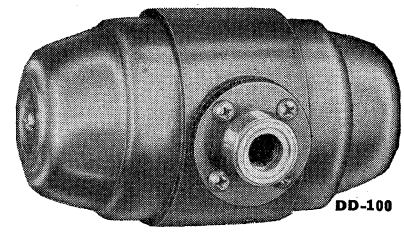
Net

Jensen *Professional Series*


D-30


D-40


DD-100

NEW HYPEX* LIFETIME DRIVER UNITS

The new Jensen Hypex* Lifetime Driver Units have many new features which contribute to increased performance and reliability. Frequency range is based on achieving substantially higher conversion efficiency, higher power ratings and improved reliability over comparable units previously available, while affording good fidelity in the reproduction of speech and music. Lower cutoff frequency is somewhat below those of the horns with which they will be used; the specifications show the maximum upper limiting frequencies, but response has been shaped to give emphasis to the 3-5 kc region, which is extremely important in high efficiency sound projection. As a result of these design choices and special research on ruggedization, the D-30 can be rated at 30 watts speech and music, D-40 at 40 watts, and a **Lifetime Guarantee extended against failure under normal conditions of use!**

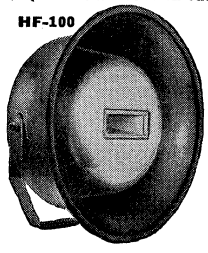
The DD-100 100-watt Superpower Driver Unit, similarly guaranteed, is the first double acting integrated sound chamber driver unit ever to be offered; it is also the first 100 watt unit available, achieving a higher power input rating to a single projector or an array, than has ever been possible before.

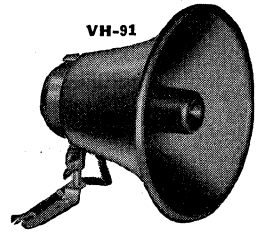
Magnetic structures are the most efficient that research has been able to develop, yielding the highest magnetic energy from the generous sized Alnico V magnets which scientific proportioning of magnet material and soft iron structure can provide. Specially shaped reinforced plastic diaphragms combine ruggedness with excellent acoustic properties and freedom from "breakup". Voice Coils are varnish wound, baked and aged on treated, heat and moisture resistant bobbins, resulting in a rigid assembly that is indestructible in normal service. Beryllium copper leads are indefinitely fatigue-resistant. Models D-40 and DD-100 have precision self-centering moving system assemblies which are added insurance for dependability under severe operating conditions. External leads connect to heavy binder screw terminals; added reliability for wiring is provided by strain reliefs on all units. All units are threaded 1⅜"-18.

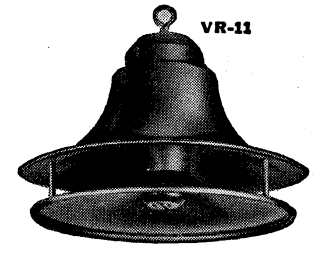
SPECIFICATIONS

Model	Power Rating†	Impedance	Frequency Range	Length	Diameter	Weight, lbs. Net	Weight, lbs. Shpg.	List Price
D-30	30 w.	16 ohms	75-7,000 cps	4 1/16"	4 1/2"	3¼	3½	$27.50
D-40	40 w.	16 ohms	75-10,000 cps	4 9/16"	4 1/2"	4	4¼	36.00
DD-100	100 w.	8/32 ohms	75-10,000 cps	5 1/16"	8 1/2"	7½	8	96.50

†Integrated speech and music program material. For sine wave or siren signal input, reduce ratings one-half. Ratings apply only for frequencies above horn cutoff.


HF-100


VH-91


VR-11

JENSEN COMPLETE HYPEX* PROJECTORS

HF-100 WEATHERPROOF TWO-WAY HIGH FIDELITY PROJECTOR

Here is a real high fidelity projector for use indoors or out, under all weather conditions. Consists of a heavy duty 8" "woofer" feeding a folded horn plus a horn-loaded compression driver "tweeter". Low frequency unit feeds horn by a combination of direct radiation and phase-inversion bass reflex ports for superior efficiency in the low frequency region. The high frequency horn has a 90° fold and is mounted so that the driver unit is at the top, thus providing self-draining and making it impossible for rain, sleet or slow to reach the driver unit.

Horn outer section is spun aluminum with baked enamel finish. Central enclosure is glass fibre reinforced polyester in matching natural molded Modern Tan finish. Sturdy "U" mounting bracket is fully adjustable and positive locking.

SPECIFICATIONS: HF-100 PROJECTOR

Type: Coaxial assembly of separate low and high frequency units.
Frequency Range: 70 to 15,000 cycles.
Power Rating: 25 watts.
Impedance: 16 ohms.
Rated Coverage Angle: 120°.
Overall Diameter: 24⅛".
Overall Depth: 11⅜".
Net Weight: 23 lbs.
Shipping Weight: 30 lbs.
HF-100—List Price **$129.50.**

Jensen VH-91 and VR-11 Hypex* projectors are the most compact in the line and their use is indicated where speech reproduction is the only important consideration and where size or cost are controlling factors. Designed for maximum efficiency in the upper frequency range, these units provide excellent penetration of noise. Small in size, they can also be located near areas of extreme noise. Magnetic structures are highly efficient, using Alnico V magnets in ample soft iron structures. Corrosion-resisting finishes and materials such as plastic cloth base diaphragms insure long life under outdoor and industrial atmospheric conditions. For further protection driver units are completely enclosed inside the rigid outer shell.

MODEL VH-91 HYPEX* PROJECTOR

Equipped with universal mounting brackets for orientation in any direction and secure locking with a single wing nut. Two mounting holes on bracket are spaced to accommodate standard ⅝" x ⅝" transformers with the same mounting screws.

MODEL VR-11 HYPEX* RADIAL PROJECTOR

For application requiring 360° coverage in horizontal plane, such as low ceiling industrial areas. Equipped with sturdy eye-bolt for clamping or suspension from above.

SPECIFICATIONS

Model	Power Rating	Impedance	L-F Range	Mouth Dia. Over All	Over All Lgth.	Air Column Path Lgth.	Rated Coverage Angle	Net Wt. Lbs.	Shpg. Wt. Lbs.	List Price
VH-91	15	8	300	8⅞"	7⅝"	16"	100°	2¾	3⅜	$35.80
VR-11	15	8	280	11"	10⅝"	18"	360°	4	5	46.50

BV-1 BLAST VALVE

The BV-1 Blast Valve is an accessory device for protecting the driver unit from high pressures due to explosive forces. Valve is the same as used in Jensen military blastproof loudspeakers. Under the positive blast pressure phase, the valve moves inward to seal off the driver unit from the horn throat. On the negative phase the valve moves outward, again effecting a seal. With the valve in neutral position, attenuation of sound is negligible. Screws between horn and driver unit. Overall diameter 3". Fits all Jensen driver units and horns.

Net weight, ½ lb. Shipping Weight, ¾ lb.
BV-1—List Price **$15.00.**

*T. M. Reg. Jensen Mfg. Co.

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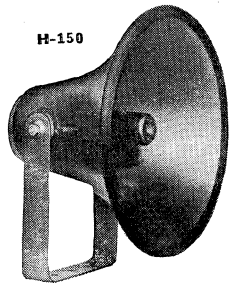
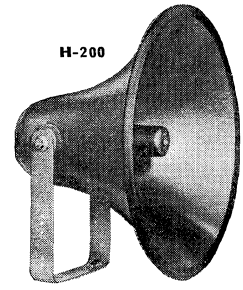
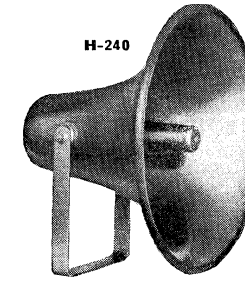






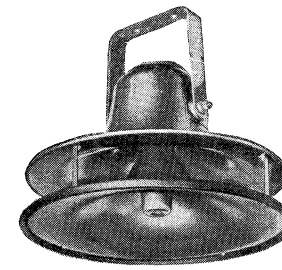
NEW JENSEN HYPEX* PROJECTOR HORNS

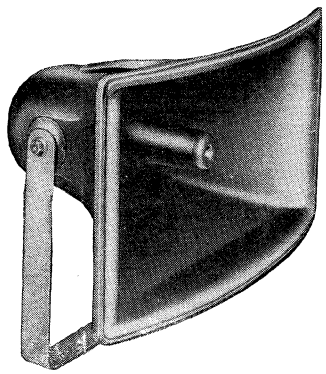
These new projector horns are acoustically coordinated in design for best performance with Hypex* Driver Units D-30, D-40 and DD-100, any one of which may be used on any of the horns. The horn expansion formula is the hyperbolic exponential (U. S. Patent 2,338,262) providing low frequency reproduction superior to that obtained with conventional horns of the same mouth size. Horns (with the exception of RT-20) are spun aluminum with weather-resistant baked tan enamel finish. Horns are threaded 1¾"-18 and may be used with any driver units with this thread. Sturdy steel mounting "U" brackets allow horn to point in any desired direction; horn locks in desired position by means of new positive action trunnion clutches.

(See separate description and specifications on RT-20 Rectangular Horn).

Specifications	H-150 (15")	H-200 (20")	H-240 (24")	R-242 (24" Radial)
Mouth diameter, over all	15¾"	20¾"	25¼"	25¼"
Length, over all (less driver)	12"	14 7/16"	20 9/16"	14½"
Air column length	31"	41"	59"	40"
Low frequency cutoff	200 cycles	150 cycles	120 cycles	140 cycles
Rated coverage angle	95°	85°	75°	360°
Net weight (less driver)	6 lbs.	8½ lbs.	12¾ lbs.	10½ lbs.
Shipping weight	7¾ lbs.	12¾ lbs.	19¾ lbs.	14½ lbs.
List price	**$26.00**	**$31.00**	**$45.00**	**$47.00**

*T.M. Reg. Jensen Mfg. Co.


R-242

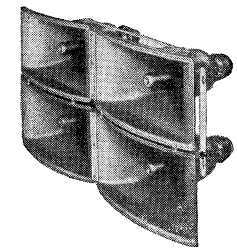


MODEL RT-20 RECTANGULAR HORN

These versatile new horns may be used in a variety of ways to provide projector systems of almost any desired directional characteristics and total power rating. They may be used singly just as round horns are used and in such cases, the rectangular shape is frequently an advantage in appearance, minimizing obstruction to vision, and facilitating mounting.

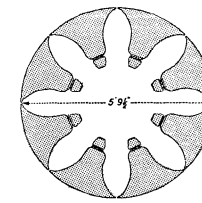
RT-20 Horns are designed so that they may be stacked in plane or circular arrays. Eight units, each with a geometric sector angle of 45 degrees, form a complete circle with a diameter of 5' 9½", giving 360° horizontal coverage. Fewer units are used where less than 360° coverage is required as indicated below:

Number of Units	Horizontal Coverage Angle
1	80°
2	125°
3	170°
4	215°
5	260°
6	305°
8	360°



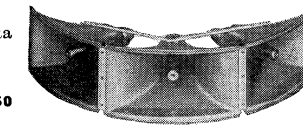
Horns may be "double decked," which will concentrate the sound in a narrower angle in the vertical plane. A stack two units high will give a vertical coverage angle of approximately 30 degrees; at the same time, there is a gain in sound pressure on the axis of 2.5 db, due to the restricted angle of radiation.

The horn is molded of high impact strength glass fibre reinforced polyester. Natural molded finish in Modern Tan color.



SPECIFICATIONS—RT-20

Mouth Size: 25" wide by 12½" high.
Horn Length, overall, less driver: 16 5/16".
Air Column length: 41".
Low Frequency cutoff: 140 cycles.
Rated Coverage angle: 80° horizontal. (See data for arrays).
Net Weight, less driver unit: 10¾ lbs.
Shipping Weight: 15 lbs.
RT-20—Horn only. List Price.....**$46.50**



ACCESSORIES

MA-1 PIPE ADAPTER

A sturdy malleable iron casting which bolts to the "U" bracket of Hypex* Projector Horns and provides ¾" pipe thread for pipe mast mounting. Baked tan enamel finish.
Net weight: ¾ lb.
Shipping Weight: 1 lb.
MA-1—List Price **$2.30.**

MA-3 STACKING HARDWARE

Complete set of hardware for joining two RT-20 horns side by side.
Net weight: 2¼ lbs.
Shipping Weight: 2¾ lbs.
MA-3—List Price **$5.30.**

MA-4 STACKING HARDWARE

Complete set of hardware for joining two RT-20 horns double decked.
Net weight: 1½ lbs.
Shipping Weight: 2 lbs.
MA-4—List Price **$4.60.**

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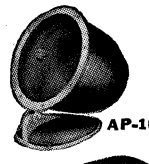
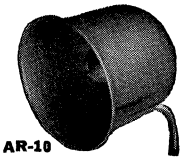


JENSEN SPEECH MASTER LOUDSPEAKERS

JENSEN Speech Master loudspeakers are specialized units designed for applications where highly intelligible speech reproduction is a prime requisite. Good basic design and sturdiness of construction as well as pleasing appearance and functional styling are outstanding features of these units. All loudspeakers in this group use high efficiency direct radiator driver units of the permanent magnet type.

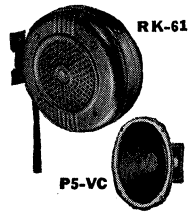
MODEL AP-10 SPEECH MASTER

Attractively styled desk type unit. Heavy cast base with felt pad. Specially designed for superior intelligibility in the presence of static and acoustic background noise. Excellent "talk-back" characteristics. Driver Unit, a sturdy 5" speaker, fully enclosed with protective front screen. Mounting facility for ½" x ½" transformer (inside cover) locking tilt adjustment. Power rating, 5 watts maximum speech signal. 36" rubber cable. 6¾" H.; 5⅛" D.; 5" W. Gray finish. Shipping Weight 5¼ lbs.
ST-590. 3-4 ohms. List Price **$19.30.**
ST-591. 45-50 ohms. List Price **$20.30.**



MODEL AR-10 SPEECH MASTER PROJECTOR

Specially designed for intercom and paging systems. Reentrant horn directs sound and adds speech range efficiency. Used in factories, warehouses, garages, etc. Sturdy P5-VC driver shielded from direct exposure. ½" x ½" transformer fits in cover. Power rating 6 watts. 22" rubber cord, 10" dia. Gray hammer finish. Shipping Weight 6½ lbs.
ST-643. 3-4 ohms. List Price **$23.50.**
ST-644. 45-50 ohms. List Price **$24.50.**



MODEL RK-61 "CORRIDOR" SPEECH MASTER

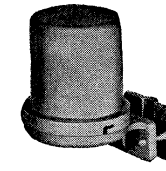
Designed for two-direction sound in corridor or office. Heavy steel case perforated on both sides for high quality speech coverage in both directions protected heavy duty 6" loudspeaker driver unit. Sturdy mounting bracket welded to case provides flexibility in installation. Standard ¾" conduit (not supplied) can be used. 24" heavy SJ cable for connections. Transformers up to ⅝" x ⅝" mount on speaker frame inside case. Excellent "talk-back" characteristics. Quality on music is also acceptable for many areas. Power rating 8 watts. Case diameter 8"; thickness 3¼"; overall distance from wall 9¼". Gray hammer finish.
ST-850. 3-4 ohms. List Price **$12.60.**

MODEL P5-VC SPEAKER

This loudspeaker is offered for installation in radio communications, intercom and paging equipment. May be panel mounted, wall mounted or installed in a small case as required with excellent results. Provides the performance of the AP-10 Speech Master in your equipment. Power rating, 5 watts. Depth, 2'1⁄16"; OD, 5"; baffle opening 4"; Shipping Weight 1 lb.
ST-916. 3-4 ohms. List Price **$5.30.**

JENSEN PROFESSIONAL SERIES TRANSFORMERS

MODEL W-1 WEATHERPROOF TRANSFORMER CASE



Thoroughly weatherproof for permanent outdoor installations for maximum protection to transformers. Designed for upright mounting on U-bracket of Jensen Types H, RT and R Hypex* horns or on pipe by means of clamp. Also suitable for screw mounting to side wall or other flat surface. Accommodates transformers of standard nominal core sizes of 1 x 1, ⅛ x ⅛, ¾ x ¾ and ⅝ x ⅝ with maximum transformer height of 4". Cable entry holes provide for up to four Type SJ cables. Cast aluminum base and spun aluminum cover with bayonet locking. Rich tan baked enamel finish. Complete with transformer mounting and clamp hardware. Net weight 1 lb., shipping weight 1¼ lbs. List **$10.50.**
*T.M. Reg. Jensen Mfg. Co.

TYPE ZC "CONSTANT VOLTAGE" TYPE TRANSFORMERS

These transformers are designs especially for the distribution systems commonly referred to as 70-volt constant voltage systems. They are designed to draw a predetermined amount of power from a 70-volt line as indicated in the tables. All are mountable in W-1 Weatherproof Transformer Case except ZC-3514, as noted.

Models ZC-100, ZC-200, ZC-300, and ZC-400 are equipped with adjustable terminal board with handy pin jack adjustment for the desired input power. Heavy duty screw terminals are provided for speaker and line connection. Completely impregnated and dip processed for operation in outdoor and industrial atmospheres.

Models ZC-3514 and ZC-3515 are similar except color coded pigtail leads replace the terminal board. Non-weatherproof, recommended for indoor and less severe locations.

Model No.	Nominal Core Size	Input Watts‡	Input Imped., Ohms	Sec. Imped., Ohms	Mtg. Ctrs.	List Price
ZC-100	1" x 1"	30	167	4/8/16	3⅛"	$11.50
		15	333			
		7½	667			
ZC-200	1" x 1"	25	200	4/8/16	3⅛"	13.00
		10	500			
		5	1000			
ZC-300	⅞" x ⅞"	20	250	4/8/16	3⅛"	9.65
		10	500			
		5	1000			
ZC-400	⅝" x ⅝"	5	1000	4/8/16	2⅝"	7.00
		2½	2000			
		1¼	4000			

Response characteristics:
Type ZC-200: plus or minus 1 db, 30-15,000 cycles.
Type ZC-100, ZC-300, ZC-400:
plus or minus 2 db, 70-10,000 cycles

Model No.	Nominal Core Size	Input Watts‡	Input Imped., Ohms	Sec. Imped., Ohms	Mtg. Ctrs.	List Price
ZC-3514*	1" x 1¼"	16	313	3/16	2"x2⅛"	$13.00
		8	625			
		4	1,250			
		2	2,500			
ZC-3515	⅝" x ⅝"	4	1,250	8	2⅛"	4.75
		2	2,500			
		1	5,000			
		½	10,000			
		¼	20,000			
		⅛	40,000			

Response Characteristics: plus or minus 1 db 30-15,000 cycles.
*Not mountable in W-1 Case.
‡Marked VA (volt-amperes) on terminals.

ADJUSTABLE IMPEDANCE TRANSFORMERS

The Type ZY adjustable impedance transformers have long been popular for use on 500-ohm line systems. Equipped with sturdy terminal board with pin jack adjustment of impedance. Type ZL transformers are similar except for solder lug terminals for impedance adjustment and pig-tail secondary leads. Vacuum wax impregnated for general purpose applications. Can be installed in Model W-1 Weatherproof Transformer Case.

Model No.	Nom. Core Size, In.	Power Rating, Watts	Input Imped., Ohms	Sec. Imped., Ohms	Mtg. Ctrs.	List Price
ZY-2005	1x1	25		8	3⅛"	$11.85
ZY-2003	⅞x⅞	16		8	3⅛"	9.92
ZY-2002	¾x¾	10		8	2 13⁄16"	8.25
ZY-4004	¾x¾	10	500/1000/1500/2000	4	2 13⁄16"	8.25
ZY-4005	⅝x⅝	6½		8	2⅝"	6.15
ZY-4002	⅝x⅝	6½		4	2⅝"	6.15

Response characteristics:
Plus or minus 2 db, 70-10,000 cycles.

TYPE "Z" TRANSFORMERS

Model Z-3422 is a high fidelity autotransformer for interconnecting 4, 8 or 16 ohm circuits. Model Z-3345 is particularly designed to properly match 8 ohm loudspeakers and projectors to 45-50 ohm intercommunication systems. Vacuum wax impregnated and mountable in Model W-1 Weatherproof Transformer Case.

Model No.	Nom. Core Size, In.	Power Rating, Watts	Input Imped., Ohms	Sec. Imped., Ohms	Mtg. Ctrs.	List Price
ZL-2022	⅝x⅝	6½	500/1000/1500/2000	8	2⅝"	$ 4.65
ZL-2021	½x1½	3½		4	2"	3.75
Z-3422	1x1	25	4/8/16	.....	3½"	8.58
Z-3345	⅝x⅝	6½	45-50	8	2⅝"	5.30

Response characteristics:
Types ZL-2021, ZL-2022 and Z-3345:
Plus or minus 2 db, 70-10,000 cycles.
Type Z-3422: plus or minus 1 db, 30-15,000 cycles.

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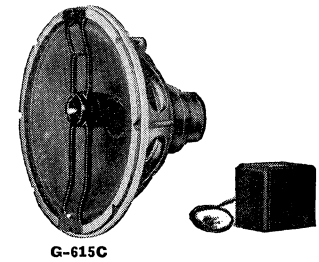
Jensen *Professional Series*

TWO-WAY AND THREE-WAY UNITARY HIGH FIDELITY LOUDSPEAKERS

These outstanding unitary two-way and three-way loudspeakers have been especially designed for institutional, industrial and commercial sound systems where high fidelity music and realistic voice reproduction are essential. They may be mounted in proscenium arch or underneath a canopy; flush or in small enclosures on walls; in large or small cabinets. In enclosures they may stand on floor or be suspended overhead for large audience coverage. In wide angle coverage of entire frequency range and in sound quality, they are markedly superior to projector type speakers. Ideal for school rooms, auditoriums, arenas and the like.

Moving systems and other parts have been moisture-proofed so that they are highly satisfactory for protected outdoor service where not directly exposed to rain, sleet, or snow. Durable finishes and materials are used throughout. Construction is rugged to insure trouble-free performance indefinitely. Terminals are provided for insertion of fixed or adjustable pads if desired (not furnished—see control listings) in the "tweeter" circuits. All units have full dividing networks (mounted on housing in H-525C and H-225C). Input terminals are screwdriver type. Housing finish is baked tan enamel; horns, etc., at the front of the units are finished in black enamel for minimum visibility through grille cloth. All units are thoroughly dustproofed.

These units incorporate Alnico 5 magnets in highly efficient conservatively designed magnetic structures. Table shows loudness efficiency relative to Model H-225C.



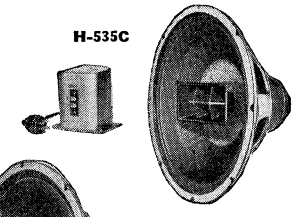
G-615C

G-615C 15" THREE-WAY LOUDSPEAKER

The TRIAXIAL*, a unitary three-way loudspeaker, has three electrically and acoustically independent speaker elements, each handling a portion of the frequency range. Separate three-way 600 and 4000 cycle crossover network with provision for easily adding m-f and h-f balance controls (not supplied—see separate listing). Heavy duty curvilinear l-f diaphragm and compression horn-type m-f and h-f units in exclusive Jensen design. Excellent damping and high conversion efficiency. Power rating 35 watts, impedance 16 ohms. Recommended baffle opening 13¼" dia.; OD 15⅝"; depth 10¼"; net weight 29 lbs.; shipping weight 48 lbs.
Model G-615C—
List Price **$350.00;**
*T. M. Reg. Jensen Mfg. Co.

H-535C 15" TWO-WAY LOUDSPEAKER

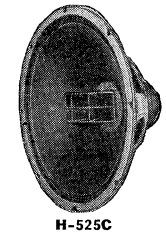
An outstanding unitary loudspeaker of the coaxial type. Employs a heavy duty low frequency unit with heavy magnet to handle the range below 2000 cycles, with high conversion efficiency and good damping. High frequency range is reproduced by an efficient multicell horn-loaded compression driver unit. Excellent high frequency distribution. Separate plug-connected 2000 cycle crossover network with provision for adding h-f balance pad (not furnished—see separate listing). Impedance 16 ohms. Power rating, 30 watts. Recommended baffle opening 13¼" dia.; OD 15⅛"; depth 9"; net weight 17 lbs.; shipping weight, 25 lbs.
Model H-535C—
List Price **$192.00;**



H-535C

H-525C 15" TWO-WAY LOUDSPEAKER

A coaxial unitary two-way loudspeaker like Model H-535C above, except built-in crossover network and lighter magnetic structures on l-f and h-f units. Power rating 25 watts, impedance 16 ohms. Recommended baffle opening 13¼" dia.; OD 15⅜"; depth 8½"; net weight 10½ lbs.; shipping weight 16 lbs.
Model H-525C—
List Price **$112.50;**

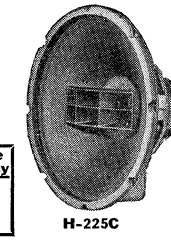


H-525C

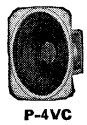
H-225C 12" TWO-WAY LOUDSPEAKER

A coaxial unitary two-way loudspeaker like Model H-525C above, except 12-inch l-f unit. Power rating 25 watts, impedance 16 ohms. Recommended baffle opening 13¼" dia.; OD 15⅛"; depth 7⅝"; net weight 9 lbs.; shipping weight 13 lbs.
Model H-225C—
List Price **$81.50;**

Model No.	Relative Efficiency
G-615C	+5 db
H-535C	+3 db
H-525C	+1 db
H-225C	0 db

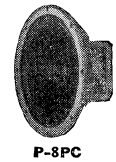


H-225C



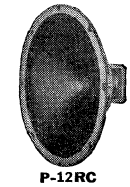
P-4VC

P-5TC



P-8PC

P-8RC



P-12RC

P-12-NC

EXTENDED RANGE HIGH FIDELITY LOUDSPEAKERS

Here is a complete line of loudspeakers of latest designs especially for commercial and general purpose applications, all field tested for the exacting and rigorous requirements of professional service. There is a loudspeaker for every need—ruggedly dependable units which have enjoyed the position of "world's quality standard" for many years in the professional field.

These heavy duty loudspeakers are of the extended range high fidelity type with performance suitable for applications where two-way and three-way speakers are not needed. High efficiency is assured with carefully designed magnetic structures using Alnico 5 magnets and ample soft iron circuits. Moisture-resistant cones and other materials contribute to long life expectancy. The units are especially suitable for protected outdoor locations not directly exposed to rain, sleet and snow, as well as for indoor use.

Extended h-f range insures excellent music reproduction. The l-f range will depend on the enclosure size and design. Commonly used in small enclosures or ceiling baffles. Models P8-SC and P12-SC are practically standard in the industry for interior low level music distribution systems.

Sizes from 4" to 15" offer the best performance possible in each size and cost class. Choices as to efficiency and power ratings are available in some sizes. Relative loudness efficiency is shown in the table referred to the P4-VC. A speaker with relative loudness efficiency of +3 db will be noticeably louder than the P4-VC for the same power; only one-half the power will be required to be equally as loud as the P4-VC.

Nominal Size	Model No.	Power Rating Watts	Magnet Wt., Oz., Alnico 5	Relative Loudness Efficiency	Imped., Ohms	V. C. Dia. Inches	Baffle Cutout Dia., In.	Overall Dia. Inches	Depth Inches	Ship. Wt., Lbs.	List Price
15"	P15-NC	20	27	+7½ db	8	1½	13¼	15⅛	7	7	$59.50
12"	P12-NC	18	27	+7 db	8	1½	10½	12⅛	6	10	51.00
12"	P12-RC	12	6.8	+4½ db	8	1	10½	12⅛	5⅝	6	16.65
12"	P12-SC	10	4.64	+3½ db	8	1	10½	12⅛	5¼	6	15.20
10"	P10-SC	9½	4.64	+3½ db	8	1	8¾	10⅛	4⅝	4	13.75
8"	P8-PC	10	14.6	+5 db	8	1½	6¾	8⅛	4	5½	31.80
8"	P8-RC	9	6.8	+2½ db	8	1	6¾	8⅛	4	3	14.80
8"	P8-SC	8	4.64	+1½ db	8	1	6¾	8⅛	3⅞	3	12.70
6"	P6-TC	6	3.16	+1½ db	4	¾	5¼	6¹¹⁄₁₆	3⅝	2	8.50
5"	P5-TC	5	3.16	+1½ db	4	¾	4	5	2¹¹⁄₁₆	2	8.15
4"	P4-VC	4	1.47	0 db	4	⅝	3½	5	2⅝	1½	5.25

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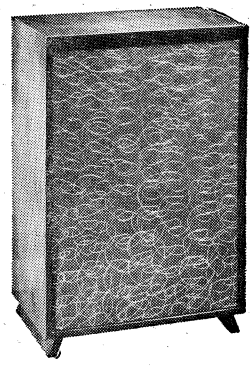
NEW SONOTONE LINEAR STANDARD SPEAKERS

Sonotone 220 Loudspeaker System

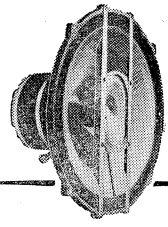


The Sonotone 220 loudspeaker system consists of the CA-15 15-inch coaxial loudspeaker mounted in an enclosure especially designed to give the smoothest overall frequency response and the optimum response to transients. In the 220 System the CA-15 radiates directly. The sound does not bend around any corners, nor does it filter through a sieve of dispersers or vanes. There is nothing between you and the music!

The 220 System is not a bass reflex type. Neither is it a folded or back-loaded horn. In fact the back wave is completely absorbed in the enclosure. A special acoustic loading array imposes direct *acoustical* damping on the rear of the speaker, which contributes markedly to the system's incomparable transient response and low distortion.

The 220 System may be located anywhere in the room. It does not require corner placement nor must it be placed directly against the wall. Available in mahogany, blonde (Korina), or fruitwood finish.

The CA-15 15" Coaxial Loudspeaker



Range—20 to 17,000 cycles.
Power—25 watts continuous, 40 watts peak.
Resonance—30 cycles.
Impedance—15 ohms.
Crossover—Built-in L-C dividing network. Crossover at 2,000 cycles.

This superb new coaxial loudspeaker provides in one assembly a host of exclusive features which provide wide range with very low distortion. Among them are: Direct radiating cone-type tweeter for low distortion. Velour suspension for high compliance. Elliptical tweeter for wide coverage. High flux density gaps for maximum damping.

The 15" chassis is a rugged aluminum casting of great strength finished in attractive black wrinkle. The special curvilinear cone with its annular corrugations and soft velour suspension, together with 2-inch diameter, ⅝-inch long voice coil, provides for optimum reproduction of the complex wave shapes encountered in voice and music, up to the highest levels. Aluminum voice coil forms are used on both high and low frequency speakers for structural rigidity and power handling ability. The use of a special cone speaker for the tweeter results in an unusually smooth, clean response, free from metallic, tinny highs, while the unique elliptical shape gives very broad spatial coverage at the high frequencies without the displeasing effects found with dispersers, etc.

The W-15 15" Low Frequency Driver

The same unit used in the CA-15 above, available as a linear standard woofer for separate two, three or four-way systems.

Frequency Range—20 to 7,000 cycles.
Power Input—25 watts continuous.
Resonant Frequency—30 cycles.
Impedance—15 ohms.
Voice Coil Diameter—2 inches.
Flux Density—15,000 gauss.
Total Flux—228,000 lines.
Magnet—5 lb. Alnico V.
Suspension—Cloth (Velour).
Overall diameter (including mounting lugs) —16 inches.
Overall diameter (excluding mounting lugs) —15 inches.
Weight—20 lbs.

The T-64 Elliptical Cone Tweeter

The tweeter unit used in the CA-15, available as a linear standard tweeter for single or multiple use in separate two, three or four-way systems.

Frequency Range—
unbaffled—2,000 to 17,000 cycles.
baffled—800 to 17,000 cycles.
Power Input—10 watts above 2,000 cycles.
Flux Density—12,000 gauss.
Impedance—15 ohms at 10KC.
Voice Coil Diameter—¾ inch.
Voice Coil Wire—Aluminum.
Size—6 inches x 4 inches.
Weight—1 lb. 5 oz.

HIGH FIDELITY MANUFACTURERS INC.

Electronic Applications Division

SONOTONE®

CORPORATION – ELMSFORD, N. Y.

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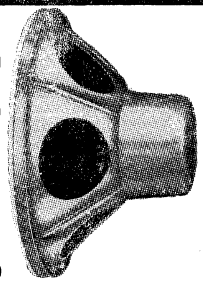
KINGDOM LORENZ High Fidelity SPEAKERS, TWEETERS And COMPONENTS

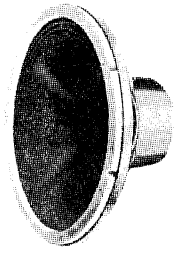
LORENZ LP 312
12" WIDE-RANGE LOUDSPEAKER



A quality, dual-purpose speaker. Can be used as wide-range reproducer or woofer unit in expanding system. FEATURES: EXTRA heavy magnet, long magnetic path, small air gap, long voice coil, non-resonant frame, perfect gap alignment and multi-parameter, tropicalized cone. ADVANTAGES: low distortion, improved internal resonance damping and transient response. SPECIFICATIONS: Impedance-16 ohms at 800 cps; Response-below 20 to above 14,000 cps; Output-25 w average, 35 w peak; Magnet-61.5 ozs; Voice Coil Diam.-1½"; Baffle Opening-10⅝"; Depth-6¾'; Frame-heavy duty cast aluminum girder construction.

net 39.50

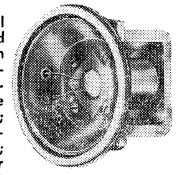
LORENZ LP 208 8" WIDE-RANGE LOUDSPEAKER



Versatile, 3-purpose reproducer. Designed as wide-range speaker alone or in groups, as high or low end of 2-way system, or as mid-range unit in 3-way system. FEATURES: extra heavy Alni magnet, perfect gap alignment, tropicalized cone, oversized voice coil, small air gap, non-resonant frame: ADVANTAGES: greater output, wider frequency range, minimum distortion and constant sound output pattern. SPECIFICATIONS: Impedance-8 ohms at 800 cps; Response-35 to 14,000 cps; Output-15 w average, 21 w peak; Magnet-28.5 ozs; Voice coil Diam.-1"; Overall Diam.-8½"; Baffle Opening-7¼"; Depth-4"; Frame-heavy duty cast aluminum girder construction.

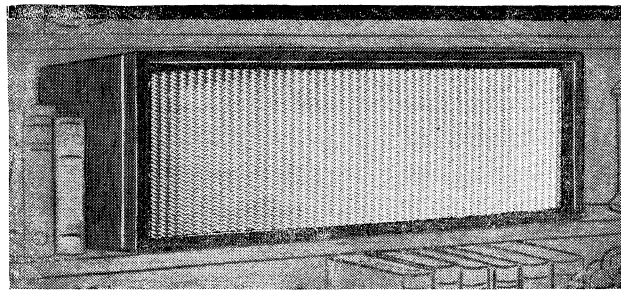
net 19.95

LORENZ LP 65 HORN-TYPE TWEETER



Fits any enclosure or speaker without the usual interaction. FEATURES & ADVANTAGES: solid back permits wide application; round cone design assures even sound dispersion; soft plastic construction prevents metallic overtones. SPECIFICATIONS: Impedance-5.5 ohms at 800 cps; Response (with High Pass Filter HP-1)-2,000 to 17,000 cps; Sound Dispersion-120° (in all directions); Output-2 w; Outside Diam.-2½"; Cone Diam.-2¼"; Baffle Mounting Hole-2⅛" flared to 2½" or more.

net 8.50



KAL AUDETTE SHELF-SIZE 2-WAY SPEAKER SYSTEM

Designed for remarkable sound balance in limited-space installations of average home. Employs the principles of Helmholz resonator and phase inversion techniques for exceptionally clear bass. Unusually wide frequency range. Handsome finish. Use in pairs for excellent binaural reproduction. SPECIFICATIONS: LP 215 Woofer, LP-65 Tweeter, HP-1 High Pass Filter; Output-14 w maximum; Dimension-11" H, 23¾" W, 10" D; Finish-grained maroon leatherette covered case with contrasting buff and gold beading trim.

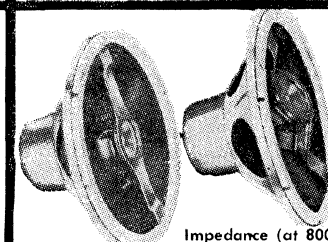
net 49.50

LORENZ TB-1 and TB-2 TWEETER COMBINATIONS

For all 12" speakers. Completely assembled and ready for installation. Fits across 12" speakers without projecting beyond front of speaker mounting baffle. Specially designed steel bracket supports tweeter(s) coaxially. Rigid metal construction discourages resonance in speaker or tweeter.

TB-1 (bracket with single tweeter) ..... **net 11.85**

TB-2 (bracket and two tweeters ..... **net 21.69**



LORENZ LP 312-1 and LP 312-2 12" COAXIAL AND DIAXIAL SPEAKERS

Extended response coaxial or diaxial speakers are obtained by adding Lorenz TB-1 or TB-2 Tweeters to Lorenz 12" wide-range reproducers.

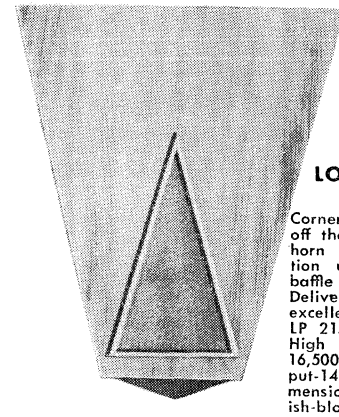
SPECIFICATIONS

	LP 312-1	LP 312-2
Impedance (at 800 cps);	16 ohms	16 ohms
Response:	20-17,000	20-17,000
Output:	27 w	29 w
Overall Diam:	12¼"	12¼"
Baffle Opening:	10⅝"	10⅝"
Depth:	6¾"	7⅛"
Price: (includes HP-1 Hi Pass Filter)	**net $49.50**	**net 59.50**

LORENZ HP-1 HIGH PASS FILTER

For use with any tweeter. Introduces highs at rate of 3 db per octave starting at 2,000 cps, with nominal crossover at 5,000 cps. Effect increases smoothly to limit of audibility. Installed within speaker enclosure. DIMENSIONS: Overall height — 2¾"; Mounting (square base) — 1½" between hole centers.

net $4.95



LORENZ SOUND CORNER

Corner wall 2-way speaker system for off the floor installations. Modernistic horn design of triangular cross section uses corner wall and speaker baffle as boundaries. Easy to install. Delivers extended reproduction with excellent presence. SPECIFICATIONS: LP 215 Woofer, LP-65 Tweeter, HP-1 High Pass Filter; Response-31 to 16,500 cps; Impedance-8 ohms; Output-14 w; Mounting- 2 eyelets; Dimensions-31" 27½" W, 11⅜" D; Finish-blonde.

net $59.50

WORLD FAMOUS EMITRON ELECTRONIC TUBES

Z 729
HIGH GAIN AUDIO INPUT TUBE

Dependable high-gain preamplifiers and equalizer. Full shielding assures low noise and hum pickup. Special miniature pentode achieves first stages of high gain amplifiers.

net $2.99

KT 66
AUDIO OUTPUT TUBE

Long-life power amplifier for single or push-pull connections. Use as triode- or tetrode-connected output tube. Ideal for Williamson circuit. Also practical as an oscillator or r.f. amplifier in transmitter circuits up to 30 mcs. Interchangeable with 6L6.

net $3.50

KT 66 "Matched Pair" per pair **$7.95**

1CPI
FLAT FACE 1" SELF-FOCUSING CATHODE RAY TUBE

Ideal for monitoring simple miniature oscillographs. Because of automatic focusing, only one anode potential is required. Heater-cathode insulation provides up to 250 v. With minor circuit changes it is interchangeable with Type 913.

net $17.25

Exclusive U. S. Distributors:

KINGDOM PRODUCTS, Ltd. • New York 12, N. Y.

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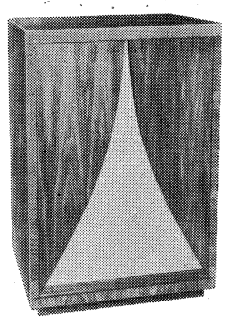
Net

New '57 Series

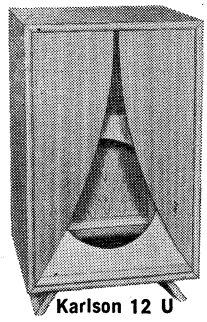
ULTRA-FIDELITY
ENCLOSURES
FOR ALL 8, 12, 15" SPEAKERS

ENGINEERED FOR PERFECTION

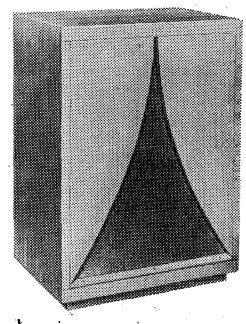
BY *Karlson*



Karlson 15 SW



Karlson 12 U (15 U furnished with permanent base)



Karlson 15 B

ONLY KARLSON SPEAKER ENCLOSURES PROVIDE THESE FEATURES FOR YOUR HI-FI

1. Only one radiation aperture.
2. Front and back speaker loading.
3. Flat coupling over entire audio spectrum.
4. Unexcelled, clean, flat, extended bass response.
5. Extremely low distortion, even at highest sound levels.
6. Wide angle dispersion—all frequencies—all speakers.
7. Stereophonic projection.
8. High efficiency.
9. Full tonal definition and dynamic response.
10. Highest performance relative to size and cost.

KARLSON 15
KARLSON LUXURWOODS

Size:- 34½x22½x18"

The most beautiful and luxurious wood finishes available. Carefully selected natural wood veneers specially processed to produce a deeply transparent lifetime finish — virtually impervious to abuse.

Available in
- 15 SW Sable Walnut $174.00
- 15 PV Prima Vera $174.00

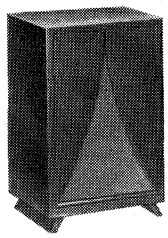
CLASSIC KARLSONITE MODELS

Karlson Front		Full Grille Front	
15 M Mahogany	$129.00	15 MG Mahogany	$129.00
15 F Fruitwood	$129.00	15 FG Fruitwood	$129.00
15 B Blonde	$129.00	15 BG Blonde	$129.00

In Karlson Laminates — beautiful as well as practical surfacing materials with photographically reproduced wood grains, keep your enclosures new-looking and attractive for many years.

15U Unfinished assembled, hardwood exterior, sanded smooth, ready for furniture finish. Complete with instructions. $87.00

15K Self assembling kit, hardwood exterior, suitable for fine furniture finishes. Complete with instructions. $57.00



KARLSON 12
Classic Karlsonite Design Only

- 12 M Mahogany $99.60
- 12 F Fruitwood $99.60
- 12 B Blonde $99.60

12U Unfinished assembled, hardwood exterior, sanded smooth, ready for furniture finish, complete with instructions. $66.00

12K Self assembling kit, hardwood exterior, suitable for fine furniture finish, complete with instructions. $42.00

Karlson 12 M

Size: 24¾x16¾x13¾"

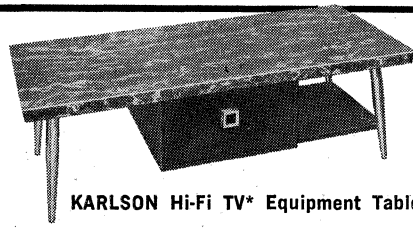
"Karlson offers the utmost in versatility, outstanding bass response and unusual styling. Will improve the performance of even the least expensive of hi-fi speakers to a remarkable degree." Popular Mechanics, May 1956.

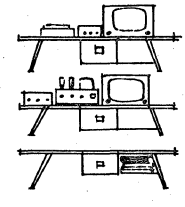
To gauge the effect of a Karlson installation with your speaker, cover your ears with your hands during a symphony. What you hear when you uncover them will give you an idea of the difference a Karlson makes.

* The Karlson is a basic invention in the field of acoustic transducers and is entirely different from the other basic forms, e.g. Horn. Helmholtz resonator, drum (infinite baffle.)

This invention overcomes the fundamental limitations of these other approaches, to provide a new and higher standard of sound reproduction.

Described in:
Audio Engineering — Sept. 1952
Radio TV News — Jan. 1954
Hi-Fi Manual — Fawcett Pub.
Popular Electronics — May 1955
Popular Mechanics — May 1955



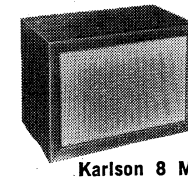


KARLSON Hi-Fi TV* Equipment Table-T 1

The newest, smartest way to make Hi-Fi look as beautiful as it sounds. . . . The Karlson table is beautifully finished in black marbelized Karlsonite, satin brass legs and accessories. No cut-outs or alterations of any kind are ordinarily needed, just place your equipment — any combination of Hi-Fi components and/or TV as per the suggested sketches. A "conversation" piece in the smartest home.

SIZE: 20" x 48" x 18" high Weight: 49 lbs. PRICE: $94.50 net

Also available in Blonde and Mahogany $10.00 extra



Karlson 8 M

Size: 17¼x11¾x9¾"

KARLSON 8

- 8M Mahogany, hand rubbed wood grain finish $42.60
- 8W Walnut, hand rubbed wood grain finish $42.60
- 8B Blonde, hand rubbed wood grain finish $42.60
- 8U Unfinished assembled (see 12 & 15U) $26.70
- 8K Self Assembling kit (see 12 & 15 K) $18.60

All prices net, subject to change without notice

*Patent Pending

MEMBER INSTITUTE OF HIGH FIDELITY MANUFACTURERS, INC.

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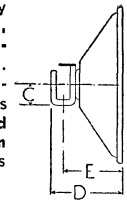
QUAM *Adjust-a-Cone*® SPEAKERS

These speakers are engineered and manufactured solely for the replacement field for use in home receivers, auto sets, television sets and intercommunication systems. RETMA standard dimensions. Fully dust-proofed. Baked aluminum enamel finish. RETMA service guarantee. QUAM UNIVERSAL MOUNTING BRACKET comes with all 3½" to 6½" speakers and may be attached to any two of the FOUR threaded mounting holes in the U shaped pot. Voice coil impedance of speakers listed below is 3.2 ohms ±10%.



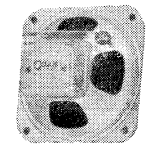


Fig. A

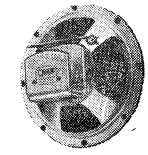


Fig. B

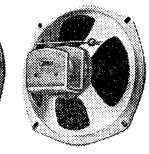


Fig. C

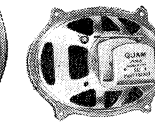


Fig. D

QUAM ADJUST-A-CONE® SUSPENSION

This patented QUAM feature is your added assurance of trouble-free operation. In other speakers the spider is cemented in place with no means of accurate adjustment. The Adjust-a-Cone suspension permits precision centering of the voice coil as a final production operation.

QUAM U-SHAPED COIL POT

Another QUAM exclusive, this patented U-shaped coil pot construction, used throughout the QUAM replacement line, provides an unbroken flux path of sufficient cross-section to carry the full energy of the magnetic field.

ED — *Electro Dynamic Speakers*

REPLACEMENT SPEAKERS

Voice coil impedance 3.2 ohms ± 10%

PM — *Permanent Magnet Speakers*

TYPE	CAT. No.	SIZE	FIGURE	FIELD	POWER HANDLING WATTS	DIMENSIONS IN INCHES C	D	E	SHIP. WT., LBS.	LIST PRICE
PM	25A07•	2½"	A	.65 oz. Alnico V	2	11/16	1-1/4	7/8	1/2	$ 4.00
ED	3E45‡•	3½"	A	450 Ohms	2.5	1-1/4	1-51/64	1-1/4	3/4	4.40
PM	3A07*•	3½"	A	.68 oz. Alnico V	2.5	3/4	1-33/64	1-7/64	1/2	4.00
ED	4E45‡	4"	A	450 Ohms	3	1-1/4	2	1-7/16	1	4.40
	4E10	4"	A	1000 Ohms	3	1-1/4	2	1-7/16	1	4.40
	4E62‡‡	4"	A	55-65 Ohms	3	1-1/4	2-5/16	1-5/8	1	4.40
PM	4A06*§	4"	A	.58 oz. Alnico V	2.5	11/16	1-23/32	——	1/2	2.95
	4A07*	4"	A	.68 oz. Alnico V	3	3/4	1-23/32	1-5/16	1/2	4.00
	4A07R*★	4"	B	.68 oz. Alnico V	3	3/4	1-23/32	1-5/16	1/2	4.00
	4A1	4"	A	1.0 oz. Alnico V	3	1	2-3/16	1-9/16	3/4	4.25
	4A1R★	4"	B	1.0 oz. Alnico V	3	1	2-3/16	1-9/16	3/4	4.25
	4A15	4"	A	1.47 oz. Alnico V	3	1	2-3/16	1-9/16	3/4	4.70
ED	46E45‡	4"x6"	E	450 Ohms	3.5	1-5/64	2-15/64	1-5/8	1-1/4	5.30
	46E62‡‡	4"x6"	E	55-65 Ohms	3.5	1-5/64	2-15/64	1-5/8	1-1/4	5.30
	46E90‡‡	4"x6"	E	85-95 Ohms	3.5	1-5/64	2-15/64	1-5/8	1-1/4	5.30
PM	46A07*	4"x6"	E	.68 oz. Alnico V	3.5	3/4	1-15/16	1-27/64	3/4	4.45
	46A1	4"x6"	E	1.0 oz. Alnico V	3.5	1	2-1/4	1-9/16	1	4.75
	46A15	4"x6"	E	1.47 oz. Alnico V	3.5	1	2-1/4	1-9/16	1	5.15
ED	5EV6	5"	C	6 Volt	3.5	1-1/4	2-1/8	1-19/32	1-1/4	4.60
	5E45‡	5"	C	450 Ohms	3.5	1-1/4	2-1/8	1-19/32	1	4.60
	5E10	5"	C	1000 Ohms	3.5	1-1/4	2-1/8	1-19/32	1	4.60
	5E62‡‡	5"	C	55-65 Ohms	3.5	1-1/4	2-7/16	1-19/32	1-1/4	4.60
	5E90‡‡	5"	C	85-95 Ohms	3.5	1-1/4	2-7/16	1-19/32	1-1/4	4.60
PM	5A07*	5"	C	.68 oz. Alnico V	3.5	3/4	1-7/8	1-7/16	3/4	4.20
	5A07R*★	5"	B	.68 oz. Alnico V	3.5	3/4	1-7/8	1-7/16	3/4	4.20
	5A1	5"	C	1.0 oz. Alnico V	3.5	1	2-5/16	1-11/16	1	4.45
	5A1R★	5"	B	1.0 oz. Alnico V	3.5	1	2-5/16	1-11/16	1	4.45
	5A15	5"	C	1.47 oz. Alnico V	3.5	1	2-5/16	1-11/16	1	4.85
	5A15R★	5"	B	1.47 oz. Alnico V	3.5	1	2-5/16	1-11/16	1	4.85
ED	52E50‡‡	5¼"	C	45-55 Ohms	4	1-1/4	2-17/32	1-27/32	1	5.00
	52E90‡‡	5¼"	C	85-95 Ohms	4	1-1/4	2-17/32	1-27/32	1	5.00
PM	52A1	5¼"	C	1.0 oz. Alnico V	4	1	2-25/64	1-25/32	1	4.65
	52A1SQ¶	5¼"	A	1.0 oz. Alnico V	4	1	2-25/64	1-25/32	1	4.65
	52A21	5¼"	C	2.15 oz. Alnico V	4	1-1/8	2-21/32	1-25/32	1-1/4	5.70
	52A21SQ¶	5¼"	A	2.15 oz. Alnico V	4	1-1/8	2-21/32	1-25/32	1-1/4	5.70
ED	57E45‡	5"x7"	D	450 Ohms	5	1-1/4	2-13/16	2-9/64	1-1/2	6.00
	57E62‡‡	5"x7"	D	55-65 Ohms	5	1-1/4	2-13/16	2-9/64	1-1/2	6.00
PM	57A1	5"x7"	D	1.0 oz. Alnico V	5	1	2-11/16	2-5/64	1	5.40
	57A15	5"x7"	D	1.47 oz. Alnico V	5	1	2-11/16	2-5/64	1	5.80
	57A21	5"x7"	D	2.15 oz. Alnico V	5	1-1/8	2-61/64	2-13/64	1-1/4	6.45
ED	6EV6	6½"	C	6 Volt	5	1-1/4	2-23/32	2-1/32	1-1/2	5.40
	6E45‡	6½"	C	450 Ohms	5	1-1/4	2-23/32	2-1/32	1-1/2	5.40
	6E10	6½"	C	1000 Ohms	5	1-1/4	2-23/32	2-1/32	1-1/2	5.40
	6E18	6½"	C	1800 Ohms	5	1-1/4	2-23/32	2-1/32	1-1/2	5.40
	6E62‡‡	6½"	C	55-65 Ohms	5	1-1/4	2-23/32	2-1/32	1-1/2	5.40
	6E90‡‡	6½"	C	85-95 Ohms	5	1-1/4	2-23/32	2-1/32	1-1/2	5.40
PM	6A1	6½"	C	1.0 oz. Alnico V	5	1	2-5/8	2	1	4.80
	6A1R★	6½"	B	1.0 oz. Alnico V	5	1	2-5/8	2	1	4.80
	6A15	6½"	C	1.47 oz. Alnico V	5	1	2-5/8	2	1	5.20
	6A15R★	6½"	B	1.47 oz. Alnico V	5	1	2-5/8	2	1	5.20
	6A21	6½"	C	2.15 oz. Alnico V	5	1-1/8	2-7/8	2-1/8	1-1/4	5.85
	6A31	6½"	C	3.16 oz. Alnico V	6	1-3/8	3-11/64	2-9/32	2	6.75
ED	69EV6	6"x9"	D	6 Volt	8	1-31/64	3-1/2	——	2	7.50
	69E10	6"x9"	D	1000 Ohms	8	1-31/64	3-1/2	——	2	7.50
PM	69A2*	6"x9"	D	1.4 oz. Alnico V	8	7/8	2-15/16	——	1-1/2	7.50
	69A3	6"x9"	D	3.2 oz. Alnico V	10	1-1/4	3-5/16	——	2	8.95
ED	7EV6	7"	F	6 Volt	7	1-9/32	2-3/4	——	2	6.75
	7EV6A†	7"	F	6 Volt	7	1-9/32	2-3/4	——	2	6.75
PM	7A21*	7"	F	1.4 oz. Alnico V	6	7/8	2-31/32	——	1-1/4	7.25
	7A31	7"	F	3.16 oz. Alnico V	9	1-1/4	3-1/32	——	1-3/4	8.50

‡ TV speaker. ‡ Equipped with hum bucking coils. * Very shallow construction. ★ Round basket † Rotated pot.
¶ Square basket • 2½", 3½" and 4A06 without Adjust-a-Cone suspension. § No mounting bracket or threaded holes in pot.

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QUAM *Adjust-a-Cone*® SPEAKERS

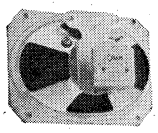
Fig. E

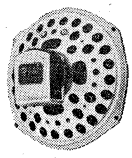
Fig. F

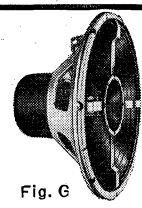
Fig. G

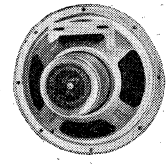
Fig. H

QUAM speakers have been produced under the same management since 1923 and are used by leading set and sound manufacturers throughout the world. Only QUAM speakers use the Adjust-a-Cone feature and the U shaped coil pot. Fully protected by patents—their use insures customer satisfaction.

Replacement Speakers *(Cont'd)*

Voice coil impedance 3.2 ohms ± 10%

TYPE	CAT. No.	SIZE	FIGURE	FIELD	POWER HANDLING WATTS	DIMENSIONS IN INCHES C	D	E	SHIP. WT., LBS.	LIST PRICE
ED	8EV6	8″	C	6 Volt	7	1-1/4	3-9/32	—	1-3/4	6.75
	8E10	8″	C	1000 Ohms	7	1-1/4	3-9/32	—	1-3/4	6.75
	8E18	8″	C	1800 Ohms	7	1-1/4	3-9/32	—	1-3/4	6.75
	8E50‡‡	8″	C	45-55 Ohms	7	1-1/4	3-9/32	—	1-3/4	6.75
	8E90‡‡	8″	C	85-95 Ohms	7	1-1/4	3-9/32	—	1-3/4	6.75
PM	8A21	8″	C	2.15 oz. Alnico V	7	1-1/8	3-13/32	—	1-1/2	7.20
	8A31	8″	C	3.16 oz. Alnico V	9	1-3/8	3-21/32	—	2-1/4	8.50
ED	10E60‡	10″	B	600 Ohms	10	1-3/4	5-1/16	—	4	10.50
	10E10‡	10″	B	1000 Ohms	10	1-3/4	5-1/16	—	4	10.50
	10E65‡‡	10″	B	60-70 Ohms	10	1-3/4	5-1/16	—	4	10.50
	10E90‡‡	10″	B	85-95 Ohms	10	1-3/4	5-1/16	—	4	10.50
PM	10A31	10″	B	3.16 oz. Alnico V	9	1-3/8	4-1/2	—	2-3/4	10.50
	10A4A	10″	B	4.64 oz. Alnico V	10	1-3/8	4-1/2	—	3-1/4	11.70
	10A6A	10″	B	6.8 oz. Alnico V	12	1-7/16	4-5/8	—	3-1/2	13.60
ED	12E60‡	12″	B	600 Ohms	12	1-3/4	5-5/8	—	5	12.65
	12E10‡	12″	B	1000 Ohms	12	1-3/4	5-5/8	—	5	12.65
	12E15‡	12″	B	1500 Ohms	12	1-3/4	5-5/8	—	5	12.65
	12E90‡‡	12″	B	85-95 Ohms	12	1-3/4	5-5/8	—	5	12.65
PM	12A31	12″	B	3.16 oz. Alnico V	10	1-1/4	4-19/32	—	3-3/4	11.35
	12A4A	12″	B	4.64 oz. Alnico V	12	1-3/8	5-1/8	—	4	12.65
	12A6A	12″	B	6.8 oz. Alnico V	14	1-7/16	5-1/4	—	4-1/2	14.50

OUTDOOR SPEAKERS

Voice coil impedance 3.2 ohms ± 10%

Outdoor speakers are weatherproofed for outdoor use. Air gap surfaces are cadmium plated before enameling-cones have moisture-resistant and fungicidal treatment. When ordering other weather-proofed speakers use prices appearing in this catalog and add suffix "OT" to part number. No transformer mounting bracket or threaded holes on pot. Quantity quotations on request.

PM	3A07 OT*	3½″	A	.68 oz. Alnico V	2.5	3/4	1-19/32	1-3/16	1/2	$ 4.00
	4A1 OT	4″	A	1.0 oz. Alnico V	3	1	2-3/16	1-9/16	3/4	4.25
	5A15 OT	5″	C	1.47 oz. Alnico V	3.5	1	2-5/16	1-11/16	1	4.85
	6A15 OT	6″	C	1.47 oz. Alnico V	5	1	2-5/8	2	1	5.20

PUBLIC ADDRESS SPEAKERS

Voice coil impedance 6-8 ohms

PM	8A21PA	8″	C	2.15 oz. Alnico V	8	1-3/8	3-9/16	—	1-1/2	$ 8.20
	8A31PA	8″	C	3.16 oz. Alnico V	10	1-3/8	3-9/16	—	2-1/4	9.20
	8A4PA	8″	B	4.64 oz. Alnico V	12	1-3/8	3-3/4	—	2-3/4	10.20
	8A6PA	8″	B	6.8 oz. Alnico V	12	1-7/16	3-7/8	—	3-1/4	12.10
PM	10A31PA	10″	B	3.16 oz. Alnico V	12	1-3/8	4-13/32	—	2-3/4	10.75
	10A4PA	10″	B	4.64 oz. Alnico V	14	1-3/8	4-1/2	—	3-1/4	11.70
	10A6PA	10″	B	6.8 oz. Alnico V	14	1-7/16	4-5/8	—	3-1/2	13.60
	10A10PA	10″	B	10 oz. Alnico V	20	1-3/8	4-21/64	—	3-1/2	18.00
PM	12A31PA	12″	B	3.16 oz. Alnico V	12	1-3/8	5	—	3-3/4	11.60
	12A4PA	12″	B	4.64 oz. Alnico V	15	1-3/8	5-1/8	—	4	12.65
	12A6PA	12″	B	6.8 oz. Alnico V	15	1-7/16	5-1/4	—	4-1/2	14.50
	12A10PA	12″	B	10 oz. Alnico V	25	1-3/8	4-15/16	—	4-3/4	19.00

INTERCOM SPEAKERS

Voice coil impedance 45 ohms ± 10%

Speakers with voice coil impedances other than those listed are supplied at an increase of 25c list. Those cataloged are most frequently used but any other model can be supplied with special voice coil impedance.

PM	3A07Z45*	3½″	A	.68 oz. Alnico V	2.5	3/4	1-19/32	1-3/16	1/2	$ 4.25
	4A07Z45*	4″	A	.68 oz. Alnico V	3.0	3/4	1-23/32	1-5/16	1/2	4.25
	4A1Z45	4″	A	1.0 oz. Alnico V	3.0	1	2-3/16	1-9/16	3/4	4.50
	5A07Z45*	5″	C	.68 oz. Alnico V	3.5	3/4	1-7/8	1-7/16	3/4	4.45
	5A1Z45	5″	C	1.0 oz. Alnico V	3.5	1	2-5/16	1-11/16	1	4.70

HIGH FIDELITY SPEAKERS

TYPE	CAT. No.	SIZE	FIGURE	SPEAKER TYPE & SIZE	FREQUENCY RESPONSE-CPS	Power Handlg. Watts	V.C. Impedance	SHIPPING WEIGHT LBS.	LIST PRICE
PM	15A10CO	15″	G	Coaxial, 2000cps. Xover	25-15,000	20	6-8	8-1/2	$47.50
	12A6CO	12″	G	Coaxial, 2000cps. Xover	50-15,000	14	6-8	6-1/2	30.00
	12A10X	12″	H	Extended range	50-12,000	15	6-8	4-3/4	26.00
	10A10X	10″	H	Extended range	50-12,000	12	6-8	3-3/4	24.00
	8A10X	8″	H	Extended range	60-12,000	10	6-8	3-1/4	18.60
	15A10L	15″	H	Low frequency woofer	25-5,000	10	6-8	7	35.00
	12A10L	12″	H	Low frequency woofer	50-5,000	10	6-8	4-3/4	26.00
	5A15T	3″	B	High frequency tweeter	2,000-15,000	10	14	1	6.50
	3A15T	3″	A	High frequency tweeter	2,000-15,000	10	14	3/4	5.75

‡‡ TV speaker. ‡ Equipped with hum bucking coils. * Very shallow construction. ★ Round basket † Rotated pot.
¶ Square basket • 2½″, 3½″ and 4A06 without Adjust-a-Cone suspension. § No mounting bracket or threaded holes in pot.

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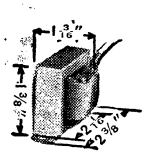
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

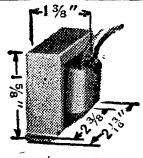
QUAM TRU-MATCH OUTPUT TRANSFORMERS

Designed by speaker engineers to give a true impeaance match for a wide range undistorted sound. Specifications of each unit include a full stack of best electrical steel, the maximum amount of copper, highest quality insulation and adhesives. Underwriters approved lead wire and complete vacuum impregnation. Individually packed in attractive boxes using the widely known QUAM descriptive part numbering system.



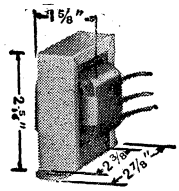
1/2"x1/2"

Catalog Number	Primary Impedance (Ohms)	Secondary Load (Ohms)	Core Size (Inches)	Power Rating (Watts)	Primary M.A. (Max.)	Shipping Weight (Oz.)	List Price
TA20	2000	3.2	1/2 x 1/2	5	60	6	$1.50
TA50	5000	3.2	1/2 x 1/2	5	40	6	1.75
TA75	7500	3.2	1/2 x 1/2	5	35	6	1.75
TA100	10000	3.2	1/2 x 1/2	5	30	6	1.75
TA100T	10000 CT[1]	3.2	1/2 x 1/2	5	30	6	2.00
TA160	16000	3.2	1/2 x 1/2	5	10	6	1.75
TA250	25000	3.2	1/2 x 1/2	5	10	6	1.75
TAL	LINE[2]	3.2	1/2 x 1/2	5	—	6	2.50



5/8"x5/8"

Catalog Number	Primary Impedance (Ohms)	Secondary Load (Ohms)	Core Size (Inches)	Power Rating (Watts)	Primary M.A. (Max.)	Shipping Weight (Oz.)	List Price
TC20	2000	3.2	5/8 x 5/8	8	60	10	$2.25
TC50	5000	3.2	5/8 x 5/8	8	50	10	2.25
TC70	7000	3.2	5/8 x 5/8	8	40	10	2.25
TC85	8500	3.2	5/8 x 5/8	8	40	10	2.25
TC100T	10000 CT[1]	3.2	5/8 x 5/8	8	40	10	2.50
TC140T	14000 CT[1]	3.2	5/8 x 5/8	8	40	10	2.50
TC160	16000	3.2	5/8 x 5/8	8	15	10	2.25
TC250	25000	3.2	5/8 x 5/8	8	40	10	2.25
TCL	LINE[2]	6-8	5/8 x 5/8	8	—	10	3.00
TCU	UNIV[3]	3.2	5/8 x 5/8	8	50	10	3.50



3/4"x3/4"

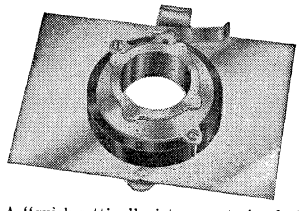
Catalog Number	Primary Impedance (Ohms)	Secondary Load (Ohms)	Core Size (Inches)	Power Rating (Watts)	Primary M.A. (Max.)	Shipping Weight (Oz.)	List Price
TD25	2500	3.2	3/4 x 3/4	12	70	17	$3.00
TD50T	5000 CT[1]	3.2	3/4 x 3/4	18	150	17	3.25
TD70	7000	3.2	3/4 x 3/4	12	50	17	3.00
TD100T	10000 CT[1]	3.2	3/4 x 3/4	12	50	17	3.25
TD140T	14000 CT[1]	3.2	3/4 x 3/4	12	50	17	3.25
TDL	LINE[2]	6-8	3/4 x 3/4	15	—	17	3.75
TDU	UNIV[3]	3.2	3/4 x 3/4	12	50	17	4.00

1. TA100T, TC100T, TC140T, TD50T. TD100T and TD140T have center tapped primaries for push-pull output use. Plate to plate impedance is given.

2. TAL, TCL & TDL are for speaker to line use and have primary taps at 500, 1000, 1500 & 2000 ohms.

3. TCU & TDU are universal type output transformers and provide matching impedances of 2500, 4000, 7500, 10000 & 16000 ohms, also 7500 ohm CT, 10000 ohm CT & 16000 ohm CT.

UNIVERSAL FOCALIZER UNIT QF-4



fits all picture tubes regardless of size or anode voltage

Now all you need is one focalizer unit to cover all of the sets in use today.

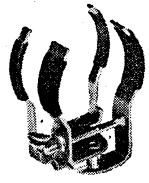
Designed with new ceramic magnets and extended focusing range, the QF-4 provides maximum resolution and minimum spot size.

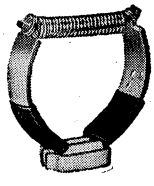
A "quick-setting" picture centering lock and a blank aluminum mounting bracket permit rapid adjustment and simple installation.

Dimensions: diameter, 3 1/16"; depth, at minimum flux, 1 1/16", at maximum flux, 1 3/4". Bracket measures 3 1/4" x 5 1/2". Shipping weight 1 pound.

QF-4 .....LIST PRICE $4.25

QUAM ION TRAPS





Quam ion traps can be used on any picture tube where a trap was used as original equipment. IT1 and IT2 Traps are equipped with wing nut and binding screw. IT3 and IT4 are spring type. Individually packed with instruction sheet.

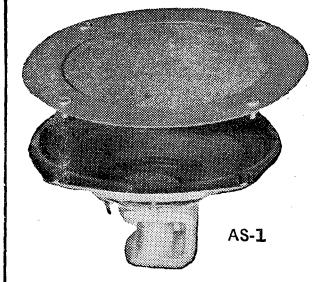
IT1—Double field for tubes up to 10" in diameter. Field strength of 38 Gauss. Generally used with straight gun tubes. Weight 2 oz. .....List Price $1.50

IT2—Double field for tubes from 10" in diameter up. Field strength of 46 Gauss. Generally used with straight gun tubes. Wt. 2 oz. ....List Price $1.50

IT3—Single field for tubes requiring field strength of 35 to 45 gauss. Generally used with tubes having a bent gun. Weight 1½ oz. .....List Price $1.00

IT4—Single field for tubes requiring field strength of 45 to 55 gauss. Generally used with tubes having a bent gun. Weight 1½ oz. .....List Price $1.00

QUAM REAR SEAT AUTO SPEAKERS


AS-1

Catalogue #AS-1 6½" PM

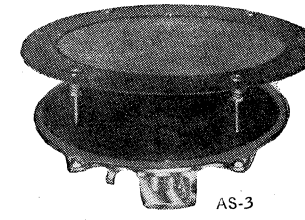
Kit includes Quam 6½" PM Adjust-A-Cone speaker with capacity to handle full output of any single-ended auto set; 1.47 oz. Alnico V Magnet; ¾" voice coil; rugged fader control for dash mounting, ample cable for any installation, flocked grill screen, baffleplate, all necessary hardware, and installation instructions. Shipping weight 2 lbs.

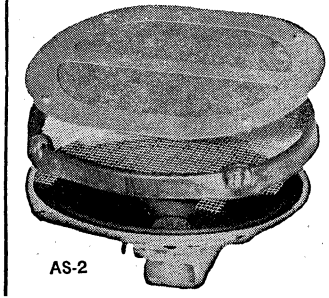
List Price $9.95

Catalogue #AS-3 5"x7" PM

Kit includes 5" x 7" PM Adjust-A-Cone speaker with capacity to handle full output of any single-ended auto set; 1.47 oz. Alnico V Magnet; ¾" voice coil; rugged fader control for dash mounting, sufficient cable for any installation, flocked grill screen, baffle plate, all necessary hardware and installation instructions. Shipping weight 2¼ lbs.

List Price $11.95


AS-3


AS-2

Catalogue #AS-2 6"x9" PM

Deluxe model: Kit includes Quam heavy duty 6" x 9" PM Adjust-A-Cone speaker with ample capacity to handle full output of the most powerful auto set; 2.15 oz. Alnico V Magnet; rugged fader control for dash mounting, sufficient cable for any installation, flocked grill screen, baffle plate, sponge rubber gasket for easy and trouble-free installation, all necessary hardware, and installation instructions. Shipping weight 3½ lbs.

List Price $13.95

Chrome plated grille for AS-2
List Price $2.15

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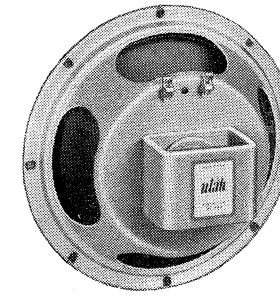
FAMOUS LINE OF HIGH FIDELITY REPRODUCERS AND AUTOMOTIVE REAR DECK SOUND SYSTEMS

utah RADIO PRODUCTS CO., INC.

HUNTINGTON, INDIANA

UTAH FABULOUS "G" SERIES EXTENDED RANGE & CO-AXIAL MODELS

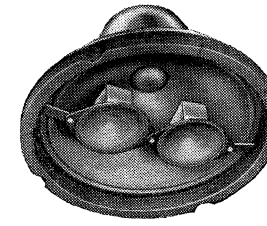
Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
8″	G8J	8	1	8-12	6.80	2 ¼	$13.80
8″	GM8J	8	1	8-12	6.80	2 ¼	13.80
12″	G12J	8	1	10-12	6.80	3 ¾	17.30
12″	G12P	8	1 ½	25-30	21.50	7 ¾	39.50
15″	G15P	8	1 ½	25-30	21.50	8 ¾	42.65
12″	G12J3	8	1	10-12	6.80	5 ¾	39.75
12″	G12P5	8	1 ½	25-30	21.50	9	58.50
15″	G15P5	8	1 ½	25-30	21.50	12 ¾	65.00
5″	GT5F	8	¾	25-30	3.16	1 ¼	8.75



G8J

UTAH HIGH FIDELITY REPRODUCERS

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
12″	HFD12M	16	1 ¼	20	14.70	8	$ 97.50
12″	HFC12J	12-16	1	10	6.80	5 ¾	65.00
12″	HFC12P	12-16	1 ½	25	21.50	9	97.50
15″	HFC15P	12-16	1 ½	25	21.50	12 ¾	120.00
3 ½″	HFT35C	12-16	9/16	10	1.47	1 ¼	12.50
5″	HFT5F	12-16	¾	25	3.16	1 ¾	19.50
8″	HFE8J	12-16	1	10	6.80	3 ¼	30.00
12″	HFM12M	12-16	1 ¼	20	14.70	6	58.00
12″	HFW12P	12-16	1 ½	25	21.50	7 ¾	87.50
15″	HFW15R	12-16	2	35	31.60	13 ¼	102.00

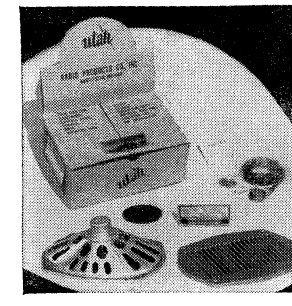


HFD12M

AUTOMOTIVE REAR DECK SOUND SYSTEMS "RF" SERIES

Group Size	Model Number	Speaker Model	Rear Mounting Ring Finish	List Price
5 x 7″	RF57BC	C57BZ	Chrome	$11.50
5 x 7″	RF57EC	C57EZ	Chrome	12.50
6 x 9″	RF69BC	C69BZ	Chrome	12.50
6 x 9″	RF69EC	C69EZ	Chrome	13.50
5 x 7″	RF57BG	C57BZ	Hammered Gray	11.50
5 x 7″	RF57EG	C57EZ	Hammered Gray	12.50
6 x 9″	RF69BG	C69BZ	Hammered Gray	12.50
6 x 9″	RF69EG	C69EZ	Hammered Gray	13.50
5 x 7″	RF57BB	C57BZ	Beige	11.50
5 x 7″	RF57EB	C57EZ	Beige	12.50
6 x 9″	RF69BB	C69BZ	Beige	12.50
6 x 9″	RF69EB	C69EZ	Beige	13.50

Included in the above systems—Utah's exclusive edge operated, "Fader" control panel which gives a flexibility of selection from full volume front and off rear—to full volume rear and off front—with infinite other combinations, Utah Automotive speaker, grille, hardware, wire and instruction sheet.

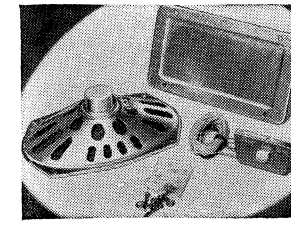


RF69C

UTONE "DUO" REAR DECK KITS Featuring exclusive "UNI-GRILLE" MOUNTING

Group Size	Speaker Kit Model Number	"UNI-GRILLE" COLORS	List Price
5 x 7″	R57Z	AVAILABLE IN	$7.40
5 x 7″	R57A		7.55
5 x 7″	R57BZ	Sand	8.20
5 x 7″	R57EZ	Gray	9.25
6 x 9″	R69A	Silver Finish	8.80
6 x 9″	R69BZ		9.25
6 x 9″	R69EZ		10.50

Included in the UTONE "DUO" kit are—three position switch, quality Utah permanent magnet speaker, hardware, wire and instruction sheet.



UTONE "DUO"

Write for complete catalog of Famous Utone Wall Baffles. Available in 6, 8, 10 and 12 inch sizes—in red or brown mahogany or futuristic blonde.

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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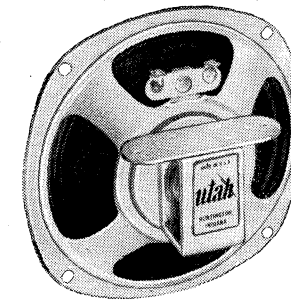
THE WIDEST LINE OF REPLACEMENT SPEAKERS AVAILABLE TO THE TRADE

utah RADIO PRODUCTS CO., INC.
HUNTINGTON, INDIANA

STANDARD PERMANENT MAGNET GROUP

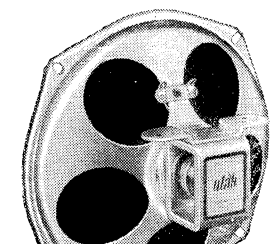
Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
3″	SP35A	3-4	9/16	2-4	.68	3/4	$ 3.65
3″	SP35B	3-4	9/16	2-4	1.00	3/4	3.80
3″	SP35C	3-4	9/16	2-4	1.47	3/4	4.50
4″	SP4A	3-4	9/16	2-4	.68	3/4	3.95
4″	SP4B	3-4	9/16	2-4	1.00	3/4	4.35
4″	SP4C	3-4	9/16	2-4	1.47	1	4.60
5″	SP5A	3-4	9/16	2-4	.68	3/4	4.10
5″	SP5B	3-4	9/16	2-4	1.00	3/4	4.45
5″	SP5C	3-4	9/16	2-4	1.47	1	4.90
6″	SP6A	3-4	9/16	2-4	.68	1	4.75
6″	SP6B	3-4	9/16	2-4	1.00	1 1/2	4.90
6″	SP6C	3-4	9/16	2-4	1.47	1 1/2	5.30
6″	SP6D	3-4	3/4	4-9	1.47	1 1/2	5.40
6″	SP6E	3-4	3/4	4-9	2.15	1 1/2	5.60
6″	SP6F	3-4	3/4	4-9	3.16	1 1/2	6.35
8″	SP8D	3-4	3/4	4-9	1.47	1 3/4	6.95
8″	SP8E	3-4	3/4	4-9	2.15	1 3/4	7.25
8″	SP8F	3-4	3/4	4-9	3.16	1 3/4	8.55
8″	SP8G	3-4	1	6-12	3.16	2 1/2	8.50
8″	SP8H	3-4	1	6-12	4.64	2 1/2	9.25
8″	SP8J	3-4	1	6-12	6.80	3	9.55
10″	SP10D	3-4	3/4	4-9	1.47	3	8.75
10″	SP10E	3-4	3/4	4-9	2.15	3	9.85
10″	SP10F	3-4	3/4	4-9	3.16	3	10.35
10″	SP10G	3-4	1	6-12	3.16	4	10.50
10″	SP10H	3-4	1	6-12	4.64	4	11.60
10″	SP10J	3-4	1	6-12	6.80	4 1/4	13.35
12″	SP12D	3-4	3/4	4-9	1.47	4	10.00
12″	SP12E	3-4	3/4	4-9	2.15	4	10.50
12″	SP12F	3-4	3/4	4-9	3.16	4	10.95
12″	SP12G	3-4	1	6-12	3.16	4 3/4	11.25
12″	SP12H	3-4	1	6-12	4.64	4 3/4	13.50
12″	SP12J	3-4	1	6-12	6.80	4 3/4	14.55



SP5A

STANDARD ELECTRO DYNAMIC GROUP

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
4″	SE445	3-4	9/16	2-4	450 ohms	1	$4.35
5″	SE545	3-4	9/16	2-4	450 ohms	1 1/4	4.50



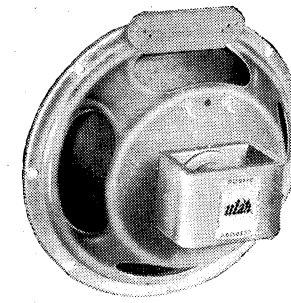
SP8D

PUBLIC ADDRESS SPEAKER GROUP

Deluxe Series

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
6″	PA6F	8	3/4	6	3.16	1 3/4	$ 7.50
8″	PA8J	8	1	6-12	6.80	3	12.50
10″	PA10J	8	1	6-12	6.80	4 1/4	13.95
12″	PA12J	8	1	6-12	6.80	5 1/4	15.95

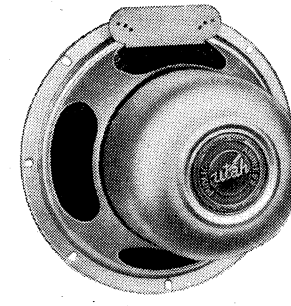
Heavy cadmium plating.



PA8J

Supreme Series

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
8″	PA8M	8	1 1/4	15	14.70	5	$24.95
10″	PA10M	8	1 1/4	15	14.70	5	25.95
12″	PA12M	8	1 1/4	15-25	14.70	7	28.95
12″	PA12P	8	1 1/2	20-30	21.50	9 1/4	34.95
15″	PA15P	8	1 1/2	20-30	21.50	12 3/4	37.95
15″	PA15R	8	2	30-40	31.80	14 3/4	59.95



PA8M

Finished in gold lacquer over cadmium plating, and complete with pot cover and solderless brass binding posts.

Deluxe Series speakers can be factory mounted in Utone wall baffles at no extra charge.

Also available with transformer mounted.

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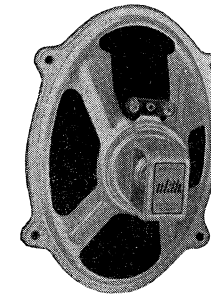
THE WIDEST LINE OF REPLACEMENT SPEAKERS AVAILABLE TO THE TRADE

utah RADIO PRODUCTS CO., INC.

HUNTINGTON, INDIANA

OVAL PERMANENT MAGNET GROUP

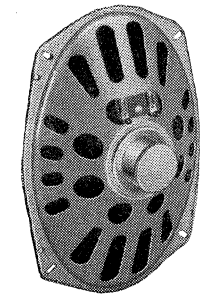
Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
4 x 6″	SP46A	3-4	9/16	2-4	.68	1	$ 4.50
4 x 6″	SP46B	3-4	9/16	2-4	1.00	1 1/4	5.00
4 x 6″	SP46C	3-4	9/16	2-4	1.47	1 1/4	5.20
5 x 7″	SP57A	3-4	9/16	2-4	.68	1 1/4	4.95
5 x 7″	SP57B	3-4	9/16	2-4	1.00	1 1/4	5.50
5 x 7″	SP57C	3-4	9/16	2-4	1.47	1 1/4	5.75
5 x 7″	SP57D	3-4	3/4	4-9	1.47	1 1/4	6.25
5 x 7″	SP57E	3-4	3/4	4-9	2.15	1 1/2	6.75
5 x 7″	SP57F	3-4	3/4	4-9	3.16	1 1/2	6.95
6 x 9″	SP69A	3-4	9/16	2-4	.68	1 1/4	6.50
6 x 9″	SP69B	3-4	9/16	2-4	1.00	1 1/2	6.75
6 x 9″	SP69C	3-4	9/16	2-4	1.47	1 1/2	6.95
6 x 9″	SP69D	3-4	3/4	4-9	1.47	1 3/4	7.40
6 x 9″	SP69E	3-4	3/4	4-9	2.15	1 3/4	7.95
6 x 9″	SP69F	3-4	3/4	4-8	3.16	1 3/4	9.00
6 x 9″	SP69G	3-4	1	6-12	3.16	3	9.40
6 x 9″	SP69H	3-4	1	6-12	4.64	3	9.75
6 x 9″	SP69J	3-4	1	6-12	6.80	3 1/4	10.95
8 x 12″	SP812D	3-4	3/4	4-9	1.47	2	9.25
8 x 12″	SP812J	8	1	6-12	6.80	3	14.55



SP57A

AUTOMOTIVE SPEAKER GROUP

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
5 1/4″	C52Z	3-4	3/4	2-4	.45	3/4	$4.15
7″	C7BZ	3-4	3/4	4-9	1.00	1 1/4	6.50
8″	C8EZ	3-4	1	4-9	2.15	1 1/2	7.50
5 x 7″	C57BZ	3-4	3/4	4-9	1.00	1	5.95
5 x 7″	C57EZ	3-4	1	4-9	2.15	1 1/4	6.95
6 x 9″	C69BZ	3-4	3/4	4-9	1.00	1 1/4	6.95
6 x 9″	C69EZ	3-4	1	4-9	2.15	1 1/2	7.95

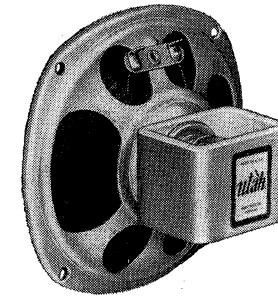


C69EZ

OUTDOOR SPEAKER GROUP

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
4″	SP4BZP	3-4	3/4	2-4	1.0	1/2	$6.00
4″	SP4BZO	3-4	3/4	2-4	1.0	1/2	4.60
5″	SP5BZO	3-4	3/4	2-4	1.0	1/2	4.75

Finished in bright blue outdoor enamel over heavy cadmium plating for extra protection.



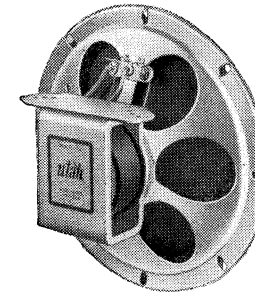
A5FI

AIRCRAFT INTERCOMMUNICATION SPEAKER GROUP

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
5″	A5FI	45 ohms	3/4	4-9	3.16	1 1/4	$7.75

INTERCOMMUNICATION SPEAKER GROUP

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
3 1/2″	SP35AI	45 ohms	9/16	2-4	.68	3/4	$3.75
4″	SP4AI	45 ohms	9/16	2-4	.68	3/4	3.95
5″	SP5AI	45 ohms	9/16	2-4	.68	1	4.10



SE6T10

TELEVISION ELECTRO-MAGNETIC GROUP

Group Size	Model Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	List Price
5″	SE5T6	3-4	9/16	2-4	62 ohms	1 1/4	$4.50
5″	SE5T10	3-4	9/16	2-4	100 ohms	1 1/4	4.60
6″	SE6T6	3-4	3/4	5-7	62 ohms	2	5.25
6″	SE6T10	3-4	3/4	5-7	100 ohms	2	5.30

See also listing of all permanent magnet speakers this advertisement.

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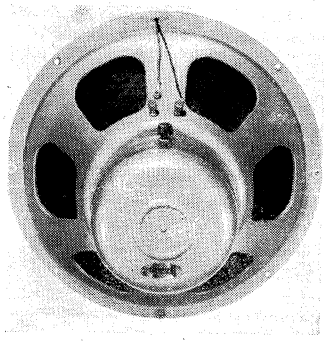
Cletron *The Choice for Voice*

HI-Fidelity SPEAKERS



Model PM15NCR

15″ COAXIAL 50 to 18,500 Cycles

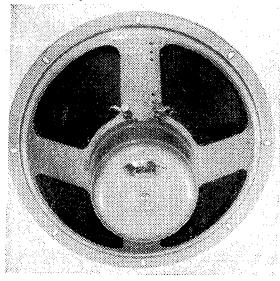
In keeping with the ever increasing standards for highest quality sound reproduction, CLETRON Engineering has perfected a new 15-inch coaxial speaker with aluminum voice coil forms for long, trouble-free operation. In addition to high power capacity, this speaker has a built-in crossover network and a high frequency control to turn off the tweeter when desired.

Power Handling Capacity: 25 to 35 watts. Voice Coil Impedance: 8 ohms. Frequency Response: 50 to 18,500 cycles, ±6db. Woofer Voice Coil Diameter: 2″. Aluminum Voice Coil Forms are contained in both Woofer and Tweeter. Alnico V Magnets: 1 lb. in woofer, 1.47 oz. in tweeter. Built-in crossover network. Crossover at 3100 cycles. 15⅛″ Dia., 13½″ Baffle Opening, 8″ Depth Behind Mounting Panel. **Model PM15NCR: List Price: $69.95**

ALSO 15″ WOOFER 30 to 12,500 Cycles

This speaker is specifically designed to deliver clear undistorted bass ranges with rich tonal quality.

Cletron 8 ohm aluminum voice coil form handles high power of 25 to 35 watts. One-pound Alnico V magnet delivers exceptional response for this moderately priced speaker. 15⅛″ Dia., 13½″ Baffle Opening, 8″ Depth Behind Mounting Panel. Attractive and durable blue hammertone baked enamel finish. **Model PM15NR: List Price: $59.95**



Model PM12NR

12″ DYNAMIC 30 to 16,000 Cycles

Here is the answer for a rich, full-bodied reproducer that will deliver the exceptional richness of the entire audio spectrum.

Power Handling Capacity: 16-25 watts. Voice Coil Impedance: 8 ohms. Frequency Response: 30 to 16,000 cycles. Aluminum Voice Coil Form: 2″. Alnico V Magnet: 1 lb.

Model PM12NR: List Price: $44.50

TWEETERS

Ideal for use with any standard 12″ speaker to add real "presence." Aluminum voice coil form for higher wattage capacity, better heat dissipation and better moisture resistance. Easy to install.

5-INCH, 1200 to 18,500 Cycles

8 ohms, 3.16 ounce magnet. 3¼″ x $3\frac{5}{16}$″ mounting hole centers. $2\frac{11}{32}$″ depth behind mounting panel.

Model PM5FR: List Price $6.95

5-INCH, 1200 to 14,000 Cycles

8 ohms, 1.47 ounce magnet. 3¼″ x $3\frac{5}{16}$″ mounting hole centers $2\frac{11}{32}$″ depth behind mounting panel.

Model PM5CR: List Price $4.95

3-INCH, 1200 to 16,000 Cycles

8 ohms or 3.2 ohms, .68 ounce magnet. $2\frac{13}{16}$″ x $2\frac{13}{16}$″ mounting hole centers. $1\frac{23}{32}$″ depth behind mounting panel.

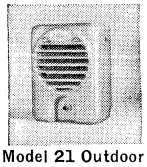
Model PM3CR (8 ohm)
Model PM3CR3 (3.2 ohm) List Price $4.65

8″ EXTENDED RANGE 50 to 16,500 Cycles

The Cletron 8-inch extended range speaker will surprise you with its range and clarity. Hear this speaker perform and you will agree. Power Handling Capacity: 8 watts. Voice Coil Impedance: 3.2 or 8 ohms. Frequency Response: 50 to 16,500 cycles, ±6db. Aluminum Voice Coil Form. Alnico V Magnet. Mechanical crossover to diffusion tweeter. Depth behind Mounting Panel: $3\frac{3}{16}$″.

Model PM8FW (8 ohm)
Model PM8FW3 (3.2 ohm): List Price $19.95

NEW CLETRON SERVICE CLETRON will completely rebuild any of the above 15″, 12″, or 8″ speakers at any time, and restore their original factory-fresh high quality, at the following prices: 15″ — $5 12″ — $4 8″ — $2
Now both manufacturers and jobbers can avail themselves of the CLETRON Repair-or-Replace service on all types and brands of speakers. Kindly advise details of your requirements.



Model 21 Outdoor

INTERCOM STATIONS

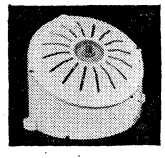
Newest, most practical intercom station available. Ideal for home, office or small business.

This CLETRON unit is especially engineered for the warehouse, drive-in restaurant and other industrial users who require a rugged, dustproof, and weatherproof intercom station.

Attractively designed around the CLETRON 4″ Weatherproof Speaker with a 45 ohm or 13 ohm dustproof aluminum voice coil to provide clear, sharp audio tones.

Strong, light gray, cast aluminum cabinet is 4″ x 6″ x 2½″ deep.

Handy, dual-purpose switch permits 2-way communication. All you need with this intercom is an amplifier that you can furnish to your own specifications.



Model 22 Indoor

INTERCOM REPLACEMENTS

SIZE INCHES	CATALOG NUMBER	MAGNET WEIGHT OUNCES	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING HOLE CENTERS INCHES	DEPTH INCHES	LIST PRICE
4	PM-4B45	1.00	45 ohms $\frac{9}{16}$″	2-4	$3\frac{5}{16}$ x $3\frac{5}{16}$	$2\frac{1}{16}$	$ 5.10
4	PM-4B13	1.00	13 ohms $\frac{9}{16}$″	2-4	$3\frac{5}{16}$ x $3\frac{5}{16}$	$2\frac{1}{16}$	4.95
4	PM-4C45	1.47	45 ohms $\frac{9}{16}$″	2-4	$3\frac{5}{16}$ x $3\frac{5}{16}$	$2\frac{1}{16}$	5.50
4	PM-4C13	1.47	13 ohms $\frac{9}{16}$″	2-4	$3\frac{5}{16}$ x $3\frac{5}{16}$	$2\frac{1}{16}$	5.35
5	PM-5B45	1.00	45 ohms $\frac{9}{16}$″	2-4	$3\frac{5}{16}$ x $3\frac{5}{16}$	$2\frac{11}{32}$	5.35
5	PM-5B13	1.00	13 ohms $\frac{9}{16}$″	2-4	$3\frac{5}{16}$ x $3\frac{5}{16}$	$2\frac{11}{32}$	5.20
5	PM-5C45	1.47	45 ohms $\frac{9}{16}$″	2-4	$3\frac{5}{16}$ x $3\frac{5}{16}$	$2\frac{11}{32}$	5.65

HIGHEST QUALITY ALUMINUM VOICE COIL CONSTRUCTION

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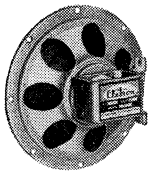
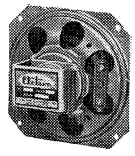
Cletron *The Choice for Voice*

Standard Group PERMANENT MAGNET SPEAKERS





SIZE INCHES	CATALOG NUMBER	MAGNET WEIGHT OUNCES	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING HOLE CENTERS INCHES	DEPTH INCHES	LIST PRICE
3	PM-3A	.68	3.2 ohms 9/16"	2-4	2 13/16 x 2 13/16	1 23/32	$ 3.65
4	PM-4A	.68	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	1 7/8	3.85
4	PM-4P2	.70	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	1 5/8	3.95
4	PM-4B	1.00	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 1/16	4.10
4	PM-4C	1.47	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 1/16	4.50
5	PM-5A	.68	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 3/32	4.10
5	PM-5B	1.00	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 11/32	4.35
5	PM-5C	1.47	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 11/32	4.75
6	PM-6B	1.00	3.2 ohms 9/16"	2-4	4 3/8 x 4 3/8	2 23/32	4.75
6	PM-6C	1.47	3.2 ohms 9/16"	2-4	4 3/8 x 4 3/8	2 23/32	5.10
6	PM-6E	2.15	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	2 15/16	5.75
6	PM-6F	3.16	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	2 15/16	6.75
8	PM-8D	1.47	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	6.85
8	PM-8E	2.15	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	7.10
8	PM-8F	3.16	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	8.25
10	PM-10E	2.15	3.2 ohms 3/4"	4-9	6 13/16 x 6 13/16	3 3/16	9.50
10	PM-10G	3.16	3.2 ohms 1"	6-12	6 13/16 x 6 13/16	4 1/8	10.25
10	PM-10H	4.64	3.2 ohms 1"	6-12	6 13/16 x 6 13/16	4 5/8	12.50
12	PM-12G	3.16	3.2 ohms 1"	6-12	8 1/4 x 8 1/4	4 7/8	11.50
12	PM-12H	4.64	3.2 ohms 1"	6-12	8 1/4 x 8 1/4	5 3/8	13.75

Public Address and Hi Fidelity Group PERMANENT MAGNET SPEAKERS

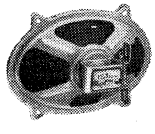
	SIZE INCHES	CATALOG NUMBER	MAGNET WEIGHT OUNCES	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING HOLE CENTERS INCHES	DEPTH INCHES	LIST PRICE
	8	PM-8FR3	3.16	8 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	$ 8.50
	8	PM-8FR	3.16	8 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	8.50
Public	8	PM-8JR	6.80	8 ohms 1"	6-12	5 7/16 x 5 7/16	4 7/8	12.10
Address	10	PM-10JR	6.80	8 ohms 1"	6-12	6 13/16 x 6 13/16	4 5/8	15.00
	12	PM-12JR	6.80	8 ohms 1"	6-12	8 1/4 x 8 1/4	7 3/4	16.00
	12	PM-12LR	10.00	8 ohms 1 1/4"	12-20	8 1/4 x 8 1/4	7 3/4	19.95
Coaxial	12	PM-12CR	6.80	8 ohms 1"	6-12	8 1/4 x 8 1/4	7 3/4	27.65
	15	PM-15CR	6.80	8 ohms 1"	6-12	10 1/4 x 10 1/4	8 1/4	36.00

Standard Group ELECTRO DYNAMIC SPEAKERS

SIZE INCHES	CATALOG NUMBER	FIELD RESISTANCE	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING CENTERS INCHES	DEPTH INCHES	LIST PRICE
4	ED-445	450 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 3/16	$ 4.50
5	ED-545	450 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	4.75
6	ED-645	450 ohms	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	2 13/16	5.50
10	ED-1010	1000 ohms	3.2 ohms 1"	6-12	6 13/16 x 6 13/16	4 5/8	10.50
10	ED-1018	1800 ohms#	3.2 ohms 1"	6-12	6 13/16 x 6 13/16	4 5/8	10.65
12	ED-1210	1000 ohms	3.2 ohms 1"	6-12	8 1/4 x 8 1/4	5 3/8	12.75
12	ED-1218	1800 ohms#	3.2 ohms 1"	6-12	8 1/4 x 8 1/4	5 3/8	12.90

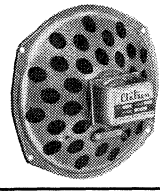
Tapped at 300 Ohms.

Oval Group PERMANENT MAGNET SPEAKERS



SIZE INCHES	CATALOG NUMBER	MAGNET WEIGHT OUNCES	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING HOLE CENTERS INCHES	DEPTH INCHES	LIST PRICE
4 x 6	PM-46A	.68	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 7/32	$ 4.35
4 x 6	PM-46B	1.00	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 7/32	4.65
4 x 6	PM-46C	1.47	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 7/32	5.05
5 x 7	PM-57B	1.00	3.2 ohms 9/16"	2-4	4 11/32 x 4 11/32	2 7/32	5.15
5 x 7	PM-57C	1.47	3.2 ohms 9/16"	2-4	4 11/32 x 4 11/32	2 7/8	5.65
5 x 7	PM-57E	2.15	3.2 ohms 3/4"	4-9	4 11/32 x 4 11/32	3 1/4	6.75
5 x 7	PM-57F	3.16	3.2 ohms 3/4"	4-9	4 11/32 x 4 11/32	3 1/4	7.75
6 x 9	PM-69B	1.00	3.2 ohms 9/16"	4-9	4 5/8 x 4 5/8	3 9/16	6.25
6 x 9	PM-69D	1.47	3.2 ohms 3/4"	4-9	4 5/8 x 6 9/16	3 9/16	6.95
6 x 9	PM-69E	2.15	3.2 ohms 3/4"	4-9	4 5/8 x 6 9/16	3 9/16	7.85
6 x 9	PM-69F	3.16	3.2 ohms 1"	4-9	4 5/8 x 6 9/16	3 9/16	8.85

TV Replacement Group ELECTRO DYNAMIC SPEAKERS



SIZE INCHES	CATALOG NUMBER	FIELD RESISTANCE	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING CENTERS INCHES	DEPTH INCHES	LIST PRICE
5	ED-5T6	60 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	$ 4.75
5	ED-5T10	100 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	4.75
4 x 6	ED-46T6	60 ohms	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 3/8	5.25
4 x 6	ED-46T10	100 ohms	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 3/8	5.25
6	ED-6T6	60 ohms	3.2 ohms 9/16"	2-4	4 3/8 x 4 3/8	2 3/8	5.50
6	ED-6T10	100 ohms	3.2 ohms 9/16"	2-4	4 3/8 x 4 3/8	2 3/8	5.50
8	ED-8T6	60 ohms	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 1/2	8.85

GENERAL INFORMATION

- 3, 4, 5¼, 6, 6¼, 8 inch speakers have square type mountings.
- 5, 8, 10, 12, 15 inch speakers have round type mountings.
- Transformer Mounting Brackets and 2 drilled and tapped holes in Pot are provided on all speakers with 9/16" voice coils.
- A CLETRON Universal Mounting Bracket is supplied with each 3½" thru 6½" speaker with a 9/16" voice coil.

HIGHEST QUALITY ALUMINUM VOICE COIL CONSTRUCTION

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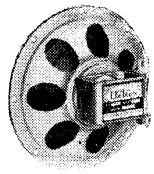
Cletron *The Choice for Voice*

WEATHERPROOF SPEAKERS



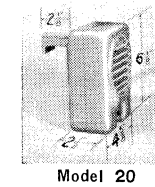
SIZE INCHES	CATALOG NUMBER	MAGNET WEIGHT OUNCES	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING HOLE CENTERS INCHES	DEPTH INCHES	LIST PRICE
4	PM-4WA	.68	3.2 ohms $\frac{1}{2}$"	2-4	3 $\frac{5}{16}$ x 3 $\frac{5}{16}$	2 $\frac{1}{16}$	$ 4.30
4	PM-4WB	1.00	3.2 ohms $\frac{9}{16}$"	2-4	3 $\frac{5}{16}$ x 3 $\frac{5}{16}$	2 $\frac{1}{16}$	4.40
4	PM-4WC	1.47	3.2 ohms $\frac{5}{8}$"	2-4	3 $\frac{5}{16}$ x 3 $\frac{5}{16}$	2 $\frac{1}{16}$	4.80
4	PM-WCP	1.47	3.2 ohms $\frac{3}{4}$"	2-4	3 $\frac{5}{16}$ x 3 $\frac{5}{16}$	2 $\frac{1}{16}$	5.50
4	PM-WC45	1.47	45 ohms $\frac{5}{16}$"	2-4	3 $\frac{5}{16}$ x 3 $\frac{5}{16}$	2 $\frac{1}{16}$	5.50
5	PM-5WB	1.00	3.2 ohms $\frac{9}{16}$"	2-4	3 $\frac{5}{16}$ x 3 $\frac{5}{16}$	2 $\frac{15}{32}$	4.65
5	PM-5WC	1.47	3.2 ohms $\frac{5}{8}$"	2-4	3 $\frac{5}{16}$ x 3 $\frac{5}{16}$	2 $\frac{15}{32}$	5.05
5 $\frac{1}{4}$	PM-5CWC	1.47	3.2 ohms $\frac{5}{8}$"	2-4	4 x 4	2 $\frac{15}{32}$	5.45
6	PM-6WC	1.47	3.2 ohms $\frac{5}{8}$"	2-4	4 $\frac{3}{8}$ x 4 $\frac{3}{8}$	2 $\frac{15}{32}$	5.50
6	PM-6WE	2.15	3.2 ohms $\frac{3}{4}$"	4-9	4 $\frac{3}{8}$ x 4 $\frac{3}{8}$	2 $\frac{13}{16}$	6.10

OUTDOOR IN-A-CAR SPEAKERS

FEATURES:

- Designed for easy access to inside cabinet for repair when necessary.
- Strong and attractive gray cast aluminum cabinet with hanger. Speaker included.
- Light weight—only 2 lbs., 8 ounces.
- High grade, wire wound volume control and durable 5½' cable are furnished.
- High quality • Weatherproof • Low in Price

LIST: $15.50



Model 20

AUTO REPLACEMENT GROUP PERMANENT MAGNET SPEAKERS

SIZE INCHES	CATALOG NUMBER	MAGNET WEIGHT OUNCES	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING CENTERS INCHES	DEPTH INCHES	LIST PRICE
5 $\frac{1}{4}$	PM-5CA	$ 1.47	3.2 ohms $\frac{5}{16}$"	2-4	4 x 4	2 $\frac{15}{32}$	$ 5.15
6 $\frac{1}{4}$	PM-6EA	2.15	3.2 ohms $\frac{3}{4}$"	4-9	4 $\frac{3}{8}$ x 4 $\frac{3}{8}$	3 $\frac{7}{16}$	5.85
*7	PM-7EA	2.15	3.2 ohms $\frac{3}{4}$"	4-9	4 $\frac{1}{4}$ x 5 $\frac{3}{4}$	3 $\frac{1}{4}$	6.95
7	PM-7FA	3.16	3.2 ohms 1"	4-9	4 $\frac{1}{4}$ x 5 $\frac{3}{4}$	3 $\frac{5}{16}$	7.95
**8	PM-8EA	2.15	3.2 ohms $\frac{3}{4}$"	4-9	5 $\frac{7}{16}$ x 5 $\frac{7}{16}$	3 $\frac{1}{2}$	7.10
‡6" x 9"	PM-6911	1.73	3.2 ohms 1"	4-9	4 $\frac{5}{8}$ x 6 $\frac{9}{16}$	3	7.85
**6" x 9"	PM-6912	1.73	3.2 ohms 1"	4-9	4 $\frac{5}{8}$ x 6 $\frac{9}{16}$	3	7.85
•6" x 9"	PM-6914	1.73	3.2 ohms 1"	4-9	4 $\frac{5}{8}$ x 6 $\frac{9}{16}$	3	7.85
••6" x 9"	PM-6915	1.73	3.2 ohms 1"	4-9	4 $\frac{5}{8}$ x 6 $\frac{9}{16}$	3	7.85

‡Replacement for DELCO extruded hole type.

**Replacement for DELCO plain type.

•Replacement for FORD type (leads included).

••Replacement for MERCURY type (leads included).

*Rotated pots are not needed on this speaker because of small shell dimensions.

AUTO REPLACEMENT GROUP ELECTRO DYNAMIC SPEAKERS

SIZE INCHES	CATALOG NUMBER	FIELD RESISTANCE	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING CENTERS INCHES	DEPTH INCHES	LIST PRICE
5 $\frac{1}{4}$	ED-5S6	4 ohms	3.2 ohms $\frac{5}{16}$"	2-4	4 x 4	2 $\frac{15}{32}$	5.15
6	ED-6Y6	4 ohms	3.2 ohms $\frac{3}{4}$"	4-9	4 $\frac{3}{8}$ x 4 $\frac{3}{8}$	3 $\frac{7}{16}$	5.50
7	ED-7Y6	4 ohms	3.2 ohms $\frac{3}{4}$"	4-9	4 $\frac{1}{4}$ x 5 $\frac{3}{4}$	3 $\frac{5}{16}$	6.75
6 x 9	ED-69Y6	4 ohms	3.2 ohms $\frac{3}{4}$"	4-9	4 $\frac{5}{8}$ x 6 $\frac{9}{16}$	3 $\frac{9}{16}$	7.45

AUTOMOBILE Rear Seat Speaker Kits

A CLETRON automobile rear seat speaker permits clear radio reception to both front and rear seat passengers simultaneously or individually. Now, any car owner can economically have this fine-car luxury. Complete materials and simplified installation instructions are included with each kit. Specialized designs are available to fit all cars and individual tastes.

COMPLETE KITS . . . Speaker, Grill and Switch Harness

Model 19 — 5" x 7" speaker with 1 oz. magnet and complete accessories. **List $8.95**

Model 32 — 5" x 7" speaker with .68 oz. magnet and complete accessories. **List $8.50**

Model 33 — 6" x 9" speaker with .68 oz. magnet and complete accessories. **List $8.95**

Model 34 — 6" x 9" Hi-Fi type speaker with extended range tweeter cone, 3.16 oz. magnet and complete accessories. **List $15.95**

Model 24 — 6" x 9" speaker with 1.47 oz. magnet and complete accessories. **List $9.95**

SPEAKER GRILL KITS . . . Grills Only

Model 27 — 5" x 7" grill with Enameled trim ring. Includes hardware. **List $2.25**

Model 25 — 6" x 9" grill with Enameled trim ring. Includes hardware. **List $2.95**

Model 27C — 5" x 7" grill with Chrome trim ring. Includes hardware. **List $2.70**

Model 25C — 6" x 9" grill with Chrome trim ring. Includes hardware. **List $3.40**

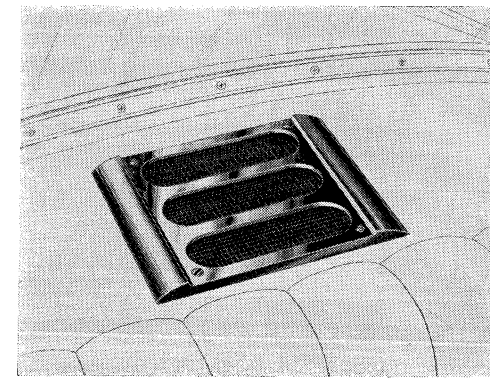
SWITCH-HARNESS KITS . . .

Model 29 — Includes 3-position, attractive dial type mounting switch and double-wire leads. **List $2.25**

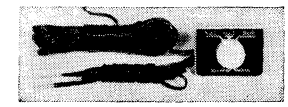
Model 35 — Includes 3-position, attractive dial type mounting switch and single-wire leads. **List $1.95**

Model 29F — Similar to Model 29, however, includes wire wound potentiometer to permit "Fading" in either or both speakers. **List $2.40**

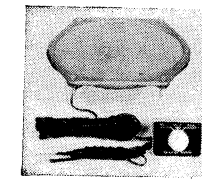
Model 35F — Similar to Model 35, however, includes wire wound potentiometer to permit "Fading" in either or both speakers. **List $2.10**



All 6" x 9" type kits include this modern and attractive grill.



Switch and Harness Assembly Kits include 3-position, attractive dial-type mounting switch and all necessary leads.



All 5"x7" type kits are furnished with above type grill.

HIGHEST QUALITY ALUMINUM VOICE COIL CONSTRUCTION

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ATLAS SOUND CORP.

the complete line for every public address need!

ATLAS 'DR' WEATHERPROOF DOUBLE-REENTRANT PROJECTORS

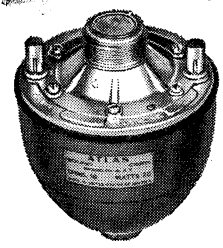
Non-Resonant • Uniform Response • Sturdy • Stormproof
Compact • Demountable

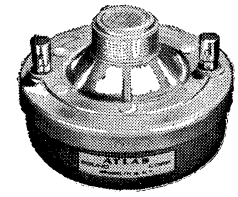
The modified exponential taper developed in Atlas projectors has proved most efficient for overall performance. All acoustical paths are clean and uniform. Reflex turns are smooth and flowing. These important features eliminate turbulence, frequency cancellation and resultant signal distortion. Ruggedly constructed of heavy castings, precision stampings, accurate die castings and uniform metal spinnings. All metal-to-metal surfaces insulated with non-vibratory material. Bell rim dampened and mechanically protected with formed rubber rim. All metals specially processed by chemical and electro-chemical means to impart complete weather-protection. Heavy "U" bracket mountings, securely fastened to main body casting of each model, do not fail even under extreme stress, strain or vibration. 1⅜"-18 thread. For greatest efficiency and low frequency response, the larger size horns are recommended. The smaller horns are excellent where space and cost limitations pertain.

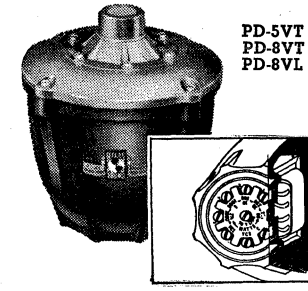
Model	Air Column	Low Frequency	Lgth.	Diam.	List Price
DR-32	2½ ft.	175 c.p.s.	12 in.	14 in.	$26.00
DR-42	3½ ft.	135 c.p.s.	15 in.	21 in.	31.00
DR-54	4½ ft.	105 s.p.s.	18 in.	23 in.	43.00
DR-72	6 ft.	85 c.p.s.	25 in.	31 in.	65.00

ATLAS SUPER-POWER ALNICO-V-PLUS DRIVER UNITS

All models include Atlas "Alnico-V-Plus" super-efficient magnetic circuit—magnetically shielded, hermetically sealed. One-piece unbreakable, high temperature and fatigue-proof phenolic diaphragm. Deluxe PD-5VT and PD8VT include built-in "Uni-Match" transformer for universal matching to constant impedance and constant voltage systems. All transformer taps and direct voice coil connections are brought out to waterproof "terminal window" on rear of phenolic unit housing 1⅜"-18 thread.


PD-5VH

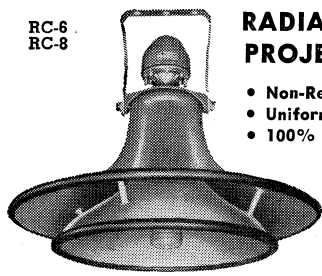

PD-4V


PD-5VT
PD-8VT
PD-8VL

Model	Power	Impedance	Frequency	List
PD-4V	25 watts	16 ohms	90-6000	$27.50
PD-5VH	25 watts	16 ohms	80-9000	35.50
PD-5VT	25 watts	16 ohms*	80-9000	45.00
PD-8VT	30 watts	16 ohms*	80-10,000	50.00
PD-8VL**	30 watts	16 ohms	80-10,000	42.50

*Actual voice coil impedance. "Uni-Match" transformer offers 165, 250, 500, 1000, 2000 ohms and variable 70-volt line connections.
**Identical to Model PD-8VT, but supplied less transformer.

RC-6
RC-8

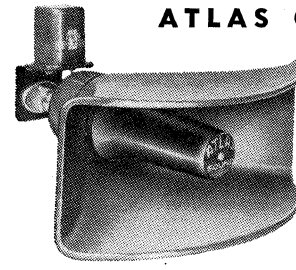


RADIAL DRIVER UNIT PROJECTORS

- **Non-Resonant • Dual Rubber Rims**
- **Uniform 360° Coverage**
- **100% Stormproof**

One of these models often is more efficient for large and high noise level areas than several ordinary projectors. For speech and music. All-aluminum construction—smooth, uniform response. Thread 1⅜"-18. Use of H-2U 2-unit adapter doubles power output for single projector high power application.

	RC-8	RC-6
Air Column	5 feet	4 feet
Bell Diameter	29"	25"
Overall Ht. (incl. bracket)	26"	21½"
Low Frequency Cutoff	120	150
List (horn only)	$53.50	$43.00



ATLAS COBRA-JECTORS

- **Indestructible Fiber-Glass**
- **All-Weather**
- **Wide Angle Dispersion**

New, versatile, all-purpose. Penetrating articulation assures wide angle intelligible coverage even under adverse sound conditions. Omni-directional mounting bracket. Amazing "power packages"—excellent for the "tough" jobs.

	CJ-30	CJ-14
Input Power (cont.)	15 watts	5 watts
Input Impedance	8 ohms	8 ohms*
Response	250-9000 cps	400-9000 cps
Dispersion	120° x 60°	120° x 60°
Size	Opening, 14" x 6"; Overall Length, 14"	Opening, 9½" x 5½"; Overall Length, 8½"
List	$40.00	$28.00

* 45-ohm impedance available: Model CJ-14/45

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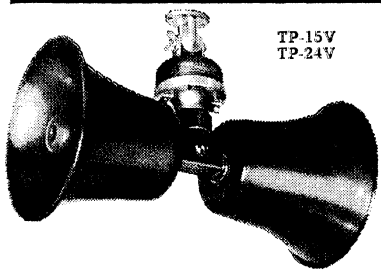
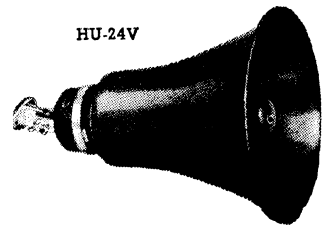
ATLAS SOUND CORP.

the complete line for every public address need!

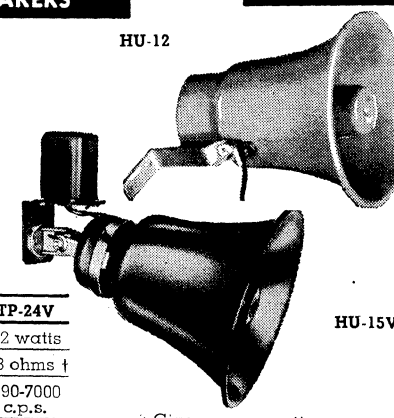
ATLAS NEW ALNICO-V-PLUS PAGING AND TALK-BACK SPEAKERS



TP-15V
TP-24V



HU-24V



HU-12

HU-15V

Model	HU-12	HU-15V	HU-24V	TP-15V	TP-24V
Power*	5 watts	12 watts	12 watts	12 watts	12 watts
Impedance	8 ohms#	8 ohms †	8 ohms †	8 ohms †	8 ohms †
Frequency	375-9000 c.p.s.	300-7000 c.p.s.	200-7000 c.p.s.	250-7000 c.p.s.	190-7000 c.p.s.
Length	7½ in.	11 in.	14½ in.	15½ in.	22 in.
Diameter	6¼ in.	8½ in.	10 in.	8½ in.	10 in.
Air Column	13½ in.	16½ in.	24 in. ea. side	19½ in. ea. side	27 in. ea. side
List	**$25.00**	**$32.50**	**$35.75**	**$47.50**	**$52.00**

* Given power ratings are conservative and are for continuous input. Peak power ratings may safely exceed this amount by 25%.
# Model HU-12 available in 45 ohms.
† Available in 16 ohms.

These speakers include the newly developed, unbreakable, hermetically sealed driver units using the Alnico V-Plus magnetic circuit. As reproducers, and as microphones in talk-back circuits, they provide a maximum of efficiency. The new ball swivel mounting bracket permits quick and simple directional adjustment in every position, horizontal and vertical. All-aluminum construction, finished in high lustre gray enamel over electrochemically treated surfaces.

Model HU-12—Subminiature speaker with high intelligibility at minimum input power.

Model HU-15V—Medium-size speaker that withstands considerable input power. Large diaphragm and magnetic assembly similar to those used in the larger Atlas reproducers.

Model HU-24V—Oversize speaker with obvious advantage of longer air column, so that it also reproduces music with excellent results.

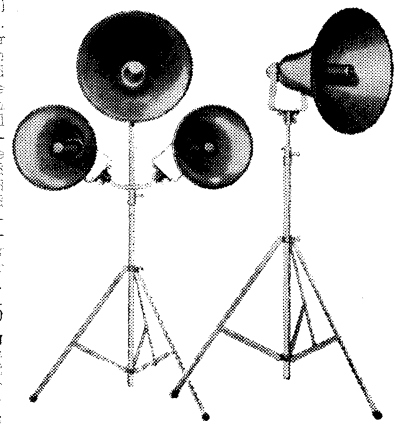
Model TP-15V—Dual speaker ideal for industrial and talk-back uses, often producing two-speaker results from a single unit.

Model TP-24V—Oversize dual speaker with longer air column for added efficiency, especially at the lower frequencies.

SPEAKER SUPPORT STANDS

SS-2 — Folding legs automatically level on uneven ground. Supports a cluster of speakers even under adverse wind conditions. Double clutch protection against accidental release. Tube assembly and legs are cadmium - plated steel; clutches and locks are machined iron castings. "Easy-off" top fitting permits attachment or removal of projector without tools. Ht. extension 5-10 ft. Wt. 20 lbs. **List $38.00**

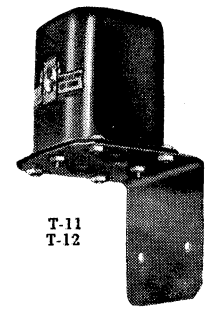
HM-2 Horn Mounting Accessory—Permits 3 speakers on SS-2 Stand, and their orientation in any direction. No tools needed for setting up or dismantling. **List Price $14.00**



MODEL SS-2 With HM-2

MODEL SS-2

NEW WEATHERPROOF LINE MATCHING TRANSFORMER



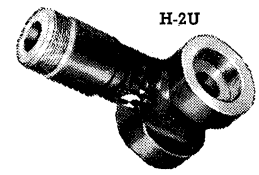
T-11
T-12

Specifically designed for high efficiency and ease of installation, these new transformers enable the matching of the popular Atlas "TP" and "HU" paging and talk-back speakers to either constant voltage (70-volt line) or constant impedance systems. The transformer taps eliminate the need for complex computations. Protective housings are heavy steel. Double rubber grommets and gaskets protect cable connections entering the housing. Convenient transformer bracket is easily integrated with speaker mounting bracket—no extra fastenings needed. Frequency response assures efficiency over entire range required, with a minimum insertion loss. Power-handling capacity of both models is 12 watts. Finish is in durable gray enamel.

Model T-11—Primary: 500, 1000, 1500, 2000 ohms. Secondary: 4 and 8 ohms. **List Price $8.50**

Model T-12—Primary: 45 ohms. Secondary: 4 and 8 ohms, for matching 40-60 ohm intercom line to 8 ohm speaker. **List Price $8.00**

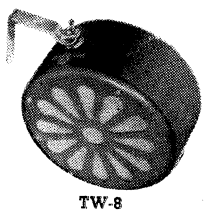
TWO UNIT TO ONE PROJECTOR



H-2U

When it is necessary to obtain the greatest possible power output from a single projector, the H-2U is recommended. It permits the use of 2 driver units with any type of projector. Cast aluminum construction. Threads 1⅜"-18. **List $11.00**

TWO-WAY ENCLOSURE for 8" Cone Speaker

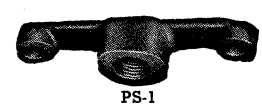


TW-8

Speaker's front and back wave are used for good coverage in long corridors and central locations. Adjustable wall or ceiling mounting brackets and speaker mounting screws supplied. Outside diam. 10", depth 5".

Model TW-8 **List Price $9.00**

PIPE STANCHION FITTING



PS-1

"DR" reentrant or "RC" radial "U" brackets adapted to ¾" pipe fittings. This steel adapter has holes properly located to match holes in "U" bracket. All mounting bolts supplied. Female ¾" pipe thread. **List $1.50**

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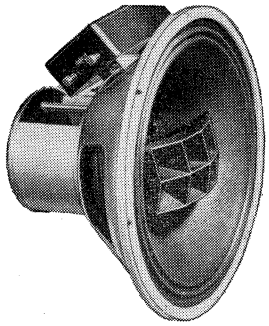
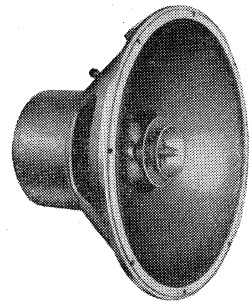
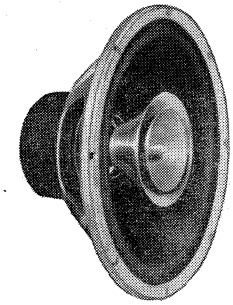
STEPHENS TRU SONIC SPEAKER SYSTEMS
FOR THEATRE AND HOME



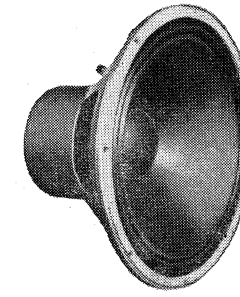
Model 206AXA



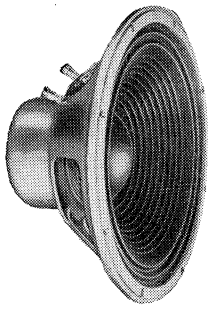
Model 101FR
Model 102FR



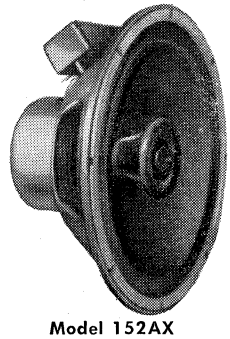
Model 112FR



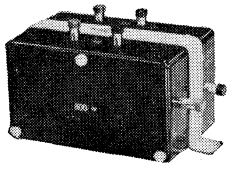
Model 105LX
Model 103LX



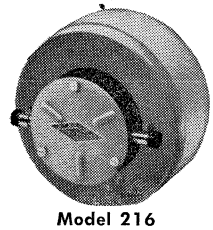
Model 120LX



Model 152AX
Model 122AX



Model 800X



Model 216
Model P-30
Model P-35

TYPE	16 OHMS NET PRICE	VOICE COIL DIAMETER	TYPE SPEAKER	WEIGHT	OVERALL DIMENSIONS DIAM.	DEPTH	WGT.
206AXA	$152.00	2" LF 1½" HF	Coaxial	7½ lbs.	15¼"	10"	31 lbs.
152AX	94.50	2" LF 1" HF	Coaxial	2½ lbs.	15¼"	7½"	27 lbs.
122AX	63.00	2" LF 1" HF	Coaxial	1½ lbs.	12¼"	5½"	13 lbs.
102FR	78.00	2"	Full Range	4¼ lbs.	15¼"	8½"	27 lbs.
101FR	58.50	2"	Full Range	2½ lbs.	15¼"	7½"	24 lbs.
112FR	38.50	2"	Full Range	1½ lbs.	12¼"	5½"	12 lbs.
103LX	76.50	2"	Low Frequency	4¼ lbs.	15¼"	8½"	27 lbs.
105LX	55.50	2"	Low Frequency	2½ lbs.	15¼"	7½"	24 lbs.
120LX	36.00	2"	Low Frequency	1½ lbs.	12¼"	5½"	11 lbs.
216	63.00	1½"	High Frequency	1½ lbs.	5"	3¾"	7 lbs.
P-30	97.50	2½"	High Frequency	2½ lbs.	6½"	3¾"	20 lbs.
P-35	127.50	2½"	High Freqcency	4¼ lbs.	6½"	4⅝"	22 lbs.
214*	33.00	16 ohms only for use with 5000 c.p.s. network 1"	Super High Frequency	14 oz.	7¼" D. x 6⅛" W. x 5½" H.		5 lbs.

*500 ohms matching transformer for use with Model 214, Model MT-500.....Net $4.50
Note: $4.50 additional charge per voice coil for 250 or 500 ohm loudspeakers.

CROSSOVER NETWORKS

	Net Price
MODEL 800X CROSSOVER 800 c.p.s. 16 ohm input and output, weight 5 lbs.....	$30.00
MODEL 600X CROSSOVER 600 c.p.s. 16 ohm input and output, weight 6 lbs.....	45.00
MODEL 400X CROSSOVER 400 c.p.s. 16 ohm input and output, weight 10¼ lbs.	63.00
MODEL 800X-2 NETWORK, 800 c.p.s. 16 ohm input and output, weight 4 lbs.....	21.00
MODEL 500X NETWORK, 5000 c.p.s. 16 ohm input and output, weight 4 lbs.....	12.00

NOTE: Above network prices are also applicable to our 500 ohm crossovers.

STANDARD HORNS

MODEL 814H 1x4 HORN. 800 c.p.s. cutoff. Takes Model 216 high frequency driver, weight 10½ lbs. **Net Price, $28.00**

MODEL 824H 2x4 HORN. 800 c.p.s. cutoff. Takes Model 216 high frequency driver, weight 14½ lbs. **Net Price, $43.00**

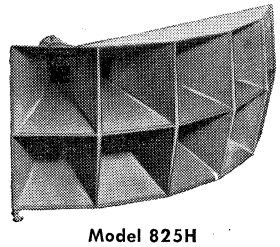
MODEL 825H 2x5 HORN. 800 c.p.s. cutoff. Takes Model 216 high frequency driver, weight 18½ lbs. **Net Price, $61.00**

MODEL 826H 2x6 HORN. 800 c.p.s. cutoff. Takes Model 216 high frequency driver, weight 21½ lbs. **Net Price, $66.00**

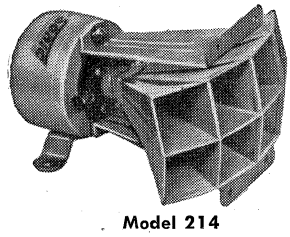
MODEL 625H 2x5 HORN. 600 c.p.s. cutoff. Takes Model P-30 or P-35 high frequency driver, weight 31 lbs. **Net Price, $84.50**

MODEL 425H 2x5 HORN. 400 c.p.s. cutoff. Takes Model P-30 or P-35 high frequency driver, weight 160 lbs. **Net Price, $154.00**

MODEL 436H 3x6 HORN. 400 c.p.s. cutoff. Y throat to accommodate two Model P-30 or P-35 high frequency drivers, weight 240 lbs. **Net Price, $264.00**



Model 825H



Model 214

STEPHENS MANUFACTURING CORPORATION
CULVER CITY, CALIFORNIA

Net

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STEPHENS TRU SONIC SPEAKER SYSTEMS
FOR THEATRE AND HOME

THE CITADEL DIRECT DRIVE AMPLIFIER — *FINEST AMPLIFIER BUILT*

- **Frequency response ±¼ db 20-70,000 c.p.s.**
- **Full 20 watts of audio.**
- **Distortion is less than ½ of one per cent.**
- **Phase shift—less than 15° at 20 c.p.s.**

(Above figures are a true picture at full output of 20 watts.)

Here's the first amplifier to successfully eliminate the output transformer. All distortion introduced by transformers is eliminated. Great clarity of tone is noticeable at once. Hum and noise are at a minimum. Frequency response is ±¼ db 20-70,000 c.p.s., achieved with far less phase shift than can be obtained with a transformer . . . especially on the low end. Matching Stephens Tru-Sonic speakers with 500 ohm v.c. impedance designed as companion units for The Citadel Amplifier are shown on adjoining page.

CHARACTERISTICS — ELECTRICAL

POWER SUPPLY: 117 V. AC 50-60 c.p.s. 1.2 amps. 140 va full output.
INPUT: 0.1 megohm. One side grounded.
VOLTAGE GAIN: 1.5 v. rms delivers full 20 watt output.
OUTPUT: Impedance: 500 ohms nominal. One side grounded. 5 ohms at 1000 c.p.s. (apparent), 100 ohms at 20 c.p.s. (apparent).
LEVEL: 100 V. rms across 500 ohms, 20 watts.

CHARACTERISTICS — PHYSICAL

DIMENSIONS: 7¾" wide by 15¼" long by 7" high.
WEIGHT: 24 lbs.
POWER: Permanently attached 6-foot cord.

NET PRICE $138.00

CABINETS AND RECOMMENDED SYSTEMS

MODEL 616 WITH 801 TWO-WAY SYSTEM. Has 105LX 15" low frequency speaker, 216 high frequency driver, 814H 1x4 Horn, 800X-2 network mounted in a lowboy blonde, mahogany or walnut cabinet 20" deep x 36" wide x 30" high. Delivers full 25 watt output. Weight 173 lbs. **Net Price 16 ohm $328.00**

MODEL 617 800 CYCLE TWO-WAY SYSTEM No. 802. Has 103LX 15" low frequency speaker, 216 high frequency driver, 824H 2x4 Horn, 800X crossover and high frequency attenuator. Silver hammertone or natural hardwood cabinet 20¼" deep x 26" wide x 36" high. Weight 162 lbs. **Net Price 16 ohm $313.00**

MODEL 629 WITH 802 TWO-WAY SYSTEM. Has a 103LX 15" low frequency speaker, 800X 800 cycle dividing network, 216 high frequency driver coupled to the 824H multicellular horn, and high frequency attenuator. Mounted in blonde, mahogany or walnut cabinet 20" deep x 36" wide x 43" high. Weight 231 lbs. **Net Price 16 ohm $404.00**

MODEL 620 WITH 112FR 12" FULL RANGE SPEAKER. 16 ohms. Blonde or mahogany cabinet 14" deep x 21" wide x 29½" high. Weight 54 lbs. **Net Price 16 ohm $116.50**

MODEL 622 WITH 122AX 12" COAXIAL SPEAKER. 16 ohms. Blonde or mahogany cabinet 18" deep x 27½" wide x 29½" high. Weight 60 lbs. **Net Price 16 ohm $151.00**

MODEL 627 WITH 206AXA COAXIAL SPEAKER. 2 voice coils, 7½ lb. Alnico V magnet. Blonde or mahogany cabinet 32" wide x 34" high x 17" deep. Weight 118 lbs. **Net Price 16 ohm $294.00**

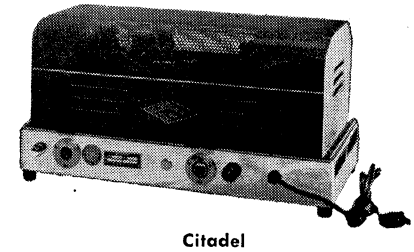
MODEL 628 WITH 3-WAY SYSTEM. Two 103LX low frequency drivers; a 600 cycle crossover; a 625H high frequency multicellular horn combined with a P-30 high frequency driver and the 214 Super tweeter and associated network. Mahogany or blonde cabinet 21" deep x 38" wide x 48" high. Available as complete unit only. Weight 318 lbs. **Net Price 16 ohm $654.50**

OTHER COMBINATIONS ARE AVAILABLE

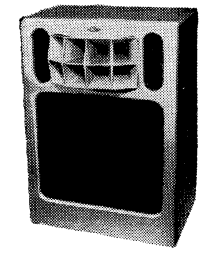
MODEL 616 cabinet only, Weight 134 lbs.	Net Price $156.00
MODEL 629 cabinet only, Weight 189 lbs.	Net Price $187.00
MODEL 620 cabinet only, Weight 43 lbs.	Net Price $ 78.00
MODEL 622 cabinet only, Weight 47 lbs.	Net Price $ 88.00
MODEL 627 cabinet only, Weight 90 lbs.	Net Price $142.00

MODEL 617 sold as complete unit only.
MODEL 628 sold as complete unit only.

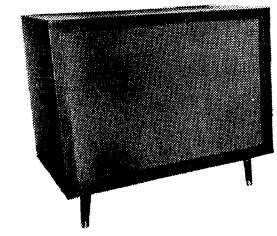
NO OUTPUT TRANSFORMER



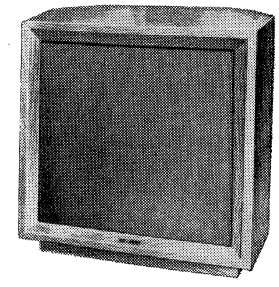
Citadel



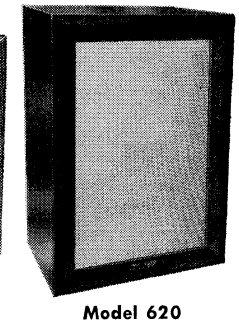
Model 617



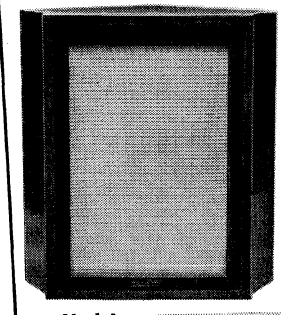
Model 616



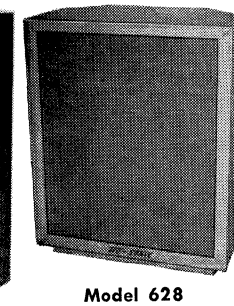
Model 627



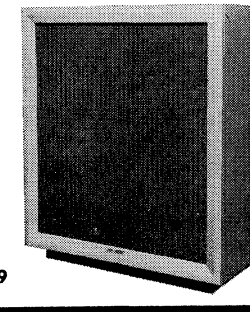
Model 620



Model 622



Model 628



Model 629

STEPHENS MANUFACTURING CORPORATION
CULVER CITY, CALIFORNIA

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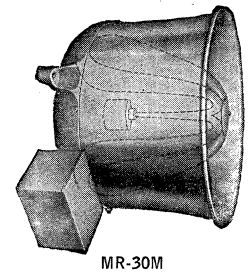
Net

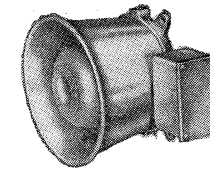
DOUBLE RE-ENTRANT MARINE SPEAKERS

The Models MR-30M, MG-21J, MG-21B and MN-15B marine speakers are designed primarily to meet the vigorous sound systems requirements aboard ship.

The driver unit and connecting leads are all enclosed, resulting in a completely waterproof speaker. Heavy aluminum spinnings are used throughout and back base is a husky, non-corrosive aluminum casting. A baked chromatic undercoat plus an outside lacquer finish is assurance of lasting service under severe conditions of humidity and temperature. Designed for three legged flush rear mounting. All models provided with cast aluminum transformer housing. Model MN-15B supplied with "U" bracket; "U" bracket for other models on request at slight additional cost.



MR-30M

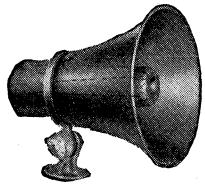


MG-21B
MG-21J
MN-15B

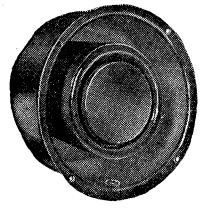
Model No.	Frequency Range	Distribution Angle	Bell Diam.	Capacity (watts) Oper.	Peak	Imp.	No. Driver Units	Over-all Length	Ship. Wt. lb.	Code	List Price
MR-30-M	250-6000	50°	14"	30	60	15	1	10"	29¼	REDIX	$185.00
MR-32M	250-6000	50°	14"	60	120	8	2	18½"	43	REDIT	275.00
MG-21J	350-5000	55°	9½"	25	50	15	1	6¾"	13¾	RASOM	76.00
MG-21-B	350-6000	55°	9½"	20	35	15*	1	6¾"	9¼	RASOB	71.50
MN-15B	450-6000	65°	6¼"	20	35	15*	1	4¾"	6¼	REDUP	51.00
MN-15C	(same as MN-15B, but less "U" bracket)									REDUT	48.75
MN-15D	(same as MN-15B, but less "U" bracket and less transformer box)									REDUZ	45.00

* 8 ohms on request at same price. Four or 45 ohm 1.00 list additional.

RE-ENTRANT PAGING SPEAKERS



RE-15



RE-12 DW-9R

These weatherproof re-entrant paging speakers are capable of high intelligibility in locations where high noise levels prevail. Construction is non-vibratory throughout and consists of heavy aluminum spinnings and castings. Voice coils are designed to provide a high degree of efficiency when these speakers are also used as microphones in "talk-back" systems. Ideal for replacing conventional cone speakers. RE-12 and RE-15 provided with heavy cast aluminum ratchet bracket. DW-9R is supplied with flange for flush mounting.

Model No.	Frequency Range	Distribution Angle	Operating Capacity	Imp.	Bell Diam.	Over-all Length	Ship. Wt. lb.	Code	List Price
RE-15	350-8500	60°	20 watts	*15 ohms	9"	9¾"	6	REMAC	$37.00
RE-12	450-10,000	65°	10 watts	*15 ohms	7"	6½"	3¼	REMAB	28.50
DW-9R	750-10,000	70°	8 watts	*15 ohms	5"	2½"	2	REDOX	37.50

* 8 ohms on request at same price. Four or 45 ohm 1.00 list additional.

NEW PAGING AND TALK-BACK SPEAKERS

RE-20 — Model RE-20 has a nominal rating of 25 watts and incorporates a varnish vacuum impregnated transformer provided with a removable weatherproof aluminum spinning. Primary impedances are 625, 1250, 2500 and 5000 ohms and the secondary is tapped at 4, 8, and 16 ohms. By connecting directly to and between these terminals, the resulting impedances of 310, 625, 1250, 2500, 3650, 5000, 7300, 10000, 14,500 and 29,000 ohms are equivalent to 16, 8, 4, 2, 1.3, 1.0, 0.7, 0.5, 0.34 and 0.17 watts respectively when connected across a 70 volt line. Weatherproof construction throughout.

RE-11 — Similar to the RE-20, but has a higher cutoff and a nominal rating of 12 watts. The built-in 10 watt transformer has primary impedances of 500, 1000, 1500 and 2000 ohms and a secondary tapped at 8 and 15 ohms.

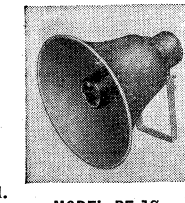
RE-18 — This is the economical answer to all paging and "talk-back" applications where low to medium power levels are necessary and where "specs" do not call for line transformers. Bell and back cover are integrally spun of aluminum to assure weatherproof performance of the 12 watt driver unit. Complete with adjustable "U" bracket.

MODEL RE-20, RE-11

SPECIFICATIONS

MODEL NO.	RE-20	RE-11	RE-18
Power	25 W.	12 W.	12 W.
Range (cps.)	350-8,500	450-10,000	350-10,000
Dist. Angle	60°	65°	60°
V C Imp.	†8 ohms	†15 ohms	#15 ohms
*Sensitivity	107.5 db.	104 db.	104 db.
Bell Dia.	9"	7"	9"
Length	12.5"	9.75"	9.25"
Weight (net)	7 lbs.	4 lbs.	3 lbs.
Weight (ship.)	9 lbs.	5.5 lbs.	3.5 lbs.
	List Price $51.00	List Price $42.00	List Price $32.00

* 4 ft., 1 watt input, warble signal 1,200-2,000 cps.
# 8 ohm available at same price. 4 and 45 ohm $1.00 list additional.
† Built-in transformer. See text.



MODEL RE-18

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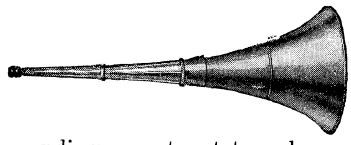
STRAIGHT EXPONENTIAL TRUMPETS



Output from any straight trumpet is approximately 2 DB higher than corresponding re-entrant type because it lacks the attenuation inherent in all re-entrant horns. **"Stormproof"** Trumpets are made of non-vibratory **RACON ACOUSTIC CLOTH.** Weather-treated for indoor or outdoor use. **"All Aluminum"** Trumpets are made of heavy gauge aluminum spinnings with rolled beaded edge and cast aluminum throat sections. **"Unbreakable"** Trumpets are made of heavy gauge aluminum spinnings reinforced and damped with Patented **RACON ACOUSTIC MATERIAL.** Large sizes are useful for church chime systems, C-D systems, airports and stadiums, parks, playgrounds, music festivals, for both speech and music. Smaller sizes for railroad and bus terminals, waiting rooms, factories.

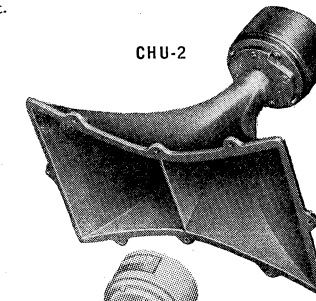
Model No.	Air Column (length)	Units Required	Cut-off (cycles)	Distribution Angle	Bell Diam.	Material	Ship. Weight	Code	List Price
*ST-415A	6′	1	115	45°	30″	Unbreakable	37 lb.	REGON	$160.00
**ST-414A	6′	1	115	45°	30″	Stormproof	39 lb.	RIDER	140.00
*ST-417A	6′	1	115	45°	30″	All Aluminum	35 lb.	RHINO	130.00
**ST-412A	4½′	1	145	50°	25″	Stormproof	34 lb.	RACEY	82.50
*ST-413A	4½′	1	145	50°	25″	All Aluminum	27 lb.	RIANT	80.00
**ST-411A	3½′	1	195	50°	22″	Stormproof	28 lb.	RENEW	
**ST-251A	2′	1	250	55°	12″	Stormproof	6 lb.	RISAT	19.00
**ST-251B	2′	1	250	55°	12″	All Aluminum	5 lb.	RIMAD	18.50

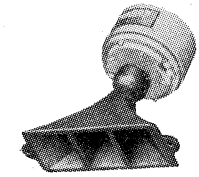
* Delivery, 4 weeks. ** Delivery, 1-2 weeks. NOTE: Models with 2, 4 and 8 unit throats available. Prices on request.

CAST ALUMINUM HORN TWEETERS

Response is essentially uniform to 20,000 cycles. Horn design permits wide angle distribution. Alnico V magnets, featherweight drawn dural diaphragms and aluminum wound voice coils are a few of their outstanding characteristics.

CHU-2





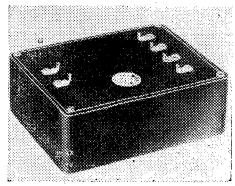
CHU-5

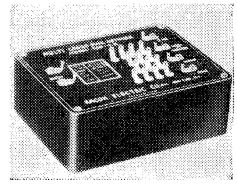
SPECIFICATIONS—MODEL CHU-2 AND CHU-5

Model	Response	Power	Imped.	Crossover	Disp.	Dim.	Weight Net	Weight Ship.	Audiophile Net Price
CHU-2	900-20,000 cps	40 W. (program material)	8 ohms*	1000 cps.	120° H x 50° V	10½ W 6⅜ H 8⅜ D	4.5	6 lbs.	28.50
CHU-5	1500-20,000 cps	40 W. (program material)	8 ohms*	2000 cps.	120° H x 50° V	6½ W 2½ H 6″ D	3.5	4.5 lbs.	23.65

*15 ohms on request at same price.

CON-30
CON-20
CON-6





CON-4M

CROSSOVER NETWORKS

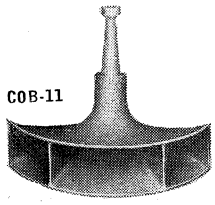
The CON-20 and CON-30 are identical except for crossover and are recommended for the CHU-2 and CHU-5 tweeters respectively. Both are of the ¼ section type, attenuation 6 db per octave. The CON-6 (½ section type) has crossovers at 600 and 5000 cycles, for use in a two or three way system. The CON-4M provides crossovers at 300, 600, 1200 or 5000 cycles for a wide variety of crossovers. Selection of crossover is made by strapping terminals as shown by data on panel.

CROSSOVER NETWORK SPECIFICATIONS

Model	Impedance (input & output)	Crossover Frequency	Dimensions	Audiophile Net Price
CON-20	8 ohm	1000 cycles	3¾ W, 6¼ D, 2¼ H	15.50
CON-30	8 ohm	2000 cycles	3¾ W, 6¼ D, 2¼ H	15.50
CON-6	8 ohm	600, 5000 cycles	5¼ W, 6¾ D, 2½ H	18.50
CON-4M	8 ohm	300, 600, 1200, 5000 cycles	5¼ W, 6¾ D, 2½ H	28.50

COBRA TYPE HORN

COB-11

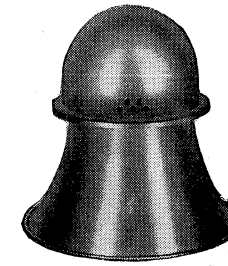


The RACON COB-11 "cobra" type horn is designed for public address systems requiring high clarity reproduction with maximum concentration of sound in a horizontal plane. It is of "straight" horn design and exponentially flared for maximum transfer of energy. The low cutoff of 250 cycles results in crisp, highly articulate quality without a trace of boominess. The horn consists of a heavy two-piece non-vibratory aluminum casting and is provided with a two-section serrated mounting bracket. Finish is baked gray hammertone over a zinc chromate primer.

Cut-off .....250 cycles
Dispersion .....120° H, 40° V
***Thread** .....1⅜"—18
Dimensions .....17⅝" H, 22¼" W, 13⅜" D
Net Wt. .....12 lbs.
Shipping Wt. .....17 lbs.
Code .....ROBON
List Price $82.50

* 1-7/16"-16 on request at same price.

CONE SPEAKER ENCLOSURES



CP-12AW
CP-8AW

These housings are strongly constructed, practically abuse-proof. Back spinnings are steel and incorporate a watertight overlap seal which eliminates rain leakage at the juncture of front bell and rear housing. Two offset mounting hooks are provided for easy installation. Aluminum Bell; Steel back acoustically damped — cone opening protected by wire screening and silk gauze.

Model No.	CP-12AW	CP-8AW
Cone Size	12″	8″
Bell Diameter	17″	15″
Length	20″	15″
Shipping Wt.	8 lbs.	6 lbs.
Code	ROBOT	RIFLE
List Price	$21.00	$17.00

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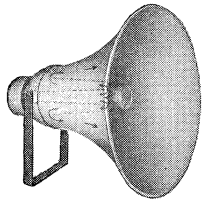
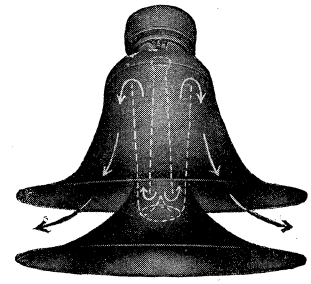
Re-Entrant Trumpets, Radial Horns and Speakers



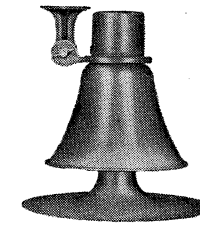
RE-35 RE-50 RE-60

RACON re-entrant horns and speakers are designed to deliver highly concentrated sound with great efficiency over long distances. This is due to true exponential design throughout and the elimination of all vibratory members and sound dissipating devices. The base and inside tone arms are husky aluminum castings and bell is a heavy gauge aluminum spinning. The RE-35, RE-50 and RE-60 incorporate reflectors made of patented **RACON ACOUSTIC MATERIAL** to prevent resonant effects. All models are supplied with "U"-bracket mounting (ratchet swivel type on request). Finish is in weatherproof hard baked gray hammertone. RE-60 & RE-50 recommended for maximum low frequency music reproduction. RE-35 and RE-25 best suited for incidental music and high speech intelligibility.

The SR-35R and SR-60R are weatherproof radial re-entrant horns designed to project sound over an area of 360 degrees. The centre reflectors are of patented **RACON ACOUSTIC MATERIAL** and the deflectors are aluminum spinnings covered with this same non-vibratory material. Standard "U" bracket supplied. Thread size is 1⅜"-18, permitting the use of any driver unit listed below. 1$\frac{7}{16}$"-16 thread on request. The SR-60R is ideal for church tower sound installations and the SR-35R for incidental music and speech.



SR-35R SR-60R



SR-15R SR-12R

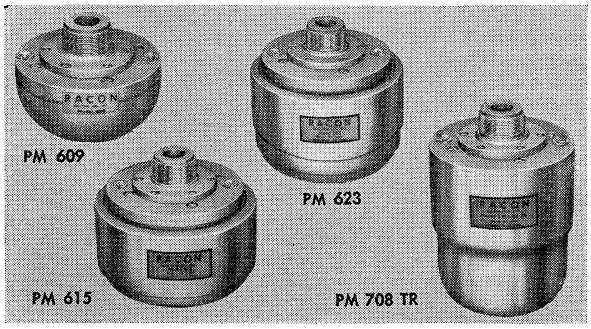
The SR-15R and SR-12R are rated at 20 and 10 watts respectively and are supplied complete with built-in 15 ohm* driver units. These models are intended primarily for speech in paging and "talk back" systems and are completely weatherproof. Supplied with cast swivel ratchet and wall bracket.

Model No.	Acoustic Length	Bell Diam.	Over-all Length	Cut-off (cycles)	Distrib. Angle	Ship. Wt. lb.	Code	List Price
**RE-60	6′	26″	28″	112	45°	21	REMOL	$75.00
**RE-50	4½′	25¼″	23½″	140	50°	19	REMOY	62.50
**RE-35	3½′	19″	16¼″	175	55°	12½	REMOX	35.50
**RE-25	2½′	13½″	11″	225	60°	9	REMOD	29.50
**SR-60R	6½′	36″	34½″	115	360°	47	RADAL	130.00
**SR-35R	4′	17″	16″	175	360°	16	RADAK	52.50
SR-15R	20″	9″	12″	350	360°	7	RADAS	39.75
SR-12R	15″	7″	9″	450	360°	4	RADAB	31.50

* 8 ohms on request at same price. 4 or 45 ohm 1.00 list additional.
** horn only

Waterproof Permanent Magnet Driver Units

The driver unit is the most important single element in a successful public address system. In these four new driver units, primary emphasis is on: high continuous power handling capacity with ample reserve for overload peaks up to 100%, maximum conversion efficiency, response ranges suitable for every type sound system, and waterproof construction.



These four units employ Alnico V magnets and Armco magnetic iron throughout. All soft steel parts are doubly plated to prevent corrosion. An automatic electromagnetic cut-out switch is used in the magnetizing process, assuring maximum flux density in the gap and high uniformity. Units are individually measured for flux density. Each unit is tested with special equipment for power handling capacity as well as a 350-volt ground test.

Long life plastic diaphragms and formers are supplied. Voice coil leads are non-fatiguing beryllium copper, insuring lifetime performance. All units are completely waterproof, yet permit ready replacement of diaphragm where needed.

NEW SUPER X UNITS USING LATEST ALNICO V MAGNETS

Model No.	Weight Net	Weight Ship.	Flux Density per sq. cm.	Frequency Range	Imp.	Diam.	Ht.	Thread	Capacity (watts) Peak	Capacity (watts) Oper.	Code	List Price
PM-623	6 lbs.	6.5 lbs.	15,500 gausses	80-7000	15	5″	5″	1⅜″-18	65	35	RETIX	$52.50
PM-615	6.5 lbs.	7 lbs.	13,500 gausses	90-7000	15	5″	4½″	1⅜″-18	60	30	RETIN	38.50
PM-609	4 lbs.	4.5 lbs.	12,000 gausses	90-7000	15	4″	3¼″	1⅜″-18	60	30	RETEG	29.00
PM-708TR*	6 lbs.	6.5 lbs.	11,000 gausses	90-7000	15	4½″	5½″	1⅜″-18	50	25	RETOY	42.75

*NOTE: Contains built-in 25-watt line matching transformer, primary tapped at 500, 1000, 1500, 2000; secondary; secondary 8 and 15 ohms.

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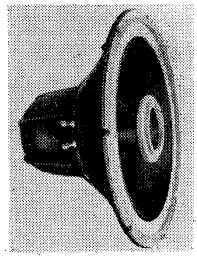
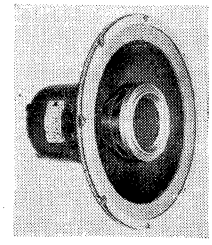
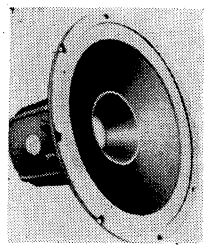
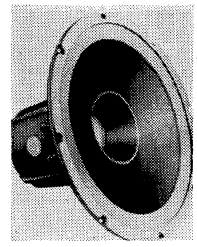
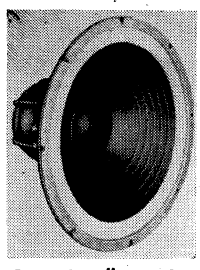
HIGH FIDELITY LOUDSPEAKERS

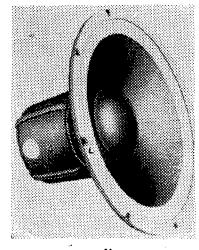

15-HTX 15" Tri-Cone

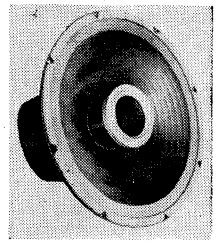

12-HTX 12" Tri-Cone


15-HD 15" Dualcone


12-HD 12" Dualcone


15-HW 15" Woofer


12-HW 12" Woofer


15-XB 15" Tri-Cone

TRI-AXIAL, DUAL CONES, WOOFERS

HIGH FIDELITY LOUDSPEAKERS

These radically new 12" and 15" high fidelity loudspeakers reflect every advance in the acoustical art to date and in addition, incorporate a number of unique design features never available heretofore.

Each model uses a special formulated plastic suspension, resulting in practically a free edge cone. Free air resonance is lower than heretofore obtainable, manifesting itself in exceptionally clean bass response to the lowest limits of program material. To prevent cone breakup at high levels, stiffening struts of rigid styrofoam are cemented radially to the cone's rear surface.

Mid range reproduction in the dual cone and tri-axial models is achieved by a separate cone fastened near the apex of the large cone from which it is decoupled by means of a special resilient compound.

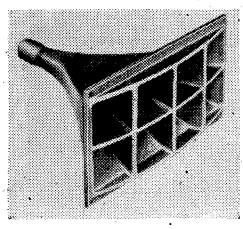
A combined compression and direct radiator tweeter covers the upper band. Highs are silky smooth to the limits of audibility, without the harsh quality usually associated with most horn type tweeters.

NOTE: The 15-XB 15" tri-cone, integrated tri-axial speaker, is the **only** answer to requests for a true extended range speaker at a net price **under $55.00.** Despite this seemingly impossible price goal, no concession has been made to quality.

SPECIFICATIONS

Model	15-HTX	15-HD	15-HW	15-XB	12-HTX	12-HD	12-HW
Response	20-20,000	20-14,000	20-4000	30-20,000	35-18,000	35-12,000	35-5000
Power	25 w	25 w	25 w	**25 w**	20 w	20 w	20 w
Impedance	8 ohm	8 ohm	8 ohm	8 ohm	8 ohm	8 ohm	8 ohm
Res. Freq.	24 cps	24 cps	24 cps	35 cps	40 cps	40 cps	40 cps
Flux	14,500 g.	14,500 g.	14,000 g.	10,500 g.	10,500 g.	10,500 g.	10,500 g.
Crossover	2000 5000	2000		2000 5000	2000 5000	2000	
Dispersion	100°	100°	100°	100°	100°	100°	100°
Dimensions	15⅛" d x 8½"	15⅛" d x 8½"	15⅛" d x 8½"	15⅛" d x 7½"	12⅛" d x 7"	12⅛" d x 7"	12⅛" d x 7"
Weight	23 lbs.	21 lbs.	21 lbs.	11 lbs.	9.5 lbs.	8 lbs.	8 lbs.
Audiophile Net	109.50	79.50	69.50	54.00	43.50	32.00	30.00

MODEL COB21 WIDE ANGLE HORN


COB-21

The COB-21 is a one piece cast aluminum horn with a design cutoff of 600 cycles. It incorporates an integrally cast 8 cell configuration to provide a uniform sound pattern. It may be used in a two or three way system or as a midrange and high frequency speaker in a three way system. The CHU high freqpency unit is recommended for the COB-21.

SPECIFICATIONS—MODEL COB-21

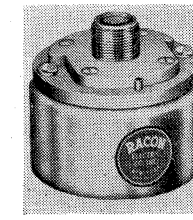
CUTOFF: 600 cycles
HI-FREQ. DISPERSION: 120°
DIMENSIONS: 11" W, 6" H, 11" L
WEIGHT: 5 lbs.
PANEL OPENING REQ.: 5" x 10⅜"
PRICE: $17.00 AUDIOPHILE NET

MODEL CHU WIDE RANGE DRIVER UNIT

Although designed to power the COB-21 horn, it may be used in any application requiring uniform response from 600-20,000 cycles. High flux density is obtained from an oversized ALNICO V magnet. Diaphragms are made from cold tempered dural, hydraulically drawn. Voice coils are wound with aluminum wire for low mass.

SPECIFICATIONS—CHU DRIVER UNIT

POWER: 40 watts (program material above 600 cycles)
FREQ. RESPONSE: 600-20,000 cycles
*IMPEDANCE: 8 ohms
DIMENSIONS: 3¼" Dia. x 3" H.
THREAD SIZE: ⅞"-18
WEIGHT: 3½ lbs.
PRICE: $21.50, AUDIOPHILE NET
*15 ohms on request at same price.


CHU

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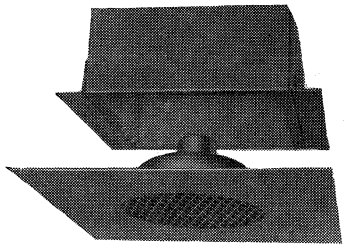
Net

METAL SPEAKER ENCLOSURES

RECESSED CEILING and WALL ENCLOSURE



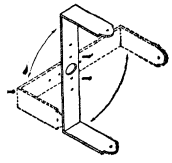
This speaker housing is suitable for an 8″ speaker and reduces installation costs considerably. Adjustable brackets make the housing ideal for use in old or new construction. The depth of the box is 4″, so that it can be mounted in walls where the studding is 2″ x 4″.

All of the features of acoustical perfection, durability and economy found in the universal type of speaker enclosure apply to the recessed enclosure as well.

This speaker housing is easily installed in a ceiling where acoustical tile has been used, since the grill plate is a 14″ square. This, therefore, perfectly covers the space from which a 12″ acoustical tile has been removed.

Primer Coat Only Catalog No.	Hammered Finish Catalog No.	Speaker Size	Type	Height	Width	Depth	Actual Weight Pounds	Dealer Cost Primer	Dealer Cost Hammertone
CS-2274	CS-2244	8″	Housing with grill	14″	14″	4-1/16″	8¼	$9.69	$10.00
			(Housing dimension 10″ x 10″ x 4″)						
CS-2275	CS-2245	8″	Grill plate Only	14″	14″	1/16″	4	1.84	2.00

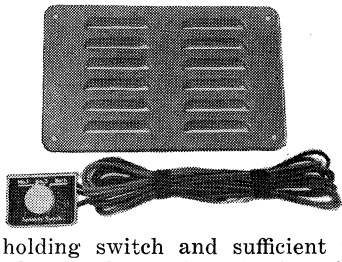
ADJUSTABLE MOUNTING BRACKET



The adjustable mounting bracket can be used with any of the universal type enclosures. This makes possible an adjustable feature by which the speaker housing can be adjusted in any angle in a horizontal plane. There is a hole in the bracket which will pass a half inch conduit, permitting the speaker housing to be suspended from the ceiling.

Catalog Number	Description	Actual Wt. lbs.	Dealer Cost
AB-2250	Adjustable bracket for CS-2240	¾	$1.14
AB-2251	Adjustable bracket for CS-2241	1	1.14
AB-2252	Adjustable bracket for CS-2242	1¼	1.41
AB-2253	Adjustable bracket for CS-2243	2¾	1.65

REAR SEAT SPEAKER ASSEMBLY

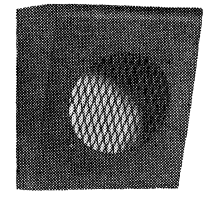


This unit is available in two types, as shown in the table below. The rear seat speaker grill assembly consists of the rear seat speaker grill, together with mounting screws, switch, bracket for holding switch and sufficient wire for installation. The switch permits selection of either speaker or use of both speakers simultaneously.

The rear seat speaker grill is a finely louvered unit made from heavy gauge steel, which assures you of having a grill that will "take a beating." The finish is a beautiful silver grey hammertone, which is a fine enough finish to be attractive and yet dull enough to assure you that no glaring sun reflection will be picked up by a rear vision mirror and be a potential blinding flash to the driver.

Catalog Number	Plate Size	Actual Wt. lbs.	Dlr. Cost
CS-2260	3/16″ x 9″ x 5½″	¾	$2.00
CS-2261	(Consisting of CS-2260 plus switch, bracket and wire)	1¼	3.34

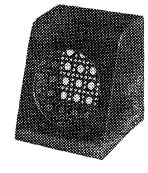
WALL TYPE SPEAKER CASES



This is a distinctive line of speaker cabinets, for wall or table use. Since these units are made of steel, all troubles with wood warping and splitting are eliminated. Keyway holes are provided for wall mounting and four embossed feet on the bottom are provided to prevent damaging table surfaces. Finished in brown wrinkle enamel only.

Cat. No.	Hole Size	Speaker Size	Height	Width	Depth	Dealer Cost
CS-1948	3½″	4″	7½″	6½″	4¼″	$2.85
CS-1939	4″	5″	7½″	6½″	4¼″	3.00
CS-1940	4¾″	6″	9½″	8″	5⅝″	3.40
CS-1941	6½″	8″	11½″	9½″	7″	3.90
CS-1942	8½″	10″	13½″	11½″	8¼″	4.50
CS-1943	10½″	12″	15½″	13½″	9¾″	6.17

MINIATURE SPEAKER CASE



A safe, convenient housing for midget 2″ and 3″ speakers. These units are finished in black wrinkle only.

Catalog Number	Hole Dia.	Fits Speaker Size	Actual Wt. lbs.	Dlr. Cost
CS-1685	2-3/16″	2″	¾	$1.50
CS-1686	2-13/16″	3″	¾	1.50

Prices subject to change without notice.
Prices on above slightly higher west of the Mississippi River.
Only a few of many BUD Products are shown. Write for complete catalog.

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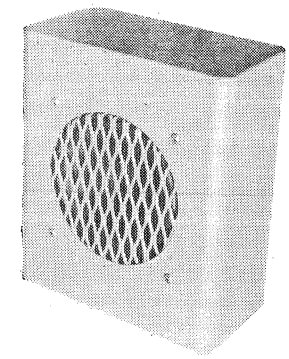
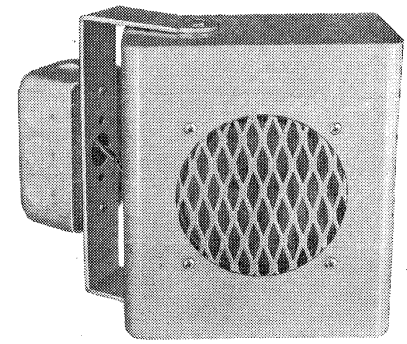
METAL SPEAKER ENCLOSURES

SILVER SONANCE LINE



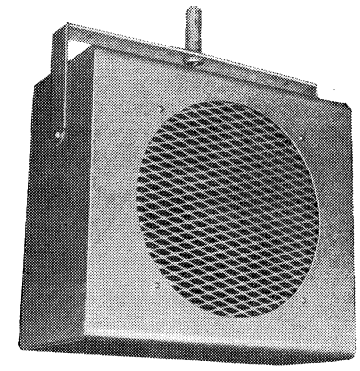
The Silver Sonance Line is divided into three parts. The first is the Universal Speaker Enclosure. There are many advantages of the Universal type of speaker housing that makes it the most outstanding unit of its type. It can be used in hospitals, schools, factories, auditoriums, stores, airports, railroad stations, stadiums and any other place where a speaker is used.

A prominent feature of this housing is the adjustability that is achieved by mounting our speaker case with an accessory known as the Bud Adjustable Mounting Bracket. Full information on this bracket is given on page C-48. When the adjustable feature is not desired, the speaker housing may be attached directly to the wall. There are two holes in the sides of the speaker housing enabling installation in this manner. The holes in the cabinet are so spaced that the housing may be mounted either to an outlet box or screwed directly to the wall.



The new BUD UNIVERSAL speaker enclosures have a bi-lateral feature which permits sound to come from both the front and the back of the speaker housing. This is an ideal feature when speakers are used for paging purposes, or when speakers are used in corridors, hallways, or other places where the intention is to have the sound travel in two directions.

There is no danger of cracking, warping, splitting, or any of the other disadvantages found when a wood speaker baffle is used. Since our speaker enclosure is made of heavy gauge steel, none of these disadvantages are present. Changes in temperature and weather conditions have absolutely no effect on this speaker case. The finish is a beautiful silver grey hammertone. The hammertone finish assures ease of cleaning, as the housing may be cleaned by wiping with a damp cloth.



A special sound-deadening compound is used to eliminate the metallic resonant sound that is present in other metal speaker cases. All screws and nuts are furnished for mounting the speaker in the enclosure. There are no holes to drill and no time will be wasted in the installation.

Primer Coat Only Catalog No.	Hammered Finish Catalog No.	Speaker Size	Height	Width	Depth	Actual Weight Pounds	Dealer Cost Primer	Dealer Cost Hammertone
CS-2270	CS-2240	4″ or 5″	7¼″	6¾″	3-15/32″	2½	$ 3.67	$ 4.00
CS-2271	CS-2241	5″, 5½″ or 6″	8¼″	7½″	4″	2¾	4.17	4.50
CS-2272	CS-2242	6″ or 8″	10-37/64″	9½″	5-1/16″	4½	7.92	8.25
CS-2273	CS-2243	10″ or 12″	15-1/32″	13½″	7-13/64″	9	10.00	10.50

Prices subject to change without notice.
Prices on above slightly higher west of the Mississippi River.
Only a few of many BUD Products are shown. Write for complete catalog.

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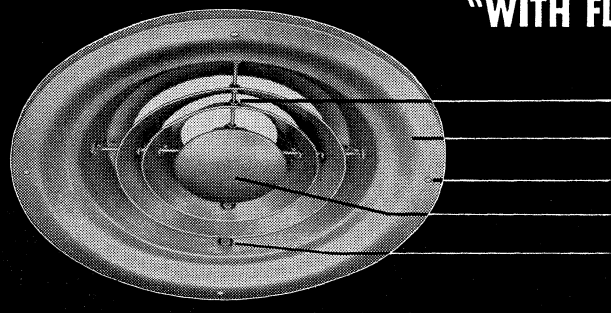
Net

LOWELL STL SERIES

New Low Ceiling Type Baffles

"WITH FLOATING CONICAL ACTION"



1/8" ALUMINUM RODS AT 90°

ALUMINUM HOUSING

7/32" MOUNTING HOLES

ALUMINUM CONICAL DIFFUSER

SOFT RUBBER GROMMETS IN CIRCULAR LOUVRES PREVENT METALLIC RESONANCE

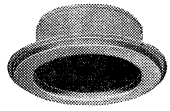
Model No.	Speaker Size	Will Mount to
STL-6	6"	CP8, XCP8, PR8
STL-7	7"	STP8, XSTP8, XSTPR8
STL-8	8"	STP8, XSTP8, XSTPR8
STL-10	10"	ST10, XSTP10, XSTPR12
STL-12	12"	STP12, XSTP12, XSTPR12

These new, unusual additions to the Lowell line of speaker baffles are top quality heavy 18 gauge spun aluminum in a buffed satin finish. Designing assures controlled 360° dispersion of undistorted sound. Echo and feedback are at the minimum. Louvres and conical diffuser "float" on very small soft rubber grommets. Baffles are coated with clear lacquer which also serves as prime coat for on-the-job painting. Wide choice of colored lacquer finishes available on request.

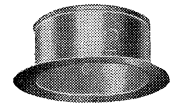
Shipped complete with hardware and instructions for mounting to Lowell Protective Speaker Enclosures illustrated.

From architecture to acoustics, Lowell STL series meets every requirement — in ultra-modern design . . . for even, undistorted low-level sound distribution throughout 360°. Recommended baffle placement is usually 25′ from center to axis. Where straight line placement is impossible, triangulating the baffles in the ceiling is highly effective.

STP SERIES



XSTP SERIES



XSTPR SERIES

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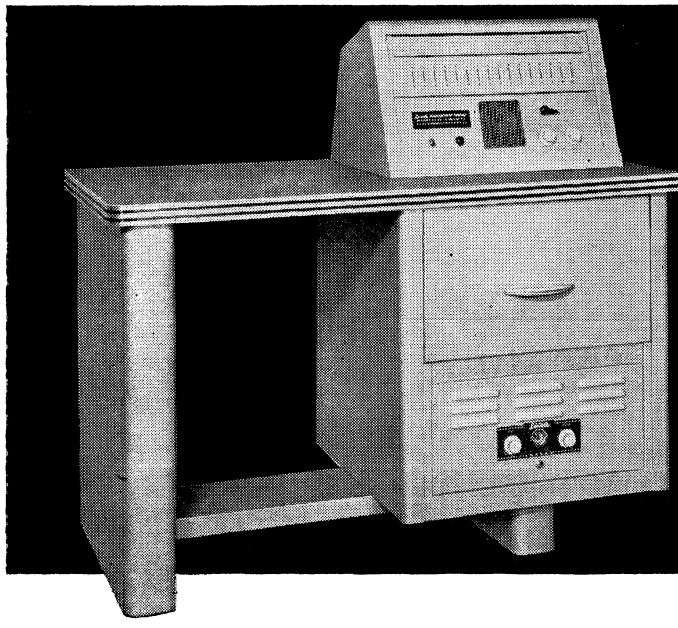
LOWELL CONSOLES

Single turret, Two turret, Three turret Models



CUSTOM-CONSOLE EFFICIENCY!

MASS-PRODUCTION PRICES!

PROMPT DELIVERY FROM STOCK!

Offer every custom-styled advantage. Equipment is well protected. All controls can be located for maximum operator comfort and convenience. Lowell console models are available for every budget due to low mass-production prices!

FEATURES: 18 gauge steel with gray hammertone finish. Gray, heavy-duty linoleum top to provide comfortable, durable work surface.

MODELS AVAILABLE: There are models especially designed for use in airports, broadcast studios, schools, manufacturing plants and similar applications.

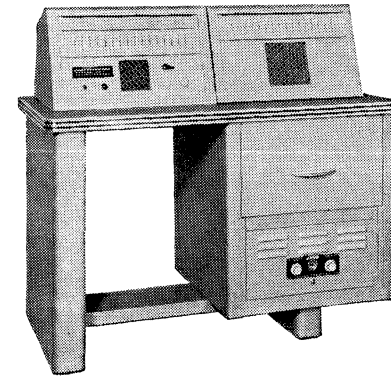
SMALL SINGLE TURRET CONSOLE — with or without sliding drawers accommodating up to 16″ transcription player. For airports or broadcast studios.

4 FT. CONSOLE WITH SINGLE SHELF AREA — includes sliding phono drawer. Will handle one or two turrets. Excellent for schools of approx. 15 rooms.

6 FT. CONSOLE WITH DOUBLE SHELF AREA — in both right and left. For up to three turrets. Serves schools of about 60 rooms.

Also — 1-Turret unit with single drawer and shelf with indent 4″ above kneehole.

3-Turret unit with double drawers and two shelves with indent 4″ above kneehole.



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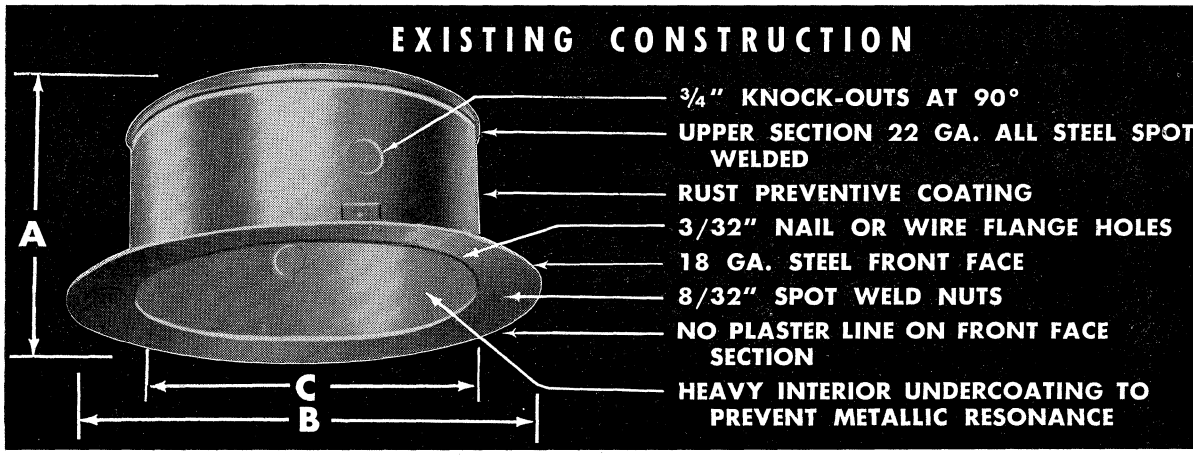
LOWELL XCP SERIES

Back Cover Protective Speaker Enclosure



Model	A	B	C	Speaker Size Accommodation
XCP6	4"	10⅛"	7"	6"
XCP8	2½"	11¾"	8½"	8"
XCP8	4¼"	11¾"	8½"	8"
XCP8	7"	11¾"	8½"	8"
XCP8	10"	11¾"	8½"	8"
XCP1012	7"	15⅞"	12½"	10" & 12"
XCP15	10¾"	21¼"	14⅝"	15"
XSTP8	7"	13¾"	12½"	8"
XSTP1012	10"	17½"	14½"	10" & 12"

USES: Designed for quick labor-saving wall or ceiling installation of sound systems in EXISTING CONSTRUCTION, ready for plastering.

DESCRIPTION: All-steel, spot-welded construction of heavy 22 ga. metal complete with plaster ring attached. ½" and ¾" knockouts at 90°. Rust preventive coating on exterior. Very heavy undercoating on interior to prevent metallic resonance. Sufficient speaker back pressure relief assures high speaker efficiency. Excellent for high fidelity installations. Complete mounting hardware and mounting instructions furnished to meet problems of various types of installations.

Note: Special overall depths (where space in walls and ceilings allow) and additional "loading" may be ordered at slightly higher price.

IMPORTANT: When mounting back enclosures in wall or ceiling for slip fit, cut hole to following size in diameter as per model ordered and nail to lath:

Model XCP6—7¼" dia.
Model XCP8—8⅝" dia.
Model XCP1012—12⅝" dia.
Model XCP15—14¾" dia.
Model XSTP8—12⅝" dia.
Model XSTP1012—14⅝" dia.

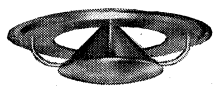
FOR SUSPENDED CEILINGS:
Mount XCP Series back enclosures to Model SS24 or 48 Steel Support Channels for positive strength.

FEATURES: Protects speaker cone from fire, falling mortar and dust. Prevents rodents from damaging speaker cone. Easily serviced without damage to wall or ceiling. Installation time reduced.

Speaker Baffles That Will Mount to XCP Series Protective Speaker Enclosures:

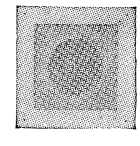
Enclosure Model No.	Speaker Baffle Model No.
XCP6	AL6-A, RS5-A, RS6-A,
XCP8	AL7-A, AL8-A, RS7-A, RS8-A, CE, JG8, M-8, PS8, STL6
XSTP1012	AL10-A, AL12-A, RS10-A, RS812-M, AL812-M, RS12-A, JG12
XCP15	AL15, RS15-A
XSTP8	STL8
XCP1012	STL10, STL12

AL SERIES

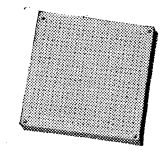


RS SERIES

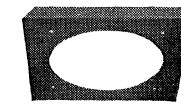
JG SERIES



M SERIES



PS8 BLOCK PAN



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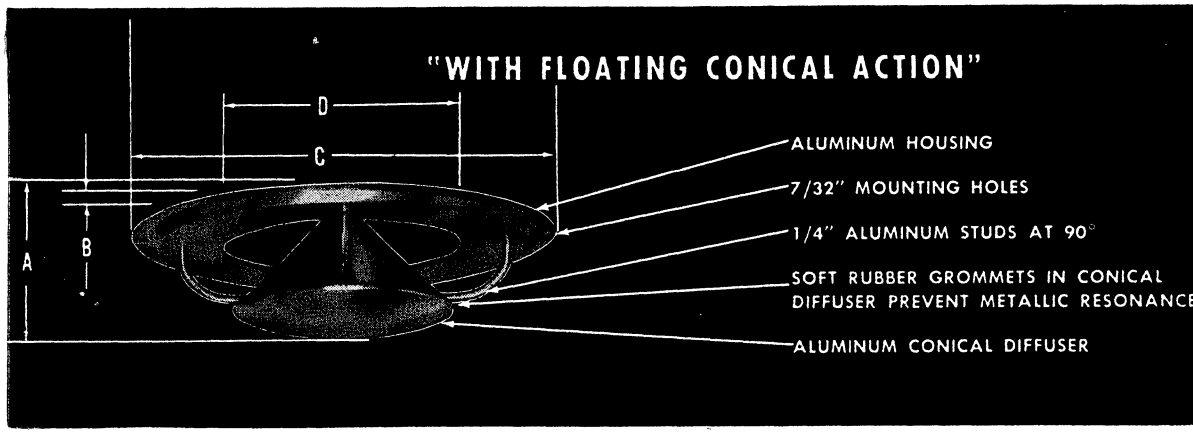
LOWELL AL SERIES

Flush Mounting Low Ceiling Baffles



Speaker Baffle Model	Size Speaker Accommodated	Mount to Speaker Enclosure Models	Dimensions A	B	C	D	Baffle Flange	No. of Flange Mtg. Holes	Dia. of Required Hole in Ceiling	Weight (lbs.) Net	Shpg.	No. per Shipping Carton
AL6-A	6"	CP6, XCP6, PR6 PS	2½"	½"	10½"	5¼"	1"	4	7"	½	¾	12
AL7-A	7"	CP8, XCP8, PR8 PS	2½"	½"	12¾"	5¼"	1"	4	8½"	¾	1	15
AL8-A	8"	CP8, XCP8, PR8 PS	2½"	½"	12¾"	6⅜"	1"	4	8½"	¾	1	15
AL10-A	10"	CP1012, XCP1012 PR10	3"	½"	17"	8½"	1"	4	13"	1	1½	6
AL12-A	12"	PR12, CP1012, XCP1012	3"	½"	17"	10⅜"	1"	4	13"	1	1½	6
AL15-A	15"	PR15, XCP15 CP15	5"	2"	22"	13"	1¾"	8	15½"	3	3½	1
AL812-M	8"	PR12, CP1012 XCP1012	2½"	½"	17"	6¼"	2"	4	8½"	¾	1	6

Top quality, heavy gauge satin finished spun aluminum. Assures controlled 360° diffusion of undistorted "ear-level" sound with minimum of echo and feedback. Conical diffuser "floats" on soft rubber grommets forming a press fit to aluminum support studs which thread to speaker housing ring. Clear lacquer coating also serves as prime coat for on-the-job painting. Wide choice of colored lacquer finishes available on request. Shipped complete with hardware for mounting to Lowell Protective Speaker Enclosures illustrated.

360° Coverage Low "Ear-Level" Sound

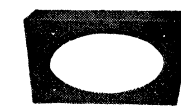
Even undistorted sound. Recommended baffle placement 25' from center of axis. Where straight line placement is impossible, triangulating baffle in ceiling is highly effective.

CP SERIES

XCP SERIES

PR SERIES

PS BLOCK PAN



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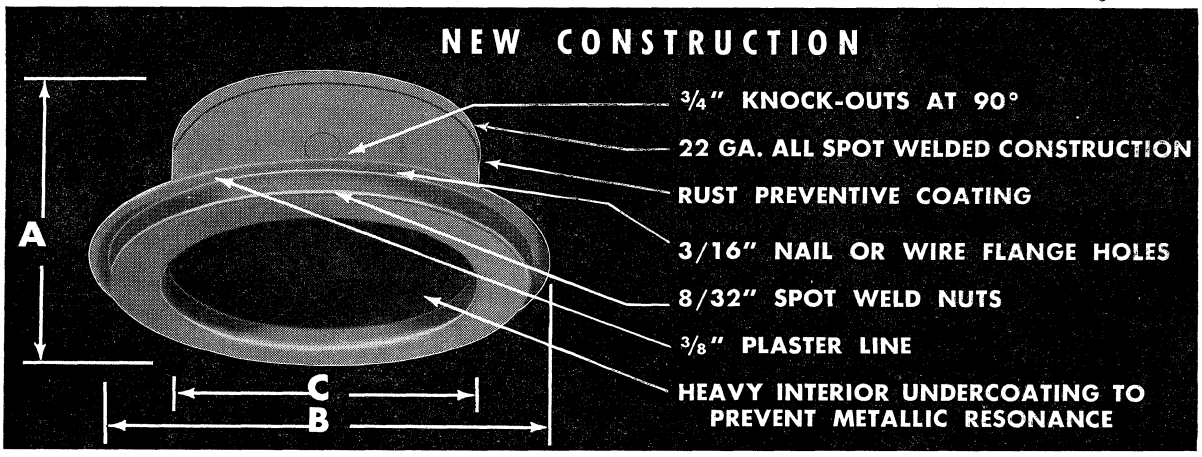
LOWELL CP SERIES

Back Cover Protective Speaker Enclosure



Model	A	B	C	Speaker Size Accommodation
CP6	4"	11¼"	7"	6"
CP8	2½"	13"	8½"	8"
CP8	4¼"	13"	8½"	8"
CP8	7"	13"	8½"	8"
CP8	10"	13"	8½"	8"
CP1012	7"	17⅛"	12½"	10" & 12"
CP15	11"	21½"	14⅝"	15"
STP8	7"	14⅞"	12½"	8"
STP1012	10"	18⅞"	14½"	10" & 12"

USES: Designed for quick, labor-saving wall or ceiling installation of sound systems in NEW CONSTRUCTIONS, ready for plastering.

DESCRIPTION: All-steel, spot-welded construction of heavy 22 ga. metal complete with plaster ring attached. ¾" and ½" knock-outs at 90°. Rust preventive coating on exterior. Very heavy undercoating on interior to prevent metallic resonance. Sufficient speaker back pressure relief assures high speaker efficiency. Excellent for high fidelity installations. Complete with mounting hardware and mounting instructions to meet problems of various types of installation.

Note: Special overall depths (where space in walls and ceilings allow) and additional "loadings" may be ordered at slightly higher price. Available with removable cylinder and stationary front plaster ring in adjustable face models—DCP series.

IMPORTANT: When mounting back enclosures in wall or ceiling for slip fit, cut hole to following size in diameter as per model ordered and nail to lath.

Model CP6—7" dia.
Model CP8—8½" dia.
Model CP1012—12½" dia.
Model CP15—14¾" dia.
Model STP8—12½" dia.
Model STP1012—14½" dia.

FOR SUSPENDED CEILINGS:

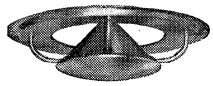
Mount CP Series back enclosures to Model SS 24 or 48 Steel Support Channels for positive strength.

FEATURES: Protects speaker cone from fire, falling mortar and dust. Prevents rodents from damaging speaker cone. Easily serviced without damage to wall or ceiling. Reduces installation time.

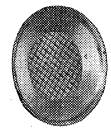
Speaker Baffles That Will Mount to CP Series Protective Speaker Enclosures:

Enclosure Model No.	Speaker Baffle Model No.
CP6	AL6-A, RS5-A, RS6-A
CP8	AL7-A, AL8-A, RS7-A, RS8-A, JG8, M-8, PS8, STL6
CP1012	AL10-A, AL12-A, RS10-A, RS12-A, JG12, RS812-M, AM812-M
CP15	AL15, RS15-A
STP8	STL8
STP1012	STL10, STL12

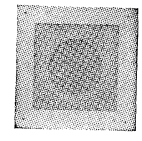
AL SERIES



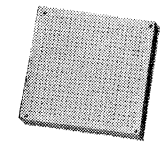
RS SERIES



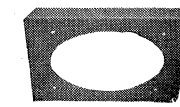
JG SERIES



M SERIES



PS8 BLOCK PAN



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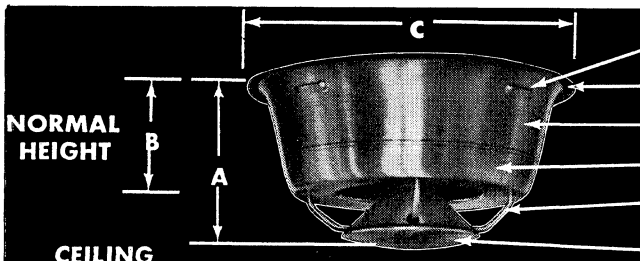
SURFACE MOUNTING CEILING BAFFLES

"WITH FLOATING CONICAL ACTION"

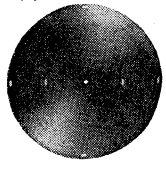


RELIEF VENTS
ROLLED FLANGE
HEAVY 18 GAUGE ALUMINUM
HEAVY ¾" JUTE LINING INTERIOR
¼" ALUMINUM STUDS AT 90°
ALUMINUM CONICAL DIFFUSER

PATENTED IN THE U.S.A. AND CANADA

Model No.	Speaker Size	A	B	C	Will Mount To
BL6-A	6"	7¼"	4¼"	12¼"	PL6
BL7-A	7"	8⅛"	5¼"	14¾"	PL7
BL8-A	8"	14¾"	5¼"	8⅛"	PL8
BL10-A	10"	9¼"	7¼"	18⅜"	PL10
BL12-A	12"	9¼"	7¼"	18⅜"	PL12

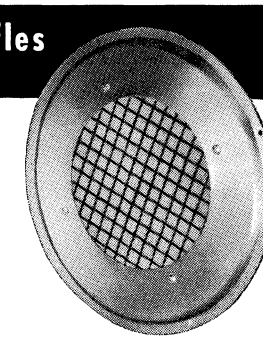
IMPORTANT NOTE: When added cubical area is required, CP or XCP Series may be installed in ceiling. Choose model to suit speaker size selected for installation.



PL Series Steel Discs for mounting BL Series to concrete ceilings. Heavy 18 gauge steel. All holes punched for standard electrical outlet boxes.

GENERAL INFORMATION: Designed for surface mounting constructed of heavy gauge aluminum. Accurately engineered for normal ceiling sound reinforcement. Perfect speaker cone loading holds feed-back to minimum. Exclusive "Floating Conical Action" assures controlled 360° sound coverage. High frequency diffuser supported to housing by four ¼" aluminum studs and threaded on one end mounted to housing. Press fit to diffuser through soft rubber grommets prevents metallic resonance. Recommended placement of baffles under normal ceiling heights is 25' off center of axis in straight line placement. All models finished in brushed satin and coated with colorless lacquer. Acts as excellent base coat or primer for on-the-job painting. All models available in colored lacquers at slightly higher price. Complete information on request.

TYPE RS recessed wall type directional speaker baffles



TYPE RS RECESSED WALL TYPE DIRECTIONAL SPEAKER BAFFLES:

Excellent speaker trim for modern installations. Especially recommended for Dress Shops, Department Stores, Night Clubs. Provides concealment of speaker. Easily installed.

DESCRIPTION: 18 gauge spun aluminum. ½" mounting flange. Mounts to Lowell Model CP or XCP enclosures or to wall with 4 toggle bolts. Furnished with plastic grille cloth. Grille cloth and speaker mount to trim ring with 4 round hand screws. Standard finish—satin aluminum.

Model No.	Speaker Size	Dimensions	Wall Hole Size
RS4-A	4"	7½" dia. x 7/16" depth	5" dia.
RS5-A	5"	10" dia. x 7/16" depth	7" dia.
RS6-A	6"	10" dia. x 7/16" depth	7" dia.
*RS7-A	7"	12⅜" dia. x 7/16" depth	8½" dia.
RS812-M	8"	17" dia. x ½" depth	8½" dia.
RS8-A	8"	12⅜" dia. x ½" depth	8½" dia.
RS8-A (1½" deep)	8"	12⅜" dia. x 1½" depth	8½" dia.
RS10-A	10"	16½" dia. x ½" depth	12½" dia.
RS12-A	12"	16½" dia. x ½" depth	12½" dia.
RS15-A	15"	23" dia. x 3" depth	17" dia.

* For RCA 7" Accordian Speaker. Information on colored lacquer furnished on request for both models.

HEARD EVERYWHERE Lowell MANUFACTURING COMPANY

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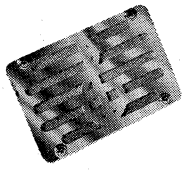
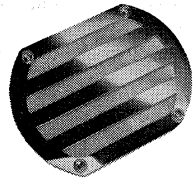
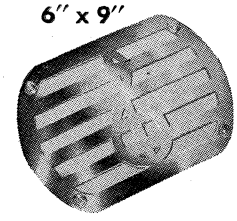
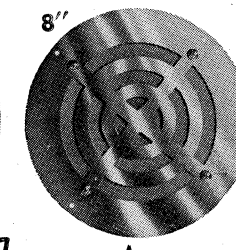
D&M PRODUCTS

Specialty Manufacturers
DETROIT 35, MICHIGAN

4" x 6" | 5" x 7" | 6" x 9" | 8" | 8"



- A complete line of deluxe speaker grilles to meet the needs of auto rear speaker installation, recreation room, intercom, public address systems, test panel, etc. Available in brilliant chrome or neutral grey hammertone finish. Complete with flocked screen and speaker mounting hardware.

		List
4" x 6"	SG46C CHROME	$2.75
	SG46H HAMMERTONE	2.50
5" x 7"	SG57C CHROME	3.50
	SG57H HAMMERTONE	3.25
6" x 9"	SG69C CHROME	3.95
	SG69H HAMMERTONE	3.65
8" ROUND	SG8RC CHROME	4.10
	SG8RH HAMMERTONE	3.75
8" RECESS MOUNT	SG8WC CHROME	4.45
	SG8WH HAMMERTONE	3.95

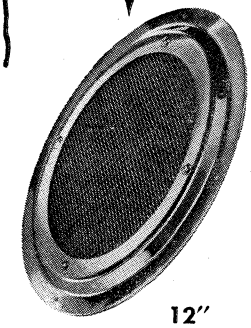
Specifically designed for the custom installation of 12" speakers in wall or ceiling, this symetrically patterned grille will enhance the appearance of any speaker installation in new or existing construction. Formed for strength and beauty, this unit is available in the following finishes to blend with the decor of the individual installation.

	List
# SG12C CHROME	**$7.95**
# SG12H HAMMERTONE	**$7.50**
# SG12P PRIME COATED	**$7.50**

Complete with woven saran grille cloth and speaker mounting hardware.

DIMENSIONS:
Inside Cutout: 10½"
Outside Diameter: 15¾"
Mounting holes on flange are spaced on 14¾" diameter.

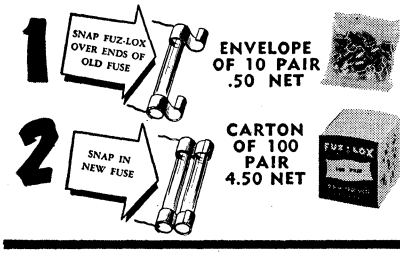
FOR RECESS MOUNT



12"

FUZ-LOX

A fast, efficient, and economical method of shunting burnt out pigtail fuses in television chassis. Made of spring tempered brass and nickel plated to insure excellent contact.

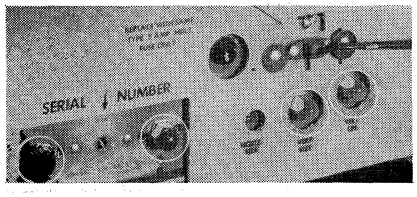


CONTROL GUARDS

Designed for the protection of pre-set controls against tampering or accidental adjustment. Prevents dirt and moisture infiltration into controls. May be used on test equipment or industrial equipment as well as TV chassis. Fits all standard shaft bushings.

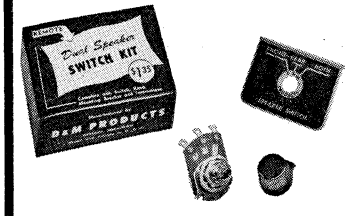
ENVELOPE OF 6 .36 NET

CARTON OF 50 3.00 NET



UNIVERSAL REAR SPEAKER ACCESSORIES

DUAL SPEAKER SWITCH KIT



For rear speaker application. Permits the use of front, rear or both speakers. Complete with 3-way switch, mounting plate, knob and simple instructions.

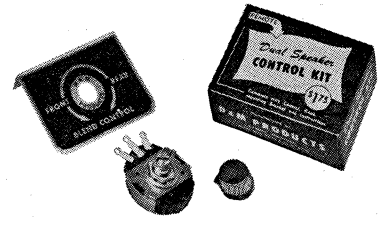
#DSK . . . . . List $1.35

WIRED DUAL SPEAKER SWITCH ASSEMBLY

A completely wired unit for the original installation of auto rear speakers. Permits the use of front, rear or both speakers. Includes wired 3-way switch, mounting plate, knob and simple instructions.

#WSK . . . . . List $1.95

DUAL SPEAKER CONTROL KIT



This unit is designed to vary the volume of either speaker or both in rear speaker installations. Includes wirewound control, mounting plate, knob and simple instructions.

#DBC . . . . . List $1.75

WIRED DUAL SPEAKER CONTROL ASSEMBLY

A completely wired control for the original installation of auto rear speakers. This unit will vary the volume of either speaker or both. Includes a wired control, mounting plate, knob and simple instructions.

#WBC . . . . . List $2.35

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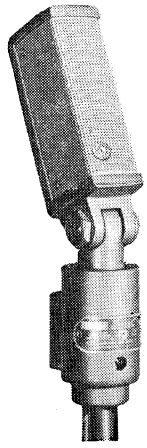
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

SHURE STUDIO MICROPHONES

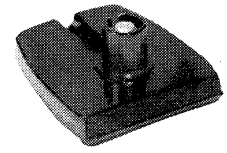
UNI-DIRECTIONAL RIBBON MICROPHONE



Model "333"

Here is the Concert-Line "333," a truly fine and rugged microphone created for discriminating users with the most exacting professional requirements. Here, indeed, is a major advance in microphone development and design! This small, ultra-cardioid "333" is highly recommended for motion-picture studios, TV studios, radio stations, professional recording, and all other uses where quality requirements are of the highest. Here is performance never before achieved in such a small and slender microphone! Here is ruggedness and reliability! Here is matchless beauty and striking design to appeal to users who demand the finest! The "333" is ultra-cardioid, uni-directional——reduces the pickup of random noise energy by 73%——prevents the pickup of moving props, scuffling feet and moving "dollies," so common when conventional broadcast microphones are used. Following are the features that make the "333" Concert-Line so outstanding in performance, so dependable in operation: (1) patented, world-famous "Uniphase" system; (2) a true ultra-cardioid pickup pattern; (3) horn-loaded ribbon transducer provides extended smooth response, plus or minus 2½ db, 30-15,000 c.p.s.; (4) multi-impedance switch; (5) voice-music switch; (6) anti-"Pff," anti-blast filter screen; (7) Shure self-adjusting "lifetime" swivel; (8) high output; (9) sturdy, one-piece metal case; (10) vibration-isolation unit mounted in live rubber; (11) Cannon XL connector. All these important features, plus the striking design of the Concert-Line "333," make it ideal for critical studio applications that call for the highest possible broadcast quality, small size and matchless beauty——plus the ability to withstand the rough work-a-day handling by the sound crew. The "333" has two-tone "Baked Bronze" non-reflecting finish. Head dimensions: Width, 1 1/8"; height, 3 9/16"; depth, 1 3/4".

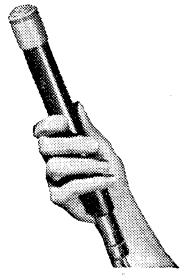
IMPEDANCE TABLE	OUTPUT LEVEL
50 ohms	60.0 db below 1 Milliwatt per 10 microbar signal
150 ohms	59.0 db below 1 Milliwatt per 10 microbar signal
250 ohms	59.0 db below 1 volt per microbar



Model S33
Broadcast
Desk Stand
For use with
Models 300, 333,
525, 535 and 556S
List Price: $15.00

MODEL	LIST PRICE
"333"	$250.00

OMNI-DIRECTIONAL DYNAMIC MICROPHONE



Model "525"

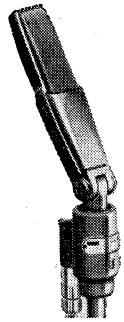
The new Concert-Line "525" is an exceptionally fine probe microphone of broadcast quality. It features: (1) frequency response 40-15,000 c.p.s., production uniformity guaranteed to plus or minus 2½ db; (2) a moving-coil mounted in a highly efficient magnetic structure; "Alnico V" magnet; (3) multi-impedance switch; (4) high output; (5) long life "Duracoustic" diaphragm——specially designed to withstand moisture, heat, cold and physical shock. The "525" is furnished with a 20 ft., two-conductor, rubber-covered, shielded cable with Cannon XL-3-11 connector attached; swivel adapter; adjustable lavalier assembly (cord and clip), and a belt clip assembly. The "525" Concert-Line has a non-reflecting "Baked Bronze" finish——which makes it blend into the background, giving the spotlight to the performer. Body diameter, 1"; length, 8 17/32".

IMPEDANCE TABLE	OUTPUT LEVEL
50 ohms	61.0 db below 1 Milliwatt per 10 microbar signal
150 ohms	61.0 db below 1 volt per microbar
250 ohms	61.0 db below 1 volt per microbar

Model S33
Broadcast
Desk Stand
List Price: $15.00

MODEL	LIST PRICE
"525"	$200.00

BI-DIRECTIONAL GRADIENT MICROPHONE



Model "300"

This rugged, high fidelity, multi-impedance microphone is widely used for television, radio broadcasting, professional recording and high-fidelity uses. The "300" reduces reverberation and the pickup of random noise by 66%. The "300" combines the best features of conventional velocity microphones with advanced acoustic design—including an anti-"PFF," anti-blast filter screen. Its bi-directional polar pattern is effective over a broad frequency range. It provides sound pickup at the front and rear of the microphone, but greatly reduces pickup at the sides. One of the outstanding features of the "300" is the fact that the microphone can be placed at a 73% greater distance from the performer than is possible with omni-directional microphones! The "300" has a non-reflecting "Baked Bronze" finish, so it blends into the background, gives the spotlight to the performer. The "300" has a readily accessible Voice-Music switch, vibration-isolation unit mounted in live rubber, and a multi-impedance switch, providing low medium and high impedance. Response plus or minus 2 1/2 db, 40-15,000 c.p.s. Dims: Ht., 6"; Wth., 1 7/16"; Depth., 1 3/32.

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	59 db below 1 Milliwatt per 10 microbar signal
M—150-250 ohms	60 db below 1 Milliwatt per 10 microbar signal
H—High	57 db below 1 volt per microbar

Model S33
Broadcast
Desk Stand
List Price: $15.00

MODEL	LIST PRICE
"300"	$150.00

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SHURE GENERAL PURPOSE MICROPHONES

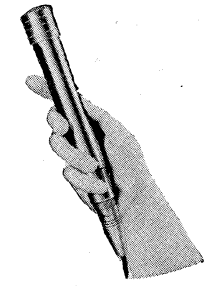
OMNI-DIRECTIONAL DYNAMIC MICROPHONES

The new Slendyne 535 is the most versatile fine quality probe microphone ever developed — actually five microphones in one because of its practical design and useful accessories! The "535" is a moving-coil dynamic microphone built to provide wide range reproduction of music and voice. It can be used for indoor or outdoor applications in the following manner: (1) in the hand, (2) on a floor stand, (3) on a desk stand, (4) hung around the neck on a lavalier cord and clip assembly. Add to these factors an on-off switch adapter and a dual-impedance switch and you have the most completely versatile fine quality probe ever developed. Frequency response is 60 to 13,500 c.p.s

The Slendyne 535 is ideal for high quality public address, theater-stage sound systems, and all recording applications where an omni-directional microphone is desired. The microphone is ruggedly built to withstand hard usage, and is unaffected by temperature and humidity variations. The 20-foot, high quality, shielded, two-conductor cable is supplied with a microphone plug equivalent to the Amphenol 91-MC3M plug. The "535" meets the requirements for maximum quality and minimum size. It is finished in rich satin chrome. A self-adjusting swivel adapter is supplied with the microphone, and permits it to be tilted from 90° from vertical to horizontal, making it possible to tilt the microphone at the source of sound.

The "535" is specially recommended for "interview-type" use where the "hand-a-bility" is important. Of special interest to P.A. technicians and recording enthusiasts is the quick-disengaging feature that permits the microphone to be instantaneously removed from the stand swivel adapter, for use as a hand microphone during audience participation shows, interviews, and for home recording sessions.

The Model 530 Slendyne is the deluxe broadcast Slendyne, finished in an attractive black and gold anodized finish. It has a frequency range of 50 to 15,000 c.p.s., and is furnished with a 20-foot, high quality, two-conductor shielded cable with a Cannon XL-3-11 cable connector.



Model "535" Slendyne

Model "530" Slendyne

MODEL	IMPEDANCE TABLE	OUTPUT LEVEL
"535"	L—50-250 ohms	59 db below 1 Milliwatt per 10 microbar signal
	H—High	58 db below 1 volt per microbar
"530"	L—50-250 ohms	59 db below 1 Milliwatt per 10 microbar signal
	H—High	58 db below 1 volt per microbar

MODEL	LIST PRICE
"535"	$70.00
"530"	$110.00

BI-DIRECTIONAL GRADIENT[1] MICROPHONE

This rugged high fidelity multi-impedance microphone is recommended for fine quality general purpose uses. It features a frequency response of 50 to 12,000 cps—will reproduce voice and music in a clear, natural tonal quality, which makes it ideal for use in auditoriums, night clubs, schools and churches. The "315" is similar in features and design to the Studio Model 300. It is ideal for those numerous public address applications where its streamlined design and striking beauty lend dignity and prestige to any setting in which it is used. This gradient microphone is a favorite of professional performers and educators because it **provides unusual freedom of motion on the platform — making it possible for the user to stand at a 73% greater distance from the microphone than is possible with omni-directional microphones. Its bi-directional "Fig. 8" pickup pattern extends over a broad frequency range — and it permits the sound system to be operated at a level almost 6 db higher than is possible with non-directional (omni-directional) microphones!** The "315" picks up voices and music from front to back — is "dead" at the sides, reduces reverberation and the pickup of random noises by 66%. This feature means the "315" can be used in those critical installations where feedback makes it impossible or impracticable to use conventional microphones. It is "PFF"-proof — can be used outdoors in moderate drafts or breezes, a condition made possible by the acoustically streamlined external grille which filters out the "PFF"-type noises often heard over conventional microphones. Here again is another fine quality Shure microphone made under scientific control conditions, which are your guarantee that it can be used month after month without deviation from its original standards. Dimensions: height 6"; width 1 7/16"; depth 1 3/32". The "315" is furnished with a 20-foot, high quality, two conductor, shielded cable, supplied with the equivalent of the Amphenol 91-MC3M plug..

Model "315" Gradient

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	59 db below 1 Milliwatt per 10 microbar signal
M—150-250 ohms	60 db below 1 Milliwatt per 10 microbar signal
H—High	57 db below 1 volt per microbar

MODEL	LIST PRICE
"315"	$85.00

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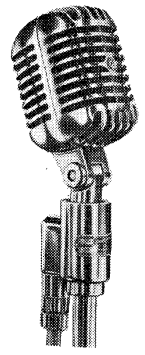
GENERAL PURPOSE MICROPHONES

SHURE

Model 55S
"Small Unidyne"

UNI-DIRECTIONAL DYNAMIC MICROPHONES

The small Unidynes are the largest selling microphones throughout the world—used consistently by famed celebrities for those important events where the faithfulness of sound reproduction is critical. A sturdy construction provides immunity of the moving-coil system to abnormal atmospheric conditions and severe mechanical shock. Model 55S is highly recommended for fine quality public address, theater-stage sound systems, recording and remote broadcasting. It is also the field-proved standard for fixed station use in the police, fire, transportation, forestry and commercial services. The smooth frequency response of the 55S ranges from 50 to 15,000 c.p.s. It is furnished with a 20-foot, high quality cable and plug assembly.



Model 556S
"Small Broadcast"

Model 556S is specially constructed and tested to meet the requirements of the broadcast and television studio, and is held within close tolerances in frequency response and directivity. It is a moving-coil type microphone with a frequency range of 40 to 15,000 c.p.s., production uniformity guaranteed to plus or minus 2½ db. The Broadcast Unidyne is ideal for high quality station and remote broadcasting, public address, theater-stage sound systems and recording applications. As a further precaution against mechanical vibration pickup, the 556S is provided with an additional isolation unit. This isolation unit is of live rubber construction in combination with the stand connector and a built-in high quality cable connector. The microphone is furnished with a 20-foot, high quality, shielded, 2-conductor cable with a Cannon microphone plug attached. Both the 55S and the 556S feature the world-renowned patented "Uniphase" network system.

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	59.4 db below 1 Milliwatt per 10 microbar signal
M—150-250 ohms	60.1 db below 1 Milliwatt per 10 microbar signal
H—High	60.5 db below 1 volt per microbar

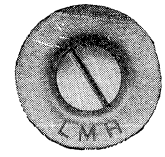
MODEL	LIST PRICE
556S	$120.00
55S	$ 79.50

MULTI-IMPEDANCE HIGH OUTPUT DYNAMIC

Model "51"
Sonodyne

The "Sonodyne" is ideal for all general purposes, including public address, wire and tape recording, and similar applications. It is widely used by bands, instrumentalists and professional recording artists because of its outstanding reproduction of both voice and music. Widespread usage by home users of tape recorders indicates that the Sonodyne is the ideal high-quality, moderately-priced replacement for the conventional microphone supplied with tape recorders. The wide range frequency response is 60 to 10,000 c.p.s. This rugged microphone is of the pressure type, with conventional semi-directional characteristics, and it may be used for close-talking without undue low frequency emphasis. The Sonodyne is a multi-impedance microphone, providing the versatility of three microphones in one —for low, medium and high impedance. Has built-in receptacle and a 15-foot, two-conductor shielded cable with microphone plug attached. Satin chrome finish.

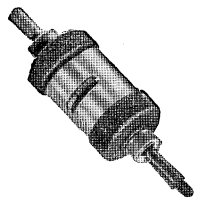
Model "51" **List Price $49.50**



Multi-Impedance Switch on Models "55S", "556S", "51". "300", "315"

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	53.0 db below 1 Milliwatt for 10 microbar signal
M—150-250 ohms	52.5 db below 1 Milliwatt for 10 microbar signal
H—High	52.0 db below 1 volt per microbar

CABLE-TYPE TRANSFORMER



Model A86A

Model A86A is a high-quality, cable-type transformer which makes it convenient to run a long microphone line from a low impedance microphone to a high impedance amplifier. It is housed in a compact, sturdy and magnetically-shielded case. Connection terminals are easily accessible, and compression fittings cramp the microphone and amplifier inputs. The A86A matches 35-50 ohm and 150-250 ohm microphones to high impedance amplifier inputs. This type of system usually solves the problem of excessive high frequency loss and objectionable hum pickup when long lengths of microphone cable are necessary. The A86A offers additional versatility when used in conjunction with Shure Models 51, 55S, 556S, 300, 315, 333, 525, 530 and 535 Dynamic and Ribbon Microphones. And in addition to these the Model A86A may be used in specialized applications which require high impedance to low impedance circuit connections. The transformer is finished in an attractive two-tone gray and is furnished with a 2-foot cable.

Model A86A **List Price $17.50**

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SHURE CRYSTAL MICROPHONES

THE NEW "SLIM-X" ALL-PURPOSE MICROPHONE

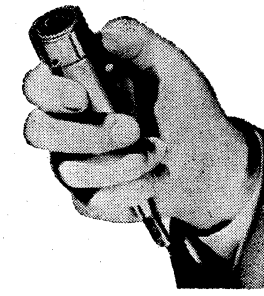
FOR:

- **Low Cost P.A. Systems**
- **Home Recording**
- **Hams**
- **General Purpose**

On S38 Desk Stand

On S38 Desk Stand (With A25 Swivel)

On Floor Stand



In the Hand

The new "777" Slim-X Microphones are rugged little microphones weighing only 6 ounces! They are designed for good-quality voice and music reproduction. Their versatility and "hand-ability" make them ideal for use by lecturers, announcers, instructors, and Hams; for audience participation shows; carnivals; panel and quiz shows; and use with home-recorders. When mounted on either cradle or swivel, the "777" can be removed in a flash (no tools necessary)—simply by lifting it out of the holder. This makes it an ideal "walk-around hand-held microphone.

TECHNICAL INFORMATION: Smooth frequency response—50 to 10,000 c.p.s.; special-sealed crystal element—for long operating life; high impedance; 7' single-conductor cable, disconnect type. *Dimensions:* (Microphone only) Length, 4½"; Diameter, 1". *Finish:* Rich satin chrome overall.

Note: All Models with Lavalier Cord, for suspension of microphone around neck.

"SLIM-X" ASSEMBLIES

MODEL 777A includes 777 Microphone; A-25 Swivel Adaptor; S-38 Desk Stand; Lavalier Cord.
Model: 777A List Price: **$31.00**

MODEL 777SA includes 777S Microphone; A-25 Swivel Adaptor; S-38 Desk Stand; Lavalier Cord.
Model: 777SA List Price: **$33.00**

ACCESSORIES FOR "777"

MODEL S38 STAND is a heavy die-cast base. Includes metal screw machine stud for connecting microphone adaptor to stand base.
Model: S38 List Price: **$3.50**

MODEL A25 SWIVEL ADAPTOR features a long-life, high-quality swivel connector. Is lined with a long-life nylon sleeve—for noise-free and scratch-free insertion and removal of microphone.
Model: A25 List Price: **$5.50**

Model	Output	List Price
777	59db below 1 volt per microbar	23.00*
777A		31.00
777S With Switch		25.00*
777SA With Switch		33.00*

*(Price includes cradle for mounting on stand.)

Fig. A

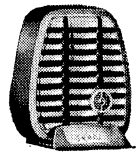


Fig. B

Fig. C

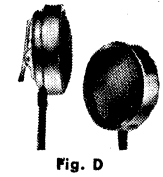


Fig. D

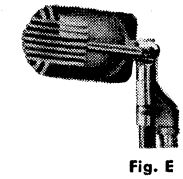


Fig. E

"MONOPLEX" (Fig. A)

The *only* Super-Cardioid Crystal Microphone made—far superior to conventional Crystal Microphones! Excellent for high-quality public address, communications, recording, and similar applications. The 737A operates under adverse conditions of background noise and reverberation—where a conventional microphone would be practically useless! Reduces pickup of random sound by 73%! Moisture-proofed "Metal Seal" crystal for long operating life. Case pivots at rear, can be pointed toward desired sound or upwards for horizontal plane pickup. Has 15 ft. shielded cable. Rich satin chrome finish. High impedance.

MODEL	OUTPUT	LIST PRICE
737A	54.0 db below 1 volt per microbar	$46.00

THE "REX" (Fig. B)

Its low price makes this hand-held microphone a natural for "Hams" and low-cost public address systems. A rugged unit designed for high speech intelligibility. Saves extra costs, as it needs no desk stand! Has a broad base, complete with stand adapter for mounting on floor stand. Sits firmly on a table top without tipping over. Die cast case. Frequency response 60 to 9,000 c.p.s. 5' shielded cable. Beautiful Bergundy-red metallic finish. Only 2⅔" wide, 3¼" high, 1⅛" thick. High impedance.

MODEL	OUTPUT LEVEL	LIST PRICE
710A	50 db below 1 volt per microbar	$12.00
710S (with switch)	50 db below 1 volt per microbar	$14.00

MODEL 707A (Fig. C)

Ideal for low-cost P.A. systems, amateur 'phone transmitters and similar applications. Good-quality performance at low cost. Has typical semi-directional pickup. Has 7 ft. shielded cable. High impedance. Pearl Gray case with rich satin chrome finish on front grille. Diameter 2⅜".

Model 707A designed to be used with Shure Model S34B or S36A Desk Stands (see page 6).

MODEL	OUTPUT	LIST PRICE
707A	51.0 db below 1 volt per microbar	$18.00

LAPEL MICROPHONE (Fig. D)

Specially designed unit widely used by lecturers, instructors, speakers, etc. High speech intelligibility. Response from 40 to 6,000 c.p.s. 1⅞" diameter. Has lapel clip. 20-foot shielded single-conductor cable. High impedance.

MODEL	OUTPUT LEVEL	LIST PRICE
76B	57db below 1 volt per microbar	$29.00

STRATOLINER (Fig. E)

An expensive-looking crystal microphone at moderate cost. Wide-range response for good reproduction of either voice or music. Placed horizontally, the 708A is semi-directional; used vertically it becomes non-directional. Swivel permits 90° tilting of microphone. 7 ft. shielded cable and plug assembly. High impedance. Pearl Gray finish.

MODEL	OUTPUT LEVEL	LIST PRICE
708A	51.0 db below 1 volt per microbar	$31.00

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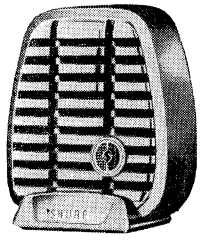
CONTROLLED RELUCTANCE MICROPHONES

SHURE

THE "HERCULES"



The Hercules is a hand-held unit, ideal for general purpose use in tropical countries and in all coastal areas where heat and humidity are a problem. The "510" provides the ruggedness, clear reproduction and high output for public address, communications and recording where high speech intelligibility is vital. It is recommended for Announcing; Mobile Public Address Systems; Communications; Home Recording, and High Quality Intercommunication. The Hercules can be used either Indoors or Outdoors, fits snugly in the hand, sits firmly on a desk. High impedance. Frequency responce 100 to 7000 c.p.s. Furnished with 5 ft. shielded cable. Green metallic finish. Diecast case. Furnished with stand adapter. Dimensions: 2 2/3" wide, 3 1/4" high, 1 1/2" thick.

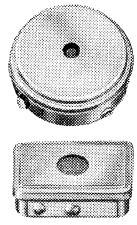
MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
510C	52.5db below 1 volt per microbar	HIGH	**$17.00**
510S (with switch)	52.5db below 1 volt per microbar	HIGH	**$19.00**

THE "GREEN BULLET"

The "Green Bullet" is designed to provide quality music and speech reproduction at moderate cost. It is practically immune to the effects of high temperatures and humidity. It features: high output, good response, high impedance without the need of a transformer. The "Green Bullet" has a beautiful modern metallic green finish with a plated grille. Frequency response is 100 to 7000 c.p.s. Furnished with 7 ft. single-conductor shielded cable. High Impedance. The "Green Bullet" is highly recommended for those public address systems where low cost is a must, good reproduction is essential, and ruggedness is a necessity. Model 520 series designed to be used with Shure Model S34B and S36A Desk Stands (see page 5.)

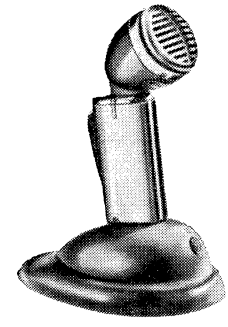
MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
520	52.5 db below 1 volt per microbar	HIGH	**$21.00**
520B	51 db below 1 milliwat per 10 microbars	150-250 ohms	**$21.00**

"1-INCH" MICROPHONES



The MC Series of small microphones are specially designed for use in vacuum-tube devices, such as small, compact amplifiers, transmitters, dictating equipment—wherever size and weight are important factors. They also are highly recommended for use in small transistor-type devices. The MC Series Microphones are furnished with an impedance of 1000 ohms. They are rugged units immune to mechanical shock and to varying conditions of heat and humidity. Both the 1" circular unit, Model MC11, and the rectangular unit, Model MC20, are metal-cased for hum protection. They are highly recommended to engineers, technicians and "build-it-yourself" enthusiasts, because their small size and shape make them ideal for various types of custom-made devices. Model MC11 (Circular) List Price $12.50. Model MC20 (Rectangular) List Price $12.50.

THE "DISPATCHER"



MODEL 520SL

This new Controlled Reluctance unit is designed to handle the most severe field requirements of paging and dispatching systems. The unit is supplied with 7 feet of 2-conductor shielded cable, and is wired to operate both microphone and relay circuits. The "Dispatcher" is ideal for police, taxi-cab, railroad, airport, bus, truck, and all emergency communications work where dependability is vital. Large grip-bar assures positive contact.

MODEL	OUTPUT	IMPEDANCE	LIST PRICE
520SL	52.5 db below 1 volt per microbar	High	**$42.50**

THE "RANGER"

The new Shure "Ranger" is a new development of a similar magnetic unit originally housed in microphones used by the Armed Forces. The "Ranger" is especially recommended for those applications where long lines are used, and a rugged hand-held microphone is needed. It is ideal for outdoor public address (sports arenas, athletic fields), mobile communications, ham, audience participation shows, etc. The "Ranger" is designed for high speech intelligibility. Easy to use, fits snugly in the palm of the hand. Has heavy-duty single-throw, double-pole leaf-type switch for push-to-talk operation. Phosphor-bronze blades and silver contacts for maximum operating life. Model 505B is furnished with 5' four-conductor shielded cable. Model 505C is furnished with 5' three-conductor shielded cable. Frequency response is 100 to 9,000 c.p.s.

MODEL	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	CODE	LIST PRICE
505B	47.0 db below 1 milliwatt per 10 microbar signal	150-250 ohms	1 5/8 lbs.	RUDAY	**$32.00**
505C	50.5 db below 1 volt per microbar	High	1 5/8 lbs.	RUDAX	**$32.00**

505 SERIES

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SHURE COMMUNICATIONS MICROPHONES

COILED CORD SETS

Standard Copper Coiled Cord with trimmed and tinned leads. Used in "CB" and "100" Series Microphones.
Model: C15C Code: RUCOR List Price: **$6.25**

Tinsel Coiled Cord with Amphenol MC4M Connector for use with General Electric equipment.
Model: C16C Code: RUCAG List Price: **$9.50**

Tinsel Coiled Cord with spade lugs for use in Motorola equipment.
Model: C17C Code: RUCAJ List Price: **$7.75**

Standard Coiled Cord with Amphenol MC4M Connector for use with Motorola equipment.
Model: C18C List Price: **$7.75**

Tinsel Coiled Cord with Amphenol MC4M Connector for use with Motorola equipment.
Model: C19C List Price: **$9.50**

MODEL "100" SERIES CARBON MICROPHONES

Used around the world for police, taxi, bus, truck, and commercial applications — *more than all other makes combined!* Rugged unit with clear, crisp voice response and high output. Heavy duty switch for push-to-talk performance. Furnished with bracket for wall mounting, plus coiled-cord cable. Adopted as standard microphone by G.E., Link, Motorola, R.C.A. and others for 2-way radio communications equipment. Output level: 5db below 1 volt for 100 microbar speech signal.

REPLACEMENT CHART

MANUFACTURERS MODELS	REPLACEMENT MODEL
CB10, CB10B, CB10C, CB10D, CB15, CB15D,	**101C**
CB10E	**101E**
CB12, CB12A, CB12C, CB12D	**102C**
CB12E	**102E**
CB15F	**103**

Model	Cable	Switch Arrangement	List Price
101C	Standard Coiled Cord 11" retracted; 5' extended	Two Wire Relay Switch normally open. (No microphone switch)	$30.00
101E	Tinsel Coiled Cord 11" retracted; 5' extended with Amphenol MC4M Connector		$33.00
102C	Standard Coiled Cord 11" retracted; 5' extended	Relay normally open. Microphone switch normally open.	$30.00
102E	Tinsel Coiled Cord 11" retracted; 5' extended with spade lugs		$33.00
103	Standard Coiled Cord 11" retracted; 5' extended with Amphenol MC4M Connector	Two Wire Relay Switch normally open. (No microphone switch)	$31.00

CARBON MICROPHONE CARTRIDGE

Model **R10**

Rugged microphone cartridge replacement for "CB", "100", and "120" Series Carbon Microphones. Furnished with necessary mounting hardware and complete installation instructions. Direct replacement for the cartridge used in the Models 101A, 101B, 101C, 102A, 102B, 102C, 120, CB10, CB10B, CB10C, SB10E, CB11, CB11B, CB12, CB12A, CB12B, CB12C, CB12D, CB12E, CB14, CB14A, CB15, CB15B, CB15C, CB15D, CB15F, CB20, CB162, 91A27 carbon microphones.
Model: **R10** List Price: **$8.50**

MICROPHONE ASSEMBLY

A Controlled Reluctance Microphone and Desk Stand Assembly—ideal for fixed-station used in all types of communications work. Has a built-in switch for controlling both the microphone circuit and an external relay or control circuit. Replacement for Mfrs. Model No. CR84.
Model 510MD List Price $42.50

Model **510MD**

CARBON "PACK" MICROPHONE

Designed for use with small portable and mobile transmitters. Only 2" in diameter and 1½" thick. Has 3-conductor coiled cord, metal-spring strain relief, and Push-to-Talk switch. Has same operating characteristics as "100 Series" Carbon Microphones. Replacement for Mfrs. Model Nos. CB20, CB21.

Model 115 List Price: $31.00

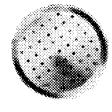
Model **115**

SWITCHES AND ACCESSORIES

MICROPHONE REPLACEMENT CARTRIDGES

CONTROLLED RELUCTANCE
Model **R5**

Controlled Reluctance. Ideal for the replacement of Crystal Cartridges in Shure cases of the Model 707A and 708A Series, where heat and humidity are a problem. Also replaces cartridges in other mfrs. models of similar design, where space permits. Supplied with rubber mounting ring and installation instructions in English and Spanish.
Model: R5 List Price: **$11.00**



CRYSTAL
Model **R7**

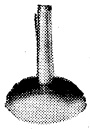
Model R7 Crystal Microphone. Available for service installation as a replacement for the cartridges in the Shure Crystal Microphones of the 707A and 708A Series, and other microphones of similar design. High output—48db below 1 volt per microbar. Cartridge supplied with rubber mounting rings and installation instructions.
Model: R7 List Price: **$8.25**

CABLE-TYPE TRANSFORMER

Model **A86A**

Model A86A is a high quality, cable-type transformer, ideal for matching low-impedance microphone lines to high-impedance amplifier inputs (matches 35-50 and 150-250 ohm microphones of high impedance). 2-foot cable.
Model: A86A List Price: **$17.50**

TAKE-APART STAND

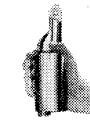


Model **S34B**

Model S34B. Handy low-cost stand for desk or hand use. One twist of handle locks it securely in base for use as a table stand, or releases handle for use in hand. Metal base, wood handle.
Model: **S34B** List Price: **$3.50**

"GRIP-TO-TALK SLIDE-TO-LOCK" SWITCH

Heavy-Duty Switch withstands the most severe field requirements of paging and dispatching systems. Ideal for Police, Taxi-Cab, Railroad, Airport, Bus, Truck, and all emergency communications work. Can be used with Shure connector-type crystal, dynamic and carbon microphones of any impedance. Fits handily on Shure S36A Desk Stand. Rich satin chrome finish.
Model: A88A List Price: **11.75**



Model **A88A**

ON-OFF PRESS-TO-TALK SWITCHES

Model A83B. Rotary-type "On-Off" switch. Quickly attached to any cable-connector type Shure microphone.
Model: A83B List Price: **$9.00**
Model A84B. Momentary Press-to-Talk "On-Off" switch.
Model: A84B List Price: **$9.00**
Model A85C. Momentary Press-to-Talk Relay-Type Switch.
Model: A85C List Price: **$11.50**

MODERN DESK STAND

Model **S36A**

Model S36A. Streamlined Desk Mount fits all Shure connector-type microphones. Adapter provided for mounting other type microphones. Ideal for use with A88A switch.
Model: S36A List Price: **$6.50**

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

SHURE CRYSTAL and CERAMIC PICKUP CARTRIDGES

Fig. A

Fig. B

Fig. C

Fig. D

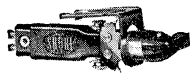
Fig. E

Fig. F

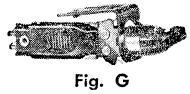
Fig. G

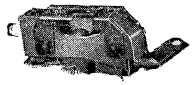
Fig. H

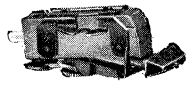
Fig. J

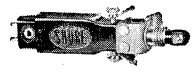
Fig. K

Fig. L

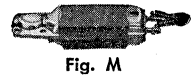
Fig. M

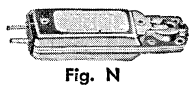
Fig. N

Fig. O

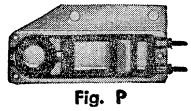
Fig. P

FINE GROOVE CARTRIDGES FOR 33⅓, 45 RPM RECORDS

MODEL NO.	ILLUSTRATION	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	NET WT.	SHURE NEEDLE NO.
W21F*	Fig. B	Crystal	$7.75	1.5V	6 grams	10,000 c.p.s.	4½ grams	A63MG
W31AR	Fig. A	Crystal	6.50	2.1V	7 grams	7,500 c.p.s.	5½ grams	A53MG
WC31AR	Fig. A	Ceramic	6.50	.87V	7 grams	7,500 c.p.s.	5½ grams	A53MG
W53MG	Fig. F	Crystal	8.50	1.3V	6 grams	8,500 c.p.s.	12 grams	A64MG
WC20‡	Fig. C	Ceramic	9.50	.58V	2½-3 grams	12,000 c.p.s.	2¼ grams	A20S

TURNOVER CARTRIDGES FOR 33⅓, 45, AND 78 RPM RECORDS

MODEL NO.	ILLUSTRATION	TYPE	LIST PRICE	OUTPUT LEVEL		MIN. NEEDLE FORCE	RESPONSE TO	NET WT.	SHURE NEEDLE NO.	
				MG	STD.				MG	STD.
WC10§	Fig. H	Ceramic	$9.50	.78V	1.0V	7 grams	12,000 c.p.s.	7 grams	A10S	
WC10D§	Fig. H	Ceramic	34.00	.78V	1.0V	7 grams	12,000 c.p.s.	7 grams	A10DS	
W22A	Fig. D	Crystal	10.50	1.2V	1.4V	8 grams	10,000 c.p.s.	4½ grams	A65MG	A61A
W22AB	Fig. D	Crystal	9.50	1.2V	1.4V	8 grams	10,000 c.p.s.	4½ grams	A65MG	A62A
W22AB-T	Fig. E	Crystal	10.00	1.2V	1.4V	8 grams	10,000 c.p.s.	12½ grams	A65MG	A62A
WC24	Fig. F	Ceramic	$8.75	0.6V	0.6V	8 grams	7,000 c.p.s.	4½ grams	A53MG	A52A
WC24-T	Fig. G	Ceramic	9.25	0.6V	0.6V	8 grams	7,000 c.p.s.	12½ grams	A53MG	A52A
W9þ	Fig. J	Crystal	9.50	3.5V	5V	11 grams	10,000 c.p.s.	7 grams	A9	
WC25	Fig. K	Ceramic	9.50	.65V	.7V	8 grams	7,000 c.p.s.	6 grams	A65MG	A61A
W72†§	Fig. L	Crystal	8.50	3V	4V	10-15 grams	5,000 c.p.s.	7 grams	A69A	A70A

ALL PURPOSE SINGLE NEEDLE CARTRIDGES FOR 33⅓, 45, 78 RPM RECORDS

MODEL NO.	ILLUSTRATION	TYPE	LIST PRICE	OUTPUT LEVEL		MIN. NEEDLE FORCE	RESPONSE TO	NET WT.	SHURE NEEDLE NO.
				MG	STD.				
W26A	Fig. B	Crystal	$8.50	.87V	1.0V	8 grams	8,000 c.p.s.	4½ grams	A67U
W26B	Fig. B	Crystal	7.50	.87V	1.0V	8 grams	8,000 c.p.s.	4½ grams	A66U
W36B	Fig. A	Crystal	6.50	2.3V	2.5V	9 grams	7,000 c.p.s.	5½ grams	A56U
WC38	Fig. A	Ceramic	6.50	.9V	.92V	9 grams	10,000 c.p.s.	5½ grams	A58U
W66B	Fig. O	Crystal	7.00	2.0V	2.3V	8 grams	4,500 c.p.s.	12 grams	A66U
W70	Fig. P	Crystal	4.95	3.0V	3.8V	10-15 grams	5,000 c.p.s.	16 grams	None

STANDARD CARTRIDGES FOR 78 RPM RECORDS

MODEL NO.	ILLUSTRATION	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	NET WT.	SHURE NEEDLE NO.
W23B	Fig. B	Crystal	$7.75	1.1V	6 grams	8,000 c.p.s.	4½ grams	A62A
WC33B	Fig. A	Ceramic	6.50	.92V	9 grams	7,000 c.p.s.	5½ grams	A52A
W68†	Fig. O	Crystal	7.50	1.6V	1 oz.	4,500 c.p.s.	Dual Weight 25 grams or 12 grams	A62A
W78‡	Fig. M	Crystal	5.55	4.0V or 2.0V	1 oz.	6,000 c.p.s.	Dual Weight 25 grams or 12 grams	None
W56N**	Fig. N	Crystal	8.50	4.3V	1 oz.	10,000 c.p.s.	12 grams	A68D
W58HS***	Fig. M	Humi-Seal Crystal	6.55	1.6V	1 oz.	6,000 c.p.s.	25 grams	None
W60HS***	Fig. O	Humi-Seal Crystal	8.50	1.8V	1 oz.	4,500 c.p.s.	25 grams	A62A

*With .453 Mount for Oak Changer.
**Cutter-Cartridge for Wilcox-Gay "Recordette." Equipped with bifurcated needle.
***"Humi-Seal" Metal Wrapped Rochelle Salt Crystal ideal for Tropical Areas.
†Dual-Weight Cartridge. With weight-slug, net weight 25 grams. Without weight-slug, net weight 12 grams.
‡Dual-Weight Cartridge. Has same weight-slug as Model W68, with same net weight differential. In addition, Model W78 has capacitor, furnished as accessory. Without capacitor, output is 4.0 volts. With capacitor, output is 2.0 volts.
§Not a turnover type. Needles are set into tracking position by ingenious "Twin Lever" needle shift system, ‡For Columbia 16 2/3 Highway Hi-Fi Records.
þModel W9 has Capacitor furnished as accessory. Without Capacitor output is as shown above. With Capacitor output it 1.7 volts for 33 1/3, 45 RPM; 2.5 volts for 78 RPM.
†§Model W72 has a slip-on Capacitor furnished as an accessory. With the Capacitor, output is 2 volts for 78RPM, 1.5 volts for 33 1/3, 45 RPM. Without the Capacitor, output is 4 volts for 78 RPM, 3 volts for 33 1/3, 45 RPM.

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MAGNETIC TAPE and WIRE RECORDING HEADS

SHURE

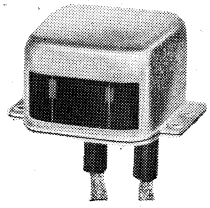

Fig. A
RECORD-PLAYBACK-ERASE

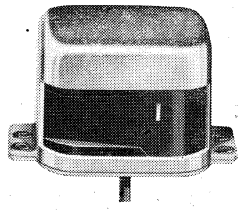

Fig. B
RECORD-PLAYBACK

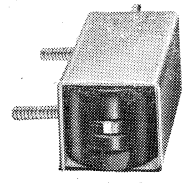

Fig. C
RECORD-PLAYBACK

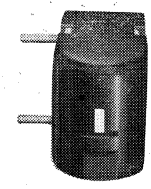

Fig. D
ERASE

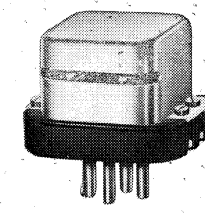

Fig. E
RECORD-PLAYBACK-ERASE

MAGNETIC TAPE RECORDING HEADS — TYPICAL OPERATING DATA

MODEL	815 (FIG. A)			815H (FIG. A)		816 (FIG. B)		817 (FIG. C)		TE2 (FG. D)		
Recording Speed	3.75" per sec.		7.5"	3.75" per sec.		3.75" per sec.		3.75" per sec.		3.75" per sec.		
Bias & Erase Freq.	25KC	DC	50KC	25KC	DC	25KC	DC	25KC	DC	25KC	50KC	DC
Std.* Recording Level	.05 ma	.095 ma	.05 ma	.03 ma	.056 ma	.03 ma	.07 ma	.06 ma	.175 ma	—	—	—
Operating Bias Current	1.25 ma	.35 ma	1.5 ma	.72 ma	.24 ma	.80 ma	.26 ma	3.6 ma	.42 ma	—	—	—
Erase** Current	30 ma	25 ma	35 ma	30 ma	25 ma	—	—	—	—	30 ma	35 ma	25 ma
Impedance Erase Coil	750 ohm at 25KC	12 ohm	1300 ohm at 50 KC	750 ohm at 25KC	12 ohm	—	—	—	—	750 ohm at 25KC	1300 ohm at 50KC	12 ohm
Impedance Recording Coil	1450 ohm at 1000 cps	180 ohm	1450 ohm at 1000 cps	5800 ohm at 1000 cps	556 ohm	5500 ohm at 1000 cps	556 ohm	1860 ohm at 1000 cps	180 ohm	—	—	—

*Determined in accordance with RTMA Standard REC.-134 August 1949.
**Erase current chosen for 50 db Erasure of Saturated 400 C.P.S. Recording.

Recording Medium—Minnesota Mining & Mfg. Co., Tape No. 111 5RBA1. Pressure Pad Force (Area — .025 sq. in.) Two Ounces.

RECORDING HEAD DIMENSIONS

Models 815, 815H (Fig. A) Width 1.240" Depth 1.031" Height .695"	**Model 816 (Fig. B)** Width 1.240" Depth 1.031" Height .695"
Model 817 (Fig. C) Width .552" Depth .830" Height .765"	**Model TE2 (Fig. D)** Width .516" Depth .830" Height .715"

NUMERICAL LISTING OF SHURE TAPE HEADS USED IN ORIGINAL EQUIPMENT

MODEL	ILLUSTR.	LIST PR.	DESCRIPTION	OPERATING DATA
812	Fig. E	17.00	Wire Recording Head.	Not shown
815	Fig. A	15.00	Upper track recording. Low impedance record-playback coil.	See 815
815H	Fig. A	15.00	Upper track recording. High impedance record-playback coil.	See 815H
816	Fig. B	12.00	Upper track recording. High impedance record-playback coil.	See 816
817	Fig. C	9.00	.093" record track width. Low impedance record-playback coil.	See 817
TR5B	Fig. A	17.00	Upper track recording with 14-inch completely insulated leads. Cinch Plug attached.	See 815*
TR5N	Not Illustr.	16.00	Special Shield. Special Leads. Special Plug.	See 815*
TR6	Fig. B	12.00	Lower track recording. Low impedance record-playback coil.	Not shown
TR6G	Fig. B	12.00	Lower track recording. High impedance.	See 816**
TR6H	Fig. B	12.00	Upper track recording. Low impedance record-playback coil.	Not shown
TR16	Fig. C	9.00	.093" record track width. High impedance record-playback coil.	Not shown
TR14	Not Illustr.	9.00	Narrow track (.014"). Low impedance record-playback coil.	Not shown
TR26	Fig. C	11.00	.093" record track width (1/4 mil gap). High impedance record-playback coil.	Not shown
TE2	Fig. D	7.00	Erase head.	See TE2
TE10	Not Illustr.	7.00	Erase head.	Not shown

*Operating data only. 815 does not replace.
**Operating data only. 816 does not replace.

Note: For replacement information on specific tape recorder models using Shure magnetic recording heads, send for new free Shure replacement booklet.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Broadcast Dynamic Microphones

Model 50D and 50D-TV

A high output dynamic interior and advanced circuit design give the Turner 50D ultra wide range, making it a truly high-fidelity microphone without need for closely associated auxiliary equipment. High quality performance results in realistic reproduction of voice and music. Response: 50-15,000 c.p.s. Level: −55 db. at high impedance. The Model 50 microphone utilizes a hinged coupler with 5/8"-27 thread mounting . . . quick-disconnect feature permits quick interchange from stand to hand use. Model 50D and Model C-6 matching desk stand with built-in shock mount are finished in satin chrome.

Illustrated, with Model BL-6 matching desk stand, is the Model 50D-TV . . . with satin black finish that minimizes light reflection. Both models complete with 20-ft. cable set. High impedance balanced line models are furnished with quick-disconnect Cannon XL-3 connector. Low impedance balanced-line models have built-in Cannon XL-4 connector which permits selection of either 50 or 200 ohms impedance when connection is made with the proper pair of conductors at terminal end of cable.

Model 50D—Satin crome finish. List Price $125.00

Model 50D-TV—Satin black finish. List Price.....$125.00

Model 50D and Model 50D-TV without Desk Stand. List Price $117.50

Model 51D and 51D-TV

The greatest difference shown by comparison of the Turner Model 50 and 51 dynamic microphones is the lower cost of the 51 models. Both series have the same fine lines, the same hinged pivot mounting, the same stand-to-hand convenience and all-round ruggedness. Model 51D (illustrated) and Model G-6 matching desk stand (with built-in shock mount) finished in umber grey; the 51D-TV and Model BL-6 matching stand in satin black. High impedance models are furnished with 12-ft. balanced line cable having quick disconnect Cannon XL-3 connector; low impedance models have 12-ft. balanced line cable with built-in XL-4 connector which permits selection of either 50 or 200 ohms impedance when connection is made with the proper pair of conductors at terminal end of cable. Response: 60-13,000 c.p.s. Level: −57 db. at high impedance.

Model 51D and Model 51D-TV. List Price $92.50

Model 51D and Model 51D-TV without Desk Stand. List Price $85.00

Model 57

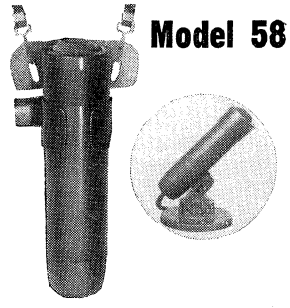
A TV, broadcast and P.A. dynamic microphone giving excellent performance at an exceptionally low price. Design is suited to purpose in this slim, inconspicuous microphone. Hinged coupler with 5/8"-27 thread allows quick conversion from floor stand to desk stand or hand use. Dynaflex diaphragm gives excellent voice and music reproduction. Response: 50-13,000 c.p.s. Level: −55 db. Satin black finish minimizes light reflection. Built-in quick-disconnect Cannon XL-4 connector permits selection of high or low impedance by connecting proper pair of conductors at terminal end of 20-ft. 3 conductor shielded cable. (Model 57A wired for selection of 50 or 200 ohm impedances only.) Model BL-6 matching stand with built-in shock mount priced separately.

Model 57, 57A—Stand not included. List Price.....$65.00

Model S-57, S-57A, with on-off switch, without stand. List Price $69.00

Model BL-6 Matching Desk Stand. List Price $7.50

Model 58



Superior New, Compact Miniature Dynamic Microphone

Turner Model 58 is a high performing, lavalier-type dynamic microphone. Finished in neutral grey, the Model 58 hides discreetly behind necktie or handkerchief, or may be concealed in table decorations or props. Support clip and neck cord are furnished. A swivel desk stand is available at extra cost. Non-directional sensitivity meets all high-fidelity requirements for studio microphones. New, rugged yet sensitive Turner Dynaflex Diaphragm. Response is 60 to 13,000 c.p.s. Level is −57 db. The Model 58 is wired to permit selection of high or low impedance by connecting the proper pair of conductors at terminal end of 25-ft. 3-conductor shielded cable. (Model 58A wired for selection of 50 or 200 ohm impedances only.)

Model 58.....List Price $57.00

Model 58A.....List Price $57.00

Model G-4—Desk Stand. List Price $5.75

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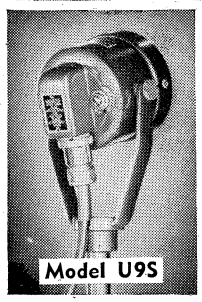
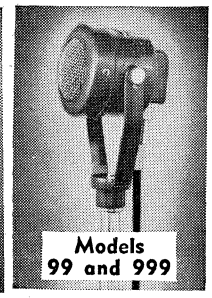
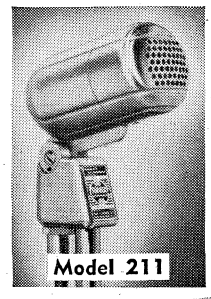
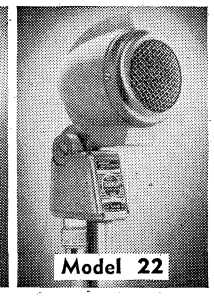
RUGGED DYNAMIC MICROPHONES

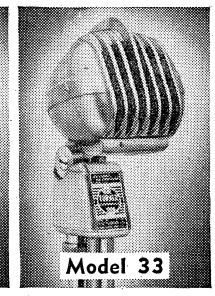
ALL PURPOSE CRYSTAL AND DYNAMIC MICROPHONES

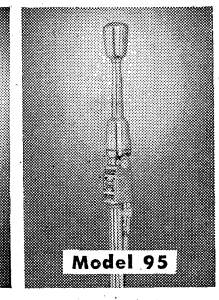












TURNER

MICROPHONES
for
SOUND PERFORMANCE
The TURNER Company
Cedar Rapids, Iowa

Model U9S Multi-Impedance Dynamic

The most rugged microphone in the Turner line. The Turner U9S Dynamic has a built-in multi-impedance transformer for easy and quick selection of 50, 200, 500 ohms or high impedance by means of a heavy-duty selector switch on the back of the microphone. Smooth, dependable performance at all impedances and frequencies meets variety of requirements under extreme conditions . . . U9S is unaffected by heat, cold, or humidity. Has adjustable saddle with 5/8"-27 thread, gunmetal metalustre finish. Complete with 3-pin polarized locking connector and 20-ft. balanced line low-capacity cable. Response: 80-9,000 c.p.s. Level: −52 db. at high impedance.

Model U9S—List Price.....$49.50

Model 999 Balanced Line Dynamic

Heavy duty dynamic like Model U9S, but without impedance switch. Specify 50, 200 or 500 ohms, or high impedance. Response: 80-9,000 c.p.s. Level: −52 db. at high impedance. Complete with 3-pin polarized locking connector and 20-ft. balanced line low-capacity cable.

Model 999—List Price.....$45.00

Model 99

Same general appearance as the 999 but supplied with single conductor shielded cable only (for balanced line operation order Model 999). Specify 50, 200, 500 ohms or high impedance.

Model 99—List Price.....$41.50

Model 211

Diaphragm structure of 211 reduces harmonic and phase distortion to a minimum without sacrifice of high output level. Rugged construction protects sensitive reproduction quality under extreme acoustical and climatic conditions, indoors or out. Response: 50-10,000 c.p.s. Level: −54 db. at high impedance. 90° tilting head, satin chrome finish, 5/8"-27 thread. Complete with 20-ft. removable heavy duty balanced line cable set. Specify 50, 200 or 500 ohms, or high impedance.

Model 211—List Price.....$42.50

Model S-211 with On-Off Slide Switch. List Price $45.00

Model 22X Crystal 22C Ceramic

Used for paging, call systems, home recording, general sound and amateur work. Modern-design head tilts 90° to permt semi-directional or straight-up non-directional operation. 7-ft. removable cable set. Satin chrome finish. 5/8"-27 coupler mounting. MODEL 22X CRYSTAL has humidity protected crystal in mechanical shockproofed mounting. Response: 60-9,000 c.p.s. Level: −52 db. Also available as ceramic microphone at same price. Specify 22C.

Model 22X and Model 22C. List Price $24.75

Model S-22X and Model S-22C with On-Off Slide Switch. List Price.....$27.25

Model 22D Dynamic

High quality Alnico magnet. 50, 200 or 500 ohms, or high impedance. Response: 100-9,000 c.p.s. Level: −54 db. at high impedance. High impedance wired single ended (single conductor shielded cable). Low impedance wired for balanced line (two conductor shielded cable).

Model 22D—List Price.....$29.95

Model S-22D with On-Off Slide Switch. List Price $32.45

Model 33X - 33C

Popular all-purpose microphone. High output over wide frequency range gives fine voice and music reproduction. Head tilts 90° for semi- or non-directional use. Durable streamlined case; satin chrome finish; 5/8"-27 thread coupler mounting. Complete with 20-ft. removable cable set. MODEL 33X CRYSTAL—Moisture sealed crystal . . . mechanical shock proofed. Response: 60-9,000 c.p.s. Level: −52 db. Also available at same price with ceramic interior. Specify 33C.

Model 33X and Model 33C. List Price $26.95

Model S-33X and Model S-33C with On-Off Slide Switch. List Price.....$29.45

Model 33D Dynamic

Same general design as 33X, but with dynamic interior—alnico magnet. 50, 200, 500 ohms, or high impedance. Response: 100-9,000 c.p.s. Level: −54 db. at high impedance. Complete with 20-ft. removable cable; high impedance wired single ended (single conductor shielded cable) . . . low impedance wired for balanced line (two conductor shielded cable).

Model 33D—List Price.....$31.90

Model S-33D with On-Off Slide Switch. List Price $34.40

Model 95X - 95C

A wide variety of applications is possible with Model 95. Low cost, compactness and wide frequency response range go together to make this microphone ideal for applications from commercial broadcasting to tape recording . . . excellent voice and music sensitivity. In slender, graceful satin chrome or satin black case. 5/8"-27 thread mounting.

MODEL 95X CRYSTAL—Response: 70-9,000 c.p.s. Level: −52 db. Single conductor shielded 20-ft. cable. Available as ceramic microphone at same price. Response: 80-7,000 c.p.s. Level: −60 db. Specify 95C.

Model 95X and Model 95C. List Price $24.25

Model S-95X and Model S-95C with On-Off Slide Switch. List Price.....$27.75

Model 95D Dynamic

Response 100-10,000 c.p.s. Level: −58 db. High impedance wired single ended (single conductor shielded 20-ft. cable). 50, 200 or 500 ohms wired for balanced line (two conductor shielded 20-ft. cable).

Model 95D—List Price.....$37.50

Model S-95D with On-Off Slide Switch. List Price $41.00

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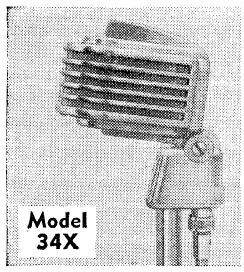
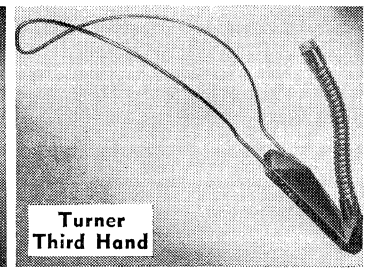
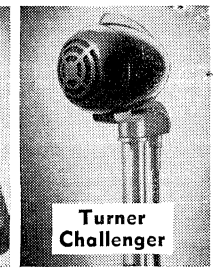
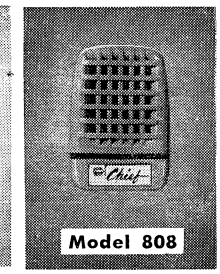








Model 34X Crystal Microphone

Attractive, high fidelity, semi-directional crystal unit. Quick removable cable feature. Use indoors or out. Satin chrome finish; 5/8"-27 thread coupler mounting. Response: 60-10,000 c.p.s. Level: –52 db. Complete with 20-ft. removable cable set. Also available with ceramic interior at same price. Response: 80-9,000 c.p.s. Level: –62 db. Specify 34C.

Model 34X and Model 34C.
List Price **$32.00**

Model S-34X and Model S-34C with On-Off Slide Switch. List Price **$34.50**

Model L40 Lapel Microphone

Small, lightweight; good-looking or inconspicuous, as you wish. Satin chrome finish. can be worn on the lapel or concealed in props, corsage, etc. High signal level produced with highest quality Bimorph moisture sealed crystal. Crisp, clear speech reproduction — chest sounds damped out. Alligator clip may be used to secure L40 to clothing. Response: 50-8,000 c.p.s. Level: –52 db. 20-ft. attached cable.

Model L40—List Price **$25.00**

Model L40-3H—With Third Hand—frees both of operator's hands for other work.

Model L40-3H—List Price **$32.50**

Famous Turner "Third Hand"

Has standard 5/8"-27 thread mount to hold microphone at best speaking distance, on heavy-duty gooseneck. Black enamel finish.

Model 3H Third Hand—List Price **$5.00**

Turner Desk Stands

Model C-3—Finished completely in beautiful satin chrome. 6-in. high with 4¾ in. upright, base 5-in. diameter, weighs 14 oz. 5/8"-27 thread.
List Price **$4.50**

Model C-2—Same as C-3 but with 1-in. upright.
List Price **$4.50**

Model B-3—Same as C-3 but finished in rich, brown metalustre.
List Price **$3.35**

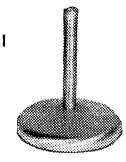
Model G-3—Same as C-3 but finished in handsome gunmetal lustre.
List Price **$3.35**

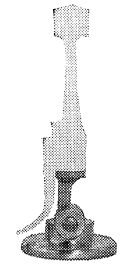
Model C-5—Same as C-3 but with 2⅜-in. upright.
List Price **$4.50**

Model BL-5—Same as C-5 but finished in satin black.
List Price **$4.50**

Model C-6—5-in. diameter base with built-in shock mount. Matches 50D. Finished in satin chrome.
List Price **$7.50**

Model BL-6—Same as C-6 but finished in satin black to match Models 50D-TV, 51D-TV, and 57.
List Price **$7.50**





Model G-6—Same as C-6 but finished in umber grey to match Model 51D.
List Price **$7.50**

Model C-4—For Model 80 microphone, 5/8"-27 thread. Finished in satin chrome.
List Price **$5.75**

The Turner Challengers

Attractively priced for any user.

MODEL BX CRYSTAL—Low cost crystal microphone for recording, P.A. and amateur operation. Response: 60-7,000 c.p.s. Level: –48 db. Attractive streamlined case with brown metalustre finish; 5/8"-27 thread mounting. 7-ft. single conductor cable attached. Ceramic model available at same price. Specify BC.

Model BX and Model BC.
List Price **$11.75**

MODEL BD DYNAMIC—Same appearance and finish as BX. Equipped with dynamic interior. Response: 100-6,000 c.p.s. Level: –52 db. at high impedance. Complete with 7-ft. single conductor attached cable. 50, 200, 500 ohms or high impedance.

Model BD—List Price **$21.00**

MODEL CX CRYSTAL—Same general design as Model BX, but has satin chrome finish and 7-ft. single conductor removable cable set. Response: 60-7,000 c.p.s. Level: –48 db. Available at same price with ceramic interior. Specify CC.

Model CX and Model CC.
List Price **$18.00**

MODEL CD DYNAMIC—Same style and finish as CX. High quality magnet. 7-ft. single conductor removable cable set. Response: 100-7,000 c.p.s. Level: –52 db. at high impedance. 50, 200, 500 ohms or high impedance.

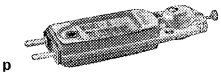
Model CD—List Price **$24.85**

Model 808 — The Chief

Low cost crystal, ceramic or magnetic microphone. Die cast alloy case finished in baked-on grey enamel. Furnished with adapter having standard 5/8"-27 thread for stand mounting. Level: –49 db. Response: 60-7,000 c.p.s. 6-ft. attached fabric covered cable. Dimensions: 3 7/16" high x 2 3/8" wide x 1 11/32" thick. Weight: 10 oz. Also available with ceramic interior at same price. Response: 80-7,000 c.p.s. Level: –57 db. Specify Model 807. Also available with magnetic interior. Level: –52 db. Response: 100-8,000 c.p.s. Specify Model 809.

Models 808 and 807—List Price **$10.85**
Models S808 and S807 (with On-Off Slide Switch). List Price **$12.85**
Model 809—List Price **$14.95**
Model S809 (with On-Off Slide Switch). List Price **$16.95**

Turner Universal

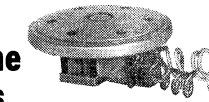


Phonograph Pickup Replacement Cartridges

MODEL A, MODEL AU UNIVERSAL PHONOGRAPH PICKUP REPLACEMENT CARTRIDGES—To replace 95% of all 78 rpm pickup cartridges. Turner quality crystal cartridges track properly . . . excellent reproduction; no needle hum or hiss. Removable externally-mounted condenser on Model AU (illustrated) is for 2.0 volts or lower output. Model A, without external condenser, replaces cartridges with more than 2.0 volts output. Further information available on request.

Model AU—List Price **$4.95**
Model A—Without external condenser. List Price **$4.45**

Magnetic Microphone Cartridges



Turner Magnetic Microphone Cartridges are rugged, inexpensive units for voice applications. Type A is completely enclosed and is an operative microphone. Weighs 2.1 oz. Solder lug terminals. 1 23/32" dia. x 7/8". Type B (illustrated above) is supplied without enclosure for use where space is limited or for replacement in other enclosures. Weighs 1.5 oz. 6" stranded lead terminals. 1 23/32" dia. x 11/16". Frequency response for both types is 100-8,000 c.p.s. Level is –52 db.

Cartridges No. 31A, 31B—List Price $10.00

OTHER REPLACEMENT CARTRIDGES

are available for crystal, dynamic, carbon and ceramic microphones. Write for complete specifications and prices.

THE TURNER COMPANY

CEDAR RAPIDS, IOWA

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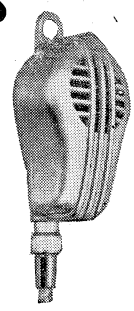
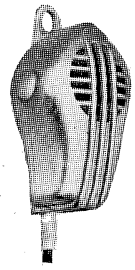
TURNER HAND-HELD MICROPHONES

Model 9





Rugged, handy microphones . . . dynamic, crystal, carbon, ceramic. Balanced for hand; has hook for hanging, 5/8"-27 thread stand mounting. Die cast zinc alloy case, satin chrome finish. Wide choice of interiors and switch arrangements.

Model 9D Dynamic—Recommended for more severe service conditions and climate and temperature extremes. Response: 150-7,000 c.p.s. Level: –52 db. at high impedance.

Model 9X Crystal—Has finest response: 60-7,000 c.p.s. Level: –50 db. Available with ceramic interior, same price. Specify 9C.

Model 9R—Recommended for mobile and ham operations. Response: 200-4,000 c.p.s. Level: approx. –38 db.

Stock No.	Type and Impedance	Switch	Cable	List Price
1812 (9X)	Crystal High	Slide-lock SPST—NO (single pole single throw—normally open)	Removable 7 ft. single conductor shielded	$25.85
1813 (P-9X)	Crystal High	Push-to-talk SPST — NO		25.85
1816-4 (9D)	Dynamic High	Slide-lock SPST — NO		32.50
1817-1 (9D)	Dynamic 50 ohm		Removable 7 ft. two conductor shielded (balanced line)	32.50
1817-2 (9D)	Dynamic 200 ohm			32.50
1818-4 (P-9D)	Dynamic High	Push-to-talk SPST — NO	Removable 7 ft. single conductor shielded	32.50
1819-1 (P-9D)	Dynamic 50 ohm		Removable 7 ft. two conductor shielded (balanced line)	32.50
1819-2 (P-9D)	Dynamic 200 ohm			32.50
3106-4 (SR-9D)	Dynamic High	Side button Push-to-talk SPST — NO For relay control	Attached 7 ft. three conductor one shielded	37.40
3107-1 (SR-9D)	Dynamic 50 ohm		Attached 7 ft. four conductor two shielded (balanced line)	37.40
3107-2 (SR-9D)	Dynamic 200 ohm			37.40
2044-1 (9R)	Carbon 80 ohm	Slide-lock SPST — NO	Removable 7 ft. two conductor unshielded	25.85
2045-1 (P-9R)	Carbon 80 ohm	Push-to-talk SPST — NO		25.85
2043-1 (SR-9R)	Carbon 80 ohm	Side button Push-to-talk DPST — NO For relay and mike control	Attached 7 t. four conductor unshielded	30.75
2042-1 (SR-9R)	Carbon 80 ohm		Attached four conductor unshielded 11" retracted Koiled Kord	34.40

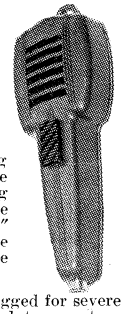
Model 9 Crystal Replacement Cartridge No. 7L. List Price $8.00

Model 9 Dynamic Replacement Cartridge No. 13A. List Price $11.00

Model 9 Carbon Replacement Cartridge No. 25. List Price $8.00

Model 9 Ceramic Replacement Cartridge No. 7LC. List Price $8.00

Model 20



Recommended for announcing and mobile P.A. systems. Die cast metal case with hook ring for hanging, bronze metalustre finish. Size: 6 1/2" x 2 3/16" x 1 5/32" overall. Switch models have push-to-talk switch with slide lock feature.

Model 20D Dynamic—Very rugged for severe service conditions, climate and temperature extremes. Response: 100-7,000 c.p.s. Level: –52 db. at high impedance. Specify 50 ohms or high impedance.

Model 20X Crystal—Response: 70-7,000 c.p.s. Level: –48 db. Also available with ceramic interior at same price. Response: 80-7,000 c.p.s. Level: –56 db. Specify 20C.

Model 20R Carbon—Response: 200-4,000 c.p.s. Level: –38 db.

Stock No.	Type and Impedance	Switch	Cable	List Price
1161 (20X)	Crystal High	None	Attached 7 ft. single conductor shielded	$17.00
1162-1 (S-20X)	Crystal High	SPST — NO (Single pole single throw normally open)		20.00
1163-1 (SR-20X)	Crystal High	SPST — NO For relay control	Attached 7 ft. three conductor one shielded	23.00
1164-4 (20D)	Dynamic High	None	Attached 7 ft. single conductor shielded	21.50
1164-1 (20D)	Dynamic 50 ohm	None		21.50
1165-4 (S-20D)	Dynamic High	SPST — NO		24.50
1165-1 (S-20D)	Dynamic 50 ohm			24.50
1166-4 (SR-20D)	Dynamic High	SPST — NO For relay control	Attached 7 ft. three conductor one shielded	27.50
1166-1 (SR-20D)	Dynamic 50 ohm			27.50
1167-3 (20R)	Carbon 80 ohm	None	Attached 4 ft. two conductor unshielded	17.00
1168-3 (S-20R)	Carbon 80 ohm	SPST — NO		20.00
1169-3 (SR-20R)	Carbon 80 ohm	DPST — NO For relay and mike control	Attached 4 ft. four conductor unshielded	23.00

Model 20 Crystal Replacement Cartridge No. 17. List Price $6.50

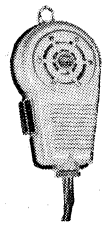
Model 20 Ceramic Replacement Cartridge No. 17C. List Price $6.50

Model 20 Dynamic Replacement Cartridge No. 13A. List Price $11.00

Model 20 Carbon Replacement Cartridge No. 25. List Price $8.00

Model 70D-70R

Watertight, dustproof, corrosion-proof



Model 70D Dynamic—Clear, crisp voice response and high output unaffected by dust, corrosion, rainfall, mist, steam or total immersion. Hook for hanging or bracket for wall mounting (specify choice). Response: 200-5,000 c.p.s. with slightly rising characteristic for maximum speech intelligibility. Level: –52 db. Case: Zinc die cast alloy.

Model 70R Carbon—Same as 70D except with high quality carbon cartridge giving excellent articulation and intelligibility for speech. D.C. Resistance: 80 ohms, nominal. Output Level: –38 db.

Stock No.	Type and Impedance	Switch	Cable	List Price
3004-1 (70D)	Dynamic High	Push-to-talk SPST — NO (single pole single throw normally open)	Attached 7 ft. single conductor shielded	$42.50
3007-4 (70D)	Dynamic 50 ohm		Attached 7 ft. two conductor shielded (balanced line)	42.50
3007-3 (70D)	Dynamic 200 ohm			42.50
3005-1 (SR-70D)	Dynamic High		Attached 7 ft. three conductor one shielded	45.50
3022-8 (SR-70D)	Dynamic 50 ohm		Attached 7 ft. four conductor two shielded (balanced line)	45.50
3022-7 (SR-70D)	Dynamic 200 ohm			45.50
2098-3 (70R)	Carbon 80 ohm		Attached 7 ft. two conductor unshielded	38.50
2099-3 (SR-70R)	Carbon 80 ohm	Push-to-talk DPST — NO	Attached 7 ft. four conductor unshielded	41.50

Model 70 Dynamic Replacement Cartridge No. 13B. List Price $12.50

Model 70 Carbon Replacement Cartridge No. 25. List Price $8.00

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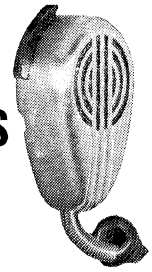
TURNER HAND-HELD MICROPHONES (continued)



Model 90

Ideal for any mobile rig. Designed to fit your hand comfortably with switch in normal grip. Zinc alloy case is finished in permanent satin chrome for everlasting good appearance. Furnished with hook for hanging and bracket for wall or dash mounting.

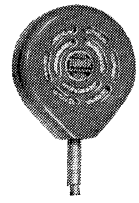
Stock No.	Type and Impedance	Switch	Cable	List Price
3096-1 (SR-90R)	Carbon 80 ohm	DPST — NO For relay and mike control	Attached four conductor unshielded 11" retracted Koiled Kord	$26.50
3108-4 (SR-90D)	Dynamic High	SPST — NO For relay control	Attached 5 ft. three conductor one shielded	29.50
3109-2 (SR-90D)	Dynamic 200 ohm		Attached 5 ft. four conductor two shielded (balanced line)	29.50

STANDARD MODEL SR-90R CARBON—Response: 200-4,000 c.p.s. Level: −38 db.

MODEL SR-90D DYNAMIC—Response: 200-9,000 c.p.s. Level: −48 db. at high impedance. See table for impedances and cable data.

Convenient lightweight lapel microphone

Turner Model L-100



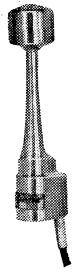
Low cost convenient crystal lapel microphone with excellent speech reproduction characteristics, check sounds damped out. Response: 50-10,000 c.p.s. Level: −52 db. Lightweight, inconspicuous grey plastic case. Strong rubber-padded clip adjusts to any desired position. 20-ft. single conductor shielded cable attached. Also available with ceramic interior at same price. Specify L-100C. Available without clip as Model 100.

Model L-100 and Model L-100C. With clip and 20-ft. cable.
List Price $12.50

Model 100 and 100C. Without clip and 7-ft. cable.
List Price $8.00

Tiny, versatile useful miniature crystal microphone

Turner Model 80 Series



Model 80—There is a lot of crystal microphone concealed in the small, inconspicuous case of the Turner Model 80. Its fine performance belies its size and appearance—slender, compact and graceful—important considerations in the selection of truly useful microphones. The Turner 80 has frequency response range of 80 to 7,000 c.p.s. Level: approximately −54 db. Its compactness, performance, durability and beauty suggest the versatility of applications to which the satin chrome plated Model 80 may be put. On the stand or in the hand, it lives up to its role as a Turner engineering triumph. Weight: 5 oz. Equipped with 7-ft. attached single conductor shielded cable. See other models listed in the Turner 80 series; same general specifications.

Model 80—List Price $15.95

C-4 Stand—Permits operation of the Model 80 microphone at any angle in an arc of 135°. Specially designed to augment the maneuverability of the Turner 80, this stand is built of heavy die cast zinc alloy, overlaid with satin chrome plate to match the appearance as well as the flexibility of the microphone.

Model C-4 Matching Stand.
List Price $5.75

Model 81—Model 80 microphone head with PC1M Amphenol connector attached . . . ideal for built-in applications.
Model 81—With Amphenol Connector.
List Price $13.95

Model 82-3H—Tiny Model 80 microphone head adapted for use with Turner "Third Hand." Attached 20-ft. single conductor shielded cable permits freedom of movement.

Model 82-3H—List Price $22.75

Model 83—Balanced, light, tiny hand microphone that fits easily in the palm of the hand, rides lightly in any pocket. Tiny Model 80 head on a 4-in. matching satin chrome handle, with 7-ft. single conductor shielded cable attached.

Model 83—List Price $15.95

TURNER **MICROPHONES for SOUND PERFORMANCE**
The TURNER Company Cedar Rapids, Iowa

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Electro-Voice MICROPHONES AND STANDS

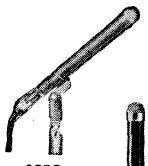
BROADCAST—TV DYNAMICS

E-V engineering brings new, versatile high-output designs in keeping with current requirements for better TV-broadcast flexibility and quality. Unique Variable "D" cardioid principle delivers greater front-to-back discrimination, ultra wide range with rugged single dynamic element. Slim-Trim omnidirectional, close tolerances.

CARDIOID UNIDIRECTIONAL MICROPHONES

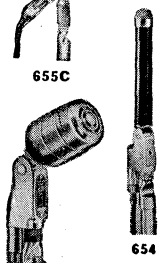
666

Model 666 Super Cardioid Microphone—Totally new concept in directional microphone design uses Variable D principle (variable acoustical distance between front and back openings). High discrimination against sounds from back hemisphere. Highly resistant to mechanical shock. Model 666 affords another octave of uniform HF response over that found in conventional broadcast cardioids. Permits close talking with no bass accentuation. Increases working distance over pressure microphones by factor of 1.7:1 due to reverberation reduction. Designed for operation on boom, stand or in hand. Uses only one moving element with exclusive, rugged Acoustalloy diaphragm. Response range, typical 40-15,000 cps; output −55 db. Impedance changed on internal terminal board. Wired for 50 ohms, taps at 150 and 250 ohms. Aluminum cast case finished in TV gray. Built-in Cannon UA-3 connector. Clamp-on stand mount included with ⅝″-27 thread and ½″ pipe thread adapter. 20′ cable. Size 7½″ long, 1¾″ diameter. Net Weight, 11 oz. List Price.....**$255.00**


655C

Model 665 Cardioid—Similar in design and function to the Model 666, but for less exacting applications. Uniform response 50-14,000 cps. Impedance 50 and 250 ohms. Recessed switch in stud permits quick selection of either impedance. Pressure-cast zinc case. Nonreflecting gray finish. Diameter, 1⅞″, length 7⅜″. 18′ cable. Net Weight, 1 lb. 10 oz. List Price.....**$140.00**

OMNIDIRECTIONAL MICROPHONES

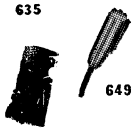

654

635

Model 655C Slim-Trim TV Dynamic—Frequency response 40-20,000 cps. Output level −55 db. Has widest range response of any microphone commercially available. Used in many laboratories as test standard. Excellent level affords high signal-to-thermal noise ratio. Pop-proof grille stops blasts. Can be used on stand, in hand or on boom. Easily concealed in studio props. Acoustalloy diaphragm. Impedance 50, 150 and 250 ohms. Impedance easily changed at internal terminal board. Cannon UA-3 connector. Clamp-on stand mount included with ⅝″-27 thread and ½″ pipe thread adapter. Size, 10½″ long without connector, 1″ diameter. 20′ cable. Net Weight, 11 oz. List Price.....**$200.00**

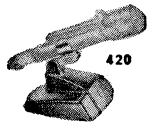
Model 654 Slim-Trim Broadcast Dynamic—Frequency Response 50-16,000 cps. Output level −55 db. Recessed selector provides 50 or 250 ohms. Built-in Cannon XL-3 connector. Acoustalloy diaphragm. ⅝″-27 thread. 18′ cable. 10″ long with stud, 1″ diam. Net Weight, 15½ oz. TV gray enamel. List **$95.00**

Model 635 Broadcast Dynamic—Compact, rugged, versatile. Omnidirectional. Response, 60-13,000 cps. Output level −55 db. 50-250 ohms impedance selector. Head tilts through 90° arc. Cannon XL-3 connector. ⅝″-27 thread; size, 2″ x 6¼″. Satin chrome finish. 18′ cable. Net Wt., 1 lb. List Each.....**$80.00**

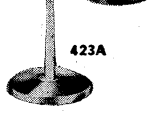

649

Model 649 Miniature Lavalier—Smallest dynamic lavalier—weighs only 2 oz. without cable; 2¹¹⁄₁₆″ long x ¾″ diameter. Ideal for programming where unobtrusive or concealed microphone placement is desirable. The 649 may be hidden in corsages, under the lapel or tie, behind a book—almost anywhere. Frequency response 70-13,000 cps. Output −62 db. Nondirectional. Impedance 50 ohms, easily changed to 150 or 250 ohms by moving one wire in transformer housing located at end of 30′ cable. Aluminum case finished in TV gray. XL-3 connector supplied. Complete with neck cord assembly and belt clip. List.....**$115.00**

664 on 419


420

647 in 416


423A

MICROPHONE STANDS

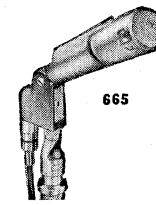
Model 415 Reclining Desk Stand—Mounts 615, 715, 915 at 15° tilt. Satin chrome. Size 2⅝″ x 2¾″ x 1″. Net Weight, 4 oz. List Price.....**$1.75**

Model 416 Stand—For semipermanent mounting of 646, 647 microphones. Black rubber. Size 3⅛″ diameter, 1″ high. Net Weight, 2 oz. List Price.....**$5.00**

Model 418 Desk Stand—Use with microphones using small-type stud such as Models 611, 623, 630, 635, 636, 911, and 950. Cast iron. Gray finish. List Price.....**$10.00**
Model 418-S—With switch...**$15.00**

Model 419 Desk Stand—Similar to Model 418 but for use with microphones using large-type stud such as Models 650, 654, 726, 731, 664 and 665. List Price.....**$10.00**
Model 419-S—With Switch...**$15.00**

Model 420 Desk Stand—Heavy cast iron stand finished in TV gray. Specifically designed for use with E-V 666, 655C, 646 or microphones with 1″ diameter. Clamp attachment for mounting 1″ cylindrical mikes, without tools. Base holds mike in position when subjected to ordinary strain. Net Weight, 3 lbs. List Price.....**$20.00**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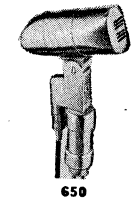
646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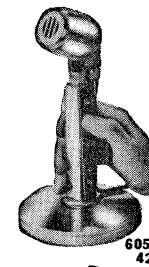
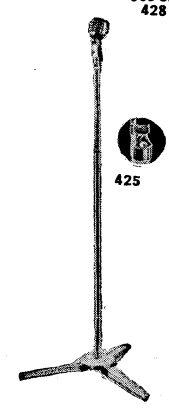

605 on 428


425

Model 423-A Desk Stand—Sturdy smartly styled, round die-cast base, 5⅛″ diameter. Rests firmly on rubber base buttons. Rich satin chrome. ⅝″-27 thread. Choice of 3″ or 5″ matching stem riser. Net Weight, 1 lb. List **$5.00**

Model 428 Touch-To-Talk Stand—Fits standard ⅝″-27 thread. Lever-type switch for relay operation or microphone On-Off—closes or opens instantly or locks in "talk" position. Satin chrome; gray plastic switch lever with locking button. 7″ x 5⅛″ base diameter. Net Weight, 1¾ lbs.
SPDT. List Price.....**$17.50**
DPDT. List Price.....**$17.50**

Model 425 Deluxe Floor Stand—Button at top gives one-hand height control from 37″ to 66″. Locks automatically on release. Shaft can be rotated without any adjustment device. Locking-type adjustable legs permit stand to be placed flush against wall. Modern, die-cast base. Three-leg spread 17″. Net Weight, 7½ lbs. List Price.....**$30.00**

Net

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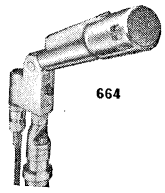
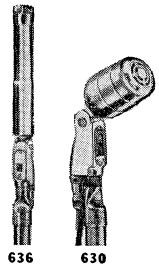
Electro-Voice MICROPHONES AND ACCESSORIES

DYNAMIC MICROPHONES

CARDIOID UNIDIRECTIONAL MICROPHONES


664

Model 664 Cardioid Dynamic—Similar to Model 666 in function, but designed specifically for PA. Cardioid pattern at all frequencies. Permits close talking without "booming" or bass accentuation. Provides better discrimination against unwanted sound. Less feedback than any cardioid PA microphone built. Blast filter minimizes wind effect. Acoustalloy diaphragm shielded from dust and magnetic particles. Response 60-13,000 cps. Output −55 db. On-off switch. 150 ohm and high impedance. Impedance changed by moving one wire in MC4 cable connector. Pressure cast case. Chrome finish. 18′ cable. Size 7 3/16″ long, less stand coupler, 1 7/8″ diameter. Net Weight, 1 lb. 10 oz. List. . **$82.50**


636 630

Model 636 "Slimair" Dynamic—Exceptionally fine for PA, recording and general use. Response 60-13,000 cps, output −55 db. Pop-proof head. Wide pick-up range. On-Off switch. Satin chrome finish. Tiltable head. Built-in MC-4 connector. 5/8″-27 thread. 18′ cable. 10 1/4″ long including stud. Hi-Z or Lo-Z by changing one wire in connector. List Price **$70.00**

Model 636G—Gold Finish. List Price **$72.50**

Model 630 High Fidelity, High-Output Dynamic—Famous for quality at low cost. Response 60-11,000 cps; output level −55 db. Unaffected by heat or humidity. Acoustalloy diaphragm. Tiltable head. Built-in MC-3 connector. On-Off switch. Satin chrome finish. Available in 50, 250 ohms, or Hi-Z. Size 2″ x 6 1/4″. 18′ cable. Net Weight, 1 lb. List Price **$49.50**

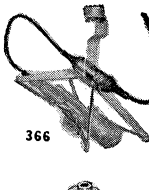
647

Model 647 PA Lavalier Dynamic—Small, rugged; for chest, desk or hand use. With neck cord, support clips and 18′ cable. Response 60-13,000 cps; output level −57 db. Available in 150 ohms or Hi-Z. Acoustalloy diaphragm. Built-in connector. Black anodized finish. 5″ long, 1″ dia. Net Weight, less cable, 4 oz. List Price **$82.50**

623

Model 623 Slim Dynamic—Ideal for PA, recording and general use. Use on stand or in hand. Omnidirectional. Response 65-9000 cps; output level −56 db. Hi- or Lo-Z by changing one wire in connector. Pressure cast; satin chrome finish. Tiltable head. On-Off switch. Built-in MC-4 connector. 5/8″-27 thread. 7 1/2″ x 1 1/16″. 18′ cable. Net Weight, 15 oz. List Price **$55.00**

Model 611 "Mercury" Dynamic—Traditional styling, fine performance for general sound pick-up. Response 50-8000 cps; output level −55 db. Nondirectional. Acoustalloy diaphragm. Tiltable head. On-Off Switch. Built-in MC-3 connector. 5/8″-27 thread. Satin chrome finish. Available in 50, 150, 250 ohms or Hi-Z. Lo-Z balanced to grd. 2 3/8″ x 3 1/8″ x 6 1/4″ inc. stud. 18′ cable. Net Weight, 1 1/4 lbs. List Price **$42.50**

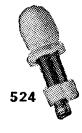

366

Model 366 Suspension Shock Mount—Extremely light boom suspension shock mount. Combined weight of 366 and 666 microphone is 17 oz. Designed for use with 666 microphone. No tools required for installing mike. Pigtail cable connection with UA-3 connectors provides cable loop isolating boom shock noises. Made for any microphone with 1″ diameter. List Price **$40.00**

345

Model 345 Shock Mount—Dual-type external shock mount prevents reproduction of external shocks and stand vibrations. Permits tilting microphone head. 5/8″-27 thread. Easily attached or removed. Satin chrome. 1 1/2″ x 3 1/8″. Net Weight, 10 oz. List Price **$15.00**

Model 346 Shock Mount—Designed specifically for use with Model 666 microphone. Similar in every feature to Model 345, but constructed for 11 oz. microphone. List Price **$15.00**


524

Model 524 Wind Screen—Designed specifically for use with Model 666 microphone. Minimizes wind effect on boom operation or when used outdoors. Made of Acoustifoam rubber. Net Weight, 2 oz. List Price **$8.00**

731

Model 726 Dynamic (Cardyne I)—Response 50-8000 cps. Output level −55 db. Hi-Lo impedance selector, built-in MC-3 connector, On-Off switch. Net Weight, 2 lbs. 6 oz. List Price . **$75.00**

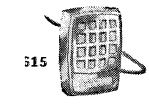
Model 731 Dynamic (Cardyne II)—Flat response 40-10,000 cps, output level −52 db. Dual-type external shock mount. Hi-Lo impedance selector. Built-in Cannon XL-3 connector. On-Off switch. Net Weight, 2 1/2 lbs. List **$95.00**

OMNIDIRECTIONAL MICROPHONES

611

605

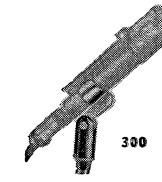
Model 605 Durable Dynamic—For dependable, general purpose use. Response 65-7500 cps. Output level −55 db. Nondirectional, becoming directive at higher frequencies. Acoustalloy diaphragm. Head at 22° fixed tilt. Built-in MC-1 connector. Satin chrome. Choice of 50, 250 ohms or Hi-Z. Low impedance not balanced to ground. Net Weight, 12 oz. With 18′ cable. List Price **$32.50**


515

615 on 415

Model 615 "Century" Dynamic—Incomparable for paging, home recording, amateur, or any low-cost applications. Can be used in hand, on table, on stand, or overhead. Nondirectional. Acoustalloy diaphragm. Withstands extreme temperature, humidity, corrosion and shock. Response 100-6000 cps. Output −55 db. 50 ohms or Hi-Z. Lo-Z not balanced to ground. 5′ cable. Pressure cast case, satin chrome. Rugged, lightweight. Size 3″ x 2 3/16″ x 1″. With 5/8″-27 thread stand adapter. AC-DC insulated. List Price **$25.00**

MICROPHONE ACCESSORIES


300

Model 300 Detachable Microphone Clamp—Light weight adapter fits any cylindrical microphone with 1″ diameter. Provides positive means to mount on stand. Easily installed without tools with finger operated clamp. Rubber insert prevents slippage on mike. 1/2″ pipe thread adapter for 5/8″-27. List Price **$10.00**

335

Model 335 Blast Filter—Acoustically treated, scientifically curved grille stops wind and breath blasts. Does not affect frequency response. Easily fits over head of E-V Models 630, 635, and 605 mikes. Satin chrome finish. List Price . **$5.50**

448 with 648

Model 448 Swivel Boom Mount—Designed specifically for use with Model 648 microphone. Holds mike 11 1/4″ off mounting surface. 62° elbow bend. MC-2M connector. Satin chrome finish. Extends 4″ below mounting surface, 2 1/2″ diam. mounting base. Net Weight, 1 lb. 5 oz. List Price **$24.00**

502

Model 502 Matching Transformer—Designed for mounting on amplifier chassis or in series with mike line. Transformer windings have low distributed capacity and are amply shielded against inductive hum by a shield inside pressure cast case. Designed for 50, 250 and 500 ohms—to Hi-Z. Broadcast fidelity. Response 40-20,000 cps ± 1 db for speech or music. MC-4 input connector. List Price **$17.50**

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Electro-Voice MICROPHONES

CRYSTAL AND CERAMIC MICROPHONES

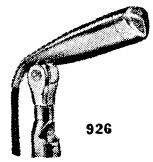
950

Model 950 Cardax Crystal—First high level cardioid crystal mike with Dual Frequency Response—Flat response for wide range pick-up (output −57 db) or rising characteristic for extra crispness (output −50 db . Hi-Z; fully enclosed Metal Seal crystal Built-in MC-1 connector. On-Off switch. Size 2½″ x 2⅝″ x 6¼″, inc. stud. Net Weight 1 lb., 2 oz. List Price.....**$47.50**

911

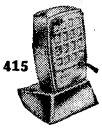
Model 911 "Mercury" Crystal—Same smart design and fine performance as Model 611. Response 50-8000 cps. Output −50 db. Metal Seal Crystal. MC-1 connector. Hi-Z. 18′ cable. Net Weight 1¼ lbs. List Price.....**$32.50**

Model 926 Slim Crystal—Level and response ideal for general purpose use. Response 70-8000 cps; output level −60 db. Hi-Z. Pressure cast case, satin chrome finish. Tiltable head. ⅝″-27 thread. 6¾″ x 1⅛″. 18′ cable with integral strain relief. Net Weight 11 oz. List Price.....**$27.50**


926

Multi-Purpose Century—Use in any position—in hand, on table, on stand or overhead. Nondirectional. Pressure cast, satin chrome finish case. Rugged, lightweight. 3″ x 2⅜″ x 1″. With ⅝″-27 adapter. AC-DC insulated.

Model 915 "Century"—Moisture sealed crystal. Response 60-7000 cps. Output −50 db. Hi-Z. 5′ cable. 10 oz. List Price.....**$12.50**


915 on 415

Model 915-S. With switch. List Price.....**$14.50**

Model 715 "Century" Ceramic—Ceramic element. 80-7000 cps, output −59 db. Hi-Z. 5′ cable. 6 oz. List..**$12.50**

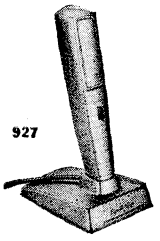
Model 920 "Spherex" Crystal—All-direction pick-up. Response 60-7000 cps; output level −50 db. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal. Hi-Z. Satin chrome. ⅝″-27 thread. Diam. 2¼″. 18′ cable. Net Weight 8 oz. List..**$25.00**

920

Model 924 Lavalier Crystal—Unique crystal lavalier for chest or hand use. Supplied with neck cord, support clips and 18′ cable. Satin chrome finish. Wire mesh head acoustically treated for wind and moisture protection. Output −60 db. Response 70-8000 cps. Hi-Z. 3⅝″ x 1⅞″. Cable has integral strain relief. Net Weight 8 oz. List Price...**$20.00**

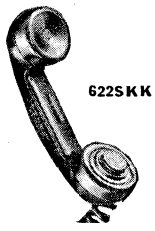
924

Model 927 Slim Crystal—A new approach to the design of crystal microphones for PA recording and general use. Response 50-6000 cps. Output −50 db. High impedance only. 5′ cable. Available with or without "on-off" switch. Metalustre gray front with medium gray back. Size 7⅞″ x 1½″ x 1¼″. Supplied with attractive stand. Net Weight less cable, stand, 9 oz. List price.....**$22.50**
Model 927S—With switch. List Price.....**$24.50**


927

Model 912 Crystal—Low cost crystal microphone. Fits need of limited PA, home recording, paging and general use. Handheld. Moisture sealed crystal. Response 60-7000 cps. High output −50 db. Hi-Z. Attractive gray Styron case. Size 3″ x 2¼″ x 1⅝″. 5′ cable. Net Weight 4 oz. List Price.....**$9.50**

DIFFERENTIAL AND SPECIAL PURPOSE MICROPHONES

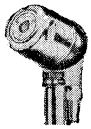

622SKK

Model 622SKK Dynamic Handset—For paging, intercom and communications. Light, sturdy bakelite, 150-ohm magnetic receiver with response 200-4000 cps. Switch closes mike and relay circuit. Response 100-6000 cps, output level −55 db. Impedance 250 ohms. 5′ 5-conductor cable. List Price.....**$78.00**

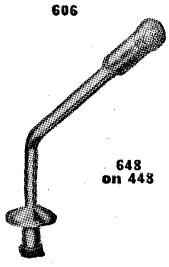
Model 625SKK Dynamic Differential Handset Microphone—Noise-cancelling microphone designed for use where background noise is at high level. Enables user to speak in a normal voice. Appearance and characteristics similar to Model 622SKK. Supplied with five-conductor, unshielded cable. DPST switch also will handle relay or other remote control in addition to turning on mike. Press button to talk. Size 9″ x 3″ x 2⅜″. Net Weight, 1¾ lbs. List Price....**$85.00**

805

Model 805 Contact—For guitar, banjo, etc. Hi-Z. Sealed crystal. Chrome finish. 15′ cable. List Price.....**$19.75**


606

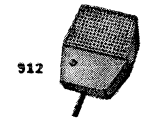
Model 606 Differential Dynamic—Close-talking, noise-cancelling. Response 100-6000 cps. Output (at ½″) −55 db. Acoustalloy diaphragm. Head at 22° fixed tilt. ⅝″-27 thread. Built-in MC-1 connector. Satin chrome. 2″ x 3¼″ x 2½″ inc. stud. 50, 250 ohms or Hi-Z. Low impedances not balanced to ground. 18′ cable. List Price.....**$49.50**


648 on 448

Model 648 Intercom Microphone—Extremely versatile paging, intercom, or P.A. mike. Can be mounted on desk or floor stand, boom, gooseneck, or special fixtures. Cable is concealed when used with Model 448 swivel boom. Response 40-10,000 cps. Output −58 db. Choice of 50, 150, 250-ohm impedance. Omnidirectional. Acoustalloy diaphragm. Nonreflecting gray. Less Cable. Size 6⅛″ x 1″ (including ⅝″-27 thread adapter). Net Weight (with adapter), 8½ oz. List Price.....**$56.00**

Model 600TR Microphone—Has compact, one-stage transistor amplifier built into case. Complete circuit including transistor, transformers, and associated equipment. Spiralcord, four-wire lead, press-to-talk switch may also actuate relay to control transmitter. Same sensitivity as carbon mike without change in auxiliary equipment. Output −21 db. Amplifier power gain approximately 34 db. Size 2¼″ x 2″ x 4″. Black phenolic case with mounting bracket, 5′ cable. Net Weight less cable 13 oz. List Price.....**$80.00**

Model 602TR Microphone—Similar in type and appearance to Model 600TR, but designed for close-talking, noise-cancelling work. Speech is clear, crisp, distinct. May be used to replace carbon microphone with no change in auxiliary equipment. Net Weight less cable 13 oz. List Price.....**$90.00**


912

Model 600D Dynamic Mobile-Mike—Lightweight, hand-held, extra-rugged. Output −55 db. Press-to-talk switch. Acoustalloy diaphragm. 2¼″ x 2″ x 4″. 50, 250 ohms or Hi-Z. 5′ cable. Net Weight less cable 8 oz. List..**$45.00**

Model 210KK Carbon—Similar to Model 600D but single-button carbon. Output −50 db. Press-to-talk switch. 5′ coiled cord. List Price.....**$32.50**

600D

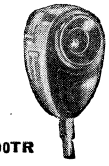
Model 602 Differential Dynamic—Similar to 600D but close-talking, noise-cancelling. List Price.....**$54.50**

Model 205KK Differential Carbon—Close-talking, noise-cancelling, single button carbon. Maximum intelligibility under high ambient noise. Blastproof, waterproof, shock resistant. Output at ¼″ −50 db. Black phenolic case. Press-to-talk switch. Mounting bracket. 5′ coiled cord. Size 2¼″ x 2¼″ x 4″. Net Weight less cable 8 oz. List..**$45.00**

Model 205STCKK—CAA Type approved certificate No. 1040 with coiled cord. List Price.....**$56.50**

205KK

Model 205STCKKP—Similar to above with WE-309 plug. List Price.**$61.25**


600TR

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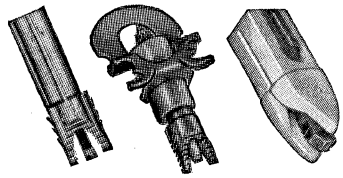
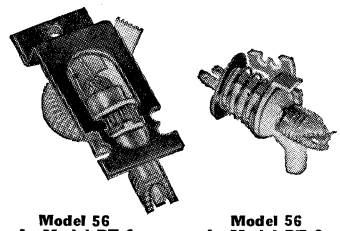
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Electro-Voice PHONOGRAPH CARTRIDGES



Models 51-1, 52-2, 53-3, 56, 56DS | Model 51-1 in Model PFT-1 | Models 76S, 76DS



Model 56 in Model PT-1 | Model 56 in Model PT-2

NEW POWER POINT PHONOGRAPH CARTRIDGES

Power Point is a totally new concept in phonograph transducers, combining integrally both cartridge and needle, functioning to give widest range with lowest distortion and minimum record wear. Using two sapphire* playing tips connected directly to the ceramic element, this unique design results in high compliance with excellent tracking ability. After quick mounting mechanism installation, replacement is easy slip-out, slip-in operation. Response flat from 20 cps to beyond 10 kc; output 1 volt; tracking force 5 to 8 grams. Diecast nylon case ¾" long, ¼" diameter.

FOR 45 AND 33⅓ RPM

Model 51-1—Power Point cartridge only. Red nylon case. With two .001" sapphire tips. List.....**$3.95**

FOR 78 RPM

Model 53-3—Power Point cartridge only. Black nylon case. With two .003" sapphire tips. List.....**$3.95**

Fixed, turnover and turnunder mechanisms have 7/16", ½" and ⅝" mounting hole centers. All necessary hardware is included for simple, quick installation.

Model PFT-1—Fixed mounting mechanism. Accepts any model Power Point cartridge. List.....**50c**

Model PT-1—Lever-action turnover mounting mechanism. For use with Models 56 and 56DS Power Point cartridges. List.....**$1.00**

Model PT-2—Lever-action turnunder mounting mechanism. Replaces all standard turnunder cartridges. For use with Models 56 and 56DS Power Point cartridges. List.....**$1.00**

FOR 45, 33⅓ AND 78 RPM

Model 52-2—Power Point cartridge only. Green nylon case. With two .0023" sapphire tips. List.....**$3.95**

Model 56—Power Point cartridge only. Blue nylon case. One .001" sapphire tip and one .003" sapphire tip. List...**$3.95**

Model 56DS—Power Point cartridge only. Orange nylon case. With one .001" natural diamond tip and one .003" sapphire tip. List.....**$21.50**

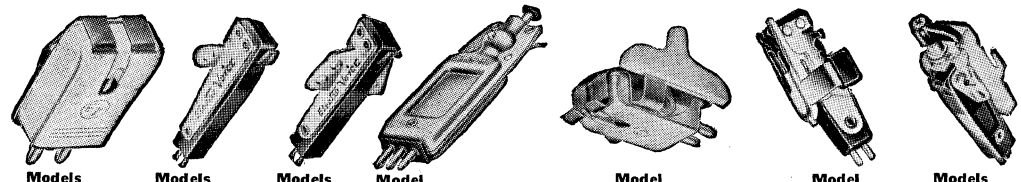
EXACT REPLACEMENTS FOR WEBCOR FONOGRAFS

Model 76DS—Turnover cartridge only. Black plastic case. With one .001" diamond tip and one .003" sapphire tip. List.....**$21.50**

Model 76S—Turnover cartridge only. White plastic case. With one .001" sapphire tip and one .003" sapphire tip. List.....**$4.25**

*Superior Synthetic.

ELECTRO-VOICE PHONO-CARTRIDGES



Models 12 & 14 | Models 32, 33, 42, 43 | Models 34 & 44 | Model 60 | Model 16TT | Model 47 | Models 46T & 96T

***6 Basic Preferred Types will make over 92% of all Cartridge Replacements**

MODEL 12 CRYSTAL CARTRIDGE FOR 78 RPM*

Two volt output. Weighs 1/5 ounces. Tracks perfectly with less needle force. With Snap-In Holder and mounting hardware. For standard ½" hole centers. With O3 Osmium needle. List **$7.50**

MODEL 32 CRYSTAL CARTRIDGE FOR 78 RPM

For longest record life, lowest needle talk, greatest stylus life. Response to 10,000 cps. Output 1.8 volts, usable in most radiophonos. ½" mounting. With O3 Osmium needle. List....**$6.50**

MODEL 42 CERAMIC CARTRIDGE FOR 78 RPM

Ceramic generating element for complete moisture protection. Output 1 volt. Bracket for mounting in arms with ½" centers. Long-lasting in extremely hot humid climates.
Model 42—With O3 Osmium needle. List.....**$6.50**

MODEL 14 CRYSTAL CARTRIDGE FOR 45 AND 33-1/3 RPM

Gets all the music from extended range fine groove records. Response free from peaks and distortion, 30 cps to 10 kc. Requires no preamplifier Output, 1 volt.
Model 14—With O1 Osmium needle. List.....**$7.50**
Model 14S—With S1 Sapphire needle. List.....**$8.50**

MODEL 34 CRYSTAL CARTRIDGE FOR 45 AND 33-1/3 RPM

Output, 1.25 volts. Mounting bracket has ½" and ⅝" hole centers. Ideal replacement. RCA-type "45" and Col. "LP".
Model 34—With O1 Osmium needle. List.....**$6.50**
Model 34S—With S1 Sapphire needle. List.....**$7.50**

MODEL 44 CERAMIC CARTRIDGE FOR 45 AND 33-1/3 RPM*

Output, 0.8 volt. For arms with ½" or ⅝" hole centers.
Model 44—With O1 Osmium needle. List.....**$6.50**
Model 44S—With S1 Sapphire needle. List.....**$7.50**

MODEL 33 CRYSTAL FOR 78, 45 AND 33-1/3 RPM

Special needle plays all speeds. 2.3 mil tip. Output, 1.25 volts on microgroove. 1.8 volts on 78 rpm. Bracket has standard ½" hole centers. With O2 Osmium needle. List.....**$6.50**
Model 33S—With S2 Sapphire needle. List.....**$7.50**

MODEL 43 CERAMIC FOR 78, 45 AND 33-1/3 RPM

Ideal for replacement in hot, humid climates. Output, 0.8 to 1 volt. ½" hole spacing. With O2 Osmium needle. List.....**$6.50**
Model 43S—With S2 Sapphire needle. List.....**$7.50**

MODEL 16TT CRYSTAL TWIN TILT*

Plays all three speeds with a one-piece, twin-tip needle without weight change. Complete with TILT mechanism. Output, 1 volt on each tip. Exact replacement for Webcor cartridges. With Osmium 3-mil and Sapphire 1-mil tips. List.....**$10.00**
Model 16—Same, less TILT. List.....**$9.00**

MODEL 46T CERAMIC TURNOVER CARTRIDGE*

Separate needles for fast and slow speed records. Needles isolated from one another allowing correct response on each. Output, .8 volt on each needle. Positive-acting turnover mechanism. Mounting plate supplied for LQD-type cartridges. With 3-mil Osmium needle and 1-mil Sapphire needle. List.....**$10.00**
Model 46—Same, less harness. List.....**$9.00**

MODEL 96T CRYSTAL TURNOVER

For all three speeds. Output is 1 volt on each needle. Incorporates all construction features of 46T. List.....**$10.00**
Model 96—Same, less harness. List.....**$9.00**

MODEL 60 CRYSTAL DUO-VOLT BIMORPH CARTRIDGE*

Uses any standard 3-mil, 1-mil or all-purpose needle (not supplied). Output, 4 or 2 volts on LP, 6 or 3 volts on 78 rpm. No soldering, no accessories required. ½" mounting centers, aluminum case. For varied replacement needs. Less needle. List....**$4.95**

MODEL 50 BIMORPH CRYSTAL CARTRIDGE

High level cartridge, supplied less needle. Use with any 1-mil, 3-mil or all-purpose needle. Output level with straight shank is 2.5 volts. Aluminum case. Less needle. List.....**$4.50**

MODEL 47 CERAMIC FOR 78, 45 AND 33-1/3 RPM*

New "push-pull" needle change allows compensated response for ORTHO-RIAA recording curves using completely isolated 1-mil stylus. 3-mil needle easily, accurately positioned by unique "dual-slide" action. Moisture-proof, wide-range ceramic element. 0.6-volt output. ½" centers and 1/16" mounting. With 3-mil Osmium, 1-mil Sapphire styli. List.....**$9.00**

Model 504 Adapter—Required for ceramic cartridges where only magnetic input is available. De-equalizes magnetic input and reduces output of ceramic to conform. List.....**$6.00**

REPLACEMENT NEEDLES

E-V No.	Tip	Description	List
O3	Sgle.	.003" osmium for 12, 32, 42, 96, 96T	$1.50
S3	Sgle.	.003" sapphire (same models as O3)	2.50
O2	Sgle.	.0023" osmium for 33, 43	1.50
S2	Sgle.	.0023" sapphire for 33, 43	2.50

E-V No.	Tip	Description	List
O1	Sgle.	.001" osmium for 14, 34, 44, 96, 96T	$1.50
S1	Sgle.	.001" sapphire (same models as O1)	2.50
SO13	Twin	.001" sapphire, .003" os. (16, 16TT)	3.00
O13	Twin	Same as SO13, both tips osmium	2.50

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American

a complete line of

BROADCAST MICROPHONES

DR330 DYNAMIC CARDIOID AND RIBBON

variable low-medium impedance—variable polar pattern

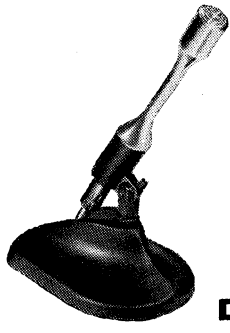
A versatile microphone of exceptional quality, made to fulfill the most exacting requirements of radio-television broadcast and motion picture recording. Cardioid, bi-directional or omni-directional polar patterns. Smooth frequency response from 40 to 15,000 c.p.s. Polar patterns and impedance are quickly changed by removing nameplate and adjusting linkage bars. Combined, matched ribbon and dynamic units incorporate a new principle in the relative placement of pressure and velocity units, resulting in electrical cancellation over an extended frequency range. Built-in, shock-proof mount gives extra protection. "Slide-Lock" permits easy removal from stand for suspension use or storage.

DR330 LIST PRICE: (Code REBID)..... **$250.00**

Shown on ND base (available at small additional cost).
Antihalation satin black finish available at no extra cost. Specify Model DR330AH.

D33 DYNAMIC -- OMNI-DIRECTIONAL

variable impedance—low and medium



A versatile microphone for radio-television broadcast, sound recording and public address. Response is essentially flat from 40-15,000 c.p.s. "Slide-Lock" permits easy removal of the 8-ounce D33 from the stand for hand or suspension use and storage. Simple adjustment of linkage bars under nameplate changes impedance. Modern, attractive Full-Vision styling.

D33 LIST PRICE: (Code: DOING)..... **$125.00**

Shown on ND stand (available at small additional cost).
Antihalation satin black finish available at no extra cost. Specify Model D33AH.

D22 DYNAMIC -- OMNI-DIRECTIONAL

variable impedance—low and high

A high-efficiency, studio quality microphone for public address, sound recording and general audio pickup. "Slide-Lock" permits easy removal from stand for hand or suspension use and storage. Modern, attractive styling in black and gold. Smooth frequency response from 50-12,000 c.p.s. Simple linkage bar adjustment under nameplate quickly varies impedance from 50 to 40,000 ohms.

D22 LIST PRICE: (Code: DOALL)..... **$82.50**

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DYNAMIC HIGH QUALITY MICROPHONE

Outstanding in ruggedness and in quality of reproduction. Provides excellent pickup of orchestral or solo work and straight announcing. Swivel mount permits non-directional or semi-directional pickup. Polished chrome finish.

D8A *low impedance*

FREQUENCY RESPONSE: Substantially flat 40-7,000 c.p.s.
OUTPUT LEVEL: Minus 56 db at 50 ohms impedance (0 db = 1 MW/10 dyne/cm²).
IMPEDANCE: 50 ohms.
MICROPHONE TERMINATION: Amphenol PC2MK receptacle.
CABLE: 12½ feet two-conductor shielded with Amphenol MC2F1 plug.
STANDARD COUPLING: ⅝" -27 thread on swivel.
DIMENSIONS: Height 3¼"; diameter 2".
WEIGHT: 13 ounces.

D8A LIST PRICE: (Code: DATAH)..... **$27.00**

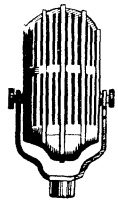
D8AT *high impedance*

FREQUENCY RESPONSE: Substantially flat 40-7,000 c.p.s.
OUTPUT LEVEL: Minus 52 db at high impedance. (0 db = 1 volt/dyne/cm²).
IMPEDANCE: 40,000 ohms (200 or 500 ohms available).
MICROPHONE TERMINATION: Amphenol PC1MK receptacle.
CABLE: 12½ feet single-conductor shielded with Amphenol MC1F plug.
STAND COUPLING: ⅝" -27 thread on swivel.
DIMENSIONS: Height 3¼"; diameter 2".
WEIGHT: 13 ounces.

D8AT LIST PRICE: (Code: DATAL)..... **$30.00**

DYNAMIC CARDIOID MICROPHONE

Cardioid pattern minimizes feedback and extraneous pickup. Broad frequency response, high output. Modified velocity section allows close talking. The ideal microphone for public address and general sound installations. Available with slide switch.



D9A *low impedance*

FREQUENCY RESPONSE: 100-7,000 c.p.s.
OUTPUT LEVEL: Minus 57 db at 50 ohms impedance. (0 db = 1MW/10 dyne/cm²).
IMPEDANCE: 50 ohms.
MICROPHONE TERMINATION: Cannon XL-3-50 receptacle.
CABLE: 25 feet two-conductor shielded with Cannon XL-3-11 "Latch-Lock" plug.
STAND COUPLING: ⅝" -27 thread.
DIMENSIONS: Height 7"; breadth 2½".
WEIGHT: 2½ pounds.

D9A LIST PRICE: (Code: LOWEL)..... **$47.50**
With slide switch D9AS (Code: LOWES)..... **$51.75**

D9AT *high impedance*

FREQUENCY RESPONSE: 100-7,000 c.p.s.
OUTPUT LEVEL: Minus 52 db at 50 ohms impedance. (0 db = 1 volt/dyne/cm²).
IMPEDANCE: 40,000 ohms (200 or 500 ohms available).
MICROPHONE TERMINATION: Cannon XL-3-50 receptacle.
CABLE: 25 feet single-conductor shielded with Cannon XL-3-11 "Latch-Lock" plug.
STAND COUPLING: ⅝" -27 thread.
DIMENSIONS: Height 7"; breadth 2½".
WEIGHT: 2½ pounds.

D9AT LIST PRICE: (Code: HIWEL)..... **$52.50**
With slide switch D9ATS (Code: HIWES)..... **$55.00**

CRYSTAL MICROPHONES

C7H Crystal Microphone

high impedance, high quality crystal

FREQUENCY RESPONSE: 100-6,000 c.p.s.
OUTPUT LEVEL: Minus 55 db at high impedance. (0 db = 1 volt/dyne/cm²).
IMPEDANCE: 40,000 ohms.
MICROPHONE TERMINATION: Amphenol PC1MK receptacle.
CABLE: 12½ feet single-conductor shielded with Amphenol MC1F plug.
STAND COUPLING: ⅝" -27 thread on swivel.
DIMENSIONS: Length 3½"; diameter 2½".
WEIGHT: 15 ounces.

C7H LIST PRICE: (Code: CSEVN)..... **$18.50**

CL2 Crystal Lapel Microphone

high impedance

FREQUENCY RESPONSE: 150-5,000 c.p.s.
OUTPUT LEVEL: Minus 55 db. at high impedance. (0 db = 1 volt/dyne/cm²).
IMPEDANCE: 40,000 ohms.
CABLE: 25 feet single-conductor shielded.
DIMENSIONS: Diameter 2¼"; depth ⅜"
WEIGHT: 6¼ ounces.

CL2 LIST PRICE: (Code: LATAL)..... **$15.00**

RC Crystal Microphone

high impedance

Complete with non-breakable plastic stand.

FREQUENCY RESPONSE: 100-6,000 c.p.s.
OUTPUT LEVEL: Minus 55 db at high impedance. (0 db = 1 volt/dyne/cm²).
IMPEDANCE: 40,000 ohms.
CABLE: 6 feet single-conductor shielded.
STAND COUPLING: Base easily removed by ½ turn of bayonet lock for use as hand microphone. Handle has ⅝" 27 thread, microphone unit ⅝" -27 thread for mounting on floor stand.
DIMENSIONS: Height 10".
WEIGHT: 1 pound.

RC LIST PRICE: (Code: ARCEE)..... **$10.90**
With slide switch RCS (Code: ARCEX)..... **$13.50**

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504 SERIES

new, extra rugged carbon microphone for motorcycle two-way equipment; unidirectional, low impedance

Built particularly for motorcycle use, the rugged new 504 has applications wherever mobile equipment must withstand extreme vibration and shock, yet perform with unfailing dependability. The 504 has high output and is used as a close-talking microphone. Functional detent-type switch is extremely sturdy. Entire microphone is moisture proof; with switch assembly protected by a rubber boot. Molded Bakelite case withstands rough handling.

specifications

C504A

FREQUENCY RESPONSE: 200-5,000 c.p.s.
IMPEDANCE: 40 ohms.
OUTPUT: Minus 13 db (1 volt/100 dyne/cm²).
WEIGHT: 9 ounces.
FINISH: Black Bakelite.
DIMENSIONS: 2⅛" x 1⅝".
CABLE: 5 ft. 3 conductor.

C504A: LIST PRICE: (Code MOSTR) **$24.50**

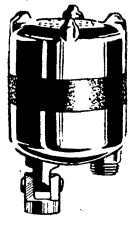
C504B: C504A with 5 ft. extended, 11 inches retracted Koil Kord. **LIST PRICE:** (Code: MOKKA) **$27.00**

C504C: C504A with Koil Kord and PL68 or PJ068 plug. **LIST PRICE:** (Code: MOPLA) **$32.50**

C504D: C504C with 100 ohms impedance. **LIST PRICE:** (Code: MOVIA) **$32.50**

C504H: C504A with PL68 or PJ068 plug. **LIST PRICE:** (Code: MOBUP) **$28.00**

all models furnished with mounting bracket and screws.



D4 DYNAMIC--OMNI-DIRECTIONAL

low impedance, extra rugged

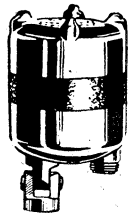
Used widely in public address, paging and other applications requiring a pressure-operated dynamic microphone of rugged construction and smooth response. Shock resistant, with guarded grill and swivel head.

D4 LIST PRICE Code: (DEFOR) **$26.50**

With slide switch, D4S: (Code: DEFOS) **$29.50**

specifications

FREQUENCY RESPONSE: 50-8,000 c.p.s.
OUTPUT LEVEL: Minus 56 db at 50 ohms impedance. (0 db=1 MW/10 dyne/cm²).
IMPEDANCE: 50 ohms.
MICROPHONE TERMINATION: Amphenol PL2MK receptacle.
CABLE: 12½ ft. two-conductor shielded with Amphenol MC2F1 plug.
STAND COUPLING: ⅝" -27 thread on swivel.
DIMENSIONS: Height 4"; diameter 2".
WEIGHT: 12 ounces.



D4T DYNAMIC – – OMNI – DIRECTIONAL

high impedance, extra rugged

Broad versatility permits use in public address work, amateur applications, home recording, paging, communications and as a booster microphone for single instrument pickup. Smooth response approaches studio and broadcast requirements. Shock resistant, guarded grill, swivel head.

D4T LIST PRICE: (Code: DFORT) **$29.50**

With slide switch, D4TS: (Code: DEFORS) **$34.00**

specifications

FREQUENCY RESPONSE: 50-8,000 c.p.s.
OUTPUT LEVEL: Minus 52 db at high impedance. (0 db=1 volt/dyne/cm²).
IMPEDANCE: 40,000 ohms. (200 or 500 ohms available).
MICROPHONE TERMINATION: Amphenol PC1MK receptacle.
CABLE: 12½ ft. single-conductor shielded with Amphenol MC1F plug.
STAND COUPLING: ⅝" -27 thread on swivel.
DIMENSIONS: Height 4" diameter 2".
WEIGHT: 13 ounces.

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PHONOGRAPH CARTRIDGES

Elgin's well-known precision miniaturization skills are reflected in the compactness and in the exacting performance of American cartridges. Light weight reduces needle hiss and drag on recordings, permitting the full brilliance of the recorded performance to be realized. New, exclusive "spider bearing" design in all crystal cartridges permits friction-free transmission of force from record to crystal. Chuck design minimizes breakage from rough use.

Fig. 1

Fig. 2

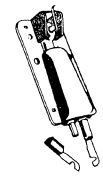
Fig. 3

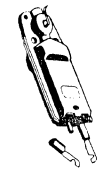
Fig. 4

Fig. 5

Illustration	Osmium Needle		Sapphire Needle		Output Level		Response	Needle	Needle Data		Speed
	Model No.	List Price	Model No.	List Price	Std.	Mg.	To	Pressure	Std.	Mg.	Application
SINGLE NEEDLE CRYSTAL CARTRIDGES											
Fig. 1	CRI (1)	3.50			3.0 Volts		8,000 c.p.s.	1¼ oz.	None Supplied (1)		78 RPM
Fig. 1	CR2 (1)	3.50			1.5 Volts		7,000 c.p.s.	1⅛ oz.	None Supplied (1)		78 RPM
Fig. 3	X105B	6.00	X105C	6.50		1.0 Volt	15,000 c.p.s.	6 Grams		1 Mil Point	45-33⅓ RPM
Fig. 3	X106B	6.00			1.2 Volts		7,000 c.p.s.	8 Grams	3 Mil Point		78 RPM
Fig. 3	X107B	6.00	X107C	6.50	1.2 Volts	1.0 Volt	15,000 c.p.s.	8 Grams	2 Mil Point		78-45-33⅓ RPM
Fig. 2	X108 (2)	4.50			6.0 Volts	4.0 Volts	8,000 c.p.s.	12 Grams	None Supplied (2)		78-45-33⅓ RPM
Fig. 1	X109 (2)	4.50			4.0 Volts	3.0 Volts	5,000 c.p.s.	12 Grams	None Supplied (2)		78-45-33⅓ RPM
Fig. 4	X111B	5.50	X111C	6.00		4.0 Volts	6,000 c.p.s.	10 Grams		1 Mil Point	45-33⅓ RPM
Fig. 4	X112B	5.50	X112C	6.00	6.0 Volts	4.0 Volts	6,000 c.p.s.	10 Grams	2 Mil Point		78-45-33⅓ RPM
Fig. 4	X113B	5.50			6.0 Volts		5,000 c.p.s.	10 Grams	3 Mil Point		78 RPM
TURNOVER CRYSTAL CARTRIDGES											
Fig. 5	X101B	8.00	X101BC (3)	8.50	6.0 Volts	4.0 Volts	7,000 c.p.s.	10 Grams	3 Mil Point	1 Mil Point	78-45-33⅓ RPM

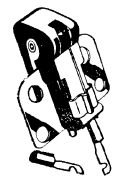
Fig. A

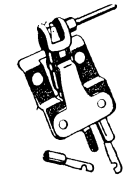
Fig. B

Fig. C

Illustration	Osmium Needle		Sapphire Needle		Output Level		Response	Needle	Needle Data		Speed
	Model No.	List Price	Model No.	List Price	Std.	Mg.	To	Pressure	Std.	Mg.	Application
SINGLE NEEDLE CERAMIC CARTRIDGES											
Fig. A	B101B	5.50	B101C	6.00		1.0 Volts	12,000 c.p.s.	8 Grams		1 Mil Point	45-33⅓ RPM
Fig. A	B102B	5.50	B102C	6.00	1.2 Volts	1.0 Volts	12,000 c.p.s.	8 Grams	2 Mil Point		78-45-33⅓ RPM
Fig. A	B103B	5.50			1.2 Volts		7,000 c.p.s.	8 Grams	3 Mil Point		78 RPM
TURNOVER CERAMIC CARTRIDGES											
Fig. B			B110C (4)	5.95	1.2 Volts	1.0 Volts	12,000 c.p.s.	8 Grams	3 Mil Point	1 Mil Point	78-45-33⅓ RPM
Fig. C			B810C (5)	4.95	1.2 Volts	1.0 Volts	12,000 c.p.s.	8 Grams	3 Mil Point	1 Mil Point	78-45-33⅓ RPM

NOTES: (1) No needle supplied. Best operation is obtained with offset type needle.
(2) No needle supplied. Permo #B310, Jensen #J752 or Equal recommended.
(3) Sapphire needle supplied on LP side only. Osmium needle supplied on 78 RPM side.
(4) Includes mounting bracket.
(5) Replacement "throwaway" element for B110C cartridge.

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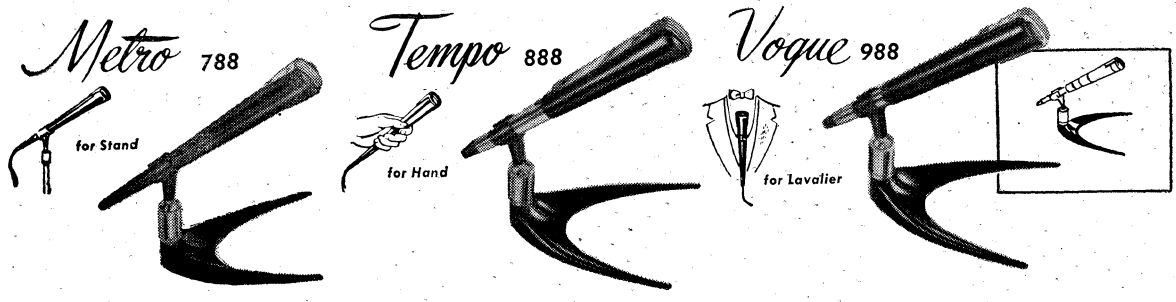
ASTATIC PROFESSIONAL & GENERAL PURPOSE MICROPHONES



The New FUTURA Dynamics

METRO 788—A superbly styled, exceptionally wide range general purpose dynamic—high in quality, low in cost. Frequency response from 60-13,000 cps, output level -55 db. Selection of either high or 150 ohm impedance without use of special tools. Built-in On-Off switch. Finished in glare-proof satin black with brushed gold trim and aqua color touch. New DuPont "Mylar" plastic film used in diaphragm construction. The ideal mike for TV and broadcast studios, general communications and industrial applications. Supplied with swivel adaptor, lavalier, belt clip and 20 ft. of shielded cable. List **$79.50**

TEMPO 888—A brilliant performer, strikingly styled. The Tempo 888 makes available for the first time wider and more varied microphone uses and applications. Frequency response from 50-15,000 cps, output level -56 db. Quick choice of impedances internally selected. Uses new DuPont "Mylar" plastic film in diaphragm construction. Fulfills more demanding microphone requirements, styled in smooth non-reflecting satin black with brushed chrome and aqua color touch top trim. Astatic "latch-lock" connectors are designed as part of the mike and contain the Cannon XLR-3 connector. Complete with swivel adaptor, lavalier, belt clip and 20 ft. of anti-microphonic cable. List **$110.00**

VOGUE 988—The world's most beautiful, widest range professional microphone. Ruggedly constructed, yet slender and graceful. Exceptionally uniform frequency response from 40-20,000 cps. Output level -57 db, contains internal impedance selector. Diaphragm of new DuPont "Mylar" plastic film. Astatic "latch-lock" connectors are designed as part of the mike and contain Cannon XLR-3 connector. Non-reflecting satin black finish with brushed gold trim and aqua color touch. Comes complete with swivel adaptor, lavalier, belt clip and 20 ft. of anti-microphonic cable. List **$150.00**

Fig. A Dynamike M-350—Sets a new standard of value for the entire industry! For recording, PA, studio use, etc. Smart, slender, compact; satin black finish with contrasting chrome. DuPont "Mylar" plastic film used in diaphragm. Frequency response from 50-10,000 cps, output level -56 db. Two models: **Low impedance** (38 ohms) with 18 ft. two conductor shielded cable; **High impedance** (40,000 ohms) with 18 ft. one conductor shielded cable.

Low Impedance

M-352 .....$37.50
M-352S (with switch) $40.25

High Impedance

M-350 .....$39.95
M-350S (with switch) $42.50

Fig B, Model T-3—Highly versatile, widely popular microphone, for studios, inter-communications, public address, high-quality recording, etc. Tilting swivel head makes pickup pattern semi- or non-directional as desired. Frequency response substantially uniform 30 to 10,000 cps. Chrome finish. Both models have interchangeable plug and socket connector. Crystal model: Output -52 db. 15-ft. cable. Element has "Metal-seal" protection against moisture or dryness. Ceramic model: Output -62 db. 5-ft. cable.

Crystal Models

T-3 Crystal .....List $27.35

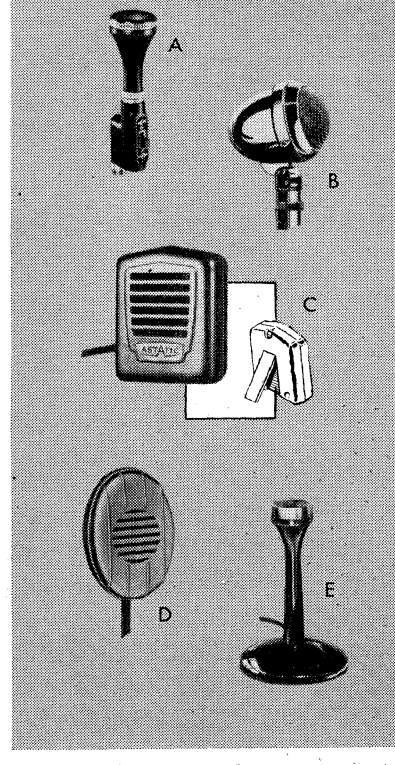


Fig. C, Model 301 & 302—Superb new microphone, ideal for tape recorders. Fits palm of hand; has recessed easel back for desk stand use. Gold-finished. Complete with 8-ft. shielded cable. Crystal Model: "Metal-seal" protected element. Output -47 db. Frequency range 30 to 10,000 cps. with flat response. Ceramic model: Element unaffected by heat, humidity, dryness. Output -54 db. Frequency range 30 to 8,000 cps. with slightly rising characteristics.

M-302 Crystal .....List **$11.00**
M-301 Ceramic .....List **$10.50**

Fig. D Model M-101 and M-102—Low cost . . . high quality . . . superior performance . . . wide range! Lightweight, rugged tan plastic housing. Choice of crystal or ceramic models, for home recording, paging, all general applications. **Model M-101** (Ceramic) is immune to extremes of heat and humidity.

Model M-101 (Ceramic) output level -54 db. Frequency response 30-8,000 cps. Supplied with 5 ft. single conductor shielded cable. List **$7.50**

Model M-102 (Crystal) Output level -46 db. Frequency response 30-10,000 cps. Supplied with 5 ft. single conductor shielded cable. List **$8.00**

Fig. E Model 54-M3—Smooth, distortion-free quality performance. Attractive small cylindrical styling, moderately priced. Ideally suited for conference, PA, and home recording. Complete with interlocking base, handle threaded for standard 5/8" 27 thread mounting. 5 ft. single conductor shielded cable. Output level -51 db. Frequency response 30-10,000 cps. List **$14.95**

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THE ASTATIC CORPORATION

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ASTATIC MICROPHONES (Cont'd)

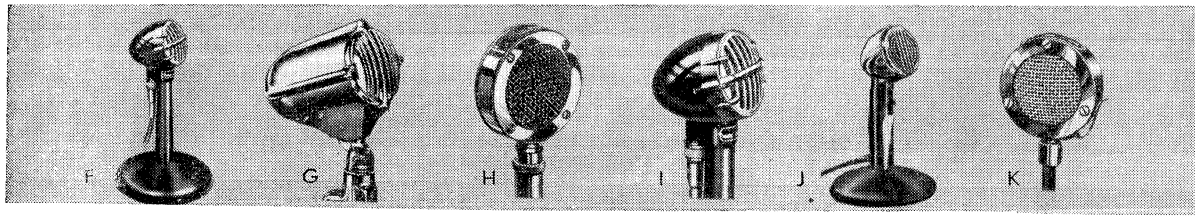


Fig. F **Model JT-30**—Dependable . . . high quality . . . low price! Streamline housing in opalescent grey with bright chrome fittings is specially designed for general PA, recording and communications. **Model JT-30** (Crystal) Output level -52 db. Frequency response 30-10,000 cps. 12 ft. single conductor shielded cable. List **$16.95**

Fig. G **Model DN-50 and DN-HZ**—All purpose dynamic mike for PA, communications, paging, etc. Standard 5/8" 27 thread mounting, tilting head swivel mount. **Model DN-50**—(50 ohms) Output level -51 db. Frequency response 50-7,000 cps. 10 ft. shielded rubber covered cable. List **$27.50**. **Model DN-HZ**—(38,000 ohms or more) Output level -55 db. Frequency response 50-7,000 cps. 10 ft. 2 conductor shielded cable. List **$29.50**

Fig. H **Model D-104**—The radio amateur's first choice! Shock proof mounting; machined brass parts and heavy mesh grille, with bright chrome finish. 5/8" 27 thread mounting. 5 ft. single conductor shielded cable. Choice of crystal or ceramic. **Model D-104** (Crystal) Output level -45 db. Frequency response 30-7500 cps, with rising characteristics 500-4000 cps. List **$29.95**. **Model D-104C** (Ceramic) Output level -53 db, all other characteristics same as D-104. List **$29.95**

Fig. I **Model JT-30C**—Ceramic microphone, similar in appearance to JT-30. Immune to extremes of heat and humidity. Includes handle and interlocking base. Output level -57 db. Frequency response 30-8,000 cps. 5 ft. single conductor shielded cable. List **$16.15**

Fig. J **Velvet Voice Series**—The most desirable low price mike on the market. Gold finished housing, bright chrome grille. Ideal all purpose hand, desk or floor stand mike. **Model 200** Output level -52 db. Frequency response 30-10,000 cps. List **$16.95**. **Model 200S** Same as above, with lock-type switch in handle. List **$18.00**. **Model 241S** Same as 200S, except rising frequency from 1000-5500 cps. List **$18.00**

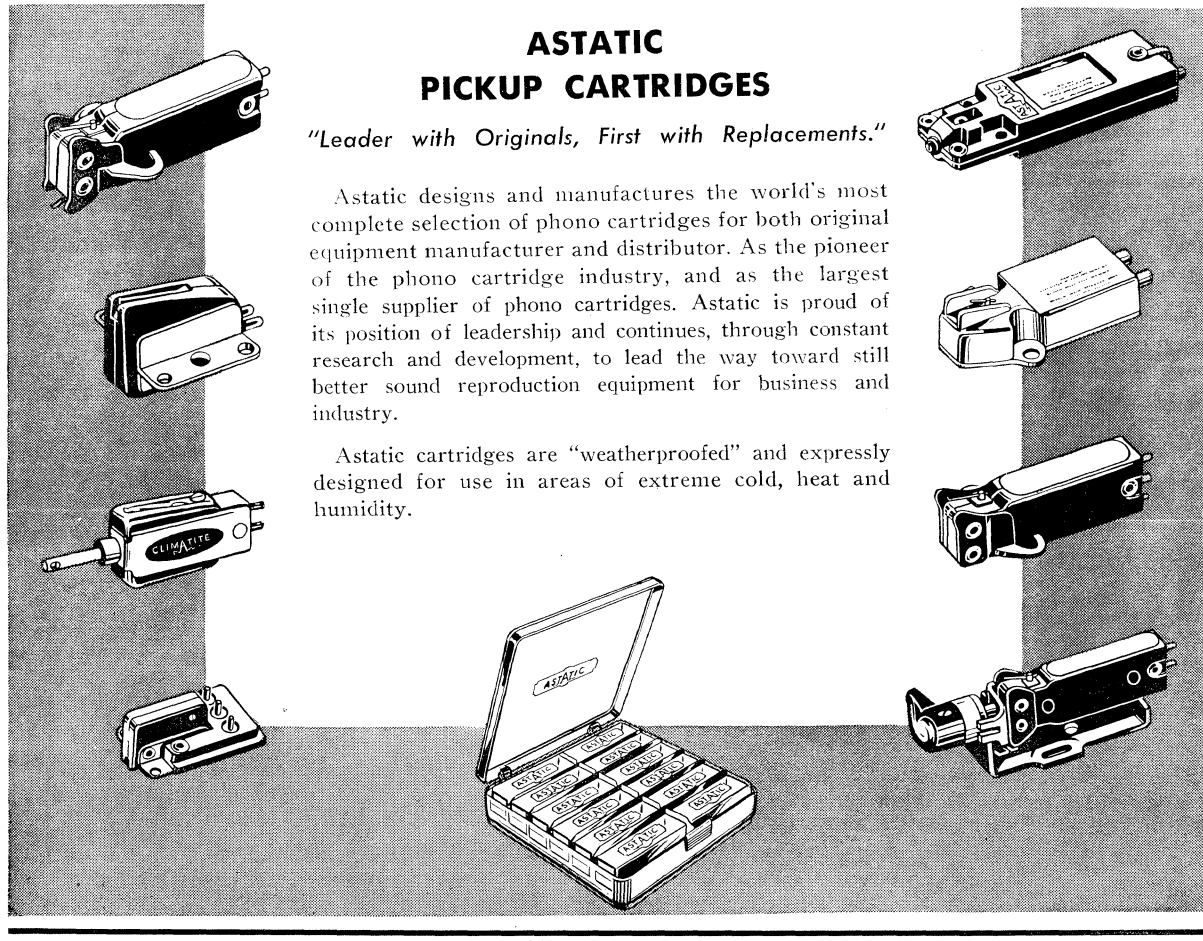
Fig. K **Model L-1**—A precision-built, wide range miniature dual diaphragm microphone with spring clip for attachment to speaker's coat lapel. Diameter 1½", machined brass housing with wire mesh front and rear grilles, black melamine finish. 15 ft. small diameter cable. Output level -62 db. Frequency response range 30-10,000 cps. List **$27.35**

ASTATIC PICKUP CARTRIDGES

"Leader with Originals, First with Replacements."

Astatic designs and manufactures the world's most complete selection of phono cartridges for both original equipment manufacturer and distributor. As the pioneer of the phono cartridge industry, and as the largest single supplier of phono cartridges. Astatic is proud of its position of leadership and continues, through constant research and development, to lead the way toward still better sound reproduction equipment for business and industry.

Astatic cartridges are "weatherproofed" and expressly designed for use in areas of extreme cold, heat and humidity.



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Ronette MICROPHONES AND CRYSTAL TWEETERS

Studio Microphone

model G-210

Can be custom tailored to exactly fit most requirements. Chromium plated die-cast alloy housing swiveling 100° for semi- or omni-directional use. Can be supplied with or without an on-off switch. There is a choice of two curves. **G-210** fits any standard desk, banquet or floorstand.

Technical specifications:

Effective output level: —51 db; Frequency response: 30-7500 cps. or —55db 30-1300 cps. Output impedance: equal to 2200 uuf. Diaphragm: annealed corrosion-resistive aluminum. Crystal unit: vacuum sealed, precision ground and optically inspected. **Diameter:** 1⅜"; height: 4⅛"; depth: 3-9/64". Supplied with standard shielded microphone connector.

List— **G-210 . . . $26.00**
with switch 30.00

Table Microphone

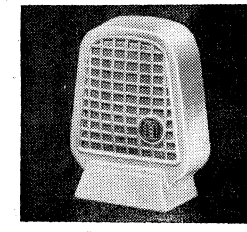
This Ronette microphone, handsomely styled, is housed in a modern plastic case, and is virtually unbreakable. Designed as a table model, it is equally suited as a hand microphone. Incorporated metal-loaded base.

Designed for tape recorders, the standard insert is the Ronette type "DX-12." Includes 6 ft. shielded cable.

Technical specifications:

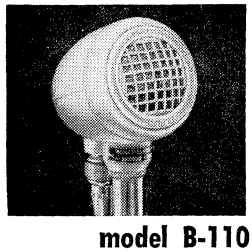
Output:—55 db. Frequency response: DX-12: 30-13,000 cps.; Output impedance: equal to 2,200 uuf. Suggested load: 2-5 megohm. Directional characteristic: semi-directional; diaphragm: annealed, corrosion resistive aluminum; crystal unit: vacuum sealed, precision ground and optically inspected.

List— **model 44 . . . $10.50**



model 44

World Famous Reporter Microphone



model B-110

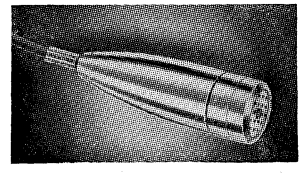
Popular among amateurs the world over. Rugged construction, ivory color Polopas moulding. Shielded against strong R.F. Frequency response: 30-13000 with rising high end for crisp speech qualities. Complete with standard Ronette shielded microphone connector.

Decreasing the load resistance from 5 MOhms to 220 kOhms attenuates bass response and gives that "DX" quality wanted by amateur radio operators. Fits regular ⅝"-27 threaded microphone stand.

List **Model B-110 . . . $10.50**

Ronomike

A new slim microphone; die cast housing, sturdy, convenient design.



Sensitivity: —55.4 db.
Flat response: 30-10,000 cycles, peak-free when matched to a 1/2 to 1 Meg. input of triod stage. Intermodulation distortion is so low that it is immeasurable with existing equipment.
Complete with shield and cable plug.

Ronette Replacement Styli

Ronette standardized styli shanks fit all Ronette cartridges.
Ronette supplies only sapphire or diamond styli.

STYLI SIZES

SIZE	SAPPHIRE List	DIAMOND List	RECORDING SPEEDS
1.0 Mil.	$1.50	$19.90	33⅓, 45 R.P.M.
2.0 Mil.	1.50	——	33⅓, 45, 78 R.P.M.
2.5 Mil.	1.50	19.90	78 R.P.M.

All Ronette styli are individually boxed and include mounting instructions and spare screw.

General Information Concerning RONETTE Microphones:
Load resistance: As all piezo-electric devices, such as our microphones, are small capacitors. They are high-impedance instruments and require a high value of load resistance. Microphones should preferably be used with load resistance of values between 2 and 10 MOhms.

ALL RONETTE PIEZO-ELECTRIC PRODUCTS ARE GUARANTEED FOR TROPICAL CLIMATES.

All prices subject to change without notice.

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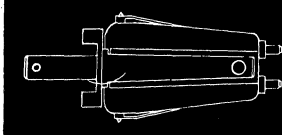
Ronette FONOFLUID CARTRIDGES AND PICKUP ARMS

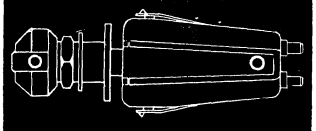
Front mounting Model for Changers with wide die Cast Arm using bar type knob.

Outputs Available: P/9234: OV/9121, 222/9655



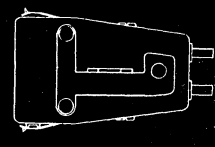
Front mounting Model for Changers with brown plastic Arm.

Outputs Available: OV/6045; 222/7825



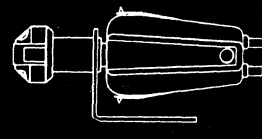
Model DT-60

Outputs Available: DT-60-OV. DT-60-P; DT-60-222



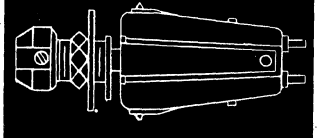
TO Series: General replacement type with 1/2" mounting centers.

Outputs Available: 284-P; 284-OV; 222



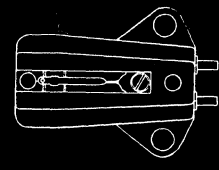
Front mounting Model for manual Arms.

Outputs Available: P/ff; OV/FF; 222/FF



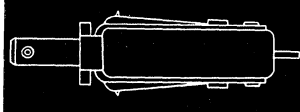
Model RA (Single Stylus) fits RCA-Crescent 45 R.P.M. Changer and manual tone Arms.

Outputs Available: 284-P; 284-OV; 395



Front mounting Model for Changers with narrow Arms and bar type knob.

Outputs Available: 400-P; 400-OV; 400-222



FONOFLUID CARTRIDGES

Electrical Specifications:

PROFESSIONAL MODEL "P". Lowest I.M. distortion, requires only 2-4 grams stylus pressure — wide range. May be operated as constant velocity device with 120 K ohm load and preamplifier as replacement for magnetic cartridge; or with conventional crystal cartridge circuits without pre-amplifier. No Hum problem or Turntable pulling.

HIGH FIDELITY MODEL "OV." For converting small and medium sized amplifiers for better reproduction. Low IM distortion and high compliance. Will drive most amplifiers through high level input. Stylus pressure: 5 grams.

HIGH OUTPUT MODELS TO-222, RA-395. Designed for worn and older types of records. Produces a high order of brilliance with a minimum of needle scratch. Will drive all small amplifiers. Stylus pressure: 9 grams.

Cartridge	Output
OV	.750 volts
222	5.0 volts
RA395	5.0 volts
P	.150 volts

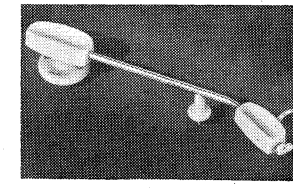
RA395 replaces all previous single styli cartridges bearing the suffixes T, US, V, VS, Max.

TO222 replaces all previous TO cartridges bearing the suffixes T, US, V, VS, or 395.

RONETTE has standardized the replacement market — All RONETTE styli fit all RONETTE cartridges.

Ronette ACOUSTICALLY MATCHED FONOFLUID TURNOVER PICKUP ARM

For use with 12" and 16" Manually Operated Precision Turntables.



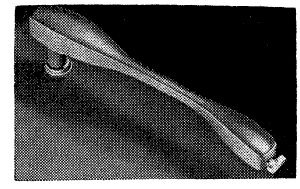
Achieves the ultimate in performance with the Ronette 284-P Fonofluid cartridge, with 2 non-interacting sapphire* styli. Newly developed stylus pressure adjusting mechanism allows fine pressure adjustment from one to eight grams. Double ball-bearing swivel imparts high stability and is virtually torsion free; essential qualities for perfect tracking at high needle velocities and very low stylus pressures. The arm is of chromium plated tubing. Standard arm length for use with 12" turntables, is 7 7/8 inches from bearing center to stylus tip. It can be supplied in other arm lengths to manufacturers specifications.

MODEL FFP-12— For 12" Turntables ..... **$22.75 List**
MODEL FFOV-12— For 12" Turntables ..... **19.25 List**
MODEL FFP-16— For 16" Turntables ..... **27.50 List**

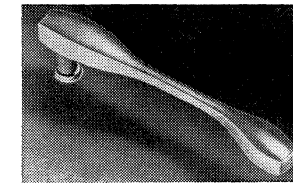
***Diamond Styli Available at Additional Cost.**

Ronette REPLACEMENT ARMS

High-Quality, Moderately Priced Pickup Arms designed for resonance-free performance with smooth pivot action for accurate tracking.



TURNOVER MODEL



SINGLE STYLUS MODEL

The expert design of this arm makes for low tracking error, negligible needle talk, and tasteful appearance. Specifically designed for the Ronette cartridge with low I.M. distortion, the low stylus pressure extends the life of records and stylus.

MODEL ART— With 1.0 mil sapphire—2.5 mil sapphire styli **$15.00 List**
MODEL ARS-1— With 1.0 mil sapphire stylus ..... **9.00 List**
MODEL ARS-2— With Playall sapphire stylus ..... **9.00 List**

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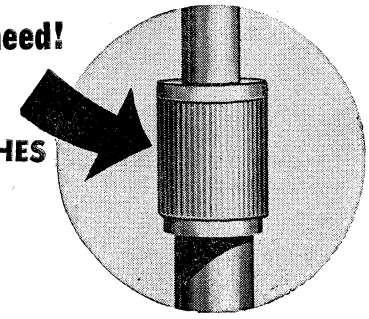
ATLAS SOUND CORP.

the complete line for every public address need!

ATLAS MICROPHONE STANDS

featuring SPECIAL FULL-GRIP VELVET ACTION CLUTCHES
maximum STABILITY, QUIET EASE AND WEAR



*MS-25 features
SAFETY AIR-LOCK
CUSHION

MS-10C Leader | MS-12C Standard | MS-11C Standard DeLuxe | MS-20 Professional | MS-25 Studio DeLuxe | CS-1 Collapsible | CS-32 2-piece Demountable | CS-33 3-piece Demountable

The "Full-Grip" Clutch offers an extended length clutch body, permitting a secure, full-hand grip. The clutch mechanism is inner-lined with a wear-proof bakelite locking collet which grips without jamming, slipping, or sudden dropping. All bases are functionally designed to offer maximum stability for a given base weight. The maximum base mass is located at the outer periphery of the casting where the concentrated weight is most useful. All bases include self-leveling, shock-absorbent base pads, plus three additional "anti-tip" points located between the base pads. The complete tube assemblies of all models are "super-chrome" plated, assuring "life-time" wear. All models terminate in a 5/8"-27 carefully machined thread.

MODEL	Weight	Base Finish	Tube Finish	Height Adjust.	Base Diam.	LIST PRICE
MS-10C	9 lbs.	Gray Shrivel	Full Chrome	35" to 64"	10"	$ 9.75
MS-12C	12 lbs.	Gray Shrivel	Full Chrome	35" to 65"	10"	10.50
MS-11C	12 lbs.	Full Chrome	Full Chrome	35" to 65"	10"	13.00
†MS-20	15 lbs.	Gray Shrivel	Full Chrome	42" to 72"	12"	15.50
†MS-25	24 lbs.	Chrome & Gray Shrivel	Full Chrome	42" to 72"	17"	21.50
§CS-1	5 lbs.	Cadmium Plated	Full Chrome	23" to 62"	Collapsible	16.00
*CS-32	4 lbs.	Chrome & Gray	Full Chrome	36" to 64"	Demountable	10.25
*CS-33	3 lbs.	Hammerloid	Full Chrome	26" to 64"	Demountable	11.75

*Each stand is individually packed complete in a single carton.

†The MS-20 and MS-24 use large diameter, oversize, telescoping brass tube assemblies (7/8" telescoping tube — 1 1/8" base tube) resulting in a handsome and fine-appearing stand that supplements the professional appearance of large-size high quality microphones.

§Collapsible to a minimum overall length of 23 inches.

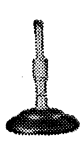
*SAFETY AIR-LOCK CUSHION

Sensational new Atlas feature that prevents accidental or sudden slippage of telescoping section. This section is always "cushioned on air," and the controlled escapement allows only a slow, smooth, quiet collapse of stand.

ADJUSTABLE BANQUET STAND

Features "Full-Grip Velvet-Action" adjustment. Tube and base handsome super-chrome finished. Adjustable 18"-32". Base diameter 8". Wt. 5 lbs.

Model TS-6 **List Price $9.00**

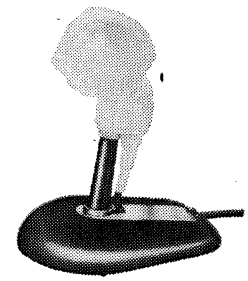


'VELVET ACTION' DESK STAND

DS-5 and DS-7 Desk Stands—Same fine finish and workmanship as floor models. Adjustable DS-7 has heavy duty 5/8" and 7/8" tubing. Felt base pads included. Base diameter 6", gray shrivel finish; tube chromium plated.

Model	Adj. Height	List Price
DS-5	Fixed 6"	$3.00
DS-7	8" to 13"	5.00

MODEL DS-10—"The Streamliner"



Modern — Attractive — Functional
Stable!

Compliments appearance of any mike. Conceals mike cable in slot beneath center section of chromium trim and directs it out at rear of base. Adequate space under base for installation of "on-off" or "press-to-talk" switch.

Model DS-10 **List Price $5.00**

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

ATLAS SOUND CORP.

the complete line for every public address need!

BS-36W Mobile

Model — Identical to BS-36 but features DeLuxe base having ball-bearing hard-rubber swivel castors that permit entire stand to be wheeled about.

List Price $67.50

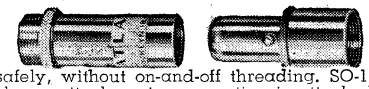
PROFESSIONAL BOOM STAND

New model! All advantages of "Floating Action" and "Safety Air-Lock Cushion" that prevents accidental slippage. All parts "Velvet Smooth" in operation. Boom easily removable to use upright as a conventional floor stand. Gyromatic swivel joint assures mike always hangs in proper position.

Specifications: Boom length 62" (more extension addable). Adjustable vertical extension 48"-72". Base diam. 17". Tubular sections super-chrome plated. Modernistic base finished in chrome and gun metal shrivel. "Snap On" hangers furnished to hold mike cable to boom section. Ship. wt. 33 lbs.

List Price $60.00

'SNAP ON' MICROPHONE ATTACHMENT



Permits any mike to be attached to or removed from any floor stand — instantly, safely, without on-and-off threading. SO-1 is ball-bearing spring sleeve attachment: one section is attached to mike, other section is permanently fastened to stand.

Model SO-1 **List Price $2.75**

FLEXIBLE GOOSE NECK

Attachable to any mike stand or fixture. Ends have 5/8"-27 male and female threads. GN-13 is 13" long; GN-19 is 19" long. Finished in polished chrome.

Model GN-13—List Price $2.75 **Model GN-19—List Price $3.75**

'BABY BOOM' ATTACHMENT

Easily attached to any mike stand and locked in any position. Also effectively used with bracket clamps BC-1 and SK-1. Boom length 32", chrome plated. Castings in gun metal shrivel. 5/8"-27 threads. Ship. wt. 4 lbs.

Model BB-1 **List Price $7.50**

SKY HOOK

Answers many mike positioning problems. Fastens securely to ledges, round pipes, stanchions*. Has 5/8"-27 thread for any mike. Can also be used in combination with SW-1, GN-13, etc. Casting finish, gun metal shrivel; 3" long tube, chrome.

*Excellent for attaching an extra mike to a conventional floor stand.

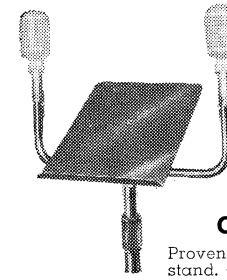
Model SK-1 **List Price $3.50**

TS-7 BANQUET STAND (Only)

For use with TB-1. Heavy base, 10" diam. All parts super-chrome plated. Adjustable tube assembly. Easily placed on and moved along speaker's table. Ship. wt. 11 lbs.

Model TS-7 **List Price $10.00**

DUPLEX MIKE MOUNT

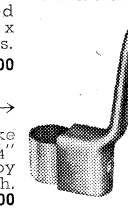


With Desk Attachment

Permits use of 2 mikes on any single stand. Reduces "off mike" possibility. Desk attachment and mike support arms detachable. Thus one mike alone may be used—to one side or rear of desk. Finished in chrome and cadmium. Moulded composition desk, 9" x 11". Ship wt. 2½ lbs.

TB-1 **List $10.00**

CABLE HANGER →



Proven necessity on every mike stand. Fits all tubes, 7/8" to 1¼" diam.; attached and removed by 1 screw. All parts chrome finish.

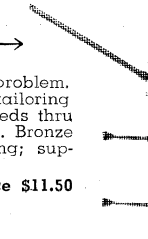
Model CH-1 **List Price $3.00**

← GYROMATIC SWIVEL

Permits any mike to be adjusted and locked into any angle on any floor or desk stand. Also useful with SK-1, BC-1, etc. Precision die castings, super-chrome finish. 4½" long. 5/8"-27 male and female threads.

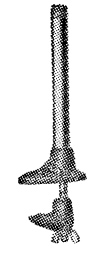
Model SW-1 **List Price $4.00**

BOOM BRACKET KIT →



Solves almost any mike placement problem. Set screw assembly enables tailoring bracket to any size. Mike cable feeds thru support arm and adjustable elbow. Bronze enamel finish. Main tubes 22" long; support tubes 5" long.

Model US-1 **List Price $11.50**

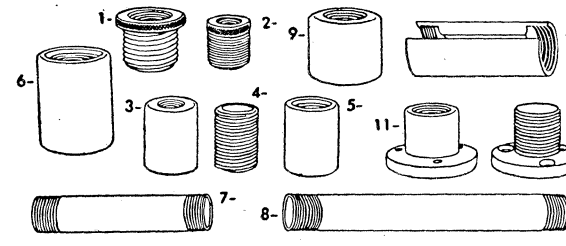


← BRACKET CLAMP

Very versatile. Usable with BB-1, GN-13, etc. Clamp can be removed and top flange screwed or bolted into position. Chrome tube 6" long. 5/8"-27 thread.

Model BC-1 **List Price $3.50**

MICROPHONE ADAPTORS & FITTINGS



MODEL	Description	LIST PRICE
AD-1	5/8"-27 female to ½" pipe thread male (RCA Adaptor)	$ .85
AD-2	⅛" pipe female to 5/8"-27 male	.60
AD-3	⅛" pipe female to 5/8"-27 female	.60
AD-4	¾" long, 5/8"-27 male running thread	.30
AD-5	5/8"55-27 female to 5/8"-27 female coupling	.60
AD-6	7/8"-27 female to 7/8"-27 female coupling	.75
AD-7	3" long tube 5/8"-27 male each end	.60
AD-8	6" long tube 5/8"-27 male each end	.70
AD-9	7/8"-27 female to 5/8"-27 female	.70
AD-10	5/8"-24 female to 5/8"-27 female (W. E. Adaptor)	1.20
AD-11	Flange, 5/8-27" female. Base Diameter 1¼"	.60
AD-12	Flange, 5/8"-27 male. Base holes on 7/8" mounting centers	.60

All adaptors chrome plated.

We are prepared to supply any special types of adaptors or fittings, and bent tube sections, to your specifications in reasonable quantities.

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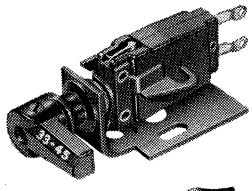
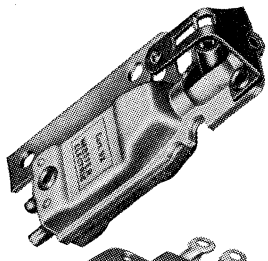
WEBSTER ELECTRIC
RACINE WISCONSIN

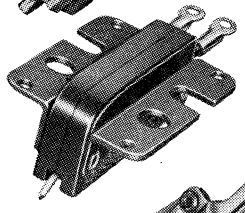
Featheride Crystal and Ceramic Cartridges



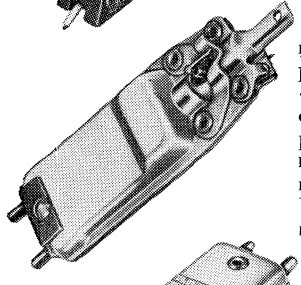
model AX Light-weight crystal cartridge for three-speed applications. Delivers .8 volts at 33⅓-45 RPM and 1.5 volts at 78 RPM with 7 grams tracking pressure. Furnished complete with WE16 3-mil osmium needle and WE17 1-mil osmium needle, removable twist mechanism and terminal lugs. List price $**8.50.**



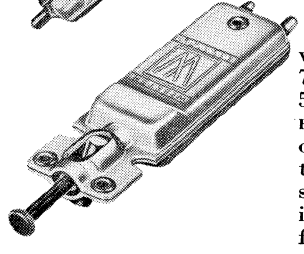
model UX Single-needle crystal cartridge for three-speed or 78 RPM applications. The most versatile "universal" replacement cartridge! For direct mounting to all standard ½" and the special RCA ⅝" mtg. centers. Furnished with WE122 2-mil push-in needle. List price $**4.95**



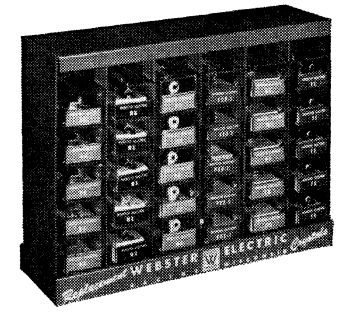
model GX Single-needle ceramic cartridge for 33⅓-45 RPM applications. Develops output of 0.6 volts at 33⅓ RPM, 0.8 volts at 45 RPM. Tracking pressure 7 grams. Fits any standard RMA half inch mounting and RCA 45 players with half inch to five-eighths inch mounting. Furnished with WE36LP 1-mil osmium needle. List price $**5.45.**



model FX Two-needle twist cartridge for three-speed applications. High output cartridge developing 2.5 volts at 33⅓-45 RPM and 6.0 volts at 78 RPM. Shunting capacitor furnished adapts it to low output applications (0.6 volts at 33⅓-45 RPM and 1.2 volts at 78 RPM). 1-mil osmium needle WE44LP and 3-mil osmium needle WE44, capacitor and mounting spaces furnished. List price $**8.50.**



model WX Single-needle dual voltage crystal cartridge for three-speed or 78 RPM applications. Develops output of 5 volts at 78 RPM or 2 volts at 33⅓-45 RPM without capacitor; 1.5 volts at 78 RPM or .75 volts at 33⅓-45 RPM, with capacitor. Tracking pressure, 14 grams at all speeds. Fits any standard ½ inch mounting. Recommended needles: WE422 2-mil for three-speed applications, WE37 3-mil osmium for 78 RPM. List price $**4.95.**



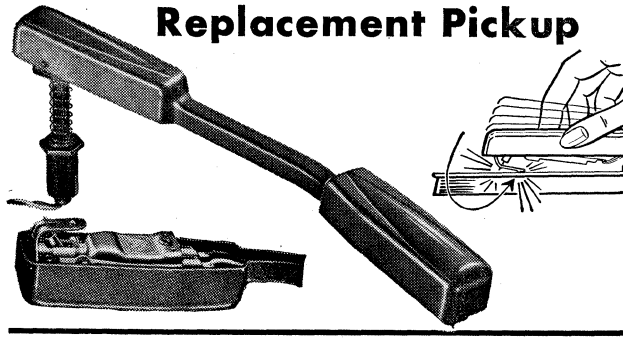
New Shelf-size Cartridge Dispenser

This sturdily-constructed, all-metal Replacement Crystal Cartridge Dispenser (No. 17928-1) is a compact and convenient unit in which to stock and display Featheride replacement cartridges. It is equipped with a special interlock feature which permits safe stacking of one dispenser on top of another. Holds five each of six Featheride replacement cartridges. Sent FREE with order of 30 or more cartridges—any assortment you choose.

SPECIAL WEBSTER ELECTRIC CRYSTAL REPLACEMENT CARTRIDGES

Model Number	Recommended Needles	Suggested List Price
A200	WE57 LP 1-mil WE58 3-mil	$8.00
D2	WE37	$5.75
D3	WE37	$5.75
F22-1 (F24-1)	WE44 3-mil, WE44 LP 1-mil	$8.50
G4M	WE362	$5.45
G4M2	WE362	$5.45
G6M	WE363	$5.45
P2-1	WE122	$4.95
RG2M	WE52 3-mil WE52 LP 1-mil	$8.50
Q2	WE412	$7.75
Q3	WE412	$7.75

RETRACT·O·MATIC Replacement Pickup



Here is the sensational crystal pickup that provides positive protection to record and needle, *even when it is dropped or slid* across the record surface. RETRACT·O·MATIC is priced to make it a *practical replacement* for installation on any manual record player.

The unique spring-mounted construction gives insurance against damage to cartridge, needle, or record. A slight pressure on the arm automatically lifts needle from record surface, and lets the rounded "dome" absorb the shock.

List price, complete, (tone arm, cartridge, arm rest and all parts needed for installation) $**6.95.**

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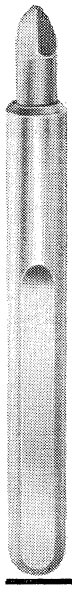
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Capps

FRANK L. CAPPS & CO., inc.
valley stream, n.y.

CAPPSCUTTERS

Patent No. 2187512 and 2530284



CAPPS CUTTERS are the finest examples of precision hand craftsmanship available in this country today. Each one is made by a series of hand shaping and polishing operations on delicate facets so small that they can be covered by a human hair. Each is individually disc tested to assure the highest possible recording standards. PRODUCTION TOLERANCES: Included angle-Plus 7, minus 3 degrees: Radius, plus or minus .0003: Burnishing facet, plus or minus .00025 (measured at radius tip): Noise meter reading of minus 55db or better at an 8" record diameter.

SAPPHIRE CUTTERS

Cat. No.	Duty	Shank	Shank Matl.	Included Angle (degrees)	Radius (Mils)	List Price	Resharpening List Price
780S	For general course pitch work 78 and LP.	Short	Dural	87	1.5	$8.25	$3.75
780L	"	Long	Dural	87	1.5	8.25	3.75
702S	"	Short	Dural	70	2.0	8.25	3.75
702L	"	Long	Dural	70	2.0	8.25	3.75
330S	Routine microgroove	Short	Dural	87	0.5 to 1.0	8.25	3.75
330L	"	Long	Dural	87	0.5 to 1.0	8.25	3.75
B2S	Utility stylus	Short	Brass	87	to 1.0	6.60	3.25
B2L	"	Long	Brass	87	to 1.0	6.60	3.25

STELLITE CUTTERS

871S	Harder than steel—softer than sapphire	Short	Brass or Dural	87	to 1.0	2.50	1.40
871L	"	Long	Brass or Dural	87	to 1.0	2.50	1.40

CUSTOM MADE AND SPECIAL DESIGN STYLI AVAILABLE (MRS, ANM and FEATHER EDGE)

Eccentric styli, Advance balls, Shaving knives, Wax points, Embossing styli, Replaceable Sapphire reproducing needles, Cartridge assemblies with Sapphire points.

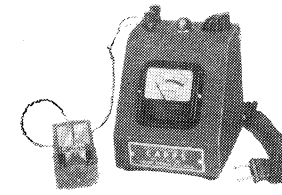
CAPPS RESHARPENING SERVICE

Most CAPPS MADE styli can be resharpened upwards of five times depending on whether they are simply dull or badly chipped (Thermo styli cannot be resharpened this many times because of the wiring which limits the available area of sapphire.) CAPPS "RESHARPS" are given the same exacting care and attention as CAPPS new styli and are returned to the sender promptly.

HOT STYLUS UNIT

The CAPPS HOT STYLUS UNIT is used for applying heat to disk recording styli, softening the disk material at the point of contact thereby producing smoother more accurate grooves. This results in a substantial reduction in surface noise, especially at the inner diameter and minimizes the mechanical load on the cutting head increasing its efficiency and frequency response.

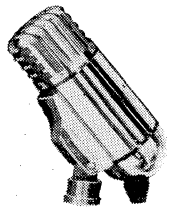
When ordering specify make and model number of cutter head and stylus requirements.



Model No.		
CU-1	Supplied without stylus	$60.00 net
CU-1R	Supplied with regular duty stylus, LP or 78	66.50 net
CU-1C	Supplied with custom made stylus to customer's specification	70.50 net

MICROPHONES

CONDENSER MICROPHONES



DM 2050
DM 1060

CAPPS CONDENSER MICROPHONES are acoustically faithful, distortion free, omnidirectional, blast proofed, and have a smooth frequency response from 20 to 20,000 c.p.s. Their excellent transient response make them ideal for those who must have the ultimate in acoustical transmission. They are complete with preamplifier, power supply and cable.

CM 2001 "PROFESSIONAL." The lowest priced condenser microphone available. Combines all of the features above with low cost achieved through mass production. Available for high impedance input (Grid Input). A boon to high fidelity enthusiasts.

CM 2001 ..... Net Price $150.00*

CAPPS "STUDIO" Condenser Microphones are completely equipped with Cannon Connectors and swivel head.

CM 2030A—30 Ohms ..... Net Price $225.00*
CM 2250A—250 Ohms ..... Net Price $225.00*
CM 2011A—Hi Imp. (Mic Input) ..... Net Price $225.00*

DYNAMIC MICROPHONES

OMNIDIRECTIONAL DYNAMIC STUDIO MICROPHONE

This instrument is especially suited for reproducing with a high degree of fidelity and brilliance large area sound sources—orchestras, choirs, organs, etc. Frequency response 50-15,000 c.p.s., 50 Ohms Impedance. Each microphone is supplied with an individually calibrated frequency response chart.

DM 2050 ..... Net Price $88.00*

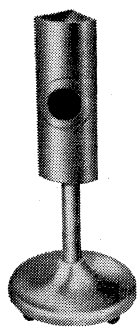
DYNAMIC NONDIRECTIONAL MICROPHONE

A less expensive version of the DM 2050 microphone suited for small orchestras, high fidelity enthusiasts, etc. Frequency response 50-10,000 c.p.s.—60 Ohms Impedance.

DM 1060 ..... Net Price $57.00*

CRYSTAL MICROPHONE WITH CONTROLLABLE *BASS BOOST*

(Patent Pending)



CR BB

Designed to compensate for frequency response deficiencies inherent in many tape recorder and p.a. systems, this microphone has a control knob which causes the acoustic chamber of this microphone to increase the bass response of the microphone up to 12 db from 50 to 150 c.p.s. with smooth rise and roll off below peak boost. Smooth frequency response 20-12,000 c.p.s. Output level —55 db re 1V/dyne/CM². Omnidirectional. 5/8"-27 thread for stand mounting or lay flat for desk use. Supplied with 15' of shielded microphone cable.

CR BB ..... List Price $36.00

CM 2030A
CM 2250A
CM 2011A

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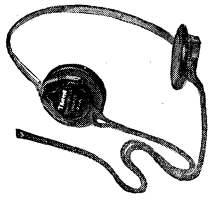
Net

TRIMM

HEADSETS AND ACCESSORIES

FEATHERWEIGHT



The original light weight headset. Extensively used by amateurs, dx listeners, commercial operators, etc. Bakelite shell and cap; 6 ft. water-resistant cord, concealed terminals; choice of variety of headbands. Weight 4½ oz. Available in all standard ohmages.

24,000 Ohm Impedance AMATEUR SPECIAL

No. 106—Double headset, single metal-band headband (as pictured above) **$11.00**

No. 107—Double, fabric covered double wire band headband (as pictured at right)..... **$11.00**

Standard Featherweight headsets available in 4, 152, 2M, 4M and 5M ohms d.c. resistance. (Impedance approx. 5 times d.c. resistance—specify ohmage in ordering.)

No. 100—Double headset, single metal band headband (as pictured above) **$11.00**

No. 104—Double, fabric covered double wire band headband (as pictured to right) **11.00**

PROFESSIONAL

The original TRIMM headset, and the choice of countless users. Watch case bi-polar design. Cap and shell of molded bakelite. Tinsel conductor, braided cord, 5 ft. long, enclosed terminals. Adjustable vinyl plastic covered wire headband. Recommended for general radio communication, electronic testing applications, etc. Standard resistances for double headsets 4, 78, 2M, 3M, and 4M ohms d.c. (Impedance approx. 7 times resistance.)

No. 70—Double (4M ohms furnished if not specified) **$5.80**

No. 72—Single (2M ohms max.) **3.30**

No. 76—Single (2M ohms max.) 4 ft. cord. Has eyelet attached to unit to permit hanging on hook. No headband supplied. Used on intercom systems, etc. **3.30**

ACME

The superior low-cost, light weight headset. Used on crystal sets, educational electronic kits, Geiger counters, etc. Cap and shell of molded bakelite. Cord, 4½ ft. long; double headsets, braided cord sets, single earphones, flexible vinyl covered cord, concealed terminals. Several headband styles.

No. 24 —Double 2M ohms, vinyl covered headband **$4.20**
No. 24-2—Double 4M ohm, vinyl covered headband **4.35**
No. 24-5—Double 4 ohm, vinyl covered headband **4.10**
No. 25 —Double 2M ohm, metal headband (as pictured) **3.60**
No. 25-2—Double 4M ohm, metal headband **3.90**
No. 25-5—Double 4 ohm, metal headband **3.50**
No. 27 —Single 1M ohm, metal headband **2.15**
No. 27-2—Single 2M ohm, metal headband **2.35**
No. 27-5—Single 2 ohm, metal headband **2.10**

DEPENDABLE

When a high grade headset is desired, but price must be considered, choose the Dependable. Used by institutions, on general radio applications, etc. Bi-polar construction, bakelite cap and shell. Forged magnet. Tinsel conductor braided cord, 5 ft. long, concealed terminals. Vinyl covered wire headband, adjustable.

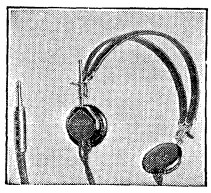
No. 65 —Double, 2M ohms **$4.80**
No. 65-5—Double, 4 ohms **4.80**
No. 67 —Single, 1M ohm **2.60**
No. 65-3—Double, 2M ohms, similar to No. 65 except uses special 6 ft. plastic covered cord No. 890. Designed especially for use on institutional radio systems as cord can be washed, etc. **5.75**

REX

The lowest cost TRIMM bi-polar headset. Bakelite shell and cap. Cord 4½ ft. long; double headsets braided, single earphones vinyl covered, concealed terminals. Adjustable headband.

No. 30 —Double 2M ohms **$4.35**
No. 30-1—Double 3M ohms **4.70**
No. 30-5—Double 4 ohms **4.35**
No. 32 —Single 1M ohms **2.55**
No. 32-1—Single 1½M ohms **2.75**
No. 32-5—Single 2 ohms **2.55**

COMMERCIAL



Extremely light weight yet one of the most rugged headsets built. Originally developed for marine and aircraft service. Recommended for heavy duty commercial radio service, amateur radio, etc. High impact bakelite cap and shell. Cord, 6 ft. long, tinsel, plus rubber insulation, plus high grade mercerized cotton outer braid, enclosed terminals. No. 156 and 157 have 501 plug attached, others without plug. No. 151 and 152 have off-the-shoulder cords. Leather covered headband.

No. 156—Double (600 ohms impedance).. **$15.00**

No. 157—Double (17M ohms impedance).. **15.00**

No. 158—Double (600 ohms impedance).. **13.50**

No. 159—Double (17M ohms impedance).. **13.50**

No. 151—Double (specify ohmage). Headband similar to type used on No. 100 **12.10**

No. 152—Double (specify ohmage). Headband fabric covered wire type similar to type used on No. 104 ..... **12.10**

EAR CUSHIONS

Provide the user with maximum comfort in wearing headsets, also exclude outside disturbing noises if present. All prices per pair.

No. 654 —Sponge rubber, fits TRIMM Featherweight, Commercial, Acme, Rex, and "E" types ..... **$ 1.50**

No. 655 —Solid rubber, military type MC-162A. Fits TRIMM "S" and Permoflux headsets, military type ANB-H-1 units **2.75**

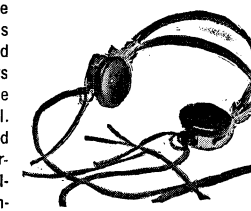
No. 656 —Sponge rubber face, solid rubber back, military type MX-41/AR. Fits same types as No. 655 but recommended as being better choice **2.75**

No. 658 —Chamois donut type cushion, military type NAF 48490-1. Fits same types as No. 655 ..... **8.50**

No. 658-2—Same general design as No. 658 but fits Brush type A headset.... **11.00**

Ohmages given are d.c. resistance unless specifically indicated as impedance which is about 4—7 times the d.c. resistance.

ARMY-NAVY



Built for severe use. Design has been accepted standard in years past. Bakelite cap, metal shell. Leather covered headband. Waterproof cord. Available in two impedances.

No. 28—Double, 112 ohms d.c.—600 ohms impedance **$20.00**

No. 29—Double, 2200 ohms d.c.—20M ohms impedance **20.00**

See Facing Page for TRIMM hearing aid equipment and other headsets and accessories.

See Pages L-52, L-53 for listing of TRIMM Plugs, Jacks, Patch Cords, and Jack Panels.

For complete listing see Trimm General Catalog.

Prices subject to change without notice.

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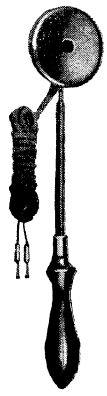
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

TRIMM

HEADSETS AND ACCESSORIES

GROUP HEARING AID COMPONENTS

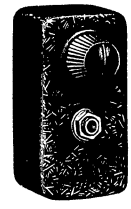
Single Earphones



The most widely used single earphones for group hearing aid systems in churches, theatres, mortuaries, etc. are of the TRIMM Featherweight type. Available with either lorgnette handles, or with single headbands. Standard ohmages: 76, 1000, and 2000 ohms d.c. For use with low (less than 100 ohm), medium (100-500 ohm) and high (500 ohms and over) lines respectively. Require phone plug such as TRIMM No. 512 for use with Outlet Boxes described below.

No. 110—Headband type (specify ohmage)..... **$7.15**
No. 120—Lorgnette type (specify ohmage)..... **8.25**

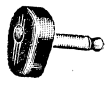
OUTLET BOXES and CONTROLS



Boxes No. 460 and 461 are recommended for the majority of installations, combines volume control and jack in one unit. Box has all rounded corners and edges. No. 460 has brown hammertone finish, No. 461 glossy ivory for improved visibility in theatres. Standard ohmages: 1000 ohms for low impedance lines, 10,000 for high. Other ohmages available, i.e. 500M ohms for crystal earphones, at slightly higher cost.
A large variety of variations of basic box and volume controls, switches, jacks, etc. available to order for centralized radio systems.

No. 460—Outlet Box (specify ohmage) **$4.40**
No. 461—Outlet Box (specify ohmage) **4.40**
No. 477—Outlet Box, dual jacks, no control, brown finish..... **3.85**
No. 478—Outlet Box, dual jacks, no control, ivory finish..... **3.85**
No. 484—Outlet Box, single jack, no control, brown finish..... **3.30**
No. 485—Outlet Box, single jack, no control, ivory finish..... **3.30**

FLAT NON-PROTRUDING PLUG



TRIMM No. 512 provides a compact, non-protruding design widely used in group hearing aid installations. Bakelite body practically non-breakable. Fits standard jacks. Cord pin tips held by set screws.

No. 512 ..... **$0.90**

"S" HEADSET

Designed particularly for broadcast stations and other high fidelity applications. Response is substantially flat through all essential frequencies.
Shell and cap of molded plastic, Alnico V magnet, floating diaphragm with controlled compliance provide uniform response unaffected by temperature. Units usually provided with TRIMM No. 656 ear cushions, but other types available. Headband leather covered double band with mounting for unit providing restricted rotation to prevent cord snarl.
Available for military applications in modified form under various code numbers such as HS-33A, etc.

No. 35 —Double Headset, 8 or 600 ohms impedance, two conductor off-the-shoulder type flexible neoprene cord terminated with TRIMM No. 501 plug **$24.50**

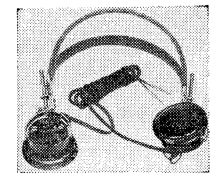
No. 35-4—Binaural Headset, 4 or 300 ohms impedance per unit. Split circuit three conductor off-the-shoulder type braided cord terminating with TRIMM No. 509 plug **28.75**

BINAURAL HEADSET

All TRIMM headsets in addition to No. 35-4 listed above can be supplied with special cords for binaural reception. Below are two other commonly produced types.

No.187 —Commercial Series, with No. 509 plug attached **$19.80**
No. 70-14—Professional Series with No. 513 plug attached **10.50**

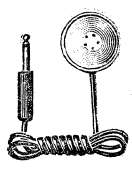
"B" HEADSET



Suggested for hospital installations. Bakelite shell and cup. Forged bar magnet. Fabric covered wire band headband. Cord, tinsel, moisture-proof, braided of mercerized cotton, 5 ft. long.

No. 42—Double, 2M ohms **$9.50**
No. 43—Double, 600 ohms impedance **9.50**
No. 44—Single, 1M ohms **5.50**
No. 45—Single, 300 ohms impedance **5.50**

PILLOW-PHONE



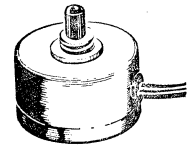
Designed for use as a miniature speaker for under pillow use at home, in hospitals, etc. Very thin disc shaped, 2" dia. x 27/64" thick. Sealed unit is entirely moisture-proof and tamper-proof. Face of stainless steel, back of molded high impact bakelite. Flexible vinyl cord, 6 ft. long, is anchored to unit under terminal cover plate that cannot be readily removed by user. Normally furnished with standard TRIMM No. 501 plug, but other types available. May be cleaned in disinfecting solutions. Supplied in 8 and 2000 ohms impedance.

No. 85 — (Specify ohmage) **$9.75**

HANDSET

Several types of handsets meeting military specifications are produced. Write for specific information and availability.

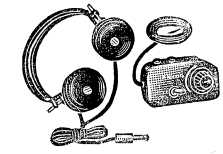
"STOP-IT" COMMERCIAL TRIMMER



Permits user to turn off audio signal of TV or radio set without getting up from chair, giving listener freedom to choke off unwanted commercials. Other uses that suggest themselves are to suppress loudspeaker when phone rings, etc.

No. 639—"STOP-IT" (Illustrated at left) consists of housing containing switch to which is attached 15 ft. cord ready to install in accordance with instructions with each unit..... $3.40

HEADSET KITS for TV and RADIO



Kits described provide simple means of attaching headset or extension speaker to TV or radio sets. Consists of one of several types of headsets and a small outlet box with attached 15 ft. cord. Box has remote on-off switch for loudspeaker and volume control for headset. Two jacks provided for multiple listening.

No. 631—Outlet Box only ..... $ 7.15
No. 632—Kit—Outlet Box plus one Acme headset and plug 12.15
No. 633—Kit—Outlet Box plus one Dependable headset and plug 12.75
No. 634—Kit—Outlet Box plus one Featherweight headset and plug 13.95
No. 635—Kit—Outlet Box plus one single Commercial earphone and plug. Recommended for hard of hearing 15.10
No. 637—Kit—Outlet Box plus one Pillow-Phone and plug 16.90

See General Catalog for added information on "STOP-IT" and Headset Attachment Kits.

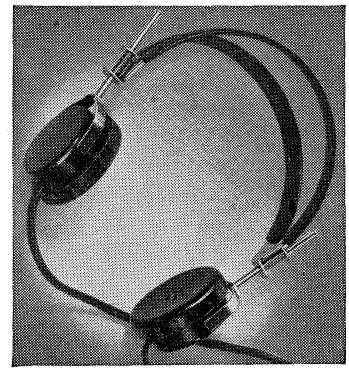
Copyright by U. C. P., Inc.

HEADPHONES By C. F. CANNON

THE "CHIEF"
Cannon-Ball Bakelite Headset

A high quality headset of durable molded black plastic. Attractive in appearance, it is a sensitive and practical phone for every headset use. Inside terminals. Diameter of diaphragm is 2 1/16". Double coils, two in each receiver. Alnico permanent magnets. Supplied with vinyl plastic covered headband with permanent adjustment and no removable parts. Cotton covered cord, 4½ ft. long.

CC-2—2000 ohms D.C.....List $4.00
CC-3—3000 ohms D.C.....List 4.25
CC-5—5000 ohms D.C.....List 5.75
CC-11—11 ohms D.C.....List 4.00

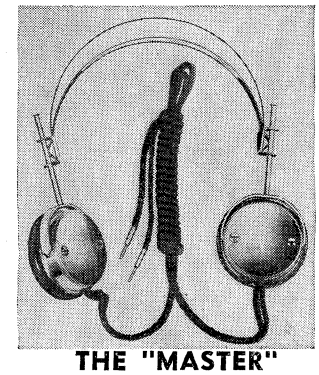


CANNON-BALL ALNICO MAGNETIC No. 25

A New Headset of Unusual Quality, Efficiency and Durability, powered by Alnico V magnets.

The headband is covered by attractive black extruded vinylite and provides utmost wearing comfort. Limits turn of phone to prevent twisting of cord. Cap and case of molded plastic. Large size diaphragm 2⅛". Equipped with sanitary moisture-resistant plastic cord with riveted crotch piece.

AM-25-2 .....List $6.50
AM-25-3 .....List 7.00
AM-25-5 .....List 8.50



THE "MASTER"
Cannon-Ball Headset

Used extensively in hospitals and other institutions as well as for general purposes, and is especially recommended for institutions. Inside terminals Aluminum cases with black bakelite caps. Spring steel adjustable headband with no removable parts. Diaphragm 2 1/16" diameter. Double coils. Chrome steel magnets. 4½ ft. cotton-covered cord.

MC-2—2000 ohms D.C.....List $4.15
MC-3—3000 ohms D.C.....List 4.50
MC-5—5000 ohms D.C.....List 5.75

CANNON-BALL "EMPIRE"
Lightweight Headset

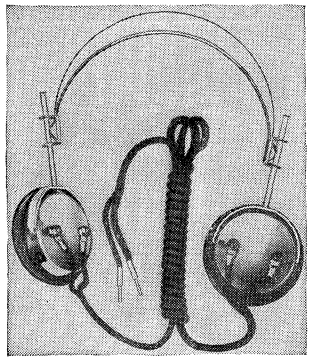
A low-priced light-weight headset with large magnet and double coils. Reproduces with clarity and good volume. Diameter of diaphragm is 1⅞". Polished aluminum cases with bakelite caps. Steel adjustable headband. 4½ ft. cord. Inside terminal connections.

EC-2—2000 ohms D.C.....List $3.65
EC-3—3000 ohms D.C.....List 3.90

THE "DIXIE"
Cannon-Ball Headset

The "Dixie" is of the same general construction as the "Master" headset except that the terminals are on the outside. Bakelite case Alnico magnets.

CD-2—2000 ohms D.C.....List $3.75
CD-3—3000 ohms D.C.....List 4.00



BRANDES "SUPERIOR"
Matched Tone Headset

A rugged headset, millions of which are in use all over the world. Large size diaphragms of 2⅛" diameter assure efficient performance. Outside terminals, with polished aluminum cases and bakelite caps. Double coils, two in each receiver. Chrome steel magnets. Steel headband with permanent adjusment. 4½ ft. cotton covered cord.

BS-2—2000 ohms D.C.....List $4.15

BRANDES "ADMIRAL"
Matched Tone Headset

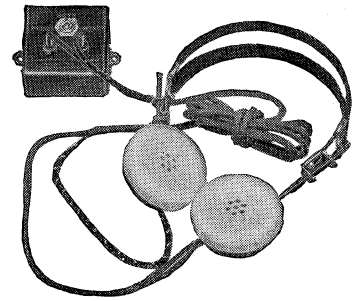
The Brandes "Admiral" is of the same general construction as the Brandes Superior, but has terminals on the inside.

BA-2—2000 ohms D.C.....List $4.15
BA-3—3000 ohms D.C.....List 4.65
BA-5—5000 ohms D.C.....List 6.00

ALNICO MAGNETIC No. 15

A new, small size, extra sensitive double headset, light in weight. Diameter of diaphragm 1⅞". Molded cap and case. Steel adjustable headband. 4½ ft. cord.

AM-15-2 .....List $3.50
AM-15-3 .....List 3.75

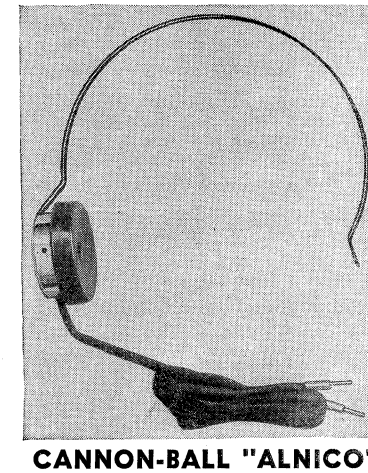


CANNON-BALL HEARING AID FOR RADIO OR TELEVISION

Provides private listening without disturbing others. Excellent for persons hard of hearing. Can be attached to any radio or television set and permits listening to phones alone, speaker alone, or both together.

FOR RADIO
With single phone .....List $5.75
With double phones .....List 8.00

FOR TELEVISION
Kit complete with 15 foot cord, phone volume control and two sets of phones .....List $16.50
With one headset .....List 12.50



CANNON-BALL "ALNICO"
Single Headphone

Equal in clarity and volume to most double headsets, efficient and attractive. Permits listening while being addressed by others. Concealed terminals. Diaphragm 1⅞". Bakelite case and caps. Alnico magnet, double coils. 4½ ft. cord. Spring steel headband permanently attached.

AM-15-1—1000 ohms D.C.....List $2.00

Phones can be supplied with any resistance required or with variations to meet special requirements. Sanitary plastic covered cords available for institutional use. Write for special quotation.

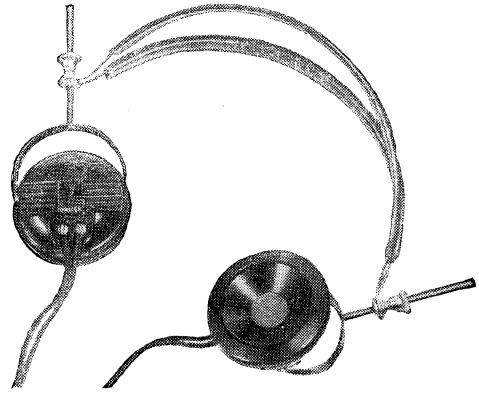
Copyright by U. C. P., Inc.

BRUSH ELECTRONICS

Brush Headphones...

for Hi-Fi and Binaural Listening

Brush crystal phones possess wider range response with more uniform output. They furnish smooth, air-tight fit for excellent bass response. The Bimorph* crystal drive element is of such high impedance that line or circuit characteristics are not affected when monitored by Brush phones. Light-weight, rugged, shock-proof construction is standard. All headphone models are available with special cords for binaural listening.



MODEL BA-206 HIGH FIDELITY

Designed for use in exacting applications where smooth, exceptionally flat frequency response is of paramount importance. Impedance of 50,000 ohms at 1000 cps; no transformer required. Line or circuit characteristics not affected when monitored by these phones. High sensitivity . . . ideal for multiple installation. Low distortion . . . smooth, comfortable, air-tight fit. Available in single, double, and lorgnette models.

BA-206 . . . . . Double . . . . . $30.00 list
Net Wt. 8 oz. Shipping Wt. 2 lbs.

BA-207 . . . . . Single . . . . . $16.50 list
Net Wt. 4 oz. Shipping Wt. 1 lb.

BA-208 . . . . . Lorgnette . . . . . $22.95 list
Net Wt. 6 oz. Shipping Wt. 1 lb.

BRUSH BINAURAL HEADPHONES

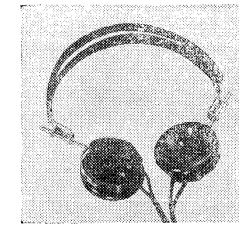
All Brush headphones are available with special cords for binaural applications. These feature the same high quality performance provided by all Brush headphones.

1. BA-206B $31.25
2. #205-A-1-B 28.00
3. #200-A-B 18.75

Model "A-1"

For use where extended frequency response is of paramount importance. (60 to 10,000 cps.) Especially suited to monitoring, sound measurement, audiometry, and similar applications. Impedance over 80,000 ohms at any frequency within audio range. Headset complete with 5′ cord and headband.

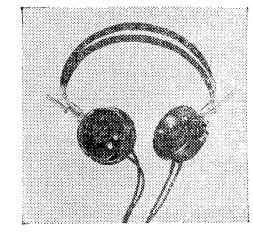
Model A-1 . . . (#205) . . $26.75 list
Net Wt. 6 oz. Shipping Wt. 2 lbs.



Model "A" General Purpose

For laboratory, studio and skilled amateur home use. Wide range response (100 to 8,000 cps.) High impedance; high sensitivity, ideal for multiple installations. Headset complete with 5′ cord and adjustable headband.

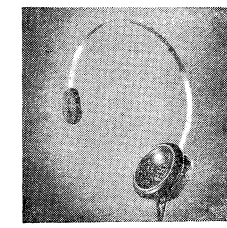
Model "A" . . . (#200) . . . $17.50 list
Net Wt. 6 oz. Shipping Wt. 2 lbs.



Model "A" Single Phone

Particularly adapted to individual or group hearing aid and radio applications. Light-weight, good ear seal, and comfortable to wear. Spring steel headband with soft rubber cushion to eliminate slipping. Single phone complete with 5′ cord and headband.

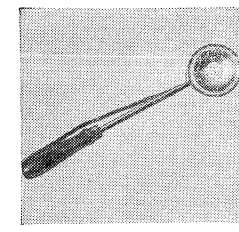
Model "A" . . . (#202) . . . $11.25 list
Net Wt. 3 oz. Shipping Wt. 1 lb.



Model "A" Lorgnette Phone

Designed for use in group hearing aid sound systems installed in churches, concert halls, theatres and auditoriums. Telescope extension from 12" to 17". Attractively finished in satin black. Light-weight, easy to handle, and comfortable at the ear. Single phone complete with 5′ cord and lorgnette handle.

Model A . . . (BA-202) . . . $14.50 list
Net Wt. 5 oz. Shipping Wt. 1 lb.



PRICES SUBJECT TO CHANGE WITHOUT NOTICE • SOLD BY QUALITY-CONSCIOUS DEALERS EVERYWHERE

BRUSH ELECTRONICS
Cleveland 14, Ohio

BRUSH 6 ELECTRONICS

COMPANY
DIVISION OF
CLEVITE CORPORATION

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

MURDOCK HEADPHONES

P-23 Aviation Headphone

C.A.A.T.C. 1200

Specifications:

Receivers: "Solid-Built" type. Best quality Alnico magnets. Moulded bakelite coil forms impregnated to resist moisture. Moulded bakelite case and cap. Standard impedance 600 ohms. Lightweight sponge rubber cushions.

Headband: All metal parts stainless steel and passivated to prevent corrosion. Headband and earphones are easily adjusted by cleverly designed guide and plate.

Cord: Phones connected within band, making a single cord to instrument panel. Standard set has 5 foot plastic-covered tinsel cord with phone plug attached.

LIST $15.00

No. 111 Institutional Headphone

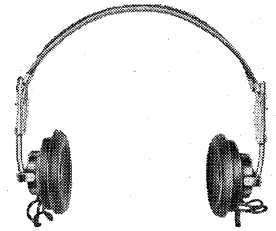
Specifications:

Receivers: "Solid-Built" one-eleven type. Magnets are fine quality chrome steel. Moulded black bakelite case and cap. Standard set has 10,000 ohms impedance. Standard concealed terminals.

Headband: Stainless steel bands covered with plastic. Guides and yokes are solid brass, nickel plated.

Cord: Six foot Y type plastic-covered tinsel cord with pin tips.

LIST $7.50



No. 131 "CW" *Designed for Code Communication*

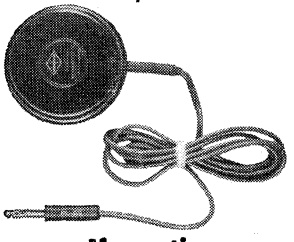
Specifications:

Receivers: Same "Solid-Built" construction as P-23. Standard impedance 10,000 ohms. Equipped with wafer-thin rubber cushions.

Headband: Double stainless steel bands with plastic covering. Stainless steel guides and yokes permit adjustment on vertical and horizontal planes.

Cord: Six foot Y type plastic-covered tinsel cord with phone plug attached.

LIST $15.00



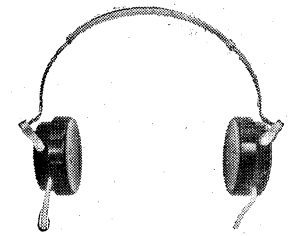
Magnetic Underpillow Speaker

Specifications:

Speaker: Rugged, durable bakelite case in walnut or gray finish. 3½" diameter. Alnico V magnet.

Cord: Six foot plastic extension cord and phone plug. Mounting jack supplied with switch in jack. Available in impedances from 5 ohms to 10,000 ohms or higher.

LIST $10.95



No. 112 Lightweight Headphone

Lightness and scientific fit of these headphones make them comfortable to wear for a considerable length of time.

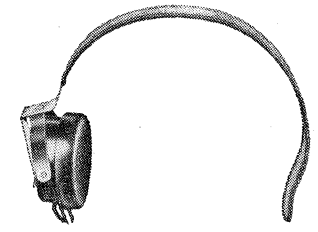
Specifications:

Receivers: "Solid-Built" one-twelve type with Alnico magnet. Standard set has 10,000 ohms impedance. Standard concealed terminals.

Headband: Easy operating controls permit adjustment of the earphones. Bands are ¼" stainless steel.

Cord: Six foot Y type plastic-covered tinsel cord with pin tips.

NO. 112 LIST $5.50
NO. 116 Single LIST $3.50



No. 115 Laboratory Headphone

Specifications:

Receiver: "Solid-Built" one-eleven type.

Headband: Special one-fifteen. Yoke is spring brass, nickel plated. Covered with fine quality plastic.

Cord: Five foot single type, plastic-covered tinsel with pin tip.

LIST $5.50

HEADSET impedances are available up to 17,000 ohms. Cotton-covered or other special cords and special terminals are available to meet individual requirements.

Write today for complete information and FREE CATALOG.

WM. J. MURDOCK CO. MURDOCK RADIO **CHELSEA, MASS.**

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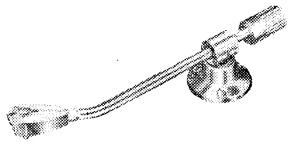
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

REK-O-KUT COMPANY

Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.

*Rondine** SERIES

12 and 16-inch TURNTABLE ARMS



Both arms are identical in design and construction except for length and offset angle. Non-ferrous metal alloys are used throughout.

SPECIFICATIONS and FEATURES:

- Tubular Arm Body
- Interchangeable cartridge shell secured to arm body by bayonet lock
- Silver-plated, spring-loaded pin terminals establish positive contact between shell and arm.
- Shells accommodate all standard cartridges.
- Arm resonance well below audible band.
- Adjustable for turntable height.
- Dual, ball bearing races for horizontal movement.
- Vertical movement pivots in 1mm. chrome-steel ball bearings.
- Stylus pressure adjusted by means of self-locking, threaded counterweight.
- Dual-function arm rest clamps and secures arm when not in use.

NET PRICES

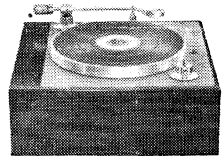
MODEL 120 for records up to 12" **$26.95***

MODEL 160 for records up to 16" **29.95***

Extra Cartridge Shell, Model PA-20.....$4.95 ea.

Note: prices less cartridge

RONDINE BASES



for Models B-12 and B-12H

Constructed of solid, seasoned Walnut or Korina wood—rabbet-mitered and hand-rubbed. Pre-cut ledge nests turntable deck. Rubber ball-feet are adjustable for levelling and provide acoustic isolation.

For B-12 and B-12H (16½"x17"x6"):
Model WR, American Walnut..... **$26.95***

Model KR, Blonde Korina..... **$28.95***

For L-34, L-37 & LP-743 (16½"x17"x4½"):

Model LW, American Walnut..... **$26.95***

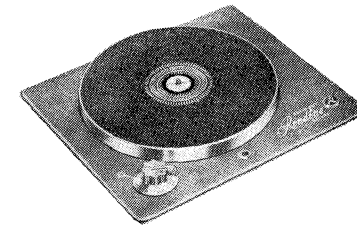
Model LK, American Blonde Korina.... **$28.95***

12" PRECISION TURNTABLES

RONDINE *Deluxe*

Model B-12H 3 Speeds

The aristocrat of the RONDINE Series. As a record reproducing device, it represents the closest approach to perfection ever attained. It has less rumble, wow and flutter than any 12-inch turntable on the market today.



SPECIFICATIONS:

NOISE LEVEL: Better than 50 db below average recording level.
MOTOR: Self-lubricating, custom-built hysteresis synchronous.
SPEEDS: 33-1/3, 45 and 78 rpm.
SPEED SELECTION: Single selector knob. Switching to speed position starts motor. Setting to 'off' position adjacent to speed shuts off motor and disengages idler.
STROBE DISC: Permanently affixed — permits instantaneous checking of all speeds.
45 RPM HUB: Built-in — retractable — requires no external adapter.
PILOT LIGHT: Jewelled neon light acts as 'on/off' indicator.
CHASSIS DECK: Cross-ribbed cast aluminum. Designed for flush-mounting in rectangular cut-out.

DIMENSIONS: 15¾" x 14". Fits most phono consoles.
CLEARANCE REQUIRED: Above deck—1½". Below Deck — 6½".
FINISH: .....Gun-metal gray
SHIPPING WEIGHT: .....16 lbs.

NET PRICE **$129.95***

RONDINE Model B-12 3 Speeds

A notable example of the merits of the new design that enables quality to be retained at moderate cost. The Rondine has all of the features of the Rondine deluxe. All specifications are the same with the following exceptions:

NOISE LEVEL: Better than 40 db below average recording level.
MOTOR: Induction — 4-pole — built to Rek-O-Kut specifications.

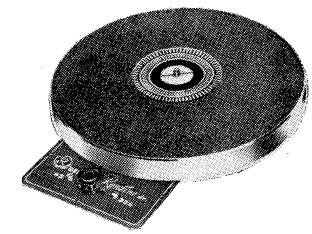
NET PRICE **$79.95***

RONDINE *Jr.*

Model L-34: 33⅓ & 45 rpm

Model L-37: 33⅓ & 78 rpm

Because of the different requirements among those who desired a 2-speed unit, two models were developed pairing 33-1/3 and 45 rpm in the Model L-34, and 33-1/3 and 78 rpm in the Model L-37.



SPECIFICATIONS:

NOISE LEVEL: 35 db below average recording level.
MOTOR: Induction — 4-pole — built to Rek-O-Kut specifications.
SPEEDS: Model L-34 — 33-1/3 and 45 rpm; Model L-37 — 33-1/3 and 78 rpm.
SPEED SELECTION: Slide shift with intermediate 'off.' Locks in either speed position.
STROBE DISC: Permanently affixed — permits instantaneous checking of both speeds.
45 RPM HUB: Built-in — retractable — requires no external adapter.

CHASSIS DECK: .....Heavy gauge steel
DIMENSIONS: 12" x 15". Fits most phono consoles.
CLEARANCE REQUIRED: Above deck—1⅜". Below deck — 6½".
FINISH: .....Hammertone gray.
SHIPPING WEIGHT: .....14 pounds.

NET PRICE **$49.95***

Model LP-743

Similar to Rondine Jr. specifications except it employs 3 speeds (33-1/3, 45, 78 rpm).

NET PRICE **$59.50***

*All prices slightly higher West of Rockies.

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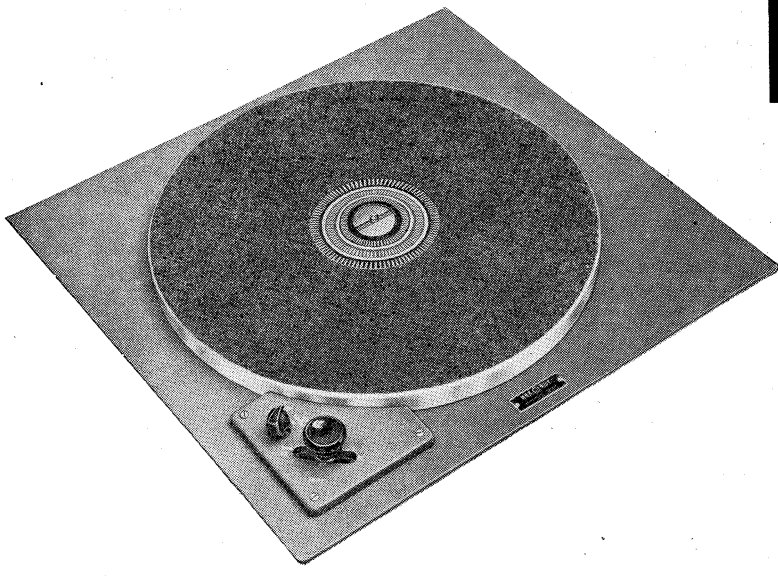
REK-O-KUT COMPANY

Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.

16" PRECISION TURNTABLES



The MODEL B-16H *3 Speeds*

Offers the broadcaster and recording studio the finest professional performance at the lowest cost. The turntable itself is precision lathe-turned, non-magnetic, cast aluminum — dynamically balanced — and with an extra-heavy rim for effective flywheel action. Turntable diameter is standardized at 15¾ inches to allow a ⅛-inch overhang for cueing. It is internally rim-driven by means of neoprene compound idlers. All inter-moving parts are case-hardened and ground to a micro finish. Rotates on a single-ball pivot which takes the entire thrust of the turntable shaft.

Extremely low distortion has been achieved through effective acoustical damping — through special attention to motor bearings, motor suspension, idler design, concentricity of pulleys and all the other elements essential to smoothness, quiet and overall quality of performance. Rumble, wow and flutter and speed regulation are well within NARTB standards. Requiring no more than routine maintenance, all parts are readily and easily accessible.

SPECIFICATIONS:

SPEEDS: 33⅓, 45 and 78 rpm.

SPEED SELECTION: Mastermatic, self-locking, instantaneous shift. Engages either idler without stopping turntable or removing disc.

STARTING: From standing start to operating speed —
at 78 rpm. ..... ¾ turn
at 33⅓ and 45 rpm ..... ¼ turn

MOTOR: Self-lubricating, custom-built hysteresis synchronous.

NOISE LEVEL: 50 db below average recording level.

45 RPM HUB: Built-in — retractable — requires no external adapter.

STROBE DISC: Permanently affixed — permits instantaneous checking of all speeds.

CHASSIS DECK: Radial-ribbed aluminum casting. Designed for flush mounting in rectangular cut-out. PRE-DRILLED: For ready mounting of Rek-O-Kut Turntable Arm Model 160.

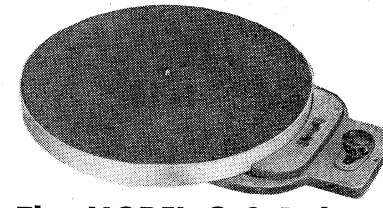
DIMENSIONS: 18¾" x 20". Fits existing consoles and cabinets with slight modification.

CLEARANCE REQUIRED: Above Deck — 1½". Below deck — 6½".

FINISH: .....Wrinkle gray.

SHIPPING WEIGHT: .....30 pounds.

NET PRICE **$250.00***



The MODEL G-2 *Deluxe* *2 SPEEDS*

The same superb quality which has created unreserved acceptance of the B-16H among the most critical professional users, more moderately priced in the 2-speed G-2 Deluxe. All specifications are the same with the exception of the following:

SPEEDS: 33⅓ and 78 rpm (see Accessory Idler for 45 rpm).
CHASSIS DECK: Cast iron L beam.
DIMENSIONS: .....16" x 20".
CLEARANCE REQUIRED: Above deck — 2½". Below deck — 6½".
SHIPPING WEIGHT: .....26 pounds.

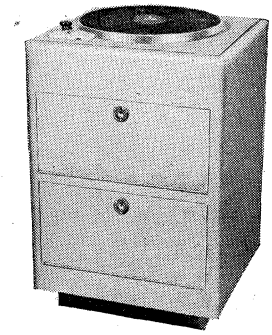
NET PRICE **$179.95***

MODEL G-2 *Standard* with 4-pole Induction Motor **$137.50***

ACCESSORY: 45 rpm Idler **8.00**
(Interchanges with 33⅓ rpm Idler)

CONSOLE CABINET

for B-16H & other REK-O-KUT Turntables



Designed to accommodate the B-16H Turntable without the use of either screws or bolts. Floats on felt. Has 2 storage compartments and piano-hinged doors with flush ring-latches. Includes built-in electrical outlet and adjustable leveling domes. Metallic gray finish. Dimensions: 33" high x 22" wide x 20½" deep.

MODEL C-7B NET PRICE.....**$115.00***

Identical to C-7B but with the addition of a ¾" motor board to accommodate various REK-O-KUT turntables.
MODEL C-7BT NET PRICE... **$124.95***

NOTE: All Rek-O-Kut Turntables are supplied for 110-120 volt, 60-cycle AC operation. Available in other voltages and frequencies at additional cost.

*All prices slightly higher West of Rockies.

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REK-O-KUT COMPANY

Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.

DISC RECORDING EQUIPMENT

Imperial

The "Imperial," America's finest professional 13¼" disc recorder, is built to meet the respective needs of the Professional Recordist, Musician, Educator and Recording Enthusiast who wants to make permanent, professional recordings. The "Imperial" embodies the most advanced design, engineering and production techniques in the disc recording industry. The many exclusive operating features incorporated in the "Imperial" simplify and improve the art of disc recording.

SPECIFICATIONS:

MOTOR: Hysteresis Synchronous motor (TR-12H, described in detail on page E-4), fitted with lamitex drive pulley. Suspended in shock mounts to prevent transmission of motor vibration.
RECORDING AREA: Records from 6" up to 13¼" masters.
SPEEDS: Simple, finger-tip speed control for instantaneous selection of speed desired — 78, 45 or 33-1/3 rpm.
OVERHEAD RECORDING LATHE: Model M-12S Lathe.
- HAND CRANK for run-in and run-off spiral grooves.
- PROVISION FOR INTERCHANGING LEADSCREWS for Standard and Microgroove.
- LIFTOMATIC SAFETY CAM prevents double cutting and stylus damage. Automatically raises cutter as center of disc is approached.
- CALIBRATED SCALE FOR TIMING.

RECORDING HEAD: Model R-56 — response from 50-10,000 cycles.
PLAYBACK ARM: Model 160 for records up to 16" — with dual-sapphire magnetic cartridge.
TURNTABLE: Model TR-12H (see page E-4).
AMPLIFIER: Model R-8A Universal Recording Amplifier.

PROFESSIONAL DISC RECORDER AND PLAYBACK REPRODUCER

FREQUENCY RESPONSE: ± 1db from 30 to 20,000 cycles at normal setting of equalizer controls.
POWER OUTPUT: 13.5 watts at less than 3% total harmonic distortion into resistive load.
TREBLE EQUALIZER: Boost of 14 db and attenuation of 15 db above 8000 cycles, continuously variable.
BASS EQUALIZER: Boost of 14 db and attenuation of 14 db below 50 cycles, continuously variable.
INPUT CHANNELS: Two for high impedance microphone, one for phono (magnetic cartridge) and one high level for radio and tape.
GAIN: Microphones — 120 db; Phono — 90 db; Radio — 80 db.
OUTPUT IMPEDANCES: 4, 8, 15 and 500 ohms for cutter and speaker.
OUTPUT SELECTOR: Three positions providing — recording, playback and public address. Microphones are muted in play-back position.
MONITORING: A switch is provided giving three positions of monitor level—off, medium, loud. Speaker or headphones may be used. Meter on front panel indicates correct recording level.
HUM AND NOISE: 64 db below 13.5 watts with all controls turned for maximum hum and noise output.
CONTROLS: Microphone "1", microphone "2", radio-phone fader, output selector, treble equalizer, bass equalizer, monitor.
TUBE COMPLEMENT: (2) 6SJ7; (2) 6SL7; (1) 6SC7; (2) 6VC; (1) 5Y3.
POWER REQUIREMENTS: 105-125 volts, 50-60 cycles.
POWER CONSUMED: 100 watts.
SPEAKER: 10" PM type. Custom-built rigid REK-O-KUT specifications for extra power and wide range. Mounted into detachable cover of case.
CASE: Sturdy plywood cover with rich gray leatherette. Built to withstand rough usage.
DIMENSIONS: 25 x 22 x 12 inches.
WEIGHT: 65 lbs.

Equipped with 120-line Leadscrew

NET PRICE **$599.95***

TR-103A Idler for 45 rpm **$8.00**
LEADSCREWS for Imperial—See Model M-12S, page E-4

Challenger DELUXE

DISC RECORDER and REPRODUCER

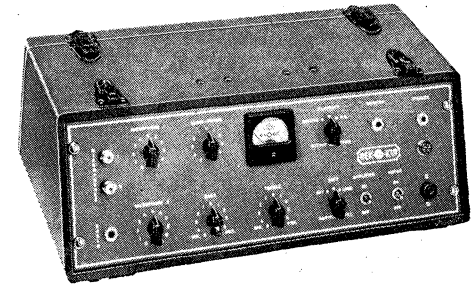
This famous unit has proven itself throught the years and is always in popular demand. Identical to the Imperial except it is equipped with

- M-12 Overhead Lathe (see page E-4) with UC-8 Cutting Head.
- Model 400 Playback Arm for records up to 16".

Equipped with 120-line Leadscrew.

NET PRICE **$499.95***

TR-103A Idler for 45 rpm **$8.00**
LEADSCREWS for Challenger—See Model M-12, page E-4.



UNIVERSAL RECORDING AMPLIFIER

Model R-8A

as used in Imperial and Challenger Deluxe (see specifications above).
DIMENSIONS: Panel — 19 x 6¼ inches; Chasis — 17 x 8¾ inches.

R-8A Amplifier for rack mounting **$159.95***

C-85 Portable Amplifier Case **22.95***

***All prices slightly higher West of Rockies**

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Net

REK-O-KUT COMPANY

Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.

ALL REK-O-KUT RECORDING TURNTABLES

are made of cast aluminum, lathe-turned for accuracy and driven with shock-mounted hysteresis synchronous motors equipped with lamitex pulleys.

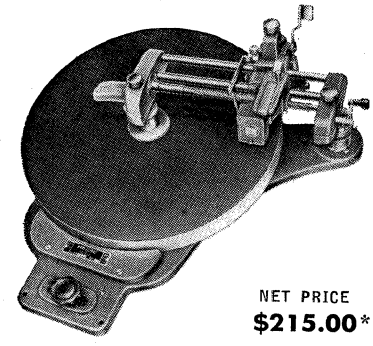
MODEL V DELUXE 2-SPEED 16" RECORDING TURNTABLE

The outstanding value in the recording field. Ruggedly constructed and precisely machined, the [illegible] will maintain the constant, wow-free speed and smoothness demanded in broadcast work.
The model M-5S Overhead Cutting Mechanism mounts to the "V" deluxe turntable in a matter of moments.

CHASSIS: Ribbed cast-iron with socket for installation of M-5S lathe.
IDLERS: Neoprene compound for maximum traction.
OILING: Shafts and bearings are self-oiling. Require infrequent lubrication.
SPEED CHANGE: Mastermatic self-locking instantaneous speed shift.
FINISH: Gray wrinkle.
DIMENSIONS: Front to back 20"; width 20"; height above motor board 2½"; depth below motor board 5".
WEIGHT: 28 lbs.

ACCESSORY
V103-A — 45 rpm spindle bushing and idler (interchanges with 33-1/3 rpm idler)... **$8.00**

Model V Deluxe



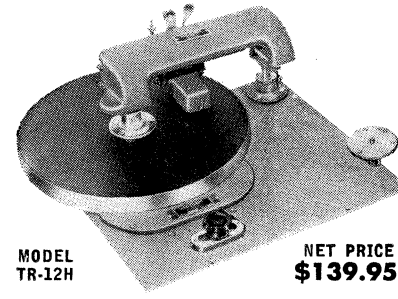
NET PRICE
$215.00*

MODEL TR-12H 2-SPEED 12" RECORDING TURNTABLE

Design and construction of the model TR-12H is similar to the Rek-O-Kut 16" professional recording tables. The model M-12 overhead recording mechanism is mounted to the chassis in a few moments.

CHASSIS: Cast aluminum drilled to accommodate M-12 or M-12S lathe.
IDLERS: Neoprene compound for maximum traction.
OILING: Shafts and bearings are self-oiling. Require infrequent lubrication.
SPEED CHANGE: Instantaneous speed shift engages either 78 or 33-1/3 rpm idler.
FINISH: Gray wrinkle.
DIMENSIONS: Front to back 16½"; width 16"; height above motor board 1⅜"; depth below motor board 5".
WEIGHT: 17 lbs.

ACCESSORY
T-103A — 45 rpm spindle bushing and idler (interchanges with 33-1/3 rpm idler)... **$8.00**



MODEL TR-12H

NET PRICE
$139.95*

ALL REK-O-KUT OVERHEAD LATHES

have micrometer depth-of-cut controls and tilt-level adjustments. Leadscrews are stainless steel lapped to matched feed-nuts. Drive gears are enclosed and protected.

LEADSCREWS FOR OVERHEAD LATHES

Lines/inch	Model M-5S	Net Price
120	MS-120	$39.95
150	MS-150	49.95
210	MS-210	49.95
216	—	—
240	MS-240	49.95
270	MS-270	49.95

Lines/inch	Model M-12S	Net Price
120	M12S-120	$35.95
150	M12S-150	35.95
210	M12S-210	44.95
216	—	—
240	M12S-240	44.95
270	M12S-270	44.95

Lines/inch	Model M-12	Net Price
120	M12-120	$19.95
150	—	—
210	—	—
216	M12-216	29.95
240	M12-240	29.95
270	—	—

Leadscrews of 210 lines/inch or more = microgroove.

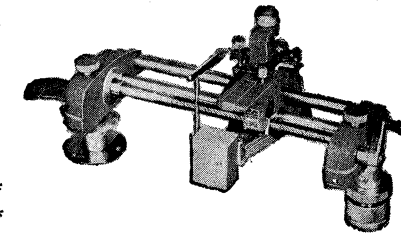
MASTER-PRO OVERHEAD RECORDING LATHES

MODEL M-5S 16" OVERHEAD LATHE

A precise tool for professional work. Working surfaces and moving parts are hardened, ground and polished to a micro finish. The Master-Pro is a universal machine that can be readily attached to all 12" and 16" recording turntables as well as the Rek-O-Kut model "V" recording table.
HANDCRANK: For run-in and run-off spiral grooves.
DUAL CLUTCH SPIRALING CONTROL: Eliminates danger of disc spoilage while crank handle is in motion.
ANGLE OF CUT: Controlled by simple adjustment.
DIMENSIONS: Length 16"; width 6½"; height 9".
WEIGHT: 11 lbs.

Supplied with 120-line leadscrew.

MODEL M-5S less cutter NET PRICE **$200.00***
MODEL M-5S with R-56 cutter (50-10,000 cycles) **$260.00***
MODEL R-56 Cutter Only **$60.00**

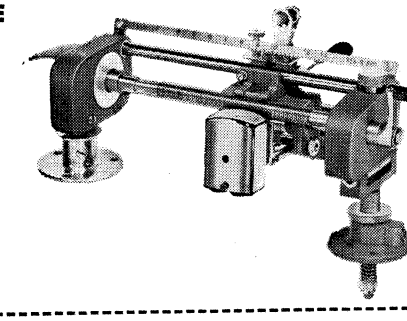


MODEL M-12S 12" OVERHEAD LATHE

This professional lathe is designed to very exacting specifications and features the following:
- Interchangeable Leadscrews
- Hand-crank for run-in and run-off Spiral Grooves.
- Timing Scale
- Accommodate Standard Cutting Heads.
- Depth of Cut Adjustment.

LIFT-O-MATIC: Automatically lifts cutter from disc as it approaches end of lead-screw.
Designed for instantaneous replacement of the M-12 in the Challenger. Supplied with 120-line leadscrew

MODEL M-12S less cutter NET PRICE **$150.00***
MODEL M-12S with R-56 cutter (50-10,000 cycles) **$210.00***
MODEL R-56 Cutter Only **$60.00**



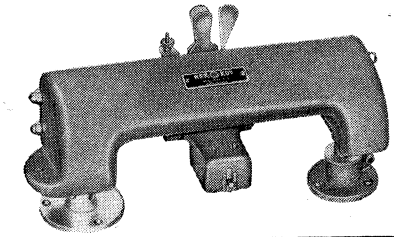
MODEL M-12 12" OVERHEAD LATHE

The M-12 Overhead Cutting Mechanism as used in the Challenger is a truly professional machine for recording enthusiasts and professionals.
LIFT-O-MATIC: Automatically lifts cutter from disc as it approaches end of lead-screw.
MAGNETIC CUTTER: 8 ohms, flat from 40 to 7,000 cycles.
DIMENSIONS: Length 11¼"; width 4¼"; height 6".

Supplied with 120-line leadscrew

MODEL M-12 with cutter NET PRICE **$109.95***

***All prices slightly higher West of Rockies**



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REK-O-KUT COMPANY

Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.

PORTABLE SOUND SYSTEMS, RECORD PLAYERS and VARIABLE-SPEED TURNTABLES

Rhythmaster

VARIABLE SPEED PHONOGRAPH AND SOUND SYSTEM

The Rhythmaster is basically a phonograph with a CVS-12 Turntable which permits the playing speed to be continuously varied from 25 rpm to 100 rpm without resetting the mechanism or stopping the record. It is ideally suited in applications where rhythm control is necessary: square dancing, swimming, skating, calisthenics, etc. and is used by teachers, coaches, directors, and others who recognize the advantage of being able to slow down a record to as little as ⅓ of its normal tempo, or speed it up as much as 300%. The Rhythmaster is also used as a high fidelity public address sound system.

Recitalist

HIGH FIDELITY PHONOGRAPH AND SOUND SYSTEM

The RECITALIST is a high quality phonograph for 33-1/3, 45 and 78 rpm records. It employs the famous Model LP-743 Turntable, a long time popular favorite with hi-fi enthusiasts (see Page E-1 for specifications). The RECITALIST is used as a public address system in the same manner as described for the Rhythmaster.

SPECIAL FEATURES of RHYTHMASTER and RECITALIST

Both the RHYTHMASTER and RECITALIST permit a microphone to be used even while a record is being played. Volume of each can be independently controlled for effective mixing. There is also provision for connecting the outputs to an existing loudspeaker system, indoors or outdoors.

With the exception of the turntables, referred to above, the components, features, and specifications of both the RHYTHMASTER and RECITALIST are the same. Each is available with single speaker mounted in the detachable cover of the carrying case or may be obtained with twin speakers. In the twin speaker models, there is no provision for a speaker in the cover. The two speakers are mounted in two half-case sections which join (when not in use) to form one case.

	NET PRICE
Single Speaker Models	
RECITALIST RP-43M	**$239.95***
RHYTHMASTER RP-43 VM	**$279.95***
Twin Speaker Models	
RECITALIST RT-43M	**$279.95***
RHYTHMASTER RT-43 VM	**$319.95***

SPECIFICATIONS FOR RHYTHMASTER AND RECITALIST

TURNTABLE: (see above).
MOTOR: Induction — 4-pole — built to Rek-O-Kut specifications.
SPEAKER: 10″ PM — built to Rek-O-Kut specifications. Alnico V magnet (twin speaker models supplied with two speakers).
AMPLIFIER: Frequency response is controlled by POLYPHONIC SELECTOR.
- **Position 1**—50 to 15,000 cycles, within 1 db.
- **Position 2**—Bass boosted 4 db at 100 cycles, flat above 5000 cycles.
- **Position 3**—Bass boosted 6 db at 100 cycles, flat above 5000 cycles.
- **Position 4**—Flat from 50 to 3000 cycles. Increasingly sharp cutoff to 14 db down at 10,000 cycles.

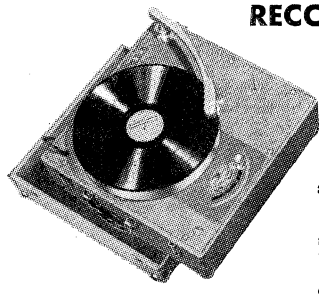
PICKUP: 16-inch arm with dual-sapphire magnetic cartridge.
INPUT CHANNELS: Three — high impedance — for microphone, tuner, tape playback, etc.
POWER OUTPUT: 10 watts at less than 3% total harmonic distortion.
INPUT GAIN: Microphone — 120 db. Radio, tape — 80 db. Magnetic pickup — 90 db.
OUTPUT IMPEDANCE: .....6-8 ohms at speaker jack.
NOISE LEVEL: Better than 50 db below maximum output.
CONTROLS: Microphone volume, phono and radio volume, and Polyphonic Selector.
POWER INPUT: 70 watts at 110-120 volts, 60 cycles AC.
TUBE COMPLEMENT: (2) 6SL7, (2) 6V6GT, (1) 5Y3GT and (1) 6SC7.
CASE: Sturdy plywood covered with gray leatherette.
DIMENSIONS: 17″ x 9½″ x 21¼″.
WEIGHT: .....38 pounds.

TWIN SPEAKER SET **Model SPK-43**

Same as furnished with Twin Speaker Models. For use with Single Speaker RECITALIST or RHYTHMASTER, or other equipment.

Complete with Case, Cables and Jacks — **$50.00*** NET PRICE

RECORD PLAYERS



These record players are designed to operate into any amplifier or for dubbing records onto tape, wire or disc. May be used with radio, TV receiver, sound projector, recorder, etc. Models with magnetic cartridges require preamp-equalizers. Mounted in sturdy plywood, leatherette-covered case with detachable covers.

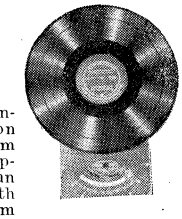
P-43C with 3-speed LP-743 Turntable (see Page E-1) and crystal cartridge in 16″ arm. NET PRICE **$109.95***

P-43M with 3-speed LP-743 Turntable and dual-sapphire magnetic cartridge in 16″ arm. LIST PRICE **$109.95***

P-43VC with Variable speed CVS-12 Turntable and crystal cartridge in 16″ arm. NET PRICE **$129.95***

P-43VM with Variable speed CVS-12 Turntable and dual-sapphire magnetic cartridge in 16″ arm. LIST PRICE **$129.95***

VARIABLE-SPEED TURNTABLE CVS-12



The CVS-12 permits continuous speed variation from 25 rpm to 100 rpm without resetting or stopping the record. It can therefore be used with 33⅓, 45 and 78 rpm records, and permits them to be slowed down to as little as ⅓ normal tempo or speeded up to as much as 300%. It is standard equipment with the Rhythmaster and with the P-43V player. NET PRICE **$89.95***

NOTE: This turntable operates at either 50 or 60 cycles. At 50 cycles speed can be varied from 20 rpm to 85 rpm.

NOTE: All Rek-O-Kut Players and Turntables are supplied for 110-120 volts, 60-cycle AC operation. Available for other voltages and frequencies at additional cost.

***All prices slightly higher West of Rockies.**

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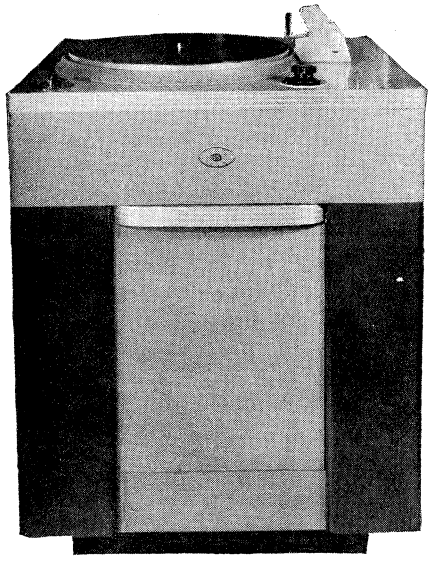
PRESTO RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS



Presto 64-A Transcription Turntable (Type 153 Reproducer extra)

PRESTO 64-A TRANSCRIPTION TURNTABLE

The Presto 64-A transcription turntable offers the following features which are of major importance to the owner and operator: Unusual mechanical simplicity . . . low mechanical disturbance . . . maximum speed accuracy . . . extreme ruggedness for long continuous operation . . . instantaneous selection of desired speed . . . and no requirements for mechanical adjustments.

This transcription turntable is directly gear driven and employs two separate motors, one for 33-1/3, and the other for 78.26 rpm. There is no friction device of any kind in the mechanism and no mechanical shift is required to change speeds. To select 33-1/3 rpm, 78 rpm or "off," the operator merely throws a three-position switch. These changes may be made as rapidly as desired while the turntable is in motion with no damage to the mechanism. Only one motor at a time is in operation. The transmission "over-runs" the motor which is not turning and thus does not carry it along in rotation although the stationary motor is never disengaged from the mechanism.

SPECIFICATIONS

Standard Equipment: The 64-A transcription turntable includes the electro-mechanical gear drive, turntable and cabinet. **Reproducer** and **network** not included.

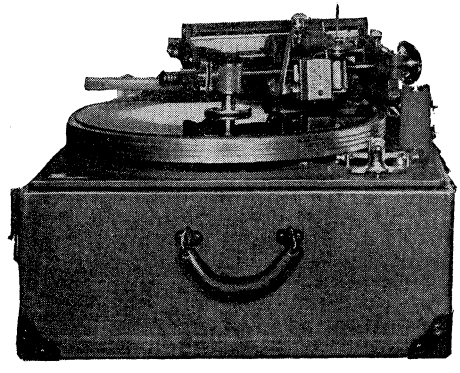
Speed Accuracy: No deviation from 33-1/3 and 78.26 rpm.

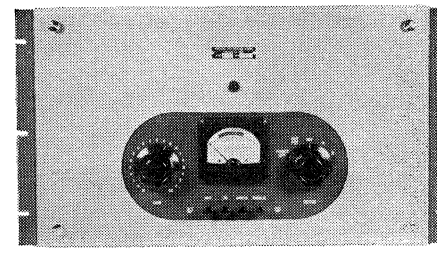
Noise Level: Mechanical noise originating in the equipment is kept to at least 50 db below program level.

Power Requirements: Approximately 75 watts from a 115 volt, 60 cycle line. Motors are of the 1800 rpm synchronous type and are available for other voltages and frequencies at additional cost.

Mounting: Turntable and gear drive mounted in heavy wood cabinet 24 x 24 x 33 inches (61 x 61 x 84 cm.)

Net Price, **$715.00**





PRESTO 6-N RECORDER AND A-93 AMPLIFIER

The PRESTO 6-N Recorder and A-93 Amplifier is the ideal recording equipment for portable or stationary operation.

The 6-N Recorder is outstanding in its suitability for broadcast stations because it offers all the qualifications for good recordings, including master records, at the most economical price. It is ideal for the station requiring delayed broadcast of network programs, and for reference recordings.

The 6-N standard equipment includes the Presto 1-D cutting head, spiraling feed screw, vertical damper, time scale and pick-up. It is available for microgroove recording at additional cost.

The Presto A-93 is a power amplifier primarily intended for disc recording purposes. It was especially designed for use with the model 1D cutter head on the Presto 6N, 8D and 8D-G disc recorders. The unit has an excellent frequency response, negligible distortion, and a low effective output impedance.

Any one of four different frequency responses may be provided by means of a pushbutton control on the panel. The first response is substantially flat between 20 and 17,000 cps. The second provides a gradual rise above 100 cycles to a maximum of 10,000 cps, which conforms to the modern practice of making 78 rpm recordings. The third follows the standard NARTB pre-emphasis curve for lateral transcriptions. The fourth pushbutton, in conjunction with the Presto 161-A equalizer on the recorder, compensates for variable losses resulting from the changing diameter of the disc being recorded. Noise is 55 db below recording level.

SPECIAL FEATURES

1. Pushbutton control provides choice of frequency response.
2. Radius equalizer compensates for chanaina diameter of disc.
3. Rated output of 30 watts assures ample reserve for recording.
4. Harmonic distortion is less than 0.3%, intermodulation distortion less than 1%, at normal recording levels.
5. Meter monitors recording level and checks output tube current.

Net Price of 6-N Disc Recorder, in Case.....**$933.00**
Net Price of A-93 Amplifier.....**$345.00**

66G—High quality gear driven Disc Recording Equipment in Console Cabinet, Speeds 33⅓ and 78 RPM, complete .....Net Price, **$1350.00**

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

PRESTO RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS

The Pirouette — A Line of High Fidelity Turn Tables

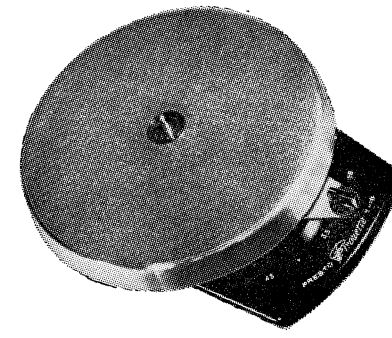
PRESTO T-18—FOR THE HOME

The PRESTO T-18 is a three-speed, 12″ diameter record player especially designed for high fidelity use. It combines dependable speed accuracy with simplicity of operation and attractive appearance. Exceptionally well-designed, it contains only one moving part in the entire shift mechanism to engage each of the three interchangeable drive idlers.

This professional-type turntable is heavy cast aluminum with a retractable adapter disc for 45-rpm records. Two types of motors are available: a heavy-duty, four-pole motor or a hysteresis synchronous motor for those who want the ultimate in speed accuracy and quiet, rumble-free operation. A single control lever, operating in a horizontal plane, selects 33⅓, 45, or 78.26 rpm speeds or shuts off the mechanism. The panel, finished in attractive telephone black, is small and unobtrusive and requires only a simple rectangular cutout for mounting.

T-18 SPECIFICATIONS

Turntable Speeds: 33⅓, 45, 78.26 rpm.
Turntable Diameter: 12 inches.
Turntable Weight: 3¾ lbs.
Panel Size: 8″ x 11″.
Speed Accuracy: 0.25% (instantaneous).
Power Source: 115 volts, 60 cycle.



PRESTO T-68—FOR THE PROFESSIONAL

The T-68 Transcription Turntable was developed by PRESTO to meet the demand for an inexpensive high-quality transcription turntable operating at the three standard speeds of 33⅓, 45, and 78.26 rpm. It is intended for broadcast stations, recording studios, schools and other installations where absolute accuracy and completely noiseless operation are essential.

The new PRESTO shift mechanism makes it possible to produce this fine transcription table at a fraction of the usual cost. It consists of a single movable plate on which the three heavy-duty idlers are mounted. The turntable is a heavy aluminum casting dynamically balanced and equipped with a retractable 45-rpm adapter disc. The T-68 is available with either a four-pole induction motor or with a hysteresis synchronous motor for the most rigid speed and noise requirements. The small panel does not interfere with the installation of the pickup arm and requires only a rectangular opening for mounting.

Model	Motor	Signal to Noise Ratio	Net Price
T-18	Four-pole shaded induction	—40 db.	$ 66.00
T-18H	Hysteresis synchronous	—50 db.	117.00
T-68	Four-pole shaded induction	—40 db.	87.00
T-68H	Hysteresis synchronous	—50 db.	147.00

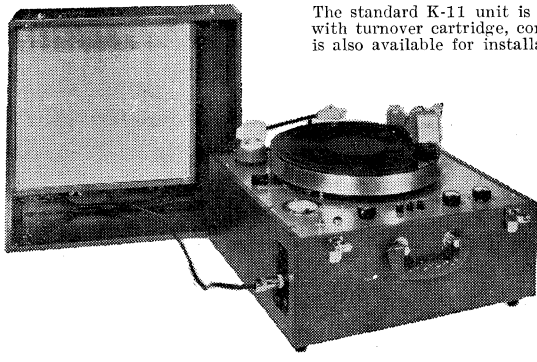
T-68 SPECIFICATIONS

Turntable Speeds: 33⅓, 45, 78.26 rpm.
Turntable Diameter: 15¾ inches.
Turntable Weight: 7 lbs.
Panel Size: 8″ x 11″.
Speed Accuracy: 0.25% (instantaneous).
Power Source: 115 volts, 60 cycle.

PRESTO K-11 DISC RECORDER

FOR MICROGROOVE AND REGULAR RECORDING

The Presto Type K-11 Disc Recorder is a compact disc recording unit which is ideal for home or semi-professional use. The mechanism features a three-speed drive and a Presto cutting head for recording both standard and microgroove discs up to 13¼ inch diameter at speeds of 33⅓, 45, and 78.26 rpm.



The standard K-11 unit is furnished with a recording and playback amplifier, two speakers, and a pickup with turnover cartridge, completely assembled in an attractive carrying case. The recorder mechanism alone is also available for installation into a home hi-fi system.

Separate inputs are provided for microphone and radio connections and recordings may be monitored through a monitor jack. The control panel includes a meter to check recording level, phono and microphone volume control, a recording equalizer, and push button selectors for recording playback and public address operations.

FEATURES:

- Provides three-speed operation without adapters.
- Cuts standard or microgroove pitch.
- Two separate speakers for high and low frequency response mounted in cover of carrying case.
- Recording mechanism available separately for hi-fi installation.

K-11 complete with hysteresis synchronous motor.....**$445.00 Net**
Recorder mechanism only with hysteresis synchronous motor.....**$259.50 Net**

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Net

PRESTO RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS

PRESTO RECORDING DISCS

DESCRIPTION	TYPE NUMBER	IN INCHES	NET PRICE
GREEN LABEL			
Presto Green Label discs are, without question, the finest for instantaneous recording—discs to be played back without processing. The extremely clean lacquer and carefully selected flat aluminum base assure perfect cuts for standard or microgroove recording. The surface noise, even after many playings, is virtually inaudible and, what is most important, the consistently high quality is the recording engineer's guarantee of perfect results. Both sides of the Green Label are warranted flawless. Packed 25 per box—a spacer between each disc—with separate envelopes—no labels. Overall thickness of disc .050 inches.	610-A	10	$1.54
	611-A	11 7/8	2.55
	616-A	16	4.62
BROWN LABEL			
Brown Label discs are identical to the perfect Green Label except that only one side is warranted to be flawless. They are offered to those who intend to cut on only one side of the disc. In other respects all of the superior qualities of the Green Label are present in the Brown Label disc. Packed 25 per box—a spacer between each disc—with separate envelopes—no labels. Overall thickness of disc .050 inches.	810-B	10	1.24
	811-B	11 7/8	1.82
	816-B	16	3.61
WHITE LABEL			
The White Label disc represents a quality disc at a saving. **Both** surfaces are warranted to be useable without danger of breaking a sapphire cutting stylus. The White Label is perfectly suited for reference recordings, playbacks, tests and rehearsals. Packed 25 per box—a spacer between each disc, with separate envelopes—no labels. Overall thickness of disc .050 inches.	510-A	10	1.24
	511-A	11 7/8	2.01
	516-A	16	3.61
ORANGE LABEL			
Orange Label Discs differ from other Presto types in that the aluminum base is of a lighter gauge. The fine lacquer, however, is the same as that used on all other Presto discs and is responsible for the very high quality of the Orange Label disc. It is designed specifically for educational institutions where good quality must be available at a reasonable cost. The fine surface of the Orange Label disc has made it popular also with recording studios as a "playback" where good quality at low cost is desired. Packed 50 per box in jackets of five discs each—in envelopes and with labels attached. Overall thickness of disc .040 inches.	306-A	6 1/2	.50
	308-A	8	.69
	310-A	10	1.07
	311-A	11 7/8	1.49
DOUBLE SIDED MASTERS			
Double sided masters are truly the most perfect discs that can be produced for processing work. They are warranted to silver plate quickly and uniformly. Masters are packed with a spacer between each disc and individual envelopes are not included. However, envelopes when required may be had on request. Sizes 11 7/8 inches, 13 1/4 inches and 16 inches are packed 25 discs to the box. The 17 1/4 inch disc is, because of its additional thickness, packed 20 to a box. The overall thickness of the 17 1/4 inch disc is .064". Other master sizes are .050".	621-A	11 7/8	3.17
	623-A	13 1/4	4.04
	626-A	16	5.96
	627-A	17 1/4	6.96
SINGLE SIDED MASTERS			
Single sided masters are identical to double sided masters except that only one side is warranted perfect. The primary side is flawless. Single sided discs represent a definite saving since only one side of a master can be processed. In all other respects the single and double sided discs are similar.	821-B	11 7/8	2.49
	823-B	13 1/4	2.98
	826-B	16	4.72
	827-B	17 1/4	5.09

PRESTO RECORDING STYLI

DESCRIPTION	TYPE NUMBER	PACKING	NET PRICE
SAPPHIRE CUTTING NEEDLES			
Sapphire cutting needles—dural shank—are for use where the very best is demanded. This needle cuts sharp, clean grooves which play back with the least possible surface noise. Long shank sapphires are for use with the Presto type 1-D cutting head. Short shank sapphires are for use with all other types of cutting heads. If needles for microgroove are required, simply add the word "micro" after the regular type number. Each Presto needle is individually tested and consistently uniform results are assured. Sapphire life varies considerably but 8 to 10 hours may generally be expected. Needles are packed individually or in boxes of six individual units.	603-A Short shank	Box of 6	$8.25 each needle
	604-A Long shank	Box of 6	8.25 each needle
	Resharpening		3.75
BRASS SHANK CUTTING NEEDLES			
Brass shank cutting needles are generally similar to dural shank needles except that the high frequency response is not as good due to the increased weight of the shank. For this reason they are not supplied for microgroove. Both long and short brass shank needles are available. Needles are packed individually or in boxes of six individual units.	320-A Short shank	Box of 6	6.60 each needle
	321-A Long shank	Box of 6	6.60 each needle
	Resharpening		3.25
STELLITE NEEDLES			
Stellite needles produce a clean, quiet cut but their life is limited to 2 or 3 hours. They are useful in schools where inexperienced students might break the tips from the shanks of the more expensive sapphire needles. Also packed individually or in boxes of six.	330-A Short shank	Box of 6	2.50 each needle
	331-A Long shank	Box of 6	2.50 each needle
	Resharpening		1.40

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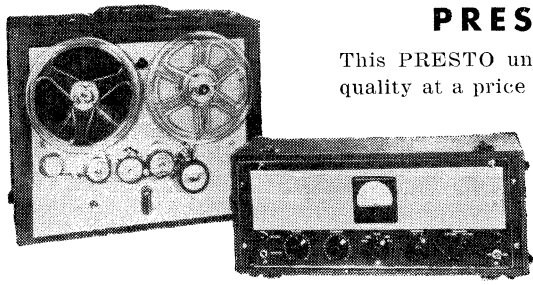
PRESTO RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS



PRESTO SR-27 TAPE RECORDER

This PRESTO unit fills the need for a portable tape recorder of professional quality at a price an amateur can afford. It consists of the new R-27 tape transport mechanism and the PRESTO A-920-B amplifier, each furnished in its own carrying case.

The Type R-27 embodies many design features of PRESTO's best professional models. It utilizes 7" diameter reels at tape speeds of 7½ and 15 inches per second and has a fast forward and rewind speed. Three separate magnetic heads provide record, erase, and playback. A three-motor drive, including hysteresis motor for capstandrue, is employed. Brakes are self-adjusting and self-aligning. Microphone and playback preamplifiers, a power supply, and two small speakers are included in the A-920-B amplifier. Net Price **$588.00**

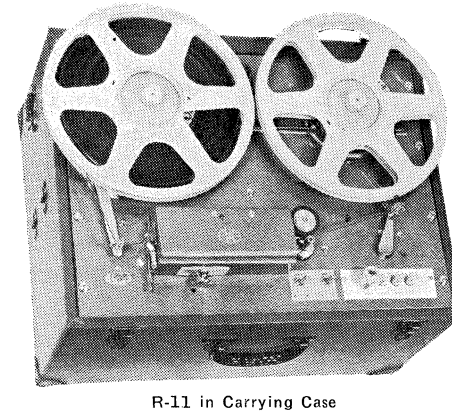
SPECIFICATIONS

Tape Speeds: 7½ and 15 inches per second.
Reel Size: 7" diameter.
Microphone Input: 50 or 250 ohms.
Bridging Input: High impedance, unbalanced.
Output: 10 watts at 15 ohms; line level at 500 ohms.
Monitor Output: For high-impedance phones.
Recording Characteristic: NARTB specifications.
Power Requirements: 115 volts, 60 cycles, 220 watts.

R-11 TAPE RECORDER

The R-11 Recorder is an unusually fine mechanism which can be mounted in a relay rack, in the CS-10 carrying case or in the CC-2 console. The main panel is a heavy aluminum casting to which all other components are attached, including the Presto CDR-200 self-contained capstan drive assembly.

The three heads of the R-11 are mounted as a group and are contained in a completely closed housing. Tape is threaded by simply dropping it into the opening made by pulling forward the front cover. This also holds the tape off the heads for running the tape at fast speeds.

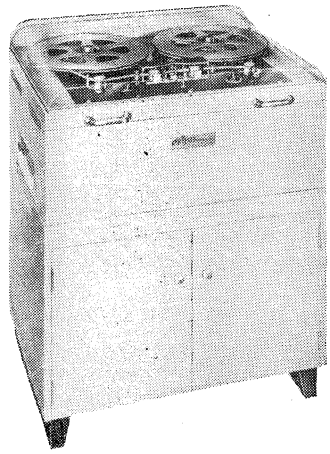


R-11 in Carrying Case

PERFORMANCE DATA

Frequency Response: 50-15,000 at 15 in/sec. and 50-10,000 at 7 in/sec.
Signal-to-Noise Ratio: 50 db at 3% distortion.
Flutter: 0.15% at 15 in/sec.; 0.25% at 7½ in/sec.
Dimensions: 19" x 14" x 10". **Net Weight in Carrying Case:** 62 lbs.
Net Weight for Rack Mounting: 41 lbs.

Model R-11 tape transport mechanism (Chassis only)	$ 775.00
Model R-11 in carrying case	827.00
Model SR-11 recording console (include R-11 mechanism, A-901 amplifier and CC-2 studio console)	1,250.00
Model SA-5 remote control switch	40.00



PB-17A TAPE REPRODUCER CONSOLE

The PB-17A Tape Reproducer Console has been developed to provide automatic, continuous reproduction of taped program material in industrial plants, amusement parks, and other areas where a constant source of background music is required.

The console consists of the PRESTO PB-17A tape transport mechanism interconnected with the A-904 amplifier in a handsome plexiglass-topped console cabinet. It plays back from 14" diameter reels of pre-recorded dual-track tape traveling at a speed of 3¾ inches per second. After four hours of playing time on one track, the mechanism automatically reverses itself to provide an additional four hours on the second track. At the end of this time, the machine either recycles or shuts itself off. The PB-17A mechanism is also available with the A-904 amplifier in the new vertical console, or it may be furnished separately for rack mounting.

SPECIFICATIONS

Tape Used: Standard dual track.
Tape Speed: 3¾ inches per second.
Reel Size: 14" diameter (4800 feet).
Playing Time: 4 hours each track; 8 hours total.
Frequency Response: 50 to 7500 cps ±3 db.
Flutter (Speed Variation): Less than 0.35%.

NET PRICE
$996.00

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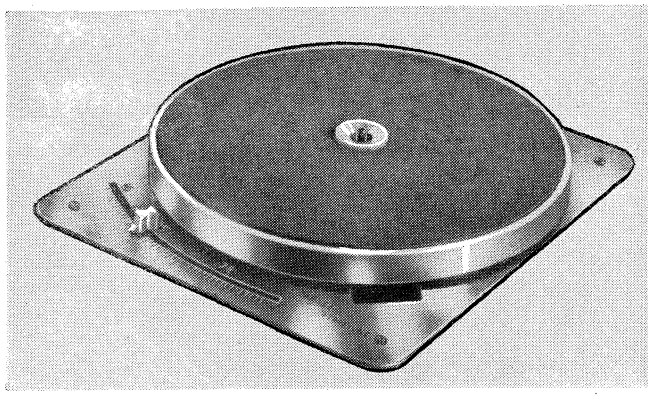
The METZNER



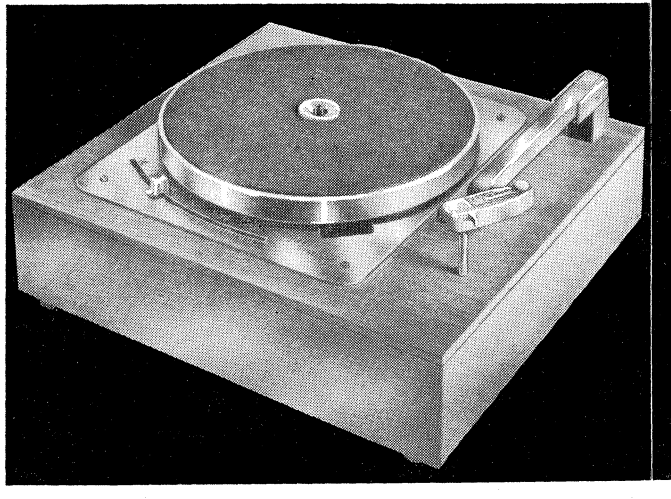
Starlight

HIGH FIDELITY TURNTABLE

"AS SILENT AS THE STARS"

Featuring **CONTINUOUSLY VARIABLE SPEED CONTROL and BUILT-IN STROBOSCOPE which permits setting FOUR EXACT SPEEDS of 16⅔, 33⅓, 45 or 78.26 RPM** . . . Operates with direct center-drive from the motor without belts, pulleys or cones. Wow and flutter are less than 0.2% RMS. Noise and rumble are more than 40 db below average recording level. Has a massive, precision machined aluminum turntable. An over-all hum shield provides best performance with all types of magnetic cartridges. Entire unit is mounted with Lord vibration mounts on an attractive, satin-finished aluminum mounting plate. Mounting plate dimensions 12"x 13½".

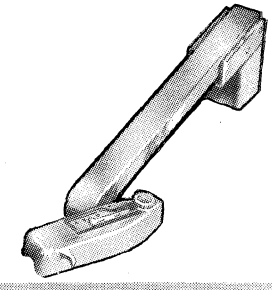
Model 60, $49.50



The Complete STARLIGHT PLAYER UNIT.

Consists of the STARLIGHT TURNTABLE, Model 60 as above, mounted on the Natural Birch Base and with the STARLIGHT TRANSCRIPTION ARM.

Complete PLAYER UNIT — Model 671, $79.50



STARLIGHT TRANSCRIPTION ARM

With the **exclusive** Double Wrist Action! Plays all size records up to 16". Only the counter-balanced head rests on the record providing minimum mass to reduce record wear and assure perfect tracking . . . a graduated counterweight adjustment provides for longest record life. Head takes any standard cartridge. Entire arm mounts on a ball bearing swivel and is also pivoted to lift to vertical position for needle replacement and cartridge installation. The Starlight Arm is easily installed on any turntable deck with single hole mounting. Beautiful satin, aluminum finish. 12" long overall.

Starlight Arm - Model 07, $22.50

NATURAL BIRCH BASE—Made of ¾"—5 ply Birch with mitred corners. Extra heavy for stability. Custom designed for the STARLIGHT Model 60 Turntable.

Model 001, $17.50

Metzner ENGINEERING CORPORATION

Electro-Voice CERAMIC CARTRIDGES

HIGH-FIDELITY ULTRA-LINEAR CERAMIC CARTRIDGE

COMBINES BEST FEATURES OF ALL PICKUPS!

80 SERIES ULTRA-LINEAR CERAMIC CARTRIDGE

This true high-fidelity cartridge embodies the most advanced concept in pickups; combines all the benefits of ceramic and magnetic cartridges (with none of the disadvantages) in one pickup that fits any arm or plug-in head (adapter for Fairchild and Gray slide-in arms included).

The Electro-Voice Model 80 series high-fidelity ultra-linear ceramic cartridge is a displacement or amplitude-actuated device. It is available in two basic series, the standard model for use with high-impedance crystal and ceramic inputs, and the M series which directly replaces all magnetic pick-ups. Housed in a resonant-free die-cast case, attractively styled with black and gold or silver finish, the Model 80 embodies the most advanced concepts in phono-pickups.

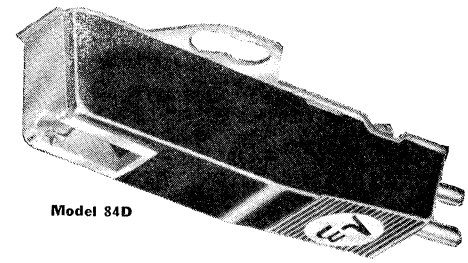
The Model 80 cartridges complement the recording characteristic of modern microgroove recordings without recourse to equalizing circuits. The 80 series cartridge output will be flat, ±2½ db, from 20 to 15,000 cps when referred to the popular RIAA-Orthophonic recording characteristic. Low-frequency response, determined by the magnitude of the input load, will be sensibly flat to DC when the cartridge is working into an infinitely high impedance.

Because of the high-output level, the standard series requires no further preamplification. The M series has internal equalization for use with any magnetic preamplifier, replacing all magnetic pickups without adjustment or circuit modification.

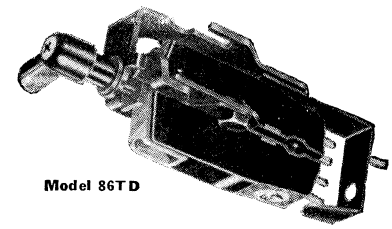
The Model 80 series ultra-linear ceramic cartridge has a high compliance of 3×10^{-6} cm/dynes. Such a high compliance practically eliminates record wear and reduces tracking problems to a minimum when used with specified stylus pressures. Because the ultra-linear ceramic cartridge is a piezo-electric device, inductive pickup of hum from motors or stray fields is eliminated. Vertical response is the lowest of any cartridge now on the market, which results in a very high signal-to-noise ratio. Turntable rumble and room vibration pickup are reduced to the lowest possible value in the design of this cartridge. Temperature variations do not affect the ultra-linear ceramic cartridge; in higher temperature ranges, even at the boiling point of water, performance is uniform and the cartridge will operate with full efficiency.

The 80 series turnover models have two independent generating elements. Full output from stylus and element in use . . . no distortion or resonance from unused stylus. Smooth acting turnover mechanism accurately positions needle.

Outstanding Features—**Unequaled response.** 20 to 15,000 cps. **Lowest intermodulation distortion.** Less than 3% at 18 cm/sec. **High output.** 80 Series, 500 millivolts; 80M Series, 25 millivolts. **No hum.** Absolutely noninductive. Not sensitive to motor and transformer fields. **High compliance.** 3×10^{-6} cm/dyne—several times the average hi-fi pickup compliance. **No preamp required.** Standard 80 Series works into any amplifier input not having magnetic cartridge equalization. 80M Series works into any magnetic cartridge input. No modifications needed.



Model 84D



Model 86TD

Type	Standard E-V Model	Magnetic Replacement	Stylus	Record Speed	Net
Single Play	81S	81SM	0.3-Mil Sapphire	16 rpm Extra Fine Groove	$ 9.60
Single Play	81D	81DM	0.3-Mil Diamond	16 rpm Extra Fine Groove	23.10
Single Play	82S	82SM	3-Mil Sapphire	78 rpm	9.60
Single Play	82D	82DM	3-Mil Diamond	78 rpm	23.10
Single Play	84S	84SM	1-Mil Sapphire	*16 rpm Talking Book, 33, 45 rpm	9.60
Single Play	84D	84DM	1-Mil Diamond	*16 rpm Talking Book, 33, 45 rpm	23.10
Turnover	85TD	85TDM	0.3-Mil Diamond 1-Mil Diamond	16 rpm Extra Fine Groove *16 rpm Talking Book, 33, 45 rpm	48.00
Turnover	86TD	86TDM	1-Mil Diamond 3-Mil Diamond	*16 rpm Talking Book, 33, 45 rpm 78 rpm	48.00
Turnover	86T	86TM	1-Mil Diamond 3-Mil Sapphire	*16 rpm Talking Book, 33, 45 rpm 78 rpm	34.50
Turnover	86TS	86TSM	1-Mil Sapphire 3-Mil Sapphire	*16 rpm Talking Book, 33, 45 rpm 78 rpm	21.00

*Also 78 rpm Microgroove.

Note: The numeral "4" appearing in the model number indicates microgroove stylus; the numeral "2" denotes 78-rpm tip; the numeral "1" denotes 0.3-mil extra fine groove tip. "D" denotes one or more diamond styli; "S" stands for sapphire stylus.

REPLACEMENT STYLI FOR MODEL 80 SERIES CARTRIDGES

Part No. S03—0.3-Mil Sapphire Stylus (White Dot) for Models 81S and 81SM. Net..... **$ 1.50**

Part No. S1—1-Mil Sapphire Stylus (Red Dot) for Models 84S, 84SM, 86TS, and 86TSM. Net..... **1.50**

Part No. S3—3-Mil Sapphire Stylus (Blue Dot) for Models 82S, 82SM, 86T, 86TM, 86TS, and 86TSM. Net..... **1.50**

Part No. D03—0.3-Mil Diamond Stylus (Black Dot) for Models 81D, 81DM, 85TD, and 85TDM. Net..... **15.00**

Part No. D1—1-Mil Diamond Stylus (Orange Dot) for Models 84D, 84DM, 85TD, 85TDM, 86TD, 86TDM, 86T and 86TM. Net..... **15.00**

Part No. D3—3-Mil Diamond Stylus (Silver Dot) for Models 82D, 82DM, 86TD, and 86TDM. Net..... **15.00**

Model S1

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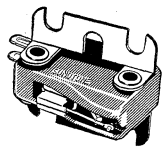
Net

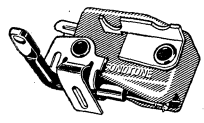
SONOTONE CERAMIC CARTRIDGES

The most widely used quality cartridge in the phono industry

High compliance...high output without preamplification...flat response without equalization...no deterioration from temperature or moisture...fits virtually all phono arms. Needles snap out, snap in, for easy replacement without tools.



1P Single Needle



2T Turnover

SPECIFICATIONS

Response.....30 to 15,000 cycles
Output Voltage .....1.0 volt
Compliance.....1.0 x 10^{-6} cm/dyne
Recommended Load .....1-5 megohms
Tracking Force .....8-10 grams
Cartridge Weight .....5.5 grams
Mounting dimensions.....Standard ½-inch or ⅝-inch centers

Needle.....1P, single. 2T, dual. Sapphire or diamond—see listing at right.

1P CARTRIDGES

	List Price
1P-1S (1-mil sapphire)	$7.50
1P-2S (2-mil sapphire)	7.50
1P-3S (3-mil sapphire)	7.50
1P-1D (1-mil diamond)	25.00
1P-3D (3-mil diamond)	25.00

1P-LB CARTRIDGES

Bracketless Types
(Identical to above, except less mounting brackets)

1P-LB-1S (1-mil sapphire)	$7.50
1P-LB-2S (2-mil sapphire)	7.50
1P-LB-3S (3-mil sapphire)	7.50
1P-LB-1D (1-mil diamond)	25.00
1P-LB-3D (3-mil diamond)	25.00

N-1P REPLACEMENT NEEDLES

N-1P-1S (1-mil sapphire)	$2.50
N-1P-2S (2-mil sapphire)	2.50
N-1P-3S (3-mil sapphire)	2.50
N-1P-1D (1-mil diamond)	20.00
N-1P-3D (3-mil diamond)	20.00

2T CARTRIDGES

	List Price
2T-S (2 sapphires)	$8.50
2T-SD (1-mil diamond, 3-mil sapphire)	30.00
2T-D (2 diamonds)	45.00

2T-LB CARTRIDGES

Bracketless Types
(Identical to above, except less mounting brackets)

2T-LB-S (2 sapphires)	$8.50
2T-LB-SD (1-mil diamond, 3-mil sapphire)	30.00
2T-LB-D (2 diamonds)	45.00

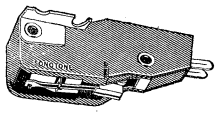
N-2T REPLACEMENT NEEDLES

N-2T-S (2 sapphires)	$3.50
N-2T-SD (1-mil diamond, 3-mil sapphire)	23.50
N-2T-D (2 diamonds)	38.50

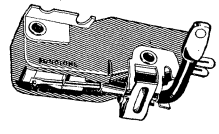
Now—the SONOTONE "3" SERIES

Super-Fidelity Ceramic Cartridge

Outperforms top quality 'velocity' cartridges...with all the advantages of ceramic cartridges, including lower cost.



3P Single Needle



3T Turnover

SPECIFICATIONS

Response .....20 to 20,000 cycles
Output Voltage .....0.5 volts
Compliance.....2.0 x 10^{-6} cm/dyne (minimum)
Recommended Load .....2-3 megohms
Tracking Force .....7 grams
Cartridge Weight .....12 grams
Mounting Dimensions....Standard ½-inch centers or ⅝-inch centers
Needle .....Dual jewel tips (3T) Jewel tip as listed (3P)
Housing.....Die-cast housing with grounding tab for complete shielding
Finish.....Dull jet black and rich gold

HIGH FIDELITY MANUFACTURERS INC.

3P CARTRIDGES

	List Price
3P-1D (1-mil diamond)	$30.00
3P-3D (3-mil diamond)	30.00
3P-1S (1-mil sapphire)	12.50
3P-3S (3-mil sapphire)	12.50

3P-LB CARTRIDGES

Bracketless Types
(Identical to above, except less mounting brackets)

3P-LB-1D (1-mil diamond)	$30.00
3P-LB-3D (3-mil diamond)	30.00
3P-LB-1S (1-mil sapphire)	12.50
3P-LB-3S (3-mil sapphire)	12.50

N-3P REPLACEMENT NEEDLES

N-3P-1D (1-mil diamond)	$22.50
N-3P-3D (3-mil diamond)	22.50
N-3P-1S (1-mil sapphire)	3.00
N-3P-3S (3-mil sapphire)	3.00

3T CARTRIDGES

	List Price
3T-D (2 diamonds)	$49.50
3T-SD (1-mil diamond, 3-mil sapphire)	32.50
3T-S (2 sapphires)	14.50

3T-LB CARTRIDGES

Bracketless Types
(Identical to above, except less mounting brackets)

3T-LB-D (2 diamonds)	$49.50
3T-LB-SD (1-mil diamond, 3-mil sapphire)	32.50
3T-LB-S (2 sapphires)	14.50

N-3T REPLACEMENT NEEDLES

N-3T-D (2 diamonds)	$39.50
N-3T-SD (1-mil diamond, 3-mil sapphire)	24.50
N-3T-S (2 sapphires)	4.00

For performance without problems... **SONOTONE®** CERAMIC CARTRIDGES

ELMSFORD, N. Y.

In Canada, contact Atlas Radio Corporation, Ltd., 50 Wingold Avenue, Toronto

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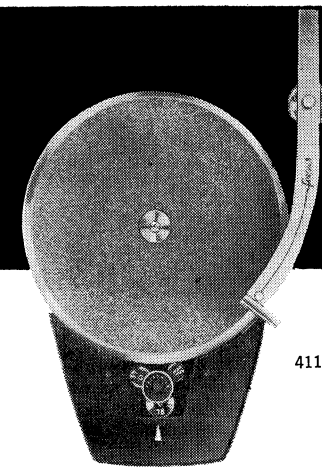
FAIRCHILD

High Fidelity Equipment Built To Fairchild Studio Equipment Standards



411 TURROMATIC TURNTABLE

• **AUTOMATIC IDLER PRESSURE RELEASE** — No lever to disengage when turning table off. Pressure is applied to pulleys only when motor is on, permitting remote on-off control.

• **BELT DRIVE** — Time-proven principle of endless-belt driven heavy flywheel combined with precision ground motor pulleys provides silent, rumble-free motion.

• **HEAVY CAST FLYWHEEL** — Massive edge-loaded flywheel rides thrust bearing in rifle-drilled babbitt well. Steel ball turns with bearing on nylon seat.

SPECIFICATIONS:

Wow & Flutter: 78 RPM 0.07 RMS, all components
33 RPM 0.1 RMS, all components

Rumble: (std. motor) Better than 65 db below 20 cm/sec (flat), or 47 db (RIAA equal. — 1KC ref.)

Motor: Industry standard 4 pole induction — factory balanced. Isolated from frame and turntable by two stages of shock mounts. Hysteresis Synchronous motor in deluxe model.

Pilot Light: 110 v., 6 w. bulb illuminates speed indicator and speed shifting turret assembly.

Size: Min. space required, 13 x 17½ x 5″ deep.

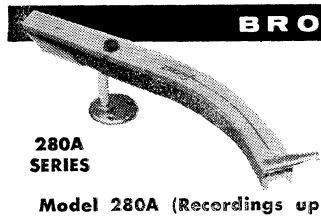
Weight: 23 lbs. Shipping weight 28 lbs.

Broadcast Version of 411 Turntable Available. Write for price and delivery

Basic Assembly ..... **Net $99.50**

Hysteresis Synchronous Model ..... **Net $144.50**

BROADCAST TRANSCRIPTION ARMS



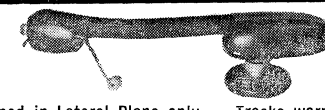
280A SERIES

• Accept all standard magnetic cartridges, including GE dual. • Cartridges interchanged easily by means of novel slide clip arrangement. • No open circuit hum when changing cartridges — connecting springs shorted when changing. • No arm rest required — self-locking stop holds arm in place. • Stylus pressure easily changed with thumbscrew.

Model 280A (Recordings up to 12″) ..... **Net $33.95**

Model 281A (Transcriptions up to 16″) ..... **Net $35.95**

202 PROFESSIONAL ARM



• Viscous Damped in Lateral Plane only — Tracks warped records perfectly. • Turret Head for rapid cartridge shift (holds 3) and pressure change (preset). • For Discs up to 16″ — shorter than many Hi-Fi arms. Overall length 16″. Stylus Pressure adjustable, factory preset.

Model 202 Turret Head Arm ..... **Net $75.00**

225 MICRADJUST MOVING COIL CARTRIDGE

• Rugged — May be used in any changer or arm • Low Impedance — No hum pickup • Magnetic attraction for turntable eliminated • Flat ±2 db, 20-20,000 cps, smooth roll-off beyond • Diamond stylus • Output — 5 mv. at 2.5″/sec

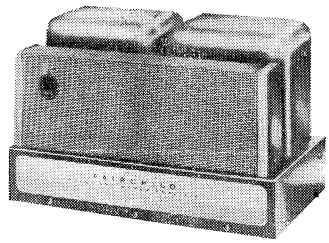
225A 1.0 mil microgroove
225B 2.5 mil transcription
225C 3.0 mil 78 RPM discs
} **Net each, . . . $37.50**

Latest version of famed broadcast transcription pickup operates into all modern preamplifiers directly. Low impedance moving coil design allows lines 50 feet or more with no high frequency loss.

Completely new design provides rugged cartridge with smoothest response. No measureable attraction for turntables. Factory sealed.

235 INPUT TRANSFORMER: 5-1 step-up, 14 db gain for use with older preamplifiers to provide 25 mv. Requires 47K secondary load. Simple plug-in phono connectors used. Heavily shielded with mu-metal against AC hum. **Net . . . $10.75**

275 HIGH POWER AMPLIFIER



The ultimate in power amplifiers — tremendous reserve power! 6550 output tubes use massive output transformer — grain-oriented core, tapped primary to provide up to **75 watts** continuous (150 watts on short peaks) at low distortion. Full power available at **all** audio frequencies.

Simple adjustment for **static and dynamic** balancing of 6550's maintains new performance though tubes age unequally. Variable damping control matches all speaker systems. Styled by Raymond Loewy Associates. Extremely compact. Finest power amplifier at any price! Weight **32 lbs.**

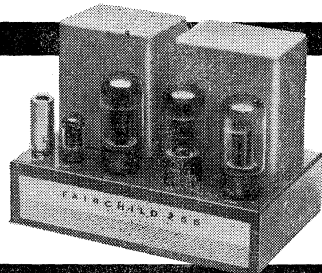
SPECIFICATIONS

- **Power Output:** 65 Watts less than 0.5% IM distortion (less than 1.5 IM at 75 Watts continuous)
- **Power Response at 70 Watts:** +0 —0.5 db, 20-20,000 cps.
- **Dynamic and static balance of output tubes adjustable**
- **Damping Factor:** continuously variable 0.1 to 10.0
- **Hum and Noise:** 90 db.
- **Fixed Bias,** adjustable, with test jack
- **Sensitivity:** 0.8 volts RMS
- **Controls and Facilities:** Gain Control Static Balance (hum) Adjustment, Dynamic Balance, Bias Adjustment, Bias Test, 3 AC outlets, Damping Control.
- **Tubes:** 6AB4, 6AV5, 2-6550, 2-5V4G
- **Size:** 8¾″ x 13″ x 7½″ high
- **Ship. Weight:** 34 lbs.

Model 275 ..... **Net $213.00**

PROFESSIONAL VERSION of Model 275, with 500, 125 ohms, 70 v. available. Write for price & delivery.

255 MEDIUM POWER AMPLIFIER



Similar to Model 275 amplifier above, with same circuitry (except damping control). This very compact amplifier is conservatively rated at 25 watts at **all** audio frequencies. **Within its ratings actually delivers more power at very low and extreme high frequencies than many 30-35 watt (rated) amplifiers.** Response is comparable to that of the 275 high power amplifier.

SPECIFICATIONS

- **Power Output:** Over 25 watts
- **IM Distortion:** Under 0.5%, 22 watts
- **Freq. Response:** +0 —0.5 db, 20-20,000
- **Power Curve:** Within 0.4 db at 25 watts from 20-20,000 cps
- **Hum and Noise:** Below 80 db
- **Sensitivity:** 0.9 volts
- **Master Gain Control,** Dynamic Balance adjustment, AC outlet
- **Tubes:** 6AB4, 12AU7, 2-6L6, 5V4GA
- **Size & Weight:** 9½″ x 6″ x 6¾″ high. 17 lbs.

Model 255 ..... **Net $99.50**

FAIRCHILD RECORDING EQUIPMENT CO. • WHITESTONE, 57, N. Y.

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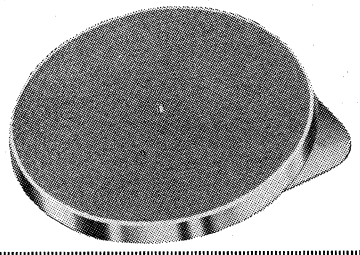
Net

Professional by components corporation

Better Hi-Fi Equipment for Better Listening



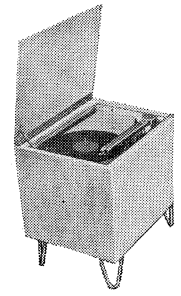
THE PROFESSIONAL JUNIOR

Specifications:

Noise Level: Better than 60 db below average recording level.
Motor: Constant speed 4 pole induction motor.
Speeds: 16 2/3; 33 1/3; 45; 78 rpm*
Speed Accuracy: 0.5%
Wow & Flutter: Under 0.25%
Dimensions: 12" x 12" x 3½"
Shipping Weight: 9 lbs.
*33 1/3 pulley supplied standard; other speed interchangeable pulleys $2.50 each.
Audiophile Net: **$39.50**

STANDARD BASE
Dimensions: 13½" x 13½" x 3"
Finish: Mahogany
Shipping Weight: 2½ lbs.
Audiophile Net: **$10.00**

JUMBO BASE
Dimensions: 15" x 15" x 3"
Shipping Weight: 3½ lbs.
Finish: Mahogany
Audiophile Net: **$10.00**



THE PRO-ETTE

Hi-Fi Master Control Center

Specifications:

Front and sides of ¼" plywood; back and top of ¾" plywood.

Braced and reinforced throughout.

Roomy compartment in cabinet for mounting auxiliary equipment such as tuner and amplifier on side or front of cabinet.

Dimensions: 21½" x 16½" x 23" high

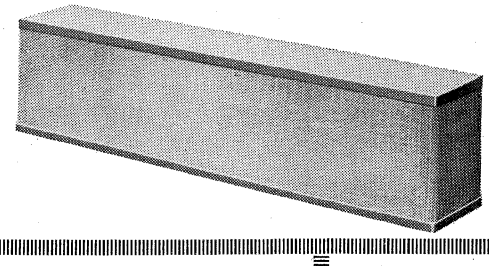
Weight: Approx. 25 lbs.

Finish: Blonde or Mahogany **$89.50**
Unfinished **$74.50**

ELECTROSTATIC SPEAKER

Flat response to beyond 30 kilocycles.

Specifications and Price on Application



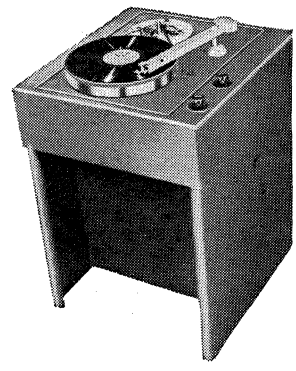
MODEL 70 — CONSOLE

Noise Level: Better than 70 db below average recording level.
Motor: Precision Bodine
Speeds: 33 1/3; 45; 78 rpm
Speed Accuracy: 0.25% timing accuracy better than 5 sec. in 30 minutes.
Wow & Flutter: Better than 0.05%
Dimensions: Motor board 17½" x 22" (stainless steel covered); overall: 22" wide; 24" deep; 31" high.
Shipping weight: 90 lbs.

SPECIAL FEATURES:

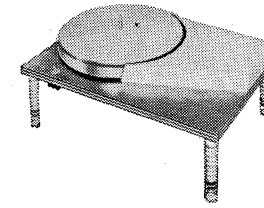
• Carboloy thrust ball. • Mounting space for controls on top • Accessory space at rear of console for mounting standard 19½" rack panels up to 22" high.

Price on application



MODEL PBT TURNTABLE

Specifications:
Noise Level: Better than 65 db below average recording level.
Motor: Precision Bodine constant speed two phase capacitor run induction motor.
Speeds: 33 1/3; 45; 78 rpm
Speed Accuracy: 0.25%
Wow & Flutter: 0.05%
Shipping Weight: 45 lbs.
Blonde or Mahogany Audiophile Net: **$99.50**



45 RPM ADAPTER

Precision lathe turned
Adapter to play 45 rpm records on any of the Professional Turntables.
Gold Anodized aluminum
Audiophile Net: **$2.50**

"QUIET, PLEASE" TEST RECORDS

7" double face
V Groove
Rumble more than 65 db down from 7 cen/sec. at 1,000 cycles.
Audiophile Net: **89c**

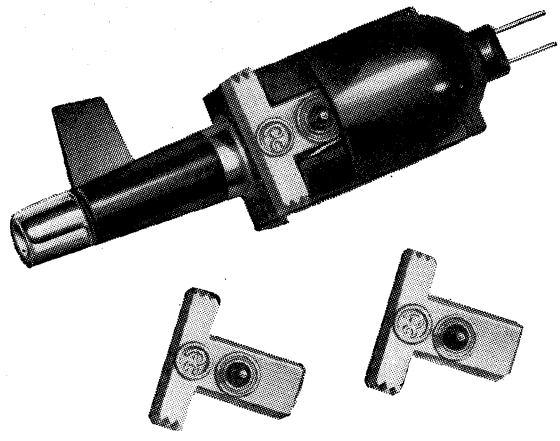
MODEL PBT — 4-SPEED TURNTABLE

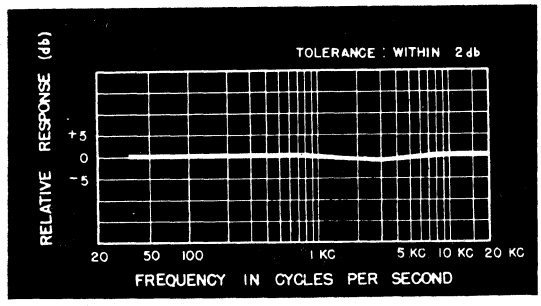
Specifications:
Noise Level: Better than 65 db below average recording level.
Motor: Precision Bodine constant speed two phase-capacitor run induction motor.
Speeds: 16 2/3; 33 1/3; 45; 78 rpm
Speed Accuracy: 0.25%
Wow & Flutter: 0.05%
Dimensions: 13½" x 19½" x 8½"
Shipping Weight: 45 lbs.

Blonde or Mahogany Audiophile Net: **$109.50**

components corporation

Denville, N. J.





SPECIFICATIONS FOR MODEL 350 FLUXVALVE PICKUP

Recommended Load Resistance—47,000 ohms for flat response.

Output—25 millivolts at 1000 cycles with a stylus velocity of 10 cm/sec.

DC Resistance—850 ohms.

Inductance—250 mh (millihenrys)

Tracking Pressure—2 to 6 grams depending on the arm used and record levels.

Weight—10 grams complete with mounting hardware.

Replaceable Styli:

RED	D-3510-.001″ radius Diam. Stylus
YELLOW	D-3527-.0027″ radius Diam. Stylus
WHITE	S-3527-.0027″ radius Saph. Stylus
GREEN	D-3505-.0005″ radius Diam. Stylus
BLUE	D-3530-.003″ radius Diam. Stylus

Frequency Response—see curve

MODEL 350

FLUXVALVE

A New Concept in Magnetic Pickups

THE MODEL 350 FLUXVALVE

The greatest single advance in phonograph pickup design of the last decade—since the first lightweight magnetics appeared after World War II. The FLUXVALVE is based upon a new and revolutionary principle. This design provides very wide range (VWR) response heretofore unattained by conventional pickups.

The FLUXVALVE pickup is intended for a new era in phonograph reproduction. Record manufacturers are now releasing products with extended frequency and dynamic range and records which can utilize a stylus tip of less than 1 mil radius.

The FLUXVALVE was initially developed for the recording industry and for commercial record reproduction where a pickup with virtually no frequency discrimination in the audio spectrum is a primary requirement. Record companies require pickups which will not damage expensive masters. Commercial operators demand long record and stylus life. Fulfillment of these requirements is inherent in the FLUXVALVE.

Pickups with poor frequency characteristics can destroy transient and high frequency groove modulation with resultant deterioration in overall quality and increased surface noise.

Even a perfect diamond stylus cannot prevent a pickup with poor frequency characteristics from ruining wide range recordings.

The use of excessive damping to reduce peaks in such pickups results in high stylus impedance through the entire response range, thereby increasing record wear at all recorded frequencies.

Only the FLUXVALVE (to which Pickering and Company, Inc. retains all proprietory rights) *can* offer all of these features necessary to the new era in record playing.

1. *High compliance with low vibrating mass insures excellent tracking characteristics with low tracking force (2 to 6 grams).*
2. *Frequency response flat well beyond both ends of the audible frequency spectrum with unprecedented transient response and smoothness.*
3. *The complete absence of resonances in the audio frequency band insures long record life. New records retain their top "sheen" indefinitely, exhibiting no increase in surface noise.*
4. *Low overall distortion.*
5. *Capable of utilizing a stylus of less than 1 mil radius.*
6. *Replaceable stylus—the only part that moves and is subject to wear is the stylus-armature assembly which is easily replaceable without the use of tools.*
7. *Turnover type for all stylus sizes.*
8. *The cartridge body is hermetically sealed and completely encapsulated in a tough plastic, obviating damage through mishandling, high humidity and wear.*
9. *High output—25 millivolts at 10 cm/sec.*

PICKERING & COMPANY, INC., Oceanside, N. Y.

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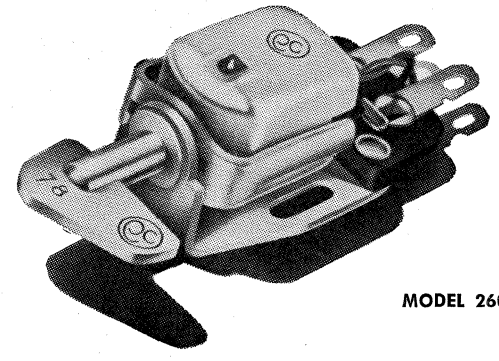
PICKERING TURNOVER PICKUPS

for the Professional and the Audiophile

MODEL 260

Acclaimed by thousands of owners as the finest phonograph pick-up ever produced. Engineered and manufactured with the care and craftsmanship traditional with all Pickering equipment, Model 260 plays microgroove and standard groove recordings with wide dynamic range and distortion-free quality. The Model 260 actually consists of two miniature cartridges, a Series 240 for microgroove and a Series 220 for standard recordings. They are mounted back to back in a gold-plated light-weight aluminum turnover mechanism which permits either cartridge to be brought into playing position with a simple flip of the handy lever that is clearly marked to show which cartridge is in use.



MODEL 260

MODEL 220-240

These identical individual reproducers which make up the famous 260 Turnover Pickup have the same broad frequency response, wide dynamic range and distortion-free quality that characterizes the superiority of the Model 260.

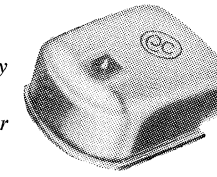
The gold 220 series cartridge is for use with 78 rpm records and is available with either diamond or sapphire stylus. The silver 240 series cartridge is for use with microgroove records, both 33-1/3 and 45 rpm. The silver 240 series is available with diamond **stylus only for maximum** protection of the fine grooves of LP records. Diamond styli wear many times longer than sapphire and are less susceptible to damage, thus assuring preservation of expensive records.

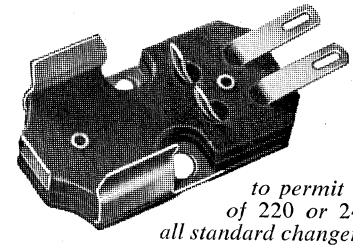
When purchased separately as 220 or 240 cartridges, a simple clip type universal adapter is packaged with each cartridge. This universal adapter permits easy installation of the cartridges in all standard makes of changers and tone arms.

The 260, 220 and 240 Cartridges are velocity-sensitive devices and are inherently "flat" on a velocity basis. When measured with an equalized preamplifier having 6 db per octave bass boost and a standard test record, their performance characteristics are in accordance with the curve shown.

MODEL 240
—for 33-1/3 and 45 rpm records; diamond stylus only

MODEL 220
—for 78 rpm. Diamond or sapphire

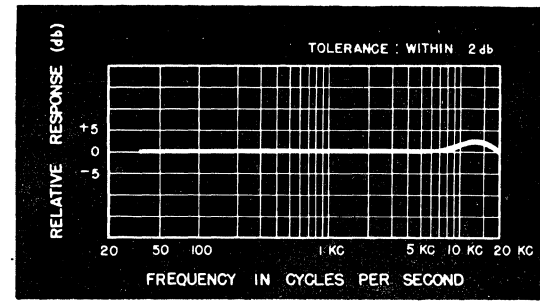




ADAPTER CLIP
to permit easy installation of 220 or 240 cartridges in all standard changers and tone arms

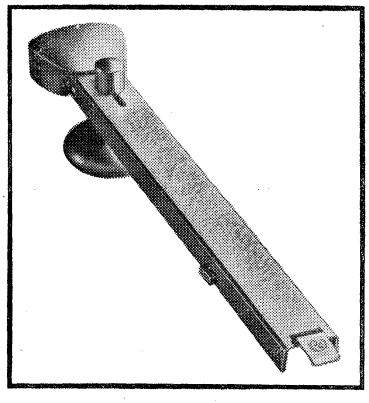
SPECIFICATIONS FOR 220, 240 and 260 CARTRIDGES

RECOMMENDED LOAD RESISTANCE — 27,000 ohms for flat response
OUTPUT—30 millivolts at 1000 cycles with a stylus velocity of 9 cm/sec.
DC RESISTANCE—800 ohms, INDUCTANCE—125 millihenries.
TRACKING PRESSURE—4 grams up to 8 grams if required by changer mechanism.
WEIGHT— 220 or 240 cartridges ..... 5½ grams
220-240 adapter clip ..... 4 grams
260 turnover mechanism ..... 7 grams
260 DD & DS pickup complete ..... 18 grams
220 or 240 complete with adapter clip ..... 9½ grams
Stylus D-240-.001″ radius diamond
Stylus D-220-.0027″ radius diamond
Stylus S-220-.0027″ radius sapphire
Frequency Response — see curve



PICKUP ARM — MODEL 190D

for Optimum Performance on Microgroove and Standard Records



The 190D Arm is designed to overcome deficiencies of conventional arms, so severely accentuated by LP microgroove recordings. The 190D Pickup Arm embodies all the features that enable a high-quality magnetic cartridge to deliver distortion-free tracking performance.

Studies by audio engineers reveal that reproducer arms which perform well on 78 rpm records and standard transcriptions often do not produce satisfactory results on microgroove recordings. Regardless of the cartridge quality, considerable tracking distortion is caused by inadequate pickup arms.

The Model 190D provides distortion-free tracking while maintaining the correct relationship between the lateral and vertical moments of inertia. These features are required to faithfully reproduce both LPs and 78s and to assure minimum record and stylus wear

1. *The ratio of vertical-to-lateral moment of inertia is as low as possible.* 2. *The vertical mass has been minimized in order to track any record without imposing extra vertical load on grooves. It plays badly warped records just as well as flat ones.* 3. *There is no spurious arm resonance at any frequency* 4. *Pivot friction is lower than 3 gram centimeters and the bearings are rugged and trouble-free.* 5. *The arm is statically balanced about the vertical axis to eliminate tendency to jump grooves when subjected to bumping or jarring.* 6. *Offset head reduces tracking error to less than plus or minus 2½°* 7. *Stylus point is protected against contact with anything but the record grooves. It cannot strike the turntable mat or center-pin.*

PICKERING & COMPANY, INC., Oceanside, N. Y.

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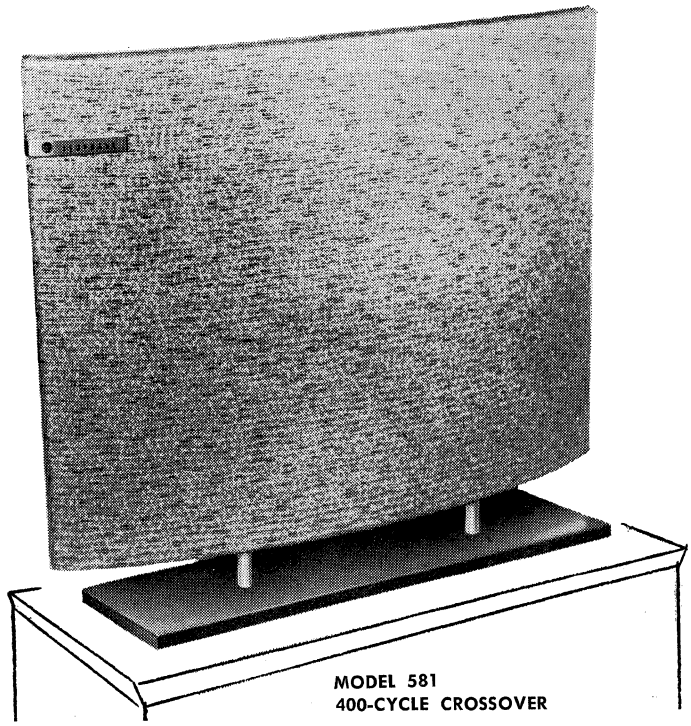
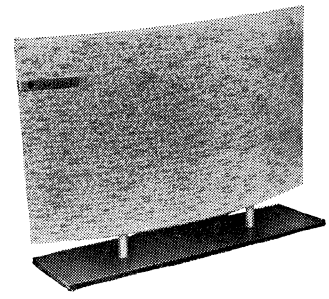
THE NEW ISOPHASE SOUND!

Isophase Speakers, an entirely new means for recreating sound . . . utilizing the electrostatic principle, they produce music with a "window-on-the-studio" quality never before attained.



MODEL 581
400-CYCLE CROSSOVER

Each speaker is provided with an Isophase MODEL 401D DIVIDER, which incorporates a crossover network, d.c. power supply, and balancing control.



MODEL 580
1000-CYCLE CROSSOVER

The Pickering Isophase is a revolutionary new speaker with a single diaphragm that is curved and virtually massless. This diaphragm is moved or driven as a unit by an electrostatic field. It re-introduces an audio signal into the air at a low velocity to closely approximate the unit area energy of the sound at the microphone in a concert hall or studio, thereby creating a "window-on-the-studio" quality that is breathtakingly realistic. Conventional cone or dynamic type loudspeakers reproduce sound by moving only small amounts of air at high velocities. The ISOPHASE, with its large sound-generating surface, is a radical departure from the older concept.

The ISOPHASE is available in two models. Model 581 covers the musical range from 400 cycles per second up to well beyond the limits of human hearing. The response over this range is consistent and absolutely uniform—without the slightest bump, peak, or resonance of any kind. This in itself is an unprecedented characteristic for a loudspeaker.

Model 580 has the same uniform response and clarity starting at 1000 cycles per second and similarly going out to supersonic frequencies.

Using an ISOPHASE SPEAKER with a FLUXVALVE PICKUP, recorded sound is reproduced for the first time *without distortion caused by the frequency characteristics of the transducers* . . . the middle and higher frequencies are recreated with a smoothness, definition, and degree of balance never before achieved with any speaker.

ISOPHASE SPECIFICATIONS

		581	580
1.	Maximum signal voltage (at input of Model 401D Divider)	21 volts	14 volts
2.	Maximum power rating (based on maximum signal voltage)	25 watts at 16 ohms 50 watts at 8 ohms	12 watts at 16 ohms 25 watts at 8 ohms
3.	Crossover frequency	400 cycles	1000 cycles
4.	Frequency range	400 cycles –35KC	1000 cycles –35KC
5.	Impedance (substantially capacitive)	6500 ohms at 10KC	17000 ohms at 10KC
6.	Capacity (screen to screen)	.0025 MFD	.001 MFD
7.	Included angle of uniform response	55°	55°
8.	Efficiency—at 4 ft. on axis, 780 V AC drive at 2KC	4.6 dynes/cm²	1.4 dynes/cm²
9.	Maximum polarizing voltage	1100	1100
10.	Diaphragm area (sq. in.)	770 sq. in.	205 sq. in.
11.	Overall dimensions	36″ x 28″ x 8½″	22″ x 15″ x 6″
12.	Weight	16 lb. 10 oz.	4 lb. 10 oz.

PICKERING & CO., INC. OCEANSIDE, N. Y.

Professional Audio Components

"For those who can hear the difference"

. . . Demonstrated and sold by Leading Radio Parts Distributors everywhere. For the one nearest you and for detailed literature: write Dept.

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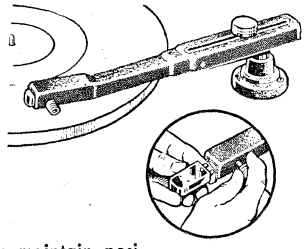
CLARKSTAN

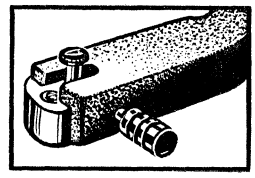
FINE ELECTRONIC & INDUSTRIAL EQUIP.

BEST FOR LP MICROGROOVE AND STANDARD DISCS



MODEL 213 — The new Clarkstan 12" record arm offers the best in standard disc and microgroove reproduction. Heavy aluminum casting eliminates audible resonance point. The slide-in cartridge holder allows instantaneous mounting of all types of standard cartridges. Silver-plated, spring loaded plungers maintain positive electrical contact without necessity of soldering. Quick acting weight adjustment is positive and accurate for change from microgroove to standard records. Arm has adjustable height, fits all standard turntables. Vertical roller bearing and thrust ball bearing minimize cramping — no mechanical bias on the pickup. Finish grey wrinkle and brushed chrome.

Net Price **$22.00**



MODEL 213G — Same arm slotted to accommodate G.E. cartridge RPX-050.

Net Price **$22.00**

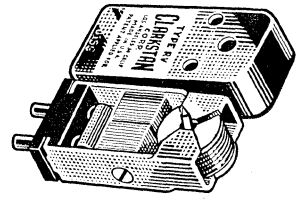
MODEL 212 — 16" Transcription arm. This high quality professional arm is built on same proven engineering principles as the above Model 213. Has slide-in cartridge holder and quick adjusting weight for accurate needle force. Accommodates both LP microgroove and standard records — any size up to 17" diameter. Overall length of arm is 14⅜". Has adjustable height for all turntable conditions. Vertical roller bearings and ball thrust bearings eliminate mechanical bias on the pickup. Attractively finished in grey wrinkle and brushed chrome.

Net Price **$22.50**

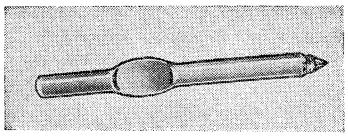
MODEL 212G — Same arm slotted to accommodate G.E. cartridge RPX-050.

Net Price **$22.50**

WIDE RANGE RV PICKUP



MODEL 201 — Clarkstan RV wide range variable reluctance cartridge for best reproduction of LP microgroove and standard records. Instantaneously replaceable and interchangeable needles. Frequency velocity responsive to above 12,000 cps. Needle force 5-7 grams for LP microgroove, as low as 10 grams for conventional records. Output 60 millivolts. High impedance — 5, 50, 250 and 500 ohm models available. ½" mounting centers. Supplied with sapphire needle. Specify .0012" for LP microgroove or .0030" tip radius for standard records. Tip radii of .0015", .0022", .0025" also available. (Can also be supplied with diamond needle of any of above tip radii.) Net Price **$15.00**

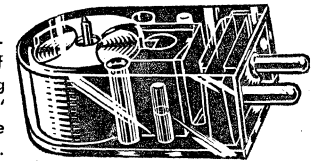


SAPPHIRE & DIAMOND NEEDLE

Extra needle (tubular shank) for Clarkstan Pickups:

Sapphire No.	Diamond No.	Ball Point Radius	Net Prices
251.10	254.10	.0012"	$2.40
251.15	254.15	.0015"	$2.40
251.2	254.2	.0022"	$2.40
251.5	254.5	.0025"	$2.40
251.3	254.3	.003"	$2.40

CLARKSTAN MAGNETIC PICKUP

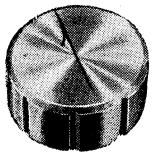


MODEL 204 "RV-Jr." variable reluctance pickup has a removable and replaceable stylus. It weighs only one-half ounce and fits all popular makes of record changers having standard mounting holes ½" between centers. It is 1½" overall length. This magnetic pickup with balanced armature is velocity responsive (flat ± 2 db) from 50 cps to 10,000 cps. It delivers .030 volt from the average record.

#204 "RV-Jr." Cartridge only (with 1 sapphire needle) Net Price **$5.40**

#204D "RV-Jr." Cartridge only (with 1 diamond needle) Net Price **$21.00**

(Specify whether .0012" or .0030" radius needle desired.)



CLARKSTAN KNOBS

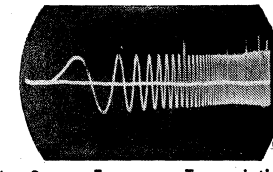
Attractive one-piece knobs accurately machined from DURAL add the professional appearance to control panels. All knobs have fluted sides and have screw-type mounting for round or flat shafts to fit standard ¼" shafts. Back of all knobs recessed ¾" dia. by 5/64" deep to accommodate panel bushing nut. Supplied with or without pointer.

Model	Knob Dia.	Height
275-0B	¾"	11/16"
275-1B	1"	11/16"
275-12B	1¼"	11/16"
275-2B	1½"	11/16"
275-3B	2"	11/16"
275-4B	2½"	11/16"

PACIFIC TRANSDUCER CORP., Los Angeles 64, California

(formerly CLARKSTAN CORP.)

AUDIO SWEEP FREQUENCY TRANSCRIPTION



The Sweep Frequency Transcription is a new method of making instantaneous frequency response runs. It has been designed with all correction factors included in the original recording, therefore, no charts or graphs are needed. Before the development of the Sweep Frequency Transcription, the tone record was used for frequency response measurements on playback systems. This method was both time consuming and laborious. If adjustments were required, a new frequency run was required after each adjustment. Now all that is needed is a cathode ray oscilloscope and a Sweep Frequency Transcription for instantaneous response measurements. Only a few quick adjustments on the equalizer circuits and the job is done. For complete frequency checking of all broadcast transmission equipment and components for production testing of phonographic reproducers, filter networks, audio amplifiers, preamplifiers, tone control systems and components.

MODEL 1000A — 12" Vinylite transcription, 78 RPM, 70 to 10,000 cps. recorded flat ± 1 db. Net Price **$6.60**

MODEL 1000D — 12" Vinylite transcription, 78 RPM, 5 KC to 15 KC, recorded flat ± 1 db. Net Price **$6.60**

MODEL 100A — 16" Vinylite transcription, 33-1/3 RPM, 60 to 10,000 cps. recorded with NAB curve. Net Price **$10.00**

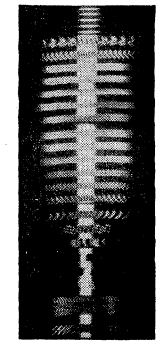
MODEL 102M — 12" Vinylite, for microgroove testing, 33-1/3 RPM, 70 to 10,000 cps. modified NAB recording Net Price **$6.60**

MODEL 115 — audio sweep frequency film, 35mm, positive print, variable density, 10 ft. lengths Net Price **$10.00**

MODEL 116 — audio sweep frequency film, 35mm, positive print, variable area, in 10 ft. lengths. Net Price **$10.00**

MODEL 117 — audio sweep frequency film, 16mm, positive print, variable density, in 10 ft. lengths. Net Price **$10.00**

STEADY STATE FREQUENCY RECORDS



A series of new test records in which all the information for the engineer is annotated for both the cutting and reproduction. In recording these records harmonic distortion was kept to the lowest possible figure. Extreme care throughout the processing cycle was used. Careful reproduction, using the latest techniques insures exact duplication of the original recordings in each pressing.

MODEL 2000S — Steady State Frequency Record, 12" Vinylite, 78.26 RPM 50 cps. to 10,000 cps. flat recording (1 side only). Net Price **$3.90**

MODELS 2001S & 2002S — Microgroove Steady State Frequency Record, 12" Vinylite, 33-1/3 RPM, 50 cps. to 10,000 cps. one side NAB, other side flat recording. Net Price **$3.90**

MODEL 101 — Intermodulation Test Record, 12" Vinylite, 33-1/3 RPM, standard groove, 1/4 ratio, 7 KC and 100 cps. (1 side only). Net Price **$3.90**

10 STRIKING FEATURES

1. Tracking Error Completely Eliminated. The cartridge moves radially—in a straight line from the edge of the record to center.

2. Stylus Never Scratches Record. The stylus is placed and removed from the record by a slight tilt of the arm—no scratching possible through manual fumbling.

3. Saves Record Life. Virtually frictionless movement of the cartridge carrier, coupled with "never-scratch" feature, results in maximum stylus and record life.

4. Space Saver. Fits into smallest cabinets—yet will play any size record.

5. Positive Stylus Placement. You may stop play and continue anytime later at the exact spot where you left off.

6. Easy Cueing. Calibrated scale permits accurate cueing—start your records at any pre-determined spot.

7. Simple Stylus Pressure Adjustment. Turning thumb-screw adjusts for any desired stylus pressure.

8. Simplified Cartridge Changing. Most cartridges mount instantly through slide-in action.

9. Installation Easy. Fits all turn tables, including changers. Two mounting screws fasten base—one hole for wires. That is all!

10. Engineering Excellence. A precision instrument, yet so sturdily constructed that none of its parts can wear out. Once installed, no further adjustment required.

Ortho-sonic V/4

TRACKS COURSE OF ORIGINAL RECORDING STYLUS

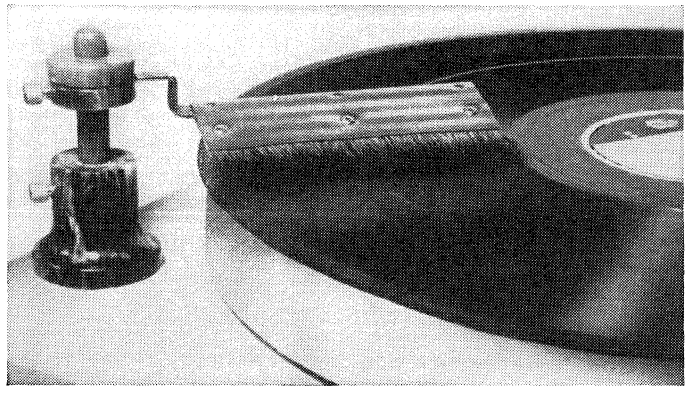
SPECIFICATIONS

Resonant Frequency: 12½ c.p.s.
Lateral Torque: Less than ½ gram.
Stylus Force Adjustment: From 1 gram up to weight of cartridge proper.
Cabinet Space Requirement: When used with manual turn tables (such as: Presto, Thorens, Rek-O-Kut, etc.), total area required 13½"x15". 16" models 14½"x16".
Cartridges: Most popular cartridges simply slide in—G. E. (including triple-play) E. S. L., Fairchild, Pickering, (Fluxvalve with mounting screw) and all other ¾" single play models. Other cartridges mounted with adapter or mounting screws supplied by manufacturer.
Construction: All metal. Fully shielded precision Ball Bearings ride on stainless steel ground and polished rod.
Binaural Adaptation: Monaural arms converted without labor charge within one year from date of purchase, upon payment of difference in price between monaural and binaural model.

Ortho-Sonic V/4 ..... **$44.50**
Ortho-Sonic V/8 (Binaural) **$59.50**

REDDI-SWEEP RECORD BRUSH

THE INDISPENSABLE HI-FI RECORD ACCESSORY



IMPROVES REPRODUCTION

SAVES RECORD AND STYLUS LIFE!

KEEPS RECORDS CLEAN

Considerable surface noise is caused by dust collected on records. Stylus picks up dust and scrapings off record—this causes distortion.

Brushes Dust Out while record is playing. Brush faces direction of revolution thus **removes** dust and scrapings, unlike most brushes that sweep dust right into the grooves. You swing brush away after a few revolutions.

FITS ANY TURNTABLE

Position of brush is adjustable to any height. Once set, no further adjustment needed. A flip of a finger spins brush away for changing records.

Installed in a Jiffy. Pressure-sensitized base permits instantaneous installation. You simply press base down on table (metal or wood) and there you are . . . Reddi-Sweep is permanently installed.

A QUALITY PRODUCT

REDDI-SWEEP Record Brush is an ingeniously engineered and attractively designed product. Fine camel hair brush exerts no pressure on record, yet efficiently cleans it while the record is spinning. Base is of durable plastic.

Color Combinations. Available either in marblette green and red, or in black and white.

Price, $4.95 complete

ORTHO-SONIC INSTRUMENTS, INC., NEW ROCHELLE, N. Y.

Canadian Distributors: William Cohen, 6722 St. Lawrence Blvd., Montreal, Que. Len Finkler, 1505 Park Royale Blvd., Port Credit, Ont.

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Audax

for Listening Quality

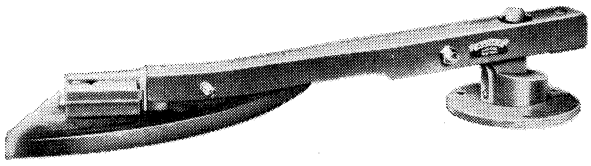
"The Standard by Which Others Are Judged and Valued"

POLYPHASE

reproducers

(magnetic)

In music, listening quality is everything. . . . The AUDAX has that quality to a degree not equalled by any other pickup.



HF-16 arm *(HF-12 same style)*

Hi-Q7 HIGH OUTPUT CHROMATIC, for all records, Micro DIAMOND and a Micro *(or 78 rpm)* Sapphire.....List $79.50
Net $47.70

D-L-6 Chromatic Head, Micro-DIAMOND and a Micro *(or 78 rpm)* Sapphire.....List $69.50.....Net $41.70
L-6 Head—*with two SAPPHIRE jewels* List $34.50.....Net $20.70

VL-9 Vertical-Lateral Head....List $95.00.....Net $57.00
(SAPPHIRE jewels)

Sapphire may be replaced with an AUDAX CHROMATIC DIAMOND at any time.

ADAPTERS

For Garrard Changer.....List $4.50.....Net $2.70
For Thorens Changer.....List $4.50.....Net $2.70
For Webster Changer.....List $4.50.....Net $2.70
For Audax Arm.....List $8.00.....Net $4.80

AUDAX REPLACEMENT STYLI

Sapphire—Micro (red stud).....List $3.50....Net $2.10
Sapphire—78 rpm (plain stud)...List $3.50....Net $2.10
Diamond—micro—CHROMATIC (black stud) List $35.00....Net $21.00
Diamond—78 rpm—CHROMATIC (lavender stud) List $25.00....Net $15.00

Diamond—Vertical .....List $35.00....Net $21.00
Sapphire—Vertical .....List $ 6.00....Net $ 3.60

COMPASS-PIVOTED

tone-arms

Acknowledged as the most efficient arm available, yet it costs less. Usable with most cartridges.

- EQUIPPED FOR STYLUS-PRESSURE ADJUSTMENT
- Only three parts.
- No springs.
- No fatigue.
- No restraint to stylus travel.
- Highest tracing efficiency.
- Frontal oscillations nil.

	LIST	NET
HF-12 Arm (up to 12" disc)	$32.00	$19.20
HF-16 Arm (up to 16" disc)	$42.00	$25.20
STUDIO Arm (up to 16" disc)	$65.00	$39.00

Listening Quality Cutters

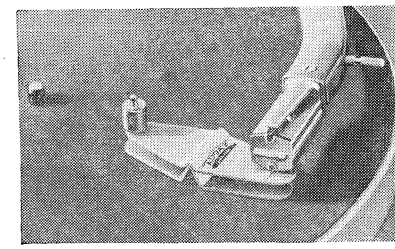
AUDAX CUTTER H-5—FLAT to over 10,000 cycles. Distortion about 0.6% at 1000 cycles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 500 ohms. List $185.00.....Net $111.00

AUDAX CUTTER H-4 — Substantially FLAT to over 8500 cycles. Distortion about 1.25% at 1000 cycles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 500 ohms. List $125.00.....Net $75.00

AUDAX Cutters fit most recording machines.

STYLUS-BALANCE

"It's easy to use and without doubt the most accurate gauge available for home use. . . ."
High-Fidelity Magazine



Stop deformation of record grooves! Only Audax Stylus-Balance can give you the all-important certainty of correct stylus pressure—ALWAYS. Precision-calibrated like a pharmacist's balance. Works with any arm and cartridge.

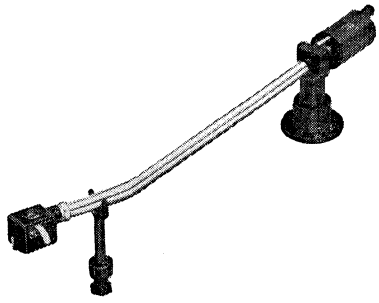
NO SPRINGS — NO SCALE TO READ — NOTHING TO HOLD. Precision all-metal construction. Complete with laboratory-calibrated weights that will accurately indicate stylus pressures from 1¼ to 10 grams.

Finished in gold.....List $8.00.....Net $4.80

Musicians, engineers, and music lovers are replacing their old-fashioned phonograph pickups with the sensational new ESL electrodynamic cartridge—because only ESL reproduces the full realism and naturalness of the original sound.

FREQUENCY RESPONSE	*16 to beyond 30,000 cps*
INTERMODULATION DISTORTION	*Immeasurably small*
MINIMUM COMPLIANCE	*6.8 x 10^{-6} cm/dyne*
DYNAMIC MASS	*.001 grams*
VERTICAL STYLUS FORCE	*2 to 7 grams*
OUTPUT IMPEDANCE	*1.5 ohms*
MINIMUM OUTPUT VOLTAGE	*1.2 mv (1 kc at 10 cm/sec)*

ESL PROFESSIONAL SERIES ARM & CARTRIDGE · *Acknowledged as the world's finest*

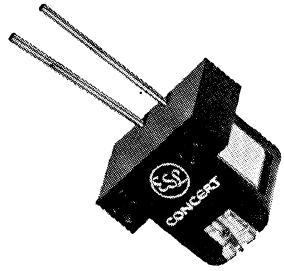


Breathtaking perfection of reproduction for the most critical broadcast, recording, and laboratory use is now made possible by this superlative reproducer. Utilizing the same principles as the other ESL cartridges, the Professional Series is the ultimate in compromise-free design, plus matchless Danish hand craftsmanship. This arm and cartridge must be used together.

ESL-310 arm (15¾") ***with cartridge, diamond*** **$106.50**
Additional cartridge: .001", .0025", .0027", or .003" **$49.50**

FREQUENCY RESPONSE	*16 to beyond 30,000 cps*
INTERMODULATION DISTORTION	*Immeasurably small*
MINIMUM COMPLIANCE	*6.8 x 10^{-6} cm/dyne*
DYNAMIC MASS	*.001 grams*
VERTICAL STYLUS FORCE	*3 to 7 grams*
OUTPUT IMPEDANCE	*1.5 ohms*
MINIMUM OUTPUT VOLTAGE	*0.8 mv (1 kc at 10 cm/sec)*

ESL CONCERT SERIES CARTRIDGE · *For the audio connoisseur*

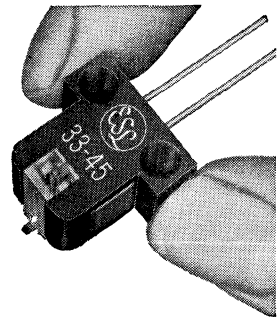


The most advanced electronic technology and mechanical skills have created in the ESL Concert Series cartridge a magnificent instrument for the reproduction of sound. This superb cartridge, which is used for quality control by leading record manufacturers, can improve the finest music reproducing systems. It will fit any standard mounting arrangement.

Diamond: ESL-C1 (.001") or ESL-C3 (.003") **$35.95**

FREQUENCY RESPONSE	*20 to beyond 25,000 cps*
INTERMODULATION DISTORTION	*Less than 0.5%*
MINIMUM COMPLIANCE	*5 x 10^{-6} cm/dyne*
DYNAMIC MASS	*.002 grams*
VERTICAL STYLUS FORCE	*3 to 10 grams*
OUTPUT IMPEDANCE	*1.5 ohms*
MINIMUM OUTPUT VOLTAGE	*1.2 mv (1 kc at 10 cm/sec)*

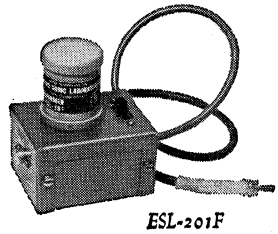
ESL SOLOIST SERIES CARTRIDGE · *For high quality installations*



This newest member of the ESL family is revolutionizing home music reproduction with its brilliant performance, its rugged suitability for any arm or record changer, and its extraordinary compliance which prolongs record and stylus life. Like all ESL cartridges, the Soloist Series has the patented D'Arsonval movement which insures clean, faithful reproduction. Record and stylus life is greatly increased.

Diamond: ESL-SD1 (.001") or ESL-SD3 (.003") **$29.95**
Sapphire: ESL-SS1 (.001") or ESL-SS3 (.003") **$14.95**

ESL MATCHING TRANSFORMERS · *For flexibility of application*



ESL-201F

A high quality ESL step-up transformer is recommended for use with each ESL cartridge; the 201 Series for preamplifiers having low level inputs, and the 211 with insensitive amplifiers.

ESL-201 *5 mv output at 50 ohms, or 11 mv at 200 ohms* **$7.50**
ESL-201M *An ESL-201 mounted; wired for 200 ohm output and instant plug-in connection* **$11**
ESL-201F *Same as 201M, plus supersonic filter and switch* **$15**
ESL-211 *.2 volts output at 90,000 ohms* **$6.25**

ELECTRO-SONIC LABORATORIES, INC.

Long Island City 6, N.Y.

For listening at its best

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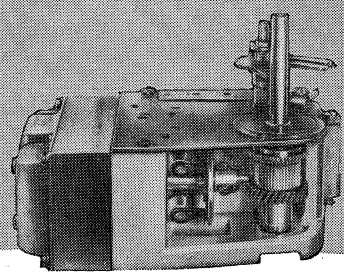


preferred... *in the finest hi-fi systems*

Swiss-Crafted **THORENS**

CHANGERS - PLAYERS - TURNTABLES

with direct gear drive!

Massive Swiss-Precision Direct Drive Motor in CD-43, CBA-83, CB-33 and E-53PA units! Noise level of −48db!

- Huge 4-pole direct-drive motor has separate gear for each speed.
- Speed selector has integral fine-tuning knob for "exact pitch" adjustment.
- No rubber belts, pulleys, other intermediary elements common to rim or friction drive units. These elements cause undesirable noise or speed variation.
- Rugged cast-iron frame and mechanical filter further act to reduce rumble content.
- Flyball governor on the electronically-balanced rotor shaft provides freedom from undesirable wow.

MODEL CD-43
The Only "True"
HI-FI CHANGER

Achieves optimum speed constancy and silence. Intermixes 12", 10" and 7" records and will replay any record size. Has control for completely manual operation. Includes pause and reject control permitting immediate record reject plus adjustable pauses between the records on the stack. Automatically shuts off after last record is played. **$96.00** net.

PORTETTE PORTABLE
. . . self-powered . . . console-quality sound! For LP records!

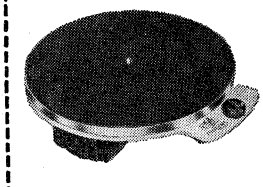
A completely independent portable phono with sound that really surprises! Swiss-made spring-wound motor operates the turntable for a full side of an LP record *without rewinding!* Amplifier is battery-operated (standard batteries) but an outlet cord is provided for AC operation. Incorporates the largest speaker found in any portable. Complete volume and tone controls, automatic shut-off. 12 lbs. **$67.50** net.

MODEL CB-33P
MANUAL PLAYER
rated with costlier turntables — immediate installation!

Has finer-tracking preassembled tonearm, with tracking weight and cartridge alignment adjustments. Automatically shut-offs at end of record. Condenser switch prevents transmission of switch noise to speaker. Because of direct-drive motor, equals the performance of costlier turntables. CB-33P is a "must" for those who want top quality sound at lowest cost. **$59.95** net.

MODEL CBA-83
AUDIOMATIC PLAYER
turntable performance automatic operation!

The hand never touches the tonearm. A button for each record size (12", 10", 7") actuates turntable, tonearm lowers into lead-in groove. After play, arm returns and motor shuts off. Has record reject, control for complete manual operation, condenser to prevent switch noise to speaker. With 2 plug-in shells for all popular cartridges, and 45 rpm adaptor. **$69.00** net.



MODEL E-53PA
TRANSCRIPTION
TURNTABLE

E-53PA maintains a noise level at least -48db below average recording level! That's the kind of performance you'd expect from turntables costing twice as much. Aluminum turntable has foam-rubber cover—is machined and balanced to eliminate distortion. Thick mounting plate affords excellent shielding, allows orientation for correct relationship between cartridge and motor. Manual on-off switch. **$59.95** net.

ACCESSORIES

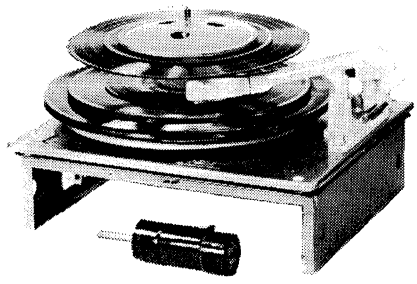
WB-B	wooden base, blond (13" x 16").
WB-M	same as above but mahogany.
MB	mounting board (unfinished) (16" x 15").
45-S	45 rpm spindle for CD-43.
MB-PA	mounting board for E-53PA turntable.
WB-PA	wooden base for E-53PA (mahogany finish).
BTT	brass turntable for all units.

THORENS SWISS MADE Music Boxes, Hi-Fi Components, Spring-Powered Shavers, Lighters

NEW HYDE PARK NEW YORK

Prices slightly higher West of Rockies.

Fen-tone Hi-Fi Brings you REX Perpetuum Ebner the most perfect changer ever built!



MODEL REX Perpetuum Ebner AA

Selected by leading High Fidelity authorities as *The Most Perfect Intermix Record Changer* ever built.

- Intermixes 10 records of any size from 6" to 12" in any order.
- Supplied with manual play spindle for single player use.
- The WORLD'S FINEST FOUR POLE PHONO MOTOR.
- Factory-tuned, spring - suspended, double chassis.
- Non-existent rumble.
- Negligible wow and flutter.
- Plug-in shells for all cartridges.

The greatest Hi-Fi value ever — Audiophile Net: $59.50

(45 rpm automatic spindle, additional 3.50

MODEL REX AA SPECIAL

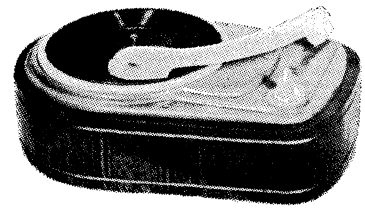
Same as Rex AA with added feature of a high quality magnetic cartridge preamp and ± 3 rpm variable speed regulator.

Audiophile Net $89.95

MODEL REX AA/C

The Rex AA in a beautiful two-tone carrying case. Small in size for easy storage.

Audiophile Net $77.50



MODEL PICCOLO

(3420 PE/P)

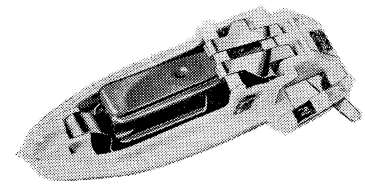
- Miniature 3-Speed Record Player on Walnut Base.
- Supplied with P-12/6 dual crystal cartridge with two sapphire stylii.
- Practically no wow, flutter and rumble.
- Compares in quality to professional turntables.
- Ideal low-cost demonstrator for record stores.

Audiophile Net $26.95

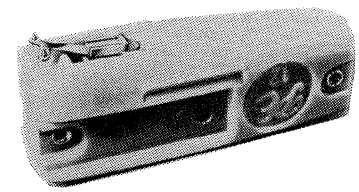
MODEL 3420 PE/C

Same as the Piccolo but in beautiful carrying case. Complete.

Audiophile Net $41.25



P-12/6 cartridge with adapter $6.75



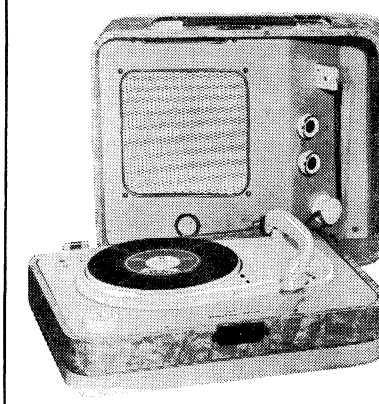
P-12/6 cartridge insert for Piccolo, 3420 PE/C and Hi-Fi-Ette $5.40

MODEL GLOBETROTTER

THE MOST ADVANCED HIGH FIDELITY PHONOGRAPH ever built.

- REX AA changer with P-12 A+ extended range cartridge.
- Diamond LP Stylus and sapphire Standard Stylus.
- Precision PE amplifier and 8" Coaxial loudspeaker in detachable lid.
- Mike input with mixer.
- Voltage selector switch for: 110, 125, 160, 220 volts.
- Can be supplied for operation on 50 or 60 cycles AC.
- Transformer operated.

Audiophile Net $159.50



MODEL HI-FI-ETTE

- Deluxe MINIATURE 3-speed player phonograph.
- 3420 PE record player in base.
- Detachable lid houses precision PE amplifier and 8" Coaxial loudspeaker.
- P-12/6 dual crystal cartridge.
- Voltage selector switch for: 110, 125, 160, 220 volts.
- Can be supplied for 50 or 60 cycles operation.

HIGH FIDELITY MANUFACTURERS INSTITUTE INC MEMBER

Audiophile Net $99.50

Prices 5% higher west of the Rockies

FENTON COMPANY NEW YORK 4, N. Y.

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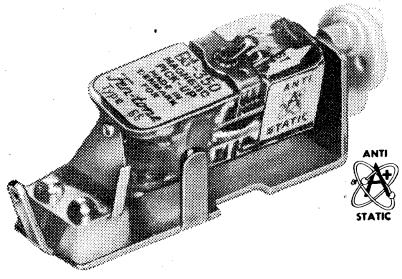
Fen-tone Hi-Fi Brings you the best imported Hi-Fi Cartridges ever made!

The FIRST really STATIC-FREE, DUST-FREE NOISE-FREE cartridge



Fen-tone 8-pole B&O -350 A+

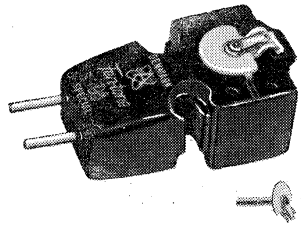
Low-Z Magnetic Cartridge

B&O scientists have brought you new magic — the B&O A+ professional anti-static cartridges for absolute fidelity.

Available Models: B&O-350 A+ with 30 mV/4.4 cm/sec. output.
B&O-72 A+ with 10-15 mV/4.4 cm/sec. output (for amplifiers having only low-level magnetic input.)

Code	Audiophile Net
B&O/RS A+ Dual Sapphire	$ 9.78
B&O/MS or SS A+ Single Sapphire	9.30
B&O/MG or SG A+ Single Diamond	21.30
B&O/RG A+ Micro Diamond/Standard Sapphire	21.78

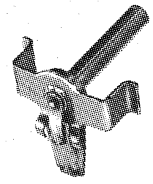
The new single stylus B&O A+ special series to fit any American professional tone arm.



Available — B&O A+ SPECIAL 350 (30 mV output);
B&O A+ SPECIAL 72 (10/15 mV output).

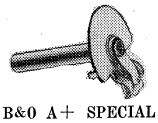
Code	Audiophile Net
BOS/MG Micro Diamond	$24.20
BOS/SG Standard Dia.	24.20
BOS/MS Micro Sapph.	11.60
BOS/SS Standard Sapph.	11.60

REPLACEMENT STYLII for Models B&O and B&O SPECIAL



B&O-350 A+ or 72 A+

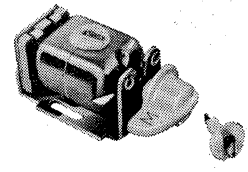
Code	Audiophile	Net
B&O-2J	Dual Sapphire	$ 2.80
B&O-D/J	Micro diamond/St. sapphire	15.60
B&O-D/D	Dual diamond	31.20
B&O-LP/D	Single micro diamond	15.45
B&O—ST/D	Single standard diamond	15.45
B&O-LP/J	Single micro sapphire	2.65
B&O-ST/J	Single standard sapphire	2.65

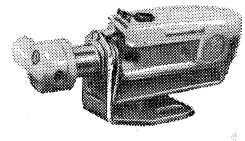


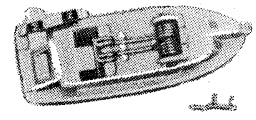
B&O A+ SPECIAL 350-or 72

Code	Audiophile	Net
BOS-LP/D	Single micro diamond	$15.60
BOS-ST/D	Single standard diamond	15.60
BOS-LP/J	Single micro sapphire	2.80
BOS-ST/J	Single standard sapphire	2.80

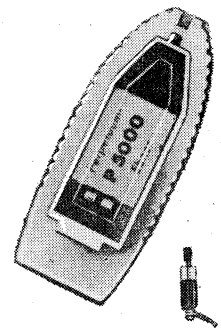
HI-FI PE CARTRIDGES & REPLACEMENT STYLII







Code		Net
P-7000 A+ Cartridge	Anti-static, highest fidelity truly "Magic Sound" 4 pole reversible magnetic cartridge — 40 mV output; 20-22,000 cps; fits almost all American arms.	$19.70
P-7000 MJ or SJ	LP or St. sapphire stylus	3.00
P-7000 MD	Micro Diamond stylus	15.60
P-12/RS A+ Cartridge	Anti-static extended range reversible crystal cartridge with ½" American-mount and dual sapphire stylii	7.25
P-12/RG A+	Cartridge with LP diamond/St. sapphire	21.75
P-12-2J	Dual sapphire stylii	2.50
P-12-D/J	LP Diamond/St. sapph. stylii	14.00
PE-10 Cartridge	(former Code No. PE-8) Dual crystal cartridge for Rex A changer and 3420-PE player (used in Grundig, Blaupunt, etc.)	6.25
PE-10-2J	Dual sapphire stylii	2.50
PE-10-D/J	LP Diamond/St. sapph. stylii	14.00
	PE-10 cartridge and PE-10-2/J and D/J stylii are the proper replacements in all Blaupunt and most Grundig radio phonographs using Rex A changers.	



P-5000 Series	**Magnetic Cartridge used in Rex AM, Rex A Special changers and 3332 PE player.**	
P-5000 M	(red for micro)	5.40
P-5000 S	(white for standard)	5.40
P-5000 V	(violet for old 78 rpm shellac records)	5.40

REPLACEMENT P-5000 STYLII:

P-5000-MJ	LP sapphire	2.50
P-5000-SJ	Standard sapphire	2.50
P-5000-VJ	Standard for old shellac	2.50
P-5000-MD	LP diamond	14.00

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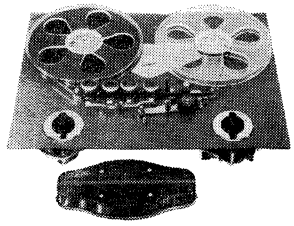
Fen-tone Hi-Fi Brings you the FIRST low-priced broadcast quality binaural R/P tape deck ever made!

For MONAURAL or STEREO RECORD and PLAYBACK



Fen-tone-Brenell Hi-Fi

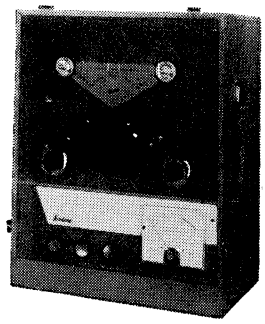
MARK IV
THREE-SPEED R/P TAPE DECK

Two heads — one R/P, one Erase-mounted plus mounting provision and pressure pads for two additional heads.

At last you can have tape — MONAURAL or STEREO — in your High Fidelity System.

- Brenell Hi-Fi meets NARTB requirements
- Three speeds (3¾ — 7½ and 15 ips.)
- Three motors
- Mu-metal shielded Hi-Fi heads with azimuth adjustment. Instantaneous mechanical braking. Simple two switch controls. Fast forward and rewind, for 7" reels.

Audiophile Net:
with 2 heads mounted .....$ 96.50
with 4 heads mounted 114.50
upper or lower track Erase or R/P heads, unmounted, each 9.50



Fen-tone PRO-2
TAPE PREAMPLIFIER

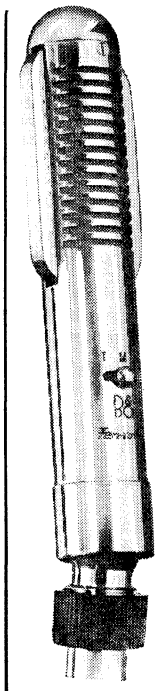
Designed to provide Hi-Fi recording amplification and playback preamplification for both Brenell and Motek decks.

Three position NARTB equalization; VU record level meter; —62 db Hi-Z mike input; .5 Volt high-level high input; 10 mV magnetic phono input RIAA equalized; Response 30-17,500 cps ± 2 db.

Audiophile Net $89.50

Carrying case for Brenell & PRO-2, BCC for horizontal or 80° vertical use. (Deck, PRO-2 and BCC are sold only unmounted—i.e., separately).

Audiophile Net $29.75



Fen-tone B&O -50
BLUE RIBBON STUDIO TYPE VELOCITY MICROPHONE

A professional velocity microphone that outperforms mikes costing five times its price. Sound engineers particularly like its exceptional great sensitivity, clean, smooth tone, low (1.3 mg) mass and novel three way "CLOSE TALK — MUSIC — OFF" switch.

- Impedance is 50 ohms.
- Frequency Range: 30-15,000 cps ± 2½ db
- Sensitivity: "T" position —59 db; "M" —55 db.

Hum pick-up level —113 dbm referred to 0.001 watt and 60 cycle field of 0.001 gauss.

Size: 7¾" x 1-3/16" and weighs only 15 ounces.

Supplied with 20 feet of shielded balanced cable and connection to microphone.

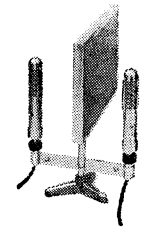
List Price $89.95

B&O DESK STAND
List Price $5.50

Fen-tone B&O -53
BLUE RIBBON STUDIO TYPE VELOCITY MICROPHONE

3 impedances: 50 ohms, 250 ohms and Hi-Z Impedance selection by a screwdriver-operated recessed switch. Characteristics same as B&O-50.

List Price $105.00



Fen-tone B&O STEREO
(binaural) MICROPHONE RIG — Model BINO

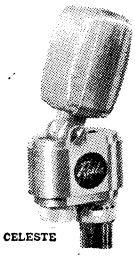
Consists of acoustical separator and mounting brackets for two B&O mikes.

Provides complete separation, cancellation of feedback and perfect response pattern for recording even large orchestral groups. Solves set-up problems by providing constant stereo recording characteristics.

List Prices:
Rig alone (without mikes) $38.95

Fen-tone MINIATURE RESLO "BLUE RIBBON" STUDIO-TYPE VELOCITY MIKES

Triple blast screened for more rugged or outdoor use; • Dual Impedance. • Shipped with two 18' cables — proper impedance selected by plugging in proper cable. • Shock-mounted miniature duraluminum ribbon with no audible resonance. • Frequency range 30-15,000 cps ± 2 db. • Sensitivity —58 db. • Bi-directional pattern easily changed to directional or close-talk by use of internal pads (supplied).



Reslo CELESTE

50 ohms/Hi-Z. Proper impedance selected by plugging in proper cable. With two cables and muting switch.

List Price $89.95

Reslo SYMPHONY

250/600 ohms. Proper impedance selected by plugging in proper cable. With two cables (no muting switch).

List Price $89.95

Other Fen-tone products:

MOTEK K7 Record/Playback Tape Deck
- 3 independent A.C. motors
- 7½ ips speed
- 3¾ ips conversion pulley

Audiophile Net: $79.50

MOTEK K9 Binaural Record/Playback Tape Deck
- 7½ ips speed
- 3¾ ips conversion pulley

Audiophile Net: .....

TPR-1 PREAMPLIFIER FOR K7
Audiophile Net: $39.95

WIRELESS INDUCT-O-PHONE
Hospital Type, Code H/IOP ...List $15.65
Standard Type, Code S/IOP ...List $15.65

TRANSISTORIZED CALL SYSTEM
Code C/IOP .....List $74.90

AUTO TRANSFORMER
Code AUTO .....List $3.60

Universal Miniature Earphones with 5' cord and phone plug, 128, 1000, 2000 and 8000 impedance, Code UME .....List $9.95

Tuf-Guy Guy Wire, No. 420, No. 620, No. 618 in 20 x 50' interconnected coils, 1000' spools and Ten Spot Flat Pack.

Plastoflex Tuf-Guy, plastic covered for lifetime rust-proofing.

Twistube and Fentube-Airspaced, 300 ohm tubular transmission wire.

Prices 5% higher west of the Rockies

FENTON COMPANY NEW YORK 4, N. Y.

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Net

TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

GARRARD
World's Finest Record Players

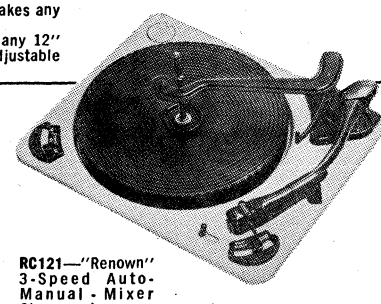
RC88—"Triumph II" Deluxe 3-Speed Auto-Manual Changer, less cartridge, 100/130, 200/250 volts, 60 cycles A.C. (50 cycle pulley available).
RC88/GE—Same as RC88 but with GE Sapphire twist cartridge.
RC88/GED—Same as RC88 but with GE Diamond LP Sapphire 78 twist cartridge.

Model 301 — "Professional" Transcription Turntable, 100/130, 200/250 volts, 60 cycles A.C. (50 cycle pulley available).
M301—Unfinished 2-piece mounting board, takes any 12" or 16" arm, with spirit level indicator.
B301E—2-piece ebony finished base, takes any 12" or 16" arm, with spirit level indicator and adjustable feet.

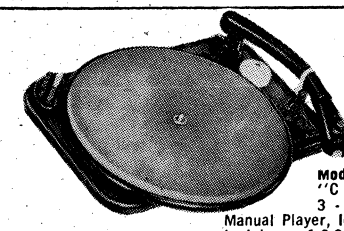
RC98—"Crown II" 3-Speed Super-Auto-Manual Changer, less cartridge, 100/130 volts, 60 cycles A.C. (50 cycle pulley available).
RC98/GE—Same as RC98 but with GE Sapphire twist cartridge.
RC98/GED—Same as RC98 but with GE Diamond LP Sapphire 78 twist cartridge.

Garrard accessories include bases, motor boards, carrying case.

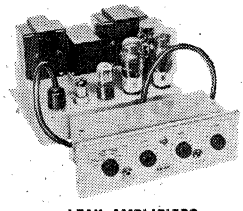
STYLUS PRESSURE GAUGE—Accurately measures the weight exerted by a stylus upon a record. Use with any tone arm, any pickup.



RC121—"Renown" 3-Speed Auto-Manual-Mixer Changer, less cartridge, 100/130, 200/250 volts, 60 cycles A.C. (50 cycle pulley available).
RC121/GE—Same as RC121 but with GE Sapphire twist cartridge.
RC121/GED—Same as RC121 but with GE Diamond LP Sapphire 78 twist cartridge.

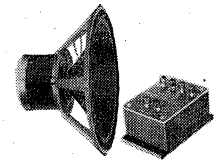


Model T — "Crest" 3-Speed Manual Player, less cartridge, 100/130, 200/250 volts, 60 cycles A.C. (50 cycle pulley available).
T/GE—Same as Model T but with GE Sapphire twist cartridge.
T/GED—Same as Model T but with GE Diamond LP Sapphire 78 twist cartridge.

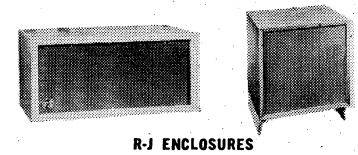


LEAK AMPLIFIERS
TL/10—10 watt amplifier. Complete with "Point One" Remote Control pre-amplifier.
TL/12—12 watt amplifier only.
TL/25—25 watt amplifier only.
Vari Slope Pre-Amplifier — Pre Amplifier for use with TL/12 or TL/25.

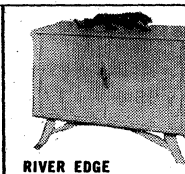
LEAK ARM & CARTRIDGE
Arm complete with Moving Coil Pickup; diamond stylus for 33-1/3 & 45 rpm; transformer.
Moving Coil Pickup only; diamond stylus for 78 rpm.



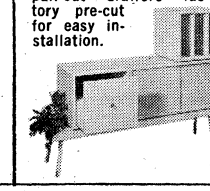
WHARFEDALE SPEAKERS
Super 3—3" treble speaker
8" Bronze—8" full range
Super 8/CS/AL — 8" full range (also for use as tweeter).
W10/CSB — 10" full range (also for use as tweeter).
Super 12/CS/AL — 12" full range.
W12/CS—12" low frequency driver.
W15/CS—15" low frequency driver.
1000 cycle crossover dividing network.
3000 cycle crossover dividing network.
3 way crossover dividing network (800 & 5,000 cycles).



R-J ENCLOSURES
S-8-U—For 8" speaker, Single-Shelf model to fit in bookcase 11" high x 10" deep x 23½" long. Finish sanded, unpainted.
S-8-MC—8" enclosure, complete with 8" Wharfedale speaker. 11" high x 10" deep x 23½" long. Mahogany finish.
S-8-BC—Same as above. Blonde finish.
S-12-U—For 12" speaker. Double-Shelf model to fit in bookcase 24" high x 21" long x 10" deep. Finish sanded, unpainted.
F-12-M—For 12" speaker. Floor Model. 20" high x 20" long x 16" deep. Hand rubbed. Mahogany finish.
F-15-M—Same as above. For 15" speaker.
F-12-B—For 12" speaker. Floor Model. 20" high x 20" long x 16" deep. Hand rubbed, Blonde, Korina Wood.
F-15-B—Same as above. For 15" speaker.
F-12-U—For 12" speaker. Floor Model. 20" high x 20" long x 16" deep. Finish sanded, unpainted.
F-15-U—Same as above. For 15" speaker.



RIVER EDGE CUSTOMIZED CABINETS & DO-IT-YOURSELF KITS
29 basic cabinets, crafted of fine woods, meticulously finished; made to hold components of all manufacturers. Panels and pull-out drawers factory pre-cut for easy installation.



BRITISH INDUSTRIES CORPORATION • PORT WASHINGTON, N. Y.

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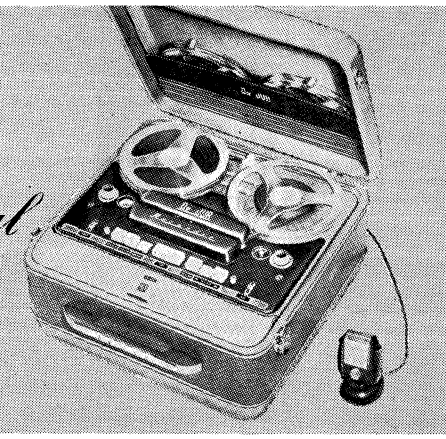
DeJUR *Dual Professional*

high fidelity

TAPE RECORDER

MODEL TK-820 *in portable case* **$399.50**



GENERAL FEATURES

- Heavy duty dual speed, reversible, synchronous, HYSTERESIS motor. Permanently lubricated, completely independent of line voltage fluctuation.
- Dual track operation and push button track reversal. Permits recording or playback on either track without rewinding or rethreading. Permits exchange of recorded tapes with any part of the world.
- Instantaneous starts and stops by means of dynamic electromagnetic clutches and brakes. Eliminate tape strain or stress.
- All functions electronically controlled through piano key switchboard relay operation.
- Illuminated clock type, program indicator dial. Permits precise program indexing.
- Four separate erase and record-playback heads.
- Magic eye level indicator for recording.
- Constant tape tension and even braking in all operations.
- Automatic stop in either direction when DeJur automatic stop tape is used. Eliminates need for rethreading or respooling.
- Frequency compensated loudness control.
- Input selector switch permits three signal sources to remain permanently connected.
- Wide range, dynamic cardioid microphone with matching line transformer (TK-820 ONLY).
- Foam rubber pressure rollers.
- Relay operated and triple fused for protection against improper operation.
- Four stage amplification when recording from microphone or AM-FM tuner.
- Three stage amplification when recording from radio or phonograph. Remote control foot switch available, providing for starting, stopping and backspacing, permitting operation as dictating machine.
- Retractable carrying handle (TK-820 (ONLY).
- Attractive decorator-styled case, covering resistant to scuffs, scratches or water stains (TK-820 ONLY).
- Storage space for two 7" tape reels (TK-820 ONLY)
- 5 speakers (TK-820 ONLY):
  2 electrostatic high range speakers
  2 permanent magnet mid-range speakers
  1 PM low-range speaker

SPECIFICATIONS

TAPE SPEEDS

3¾ & 7½ inches per second. Dual track.

FREQUENCY RESPONSE

7½ ips: 40 - 16,000 cps ± 2db
3¾ ips: 50 - 10,000 cps ± 2db

SIGNAL-TO-NOISE RATIO

55db (at "O" signal: 600 millivolts, 1000 cps)

FLUTTER & WOW

less than 0.1% at 7½ ips
less than 0.2% at 3¾ ips

REEL SIZE

7"

FAST WIND

Ratio: 15:1, either direction.

POWER OUTPUT

6 watts undistorted

STOPPING TIME

Instantaneous in playback operation; less than ¼" in fast-wind operation (when track button and fast-wind button set to operate in same direction)

HARMONIC DISTORTION

0.8% at full rated output

INTERMODULATION DISTORTION

Less than 1.0%

HEAD GAP WIDTH

.00002369 of an inch
(constant from surface to core for a distance of 40 mils)

BIAS FREQUENCY

60,000 cylcles

BIAS CURRENT

1 milliampere

ERASE CURRENT

50 milliamperes

EQUALIZATION

NARTB at 7½ ips

INPUTS

2 high impedance;
1 low impedance

OUTPUTS

1 high impedance;
1 low impedance

POWER REQUIREMENTS

105-220 volts, 60 cycles AC.
95 watts
(50 cycle adapter available)

DIMENSIONS

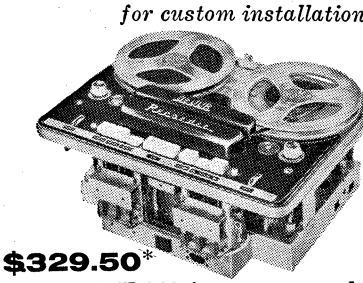
TK-820—17½" x 19½" x 10"
TMB-820—16" x 13" x 10"
(cabinet clearance)

SHIPPING WEIGHT

55 pounds

MODEL TMB-820

for custom installation



$329.50*

Same as TK-820 less case, speakers, microphone, etc.

ACCESSORIES

DM-21 — DeJur Extended Wide Range Broadcast Dynamic Microphone with line transformer, $64.50

DM-11—DeJUR Wide Range Cardioid Dynamic Microphone with line transformer, $29.50 (as supplied with TK-820)

TA-243 — DeJUR Telephone Adapter for recording two-way telephone conversations, $8.50

TS-222 — DeJUR Remote Control Foot Switch for starting, stopping and back-spacing, $19.50

*Fair traded net prices. Slightly higher west of the Rockies. Subject to change without notice.

NOTHING COMPARES WITH A DeJUR USA *Dual Professional* **TAPE RECORDER**

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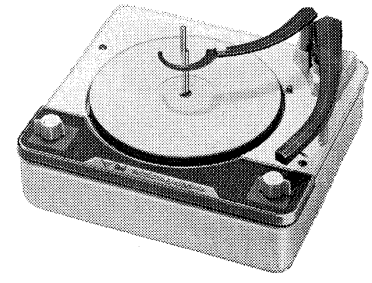
the Voice of Music®

Performance is what sells high fidelity equipment. V-M's first-rate engineering and technical leadership assures remarkable performance. V-M's distinctive styling, durable construction and other plus-features make all V-M products easier to sell. That's why V-M has the most popular record changer line in the world.

MODEL 1200

V-M MODEL 1225



V-M HIGH FIDELITY RECORD CHANGERS

NEW 'SUPER FIDELIS' MODEL 1200

with *exclusive* V-M Siesta-Matic! *Siesta-Matic automatically retracts and protects precision turntable drive idler* after last record plays. Turns off power and amplifier too. 'Super-Fidelis' plays all record sizes, all four speeds. *New V-M Speedmix* lets you mix 33 and 45 rpm records of any size and play them automatically in any sequence. New rubber turntable mat protects records. New color styling—charcoal gray and white. V-M patented drive motor, low-torque mechanism, easy-lift record support arm for front-loading convenience, die-cast aluminum tone arm with all-weather two-needle ceramic cartridge. Min. mounting space: 13 7/16" x 12" x 8 3/8". Weight: Approx. 8 pounds.

V-M MODEL 1225

Model 1200 mounted on a matching metal base as a wired changer attachment. Complete with 6′ AC cord and 4′ phono cord with plugs. 13½" x 12" x 8¾". Shipping weight: 14 pounds.

V-M MODELS 1200GE and 1225GE

Same as models 1200 and 1225, but equipped with GE variable reluctance cartridge. 4-pole motor and muting switch.

V-M CORPORATION

WORLD'S LARGEST MANUFACTURER OF

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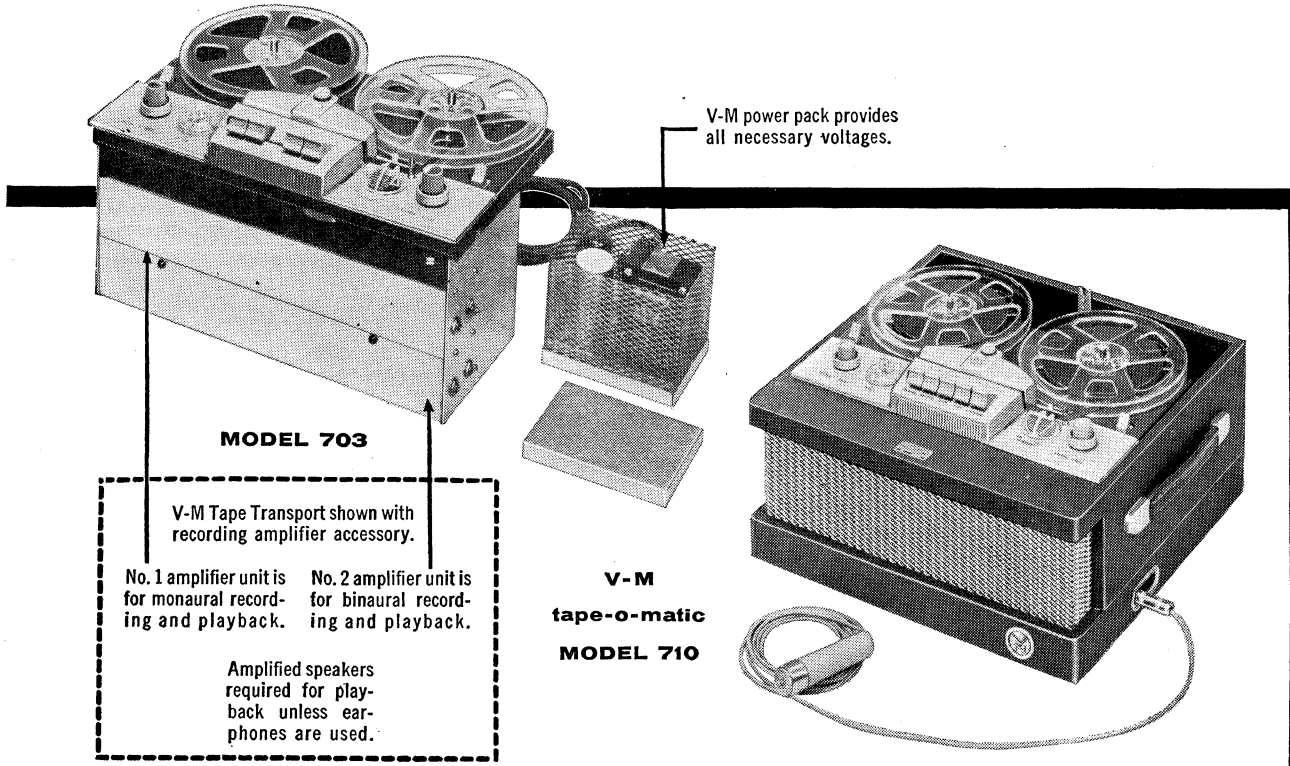
V-M Means Business—Better Business for You



V-M tape-o-matic® HIGH FIDELITY TAPE RECORDERS

V-M tape-o-matic MODEL 710

Portable, powerful, professional-quality, dual-track monaural recording and playback unit. Can be converted for binaural playback. Plus-value features: 5 watts output, external amplifier jack, high signal-to-noise ratio, flat response on center, large output transformer, push-button controls, automatic shut-off, precision tape index timer, two-speaker system, "recording normal" and "distort" light, two recording/playback speeds, monitor switch, pause button, safety switch, three-way input and plenty of tape storage space. 9½″ x 14½″ x 16″.

V-M tape-o-matic MODEL 711

The V-M tape recorder with binaural playback! Portable, compact unit has all Model 710 features PLUS Stere-o-matic output jack, Stere-o-matic phono cable for binaural system, *three* speakers and super-power amplifier for AUTHENTIC high fidelity reproduction. Two 8″ woofers, 3.5″ tweeter provide 40 to 10,000 cps range at close proximity. Plays staggered-heads binaural tapes when linked with any other amplified speaker system. Dimensions same as Model 710.

NEW V-M TAPE TRANSPORT, MODEL 703

meets every conceivable recording and playback requirement. It's a studio-fidelity binaural or monaural portable unit with matched accessories and is designed to be used with custom high-fidelity installations. Built-in features guard against noise, wow and distortion. The special capacitor induction motor is shielded for minimum hum interference. There's pure, direct current on all filaments in premium 5751 low-noise pre-amplifier tubes, an isolated power supply and cathode follower output terminations. Matched accessories include a power supply pack and a dual-channel recording volume indicator. Min. mounting space: 9½″ x 11½″ x 16″.

BENTON HARBOR, MICHIGAN

PHONOGRAPHS AND RECORD CHANGERS

Copyright by U. C. P., Inc.

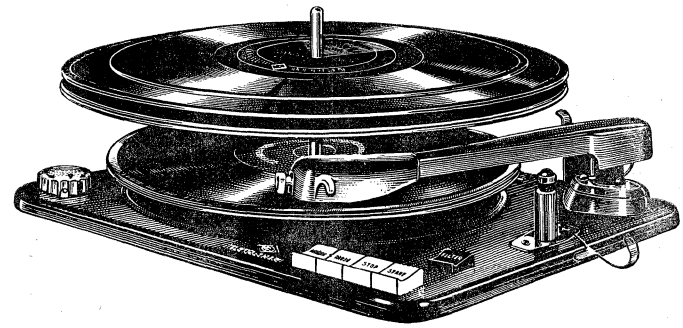
World's Most Distinguished Hi-Fi Family

FROM START TO STOP, FULLY AUTOMATIC 3 SPEED RECORD CHANGER AND MANUAL PLAYER IN ONE PRECISION INSTRUMENT

NEW 5 BUTTON

MIRACORD XA-100

WITH PUSHBUTTON CONTROLS AND THE MAGIC WAND SPINDLE



To critical listeners everywhere, the amazingly versatile Microcord XA-100 symbolizes fully automatic operation in both a changer and player. Every requisite for perfect performance has been incorporated into this beautifully designed, precision instrument. **EXCLUSIVE: 5 Buttons control all operations automatically — from beginning to end. No need ever to touch tone arm. EXCLUSIVE:** Magic Wand spindle intermixes 10" and 12" records in any sequence. Prolongs record life by eliminating pusher arm and stabilizing plates. Isolated 4-pole induction motor provides constant pitch for all 3 speeds.

Shipping complete and ready for operation, with all plugs attached. Audiophile Net **$67.50**

with **GE RPX-050A** (dual sapphire) **Cartridge,** Net **$74.50**
with **GED RPX-052A** (LP diamond and sapphire) **Cartridge,** Net **$89.50**

5 Buttons control all operations automatically

REPEAT: allows record to finish then repeats without dropping new record. Also allows any portion of record to be repeated.

PAUSE: controls wait period between records.

STOP: permits stopping any time during record play. Tone arm lifts up automatically and returns to rest position.

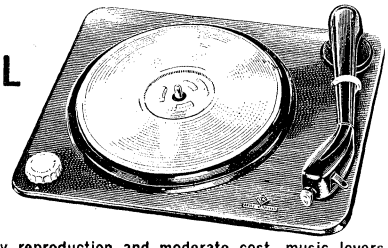
START: begins operation and is reject control as well.

FILTER: screens out surface noises.

SPECIFICATIONS: AC, 110 or 220 volts, 60 cycles (50 cycles available); Chassis, 12½" x 10¼"; Height above mounting plate, 2½"; below, 2¼"; Clearance above mounting plate, 4⅓"; below, 2¾"; Net weight (approx.), 11 lbs; Gross weight (approx.), 14 lbs.

MIRAPHON XM-110A

MANUAL PLAYER



For transcription-quality reproduction and moderate cost, music lovers choose the outstanding performance of the 3-speed Miraphon XM-110A manual player. Its specially designed heavy duty, 4-pole motor is isolated and suspended by isomodes to eliminate outside interference totally. Balanced turntable "floats" in high precision bearing assembly. Plug-in Head accommodates choice of cartridges. Tone arm, mounted in double row of ball bearings, provides maximum lateral compliance. Stylus pressure adjustment requires no tools. Motor shuts off automatically at end of record.

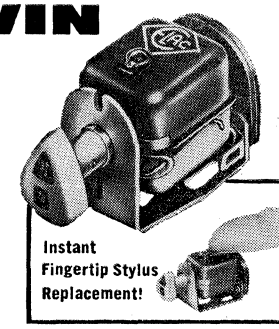
SPECIFICATIONS: AC, 110 or 220 volts, 60 cycles (50 cycles available); Chassis, 12½" x 10¼"; Clearance above mounting plate, 4⅓"; below, 2¾"; Height above mounting plate, 2½"; below, 2¼"; Net weight (approx.), 7 lbs.; Gross weight (approx.), 10 lbs.

Shipped complete and ready for operation, with all plugs and leads attached.
Audiophile Net **$37.50**

with **GE RPX-050A** (dual sapphire) **Cartridge,** Net **$44.50**
with **GED RPX-052A** (LP diamond and sapphire) **Cartridge,** Net **$59.50**

MIRATWIN *Cartridge*

FITS ALL TONE ARMS



Designed with unusual wide-range response and sensitivity, the Miratwin variable reluctance magnetic cartridge brings out the best in ANY system. Sturdy and compact, its body consists of 2 independent and non-reacting movements, mounted back to back. Other features include a turnover mount and instant fingertip stylus replacement. For LP and Standard records.

SPECIFICATIONS: Response — within 2 db from 30 to over 18,500 cps at 33⅓ rpm; within 4 db to 22,500 cps at 78 rpm; Output — at 1,000, 55 mv for 33⅓ rpm; 45 mv for 78 rpm at a recorded velocity of 10 cm/sec; Magnetic Pull — too small to measure with either magnetic or non-magnetic turntables; Tracking — perfect even at very high amplitude peaks with all speeds; Needle Chatter — completely negative; Mounting—unusually simple, removable without tools.

MST-2A, Miratwin Turnover Cartridge with 2 Sapphire Styli, Audiophile Net **$22.50**

MST-2D, Miratwin Turnover Cartridge with Sapphire Stylus for Standard and Diamond Stylus for Microgroove, Audiophile Net **$45.00**

Styli for MST-2A		Styli for MST-2D	
SN-2 Standard Sapphire	**$3.00**	**SN-2** Standard Sapphire	**$3.00**
SM-2 Micro-Sapphire	**5.00**	**DM-2** Micro-Diamond	**22.50**

Styli for MST-2A/MST-2D
DN-2 Standard Diamond **$22.50**

ACCESSORIES FOR MIRACORD XA-100 AND MIRAPHON XM-110A

NO. 38 AUTOMATIC SPINDLE
For 45 rpm on MIRACORD XA-100 only. Constructed of durable plastic, finished in maroon. Complete with clips for attachment to base when not in use.
Audiophile Net **$4.50**

PLUG-IN HEAD
Accepts any standard cartridge. Made of specially dampened plastic. Complete with turn-button and standoffs, wires attached. Fits XA-100 and XM-110A.
Audiophile Net **$2.50**
AUDAX ADAPTER, Audiophile Net **$2.50**

FINISHED BASE
Ideal complement to both XA-100 and XM-110A decors.
Audiophile Net **$5.95**

MOUNTING BOARD
Ready for staining. KHn dried and sanded. All holes drilled. Audiophile Net **$2.50**
BRASS TURNTABLE, specify XA-100 or XM-110A, Audiophile Net **$10.00**

PORTABLE CASE
Handsomely fashioned and covered in burgundy leatherette. Stainless continental hardware. All accessories clip onto case. Hinged bottom permits quick installation. Special hinge on cover allows its use as a base, if desired. Audiophile Net **$24.50**

Exclusive Distributors in the U.S. for Elac Record Players and Cartridges

AUDIOGERSH CORPORATION NEW YORK 12, N. Y.

In Canada: ATLAS RADIO CORP., Ltd. TORONTO

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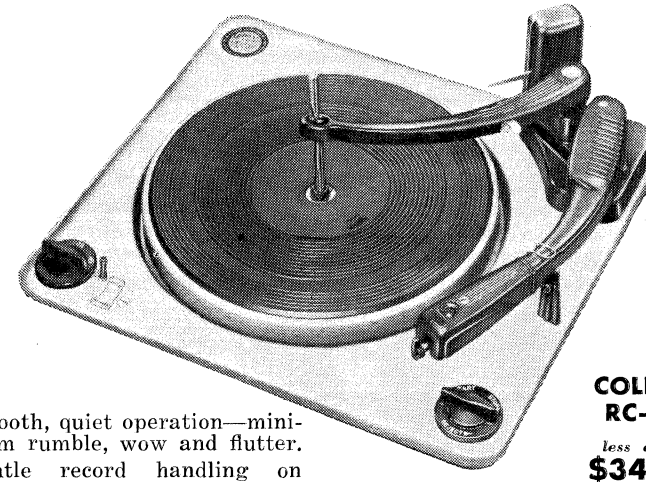
ROCKBAR CORPORATION

Representing Leading Electronic & High Fidelity Products – Mamaroneck, N. Y.

Collaro

RC-456

4-Speed Record Changer
for 78, 45, 33⅓ and 16⅔ rpm.



COLLARO RC-456

less cartridge

$34.50*

Supplied with power cord to fit standard electrical outlets and with audio connecting cable for amplifier.

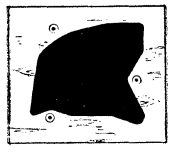
with Cartridges, as follows:

G.E. Dual-Sapphire Magnetic..... $42.70*
G.E. Diamond-Sapphire Magnetic... 56.50*
Collaro Studio O Crystal..... 37.55*

FEATURES and SPECIFICATIONS:

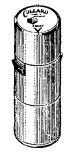
- MANUAL and AUTOMATIC operation at all speeds.
- Automatically INTERMIXES 7, 10 and 12-inch records in any order.
- Rapid CONSTANT change cycle regardless of record speed.
- INTERCHANGEABLE plug-in shells for standard cartridges.
- Rubber-matted turntable — RIM-WEIGHTED for flywheel action.
- SINGLE KNOB speed selection.
- Smooth, quiet operation—minimum rumble, wow and flutter.
- Gentle record handling on straight spindle.
- Automatic shut-off after last record — idlers disengage in 'off' position.
- Heavy, 4-pole motor — dynamically balanced.

ACCESSORIES FOR COLLARO RC-456



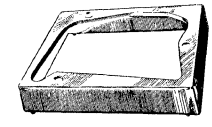
PRE-CUT MOUNTING BOARD
Model CMB-3
$2.80

Oversized, ⅝-inch laminated board, pre-cut and drilled for RC-456. Sanded smooth to take any desired finish. Measures 16 x 18 inches.



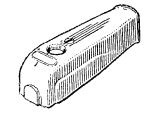
AUTOMATIC 45 rpm SPINDLE
Model GSA
$3.30

Slips over RC-456 universal spindle, for use with large-hole records without need for adapters.



HARDWOOD BASE
Model MBC-3 $5.65
(specify mahogany or blond)

Heavily constructed to minimize resonances. Light or dark finish. Pre-cut and drilled for RC-456. Measures 15¼ x 13¼ x 2¾ inches.



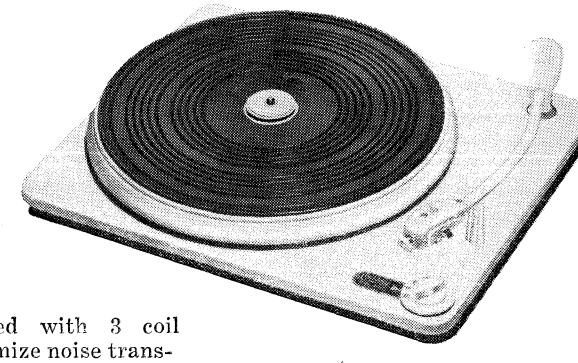
CARTRIDGE SHELLS
Model GPE each 85¢

Empty plug-in cartridge shells for RC-456 arm. For standard crystal, ceramic and magnetic cartridges.

Collaro

Model 2010 3-speed TRANSCRIPTION TURNTABLE

Built to professional standards for smooth, constant motion with minimum rumble, wow and flutter. Accommodates discs up to 16".



COLLARO MODEL 2010 TRANSCRIPTION TURNTABLE

less arm **$49.75***

with arm and cartridge **$61.00***

FEATURES and SPECIFICATIONS:

- Non-magnetic, 8½ lb. turntable, rim-weighted for flywheel action.
- Lapped steel, self-lubricating turntable shaft rotates on single ball-thrust bearing.
- Speeds, 78, 45 and 33⅓ rpm — with single knob selector.
- 4-pole, dynamically balanced motor with ground-on step pulley.
- Motor mounted with 3 coil springs to minimize noise transmission.
- Rectangular deck is provided with rubber gasket for acoustical damping.
- Deck Size: 15½ x 12¾".
- Clearance required: Above deck: 2¾". Below deck: 3¾".

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*Prices are net — slightly higher West of Rockies — and subject to change without notice.

GENERAL INDUSTRIES

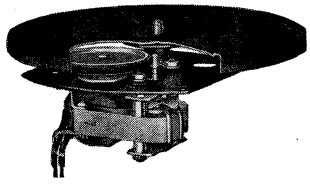
ELECTRIC PHONOMOTORS
RECORDING MOTORS

RELY on GI

HOME RECORDING and PHONOGRAPH ASSEMBLIES

Suitable for every phonograph instrument where low cost, dependable performance, compactness, light weight and quietness of operation are important considerations. GI phonomotors are even in speed and have ample power to play 10″ and 12″ records. Fan cooling permits use in partially closed cabinets. Designed to comply with Underwriters' Laboratories' requirements.

CONSTANT SPEED ELECTRIC PHONOMOTORS

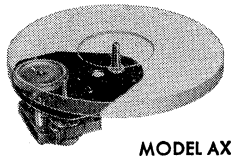


Model LX Model LX-3
Model LX-45

MODEL LX — 78 R. P. M. . . . . List Price, $7.90
MODEL LX3 — 33-1/3 R. P. M. . . . . List Price, 8.40
MODEL LX45 — 45 R. P. M. . . . . List Price, 8.40
115 volts a. c., 60 cycles

Rim drive, 2-pole motor. Rubber insulated from both mounting plate and turntable for quiet operation. Turntable shaft revolves with turntable, and is grooved for turntable clip. Furnished with 9″ turntable and complete with mounting plate ready for installation.

Dimensions: Length—3 ½″; Width—2″; Depth—2″ below mounting plate. Packed in individual cartons. Shipping weight—4 lbs.

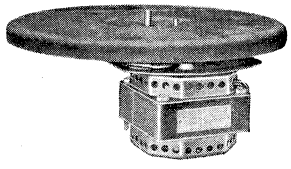


MODEL AX

MODEL AX — 78 R. P. M. . . . . List Price, $6.25
115 volts a.c., 60 cycles

A low-priced 78 R.P.M. 2-pole, rim drive motor suitable for installation where size and cost are prime factors. Furnished with 8″ turntable and mounting plate ready for installation.

Dimensions: Length—3 ½″; width—2 ½″; depth—1 $\frac{3}{32}$″ below mounting plate. Packed in individual cartons. Shipping weight—3 lbs.



Model RM4 Model RM4-3
Model RM4-45

MODEL RM4 — 78 R. P. M. . . . . List Price, $20.15
MODEL RM4-3 — 33-1/3 R. P. M. . . . . List Price, 20.95
MODEL RM4-45 — 45 R. P. M. . . . . List Price, 20.95
115 volts a. c., 60 cycles

Heavy duty, rim drive, 4-pole motor. Rubber insulated from both mounting plate and turntable for exceptionally quiet operation. Turntable shaft revolves with turntable and is grooved for holding clip. Retractable pin in turntable permits playing standard records without adjustment. Efficient performance is assured by positive alignment of driving pulleys, idler and turntable in one plane. Furnished with 10″ weighted turntable and complete with mounting plate ready for installation.

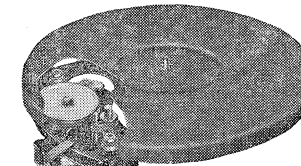
Dimensions: Length—3 ⅜″; Width—3 ⅜″; Depth—2 $\frac{9}{16}$″ below mounting plate. Packed in individual cartons. Shipping weight—9 lbs.

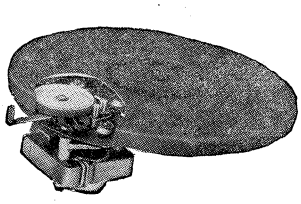
DUAL-SPEED PHONOGRAPH MOTORS

MODEL DS — 45, 33-1/3 R. P. M. **115 volts a. c., 60 cycles**

A novel 45-33⅓ R.P.M. rim drive, 2-pole motor. Very compact. Employs a Neoprene belt for the 33⅓ R.P.M. speed. 45 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction of the new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 8″ or 9″ turntable, using same mounting plate. **List Price, $10.40**

Dimensions: Length—3 ⅛″; Width—2 ¼″; Depth—2 $\frac{9}{16}$″ below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.





MODEL DM — 33-1/3, 78 R. P. M. • MODEL DE — 45, 78 R.P.M.
115 volts a. c., 60 cycles

Novel and ingenious rim drive, 2-pole motors. Very compact. Employs a Neoprene belt for slow speeds. 78 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction of new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 9″ turntable. **List Price, $10.40**

Dimensions: Length—3 ⅛″; Width—2 ¼″; Depth—2 ⅜″ below mounting plate. Furnished complete with 9″ turntable and mounting plate ready for installation. Shipping weight—4 lbs.

[DUAL SPEED PHONOGRAPH MOTORS . . . CONTINUED ON PAGE E-34]

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GENERAL INDUSTRIES

ELECTRIC PHONOMOTORS
RECORDING MOTORS

RELY on GI

HOME RECORDING and PHONOGRAPH ASSEMBLIES

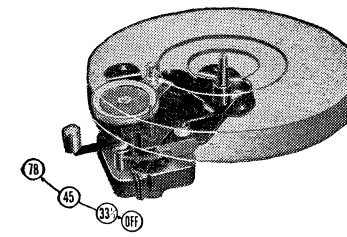
PLURAL-SPEED PHONOGRAPH MOTORS

3 & 4 SPEED TWO POLE PHONOGRAPH MOTORS

MODEL SS 3 — 78, 45, 33⅓ R. P. M. 115 volts a.c., 60 cycles
MODEL SS 4 — 78, 45, 33⅓ and 16⅔ R. P. M. 115 volts a.c., 60 cycles

Very compact, three or four speed, phonograph motors using the vertical idler shifting principle. Idler wheel drives the turntable directly from the appropriate step on the motor shaft. Precision construction throughout. Uses a ribbed main mounting plate to assure stability and proper relationship of all components. Rumble and wow are held to a minimum. Motor uses oilless bearing and dynamically balanced rotor. Turntable shaft revolves with turntable and is grooved for turntable clip. Available with 8 inch turntable. A 45 RPM record adapter and a speed indicator dial are furnished with each motor.

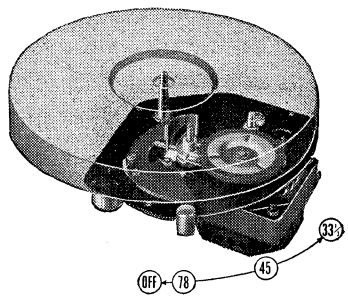
List Price SS 3, $10.95
List Price SS 4, $11.50



Model SS

Dimensions: Length 5"—Width 4 3/32"—Depth 2 15/32" below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Packed in individual cartons. Shipping Weight 4 lbs.

DELUXE THREE-SPEED RIM DRIVE FOUR POLE MOTOR



Model DSS

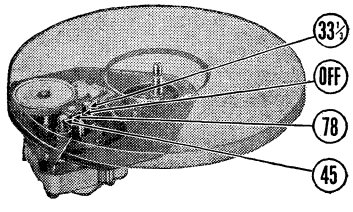
MODEL DSS — 78, 45, 33⅓ R. P. M. 115 volts a.c., 60 cycles

Simple speed change is accomplished by shifting the idler wheel vertically to the appropriate diameter on the motor shaft for desired turntable speed. When shifting speed selector to off position, a switch turns the motor off and the idler wheel is disengaged from the motor shaft. The driving motor is of the four-pole, shaded-pole type resulting in absolute minimum of stray field radiation—ideally suited for use with all types of pickups including magnetic. Motor uses oilless bearings and motor is dynamically balanced to a fine degree.

Precision construction throughout—low friction oilless turntable bearing—radially operated shift lever—10 inch turntable.

List Price, $24.50

Dimensions: Length 6 5/8"—Width 6 1/16"—Depth 2 3/32" below mounting plate. Furnished complete with 10 inch turntable, speed indicator dial, 45 RPM record adapter, off-on switch, and mounting plate ready for installation. Packed in individual cartons. Shipping Weight 6½ lbs.



Model TR

MODEL TR — 45, 78, 33⅓ R. P. M. 115 volts a.c., 60 cycles

Deluxe three-speed rim drive, 2-pole motor. Turntable speeds of 33⅓, 45 and 78 R.P.M. are secured through three separate pulleys running on oil-impregnated bearings and mounted on a turret plate. By means of a simple lever, the desired pulley is brought into contact with the idler wheel. The two pulleys not in contact with the idler wheel remain stationary. Symmetrical electrical and mechanical design results in minimum stray field and maximum performance. Ingenious locking device holds turret plate firmly in driving position at any of the three speeds. Available with 8" or 9" turntable. A 45 R.P.M. record adapter and speed indicator dial are furnished with each motor.

List Price, $12.10

Dimensions: Length—3⅛"; Width—2¼"; Depth—2 5/16" below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.

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GENERAL INDUSTRIES

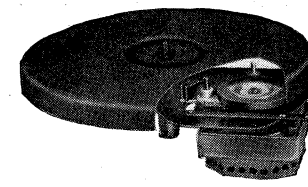
ELECTRIC PHONOMOTORS
RECORDING MOTORS

RELY on GI

HOME RECORDING and PHONOGRAPH ASSEMBLIES

DUAL-SPEED PHONOGRAPH MOTORS . . . (continued)

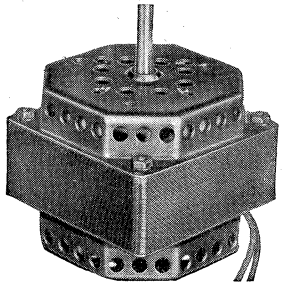
MODEL DR — 78, 33-1/3 R. P. M. • MODEL DZ — 78, 45 R. P. M.
MODEL DV — 45, 33-1/3 R. P. M.
115 volts a. c., 60 cycles



Deluxe rim drive, 4-pole motors with a simple and positive mechanism for shifting from one speed to the other. Speed change is accomplished by means of an external push-pull lever. An ingenious mechanism raises and lowers the entire idler assembly, disengages the idler wheel from the two-diameter motor shaft and moves the idler wheel from one diameter to the other. At the slow speed the idler wheel engages the small diameter of the motor shaft; at the fast speed it engages the large diameter. **List Price, $21.75**

Dimensions: Length—6"; Width—5 5/8"; Depth—2 5/8" below mounting plate. Furnished complete with 10" turntable and mounting plate ready for installation. Shipping weight—6 1/2 lbs.

TAPE, WIRE AND DISC RECORDING MOTORS



MODEL D-10

Heavy duty 4-pole, shaded pole induction motors. 1/70 H.P. Free speed: 1740 R.P.M. Maximum running torque: 11 ounce-inches.

Features include: A locating and locking arrangement for both top and bottom covers which assures high accuracy in alignment of rotor within the stator bore; new air intake; dual cooling fans and self-aligning, oil-impregnated sleeve bearings.

These high torque motors are used in practically all tape, wire and disc recorders now being manufactured. **List Price, $16.75**

Dimensions: Length—3 3/8"; Width—3 3/8"; Depth 3" below mounting plate; Shaft diameter—5/16"

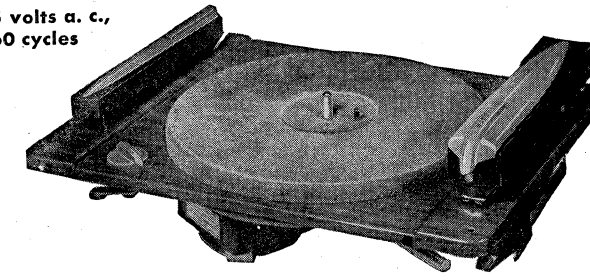
115 volts a. c., 60 cycles

HOME RECORDING AND PHONOGRAPH ASSEMBLIES

MODEL GI-R85L — LP, 78 and 33-1/3 R. P. M. with conversion spring for changing the 33-1/3 R. P. M. speed to 45 R. P. M.

MODEL GI-R90L — 78 & 33-1/3 R. P. M. — Standard

115 volts a. c., 60 cycles



Model GI-R90L is the standard model which has been in the GI line for several years. It cuts 120 lines per inch, and plays back records with the standard needle pressure.

The Model GI-R85L incorporates a dual purpose pickup cartridge and an excellent and simple adjustment for playing the LP records and standard records. It cuts 160 lines per inch. In a separate envelope is furnished a conversion spring for changing the 33 1/3 R.P.M. speed to 45 R.P.M. with mounting instructions printed thereon.

Both models cut records up to 10" diameter . . . play records up to 12" diameter. To shift motor from one speed to the other, merely turn the speed change dial. Beautiful walnut wood grain on steel base plate. Streamline plastic trim on pickup and cutter arm attractively engraved with legends "Reproducer" and "Recorder". Turntable recessed into well in base plate. Merely lower cutting arm over record disc to start recording. Convenient, depth-of-cut adjustment. Dynamically-balanced, rim drive, 4-pole motor.

MODEL GI-R85L — LP . . . . List Price, $56.50
MODEL GI-R90L — STANDARD . List Price, 52.00

Assembly includes dual speed motor; 10" weighted turntable; crystal cutter; crystal pickup; pickup and cutter arm rests; drawn steel base plate with formed down edges.

Above prices include crystal cutter.
For (M41-10) magnetic cutter add $2.00 each.

Dimensions: Base plate—15" wide; 11 1/2" front to back; height above lower edge of base plate—2 3/4"; depth below lower edge of base plate—3 7/8". Packed in individual cartons. Shipping weight—17 lbs.

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irish
BRAND
SOUND RECORDING TAPE

Whatever the application — professional sound recording . . . broadcasting . . . home, school or office use . . . industrial or scientific instrumentation — there is an *irish* tape that meets every requirement in quality, dependability and value.

irish *FERRO-SHEEN* SHAMROCK #300

The ultimate in professional recording tape for broadcast and studio use. Manufactured by the exclusive irish **FERRO-SHEEN** process, which results in an unprecedentedly smooth tape surface that never sheds gummy, abrasive oxide — making for reduced head and tape wear, easier recorder maintenance, better frequency response, lower background noise and reduced print-through and drop-outs. Comes with 5′ Mylar leader, in dust-proof polyethylene bag, on 1.5-mil pre-selected premium-quality acetate base.

Length	Reel	
600′	5″ plastic	$ 2.70
1200′	7″ plastic	4.25
2400′	hub only, NARTB	8.50
2400′	10½″ fiberglass* or metal	10.90
4800′	hub only, NARTB	17.00
4800′	14″ metal	22.10

irish *FERRO-SHEEN* LONG-PLAY #600

A **FERRO-SHEEN** process tape on 1-mil Mylar base. Same extraordinary characteristics as SHAMROCK #300, plus 50% more playing time than conventional tape on the same size reel.

Length	Reel	
225′	3″ plastic	$ 1.00
450′	4″ plastic	1.90
900′	5″ plastic	3.75
1800′	7″ plastic	6.45
3600′	hub only, NARTB	12.35
3600′	10½ fiberglass* or metal	14.75
7200′	hub only, NARTB	25.60
7200′	14″ metal	30.00

irish **FERRO-SHEEN LONG-PLAY** is also available on 1-mil acetate base as #600-AB.

irish *FERRO-SHEEN* DOUBLE-PLAY #7-2400

A **FERRO-SHEEN** process tape on ½-mil Mylar base. Same extraordinary characteristics as SHAMROCK #300 or LONG-PLAY #600, plus twice as much playing time as with conventional tape on the same size reel. To be used only on tape recorders operating without excessive tape tension.

Length	Reel	
1200′	5″ Standard	$ 4.75
2400′	7″ Standard	8.75

irish *FERRO-SHEEN* SOUND-PLATE #220

The super-tough recording tape pioneered by irish, now made by the **FERRO-SHEEN** process on 1.5-mil Mylar base. Same extraordinary characteristics as other irish **FERRO-SHEEN** process tapes, plus the additional safeguard of very great physical strength, desirable in tape masters, telemetering tape, etc. Highly resistant to adverse climate.

Length	Reel	
600′	5″ plastic	$ 4.00
1200′	7″ plastic	6.55
2400′	hub only, NARTB	11.65
2400′	10½″ fiberglass* or metal	13.65
4800′	hub only, NARTB	23.30
4800′	14″ metal	29.40

irish *FERRO-SHEEN* GREEN-BAND #211

Now, for the first time, a premium-quality recording tape at the standard price. Produced by the exclusive irish **FERRO-SHEEN** process — for the same price as ordinary coated tape. Standard 1.5-mil acetate base.

Length	Reel	
150′	3″ plastic	$ .70
300′	4″ plastic	1.35
600′	5″ plastic	2.25
1200′	7″ plastic	3.50
2400′	hub only, NARTB	7.30
2400′	10½″ fiberglass* or metal	9.27
4800′	hub only, NARTB	14.90
4800′	14″ metal	19.80

irish *BROWN-BAND* #195

An economy-priced quality tape on plastic base (1.5-mil), guaranteed to reproduce faithfully the range from 100 to 8,000 cps. Specifically designed for non-critical applications where economy has a priority over extended frequency response. Recommended for speech recording, home or office use, schools, churches, etc.

Length	Reel	
600′	5″ plastic	$ 1.75
1200′	7″ plastic	2.95

* Also available with 3/8″ hole, requiring no NARTB adapter.

Made in U. S. A. by ORRADIO INDUSTRIES, Inc., Opelika, Alabama

World's Largest Exclusive Magnetic Tape Manufacturer

Export Division: Morhan Exporting Corp., 458 Broadway, New York **In Canada: Atlas Radio Corp., Ltd., 50 Wingold Ave., Toronto**

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Net

ALLIANCE PHONOMOTORS

THE ALLIANCE MANUFACTURING CO., INC. • ALLIANCE, OHIO

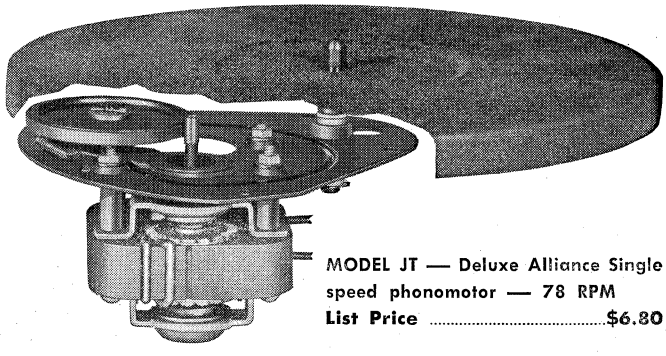
Phonomotors

New three-speed phonomotors for record players 33⅓, 45 and 78 RPM records
New single speed 78 RPM phonomotors

General Purpose Motors

Alliance makes a variety of fractional horse-power, shaded pole induction motors to service many specific small load applications. Millions are used not only in the radio-phonograph and recording industry, but in a wide range of product classifications. The motors illustrated here are standard models designed for practical utility and to meet the maximum number of mechanical and electrical requirements for motors in this class.

(Typical uses are electronic, mechanical, electric controls — radio tuning and turn-table drives — disc tape and wire recorderrs — fans — heating controls — coin operated mechanisms — miscellaneous uses.)



MODEL JT — Deluxe Alliance Single speed phonomotor — 78 RPM
List Price $6.80

This deluxe 78 RPM phonomotor assembly is quiet and extremely smooth in operation. It embodies all of the superior features which made the original Model 80 famous, with a new, more powerful motor.

ALLIANCE 78 RPM PHONOMOTOR MODEL JT

Low Cost — Ideal for Hi-Fi

Model JT is available with 8 inch and 9 inch turn-table diameters and has the same basic motor as used on Model JPT with turn-tables available in color choice. Also available for motor winding for use in series with 25L6 vacuum tube filament. Rotating spindle revolves with turntable. Features shockproof vibration mounting — a truly fine performing unit made to highest precision standards.

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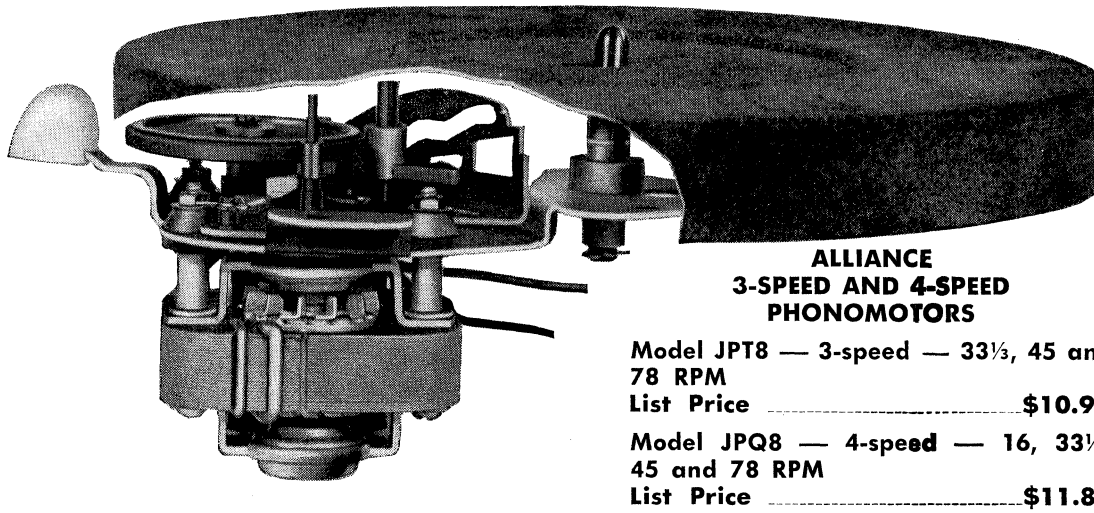
ALLIANCE PHONOMOTORS



ALLIANCE
3-SPEED AND 4-SPEED
PHONOMOTORS

Model JPT8 — 3-speed — 33⅓, 45 and 78 RPM
List Price $10.95

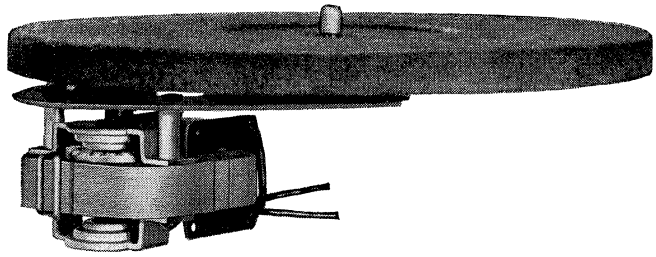
Model JPQ8 — 4-speed — 16, 33⅓, 45 and 78 RPM
List Price $11.86

THREE AND FOUR SPEED PHONOMOTORS

THE LARGEST SELLING PHONOMOTORS IN THE WORLD

MODEL JPT — A completely new design. Retains all of the features of original model, which became the standard of the industry, with many added improvements. Adequate reserve power in motor. Elimination of stepped pulley reduces possibility of wow and rumble. Added neutral position on shifter lever removes drive shaft from contact with rubber tire when instrument is not in use. Attractive plastic knob on shifter lever available in color. TURNTABLES AVAILABLE IN CHOICE OF COLORS. Furnished with plastic 45 RPM center disc. Can be furnished with winding for operation in series with 25 L6 tube filament if desired.. Furnished with speed indicator escutcheon plate. Same mounting plate cut-out as single speed 78 RPM unit illustrated, thus providing greater versatility for manufacturers of phonograph equipment.

The model JPT provides unimpaired performance at all speeds. Single lever shifts and indexes speeds with freer movement. Electronic dynamically balanced rotor. Vibration-proof mountings. Minimum rumble and hum. Unexcelled speed regulation. Designed to meet U. L. requirements. Occupies minimum space. Millions have been sold.



ALLIANCE SINGLE-SPEED PHONOMOTOR MODEL JP

List Price $6.05

MODEL JP — The most economical player motor on the market. Available with 6½", 8" and 9" turntable diameters. Same basic motor as used on JPT model. Same mounting cutout as three speed unit illustrated. Turntables available in color choice. Also available with motor winding for use in series with 25L6 vacuum tube filament. Turntable spindle revolves with record.

Deluxe unit also available. Uses rotating turntable spindle. Shock proof vibration mounting. Same mounting cut-out requirements as other units shown. A truly fine performing unit. Highest quality — lowest price.

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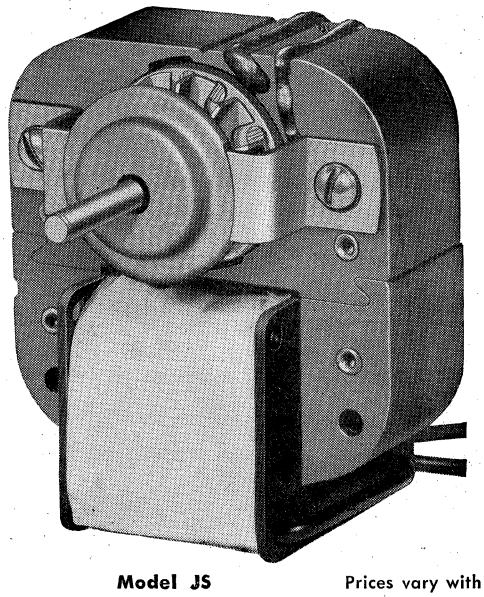
ALLIANCE MOTORS

MODEL JS MOTOR—

This new model is an extremely versatile motor of high efficiency and compact design. In realtiy JS is a "big brother" power-wise to our famous, popular MS illustrated below.



Model JS

SPECIFICATIONS

	JS 0.600	JS 0.800	JS 1.100
Stack Thickness, Inches	0.600	0.850	1.100
Locked Amps. - Cold	0.710	0.920	0.930
Locked Watts - Cold	35	50	55
Starting Torque oz. in Cold	1.75	2.7	2.95
Idle Amps. - Hot	0.540	0.670	0.600
Idle Watts - Hot	22	30	30
Idle R.P.M. - Hot	3470	3475	3500
Full Load Amps.	0.575	0.760	0.725
Full Load Watts	29.0	41.5	44.0
Full Load Torque oz. in.	2.7	4.2	5.1
Full Load R.P.M.	2900	2900	2900
Full Load H. P.	0.008	0.012	0.13
Overall Dimensions (Less Shaft Extension)	2-53/64 x 2-13/32 x 2	2-53/64 x 2-13/32 x 2¼	2-53/64 x 2-13/32 x 3½
Weight	1# 2 oz.	1# 8 oz.	1# 13 oz.
Rotor Shaft In.	0.181	0.181	0.181
Shaft Ext. W.	.750	.750	.750

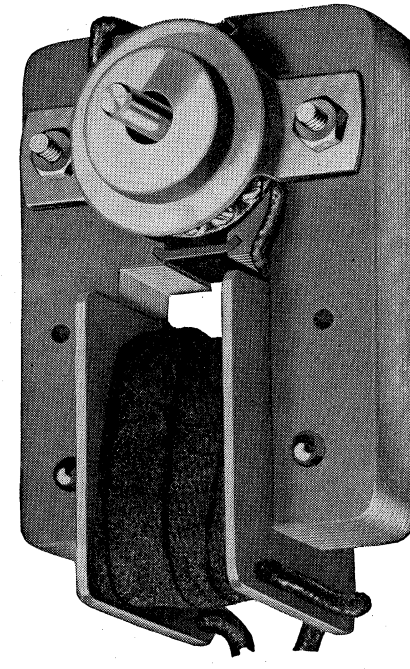
117 volts 60 cycles, continuous open rating with 65° centigrade temperature rise. Motor can be supplied with internal fans for mechanical duty. Mounting hole 1⅞" center.

Prices vary with stack thickness

MODEL MS MOTOR

A LEADER FOR MANY YEARS

The Alliance Model MS motor is ideal for driving fans, timers, or rotisseries, and other applications. It is an adaptation of the quiet, smooth running motor which is used to power the Models MP8, MP9, and MP10 Phonomotors. It measures 3⅛" x 2" x 1¾" not including the 7/16" long shaft extension which has a 3/16" diameter. Rotation is clockwise facing the shaft extension. Its self aligning bearings are of the porous bronze oilless type. Operating over a wide range of AC voltages from 24 to 250 and frequency of 40, 50, or 60 cycles, this compact lightweight motor can be incorporated as the vital power source in all kinds of electrical and mechanical devices. Large oil wicks provide lifetime lubrication.



Model MS

List Price **$4.35**

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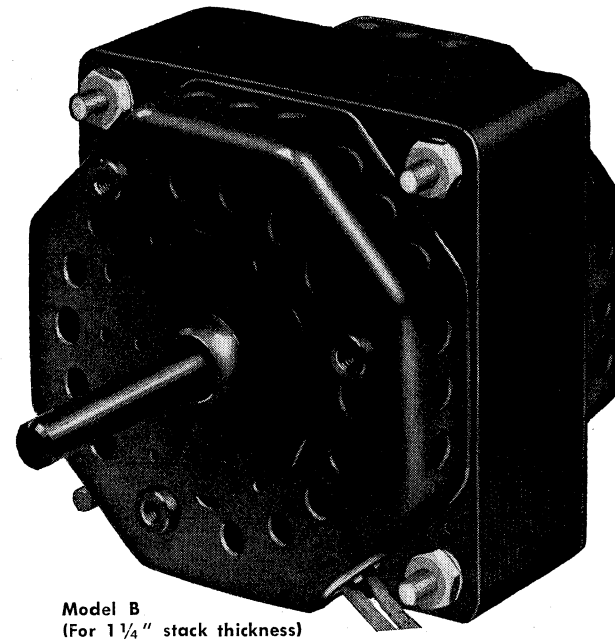
ALLIANCE MOTORS
GENERAL TYPES FOR SMALL LOADS

MODEL B Shaded Pole Induction Motor

FOR HI FIDELITY PLAYERS FANS — RECORDERS — HEATERS and OTHER DEVICES

Model B is a 4-pole shaded pole induction motor, especially adapted for such devices as fans, unit heaters, blowers, air circulators, disc, tape and wire recorders. Comes in three standard lamination stack thicknesses. The range of power is from 1/100 h.p. up to 1/25 h.p. Where necessary the motor can be supplied completely enclosed.

Important advantages for Model B are economy of operation, low induced hum, low magnetic field, cool running, flexible power range and compactness. A real Hi-Fi power plant.



Model B
(For 1¼" stack thickness)
List Price $15.10

SPECIFICATIONS

MECHANICAL

3⅜" square, with length of 2⅛" over the end bracket for the 1¼" stack. 5/16" diameter shaft.

Porous bronze, oillness type, self aligning bearings — amply proportioned, with large oil reserves.

Semi-open or fully enclosed construction. Can be supplied with oil tubes if required.

Four No. 10-32 bolts equally spaced for end mounting or motor can be supplied with mounting bushings on end covers.

¾", 1¼" and 1¾" lamination stacks depending on rating required.

Max. weight — approx. 5.6 lbs. for largest stack thickness.

Single Phase, 4-pole, shaded pole induction motor with squirrel cage rotor.

Approx. 1/25 h.p. for fans — approx. 1/40 h.p. for mechanical loads without external cooling. Entire power range runs from 1/100 h.p. to 1/25 h.p. for semi-enclosed construction.

Starting torque approx. 40% of torque at full load rating. 1550 r.p.m. full load speed.

A. C. only — 115 volts, 60 cycles. Clockwise or counter clockwise rotation — not reversible. Can be wound for 50 cycles and other voltages.

Internal cooling fans on each end.

FOR DETAILED INFORMATION . . . CATALOG SHEETS
OR ADVICE ON SPECIAL PROBLEMS WRITE THE FACTORY.

ALLIANCE MANUFACTURING COMPANY
ALLIANCE, OHIO

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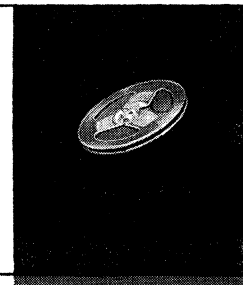
REG. U.S. PAT. OFF.

SCOTCH BRAND Magnetic Tape



"SCOTCH" Brand Magnetic Tape, the acknowledged international standard of the recording industry. Stock the leader, promote the leader. "SCOTCH" Brand Magnetic Tapes made in U.S.A. by Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota.

SCOTCH BRAND Magnetic Tape No. 111

Plastic Base—Red Oxide Coating

High fidelity plastic tape for every recording need, the acknowledged international standard of the recording industry. Dry lubricated.

TYPE	LENGTH	REEL	LIST PRICE
111A-1.5	150 ft. Plastic	3″	$ .85
111A-3	300 ft. Plastic	4″	1.50
111A-6	600 ft. Plastic	5″	2.25
111A-12	1200 ft. Plastic	7″	3.50
111A-24H	2400 ft. (NARTB Hub)	10½″	8.50
111A-24R	2400 ft. (NARTB Reel)	10½″	10.90
111A-24RPS	2400 ft. (RETMA Plastic)	10½″	10.90
111A-48H	4800 ft. (NARTB Hub)	14″	17.00
111A-48R	4800 ft. (NARTB Reel)	14″	22.10

SCOTCH BRAND Magnetic Tape No. 120

High Output **Plastic Base—Green color for easy recognition**

Unequalled performance in difficult recording applications, giving at least 6 db more output with no increase in noise or harmonic distortion. Dry lubricated. Colored green for easy recognition.

120A-3	300 ft. Plastic	4″	$ 1.75
120A-6	600 ft. Plastic	5″	3.50
120A-12	1200 ft. Plastic	7″	5.50
120A-24H	2400 ft. (NARTB Hub)	10½″	10.00
120A-24R	2400 ft. (NARTB Reel)	10½″	12.85
120A-24RPS	2400 ft. (RETMA Plastic)	10½″	12.85
120A-48H	4800 ft. (NARTB Hub)	14″	20.00
120A-48R	4800 ft. (NARTB Reel)	14″	26.00

SCOTCH BRAND Magnetic Tape No. 190

Extra Play TRADEMARK **Plastic Base Tape**

50% more recording time on one single reel means new freedom from reel change. Exclusive feature is a thinner coating of high potency oxide which gives an appreciably extended high frequency range. Dry lubricated.

190A-9-100G	900 ft. Plastic	5″	$ 3.50
190A-18-100G	1800 ft. Plastic	7″	5.50
190A-36H-100G	3600 ft. (NARTB Hub)	10½″	10.00
190A-36R-100G	3600 ft. (NARTB Reel)	10½″	12.85
190A-36RPS-100G	3600 ft. (RETMA Plastic)	10½″	12.85
190A-72H-100G	7200 ft. (NARTB Hub)	14″	20.00
190A-72R-100G	7200 ft. (NARTB Reel)	14″	26.00

SCOTCH BRAND Magnetic Tape No. 150

Extra Play TRADEMARK PE backing **(Polyester) Weather balanced**

Extra strong "PE" polyester backing assures physical stability in extremes of temperature and humidity. "Weather Balanced", 150 tape is coated with super-sensitive, high potency oxide, offers 50% more recording time on a single reel.

150-9	900 ft. Plastic	5″	$ 4.40
150-18	1800 ft. Plastic	7″	7.95
150-36H	3600 ft. (NARTB Hub)	10½″	16.00
150-36R	3600 ft. (NARTB Reel)	10½″	17.95
150-36RPS	3600 ft. (RETMA Plastic)	10½″	17.95
150-72H	7200 ft. (NARTB Hub)	14″	30.00
150-72R	7200 ft. (NARTB Reel)	14″	36.00

SCOTCH BRAND Magnetic Tape No. 111AM

PE backing **(Polyester)**

High impact strength "PE" polyester backing is coated with standard 111 red oxide. This tape exhibits remarkable physical stability despite sharp changes in temperature and humidity. Dry lubricated.

111AM-6	600 ft. Plastic	5″	$ 5.25
111AM-12	1200 ft. Plastic	7″	9.75
111AM-24H	2400 ft. (NARTB Hub)	10½″	16.95
111AM-24R	2400 ft. (NARTB Reel)	10½″	19.80
111AM-24RPS	2400 ft. (RETMA Plastic)	10½″	19.80
111AM-48H	4800 ft. (NARTB Hub)	14″	33.90
111AM-48R	4800 ft. (NARTB Reel)	14″	39.90

SCOTCH BRAND Magnetic Tape No. 120AM

High Output PE backing **(Polyester)**

Super-sensitive "High Output" oxide is coated on "PE" polyester backing.

120AM-6	600 ft. Plastic	5″	$ 5.75
120AM-12	1200 ft. Plastic	7″	10.75
120AM-24H	2400 ft. (NARTB Hub)	10½″	18.95
120AM-24R	2400 ft. (NARTB Reel)	10½″	21.80
120AM-24RPS	2400 ft. (RETMA Plastic)	10½″	21.80
120AM-48H	4800 ft. (NARTB Hub)	14″	37.90
120AM-48R	4800 ft. (NARTB Reel)	14″	43.90

3M COMPANY

MINNESOTA MINING AND MANUFACTURING COMPANY, ST. PAUL 6, MINN.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

ROBINS INDUSTRIES CORP.

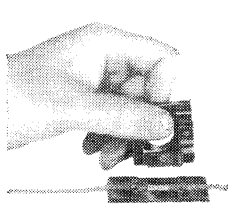
BAYSIDE 61, NEW YORK

formerly YALE INDUSTRIES CORP.

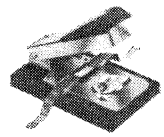
*GIBSON GIRL TAPE SPLICERS

* Reg. U.S. Pat. Off. App. — Patents Pending

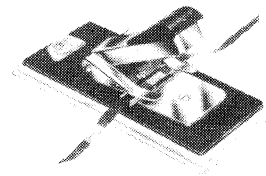
PROFESSIONAL SPLICES IN SECONDS! NO SCISSORS! NO RAZOR BLADES NEEDED!



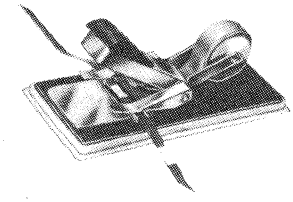
Semi-Pro SP-4



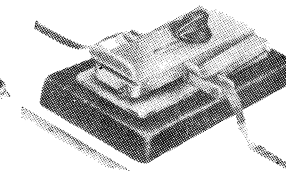
Junior TS-4 JR



Standard TS-4 STD



Deluxe TS-4DLX



Industrial TS-250-1000

MITER CUTS, TRIM CUTS AND BONDS SPLICING TAPE

Robin's GIBSON GIRL Tape Splicers cut the two tape ends diagonally so that they butt together exactly and trim the splices with two slight concave indentations, giving the splice a GIBSON GIRL shape. This leaves the edges of the tape which contact critical parts of the recorder entirely free of adhesive. Adhesive deposited on critical parts of the recorder is a frequent cause of erratic operation, wow and flutter.

GIBSON GIRL TAPE SPLICERS have cutter cartridges which house three long life blades. The cartridge has two operating positions, which are selected by moving the knob back and forth. With the knob in the back position the miter cut is made. In the forward position (Illustrated), the GIBSON GIRL trim cut is made.

NEW! GIBSON GIRL SEMI-PRO TAPE SPLICER—Tape guide has pressure sensitive adhesive for fastening on recorder. Hand held splicer has two sets of blades, one for diagonal cut, the other for GIBSON GIRL trim cut. For amateur and semi-professional use.

GIBSON GIRL SEMI-PRO, Model SP-4 for amateur and semi-professional use ..... List $3.50

GIBSON GIRL JUNIOR SPLICER—Model TS-4JR. Designed for low cost and easy carrying in pocket or equipment bag ..... List $6.50

GIBSON GIRL STANDARD, Model TS-4STD ..... List $8.50

GIBSON GIRL DELUXE, Model TS-4DLX supplied with roll of ROBINS splicing tape ..... List $11.50

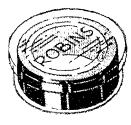
GIBSON GIRL INDUSTRIAL TAPE SPLICERS

For Computer, TV, Industrial & Special Purpose Tapes up to 1" wide

GIBSON GIRL INDUSTRIAL TAPE SPLICERS have all of the features of the TS-4STD. They are ruggedly constructed for industrial use, mounted on a heavy cast base. Precise blade centering adjustment. Long life blades easily replaceable.

Model TS-250 for 1/4" tapes ..... Net $55.00
Model TS-500 for 1/2" tapes ..... Net 55.00
Model TS-625 for 5/8" tapes ..... Net 55.00
Model TS-750 for 3/4" tapes ..... Net 55.00
Model TS-1000 for 1" tapes ..... Net 55.00

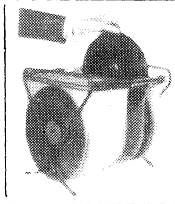
CUSTOM BUILT SPLICERS FOR SPECIAL TAPES AND APPLICATIONS AVAILABLE — SEND FOR QUOTATION.



ROBINS SPLICING TAPE

Robins splicing tape is specifically made for splicing recording tape. Tackiness, thickness, strength and cold flow are carefully controlled. Individually packed in crystal clear plastic container.

Cat. No. ST-500—1/2" x 100" ..... List $0.39



AUD-O-FILE *(Patent Pending)*

A New Concept in Record Storage

50 heavy guage transparent plastic envelopes, each envelope suspended from two slide rods so that all the envelopes close at once when they are pushed together. Record labels are visible. Eliminates the keeping of indexes and inserting of the records in plastic sleeves, jackets and albums. K.D. ..... Net $24.99

Cat. No. AF-50 (stores 50 records)

ROBINS PHONO ACCESSORIES

KLeeNeeDLE Automatic Changer Needle Brush Automatically keeps needle clean by removing "dust blob" each time tone arm passes over brush. Adjustable height fits most record changers. Pressure sensitive adhesive for mounting supplied.
Cat. No. NB-1 ..... List $1.50

ATOMIC JEWEL Radioactive Static Eliminator for Records. Contains a small amount of radioactive material which ionizes the air at the surface of records to provide a leakage path for static electricity. Neutralized static charges prevent the records from attracting dust. 9mm dia., 1/50 oz.
Cat. No. SE-9 ..... List $5.00

CHANGER COVERS — Transparent plastic covers fit many models of the makes listed. (Not for portable units)
Cat. No. CC-1 (VM & Webcor) ..... List $2.00
Cat. No. CC-2 (Garrard, Thorens, Audiogersh) ..... List $2.00

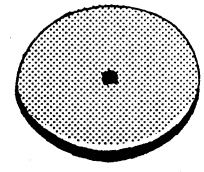
PHONO-CUSHION Polyester foam mat fits most changers and players. Cushions record fall, reduces motor rumble, reduces magnetic pull of pickup, eliminates record slip, covers worn tables. In attractive colors.
Cat. No. PC-10, 10 inch ..... List $1.50
Cat. No. PC-12, 12 inch ..... List $1.50

JOCKEY CLOTH — Anti-Static Record cleaning cloth — cleans, lubricates and eliminates static charges which attract dust by depositing a microscopic hydrophilic film on the record.
Cat. No. SC-1 ..... List $1.00

DISCLOSURES — Virgin polyethylene envelopes for record storage — Protects records from dust, grime, lint, etc.
Cat. No. E-10, 10 inch (pkg. of 15) ..... List $1.50
Cat. No. E-12, 12 inch (pkg. of 10) ..... List $1.50

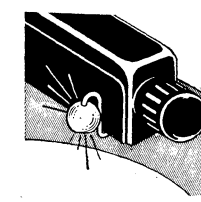
KLeeNeeDLE
NB-1

DisClosures
E-10, E-12



Phono-Cushion
PC-10

Jockey Cloth
SC-1



Atomic Jewel
SE-9

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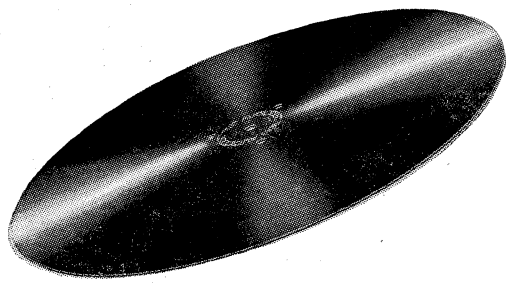
audiodiscs®



For truly fine recording and reproduction

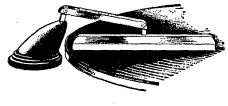
For more than a decade, Audiodiscs have consistently maintained their position of eminent leadership in every field of instantaneous disc recording.

A superior lacquer coating, applied to the mirror-smooth aluminum base by a patented process, gives these outstanding advantages: maximum uniformity of coating, permanent resistance to humidity, longer stylus life, freedom from audible background scratch, long playback life, brilliant frequency response, and freedom from deterioration with age.

Type		Diameter	List Price per Disc	Box Contains
RED LABEL Audiodiscs for professional use. Exceed the most exacting demands for highest quality professional recordings. The finest discs obtainable. Aluminum base. Double sided. Embossed labels.		7"*	$1.28	25
		8"	1.00	
		10"	1.40	
		12"	2.30	
		16"	4.22	
SINGLE FACE RED LABEL Audiodiscs. Same quality as double sided Red Label Audiodiscs, listed above.		12"	1.86	25
		16"	3.32	
YELLOW LABEL Audiodiscs for general use. High uniform quality. The popular choice for all general purpose recording. Aluminum base. Double sided. Yellow paper labels.		8"	.84	25
		10"	1.12	
		12"	1.86	
		16"	3.32	
REFERENCE LABEL Audiodiscs. Provide maximum economy for test cuts, filing, reference recordings, auditions and equipment adjustments. Aluminum base. Double sided. White paper labels.		10"	.96	25
		12"	1.42	
		16"	2.52	
BLUE LABEL Audiodiscs for amateur use. Same high quality lacquer as professional discs, but on thinner aluminum base. Ideal for schools, homes, and general amateur use. Double sided. Blue paper labels.		6½"	.45	50
		8"	.62	
		10"	.90	
MASTER Audiodiscs. The outstanding choice of professional recordists for use where pressings are to be made. Give fine results with either silvering or gold sputterings. Aluminum base. Double sided or single face.	Double Sided	12"	2.92	25
		13¼"	3.75	
		16"	5.46	
		17¼"	6.30	
	Single Face	12"	2.30	25
		13¼"	2.64	
		16"	4.44	
		17¼"	4.60	

*Standard 45 rpm disc with 1½" center hole. Center-hole adapters included for recording on conventional turntable.

Prices slightly higher in Pacific Coast and Southwestern Areas.



AUDIODISC CHIP-CHASER

A simple but perfect solution to the thread removal problem in recording. The felt-lined wiper blade is set on the disc before starting the recording. The Chip-Chaser automatically and infallibly brushes the thread toward the center, winding it up on the overhead post or drive pins, as the case may be.

List Price { for 16" turntables, **$7.00**
for 12" turntables, **$6.00**

"HOW TO MAKE GOOD RECORDINGS"

A complete, authoritative and non-technical handbook on all phases of disc recording—materials, equipment and techniques. Contains 140 pages, profusely illustrated with photographs, charts and diagrams. Includes a glossary of recording terms. Now in its 9th printing. **List price $2.00**

audiopoints®

microscopically matched recording and playback styli

The complete line of Audiopoints covers the full range of recording and playback needs—for professional as well as general use. Audiopoints are made by skilled craftsmen, and conveniently packaged in cards, boxes or envelopes.

RECORDING AUDIOPOINTS

SAPPHIRE No. 14—long recognized as the finest recording stylus made. Short or long dural shank, and 87° or 70° included angle.
List Price—$8.25
(Resharpening cost, 87°—$3.75)
(Resharpening cost, 70°— 3.75)

SAPPHIRE No. 202—a high-quality professional stylus. Short or long brass shank.
List Price—$6.60
(Resharpening cost—$3.25)

SAPPHIRE No. 20—especially designed for professional microgroove recording. Short or long dural shank. **List Price—$8.25**
(Resharpening cost—$3.75)

STELLITE No. 34—a favorite with many professional and non-professional users. Short or long shank. 87° included angle.
List Price $2.50
(Resharpening cost—$1.40)

DIAMOND LAPPED STEEL No. 50—most practical and economical stylus for non-professional use. **List Price—3 for $1.75**

PLAYBACK AUDIOPOINTS

SAPPHIRE No. 113—meets the requirements of the most critical professional recordists. Straight dural shank. **List Price—$4.50**
(Resharpening cost—$2.00)

SAPPHIRE No. 123—for professional use with microgroove recordings. **List Price—$2.00**

"RED CIRCLE" SAPPHIRE No. 103—for professional use with instantaneous recordings or vinyl transcriptions. Straight dural shank.
List Price—$2.00

"RED CIRCLE" SAPPHIRE No. 303—same as No. 103, except with bent dural shank. Ideal for phonograph records. **List Price—$2.00**

STEEL TRANSCRIPTION NEEDLE No. 151—finest steel needles made. 100% shadowgraphed to assure perfection of every needle.
List Price—100 for $1.25
20 for $0.25

RESHARPENING SERVICE

Established years ago, our Resharpening Service materially reduces the over-all cost of using sapphire and stellite Audiopoints. Each resharpened point is disc-tested. Special cards and envelopes are available for returning Audiopoints for resharpening.

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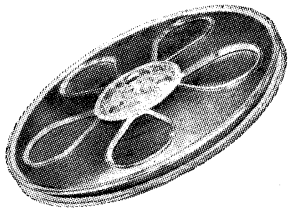
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



audiotape

TRADE MARK

it speaks for itself

Description	Type No.*	Length	Reel†	List Price
PLASTIC-BASE AUDIOTAPE The finest, professional-quality recording tape obtainable — with maximum fidelity, uniformity, frequency response and freedom from noise and distortion. Base material, 1½-mil acetate.	151	150 ft.	3″ Plastic	$0.70
	351	300 ft.	4″ Plastic	1.35
	651	600 ft.	5″ Plastic	2.25
	1251	1200 ft.	7″ Plastic	3.50
	2551H	2500 ft.	NARTB Hub	8.50
	2551R	2500 ft.	10½″ Aluminum Reel	10.90
	‡2551FS	2500 ft.	10½″ Fiberglass (RETMA)	10.90
	5051H	5000 ft.	NARTB Hub	17.00
	5051R	5000 ft.	14″ Aluminum Reel	22.10
COLORED AUDIOTAPE Same professional quality as above, but on blue or green plastic base. Used in conjunction with standard red-brown tape, it provides instant visual identification of recorded selections spliced into a single reel — fast, easy color cueing and color coding.	Green / Blue			
	151G / 151B	150 ft.	3″ Plastic	.70
	351G / 351B	300 ft.	4″ Plastic	1.35
	651G / 651B	600 ft.	5″ Plastic	2.25
	1251G / 1251B	1200 ft.	7″ Plastic	3.50
	2551HG / 2551HB	2500 ft.	NARTB Hub	8.50
	2551RG / 2551RB	2500 ft.	10½″ Aluminum Reel	10.90
	‡2551FSG / ‡2551FSB	2500 ft.	10½″ Fiberglass (RETMA)	10.90
	5051HG / 5051HB	5000 ft.	NARTB Hub	17.00
	5051RG / 5051RB	5000 ft.	14″ Aluminum Reel	22.10
"LR" (Longer Recording) AUDIOTAPE Made on 1-mil Mylar° polyester film, it provides 50% more recording time per reel. Polyester film base material has exceptional strength and durability, plus longer storage life. ° Du Pont Trade Mark	261	225 ft.	3″ Plastic in Self-Mailer Pkg	1.00
	961	900 ft.	5″ Plastic	3.75
	1861	1800 ft.	7″ Plastic	6.50
	3661H	3600 ft.	NARTB Hub	12.50
	3661R	3600 ft.	10½″ Aluminum Reel	15.00
	‡3661FS	3600 ft.	10½″ Fiberglass (RETMA)	15.00
	7261H	7200 ft.	NARTB Hub	26.00
	7261R	7200 ft.	14″ Aluminum Reel	32.00
PLASTIC-BASE "LR" AUDIOTAPE Provides 50% more recording time per reel, on low-cost 1-mil cellulose acetate base, affording maximum economy for applications where high strength is not required.	941	900 ft.	5″ Plastic	$ 3.50
	1841	1800 ft.	7″ Plastic	5.50
	3641H	3600 ft.	NARTB Hub	10.00
	3641R	3600 ft.	10½″ Aluminum Reel	12.85
	3641FS	3600 ft.	10½″ Fiberglass (RETMA)	12.85
	7241H	7200 ft.	NARTB Hub	20.00
	7241R	7200 ft.	14″ Aluminum Reel	26.00
AUDIOTAPE ON 1½-MIL "MYLAR" High-strength, super-durable magnetic tape that meets the highest professional standards of performance. Withstands extreme temperatures, is virtually immune to humidity, and gives maximum tape life under any conditions of use or storage.	671	600 ft.	5″ Plastic	4.25
	1271	1200 ft.	7″ Plastic	7.00
	2571H	2500 ft.	NARTB Hub	12.75
	2571R	2500 ft.	10½″ Aluminum Reel	15.15
	‡2571FS	2500 ft.	10½″ Fiberglass (RETMA)	15.15
	5071H	5000 ft.	NARTB Hub	30.30
	5071R	5000 ft.	14″ Aluminum Reel	36.30
SUPER-THIN AUDIOTAPE Made on ½-mil "Mylar," it gives **twice as much** recording time per reel as standard plastic-base tape. Suitable for extended-play applications where tape tension is not excessive.	1231	1200 ft.	5″ Plastic	5.00
	2413	2400 ft.	7″ Plastic	9.25

* Type Numbers listed cover red oxide tape wound on reels with OXIDE IN. For tape wound with Oxide Out, change last digit of Type No. from "1" to "0."

† **COLORED REELS.** Audiotape 5″ and 7″ plastic reels are available in attractive, jewel-tone colors: red, yellow, green and blue, at no extra cost.

‡ **"FS"** in Type No. indicates Fiberglass reel with solid hub and 5/16″ center hole.

Type EP AUDIOTAPE, extra precision magnetic recording tape for telemetering, electronic computers and other specialized applications, is also available. Ask for bulletin on EP AUDIOTAPE.

AUDIOFILM on 35mm, 17½mm and 16mm base, and AUDIO MAGNETIC DISCS are also available. Ask for information.

AUDIO SELF-TIMING LEADER TAPE—Durable plastic material with spaced markings for accurate timing at all standard speeds. Individually boxed in 100 ft. rolls. **List Price, $0.55**

ADHESIVE REEL LABELS—Convenient press-on adhesive labels for positive identification of tape reels. Easy to apply or remove. **List Price per pack of 30, $0.20**

AUDIO HEAD DEMAGNETIZER—A 110-115 volt A-C electromagnet assembly for removing permanent magnetism from magnetic recording heads. **List Price, $10.00**

AUDIO HEAD ALIGNMENT TAPE—Recorded with perfect alignment at 2,000, 10,000 and 15,000 cps, 15″ per sec. Three hundred ft. on 5″ reel, individually boxed. **List price, $10.00**

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DUOTONE REGULAR NEEDLES, CUTTING NEEDLES, TAPE, DISCS, ELECTROWIPE CLOTH, 45 ADAPTERS

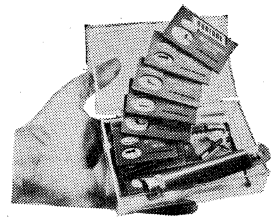
No. 12—SERVICE MAN'S KIT
List $25.00

Consisting of the following most popular needles:

No. 503 No. 535 No. 660 No. 673
No. 517 No. 515 No. 590
No. 570 No. 585 No. 594

Assortments of replacement needles are available in kitform—from $1.50 to $2500.

Included Free: One 50X Microscope, Professional Tools, Jeweler's Screwdriver, Plastic Case.



MIRO-POINT No. 21

The "low surface" specialist of the Duotone Line. Despite this fact it still brings out the highs in a manner never before attained by a needle of this type.

	List Price
Needle list price, each	$0.50
Cat. No. 21-B—Carton of 18 needles	9.00
Cat. No. 21-C—Display card of 18 needles	9.00

DURPOINT No. 15

Long lasting needle for home use. Takes additional polish from the groove of the record thus minimizing record wear, and reducing surface noise. Packed on individual cards.

	List Price
Each Needle	$ 1.00
Cat. No. 15-C—Display card of 12 needles	12.00
Cat. No. 15-B—Carton of 12 needles	12.00
Cat. No. 15-C—(M) Micro-Groove	12.00
Cat. No. 15-AC—All Groove	12.00

NEW DUOTONE KLEEN-SWEEP RECORD BRUSH

Just snap it on and forget it. Brush is made professionally of static-resistant goat hair. Cleans records as they play. Keeps grit and dust out of grooves. Adds life to your records.

	List Price
1 Kleen-Sweep Brush	$ 1.00
Display Card of 12	12.00

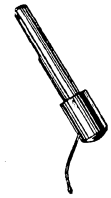
DUOTONE No. 20 "LIFETONE" OSMIUM TIPPED

Especially designed for use with record changers. Its brilliant performance coupled with low surface noise makes it ideal for this purpose. Packed in beautiful plastic container.

	List Price
Each Needle	$ 1.50
Cat. No. 20-B—Carton of 12 needles	18.00
Cat. No. 20-C—Display card of 12 needles	18.00
Cat. No. 20-C—(M) Micro-Groove	18.00
Cat. No. 20-AC—All Groove	18.00

SHOCKPROOF NYLON NEEDLE No. 25

Unique in design, this needle has an osmium tip on spring steel set into a Nylon bumper. This eliminates damage to either needle or record should the pickup arm be accidentally dropped. This needle also eliminates surface noise. Individually packed in attractive lucite container. Ideal for children.



	List Price
Each Needle	$ 1.75
Cat. No. 25-C—Display card of 12 needles	21.00
Cat. No. 25—(M) Micro-Groove*	
Cat. No. 25—(A) All-Groove*	

*Same prices as above.

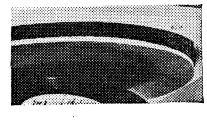
DUOTONE MAGNETIC RECORDING TAPE

Guaranteed for thousands of recordings and playbacks, this tape comes on sturdy six spoke plastic reels for true turning without warping. Constant output controlled, 65 DB Dynamic Range with minimum background. Eliminate rumble and irregularities. High uniform output. Low distortion.

	List Price
R.P.I. 600	$2.25
R.P.I. 1200	3.50
R.P.I. 1800	5.50
Extended Play	5.50

DUOTONE FOAM RUBBER "RECORD SAVER" MAT

Professionally designed, this foam rubber mat slips over spindle and rests on turntable. Thick foam rubber eliminates precious records from chipping and scratching as they drop on automatic record players. Mat also gives smoother playing surface because of thousands of floating air bubbles in foam rubber.



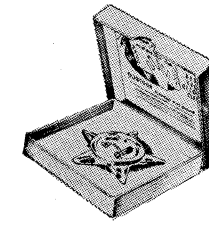
	List Price
Foam Rubber "Record Saver" Mat	$1.50

DUOTONE "ELECTRO-WIPE" MAGIC RECORD CLOTH

- Completely removes record static charges with one wipe.
- Ends record "pops" and "clicks."
- Adds months to record life.
- Secret chemical in cloth.
- Cleans harmful grit from record grooves. Used by leading broadcast stations and record companies.

	List Price
1 Electro-Wipe Magic Record Cloth	$ 1.00
Display box of 24	24.00

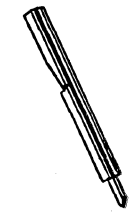
No. 19 "STAR"



Cat. No. 19-B	List Price
Carton of 12 needles	$30.00
Carton of 18 to Lucite Case	45.00

SAPPHIRE CUTTING NEEDLES DURAL SHANK No. 11

This needle is similar to No. 12, and in addition is held to more exacting specifications, as established by leading engineers. Mounted in Dural shank. Packed in plastic container. Each $8.25



Available Stylus No. 12 ..... $6.60 Each, List
(Resharpening—Each $1.75)

MICRO-GROOVE CUTTING NEEDLES .... $8.25 each
LAPPED STEEL CUTTING STYLUS No. 10—Display card of 10 cards $15.00

DUOTONE WIDE-ANGLE 50 POWER HI-FI MICROSCOPE

Special needle slot on end of this microscope lets you check needle without removing from cartridge. Easily focused by turning the end. Pocket clip on side lets you carry microscope in pocket safely. 50 power lens.

	List Price
1 Hi-Fi Microscope	$ 5.00
6 to a display card	30.00

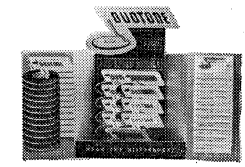
DUOTONE RECORDING BLANKS

All Duotone recording discs have a "professional nitrate" coating.

	Red Label (Alum. Base)		Purple Label (Alum. Base)		Orange Label (Compo Base)	
	Carton	Each	Carton	Each	Carton	Each
6½ inch	100	$.45	100	$.35	100	$.20
8 inch	50	.60	100	.50	—	—
10 inch	50	.90	100	.70	—	—
12 inch	25	1.10	—	—	—	—

ANNIVERSARY DEAL

Sensational Anniversary Deal which is a complete needle department at a tremendous saving. The card is very attractively printed on foil in beautiful colors. Contains the following needles:



8 Lifetones—@ $1.50	$12.00
12 Durpoint Needles—@ $1.00	12.00
12 Miropoint Needles—@ $0.50	6.00
TOTAL LIST	$30.00

Available in standard 78 RPM No. 30C.
Available in all speeds, No. 30AC.
Ask your distributor for special deal on above.

NEW 45 RPM ADAPTOR

1—Slip Proof.
2—Will not chip record.
3—Will not slow down turntable.
4—Guaranteed concentric.
5—Preferred above all others.

	List
5 Adaptors to an Envelope	$0.25
24 Envelopes to a Display Card	6.00

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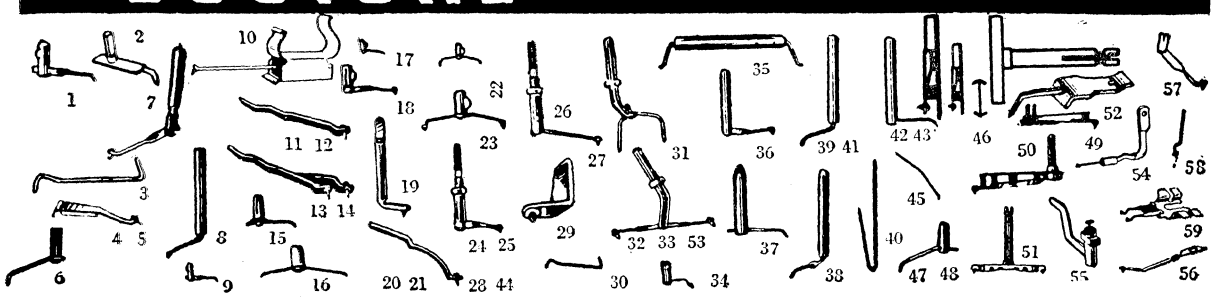
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

DUOTONE REPLACEMENT NEEDLES



FOR AMERICAN MICROPHONE CARTRIDGES

Duotone Numerical Listing	Fig.	For Cartridge Type Number	Type Point	List Price
596	8	S1; S1-A; S2; S2-A	Std.	
597	9	C3	Std.	1.50
598	9	C1; C2	A-G	
599	9	C1; C2	M-G	
652	6	X-101	M-G	2.50

FOR ASTATIC CARTRIDGES

501	1	QT-M; QT2-M; QT3-M; LQD; LQD-1	Std.	1.50
502	1	QT-J; QT2-J; QT3-J; LQD; LQD-1	Std.	2.50
503	1	CAC-J; QT33-J; CQ-J; LQD; LQD-1	M-G	2.50
658	2	66 TY	M-G	2.50
516	1	QT33-M; CQ-M; LQD; LQD-1 Series	M-G	1.50
520	2	LTD3-D; LT4; LT4-D; LT4-D1	M-G	1.50
521	5	GC78-J; GC78-M; MG78-J; MB78-M	Std.	1.50
522	5	GC-J; GC-M; GC1-J; GC-1M; MG-J,M	M-G	1.50
536	1	CQ-AG(M); 14L-3-AG; 15L-3-AG	A-G	1.50
537	1	CQ; AG-M; CQ; AG-J	A-G	2.50
538	2	LT4-AG	A-G	1.50
539	3	GC-AG-M; MG-AG-M	A-G	1.50
540	3	GC-AG-J; MG-AG-J	A-G	2.50
541	6	U-M	M-G	1.50
542	4	U78-M	Std.	1.50
543	4	U-J	M-G	2.50
544	4	U78-J	Std.	2.50
554	47	AG78; ACD Series	Std.	1.50
555	47	AC; ACD Series	M-G	1.50
556	48	AC-AGM; AC-AG-J	A-G	1.50
570	47	AC; ACD Series	M-G	2.50
571	47	AG78; ACD Series	Std.	2.50
572	48	AC-AGM; AC-AG-J	A-G	2.50
573	3	GC-J; GC-1J	M-G	2.50
574	3	GC-78-J	Std.	2.50
579	4	U-J	A-G	2.50
586	2	LT-J; LT1-J; LT-2J; LT3-J	Std.	2.50
587	2	LT-3D; LT-4; LT-4D1; T5	M-G	2.50
588	2	LT-4-AG; LT-5-AG; Col. #105	A-G	2.50
606	7	LT1-M; LT2-M; LT3-M	Std.	1.50
607	7	LT33	M-G	1.50
638	55	GC-D	Twin	3.50
642	55	57T	Twin	3.50

FOR AUDAK CARTRIDGES

583	49	R-2; R-6	Std.	3.50
584	49	R-2; R-6	M-G	3.50

FOR COLLARS AND RONETTE

594	56	Studio "O" & "P"	M-G	2.50
595*	56	Studio "O" & "P"	Std.	2.50

FOR ELECTRO-VOICE CARTRIDGES

529	11	M12; H12; L12	Std.	1.50
530	11	14; 22; L14; 34	M-G	1.50
531	13	16TT; 22TT	Twin	2.50
532	14	16TT; 22TT	Twin	3.50
533	12	M12S; H12S; L12S	Std.	2.50
534	12	14S; 22S; 34S	M-G	2.50
535	11	130-33	A-G	1.50
575	11	130-33S	A-G	2.50

FOR GENERAL ELECTRIC CARTRIDGES

566	50	RPX-040; RPX-041; RPX-046	Std.	3.50
567	50	RPX-040; RPX-041; RPX-046	M-G	3.50
568	51	RPX-050; RPX-047	Twin	5.95
569	51	GE Needle RPJ-006	A-G	3.50
660	50	RPJ-010A	Twin	2.50

FOR MAGNAVOX CARTRIDGES

526	15	560101	Std.	1.50
527	16	560133	Dual	2.50
589	16	560138	Dual	3.50

FOR PHILCO CARTRIDGES

524	19	76-1622	Std.	2.25
525	22	76-4649	Twin	2.50

FOR PHILCO-COLUMBIA CARTRIDGES

Duotone Numerical Listing	Fig.	For Cartridge Type Number	Type Point	List Price
507	17	45-1609; 45-1612	M-G	1.50
508	18	45-1609; 45-1612	M-G	2.00
553	23	76-4649	Twin	3.50

FOR PHILLIPS OF HOLLAND

603	57	AG3012	Std.	3.50
604	57	AG3013	M-G	3.50
605	57	AG3010	Twin	4.50

FOR RCA CARTRIDGES

509	24	70338; 70339; 72551; 39919; 212X1; 9890	Std.	3.50
510	24	74067; 74625	M-G	2.50
515	25	74067; 74625	M-G	1.50
545	24	39550; 48598; 70332; 39851	Std.	2.00
557	26	75475	Std.	2.00
558	26	75475	Std.	3.50
559	27	75475	M-G	2.00
560	27	75475	M-G	2.50

FOR SHURE CARTRIDGES

511	20	P30; P70; P74-AD; P76; P76-AF; P57-S; P76-AFV; P77; W22; W22-AB; W23-A; W23-AB	Std.	1.50
512	28	W60-A; W60-B; W60-HS; W-60PN; W61-B; W65-B; P70-A; P76-A; P76-AF; P30-B; P76-AV	Std.	2.50
513	20	P37-A; P75-A; P73; P72-V; P76-AV; P76-AFV; P77-AV; also turn-over	M-G	1.50
517	28	Admiral 409-All	M-G	2.50
519	20	Admiral 409-A13; P71; P71-B; P71-C; P81; P81-AD; P81-C;	A-G	1.50
552	28	P37; P37-C; P37-A; P81-A; W26-A; W66-A; W26-B; W66-B	A-G	2.50
580	52	WC33-B	Std.	1.50
581	52	W31-AR; WC31-AR	M-G	1.50
582	52	W36-B; WC36-B	A-G	1.50
608	52	WC-33B	Std.	2.50
609	52	W31-AR; WC31-AR	M-G	2.50
610	52	W36-B; WC36-B	A-G	2.50
643	58	PC42AD	Std.	1.50
644	58	PC42AD	M-G	1.50
645	58	PC42AD	Std.	2.50
646	58	PC42AD	M-G	2.50
647	59	P-113	Twin	3.50
648	59	P-113	Twin	2.50

FOR SEEBURG CARTRIDGES

576	29	MRN; A-25162	Std.	2.50
577	29	MRN; A-25162	M-G	2.50

FOR SONOTONE CARTRIDGES

585	54	S-0866	Twin	3.50
612	30	W-7590	A-G	2.50
665	10	N1P-1S	M-G	2.50
613	30	W-7590	A-G	1.50

FOR WEBSTER-CHICAGO CARTRIDGES

513S	53	21P104	Twin	5.00
523	31	21P247; 21P402; 21P403	Twin	4.00
543	33	21P404	Twin	4.00

FOR WEBSTER-ELECTRIC CARTRIDGES

528	35	F14; F14-1; F14-2; F14-3	Twin	2.50
546	34	M1	Std.	1.50
547	37	A1-M; A1-M1; A5-M; A6-M	M-G	1.50
548	37	A1-M; A1-M1; A5-M; A6-M	Std.	1.50
549	*36	A1; A8; A6; A3; A5; A4	M-G	2.50
550	36	A8; A1	Std.	2.50
673	40	WE-122	A-G	1.00
561	42	F16; F16-1; F16-2	Std.	1.50
562	42	F16; F16-1; F16-2	M-G	1.50
563	45	G3-M	Std.	1.50
564	45	G1-M	M-G	1.50
565	45	G2-M	A-G	1.50
621	43	F15; F15-1	Std.	1.50
622	43	F15; F15-1	M-G	1.50
623	44	F10; F11; F11-1	Std.	1.50
624	44	F10; F11, F11-1	M-G	2.50
631	38	Q1	Std.	1.50
632	41	Q3; A9; F13	A-G	1.50
633	39	Q2	Std.	1.50
634	39	Q2; F7-1; F13; F7-2	M-G	1.50
635	46	WS	Std.	1.50
636	46	AJ4	M-G	1.50

All needles listed have osmium tips except those marked (*) which are sapphire. **M-G**, micro-groove, .001". **Std.**, .003". **A-G** for all types, .002". Diamond Tips available on all replacement needles.

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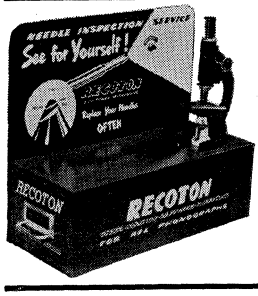
Recoton Phoneedles, Accessories, etc.

No. 1200 PHONEEDLE COUNTER DISPLAYS

Here is the finest in phoneedle counter displays. Attractive birch cabinet contains two metal drawers for storing replacement needles and a drawer with lock for diamond needles, etc. Very well constructed and permanent. Will enhance the beauty of any store. Contains 1 needle each of Cat. Nos. 301 to 442 and 6 No. 3D Combo Cards.

List Price $495.65



No. 756 METAL CABINET WITH MICROSCOPE DISPLAY

A proven merchandiser to intrigue your more technically minded customers. The 200-power microscope enables them to readily determine a bad or worn phoneedle tip. Contains 1 each of Cat. Nos. 301 to 442.

List Price $315.65

ALL GROOVE NEEDLES

No. 2712 SUPEROSMIUM UNIVERSAL 3-SPEED OSMIUM TIPPED

Recoton's fine permanent-type needle made of the finest osmium alloys. Micro-tested and factory-sealed for precision results. Lowest surface noise and hiss. Exceptionally gentle to records.

	List Price
No. 2712—1 needle to a card.....	$ 1.00
12 to a display card.....	12.00

No. 2812 ULTRA UNIVERSAL 3-SPEED SAPPHIRE†

Popular-priced sapphire† tipped needle featuring high-level performance at low-level cost. Quality crafted . . . micro-tested, factory-sealed for fine results.

	List Price
No. 2812—1 needle to a card.....	$ 1.50
12 to a display card.....	18.00

No. 2912 PRIMUS SAPPHIRE† NEEDLE

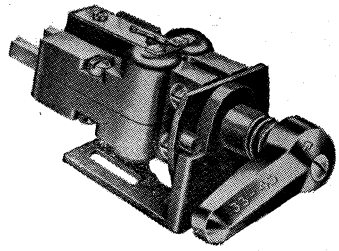
Versatile . . . popular priced . . . ideal for every kind of electrical player including automatic changers. Features special wire-type grip to allow greater flexibility permitting needle to follow modulation track of record faithfully. Fine sapphire† point eliminates surface noise, minimizes record wear. Reproduces entire tonal range.

	List Price
No. 2912—Each needle.....	$ 2.50
12 to display card.....	30.00

No. 2124 OSMIUM TIPPED FEATHER-LITE NEEDLE

Recoton's new osmium tipped bent shank phonoeedle.* Long life construction. Fine value for needle of this quality!

	List Price
No. 2124—1 needle to card.....	$ .50
24 pkgs. to a display card..	12.00



RECOTON-GOLDRING MODEL 500 TURN-OVER CARTRIDGE

Catalog Number		Audiophile Net
500-SS	Cartridge equipped with two sapphire† styli	$9.90
500-SD	Cartridge equipped with diamond stylus for 33 & 45 RPM, sapphire stylus for 78 RPM	23.40
500-DD	Cartridge equipped with two diamond styli	36.90

MAGNETIC RECORDING TAPE For all Tape Recorders

RECOTON Magnetic Recording Tape comes on sturdy six spoke plastic reels which turn true and resist warping.

RECOTON Magnetic Recording Tape is constant output controlled, 65 DB Dynamic Range with minimum background, eliminating rumble and even microscopic irregularities! Wide Bias latitude results in high uniform output and low distortion without critical bias adjustment.

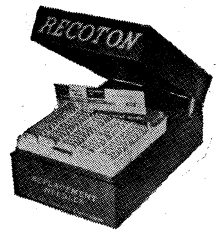
RECOTON Magnetic Recording Tape is easy to erase and is guaranteed for thousands of recordings and playbacks.

Cat. No.	Oxide-Base	Winding Oxide Faces	Lgth. in Ft.	Size of Plastic Reel	List Price
1112A	Red Plastic	In	1250	7"	$3.50
1112B	Red Plastic	Out	1250	7"	3.50
116A	Red Plastic	In	625	5"	2.25
116B	Red Plastic	Out	625	5"	2.25

HOME RECORDING DISCS

Perfected for home, commercial and educational use, these popular recording discs are preferred for their excellent reproductive quality, long life, absence of surface noise. Each disc is smooth cutting, uniformly coated and free from warpage. Carefully inspected at every point of manufacture.

RED LABEL—ALUMINUM BASE		List Price
6½"	packed 100 to a carton.....	$ .45
8"	packed 50 to a carton.....	.60
10"	packed 50 to a carton.....	.90
12"	packed 25 to a carton.....	1.10
GREEN LABEL—THIN ALUMINUM BASE		List Price
6½"	(100 blanks to a carton).....	$ .35
8"	(100 blanks to a carton).....	.50
10"	(100 blanks to a carton).....	.70



No. 171 METAL CABINET

Contains 1 needle each of 301, 304, 310, 311, 312, 316, 317, 318, 319, 320, 337, 339, 340, 354, 355, 372 and 388.....List Price $32.00

No. 99 "ON THE JOB" SERVICEMAN'S KIT

Definitely the answer to a serviceman's prayer. Will service 95% of "on the job" requirements. Can easily be carried in regular tool box. The high impact transparent case measures only 7" long x 3¼" wide x 1¾" deep and will hold approximately 25 needles. Contains one each of these needles: Nos. 303, 311, 315, 316, 318, 319, 336, 338, 355, 356, 385 and 2712R.

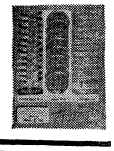
List Price $20.50

RECOTON'S SIMPLIFIED REFERENCE GUIDE features our complete line of phoneedles, cartridges, accessories, etc.

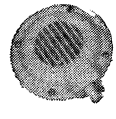
No. 3D COMBO CARD

All your needs on ONE card! CONTAINS 12 - 50c | 3 speed 12 - 1.00 | Pho- 8 - 1.50 | needles

List $30.00



No. 7412 RECOTON LIGHTWEIGHT KIDDIE REPRODUCER



Is so constructed to take abnormal abuse without injury to diaphragm. Fine volume and appearance that will appeal to the kiddies. Ivory or blue. **List $1.50**

45 RPM RECORD INSERT

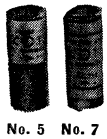
Its unique design guarantees fit! And won't break under normal use — may be adjusted and re-adjusted.

Cat. No. 3224—Contains:
5 inserts in pkg. at 25c ea.
24 pkgs. on display card.
List Price $6.00

CUTTING STYLI

SAPPHIRE† CUTTING NEEDLES
Factory Tested and Sealed

Superbly crafted, equipped with finest sapphire† point. For professional use.



No. 5 No. 7

	List Price
No. 5*—Brass shank, packed in wooden container ...	$6.60
No. 7—Dural shank, packed in wooden container ...	$8.25

*Available in "Long Shank"; specify with order LS after catalog number. No. 7 also available in Microgroove cutting. Specify No. 7MG when ordering.

STEEL CUTTING NEEDLES

Crafted of the highest-grade steel alloy to cut smooth grooves with low surface noise level. Shaped with careful precision, polished to mirror-like finish for accurate recordings. HAND-LAPPED for extra efficiency.

No. 1060	List Price
5 needles to a card.....	$ 1.50
12 cards to a carton.....	18.00

STELLITE CUTTING NEEDLES

Designed for professional use, these high-grade cutting needles have a special patented finish that cuts and polishes groove of disc at same time. Equipped with Dural shank, can be depended upon for noiseless, high-fidelity performances. Will improve any recorder; recommended for slow-speed recordings.

Cat. No.	List Price
11—Stellite Cutting Needle, packed in individual card	$ 2.50
1112—12 cards to a display card	30.00

†Synthetic

PRECISION-TURNED CUTTING STYLI
Made in Switzerland

These steel cutting styli are precision turned of finest Swedish steel alloys. They are diamond-dust hand-lapped for cutting smooth grooves with extremely low surface noise and minimum background.

No. 2330	List Price
Each stylus packed in individual container	$ .50
30 containers to a carton....	15.00

* Reg. U. S. Pat. Off.

RECOTON CORPORATION · LONG ISLAND CITY 4, N. Y.

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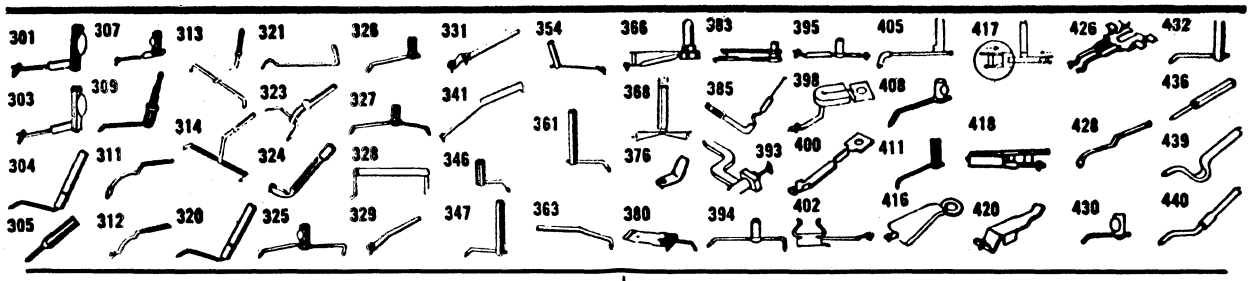
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Recoton Replacement Needles



FOR ASTATIC CARTRIDGES

Tip *	See Fig.	For Cartridge or Series Number	Jewel Tip No.	Jewel Tip List	Osmium T. No.	Osmium T. List
MG	354	AC, ACD, 40, 41, 42,90 Series	370	$2.50	355	$1.50
78	354	AC-78, ACD, 40, 41, 90 Series	371	2.50	354	1.50
AG	354	AC-AG, AC-C-AG, 40-2, 41-2	372	2.50	356	1.50
MG	341	MD-1—Markel Playmaster	360	2.50	358	1.50
78	341	MD-3—Markel Playmaster	359	2.50	357	1.50
AG	341	MD-AG-J, MD-AG-M	379	2.50	378	1.50
MG	304	LT-3D, LT-4D, LT-33	387	2.50	320	1.50
78	304	LT-1M, -2M, -3M, -4M, -3D, -4D	386	2.50	304	1.50
AG	304	LT-4AG, LT-5AG, 60-2	388	2.50	338	1.50
MG	321	GC, GC-1, 51-1, 53-1, 59-1	373	2.50	322	1.50
78	321	GC-1-78, GC-78, QC, 51-3, 53-3, 59-3, 402, 402M	374	2.50	321	1.50
AG	321	GC-AG, -1-AG, 51-2, 53-2, 59-2	340	2.50	339	1.50
MG	301	CAC, CAC-D, LQD, QT, 14, 15L, 44 46, 48, 62	303	2.50	316	1.50
78	301	CAC-78, CAC-D, LQD, CQ, QT, 14L and 15L, 36, 38, 44, 46, 62	302	2.50	301	1.50
AG	301	CAC-AG, 14L3-AG, 15L3-AG, 44-2, 46-2	337	2.50	336	1.50
MG	341	U Series, LP-33, 50-1	343	2.50	341	1.50
78	341	U-78, LP-78, LP-TR, 50-3	344	2.50	342	1.50
78	305	Nylon Series	306	2.50	305	1.50
TW	393	GC-D, 55T, 55TJ (Twin)	393	3.50	.....	.....
TW	393	57T Webcor changers	393	3.50	.....	.....
MG	405	64, 66, 68, 94, 405, 406	.....	.....	405	1.50
78	405	66, 68, 94, 405, 406	.....	.....	407	1.50
AG	405	66-2, 68-2	.....	.....	406	1.50
MG	440	408	440	2.50	.....	.....
AG	436	22, 28, L29, L92, L93, 16, 16L3, 17L3, 18L3, 407	.....	.....	437	1.50
78	436	L10 to L82, 401, 401A, B, PN, PT, M Series	.....	.....	438	1.50
78	405	64, 66, 68, 94, 405, 406	444	$2.50	.....	.....
MG	405	64, 66, 68, 94, 405, 406	445	2.50	.....	.....
AG	405	66-2, 68-2	446	2.50	.....	.....

FOR ELECTRO-VOICE CARTRIDGES

MG	329	14, 34, 44, 46, 46T, 96, 96T, 47	334	$2.50	330	$1.50
78	329	10, 12, 32, 42, 46, 46T, 96	333	2.50	329	1.50
AG	329	30, 33, 33B, 43	375	2.50	335	1.50
TW	331	16, 16TT	332	3.50	331	2.50
AG	436	50, 60, H60	441	2.50	437	1.50

FOR GENERAL ELECTRIC CARTRIDGES

TW	368	RPX-047, RPX-050, RPX-051, RPX-052, RPX-053, RPX-061, RPX-062	368	$5.95	.....	.....
MG	366	RPX-040, RPX-041, RPX-042,	367	$3.50	.....	.....
78	366	RPX-046, RPX-063, RPX-145,	366	3.50	.....	.....
TR	366	RPX-146	369	3.50	.....	.....
TW	417	RPX-047, RPX-050A, RPX-052A, RPX-053A, RPX-061A, RPX-063A	417	5.95	.....	.....
MG	418	Above, w/clip-in shank sty	418	3.50	.....	.....
78	418	Above, w/clip-in shank sty	419	3.50	.....	.....

FOR RONETTE CARTRIDGES

AG	400	FFV, FFOV Series, RA284	443	$2.50	.....	.....

FOR RCA CARTRIDGES

78	309	70338, 70339, 72551	309	$3.50	.....	.....
MG	309	75967, 75475, 74067, 74625, 75575, 76318, 77779	310	2.00	315	$1.50
78	309	9890, 39919, 39550, 38598, 39851, 38453, 70332, 75475, 75967	397	2.00	345	1.50
AG	321	74984, 76297	340	2.50	.....	.....
MG	354	76257	370	2.50	.....	.....
MG	303	73839	303	2.50	.....	.....
78	312	75044	312	2.50	.....	.....
MG	312	75044, 76257	317	2.50	.....	.....
MG	420	78478	423	2.50	420	1.50
78	420	78478	425	2.50	422	1.50
MG	366	74466	367	2.50	.....	.....
TW	368	78634, 78769, 93409	368	5.95	.....	.....
TW	385	78748	385	3.50	.....	.....

*NOTES. MG, Microgroove; 78, 78 rpm; AG, all groove; TR, transcription; TW, Twin Point. DIAMOND TIPS. In all but a very few instances, diamond tips are available where a jewel tip is available. For single diamond tips, Net $15.00. For Twin diamond tips, Net $29.40. For Twin, with diamond MG and sapphire 78, Net $18.00. G.E. Tips 366, 367, 369, 419 with diamond, Net Each $16.50. All sapphires are synthetic.

FOR SHURE CARTRIDGES

Tip *	See Fig.	For Cartridge or Series Number	Jewel Tip No.	Jewel Tip List	Osmium T. No.	Osmium T. List
78	312	P30, P57, P70, P72, P74AD, P76, P77, P79, P85, P88, P89, P94, PC41A, PC41T, PC41AFT, PC41, PN30, W22A & B, W23A & B,	312	$2.50	.....	.....
78	311	W60A & B, W60HS, W60PN,	.....	.....	311	$1.50
MG	312	Admiral 409A11, P-73, PC41, PC41AT, P74AD, P72V, P76V, PC41AF, PC41T, W21F, W21A,				
	311	W21AR, W22AB-T	317	2.50	318	1.50
AG	312	Admiral 409A13-1, P71, P37A, C, CA, P81A, W26A, W26B, W66B	352	2.50	319	1.50
MG	428	C41D, T, P72-P, P76, 76AVT, AFT, PC, T, P77-T, TP, P, P79P,	.....	.....	428	1.50
78	428	WA22AB, ABT, PC42-AD, Admiral 409B19-8	.....	.....	429	1.50
MG	380	W31AR, WC31AR, WC24, PC40, PC11, PC13, PC40T	.....	.....	381	1.50
78	380	PC11, PC13, PC14, PC40, PC40T, WC24, WC24T	.....	.....	380	1.50
AG	380	W36B, WC36B, PC10, PS20	.....	.....	382	1.50
AG	436	P93MG, P95MG, W53MG	.....	.....	437	1.50
MG	440	P93MG, P95MG, W53MG, W42B, W42BH, W42, W56A	440	2.50	.....	.....
MG	420	PC12, PC13, PC14, WC38	423	2.50	420	1.50
78	420	PC12, PC13, PC14, WC38	425	2.50	422	1.50
AG	420	PC12, PC13, PC14, WC38	424	2.50	421	1.50
TW	426	PC2, PC3, PC4, PC5, WC10, WC10D, ML44	427	3.50	426	2.50
78	.....	PC-42AD, Admiral 409B 19-8	447	2.50	.....	.....
MG	.....	PC-42AD, Admiral 409B 19-8	448	2.50	.....	.....

FOR SONOTONE CARTRIDGES

AG	321	W-7590-2	340	$2.50	339	$1.50
TW	385	W-9980, 2TS	385	3.50	.....	.....
MG	402	IP-1S	402	2.50	.....	.....
78	402	IP-3S	404	2.50	.....	.....
AG	402	IP-2S	403	2.50	.....	.....

FOR WEBSTER-CHICAGO CARTRIDGES

TW	323	21P404	.....	.....	313	$4.00
TW	314	21P247, 21P402, 21P403	.....	.....	314	5.50
TW	323	21P247, 21P402, 21P403	.....	.....	323	4.00

FOR WEBSTER-ELECTRIC CARTRIDGES

MG	347	A1 to A11, A1M to A11M, A, AX	349	$2.50	347	$1.50
78	347	A1 to A11, A1M to A11M, A, AX	350	2.50	348	1.50
AG	347	A1 to A11, A1M to A11M, A, AX	.....	.....	351	1.50
MG	312	F10, F11, F11-1	317	2.50	.....	.....
78	311	F10, F11, F11-1	.....	.....	311	1.50
TW	328	F14, F14-1, F14-2, F14-3	.....	.....	328	2.50
MG	347	F15, F18, F19	.....	.....	362	1.50
78	347	F15, F18, F19	.....	.....	361	1.50
MG	347	F16	.....	.....	389	1.50
78	347	F16	.....	.....	390	1.50
MG	361	F20, F21, F22, F23, FX	.....	.....	391	1.50
78	361	F20, F21, F22, F23, FX	.....	.....	392	1.50
MG	363	G1M	.....	.....	364	1.50
78	363	G3M	.....	.....	363	1.50
AG	363	G2M	.....	.....	365	1.50
78	346	M-1	.....	.....	346	1.50
MG	303	BX Series, B1M	303	2.50	316	1.50
AG	439	A9, AJ-4, C4, CX Series, D2 D3, F1P, F2P, F7P, F7P2, F13, 2M, N,				
AG	440	N6, N6P, N7 N-7P, N10, N10P, Q1, Q2, Q3, WX Series	441	2.50	439	1.50
MG	430	AG1, AG7, AG1M, AG7M, AG9M, AG11M	.....	.....	430	1.50
78	430	AG1, AG7, AG1M, AG7M, AG9M, AG11M	.....	.....	431	1.50
MG	432	R1M, R2M, RG1M	.....	.....	432	1.50
78	432	R1M, R2M, RG1M	.....	.....	433	1.50
MG	432	R3M, RG2M	.....	.....	434	1.50
78	432	R3M, RG2M	.....	.....	435	1.50
MG	436	P1-1, F30-1, F31-1, T1A, C9,	.....	.....	436	1.50
78	436	WS Series, AJ-4	.....	.....	438	1.50
AG	436		.....	.....	437	1.50
MG	.....	P1-2	.....	.....	449	1.50
AG	.....	P2-1	.....	.....	450	1.50
78	400	A-200	451	2.50	.....	.....
MG	400	A-201	452	2.50	.....	.....
AG	400	A-202	453	2.50	.....	.....

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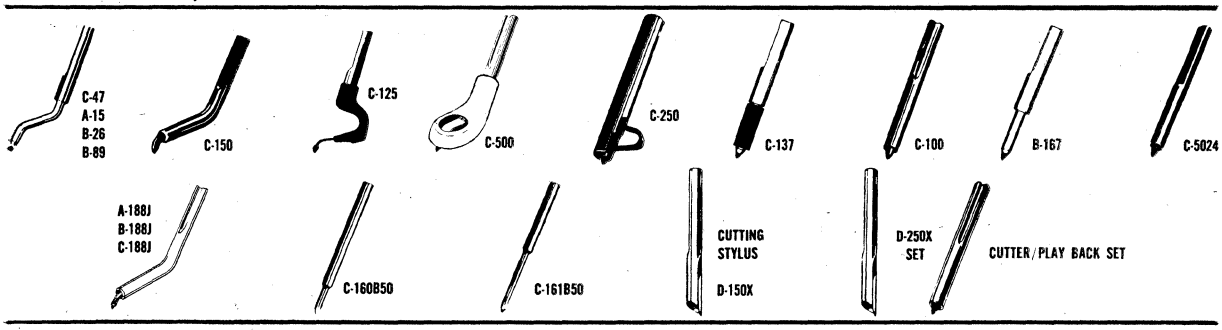
Fidelitone PRODUCTS

PHONOGRAPH NEEDLE FAMILIES LISTED BY BASIC DESIGN OR SHAPE

Manufactured by
PERMO, INC.
Chicago 26, Illinois

Famous FIDELITONE CONVENTIONAL TYPE NEEDLES



SPECIAL REPLACEMENT TYPE NEEDLES

SELECT THE NEEDLES YOU WANT BY THESE THREE SIMPLE STEPS

1. LOCATE THE NEEDLE SHAPE
2. CHECK THE RECORD SPEED
3. SELECT THE TIP MATERIAL

Needle tip size and material code is explained in notes below.

A — MICRO-GROOVE NEEDLE
AA — PAIR MICRO-GROOVE NEEDLES
AC — DUAL TIPPED NEEDLE (ALL SPEEDS)

B — COMPROMISE NEEDLE (ALL SPEEDS)
C — 78 RPM NEEDLES
CC — PAIR 78 RPM NEEDLES

D — CUTTING OR TRANSCRIPTION NEEDLE
DA — DUAL TIPPED TRANSCRIPTION NEEDLE
DB — DUAL TIPPED CUTTING AND PLAYBACK NEEDLE (ALL SPEEDS)

DC — DUAL TIPPED CUTTING AND PLAYBACK NEEDLE (78 RPM)
Letters following needle No. indicate tip material as follows

(M) Permometal
(J) Sapphire *
(D) Diamond

ADMIRAL

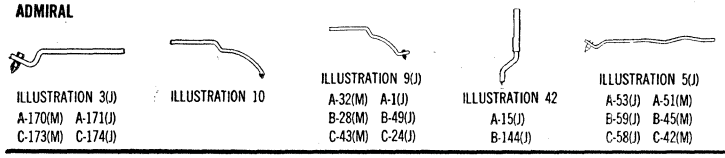


ILLUSTRATION 3(J)
A-170(M) A-171(J)
C-173(M) C-174(J)

ILLUSTRATION 10

ILLUSTRATION 9(J)
A-32(M) A-1(J)
B-28(M) B-49(J)
C-43(M) C-24(J)

ILLUSTRATION 42
A-15(J)
B-144(J)

ILLUSTRATION 5(J)
A-53(J) A-51(M)
B-59(J) B-45(M)
C-58(J) C-42(M)

AMERICAN MICROPHONE

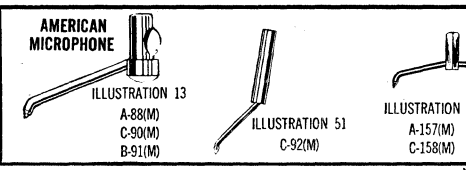


ILLUSTRATION 13
A-88(M)
C-90(M)
B-91(M)

ILLUSTRATION 51
C-92(M)

ILLUSTRATION 21
A-157(M)
C-158(M)

ASTATIC

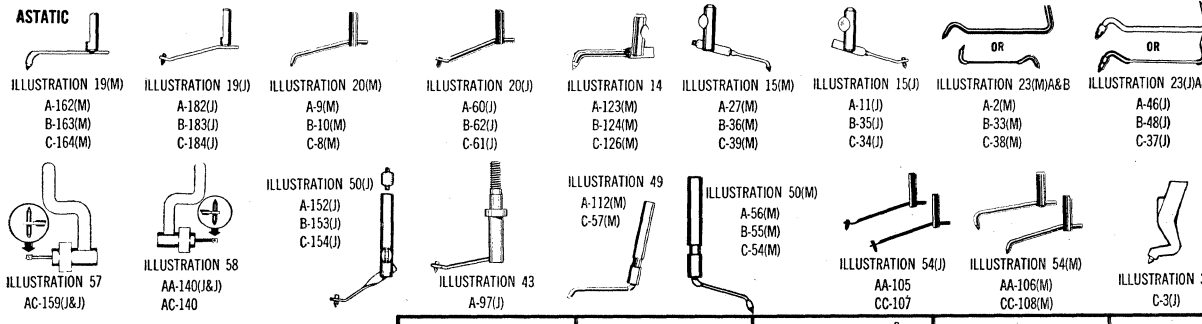


ILLUSTRATION 19(M)
A-162(M)
B-163(M)
C-164(M)

ILLUSTRATION 19(J)
A-182(J)
B-183(J)
C-184(J)

ILLUSTRATION 20(M)
A-9(M)
B-10(M)
C-8(M)

ILLUSTRATION 20(J)
A-60(J)
B-62(J)
C-61(J)

ILLUSTRATION 14
A-123(M)
B-124(M)
C-126(M)

ILLUSTRATION 15(M)
A-27(M)
B-36(M)
C-39(M)

ILLUSTRATION 15(J)
A-11(J)
B-35(J)
C-34(J)

ILLUSTRATION 23(M)A&B
A-2(M)
B-33(M)
C-38(M)

ILLUSTRATION 23(J)A&B
A-46(J)
B-48(J)
C-37(J)

ILLUSTRATION 57
AC-159(J&J)

ILLUSTRATION 58
AA-140(J&J)
AC-140

ILLUSTRATION 50(J)
A-152(J)
B-153(J)
C-154(J)

ILLUSTRATION 43
A-97(J)

ILLUSTRATION 49
A-112(M)
C-57(M)

ILLUSTRATION 50(M)
A-56(M)
B-55(M)
C-54(M)

ILLUSTRATION 54(J)
AA-105
CC-107

ILLUSTRATION 54(M)
AA-106(M)
CC-108(M)

ILLUSTRATION 38
C-3(J)

ILLUSTRATION 7
A-17(M)
C-16(M)
A-30(J)
B-132(J)
C-29(J)

ILLUSTRATION 8
A-66(M)
C-44(M)
A-68(J)
C-67(J)
D-201(J)

ILLUSTRATION 42
B-144(J)

AUDAK

ILLUSTRATION 33
A-155(J)
C-156(J)

CLARKSTAN

ILLUSTRATION 40
A-145(J)
C-146(J)
D-208(J)

COLUMBIA

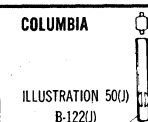


ILLUSTRATION 50(J)
B-122(J)

COLLARO

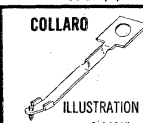


ILLUSTRATION 11
A-142(J)
C-143(J)

CROSLEY

ILLUSTRATION 6
C-131(J)

ELECTRO-VOICE

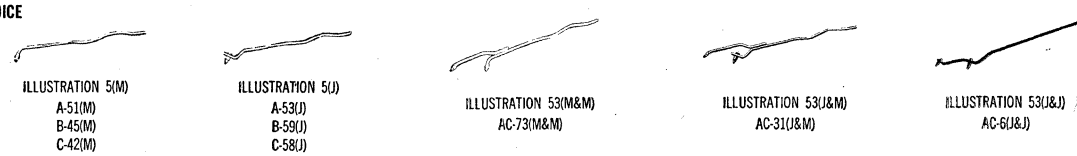


ILLUSTRATION 5(M)
A-51(M)
B-45(M)
C-42(M)

ILLUSTRATION 5(J)
A-53(J)
B-59(J)
C-58(J)

ILLUSTRATION 53(M&M)
AC-73(M&M)

ILLUSTRATION 53(J&M)
AC-31(J&M)

ILLUSTRATION 53(J&J)
AC-6(J&J)

Fidelitone PRODUCTS

PERMO, INC. Chicago 26, Illinois

MANUFACTURERS OF • "FIDELITONE PRODUCTS" • "PERMO POINTS" • AND • "PERMO PRODUCTS"

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Fidelitone PRODUCTS

PHONOGRAPH NEEDLE FAMILIES LISTED BY BASIC DESIGN OR SHAPE

Manufactured by
PERMO, INC.
Chicago 26, Illinois

GENERAL ELECTRIC

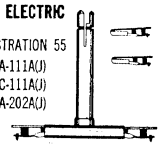
ILLUSTRATION 55
AA-111A(J)
AC-111A(J)
DA-202A(J)

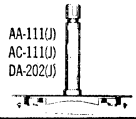
ILLUSTRATION 56
AA-111(J)
AC-111(J)
DA-202(J)

ILLUSTRATION 1
A-179(J)
C-180(J)
D-210(J)

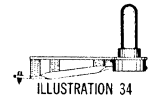
ILLUSTRATION 34
A-109(J)
C-110(J)
D-203(J)

MAGNAVOX

ILLUSTRATION 22
C-65(M)

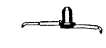
ILLUSTRATION 63(M&M)
AC-64(M&M)

ILLUSTRATION 63(J&J)
AC-134(J&J)

MARKEL

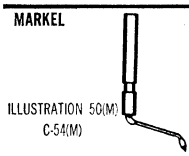
ILLUSTRATION 50(M)
C-54(M)

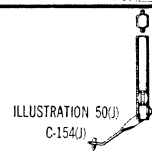
ILLUSTRATION 50(J)
C-154(J)

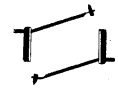
ILLUSTRATION 54(J)
AA-105(J)
CC-107(J)

ILLUSTRATION 54(M)
AA-106(M)
CC-108(M)

PHILCO

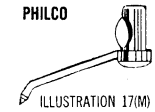
ILLUSTRATION 17(M)
A-22(M)

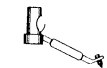
ILLUSTRATION 17(J)
A-7(J)
A-139(J)

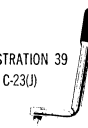
ILLUSTRATION 39
C-23(J)

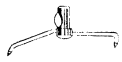
ILLUSTRATION 61(M&M)
AC-21(M&M)

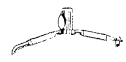
ILLUSTRATION 61(J&M)
AC-20(J&M)

ILLUSTRATION 62(M&M)
AC-127(M&M)

ILLUSTRATION 62(J&J)
AC-148(J&J)

PICKERING

ILLUSTRATION 35
D-205(J)
D-204(J)
C-113(J)
A-138(J)
A-141(M)

R.C.A.

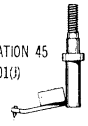
ILLUSTRATION 45
C-101(J)

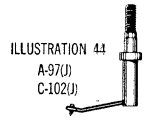
ILLUSTRATION 44
A-97(J)
C-102(J)

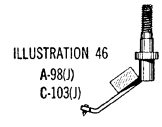
ILLUSTRATION 46
A-98(J)
C-103(J)

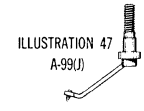
ILLUSTRATION 47
A-99(J)

RONETTE

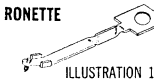
ILLUSTRATION 11
A-142(J)
B-181(J)
C-143(J)

SEEBURG

ILLUSTRATION 35
A-138(J)
A-141(M)
C-113(J)

SHURE

ILLUSTRATION 60
AC-185(M&M)
AC-186(J&J)
AC-187(J&J)

ILLUSTRATION 9(M)
A-32(M)
B-28(M)
C-43(M)

ILLUSTRATION 9(J)
A-1(J)
C-24(J)
B-49(J)

ILLUSTRATION 2
B-14(J)
A-115(M)
B-116(M)
C-114(M)
A-117(J)
B-118(J)
C-119(J)

ILLUSTRATION 3(M)
A-170(M)
C-173(M)

ILLUSTRATION 3(J)
A-171(J)
C-174(J)

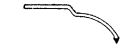
ILLUSTRATION 10

ILLUSTRATION 52
DB-206(M&M)
DC-207(M&M)

SONOTONE

ILLUSTRATION 36
A-168(J)
B-176(J)
C-169(J)

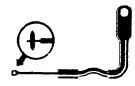
ILLUSTRATION 59
AA-130(J&J)
AC-130(J&J)

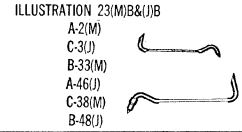
ILLUSTRATION 23(M)B&(J)B
A-2(M)
C-3(J)
B-33(M)
A-46(J)
C-38(M)
B-48(J)

WEBSTER CHICAGO

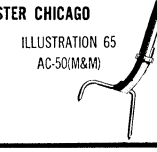
ILLUSTRATION 65
AC-50(M&M)

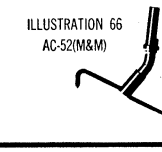
ILLUSTRATION 66
AC-52(M&M)

WEBSTER ELECTRIC

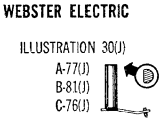
ILLUSTRATION 30(J)
A-77(J)
B-81(J)
C-76(J)

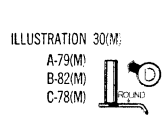
ILLUSTRATION 30(M)
A-79(M)
B-82(M)
C-78(M)

ILLUSTRATION 18
A-149(M)
C-151(M)

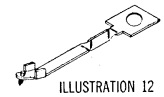
ILLUSTRATION 12

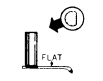
ILLUSTRATION 32
A-165(M)
C-166(M)

ILLUSTRATION 26(M)B
A-4(M)

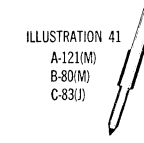
ILLUSTRATION 41
A-121(M)
B-80(M)
C-83(J)

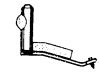
ILLUSTRATION 16(J)
A-136(J)

ILLUSTRATION 16(D)
A-136(D)

ILLUSTRATION 16(M)
A-135(M)

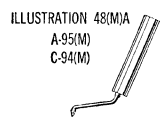
ILLUSTRATION 48(M)A
A-95(M)
C-94(M)

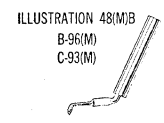
ILLUSTRATION 48(M)B
B-96(M)
C-93(M)

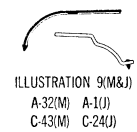
ILLUSTRATION 9(M&J)
A-32(M) A-1(J)
C-43(M) C-24(J)

ILLUSTRATION 64
AC-12(M&M)

ILLUSTRATION 28
C-13(M)

ILLUSTRATION 26(M)A
A-75(M)

ILLUSTRATION 27
C-74(M)

ILLUSTRATION 25
C-5(M)

ILLUSTRATION 29
A-128(M)
C-129(M)

ILLUSTRATION 31

ILLUSTRATION 4
A-85(M)
B-86(M)
C-84(M)

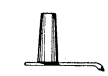
ILLUSTRATION 37
C-87(M)

ILLUSTRATION 24
A-189(M)
B-189(M)

FOR COMPLETE DETAILED APPLICATION INFORMATION ON FIDELTONE NEEDLES REFER TO THE FIDELTONE CATALOG AND SELECTOR GUIDE.

*** SYNTHETIC**

Fidelitone PRODUCTS

PERMO, INC. Chicago 26, Illinois

MANUFACTURERS OF • "FIDELITONE PRODUCTS" • "PERMO POINTS" • AND • "PERMO PRODUCTS"

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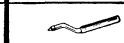
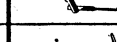
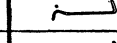
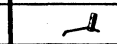
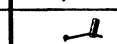
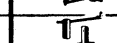
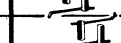
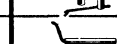
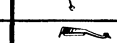
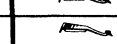
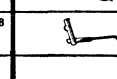
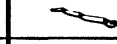
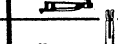
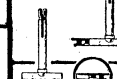
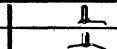
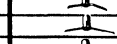
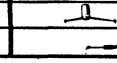
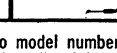
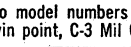
★ Walco REPLACEMENT NEEDLES ★

CARTRIDGE NUMBER	ILLUSTRATION	Cartridge M'fctr's Needle Number	WALCO NEEDLE NUMBER	LIST PRICE	WALCO DIAMONDS NUMBER	WALCO DIAMONDS LIST PRICE
AMERICAN MICROPHONE						
S-1; S-1A; S-2; S-2A		S-1	W-55A	1.50		
CR6; CR6A CR5; CR5A CR7; CR7A		CO-3 CO-1 CO-2	W-56A W-56MGA W-56AGA	1.50 1.50 1.50		
X-105; X-106, X-107		XO-21, XO-22 XO-23, XO-24	W-57A W-57MGA W-57AGA	1.50		
X-108, X-109			WA-400-2 WS-400-2	1.50 2.50		
ASTATIC						
LT-M; LT2-M; LT3-M LT-33		T-(M) T-33(M)	W-1A W-1MGA	1.50 1.50		
QT-M; QT-2M; QT-3M; LQD; LQD-1 series QT-33-J; CQ-J; CQM; CAC; CQ-AG-M		Q-(M) Q 33(M) Q-AG(M)	W-2A W-2MGA W-2AGA	1.50 1.50 1.50		
QT-J; QT-2J; QT-3J; LQD; LQD-1 series LQD, LQD-1 series; CQ-AG-J		Q-(J) Q-33(J) Q-AG(J)	W-2S W-2MGS W-2AGS	2.50	W-2D W-2MGD W-2AGD	25.00
GC-78-M; 402-M GC-M; GC-1M GC-AG-M		G-78(M) G-(M) G-AG(M)	W-3A W-3MGA W-3AGA	1.50 1.50 1.50		
GC-78-J GC-J; GC-1J GC-AG-J		G-78(J) G-(J) G-AG(J)	W-3S W-3MGS W-3AGS	2.50	W-3D W-3MGD W-3AGD	25.00
U-78-M U-M		U-78(M) U-(M)	W-4A W-4MGA	1.50 1.50		
U-78-J U-J		U-78(J) U-(J)	W-4S W-4MGS	2.50	W-4D W-4MGD	25.00
AC-78; ACD series AC; ACD series AC-AG-M		A-3(M) A-1(M) A-AG(M)	W-5A W-5MGA W-5AGA	1.50 1.50 1.50		
AC-78-J; AC-C-78J; ACD series AC-J; AC-C-J; ACD-J series AC-AG-J		A-3(J) A-1(J) A-AG(J)	W-5S W-5MGS W-5AGS	2.50	W-5D W-5MGD W-5AGD	25.00
For Late Model Markel Changer #74 & #75 MD-5 MD-6		M-5(M) M-6(M)	W-5MGA-H(2) W-5A-H(2)	3.00 pr. 3.00 pr.		
For Late Model Markel Changer #74 & #75 MD-5 MD-6		M-5(J) M-6(J)	W-5MGS-H(2) W-5S-H(2)	5.00 pr. 5.00 pr.	W-5MGD-H(2) W-5D-H(2)	50.00
LT-3D; LT-4D; LT-4D1; MD LT-3D; LT-4; LT-4D1 LT-4-AG; LT-5-AG		D-(M) D-33(M) D-AG(M)	W-6A W-6MGA W-6AGA	1.50 1.50 1.50		
LT-3D; LT-4D; LT-4D1; MD LT-3D; LT-4; LT-4D1; LT-5-AG LT-4-AG; Columbia 105 Player		D-(J) D-33(J) D-AG(J)	W-6S W-6MGS W-6AGS	2.50	W-6D W-6MGD W-6AGD	25.00
Nylon 1M Nylon 1J		Nylon(J)	W-7S	2.50		
GC-D,55TJ		GT-J GT-M	W-8TPS W-8TPA	3.50 2.50	W-8TPD W-8DS	49.50 30.00
57-TJ		N-57(J)	W-38TPS	3.50	W-38TPD W-38DS	49.50 30.00
MD-3 MD-1		C-3(M) C-1(M)	W-19A W-19MGA	1.50 1.50		
MD-3 MD-1		C-3(J) C-1(J)	W-19S W-19MGS	2.50	W-19D W-19MGD	25.00
14L-3D; 15L-3D; 14L-3-78; 15L-3-78 14L-3D; 15L-3D; 14L-3; 15L-3 14L-3-AG; 15L-3-AG		R-78 R R-AG	W-25A W-25MGA W-25AGA	1.50 1.50 1.50		
62-1, 64-TMS, 66-1M, 66-2M 66-3M, 66-TMS, 66-TMY 66-TMB, 68-1, 68-2, 68-3 68-TMS, 68-TMY, 68-TMB		K-78 (M) K (M) K-AG (M) K-78 (J) K (J) K-AG (J)	W-39A W-39MGA W-39AGA W-39S W-39MGS W-39AGS	1.50 2.50	W-39D W-39MGD W-39AGD	25.00
COLLARO						
TYPE P TYPE O TO-284-N,TO-284-OV		5304L 5304N	W-64MGS W-64S	2.50	W-64MGD W-64D	25.00
ELECTRO-VOICE						
12; 32; 42; 96; 96-T 14; 34; 44; 96; 96-T 33; 33-B; 43		O-3 O-1 O-2	W-20A W-20MGA W-20AGA	1.50 1.50 1.50		
12; 32; 42; 96; 96-T 14; 34; 44; 96; 96-T 33; 33-B; 43 84,84-S		S-3 S-1 S-2	W-21S W-21MGS W-21AGS	2.50	W-21D W-21MGD W-21AGD	25.00
16, 16TT 16; 16TT 16, 16TT		SO-13 O-13 S-13	W-22AS W-22TPA W-22TPS	3.00 2.50 3.50	W-22DS W-22TPD	30.00 49.50
GENERAL ELECTRIC						
RPX-040; RPX-041 RPX-042; RPX-046 NAB Transcriptions		RPJ-001 RPJ-003 RPJ-005 RPJ-004 RPJ-006 RPJ-002	W-67S W-67MGS W-67Tr	3.50 3.50 3.50	W-67D W-67MGD W-67 TrD	27.50
RPX-047; RPX-050; RPX-051; RPX-052 NAB Transcriptions		RPJ-010A	W-68 TPS	5.95	W-68 DS W-68 TPD	31.00 49.50
RPX-047 RPX-050A RPX-051A RPX-052A		RPJ-013A RPJ-010A RPJ-012A RPJ-007A RPJ-011A	W-66TPS W-66Tr	5.95	W-66 DS W-66 TPD W-66 TrD	31.00 49.50
		RPJ-001S	W-68 MGS	3.50	W-68MGD	27.50
		RPJ-003S	W-68 S	3.50	W-68D	27.50
MAGNAVOX						
560101		560102	W-50A	1.50		
560133		560138	W-51TPA	2.50		
560153		560153-2	W-52TPA	2.50		
560153		560167	W-52TPS	3.50	W-52TPD W-52DS	49.50 30.00
560161		560163	W-75TPS	3.50	W-75TPD W-75DS	50.00 30.00

IMPORTANT NOTICE! Walco model numbers also indicate specifications as follows: **A-Alloy, S-Sapphire (Syn.), MG-Microgroove, AG-**All-groove (3-Speed), TP-Twin point, C-3 Mil Cutter and Playback, **2C-2 Mil Cutter and Playback, Tr.-Transcription (.0025" Tip radius)**

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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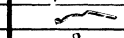
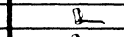
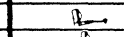
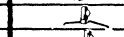
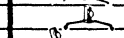
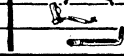
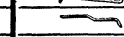
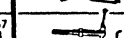
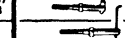
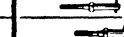
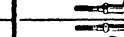
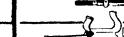
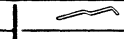
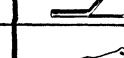
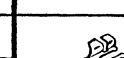
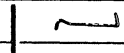
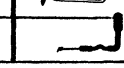
★ Walco REPLACEMENT NEEDLES ★

CARTRIDGE NUMBER	ILLUSTRATION	Cartridge M'fctr's Needle Number	WALCO NEEDLE NUMBER	LIST PRICE	WALCO DIAMONDS NUMBER	WALCO DIAMONDS LIST PRICE
PHILCO						
35-2671-1		45-1597	W-30A	1.50		
35-2671-1		45-1651	W-30S	2.50	W-30D	25.00
45-1609; 45-1612		45-1613	W-45MGA	1.50		
45-1609; 45-1612		45-1613	W-45MGS	2.50	W-45MGD	25.00
76-4649		35-2693	W-46TPA	2.50		
76-4649		45-9589	W-46TPS	3.50	W-46TPD W-46DS	49.50 30.00
45-9792		45-9793; 45-1993	W-47 MGS	2.50	W-47MGD	25.00
Dynamic Reproducer 76-1622 45-1844		45-1596	W-48S	2.50	W-48D	25.00
PICKERING						
R-150		S-20 S-25 S-30	W-53 AGS W-53 Tr W-53 S W-53 MGS	2.50	W-53 AGD W-53 TrD W-53 D W-53 MGD	25.00
RCA						
		74985(M)	W-3MGA	1.50		
74984; 76297		74985(J)	W-3MGS	2.50	W-3MGD	25.00
75044 75044		75045(M) 75046(M)	W-29A W-29MGA	1.50 1.50		
75044 75044		75045(J) 75046(J)	W-29S W-29MGS	2.50	W-29D W-29MGD	25.00
70332; 70338; 70339; 72551; 74067 74625, 75976, 9890, 38453, 38598		72345 74068	W-42S W-42MGS	2.50	W-42D W-42MGD	25.00
39550; 39851; 39919		70915	W-43A	1.50		
75475		75497 77899	W-44A W-44MGA	1.50 1.50		
75475. 75475; 77779; 75575		75497 75496	W-44S W-44MGS	2.50	W-44D W-44MGD	25.00
79791		79849	W-76MGS	2.50	W-76MGD W-76D	25.00
74466		74622	W-67MGS	3.50	W-67MGD	27.50
78769		78770	W-68TPS	5.95	W-68TPD W-68DS	49.50 31.00
79807; 100653		78827	W-75TPS	3.50	W-75TPD W-75DS	50.00 30.00
100329		100330	W-8TPA W-8TPS	2.50 3.50	W-8TPD W-8DS	49.50 30.00
RONETTE						
284T, 284U5 DT-60P, TO-400 TO-284-N, TO-284-OV RA284, 284-P		5304L 5304N	W-64MGS W-64S W-64AGS	2.50	W-64MGD W-64D W-64AGD	25.00
SEEBURG						
(A-251620) 50 Record 78 RPM phono (A245789) 50 Record 45 RPM phono		S-140 (A251621) S-120 (A245794)	W-53S W-53MGS	2.50	W-53D W-53MGD	25.00
SHURE						
W-22AB; W-22AB-T; W22A; WC-22AB; P76V; P76AFV;		Recommended for best results in Turnover Cartridge models	W-29A W-29MGA	1.50 1.50		
P77V; P72V; PC72V; P76AV; P77AV			W-29S W-29MGS	2.50	W-29D W-29MGD	25.00
W60A; W60B; W61B; W60HS; P30, P30B; P70, P74AD; P76; P76AF; P70A; P75A; W66B		A62A A63MG A66U	W-30A W-30MGA W-30AGA	1.50 1.50 1.50		
W21F, P72, P73; W23B P75; P73A, P75A W66B; W26B; W26A; P37A; P34C; P71 P71B; P71C; P81; P81A; P81C		A61A A65MG A67U	W-30S W-30MGS W 30AGS	2.50	W-30D W-30MGD W-30AGD	25.00
WC33B W31AR; WC31AR WC36B; W36B		A52A A53MG A56U	W-31A W-31MGA W-31AGA	1.50 1.50 1.50		
WC33B W31AR; WC31AR WC36B; W36B		A51A A55MG A57U	W-31S W-31MGS W-31AGS	2.50	W-31D W-31MGD W-31AGD	25.00
W56N		A68D	W-80C	2.50		
PC12 PC13 PC14 WC38			W-32S W-32MGS W-32AGS W-32A W-32MGA W-32AGA	2.50 2.50 2.50 1.50 1.50 1.50	W-32D W-32MGD W-32AGD	25.00
PC2, WC10, WC10D PC3		A10S A10DD A10SD	W-35TPS W-35TPA	3.50 2.50	W-35TPD W-35DS	49.50 30.00
PC4, ML-44 (MUSIC LOVER PC5 SERIES)		N4SS N4DS N4DD	W-33TPS W-33TPA	3.50 2.50	W-33TPD W-33DS	49.50 30.00
PC42AD (ADMIRAL 409B19-8)		ADMIRAL 98B15-31 98B15-32	W-34S W-34MGS W-34A W-34MGA	2.50 2.50 1.50 1.50	W-34D W-34MGD	25.00
SONOTONE						
W-7590-3 W-7590-2 W-7590-1		7590-3(M) 7590-2(M) 7590-1(M)	W-3A W-3AGA W-3MGA	1.50 1.50 1.50		
W-7590-3 W-7590-2 W-7590-1		7590-3(J) 7590-2(J) 7590-1(J)	W-3S W-3AGS W-3MGS	2.50	W-3D W-3MGD W-3AGD	25.00
2T-S, 2T-LB-S 2T-SD, 2T-LB-SD 2T-D, 2T-LB-D		9987S, N-2TD N-2TS, N-2TSD	W-75TPS	3.50	W-75TPD W-75DS	50.00 30.00

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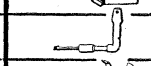
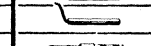
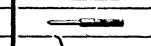
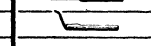
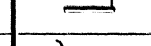
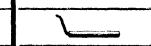
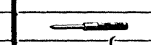
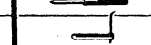
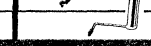
★ Walco REPLACEMENT NEEDLES ★

CARTRIDGE NUMBER	ILLUSTRATION	Cartridge M'fctr's Needle Number	WALCO NEEDLE NUMBER	LIST PRICE	WALCO DIAMONDS NUMBER	WALCO DIAMONDS LIST PRICE
SONOTONE						
1P 2P		N-1P-1S, N-1P-2S N-1P-3S, N-1P-1D N-1P-3D	W-76MGS W-76S W-76AGS	2.50	W-76MGD W-76D W-76AGD	25.00
3T SERIES			W-77TPS	3.50	W-77TPD W-77DS	50.00 30.00
3P SERIES			W-78S W-78MGS W-78AGS	2.50	W-78D W-78MGD W-78AGD	25.00
WEATHERS						
W400 W 401		P600 P604	W-73S W-73MGS W-73AGS	8.00 8.00 9.65	W-73D W-73MGD W-73AGD	33.00
WEBSTER ELECTRIC						
F14. F 14-2 F 14-4, F 14-1, F 14-3		F-14	W-9TPA	2.50		
A1 A1 8 A7, A7 1 A7-5 A7-8 A8. A10		A3S A1S	W 10S W-10MGS	2.50	W-10D W-10MGD	25.00
A1M A1M1, A2M, A5M; A6M; A7M, A8M, A10M, AB1M, AX		A3D A1D	W-11A W-11MGA	1.50 1.50		
Q1		Q-1	W-12A	1.50		
Q3. A9. F13		A2	W-13AGA	1.50		
C9		C9	W-14AGA	1.50		
Q2		Q2	W-15A	1.50		
F16; F16-1, F16-2, F19. F19-1 F15, F15-1, F18; F18-1		F16-3 F16-1 F15-3 W15-1	W-16A W-16MGA W-17A W-17MGA	1.50		
F7P F7; F7-1. F7-2; F13		F7P(M) F7	W-18A W-18MGA	1.50 1.50		
G3M G1M G2M		G3 G1 G2	W-23A W-23MGA W 23AGA	1.50 1.50 1.50		
WS. WS-1. WS-2		WS	W-24A	1.50		
F-20 , F-21, FX		221-16910 221-16909	W-26A W-26MGA	1.50 1.50		
P1-2 P2-1		WE-12LP WE-122	W-40MGA W-40AGA	1.50		
B1M. BX		221-15381	W-27MGA	1.50		
AG1M, AG7M, AG1. AG7		221-16950 221-16951	W-28A W-28MGA	1.50 1.50		
F11. F11-1; F10		F10 F10-1	W-30S W-30MGS	2.50	W-30D W-30MGD	25.00
RG SERIES			W-36A W-36MGA	1.50		
WEBSTER- CHICAGO						
21P247 21P404 21P403 V-42		NE-215	W-60TPA	2.50		
21P404 V 47		NE-316	W-63TPA	2.50		
WILCOX GAY						
23 2144 W56N .003" Cutter & Playback 23-2161, W56N .002" Cutter & Playback		D-11 D-10	W-80C W-80-2C	2 50 2 50		

Walco CONVENTIONAL NEEDLES

Walco "400" Floating Jewel Sapphire*

List price

WS-400 .... $2.50
WS-400-2, All-groove 2.50
400MGS, Microgroove 2.50

Walco "400" PRECIOUS METAL

List price

WA-400 ..... $1.50
WA-400, *All-groove* 1.50
400 MGA, *Microgroove*.... 1.50

Walco ENCORE

List price

WA-100..... $1.00
WA-100-2 *All-groove* 1.00

Exceptionally fine, precious metal tipped needle, price for volume sales.
Carded 12 to display card

Walco GROOVE MASTER

List price

WA-150..... $ .50

24 to display

WA-150 2 *All-groove* $ .50

High-fidelity needle tipped with precious metal alloy. Hand polished point with filter type shank

Walco CUTTING Needles

WC-25 SAPPHIRE*
List price....$8.25
Hand lapped, precision ground.

WC-30 STELLITE**
List price $3.50
Long life, hand-polished stylus.

WC-20 STEEL,***
card of 3
List price.....$1.00
For finer home recording.

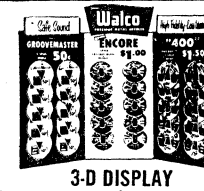
***All Walco Sapphire and Ruby needles are tipped with synthetic sapphire. This same material is widely used by the watch industry for jewel bearings and movements where maximum resistance to wear is desired.**

****Available 12 needles to a counter display card.**
*****Available 12 packages to a counter display card.**

All WALCO conventional shank needles, unless otherwise stated, are available in two types of packaging.
(1) Colorful counter displays of 12 needles each and
(2) Convenient-to-stock punchboard cards of 6.

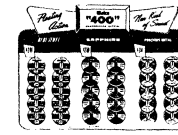
Copyright 1956 Electrovox Company, Inc. East Orange, N. J.

Walco Needles are used as Original Equipment by Leading Manufacturers



3-D DISPLAY

Covers every price range, every speed need in the conventional needle business! A complete needle department on one compact display List $30.00 (30 needles).



Fabulous "400" Display

SAPPHIRE (syn.) RUBY (syn.) PRECIOUS METAL

3-Speed needles — all on a single card! Covers the cream of the conventional needle market. Contains 30 (10 each) Walco sapphire, ruby and precious metal needles. Builds plush needle profits all year long. List $60.00.

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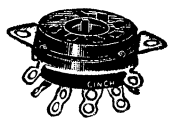
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CINCH SOCKETS ARE STANDARD

MOLDED OCTAL 1-5/16" MOUNTING CENTERS



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Solder coated brass contacts and sturdy steel press-on type saddle with 4 ground lugs. Mounts in 1" chassis hole.

No.	Description	List Price
8AB	Black	Each $ .14
8AM	Mica-Filled	Each .20

MOLDED OCTAL 1½" MOUNTING CENTERS

Same as 8A series molded octal above except has clinch-on type saddle with 4 ground lugs and mounts in 1⅛" chassis hole. Available in black, mica - filled bakelite, or ceramic.

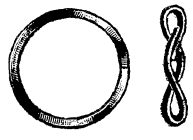
No.	Description	List Price
8EB	Black	Each $ .15
8EM	Mica-Filled	Each .21
8EC	Ceramic	Each .59

RING MOUNT OCTAL

Molded from high dielectric black bakelite. Solder coated brass contacts. Used extensively on test equipment, public address amplifiers and on other apparatus where sockets are exposed. Molded keyway in side engages key in chassis hole, preventing socket from turning. Mounts in $1\frac{11}{64}$" chassis hole. Crimped retainer ring is furnished with these sockets.

No.	Description		List Price Each
8R1	For 1/16" Chassis	Black	$ .24
8R2	For 1/8" Chassis	Black	.24
8R3	For 1/16" Chassis	Mica-Filled	.35
8R4	For 3/32" Chassis	Black	.24
8R5	For 3/32" Chassis	Mica-Filled	.35
8R6	For 1/8" Chassis	Mica-Filled	.35

RETAINER RING



A crimped retaining ring formed of spring steel that will securely anchor sockets designed for ring mounting, such as the one above. Standard finish is cadmium.

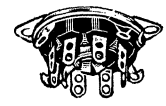
No.	Description	List Price
8R0	.020 Spring Steel	Each $ .06

MOLDED LOKTAL

Steel mounting saddle with solder coated brass contacts and center guide clip with locking spring. $1\frac{5}{16}$" mounting centers. Molded from high dielectric black bakelite or mica-filled low loss bakelite. Mounts in 1" chassis hole.

No.	Description	List Price
8LB	Black	Each $ .25
8LM	Mica-Filled	Each .33

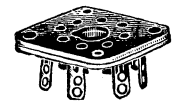
MOLDED LOKTAL



Has same characteristics as molded loktal shown above, except saddle has 4 ground lugs.

No.	Description	List Price
8LB1	Black	Each $ .25
8LM1	Mica-Filled	Each .33

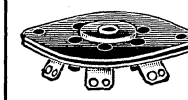
WAFER OCTAL



Laminated bakelite sockets with solder coated brass positive grip contacts. Designed to fit all standard eight prong tubes. Available with $1\frac{5}{16}$" or 1½" mounting centers. Both styles have .136 diameter mounting holes.

No.	Description	List Price
8W1	$1\frac{5}{16}$" Mounting Centers	Each $ .17
8W2	1½" Mounting Centers	Each .17

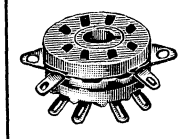
GLASS TUBE SOCKETS



Laminated bakelite sockets with solder coated positive grip brass contacts. 1½" mounting centers. .140 diameter mounting holes. Designed to fit four, five and seven prong tubes.

No.	Description	List Price
4WX	4 Prong	Each $ .15
5WY	5 Prong	Each .15
6WZ	6 Prong	Each .16
7WU	7 Prong	Each .17
7WA	7 Prong (Large)	Each .17

MOLDED OCTAL 1½" MOUNTING CENTERS



Molded from mica-filled low loss bakelite. Silver plated Beryllium copper contacts with hot tinned tails. Heavy brass saddle nickel plated with 4 ground lugs hot tinned. Conforms to JAN-S-28A Specs.

No.	Description	Mtg. Hole	Jan Type No.	List Price Each
8JC	Ceramic	.156 Dia.	TS101C01	$ .70
8JCN	Ceramic	6-32 Tap	TS101C02	.95
8JM	Mica	.156 Dia.	TS101P01	.50
8JMN	Mica	6-32 Tap	TS101P02	.75

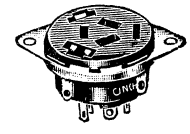
VIBRATOR SOCKET

Laminated bakelite socket with solder coated brass positive grip contacts. Fits Mallory #4549 and 725C vibrators in addition to others. 1½" mounting centers. 140 diameter mounting holes.

No.	List Price
7VS	$ .36

CINCH CAPACITOR "PLUG-IN" SOCKETS

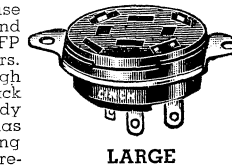
Motion picture, telephone, airborne radio, broadcasting equipment, electric organs, and other electrical equipment need instant replacement when failures in electronic circuits occur at the capacitor connections. Cinch "Know How" has solved this problem.



SMALL

Designed for use with Mallory and Magnavox 1" FP type condensers. Molded from high dielectric black bakelite. Sturdy steel mounting saddle has 4 ground lugs. 1½" mounting centers. 3 recessed center contacts for extended prongs of condenser and two outer contacts flush with surface for short prongs of condenser. All contacts are solder coated for fast, easy soldering.

No.	List Price
2C5	Each $ .63



LARGE

Designed for use with Mallory and Magnavox 1⅜" FP type condensers. Molded from high dielectric black bakelite. Sturdy steel saddle has $1\frac{27}{32}$" mounting centers. Four recessed center contacts for extended prongs of condenser and three outer contacts flush with surface for short prongs of condenser. All contacts are solder coated.

No.	List Price
2C7	Each $ .78

CRYSTAL SOCKETS

2 PRONG 31/64" CENTERS

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated beryllium copper contacts on $\frac{31}{64}$" centers. .120" diameter recessed mounting hole. Socket body is $\frac{25}{32}$" long, $\frac{5}{16}$" thick, and $\frac{39}{64}$" high. For use with FT243 type crystal.

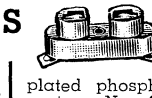
No.	Description	List Price
2KB	Black	Each $ .38
2KM	Mica-Filled	Each .43

4 PRONG

Molded from mica-filled low loss bakelite. Silver plated beryllium copper contacts on $\frac{31}{64}$" centers. .140 diameter mounting hole recessed $\frac{9}{64}$" from surface in $\frac{5}{16}$" diameter hole. Socket body is $\frac{25}{32}$" long, $\frac{45}{64}$" wide, and ½" high. Designed for use with two No. FT243 type crystals.

No.	List Price
2K4	Each $ .51

2 PRONG ½' CENTERS



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated phosphor bronze contacts on ½" centers. No. 4-40 tap mounting hole. 1⅛" long, ⅜" wide and $\frac{7}{16}$" high. For No. CR-1 and CR-7 type crystals.

No.	Description	List Price
2K1B	Black	Each $ .51

Made of ceramic material. Silver plated beryllium copper contacts with hot tinned tails, mounted on .486" centers. ⅛" mounting hole, ⅞" long, ⅜" wide and ⅝" high overall. Similar to above except the tails extend straight down. For No. CR-7 and BH-6 crystals.

No.	Description	List Price
2K2C	Ceramic	Each .37

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7 PIN MINIATURE SOCKETS AND SHIELDS

MOLDED SADDLE TYPE
Top Mount

Molded from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. Cadmium plated steel saddle with 7/8" mounting centers and .093 diameter mounting holes. Solder coated brass contacts. Designed for mounting through top of chassis in 5/8" diameter hole. Will securely hold all standard seven pin miniature tubes.

No.	Description	List Price
7AB1	Black	Each $ .15
7AM1	Mica-Filled	Each .18

MOLDED SADDLE TYPE
Bottom Mount

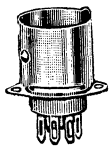
Molded from high dielectric black bakelite or mica-filled low loss bakelite. Cadmium plated steel saddle with 7/8" mounting centers. .093 diameter mounting holes. Solder coated positive grip brass contacts. Designed for mounting through bottom of chassis in 5/8" diameter hole. For use with all standard seven pin miniature tubes.

No.	Description	List Price
7EB	Black	Each $ .15
7EM	Mica-Filled	Each .18

WAFER TYPE SOCKET

Laminations consist of 1/32" top plate and 3/64" bottom plate made from high grade chocolate XP Bakelite. Solder coated brass contacts and center shield.

No.	Mtg. Centers	Mtg. Hole	List Price
7W2A	7/8"	.093	$ .15
7WL2	1"	.093	.18
7WL4	1-5/16"	.136	.19



SHIELD BASE TYPE

Shield base is attached to socket body for mounting through top of chassis. Molded from high dielectric black bakelite, mica-filled low loss bakelite or ceramic material. Solder coated brass contacts and center shield. Cadmium plated steel shield base with 7/8" mounting centers. Use No. 7S2, 7S3, or 7S4 shields illustrated below with these sockets.

No.	Description	List Price
7XB1	Black	Each $ .28
7XM1	Mica-Filled Bakelite	Each .33
7XC	Ceramic	Each .53

Molded from mica filled low loss bakelite or ceramic material. Shield base is attached to socket body for mounting through top of chassis. Same type as illustrated at the left. Materials and finishes are those required by JAN-S-28A Specifications. Shield base has 7/8" mounting centers.

Use No. 7SJ2, 7SJ3 or 7SJ4 shields as shown below.

No.	Description	JAN Type No.	List Price
7JC	Ceramic	TS102C01	.55
7JM	Mica	TS102P01	.40

TUBE SHIELDS — "J" Slot Type

Durable steel shields complete with tube securing spring. "J" slot feature designed to fit securely with Cinch shield base type sockets, such as 7X series shown above. Also fit 7SB type shield bases shown in end column at right. Available in three lengths:

No.	Description	List Price
7S2	1 3/8" Long	Each $ .21
7S3	1 3/4" Long	Each .22
7S4	2 1/4" Long	Each .32

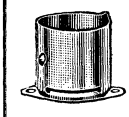
Durable brass nickel plated shields complete with tube securing spring. "J" slot feature designed to fit securely with the shield base type sockets listed above. Materials and finishes are those required by JAN-S-28A Specifications. Available in the sizes listed below.

No.	Description	JAN Type No.	List Price
7SJ2	1 3/8" Long	TS102U01	$ .23
7SJ3	1 3/4" Long	TS102U02	.25
7SJ4	2 1/4" Long	TS102U03	.28

SHIELD BASES — Snap-On Type

Base is made of hardened carbon steel supplying adequate spring retentivity on shield. Base has 7/8" mounting centers with mounting holes that coincide with those for miniature 7 pin sockets as established by R. M. A. standards. For use with saddle type sockets with 7/8" mounting centers illustrated on this page.

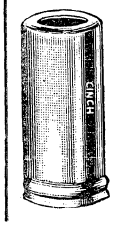
No.	Description	List Price
7SB3	11/32" High	Each $ .07



For J Slot Type

Durable steel shield bases designed for use with "J" slot type shields illustrated at left. Available in two sizes: 7/16" high or 5/8" high. Both types have 7/8" mounting centers.

No.	Description	Material	List Price Each
7SB1	5/8" High	Steel	.22
7SB2	5/8" High	Brass	.44



TUBE SHIELD
Snap-On Type

Shield fits over and outside of shield base. Indentation on shield locks into ridge on base of 7SB3 as shown above.

No.	Description	List Price Each
7S1	1-53/64" High	$ .14

9 PIN MINIATURE SOCKETS AND SHIELDS

MOLDED — SADDLE TYPE
Bottom Mount

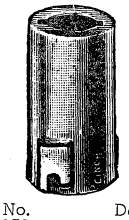
Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed for mounting through bottom of chassis in 3/4" diameter hole. 1 1/8" mounting centers with .093 diameter mounting holes. Solder coated brass contacts and center shield.

No.	Description	List Price
9EB	Black	Each $ .20
9EM	Mica-Filled Bakelite	Each .23

SHIELD BASE

Durable steel shield base designed for use with shields illustrated to right. 1 1/8" mounting centers. May be used with any 9 pin wafer or saddle type sockets shown at the right.

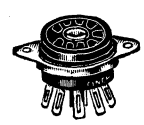
No.	List Price
9SB1	Each $ .28



TUBE SHIELDS

Made from durable steel. Complete with tube securing spring. "J" slot feature designed to fit securely with Cinch 9X series shield base type sockets illustrated to the right. Will also fit No. 9SB shield base shown at left. Available in three lengths.

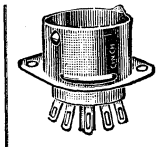
No.	Description	List Price
9S1	1 1/2" Long	Each $ .33
9S2	1 15/16" Long	Each .36
9S3	2 3/8" Long	Each .46



MOLDED—SADDLE TYPE
Top Mount

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed for mounting through top of chassis in 3/4" diameter hole. 1 1/8" mounting centers with .093 diameter mounting holes. Solder coated brass contacts and center shield.

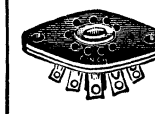
No.	Description	List Price
9AB	Black	Each $ .20
9AM	Mica-Filled	Each .23



SHIELD BASE TYPE

Molded from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. One-piece cadmium plated steel shield base and saddle with .093 diameter mounting holes on 1 1/8" centers. Solder coated brass contacts and center shield. Mounts through top of chassis in 3/4" diameter hole. Use Cinch 9S type shields with these sockets.

No.	Description	List Price
9XB	Black	Each $ .40
9XM	Mica	Each .45
9XC	Ceramic	Each .75



WAFER TYPE

Has two laminations consisting of 1/16" top plate and 3/64" bottom plate made from 1 1/8" mounting centers with .093 diameter holes. Solder coated brass contacts and center shield.

No.	Mtg. Centers	List Price
9W1	1-1/8"	Each $ .21
9W2	1-5/16"	Each .22

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*—MINIMUM BILLING $5.00

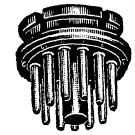
MOLDED CONNECTOR PLUGS AND SOCKETS

8 CONTACT PLUG

Molded from high dielectric black Bakelite. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on 1/16" chassis using No. 1018 retaining ring, or can be used with No. 16F cap shown below. Will fit any standard octal socket.

No.	List Price
8PB	**Each $ .36**

11 CONTACT PLUG



Molded from high dielectric black Bakelite. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on 1/16" chassis using No. 1018 retaining ring. Can be used with No. 16F cap shown below. Will fit No. 11RB socket shown at right.

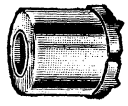
No.	List Price
11PB	**Each $ .41**

11 CONTACT SOCKET

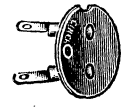
Molded from high dielectric black Bakelite. Solder coated brass contacts. Mounts on 1/16" chassis using No. 1018 retaining ring. Can be used with No. 16F Cap shown below. Used with No. 11PB plug shown at left.

No.	List Price
11RB	**Each $ .48**

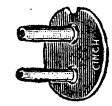
CONNECTOR PLUGS AND SOCKETS



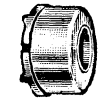
18G



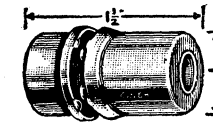
6K2



5K2



18E



Assembled

These low cost plugs and sockets are ideal for a multitude of applications. A "Cinch" where space is at a premium. Complete assembly of plug, socket, male and female shell will close to a compact unit of 1½" long. Polarized—Nickel plated brass tube pins—Solder coated brass contacts. Plugs, sockets and shells have lock feature which prevents turning in shells.

PLUGS

Part No.	No. Prongs	Use Skt. No.	Use Shell No.	List Price
5K2	2	6K2	18E	.09 ea.
5K3	3	6K3	18E	.10 ea.
5K4	4	6K4	18E	.12 ea.
5K5	5	6K5	18E	.13 ea.
5K6	6	6K6	18F	.15 ea.

SOCKETS

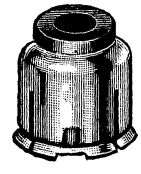
Part No.	No. Prongs	Use Skt. No.	Use Shell No.	List Price
6K2	2	5K2	18G	.08 ea.
6K3	3	5K3	18G	.09 ea.
6K4	4	5K4	18G	.10 ea.
6K5	5	5K5	18G	.12 ea.
6K6	6	5K6	18H	.13 ea.

PLUG CAPS AND SHELLS

For above Battery Plugs and for Connector Plugs and Sockets on page F-34.

Cadmium plated brass shell with rolled edge on 5/16" diameter neck opening. Outside diameter at base .625. Four 1/8" prongs coincide with notches on plugs. Designed for use with Cinch No. 5A1, 5B1, 5AB2, and 5AB3 type battery plugs.

No.	List Price
18A	**Each $ .05**



Made of steel, cadmium plated. Designed to snap on 8 and 11 prong sockets which are grooved for a 1/16" chassis. There is a screwdriver slot at the bottom to facilitate easy removal. Rubber grommet has a 25/64" dia. hole.

No.	List Price
16F	**Each $ .49**

Cadmium plated brass shells complete with fibre insulator. Available with 3/8" or 1/2" diameter hole with rolled edge. Inside diameter 31/32". ½" high. For use with Cinch No. 5C1, 5C2, 5AB6, 5AB7, 5AB8, 5K2, 5K3, 5K4, 5K5, and 5K6 type plugs.

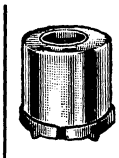
No.	Description	List Price
18E	**3/8" Diameter Hole**	**Each $ .09**
18F	**½" Diameter Hole**	**Each .09**

Cadmium plated brass shell complete with fibre insulator. Same as Cinch No. 18B shell except has ½" neck with 3/8" hole riveted to base. For use with same plugs as No. 18B.

No.	List Price
18J	**Each $ .13**

Cadmium plated brass shell with 23/64" diameter opening on top of shell. Outside diameter at base .625. Four 1/8" prongs coincide with notches on plugs. ½" high. Designed for use with Cinch No. 5A1, 5B1, 5AB2, and 5AB3 type battery plugs.

No.	List Price
18B	**Each $ .05**



Cadmium plated steel shells complete with fibre insulator. Available with 3/8" or ½" diameter hole with rolled edge. Inside diameter 31/32". 29/32" high. For use with Cinch No. 6K2, 6K3, 6K4, 6K5, and 6K6 type sockets.

No.	Description	List Price
18G	**3/8" Diameter Hole**	**Each $ .09**
18H	**½" Diameter Hole**	**Each .09**

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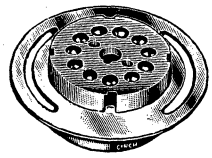
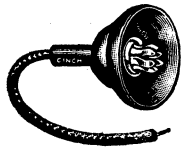
MAGNAL—11 PRONG



Molded from mica-filled low loss bakelite. Socket is $1\frac{53}{64}$" wide and $1\frac{9}{64}$" high. Full floating silver plated beryllium copper contacts designed to insure easy insertion of tubes and yet provided excellent electrical connections. For use with 5BP1 and 2AP1 type cathode ray tubes.

No.	Description	List Price
3M11	Mica Socket	Each $7.60
3R11	Steel Mounting Ring	Each .53

SECOND ANODE CONNECTORS



For television tubes—Silver plated snap button type plug well insulated by 1½" diameter rubber protective cap. Snaps into opening on side of tube. Available in three lengths wire leads.

No.	Description	List Price
3A2	12" Wire Lead	Each $1.14
3A3	15" Wire Lead	Each 1.33
3A4	18" Wire Lead	Each 1.59

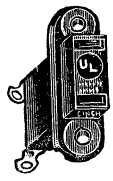
CORONA SHIELDS

Specifically designed for Television and high voltage wiring. These cadmium plated brass shields will provide excellent protection at proper positions in electrical connections. Outside diameter .470. Hole diameter .136. Thickness .172.

No.	List Price
3C1	Each $ .04

110-250 VOLT SOCKET

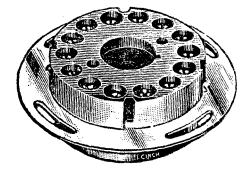
(Underwriters Listed)



When space is at a premium use this 110-250 volt 2 prong socket. Rated at 15 Amp., 110 V. or 10 Amp., 250 V. Molded from high dielectric black bakelite. Solder coated brass contacts on ½" centers designed to accept any 2 prong standard electric plug. Mounts in $\frac{25}{64}$" x $\frac{33}{64}$" hole. .144 diameter mounting holes on 1⅛" centers. Ideal for radio chassis and many other applications.

No.	List Price
2R2	Each $ .25

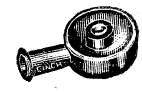
DIHEPTAL 14 PRONG



Molded from high dielectric black bakelite or mica-filled low loss bakelite. $2\frac{7}{32}$" wide and 1⅛" high. Possesses same features as Cinch Magnal socket shown at left.

No.	Description	List Price
3B14	Black Socket	Each $2.53
3M14	Mica Socket	Each 3.16
3R14	Steel Mounting Ring	Each .53

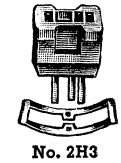
SECOND ANODE CONNECTOR



For diheptal based tubes. Cadmium plated brass contact surrounded by rubber insulator ¾" wide and $1\frac{3}{16}$" long. Snaps over .096 diameter prong on side of diheptal tubes.

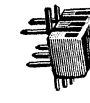
No.	List Price
3A1	Each $ .95

SUB-MINIATURE SOCKETS



No. 2H3

No. 2H5



No. 5PC

No. 5WC

No. 8SM

Use extensively for hearing aids, radios and other electronic apparatus which require sub-miniature tubes. Molded from mica-filled low loss bakelite with silver plated beryllium copper contacts. Available with 3, 5, 6, 7 or 8 contacts. Four prong tubes use No. 2H5 five prong socket. No. 2H5 can be used as a transistor socket. No. 5PC for printed circuits. No. 5WC for wired circuits.

No.	Description	List Price
*2H3	3 Prong	Each $ .325
*2H5	5 Prong	Each .47
*2H6	6 Prong	Each .49
*2H7	7 Prong	Each .52
5PC	5 Prong	Each .62
5WC	5 Prong	Each .67
*8SM	8 Prong	Each .89

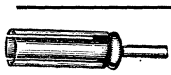
*Mtg. Ring included.

PIN PLUGS — JACKS — CONNECTORS — STRIPS — TERMINALS

PHONO PLUGS

R.C.A. type. For a multitude of applications: record players, auto radios, receivers, recording and reproducing equipment, experimental units, etc. Nickel plated ⅛" diameter tube pin. Available in two lengths: $\frac{9}{16}$" and $\frac{11}{16}$". Use No. 13A with type 81A and 81B phono jacks. Use No. 13E with type 81E extension jack.

No.	Description	List Price
13A	$\frac{9}{16}$" Pin	Each $ .10
13E	$\frac{11}{16}$" Pin	Each .10



ANTENNA PLUG

Motorola type. Nickel plated ⅛" tube pin extends $\frac{17}{32}$" from cadmium plated split brass shall whose 8 cutting edges provide positive grounded connection when inserted into a Cinch No. 81C or 81F connector.

No.	List Price
13B	Each $ .15

SINGLE PHONO JACK

Precision engineered for many uses, such as: R.C.A. type recording units, receivers, and auto sets. Single prong positive grip phono jack mounted on $\frac{1}{16}$" chocolate bakelite disc with $1\frac{11}{16}$" mounting centers Use Cinch No. 13A phono plug with this jack.

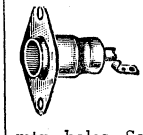
No.	List Price
81A	Each $ .15

ANTENNA CONNECTOR Shell Type

Same as No. 81F on right except without flange. This connector may be soldered in position. Use Cinch No. 13B antenna plug with this jack.

No.	List Price
81C	Each $ .15

ANTENNA CONNECTOR Flange Type



Motorola type shielded jack Sturdy steel flange with $1\frac{5}{16}$" mtg. centers with .136 dia. mtg. holes. Solder coated shell, flange and contact. Can be mounted with screws or rivets. Used extensively on auto radios. Use Cinch No. 13B antenna plug with this jack.

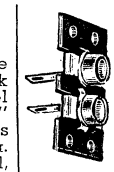
No.	List Price
81F	Each $ .23

INSULATED PIN PLUG

Nickel plated ⅛" brass tube pin $\frac{5}{16}$" long, assembled to $\frac{13}{32}$" long fibre insulator. May be used with Cinch No. 81A and 81B type phono jacks or with No. 49 series contact strips illustrated on page F-35.

No.	List Price
13C	Each $ .12

DOUBLE PHONO JACK



Two positive grip phono jacks mounted on $\frac{1}{16}$" bakelite panel with $1\frac{3}{16}$" mounting centers. Jacks are spaced on ½" centers. Panel is 1½" x ½". Used on recording units, receivers, etc. Use Cinch No. 13A phono plug with this jack.

No.	List Price
81B	Each $ .21

SHIELDED EXTENSION JACK

Cadmium plated brass shell $2\frac{7}{16}$" long with black bakelite insert providing insulation for solder coated brass positive grip contact. Use Cinch No. 13E Phono plug with this jack.

No.	List Price
81E	Each $ .32

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*—MINIMUM BILLING $5.00

DUODECAL — 12 PRONG

No larger in diameter than the tube base and only slightly longer than the tube pin. A new feature incorporates wire strain relief as an integral part of the contact. Molded from high dielectric black bakelite. For use with 10BP4, 2BP1, 5TP4, etc., type tubes. Also RCA 6199 tube.

No.	List Price Ea.
3B12	$1.00

RECESSED PLUG

Recessed subpanel mounting type plug. Underwriter approved for 125 Volts 7 amperes. Perfect for current supply for Television sets. 1¼" mounting centers. Overall length 1⅝". Width ⅝". Body depth ¼".

No.	List Price Ea.
2RP	$ .25

CINCH BATTERY PLUGS

5AB1

6K4

5AB2

5AB3

5AB4

5AB5

5AB6

5AB7

5AB8

5A1

5A2

5A3

5A4

5A5

5B1A

5B2

5M

5F

5D

5MFA

5C1

5C2

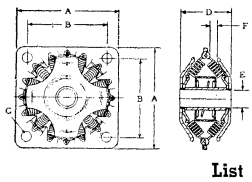
THIS REFERENCE CHART WILL ASSIST YOU IN SELECTING THE CORRECT PLUG FOR POPULAR BATTERIES

Part Number	Voltage	For Burgess No.	For Eveready No.	For R.C.A. No.	For Philco No.	For Ray-O-Vac No.	List Price
5A1	1½ "A"	4F, 4FL, 6F, 8F, 8FL, TE	741, 742 743, 1052P	VS004, VS005, VS007, VS008	P94, P96, P8F1	P94A, P94L, PX, P96A, P98A, P98L	Ea. $ .07
5A2	3 "A"	20F2	X125	VS025	P8024	P9403	Ea. .08
5A3	4½ "A"	G-3	746	VS002	P100	P-83A	Ea. .07
5A4	6 "A"	2F4, 2F4L, F4PI, T5	A509, 718, 744, 747	VS009, VS010, VS011	P4F4R	P694A, P696L, P698A, P698L	Ea. .07
5A5	7½ "A"	G-5	687	VS003		P85A	Ea. .10
5B1A	45 "B" Small	A30, B30, M30, Z30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	Ea. .08
5B2	45 "B" Large	A30, B30, M30, Z30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	Ea. .09
5M	67½ "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Ea. .05
5F	67½ "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Ea. .06
5MFA	67½ "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Ea. .35
5C1	4½ "C"	2370PI	X771	VS030	P3D	P231W	Ea. .12
5C2	22½ "C"	5156PI	768	VS031	P15B5	P5151	Ea. .13
5D	45"B"	U30	415	VS086			Ea. .60
5AB1	1½ "A"-90 "B"	17GD60, 5DA60, 6TA60	758	VS022, VS043	P60D11L	AB82, 10793	Ea. .12
6K4	9 "A"-90 "B"	G6B60	752	VS047			Ea. .10
5AB2	1½ "A"-63-90 "B"	6FA60, 4GA41, 4GA42		VS037	P60A-4L P41A4G	AB419	Ea. .09
5AB3	6 "A"-90 "B"	2F4A60		VS044	P60A8F4	AB694	Ea. .10
5AB4	6 "A"-90 "B"	F4B60		VS048			Ea. .15
5AB5	6 "A"-90 "B"	D4A60, 2F4B60, F4A41		VS046	P41AFL	10896, AB648	Ea. .12
5AB6	7½ "A"-90 "B"	G5A42, F5A60		VS038	P87, P841	AB794	Ea. .13
5AB7	9 "A"-90 "B"	F6A60, G6M60	753, 754	VS018, VS019	P841A	AB878, AB994	Ea. .15
5AB8	9 "A"-90 "B"	4FA60					Ea. .13

EQUIFLEX ALL METAL VIBRATION ISOLATORS

Equiflex Vibration Isolators consist of a double array of springs arranged to form two opposed cones, the springs serving to join the outer plate member resiliently to the inner tubular member. Within the two cones of multiple springs there is a damper consisting of two floating metal stampings held apart by an internal compression spring. The damper serves to keep the amplitude at resonance within safe limits. The mounting incorporates safety rebound washers attached to each end of the inner tubular member, thus taking care of overload and shock conditions and keeping the equipment within proper limits.

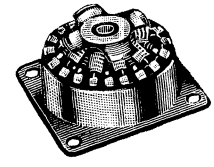
SQUARE PLATE MOUNTING

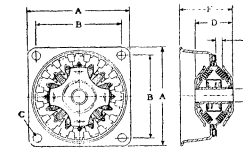


No.	Load in Pds	A	B	C	D	E	List Price Ea.
UES2C	6	1.74 to	1.37 to	.164 to	.776 to	.257 to	$7.50
UES2E	10	1.76	1.38	.169	.786	.262	7.50

F — Max. Movement .1875

CIRCULAR CAP MOUNTING





No.	Load in Pds	A	B	C	D	E	F	List Price Ea.
UEC2C	6	2.365 to	1.932 to	.194 to	.776 to	.257 to	1.12 to	$8.30
UEC2E	10	2.385	1.942	.199	.786	.262	1.16	8.30

G — Max. Movement .1875

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STAND-OFF TERMINALS

These rugged Stand-Off Terminals consist of two heavily hot tinned metal caps insulated from each other by a solid Grade L-5 Ceramic Steatite spacer. One of the metal caps is shaped for riveting into a small chassis hole. The cap at the opposite end provides a junction point for solder connection of wire leads.

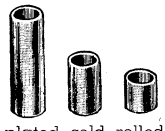
No.	Body Length	List Price Each
SOT-2	3/8"	$ .225

No. 16L

Insulated terminals for television and other high voltage electronic equipment. Provides excellent insulation for passing high voltage wires through chassis. Molded from mica-filled low loss bakelite. Available in two lengths: 9/32" or 13/32". Diameter of cylinder is .110. Mounts in 5/32" dia. hole.

No.	Length	List Price Ea.
16S	9/32"	$ .65
16L	13/32"	.65

METAL SPACER SLEEVES



Zinc plated cold rolled steel spacer sleeves. Six (6) popular sizes for spacing chassis, panels, etc. Illustrations are full size.

No.	Length	Outside Dia.	Inside Dia.	Price
43A	5/16"	1/4"	5/16"	$.02
43B	1/4"	1/4"	3/16"	02
43C	3/8"	1/4"	5/16"	.02
43D	1/2"	1/4"	5/16"	.02
43E	3/4"	1/4"	5/16"	.03
43F	15/16"	1/4"	5/16"	.03

SCREEN TYPE PLUG BUTTON

For portable radios, transmitters, amplifiers, etc. Provides ventilation wherever required in radio, television and electronic equipment. Bright zinc plated steel button snaps in 1" diam. hole. Half size illustration.

No.	Description	List Price
41V	for 1" Hole	Ea. $ .19

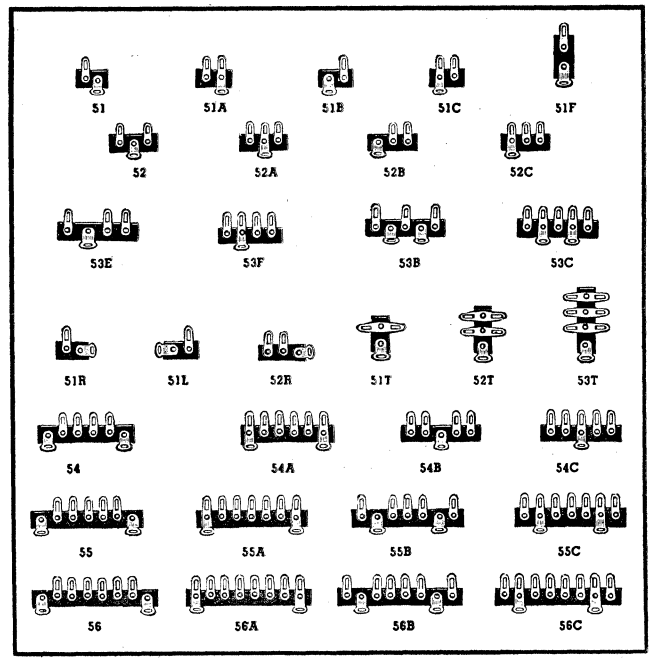
SCREW TYPE TERMINAL STRIPS

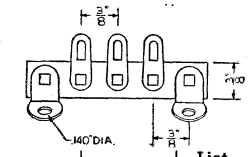
Ideal for chassis or breadboard layouts. Solder coated brass terminals. .136 diameter mounting holes. Strips with 1 to 6 lugs are of 1/16" bakelite; 7 to 10 terminals mounted on 3/32" bakelite. Ends of screws are captivated to prevent removal. Terminals are spaced on 7/16" centers.

No.	Lugs	Mounting Centers	List Price
17- 1	1	7/8"	Each $ .07
17- 2	2	1 5/16"	Each .10
17- 3	3	1 3/4"	Each .15
17- 4	4	2 3/16"	Each .20
17- 5	5	2 5/8"	Each .23
17- 6	6	3 1/16"	Each .28
17- 7	7	3 1/2"	Each .35
17- 8	8	3 15/16"	Each .39
17- 9	9	4 3/8"	Each .45
17-10	10	4 13/16"	Each .49

LUG TYPE TERMINAL STRIPS

These bakelite strips are handy for neatly supporting resistors, condensers, etc., in circuit wiring. Solder coated brass lugs are spaced on 3/8" centers with .140 diameter mounting holes. Chocolate bakelite strips are 1/16" thick and 3/8" wide.





No.	Mtg. Centers	List Price Each
51		$ .03
51A		.03
51B		.03
51C		.03
51R		.04
51L		.04
51F		.04
51T		.04
52		.04
52A		.04
52B		.04
52C		.04
52R		.05
52T		.05
53B	3/4"	.07
53C	3/4"	.07
53E		.06
53F		.06
53T		.07
54	1 7/8"	.09
54A	1 7/8"	.09
54B		.07
54C		.07
55	2 1/4"	.10
55A	2 1/4"	.10
55B	1 1/2"	.10
55C	1 1/2"	.10
56	2 5/8"	.12
56A	2 5/8"	.12
56B	1 7/8"	.12
56C	1 7/8"	.12

CONTACT STRIPS

For connections which must be changed quickly and easily. Solder coated spring steel contacts spaced on 3/8" centers and mounted on 1/16" bakelite. Contacts are sized for 1/8" diameter tube pins such as Cinch No. 13C illustrated on page F-33.

No.	Contacts	Mounting Centers	List Price
49-1	1	3/4"	Ea. $ .07
49-2	2	1 1/8"	Ea. .10
49-3	3	1 1/2"	Ea. .13
49-4	4	1 7/8"	Ea. .16
49-5	5	2 1/4"	Ea. .20
49-6	6	2 5/8"	Ea. .23

GRID CAP SHIELD

Fits firmly over the grid cap, completely shielding the tube. Cadmium plated shield is 1" high with 7/8" slot opening for grid leads.

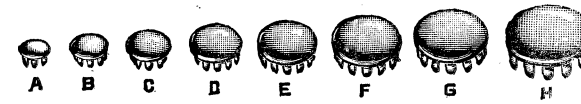
No. 60S **List Price Each $ .13**

CABLE CLAMPS

Cadmium plated sturdy steel cable clamps designed for securing cables ranging from 1/16" diameter to 5/8" diameter. Illustrations are half size.

No.	Dia. of arc	Hole Dia.	Over-all Width	Over-all Length	Hole cent. to arc cent.	List Price Ea.
85A	1/8"	.149	11/32"	15/32"	1/4"	$ .04
85B	5/16"	.140	5/16"	21/32"	3/8"	.03
85C	5/16"	.144	3/8"	23/32"	3/8"	.03
85D	5/16"	.136	5/16"	27/32"	1/2"	.02
85E	1/2"	.147	1/2"	15/16"	7/16"	.03
85F	5/8"	.171	3/8"	1"	1/2"	.02

PLUG BUTTONS



Used to cover punched or drilled holes in metal, wood, fibre, tubes, plastic, cardboard, etc. Nickel plated steel plug buttons for eight popular size holes. Other sizes available, let us know your requirements. Spring tension prongs hold plug bottom firmly in position. Illustrations are 1/3 actual size.

No.	For hole Diameter	Cap Diameter	List Price Ea.
41A	1/4"	13/32"	$ .04
41B	3/8"	1/2"	.04
41C	1/2"	21/32"	.04
41D	5/8"	51/64"	.04
41E	3/4"	15/16"	.04
41F	7/8"	1 1/16"	.05
41G	1"	1 5/32"	.07
41H	1 1/4"	1 7/16"	.08

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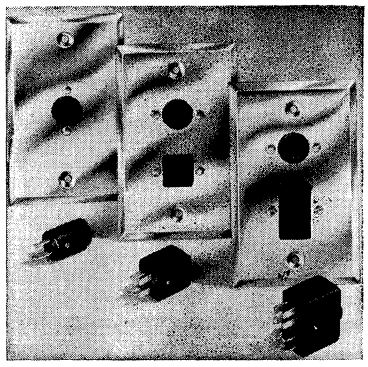
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*—MINIMUM BILLING $5.00

TELEVISION WALL PLATES



302 SERIES

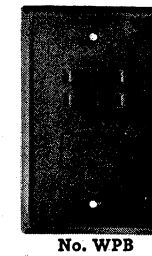
The 302 series wall plates are made of steel with a heavy chrome plate and provide a convenient junction between antenna lead in and television set. They all fit a standard outlet box. Mounting screws furnished. S-302-WPC provides connection for antenna lead in. S-302-4WPC provides connections for antenna lead in and up to 8 contact rotor.
Jones P-302-FHT plug can be used for the antenna socket and a P-304-FHT or P-308-FHT for the rotor socket.

List Price Each		
S-302-8WPC	S-302-WPC	S-302-4WPC
$2.09	$2.53	$2.76

LAW LOSS POLYSTYRENE

This plate covers every requirement for an up-to-date TV connector. Molded of Polystyrene, it assures perfect reception in fringe areas where low loss is of vital importance. One plate provides connections for UHF and VHF and has a knock out provision for the mounting of a standard S-308-AB socket in case a rotor is used. Fits a standard outlet box or can be attached to the wall. Mounting screws for both the plate and socket are furnished. Supplied in brown or Ivory.

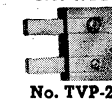
Code	Color	List Price Ea.
WPI	Ivory	$1.55
WPB	Brown	1.55



No. WPB

POLYSTRENE PLUG

The plug is molded of clear polystyrene and matches the 300 Ohm transmission line assuring maximum performance.

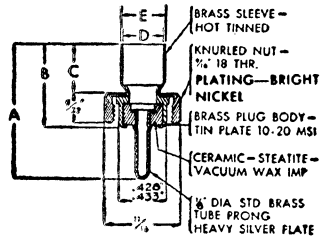


No. TVP-2

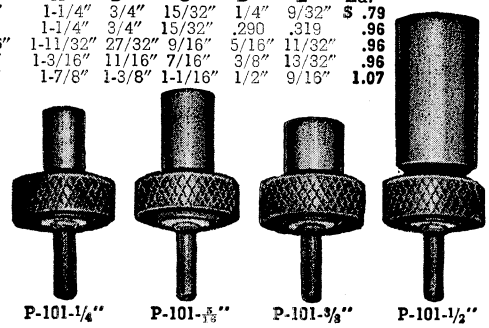
List Price Plug $ .35

SERIES 101 PLUGS

The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal parts are of brass. These Plugs fit all of the No. 101 Series Sockets. A low loss Plug and Socket ideal for high frequency connections.



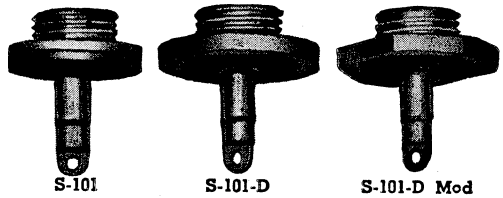
Code No.	A	B	C	D	E	List Price Ea.
P-101-1/4"	1-1/4"	3/4"	15/32"	1/4"	9/32"	$ .79
P-101-.290	1-1/4"	3/4"	15/32"	.290	.319	.96
P-101-5/16"	1-11/32"	27/32"	9/16"	5/16"	11/32"	.96
P-101-3/8"	1-3/16"	11/16"	7/16"	3/8"	13/32"	.96
P-101-1/2"	1-7/8"	1-3/8"	1-1/16"	1/2"	9/16"	1.07



P-101-1/4" P-101-5/16" P-101-3/8" P-101-1/2"

SERIES 101 SOCKETS

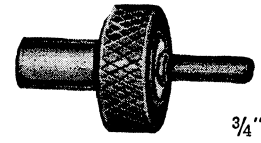
The No. 101 Series Sockets are furnished in three types as shown below. Base is of Brass with Bright Nickel Plated finish. Brass contact is Silver Plated. Insulation of low loss natural color XXX Bakelite. Meets Navy Specifications. The S-101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101—No. 41 drill on 11/16" centers. Mounting holes No. 101-D and 101-D Mod. No. 30 drill on 13/16" centers.



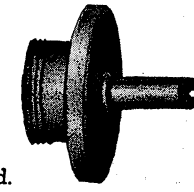
S-101	S-101-D	S-101-D Mod
List Price Each	List Price Each	List Price Each
$0.70	$1.07	1.07

(Above Illustrations are Actual Size)

SERIES 201



3/4"—27 thread.



PLUGS

The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger. Made in one size only with 3/8" ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length 1 9/16". Prong diameter 5/32". Fits only the 201 Socket.

Code	List Price Ea.
P-201-3/8	$1.24

SOCKETS

The 201 Socket is similar to the S-101-D except larger. Brass base is Bright Nickel Plated. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite.

Mounting holes — No. 30 drill on 1" centers.

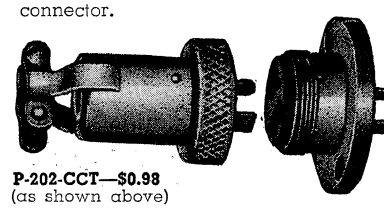
Code	List Price Ea.
S-201	$1.33

SERIES 202

PLUGS

SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only. Metal parts are of Brass with Bright Nickel Plate. Insulation is of Molded Bakelite. Phosphor Bronze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts—double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has 3/4"—27 thread.
Socket Mounting Holes. No. 30 drill on 1" centers.
The S-202-CCT-THR has been added to this series and when used with the P-202-CCT will make an ideal microphone connector.



P-202-CCT—$0.98
(as shown above)
S-202-CCT—$1.00
(Socket instead of Plug)
P-202-FHT—$0.79
(Same as above less Cable Clamps)
S-202-FHT—$0.81
(Same except Socket)

S-202-B—$1.16
(Socket for Base Mtg.)
P-202-B—$1.12
(Same as above except with Plug)

S-202-CCT-THR—$1.33
(as shown above)
Used with **P-202-CCT** as an extension connection

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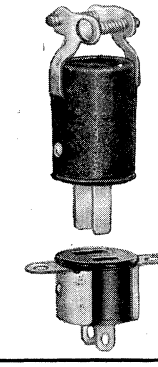
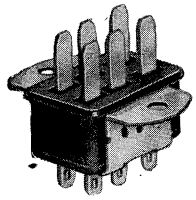
"300" SERIES PLUGS AND SOCKETS

General Specifications



Small in size with good separation between contacts. Made in sizes of 2 to 33 contacts. All Plugs and Sockets are polarized so that Plugs of one size cannot fit into Sockets of another size. Body of Molded Bakelite. Phosphor bronze "knife-switch" type Socket contacts engage both sides of flat Plug contacts—double contact area. Plug prongs are 5/32" wide by 3/64" thick. Formed metal caps are finished in Black Crystal. Fibre linings for caps are also formed. Plugs and Sockets arranged for either cap or panel mounting. Two contact Plugs and Sockets are round as shown at the right, all others are rectangular. Illustrated are the P-302-CCT and S-302-AB. Standard 24 to 33 contact Plugs have a special long polarizing pin in approximate center position to assist in correct insertion and removal.

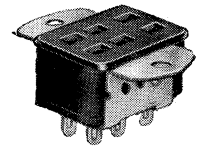
Plug with Angle Brackets



P-306-AB

No.	Contacts	List Price Each
P-302-AB	2	$0.32
P-303-AB	3	.40
P-304-AB	4	.44
P-306-AB	6	.54
P-308-AB	8	.64
P-310-AB	10	.73
P-312-AB	12	.81

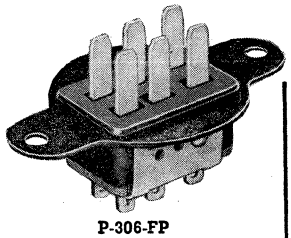
Socket with Angle Brackets



S-306-AB

No.	Contacts	List Price Each
S-302-AB	2	$0.35
S-303-AB	3	.42
S-304-AB	4	.47
S-306-AB	6	.58
S-308-AB	8	.73
S-310-AB	10	.86
S-312-AB	12	1.00

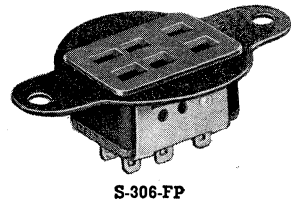
Plug with Flush Plate



P-306-FP

No.	Contacts	List Price Each
P-302-FP	2	$0.56
P-303-FP	3	.61
P-304-FP	4	.67
P-306-FP	6	.75
P-308-FP	8	.85
P-310-FP	10	.94
P-312-FP	12	1.02

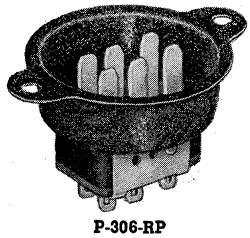
Socket with Flush Plate



S-306-FP

No.	Contacts	List Price Each
S-302-FP	2	$0.57
S-303-FP	3	.64
S-304-FP	4	.69
S-306-FP	6	.79
S-308-FP	8	.94
S-310-FP	10	1.07
S-312-FP	12	1.21

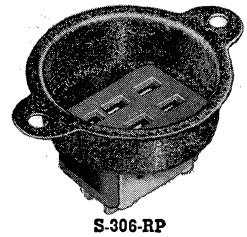
Plug with Recessed Plate



P-306-RP

No.	Contacts	List Price Each
P-302-RP	2	$0.65
P-303-RP	3	.70
P-304-RP	4	.77
P-306-RP	6	.87
P-308-RP	8	1.01
P-310-RP	10	1.16
P-312-RP	12	1.28

Socket with Recessed Plate



S-306-RP

No.	Contacts	List Price Each
S-302-RP	2	$0.67
S-303-RP	3	.74
S-304-RP	4	.79
S-306-RP	6	.95
S-308-RP	8	1.11
S-310-RP	10	1.28
S-312-RP	12	1.46

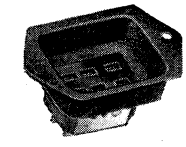
Plug with Deep Bracket

P-306-DB

No.	Contacts	List Price Each
P-302-DB	2	$0.81
P-303-DB	3	.87
P-304-DB	4	.94
P-306-DB	6	1.02
P-308-DB	8	1.11
P-312-DB	12	1.29

The ten contract is not available in this series

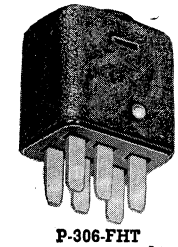
Socket with Deep Bracket



S-306-DB

No.	Contacts	List Price Each
S-302-DB	2	$0.84
S-303-DB	3	.90
S-304-DB	4	.96
S-306-DB	6	1.08
S-308-DB	8	1.21
S-312-DB	12	1.49

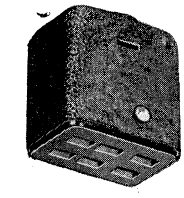
Plug, Flared Hole in Cap



P-306-FHT

No.	Contacts	List Price Each
P-302-FHT	2	$0.54
P-303-FHT	3	.59
P-304-FHT	4	.66
P-306-FHT	6	.75
P-308-FHT	8	.85
P-310-FHT	10	.96
P-312-FHT	12	1.09

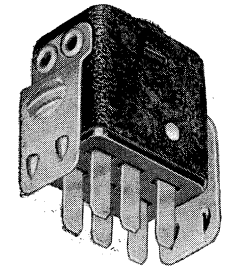
Socket, Flared Hole in Cap



S-306-FHT

No.	Contacts	Each List Price
S-302-FHT	2	$0.56
S-303-FHT	3	.61
S-304-FHT	4	.67
S-306-FHT	6	.79
S-308-FHT	8	.95
S-310-FHT	10	1.10
S-312-FHT	12	1.25

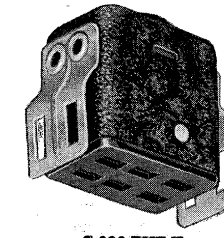
Plug, Flared Hole in Cap and with Latches



P-306-FHT-L

No.	Contacts	List Price Each
P-302-FHT-L	2	$0.74
P-303-FHT-L	3	.79
P-304-FHT-L	4	.86
P-306-FHT-L	6	.95
P-308-FHT-L	8	1.05
P-310-FHT-L	10	1.17
P-312-FHT-L	12	1.28

Socket, Flared Hole in Cap and with Keepers



S-306-FHT-K

No.	Contacts	List Price Each
S-302-FHT-K	2	$0.75
S-303-FHT-K	3	.81
S-304-FHT-K	4	.87
S-306-FHT-K	6	1.00
S-308-FHT-K	8	1.16
S-310-FHT-K	10	1.30
S-312-FHT-K	12	1.46

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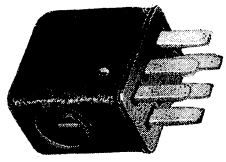
"300" SERIES PLUGS AND SOCKETS

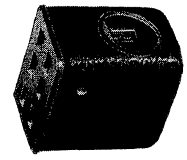
Plug, Flared Hole in End



P-306-FHE

No.	Contacts	List Price Each
P-306-FHE	6	$0.75
P-308-FHE	8	.85
P-310-FHE	10	.96
P-312-FHE	12	1.08

Socket, Flared Hole in End

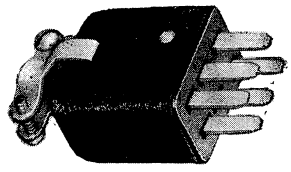


S-306-FHE

No.	Contacts	List Price Each
S-306-FHE	6	$0.79
S-308-FHE	8	.95
S-310-FHE	10	1.10
S-312-FHE	12	1.25

Small size of caps of 302, 303 and 304 will not permit FHE type.

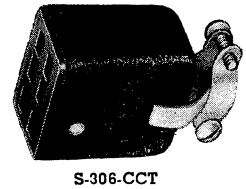
Plug, Cable Clamp in Cap



P-306-CCT

No.	Contacts	List Price Each
P-302-CCT	2	$0.74
P-303-CCT	3	.79
P-304-CCT	4	.86
P-306-CCT	6	.95
P-308-CCT	8	1.05
P-310-CCT	10	1.17
P-312-CCT	12	1.28

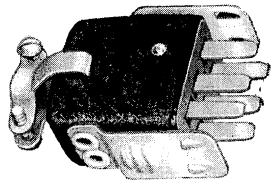
Socket, Cable Clamp in Cap



S-306-CCT

No.	Contacts	List Price Each
S-302-CCT	2	$0.75
S-303-CCT	3	.81
S-304-CCT	4	.87
S-306-CCT	6	1.00
S-308-CCT	8	1.16
S-310-CCT	10	1.30
S-312-CCT	12	1.46

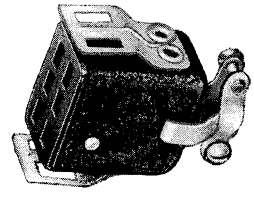
Plug, Cable Clamp in Cap and with Latches



P-306-CCT-L

No.	Contacts	List Price Each
P-302-CCT-L	2	$0.94
P-303-CCT-L	3	.99
P-304-CCT-L	4	1.07
P-306-CCT-L	6	1.16
P-308-CCT-L	8	1.24
P-310-CCT-L	10	1.36
P-312-CCT-L	12	1.50

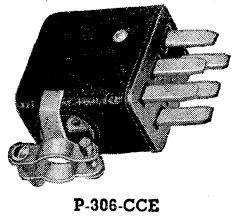
Socket, Cable Clamp in Cap and with Keepers



S-306-CCT-K

No.	Contacts	List Price Each
S-302-CCT-K	2	$0.95
S-303-CCT-K	3	1.01
S-304-CCT-K	4	1.08
S-306-CCT-K	6	1.20
S-308-CCT-K	8	1.35
S-310-CCT-K	10	1.51
S-312-CCT-K	12	1.66

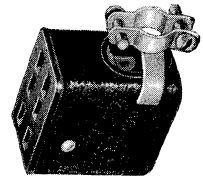
Plug, Cable Clamp in End



P-306-CCE

No.	Contacts	List Price Each
P-306-CCE	6	$0.95
P-308-CCE	8	1.05
P-310-CCE	10	1.17
P-312-CCE	12	1.28

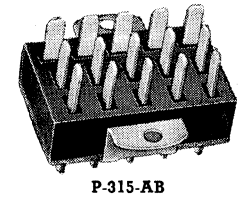
Socket, Cable Clamp in End



S-306-CCE

No.	Contacts	List Price Each
S-306-CCE	6	$1.00
S-308-CCE	8	1.16
S-310-CCE	10	1.30
S-312-CCE	12	1.46

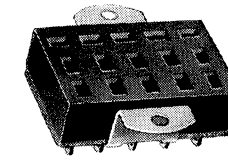
Plug with Angle Brackets



P-315-AB

No.	Contacts	List Price Each
P-315-AB	15	$1.07
P-318-AB	18	1.33
P-321-AB	21	1.67
P-324-AB	24	2.02
P-327-AB	27	2.38
P-330-AB	30	2.73
P-333-AB	33	3.07

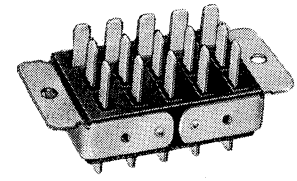
Socket with Angle Brackets



S-315-AB

No.	Contacts	List Price Each
S-315-AB	15	$1.24
S-318-AB	18	1.50
S-321-AB	21	1.85
S-324-AB	24	2.20
S-327-AB	27	2.55
S-330-AB	30	2.92
S-333-AB	33	3.26

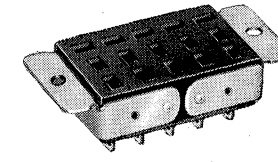
Plug with End Brackets



P-315-EB

No.	Contacts	List Price Each
P-315-EB	15	$1.07
P-318-EB	18	1.33
P-321-EB	21	1.67
P-324-EB	24	2.02
P-327-EB	27	2.38
P-330-EB	30	2.73
P-333-EB	33	3.07

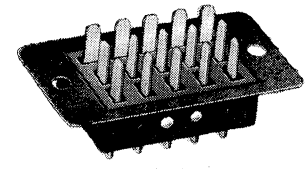
Sockets with End Brackets



S-315-EB

No.	Contacts	List Price Each
S-315-EB	15	$1.24
S-318-EB	18	1.50
S-321-EB	21	1.85
S-324-EB	24	2.20
S-327-EB	27	2.55
S-330-EB	30	2.92
S-333-EB	33	3.26

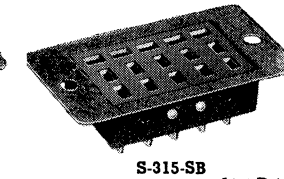
Plug with Shallow Brackets



P-315-SB

No.	Contacts	List Price Each
P-315-SB	15	$1.58
P-318-SB	18	1.95
P-321-SB	21	2.30
P-324-SB	24	2.73
P-327-SB	27	3.07
P-330-SB	30	3.51
P-333-SB	33	3.87

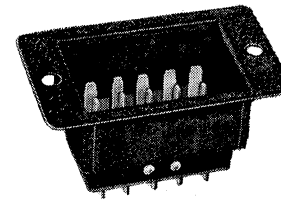
Sockets with Shallow Brackets



S-315-SB

No.	Contacts	List Price Each
S-315-SB	15	$1.78
S-318-SB	18	2.12
S-321-SB	21	2.48
S-324-SB	24	2.92
S-327-SB	27	3.26
S-330-SB	30	3.71
S-333-SB	33	4.06

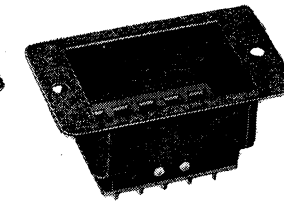
Plug with Deep Bracket



P-315-DB

No.	Contacts	List Price Each
P-315-DB	15	$1.58
P-318-DB	18	1.95
P-321-DB	21	2.30
P-324-DB	24	2.73
P-327-DB	27	3.07
P-330-DB	30	3.52
P-333-DB	33	3.87

Socket with Deep Bracket



S-315-DB

No.	Contacts	List Price Each
S-315-DB	15	$1.78
S-318-DB	18	2.12
S-321-DB	21	2.48
S-324-DB	24	2.92
S-327-DB	27	3.26
S-330-DB	30	3.71
S-333-DB	33	4.06

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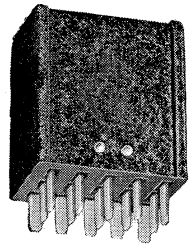
"300" SERIES PLUGS AND SOCKETS

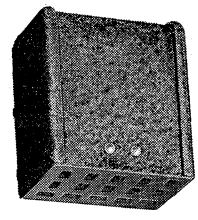
Plug with Flared Hole in Top of Cap



P-315-FHT

No.	Contacts	List Price Each
P-315-FHT	15	$1.41
P-318-FHT	18	1.77
P-321-FHT	21	2.11
P-324-FHT	24	2.55
P-327-FHT	27	2.92
P-330-FHT	30	3.36
P-333-FHT	33	3.71

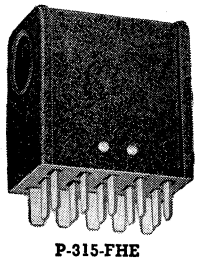
Socket, Flared Hole in Top of Cap



S-315-FHT

No.	Contacts	List Price Each
S-315-FHT	15	$1.58
S-318-FHT	18	1.95
S-321-FHT	21	2.30
S-324-FHT	24	2.75
S-327-FHT	27	3.09
S-330-FHT	30	3.53
S-333-FHT	33	3.88

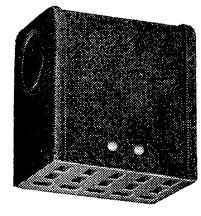
Plug with Flared Hole in End of Cap



P-315-FHE

No.	Contacts	List Price Each
P-315-FHE	15	$1.41
P-318-FHE	18	1.77
P-321-FHE	21	2.11
P-324-FHE	24	2.55
P-327-FHE	27	2.92
P-330-FHE	30	3.36
P-333-FHE	33	3.71

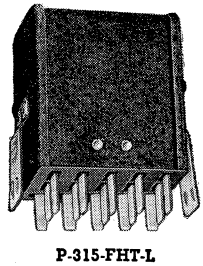
Socket, Flared Hole in End of Cap



S-315-FHE

No.	Contacts	List Price Each
S-315-FHE	15	$1.58
S-318-FHE	18	1.95
S-321-FHE	21	2.30
S-324-FHE	24	2.75
S-327-FHE	27	3.09
S-330-FHE	30	3.53
S-333-FHE	33	3.88

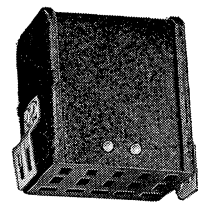
Plug, Flared Hole in Top of Cap with Latches



P-315-FHT-L

No.	Contacts	List Price Each
P-315-FHT-L	15	$1.58
P-318-FHT-L	18	1.95
P-321-FHT-L	21	2.30
P-324-FHT-L	24	2.75
P-327-FHT-L	27	3.09
P-330-FHT-L	30	3.53
P-333-FHT-L	33	3.88

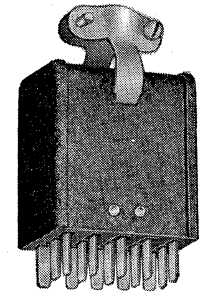
Socket, Flared Hole in Top of Cap and with Keepers



S-315-FHT-K

No.	Contacts	List Price Each
S-315-FHT-K	15	$1.78
S-318-FHT-K	18	2.12
S-321-FHT-K	21	2.48
S-324-FHT-K	24	2.93
S-327-FHT-K	27	3.28
S-330-FHT-K	30	3.72
S-333-FHT-K	33	4.07

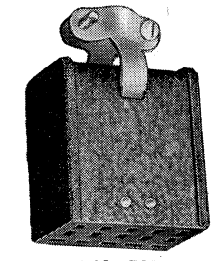
Plug, Cable Clamp in Top of Cap



P-315-CCT

No.	Contacts	List Price Each
P-315-CCT	15	$1.67
P-318-CCT	18	2.02
P-321-CCT	21	2.38
P-324-CCT	24	2.81
P-327-CCT	27	3.18
P-330-CCT	30	3.71
P-333-CCT	33	3.97

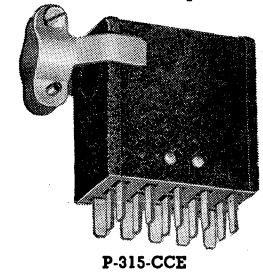
Socket, Cable Clamp in Top of Cap



S-315-CCT

No.	Contacts	List Price Each
S-315-CCT	15	$1.85
S-318-CCT	18	2.20
S-321-CCT	21	2.55
S-324-CCT	24	3.01
S-327-CCT	27	3.36
S-330-CCT	30	3.88
S-333-CCT	33	4.15

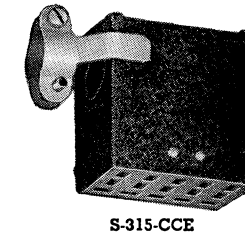
Plug, Cable Clamp in End of Cap



P-315-CCE

No.	Contacts	List Price Each
P-315-CCE	15	$1.67
P-318-CCE	18	2.02
P-321-CCE	21	2.38
P-324-CCE	24	2.81
P-327-CCE	27	3.18
P-330-CCE	30	3.71
P-333-CCE	33	3.97

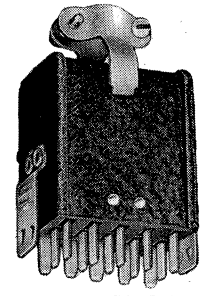
Socket, Cable Clamp in End of Cap



S-315-CCE

No.	Contacts	List Price Each
S-315-CCE	15	$1.85
S-318-CCE	18	2.20
S-321-CCE	21	2.55
S-324-CCE	24	3.01
S-327-CCE	27	3.36
S-330-CCE	30	3.88
S-333-CCE	33	4.15

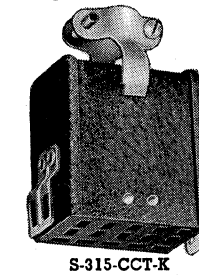
Plug, Cable Clamp in Top of Cap and with Latches



P-315-CCT-L

No.	Contacts	List Price Each
P-315-CCT-L	15	$1.85
P-318-CCT-L	18	2.20
P-321-CCT-L	21	2.55
P-324-CCT-L	24	3.01
P-327-CCT-L	27	3.36
P-330-CCT-L	30	3.88
P-333-CCT-L	33	4.15

Socket, Cable Clamp in Top of Cap and with Keepers



S-315-CCT-K

No.	Contacts	List Price Each
S-315-CCT-K	15	$2.04
S-318-CCT-K	18	2.39
S-321-CCT-K	21	2.75
S-324-CCT-K	24	3.19
S-327-CCT-K	27	3.53
S-330-CCT-K	30	4.07
S-333-CCT-K	33	4.32

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*—MINIMUM BILLING $5.00

"400" SERIES PLUGS AND SOCKETS

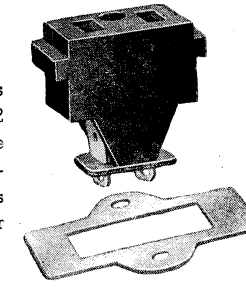
(Formerly "Heavy Duty")

General Specifications

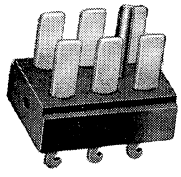
Made in 2, 4, 6, 8, 10 and 12 contacts. All Plugs and Sockets are polarized. Body of molded Bakelite. Phosphor bronze "knife-switch" type Socket contacts engage both sides of flat Plug Contacts—double contact area. Plug prongs are ¼" wide by $\frac{1}{16}$" thick. Caps are finished in Black Crystal and equipped with fibre lining. Plugs and Sockets arranged for cap or panel mounting.

Note: Standard angle brackets cannot be attached to S-402-AB due to narrow block and insufficient material for screw threads. A special bracket is supplied (Type 46) See illustration. The Socket fits into this bracket which is attached to panel.

Check the No. 2400 Series Plugs and Sockets listed on pages F-42 and F-43 which are similar to the 400 Series except their design increases the creepage distances and therefore can take higher voltages.



S-402-AB (No. 46 Bracket)

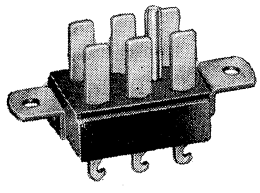


P-406-LAB

PLUG — Less Angle Brackets

Drilled and Tapped Unless Otherwise Specified

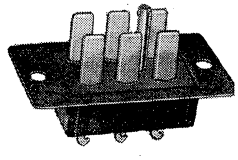
Code	Contacts	List Price Each
P-402-LAB	2	$0.44
P-404-LAB	4	.61
P-406-LAB	6	.79
P-408-LAB	8	.96
P-410-LAB	10	1.16
P-412-LAB	12	1.33



P-406-AB

PLUG — With Angle Brackets

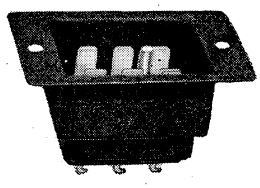
Code	Contacts	List Price Each
P-402-AB	2	$0.79
P-404-AB	4	.96
P-406-AB	6	1.16
P-408-AB	8	1.33
P-410-AB	10	1.51
P-412-AB	12	1.67



P-406-SB

PLUG — With Shallow Bracket for Flush Mounting

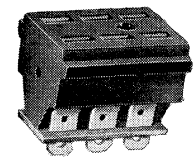
Code	Contacts	List Price Each
P-402-SB	2	$0.96
P-404-SB	4	1.24
P-406-SB	6	1.51
P-408-SB	8	1.77
P-410-SB	10	2.04
P-412-SB	12	2.30



P-406-DB

PLUG — With Deep Brackets for Recessed Mounting

Code	Contacts	List Price Each
P-402-DB	2	$0.96
P-404-DB	4	1.24
P-406-DB	6	1.51
P-408-DB	8	1.77
P-410-DB	10	2.04
P-412-DB	12	2.30

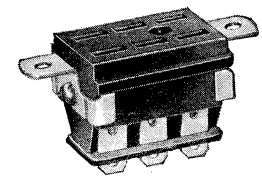


S-406-LAB

SOCKET — Less Angle Brackets

Drilled and Tapped Unless Otherwise Specified

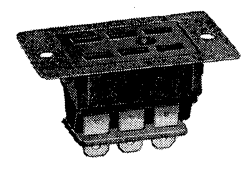
Code	Contacts	List Price Each
S-402-LAB	2	$0.54
S-404-LAB	4	.79
S-406-LAB	6	1.07
S-408-LAB	8	1.33
S-410-LAB	10	1.58
S-412-LAB	12	1.85



S-406-AB

SOCKET — With Angle Brackets

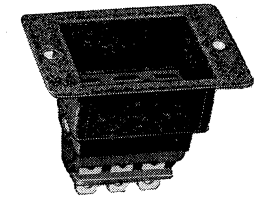
Code	Contacts	List Price Each
S-402-AB	2	$0.89
S-404-AB	4	1.16
S-406-AB	6	1.41
S-408-AB	8	1.67
S-410-AB	10	1.95
S-412-AB	12	2.20



S-406-SB

SOCKET — With Shallow Bracket for Flush Mounting

Code	Contacts	List Price Each
S-402-DB	2	$1.07
S-404-DB	4	1.41
S-406-DB	6	1.77
S-408-DB	8	2.11
S-410-DB	10	2.46
S-412-DB	12	2.81



S-406-DB

SOCKET — With Deep Bracket for Recessed Mounting

Code	Contacts	List Price Each
S-402-SB	2	$1.07
S-404-SB	4	1.41
S-406-SB	6	1.77
S-408-SB	8	2.11
S-410-SB	10	2.46
S-412-SB	12	2.81

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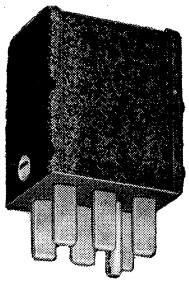
"400" SERIES PLUGS AND SOCKETS

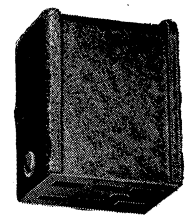
(Formerly "Heavy Duty")



P-406-FHT

PLUG — With Flared Hole in Top

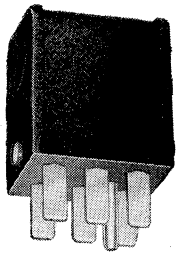
Code No.	Contacts	List Price Each
P-402-FHT	2	$0.89
P-404-FHT	4	1.16
P-406-FHT	6	1.41
P-408-FHT	8	1.67
P-410-FHT	10	1.94
P-412-FHT	12	2.19



S-406-FHT

SOCKET — With Flared Hole in Top

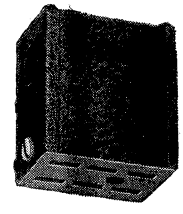
Code No.	Contacts	List Price Each
S-402-FHT	2	$0.98
S-404-FHT	4	1.34
S-406-FHT	6	1.68
S-408-FHT	8	2.04
S-410-FHT	10	2.39
S-412-FHT	12	2.75



P-406-FHE

PLUG — With Flared Hole in End

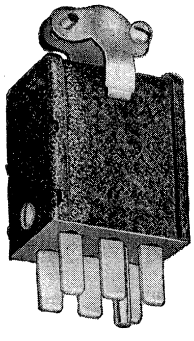
Code No.	Contacts	List Price Each
P-402-FHE	2	$0.89
P-404-FHE	4	1.16
P-406-FHE	6	1.41
P-408-FHE	8	1.67
P-410-FHE	10	1.94
P-412-FHE	12	2.19



S-406-FHE

SOCKET — With Flared Hole in End

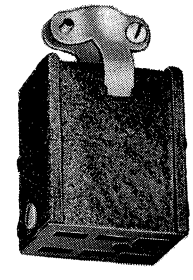
Code No.	Contacts	List Price Each
S-402-FHE	2	$0.98
S-404-FHE	4	1.34
S-406-FHE	6	1.68
S-408-FHE	8	2.04
S-410-FHE	10	2.39
S-412-FHE	12	2.75



P-406-CCT

PLUG — With Cable Clamp in Top

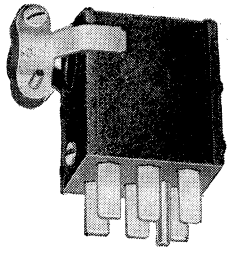
Code No.	Contacts	List Price Each
P-402-CCT	2	$1.24
P-404-CCT	4	1.51
P-406-CCT	6	1.77
P-408-CCT	8	2.02
P-410-CCT	10	2.28
P-412-CCT	12	2.54



S-406-CCT

SOCKET — With Cable Clamp in Top

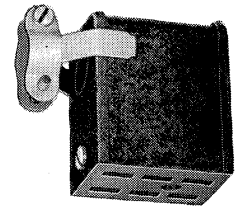
Code No.	Contacts	List Price Each
S-402-CCT	2	$1.34
S-404-CCT	4	1.68
S-406-CCT	6	2.04
S-408-CCT	8	2.39
S-410-CCT	10	2.75
S-412-CCT	12	3.09



P-406-CCE

PLUG — With Cable Clamp in End

Code No.	Contacts	List Price Each
P-402-CCE	2	$1.24
P-404-CCE	4	1.51
P-406-CCE	6	1.77
P-408-CCE	8	2.02
P-410-CCE	10	2.28
P-412-CCE	12	2.54



S-406-CCE

SOCKET — With Cable Clamp in End

Code No.	Contacts	List Price Each
S-402-CCE	2	$1.34
S-404-CCE	4	1.68
S-406-CCE	6	2.04
S-408-CCE	8	2.39
S-410-CCE	10	2.75
S-412-CCE	12	3.09

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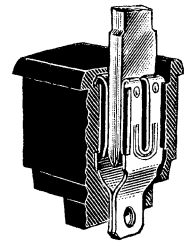
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*—MINIMUM BILLING $5.00

"2400" SERIES PLUGS AND SOCKETS

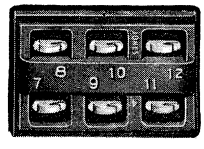
The 2400 Series Plugs and Sockets are designed for highest electrical and mechanical efficiency, and although they carry the same rating as the 400 Series, they will actually handle considerably higher currents due to their improved construction.

An entirely new type of socket contact has been designed. Four individual flexing surfaces make positive contact over practically their entire length. Note in the illustration how they exert maximum pressure at every point. Also note unique method of anchoring terminals in the block—they cannot be moved up or down.

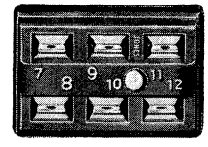


This design provides greater contact surface, increased pressure, with smoother action.

Socket contacts are of phosphor bronze, cadmium plated. Male contacts are of heavy brass ¼"x$\frac{1}{16}$", cadmium plated.



Solder connecting side of Plug Body showing Recessed Pockets with Barriers around contacts. Plug contacts are also in Recessed Pockets on opposite side.



Solder connecting side of Socket Body showing Recessed Pockets with Barriers around contacts. Socket contacts are also in Recessed Pockets on opposite side.

The contact to contact, and contact to ground distance has been considerably increased by mounting the contacts into recessed pockets with a Bakelite barrier surrounding and extending above. This method is used on both the top and bottom sides of both plugs and sockets, greatly increasing the leakage path.

The outside dimensions of corresponding plug and socket bodies are the same and can, therefore, be changed from brackets to caps, or vice versa.

Two styles of brackets are furnished "SB" (shallow bracket) for flush mounting and "DB" (deep bracket) for recessed mounting. Caps are furnished with flared hole in top or end, or with cable clamps in top or end. Unless otherwise specified the following size cable entrance holes will be supplied:

2402—⅜"	2406—$\frac{7}{16}$"	2410—$\frac{9}{16}$"
2404—$\frac{7}{16}$"	2408—$\frac{9}{16}$"	2412—⅝"

As noted above, the 2400 Series is furnished in 2, 4, 6, 8, 10, and 12 contacts. All plugs and sockets are polarized.

Plug and socket bodies are of molded Bakelite. The fibre linings in the caps are the same for both plugs and sockets.

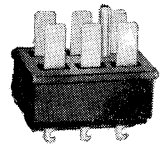
A shoulder extends around the face side of plug and socket presenting a finished appearance when mounted in bracket or cap.

On account of this shoulder extending around the entire face of the body blocks, angle brackets cannot be used with the 2400 Series Plugs or Sockets.

The entire 2400 Series is interchangeable with the 400 Series as 2400 Plugs fit corresponding 400 Sockets, and 400 Plugs fit corresponding 2400 Sockets.

PLUG—Less Mounting Bracket

Drilled and Tapped Unless Otherwise Specified



P-2406

Code	Contacts	List Price Each
P-2402	2	$0.61
P-2404	4	.81
P-2406	6	1.01
P-2408	8	1.21
P-2410	10	1.41
P-2412	12	1.63

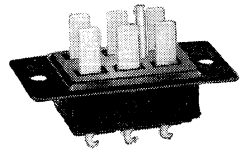
SOCKET—Less Mounting Bracket

Drilled and Tapped Unless Otherwise Specified

S-2406

Code	Contacts	List Price Each
S-2402	2	$0.70
S-2404	4	.92
S-2406	6	1.12
S-2408	8	1.35
S-2410	10	1.55
S-2412	12	1.78

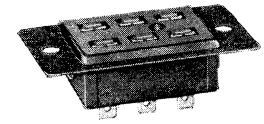
PLUG—With Shallow Bracket for Flush Mounting



P-2406-SB

Code	Contacts	List Price Each
P-2402-SB	2	$1.09
P-2404-SB	4	1.28
P-2406-SB	6	1.49
P-2408-SB	8	1.69
P-2410-SB	10	1.93
P-2412-SB	12	2.12

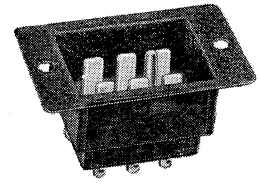
SOCKET—With Shallow Bracket for Flush Mounting



S-2406-SB

Code	Contacts	List Price Each
S-2402-SB	2	$1.19
S-2404-SB	4	1.40
S-2406-SB	6	1.62
S-2408-SB	8	1.84
S-2410-SB	10	2.08
S-2412-SB	12	2.30

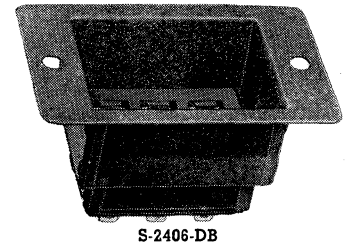
PLUG—With Deep Bracket for Recessed Mounting



P-2406-DB

Code	Contacts	List Price Each
P-2402-DB	2	$1.19
P-2404-DB	4	1.38
P-2406-DB	6	1.57
P-2408-DB	8	1.79
P-2410-DB	10	2.00
P-2412-DB	12	2.22

SOCKET—With Deep Bracket for Recessed Mounting



S-2406-DB

Code	Contacts	List Price Each
S-2402-DB	2	$1.27
S-2404-DB	4	1.50
S-2406-DB	6	1.69
S-2408-DB	8	1.94
S-2410-DB	10	2.17
S-2412-DB	12	2.39

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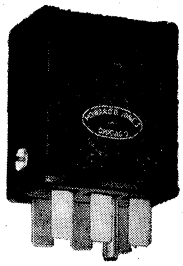
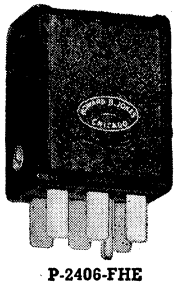
"2400" SERIES PLUGS AND SOCKETS



P-2406-FHT

PLUG—With Flared Hole in Top

Code No.	Contacts	List Price Each
P-2402-FHT	2	$1.19
P-2404-FHT	4	1.38
P-2406-FHT	6	1.57
P-2408-FHT	8	1.79
P-2410-FHT	10	2.00
P-2412-FHT	12	2.24



P-2406-FHE

PLUG—With Flared Hole in End

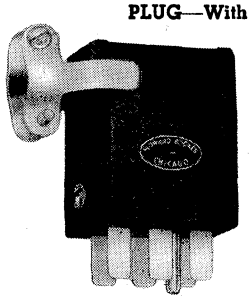
Code No.	Contacts	List Price Each
P-2402-FHE	2	$1.19
P-2404-FHE	4	1.38
P-2406-FHE	6	1.57
P-2408-FHE	8	1.79
P-2410-FHE	10	2.00
P-2412-FHE	12	2.24

P-2406-CCT

PLUG—With Cable Clamp in Top

Code No.	Contacts	List Price Each
P-2402-CCT	2	$1.53
P-2404-CCT	4	1.72
P-2406-CCT	6	1.94
P-2408-CCT	8	2.13
P-2410-CCT	10	2.35
P-2412-CCT	12	2.59

PLUG—With Cable Clamp in End



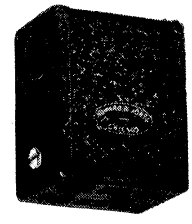
P-2406-CCE

Code No.	Contacts	List Price Each
P-2402-CCE	2	$1.53
P-2404-CCE	4	1.72
P-2406-CCE	6	1.94
P-2408-CCE	8	2.13
P-2410-CCE	10	2.35
P-2412-CCE	12	2.59

S-2406-FHT

SOCKET—With Flared Hole in Top

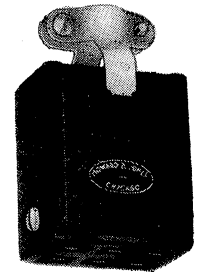
Code No.	Contacts	List Price Each
S-2402-FHT	2	$1.27
S-2404-FHT	4	1.50
S-2406-FHT	6	1.69
S-2408-FHT	8	1.94
S-2410-FHT	10	2.17
S-2412-FHT	12	2.39



S-2406-FHE

SOCKET—With Flared Hole in End

Code No.	Contacts	List Price Each
S-2402-FHE	2	$1.27
S-2404-FHE	4	1.50
S-2406-FHE	6	1.69
S-2408-FHE	8	1.94
S-2410-FHE	10	2.17
S-2412-FHE	12	2.39



S-2406-CCT

SOCKET—With Cable Clamp in Top

Code No.	Contacts	List Price Each
S-2402-CCT	2	$1.65
S-2404-CCT	4	1.84
S-2406-CCT	6	2.05
S-2408-CCT	8	2.28
S-2410-CCT	10	2.51
S-2412-CCT	12	2.75

SOCKET—With Cable Clamp in End

S-2406-CCE

Code No.	Contacts	List Price Each
S-2402-CCE	2	$1.65
S-2404-CCE	4	1.84
S-2406-CCE	6	2.05
S-2408-CCE	8	2.28
S-2410-CCE	10	2.51
S-2412-CCE	12	2.75

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY—MINIMUM BILLING $5.00

"500" SERIES PLUGS AND SOCKETS

Designed for 3,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.

Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.

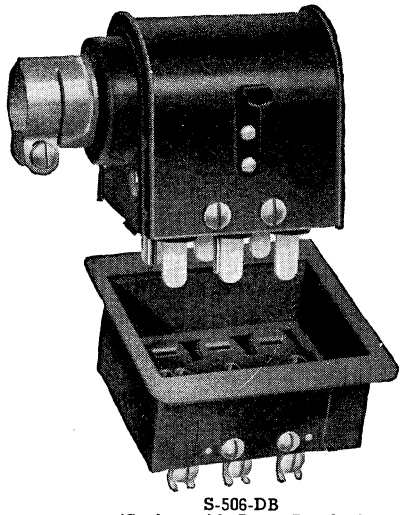
All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.

Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section $\frac{5}{16}$" x $\frac{3}{32}$".

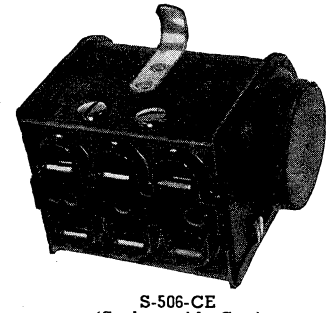
IMPORTANT: For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.

Cable entrance: Because of the great variation in type and size of cables, we have considered it best not to supply cable clamps of any kind. The cap end is made to accommodate standard BX clamps which may be obtained at any electrical jobbing house. The cap end will be furnished with round hole from ½" diameter and 1¼" diameter in steps of ⅛", if the size required is given on order. If no size is given, plain cap end with center punch locating center will be shipped.

P-506-CE
(Plug with Cap)
(BX Clamp shown but not furnished)

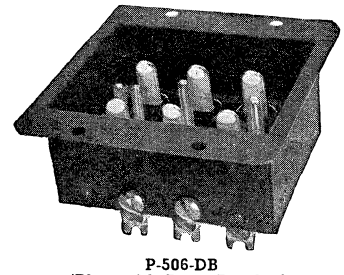


S-506-CE
(Socket with Cap)

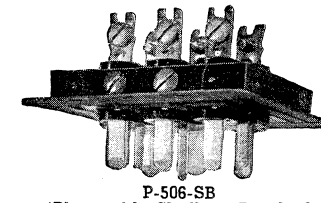


S-506-DB
(Socket with Deep Bracket)

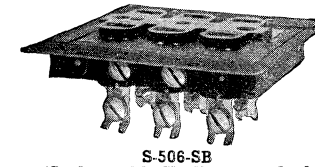
P-506-DB
(Plug with Deep Bracket)



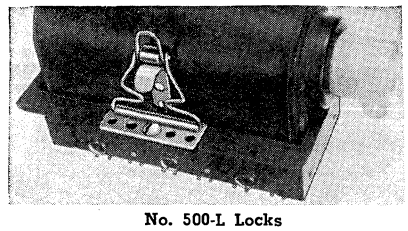
P-506-SB
(Plug with Shallow Bracket)



S-506-SB
(Socket with Shallow Bracket)



LOCKS FOR 500 SERIES PLUGS AND SOCKETS



No. 500-L Locks

Locks shown above are used in connection with any DEEP BRACKET and cap combination.

The locks securely hold the units together, but they can be released instantly.

The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.

PLUG With Cap

Code	Contacts	List Price Each
P-502-CE	2	$3.83
P-504-CE	4	5.51
P-506-CE	6	7.19
P-508-CE	8	8.88
P-510-CE	10	10.56
P-512-CE	12	12.24

SOCKET With Cap

Code	Contacts	List Price Each
S-502-CE	2	$3.83
S-504-CE	4	5.51
S-506-CE	6	7.19
S-508-CE	8	8.88
S-510-CE	10	10.56
S-512-CE	12	12.24

PLUG With Deep Bracket

Code	Contacts	List Price Each
P-502-DB	2	$3.37
P-504-DB	4	4.83
P-506-DB	6	6.27
P-508-DB	8	7.74
P-510-DB	10	9.19
P-512-DB	12	10.65

SOCKET With Deep Bracket

Code	Contacts	List Price Each
S-502-DB	2	$3.37
S-504-DB	4	4.83
S-506-DB	6	6.27
S-508-DB	8	7.74
S-510-DB	10	9.19
S-512-DB	12	10.65

PLUG With Shallow Bracket

Code	Contacts	List Price Each
P-502-SB	2	$3.37
P-504-SB	4	4.83
P-506-SB	6	6.27
P-508-SB	8	7.74
P-510-SB	10	9.19
P-512-SB	12	10.65

SOCKET With Shallow Bracket

Code	Contacts	List Price Each
S-502-SB	2	$3.37
S-504-SB	4	4.83
S-506-SB	6	6.27
S-508-SB	8	7.74
S-510-SB	10	9.19
S-512-SB	12	10.65

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BARRIER TYPE TERMINAL STRIPS

Increased insulation is provided by having Barriers placed between each Terminal. These Barriers follow around the edge of the Strips and terminate at the base. They not only make a long leakage path but prevent direct shorts from frayed wires at the terminals. Mounting holes are at the ends as illustrated. The base is molded Bakelite. The Eyelets and Binder Screws are of brass, nickel plated. The ¾W or Y terminals are of brass, hot tin finish.

No. 140 TERMINAL STRIPS

5-40 x 3/16 Binder Head Screws. Metal to Metal Spacing over Bakelite ¼"

No. 2-140

Code	No. 140 List Price Each
1-140	$0.15
2-140	.24
3-140	.33
4-140	.42
5-140	.51
6-140	.59
7-140	.68
8-140	.77
9-140	.86
10-140	.95
11-140	1.03
12-140	1.12
13-140	1.21
14-140	1.31
15-140	1.40
16-140	1.49
17-140	1.57
18-140	1.66
19-140	1.75
20-140	1.84
21-140	1.93

No. 2-140-¾ W

Code	No. 140-¾ W List Price Each
1-140-¾ W	$0.19
2-140-¾ W	.32
3-140-¾ W	.44
4-140-¾ W	.57
5-140-¾ W	.69
6-140-¾ W	.83
7-140-¾ W	.95
8-140-¾ W	1.08
9-140-¾ W	1.21
10-140-¾ W	1.33
11-140-¾ W	1.45
12-140-¾ W	1.58
13-140-¾ W	1.71
14-140-¾ W	1.84
15-140-¾ W	1.96
16-140-¾ W	2.09
17-140-¾ W	2.21
18-140-¾ W	2.34
19-140-¾ W	2.46
20-140-¾ W	2.60
21-140-¾ W	2.72

No. 2-140-Y

Code	No. 140-Y List Price Each
1-140-Y	$0.19
2-140-Y	.32
3-140-Y	.44
4-140-Y	.57
5-140-Y	.69
6-140-Y	.83
7-140-Y	.95
8-140-Y	1.08
9-140-Y	1.21
10-140-Y	1.33
11-140-Y	1.45
12-140-Y	1.58
13-140-Y	1.71
14-140-Y	1.84
15-140-Y	1.96
16-140-Y	2.09
17-140-Y	2.21
18-140-Y	2.34
19-140-Y	2.46
20-140-Y	2.60
21-140-Y	2.72

No. 141 TERMINAL STRIPS

6-32 x ¼ Binder Head Screws. Metal to Metal Spacing over Bakelite ⅜"

No. 2-141

Code	No. 141 List Price Each
1-141	$0.20
2-141	.31
3-141	.42
4-141	.54
5-141	.65
6-141	.75
7-141	.88
8-141	.99
9-141	1.10
10-141	1.22
11-141	1.33
12-141	1.44
13-141	1.56
14-151	1.67
15-141	1.78
16-141	1.90
17-141	2.01
18-141	2.12
19-141	2.24
20-141	2.35

No. 2-141-¾-W

Code	No. 141-¾ W List Price Each
1-141-¾ W	$0.24
2-141-¾ W	.41
3-141-¾ W	.57
4-141-¾ W	.74
5-141-¾ W	.90
6-141-¾ W	1.07
7-141-¾ W	1.23
8-141-¾ W	1.40
9-141-¾ W	1.56
10-141-¾ W	1.73
11-141-¾ W	1.89
12-141-¾ W	2.06
13-141-¾ W	2.22
14-141-¾ W	2.39
15-141-¾ W	2.55
16-141-¾ W	2.72
17-141-¾ W	2.88
18-141-¾ W	3.05
19-141-¾ W	3.21
20-141-¾ W	3.38

No. 2-141-Y

Code	No. 141-Y List Price Each
1-141-Y	$0.24
2-141-Y	.41
3-141-Y	.57
4-141-Y	.74
5-141-Y	.90
6-141-Y	1.07
7-141-Y	1.23
8-141-Y	1.40
9-141-Y	1.56
10-141-Y	1.73
11-141-Y	1.89
12-141-Y	2.06
13-141-Y	2.22
14-141-Y	2.39
15-141-Y	2.55
16-141-Y	2.72
17-141-Y	2.88
18-141-Y	3.05
19-141-Y	3.21
20-141-Y	3.38

No. 142 TERMINAL STRIPS

8-32 x 5/16" Binder Head Screws. Metal to Metal Spacing over Bakelite 9/16"

No. 2-142

Code	No. 142 List Price Each
1-142	$0.23
2-142	.36
3-142	.51
4-142	.65
5-142	.78
6-142	.92
7-142	1.07
8-142	1.20
9-142	1.34
10-142	1.49
11-142	1.62
12-142	1.76
13-142	1.90
14-142	2.04
15-142	2.18
16-142	2.32
17-142	2.45

No. 2-142-¾ W

Code	No. 142-¾ W List Price Each
1-142-¾ W	$0.30
2-142-¾ W	.50
3-142-¾ W	.70
4-142-¾ W	.90
5-142-¾ W	1.11
6-142-¾ W	1.31
7-142-¾ W	1.52
8-142-¾ W	1.72
9-142-¾ W	1.93
10-142-¾ W	2.12
11-142-¾ W	2.33
12-142-¾ W	2.53
13-142-¾ W	2.74
14-142-¾ W	2.94
15-142-¾ W	3.15
16-142-¾ W	3.34
17-142-¾ W	3.54

No. 2-142-Y

Code	No. 142-Y List Price Each
1-142-Y	$0.30
2-142-Y	.50
3-142-Y	.70
4-142-Y	.90
5-142-Y	1.11
6-142-Y	1.31
7-142-Y	1.52
8-142-Y	1.72
9-142-Y	1.93
10-142-Y	2.12
11-142-Y	2.33
12-142-Y	2.53
13-142-Y	2.74
14-142-Y	2.94
15-142-Y	3.15
16-142-Y	3.34
17-142-Y	3.54

No. 170 TERMINAL STRIPS

Terminal .032" Brass, Tin Plated

No. 2-170

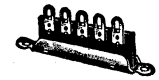
A heavy solder Terminal.

Insulation: Black molded Bakelite, 5/16" wide, ¼" thick. Terminals mounted on ⅜" centers. Mounting holes are ⅜" from center of ends Terminals.

Code	List Price Each	Code	List Price Each
No. 1-170	$0.25	No. 6-170	$0.56
No. 2-170	.31	No. 7-170	.61
No. 3-170	.36	No. 8-170	.67
No. 4-170	.43	No. 9-170	.74
No. 5-170	.50	No. 10-170	.79

No. 2000 TERMINAL STRIPS

Terminal .019" Brass, Tin Plated



Mounting hole—9/64"

Compact and sturdy junction terminal strip. Useful in assembling radio chassis, wiring, etc.

Insulation: Bakelite, Brackets: Steel, cadmium plated. Terminals spaced on 5/16" centers.

Code	Mounting Hole Centers	List Price Each	Code	Mounting Hole Centers	List Price Each
No. 2002	1"	$.10	No. 2008	2—7/8"	$.19
No. 2003	1—5/16"	.115	No. 2009	3—3/16"	.205
No. 2004	1—5/8"	.13	No. 2010	3—1/2"	.22
No. 2005	1—15/16"	.145	No. 2011	3—13/16"	.235
No. 2006	2—1/4"	.16	No. 2012	4—1/8"	.25
No. 2007	2—9/16"	.175	No. 2013	4—7/16"	.265

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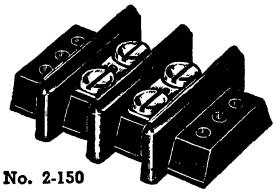
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*—MINIMUM BILLING $5.00

BARRIER TYPE TERMINAL STRIPS

No. 150 TERMINAL STRIPS

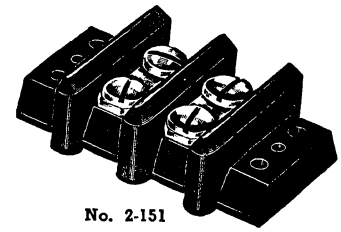


No. 2-150

1-13/16" wide by 25/32" high. Terminals are mounted on 11/16" centers. Screws: 10-32 x 5/16" brass, burnished nickel plate. Fits standard 50 Amp. solder lug for 6 Ga. stranded wire. Metal to metal spacing over bakelite 5/8".

Code	List Price Each	Code	List Price Each
1-150	$0.55	6-150	$2.48
2-150	.94	7-150	2.86
3-150	1.32	8-150	3.25
4-150	1.71	9-150	3.63
5-150	2.09	10-150	4.02

No. 151 TERMINAL STRIPS

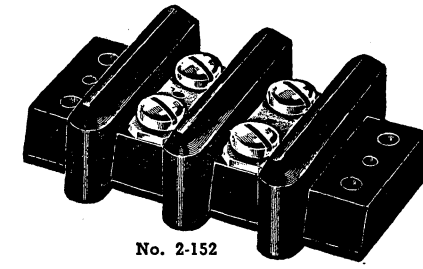


No. 2-151

2" wide by 15/16" high. Terminals are mounted on 7/8" centers. Screws: 12-32 x 3/8" brass, burnished nickel plate. Fits standard 70 Amp. solder lug for 4 Ga stranded wire. Metal to metal spacing over bakelite 3/4".

Code	List Price Each	Code	List Price Each
1-151	$0.94	5-151	$4.02
2-151	1.71	6-151	4.79
3-151	2.48	7-151	5.56
4-151	3.25	8-151	6.33

No. 152 TERMINAL STRIPS



No. 2-152

2 1/2" wide by 1 1/8" high. Terminals are mounted on 1 1/8" centers. Screws: 1/4"-28 x 1/2" brass, burnished nickel plate. Fits standard 90 Amp. solder lug for 2 Ga. stranded wire. Metal to metal spacing over bakelite 1".

Code	List Price Each	Code	List Price Each
1-152	$1.27	4-152	$4.73
2-152	2.42	5-152	5.89
3-152	3.58	6-152	7.04

"W" Solder Terminal for Barrier Strips

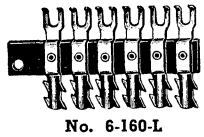
Code	For use with Barrier Strip	List Price Each	Code	For use with Barrier Strip	List Price Each
No. W-140	No. 140	$.044	No. W-150	No. 150	$.10
No. W-141	No. 141	.059	No. W-151	No. 151	.18
No. W-142	No. 142	.072	No. W-152	No. 152	.26

"Y" Solder Terminal

Code	For use with Barrier Strip	List Price Each
No. Y-140	No. 140	$.044
No. Y-141	No. 141	.059
No. Y-142	No. 142	.072

FANNING STRIPS FOR CONNECTING TO BARRIER TERMINAL STRIPS

Jones Fanning Strip Terminals are of .032" Brass, Cadmium Plated. The Bakelite strips are furnished with a hole in either the right or left end for fastening the cable with a cable clamp or lacing twine. Simplifies cable or harness wiring, assuring positive connections. Makes replacement of units an easy matter and assures correct connections after servicing.

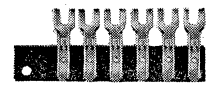


No. 6-160-L

THE 160 SERIES

The following Fanning Strips fit the 140 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite, 1/2" wide and on 3/8" centers.

Code	List Price Each	Code	List Price Each
2-160-L	$0.13	2-160-R	$0.13
3-160-L	.20	3-160-R	.20
4-160-L	.25	4-160-R	.25
5-160-L	.32	5-160-R	.32
6-160-L	.39	6-160-R	.39
7-160-L	.45	7-160-R	.45
8-160-L	.51	8-160-R	.51
9-160-L	.57	9-160-R	.57
10-160-L	.64	10-160-R	.64
11-160-L	.70	11-160-R	.70
12-160-L	.76	12-160-R	.76
13-160-L	.83	13-160-R	.83
14-160-L	.89	14-160-R	.89
15-160-L	.96	15-160-R	.96
16-160-L	1.01	16-160-R	1.01
17-160-L	1.08	17-160-R	1.08
18-160-L	1.16	18-160-R	1.16
19-160-L	1.21	19-160-R	1.21
20-160-L	1.28	20-160-R	1.28
21-160-L	1.33	21-160-R	1.33



6-161-L (Cable Clamp on Left)
(No. 162 same type)

THE 161 SERIES

The following Fanning Strips fit the 141 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite, 5/8" wide and on 7/16" centers.

Code	List Price Each	Code	List Price Each
2-161-L	$0.14	2-161-R	$0.14
3-161-L	.21	3-161-R	.21
4-161-L	.26	4-161-R	.26
5-161-L	.33	5-161-R	.33
6-161-L	.40	6-161-R	.40
7-161-L	.46	7-161-R	.46
8-161-L	.52	8-161-R	.52
9-161-L	.58	9-161-R	.58
10-161-L	.65	10-161-R	.65
11-161-L	.72	11-161-R	.72
12-161-L	.77	12-161-R	.77
13-161-L	.84	13-161-R	.84
14-161-L	.91	14-161-R	.91
15-161-L	.97	15-161-R	.97
16-161-L	1.03	16-161-R	1.03
17-161-L	1.09	17-161-R	1.09
18-161-L	1.17	18-161-R	1.17
19-161-L	1.22	19-161-R	1.22
20-161-L	1.29	20-161-R	1.29

6-161-R (Cable Clamp on Right)
(No. 162 same type)

THE 162 SERIES

The following Fanning Strips fit the 142 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite, 5/8" wide and on 9/16" centers.

Code	List Price Each	Code	List Price Each
2-162-L	$0.17	2-162-R	$0.17
3-162-L	.23	3-162-R	.23
4-162-L	.29	4-162-R	.29
5-162-L	.35	5-162-R	.35
6-162-L	.43	6-162-R	.43
7-162-L	.48	7-162-R	.48
8-162-L	.55	8-162-R	.55
9-162-L	.61	9-162-R	.61
10-162-L	.68	10-162-R	.68
11-162-L	.74	11-162-R	.74
12-162-L	.80	12-162-R	.80
13-162-L	.86	13-162-R	.86
14-162-L	.94	14-162-R	.94
15-162-L	.99	15-162-R	.99
16-162-L	1.06	16-162-R	1.06
17-162-L	1.11	17-162-R	1.11

CABLE CLAMPS

Cable Clamps are available for the Fanning Strips listed at the left and are furnished in 6 different sizes as listed below. Cable Clamp is of Brass Nickel Plated, with 6-32 round head Nickel Plated Brass Screws. For convenience the Cable Clamps are furnished unassembled.

CABLE CLAMP SIZES AVAILABLE

No.	I. D.
CC-161-4	1/4"
CC-161-6	3/8"
CC-161-8	1/2"
CC-161-10	5/8"
CC-161-12	3/4"
CC-161-14	7/8"

List Price Each $0.14

Be sure to give code number when ordering.

On small sizes Lacing Twine can be used for anchoring cable to the Fanning Strip instead of Cable Clamp.

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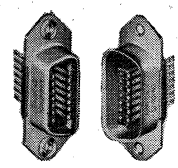
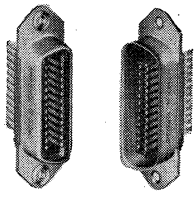
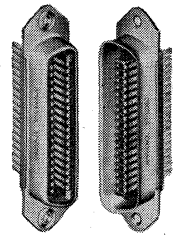
NEW COMPONENTS







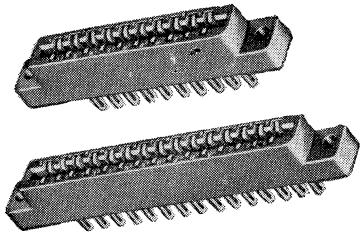
Micro-RIBBON CONNECTORS

Latest result of AMPHENOL's continuing program of miniaturization are the extremely small, highly reliable Micro-Ribbon connectors. The smooth and easy insertion extraction action, the self-wiping, self-cleaning features and the double-sided flexing action of both mating 'ribbon' contact members make Micro-Ribbons the first miniature connectors offering not only reduction in size but increase in reliability. Available in 14, 24 and 36 contacts. Dielectric material is an improved diallyl phthalate; contacts are gold-plated over silver finish. Shells are cadmium-plated brass with a gold iridescent iridite finish.

Voltage Rating: 5 Amps { 700 Volts D.C. at Sea Level / 200 Volts D.C. at 70,000 Feet Altitude

Plugs	Contacts	Mating Receptacles
57-10140	14	57-20140
57-10240	24	57-20240
57-10360	36	57-20360

PRIN-CIR

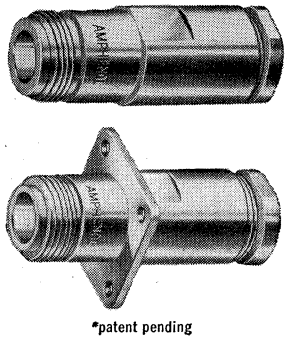


PRINTED CIRCUIT CONNECTORS

AMPHENOL Printed Circuit connectors feature compact bodies molded of tough diallyl phthalate and a new contact design that is greatly superior to any other now available. Even after repeated insertions, long-life Prin-cir contacts can't be set or over-stressed. Contacts are gold-plated. Available in 6, 10, 15, 18 and 22 contacts in four tail styles—polarizing key is available for any contact location.

Average Voltage Breakdown Between Contacts { 5,400 Volts D.C. at Sea Level / 1,150 Volts D.C. at 60,000 Feet

AMPHENOL No.	Contacts
143-006	6
143-011	10
143-015	15
143-018	18
143-022	22

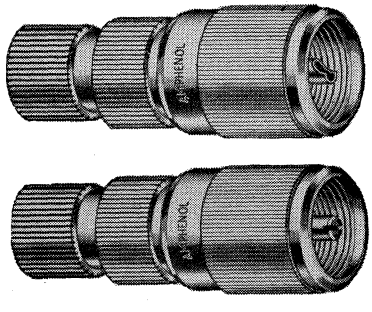


*patent pending

CAPTIVATED* CONTACT RF CONNECTORS

Captivated Contact RF connectors offer a remedy for the problem of receding or shrinking cable dielectrics under abnormal operating conditions. By means of an entirely new design the contacts are captivated within the structure of the connector itself. Even under great extremes of hot and cold contacts and conductors remain fixed in position, even when the cable dielectrics recede.

AMPHENOL No.	UG-/U No.	Series	Description	For RG-/U Cables
82-312	1185	N	Plug	8, 9, 10 87A, 115, 115A
82-313	1186	N	Jack	
82-314	1187	N	Panel Jack	
82-320	——	HN	Plug	
82-321	——	HN	Jack	
82-324	——	HN	Panel Jack	



SOLDERLESS RF CONNECTORS

These new RF connectors meet for the first time demands by commercial users of Series UHF connectors for easy-to-assemble plugs. Designed to eliminate one or both of the two common soldering operations in assembly, the 83-850 is completely solderless (both braid and contact) while the 83-851 eliminates the need for soldering the braid. Both are electrically similar to the AMPHENOL 83-1SP plug. Bodies are cadmium-plated brass; contacts are silver-plated.

AMPHENOL No.	For RG-/U Cables
83-850	11
83-850 with 83-168 Adapter	59
83-851	8, 9, 10, 11, 12, 13, 63, 65
83-851 with 83-168 Adapter	59

AMPHENOL ELECTRONICS CORPORATION *chicago 50, illinois*

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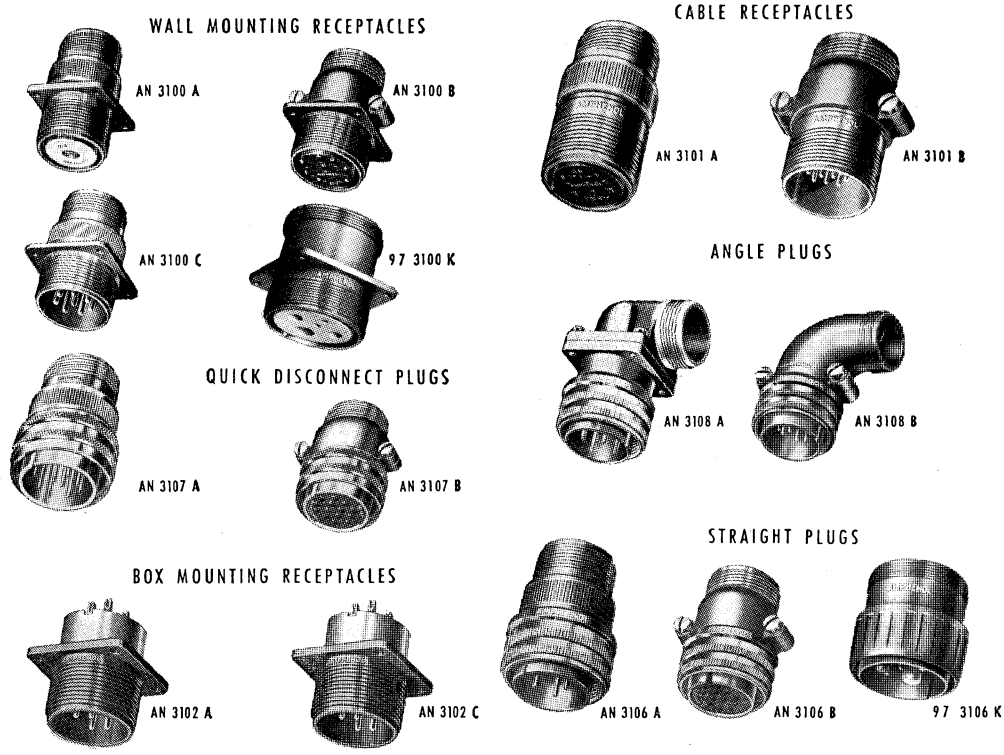
for Power, Signal and Control Circuits in Electronic Equipment

"AN" CONNECTORS

"AN" stands for Army-Navy and these services have provided the official definition of the AN connector: to provide a detachable connection in one or more electrical circuits; a complete AN connector consists of two mating units—a plug assembly and receptacle assembly.

AMPHENOL AN connectors, although designed and approved under government specifications for use by the armed forces, are ideal for commercial and industrial use where the same dependability is mandatory. These modern, efficient connectors are being used by practically every part of the giant electronics industry.



features of AMPHENOL AN CONNECTORS

Contacts — All contacts are gold-over-silver plated for improved appearance and better electrical and mechanical surface. Gold assures indefinite, like-new shelf life. Gold-plated contacts make soldering easier and faster—no pre-tinning of solder cups is required.

Dielectric — Inserts are molded of AMPHENOL high-strength 1-501 Blue dielectric material. This material has high impact strength, exceptionally low loss and low shrinkage.

Finish — Chromate conversion finish over cadium. Extremely high corrosion resistance as well as excellent conductivity.

ORDERING AN CONNECTORS

The AN series of connectors includes thousands of combinations, but the functional numbering system permits easy and accurate ordering. To illustrate the system employed a typical part number, AN3100A-16-11P, is exploded and analyzed.

AN	STANDARD	"AN" indicates Army-Navy part number has been assigned. "97" indicates deviation from AN specifications or exclusive Amphenol design.
3100	SHELL TYPE	3100 wall receptacle, 3101 cable receptacle, 3102 box receptacle, 3106 straight plug, 3107 quick-disconnect plug, 3108 angle plug.
A	SHELL DESIGN	A solid, B split, C pressurized, K fireproof.
-16	SIZE	8S, 10S, 10SL, 12S, 12, 14S, 14, 16S, 16, 18, 20, 22, 24, 28, 32, 36 40 44 48.
-11	INSERT	1 2, 3 and up (these are code numbers, refer to pages 3 and 4 for insert arrangements).
P	INSERT STYLE	P for pin contacts, S for socket contacts.

AN CONNECTOR AVAILABILITY

The latest issue of the Distributor AN Connector Price List is the authoritative source for connector availability.

AN CONNECTORS FOR POTTING

Potting, injecting a synthetic rubber sealant in a mold on the back of a connector, is a superior method of waterproofing.

"Building to the future of Electronics"

AMPHENOL

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"AN" CONNECTOR FITTINGS

CABLE CLAMP

AN3057

Sturdy AMPHENOL AN3057 Cable Clamp supports cable or wire at the plug or receptacle, prevents twisting or pulling at soldered connections.

"AN" Number	Fits Shell Size
3057-3	8S, 10S
3057-4	12, 12S
3057-6	14, 14S
3057-8	16, 16S
3057-10	18
3057-12	20, 22
3057-16	24, 28
3057-20	32
3057-24	36
3057-28	40
3057-32	44
3057-40	48

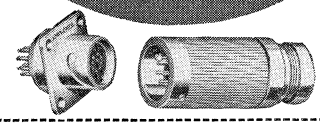
DUST CAP

9760

Fits AN and 97 type receptacles and plugs. Provides protection against live circuits, dirt and dust when connector is not in use.

Part Number	Fits Shell Size
9760-8	8S
9760-10	10S
9760-12	10SL, 12, 12S
9760-14	12SL, 14, 14S
9760-16	16, 16S
9760-18	18
9760-20	20
9760-22	22
9760-24	24
9760-28	28
9760-32	32
9760-36	36

MINIATURE "AN" TYPE CONNECTORS

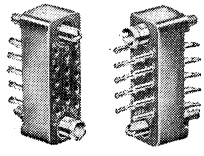


Small, compact versions of standard AN connectors for similar applications. Connectors are pressure-proof and, mated or apart, completely waterproof. Weights average about one third of standard sizes. Withstand government specified salt-spray tests by many hours in excess of standards. Plugs have built-in cable clamp. Shells are aluminum with a grey anodic finish. Dielectric material is 1-501 blue; contacts are high conductivity bronze with gold-plating over silver. Connectors available in two sizes and six contact configurations.

Part Number				Description			
Male		Female		Contacts		Current Rating	Volts*
Plug	Receptacle	Plug	Receptacle	#20	#16	Amperes	
165-33	165-35	165-34	165-36	5	— —	7.5	600
165-13	165-15	165-14	165-16	9	— —	7.5	500
165-9	165-11	165-10	165-12	12	— —	7.5	500
165-17	165-19	165-18	165-20	7	4	7.5 and 17	500
165-29	165-31	165-30	165-32	— —	14	17	500
165-25	165-27	165-26	165-28	24	— —	7.5	500

Voltage rating RMS at sea level

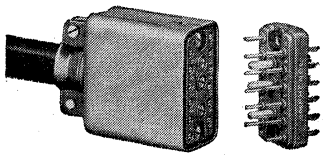
126 SERIES RACK & PANEL CONNECTORS



MINIATURE RECTANGULAR CONNECTORS

Four types of miniature rack and panel connectors offer a large selection of multiple contacts. Contacts and polarizing pins are gold-plated; bodies are melamine. Four types, A, B, C and D, differ in voltage rating and insertion and withdrawal force requirements.

Type	AMPHENOL Number	Contacts	Voltage Rating	Current Rating Amperes	Insertion Force (Max.)	Withdrawal Force (Min.)
A	126-016 126-017 126-204 126-205	7 pin 7 socket 15 pin 15 socket	600-750	17	15#	2#
B	126-206 126-207	18 pin 18 socket	600-750	17	40#	4#
C	126-173 126-174 126-199 126-189 126-171 126-172	14 pin 14 socket 18 pin 18 socket 21 pin 21 socket	600	7.5	25#	2#
D	126-188 126-187	34 pin 34 socket	600	7.5	25#	2#



Versatile group available in 11, 15 and 20 contacts, with or without protective can and cable clamp. Rated at 900 volts RMS, 60 CPS at sea level. Bodies mica-filled phenolic; contacts gold-plated.

RECTANGULAR CONNECTORS

AMPHENOL Number Insert Only	Description	Contacts No. 16	Contacts No. 20	Mounting Screw Size	AMPHENOL Number With Can
126-804	Male	2	9	No. 4	126-809
126-805	Female	2	9	No. 4	126-808
126-151	Male	3	12	No. 6	126-152
126-150	Female	3	12	No. 6	126-153
126-806	Male	4	16	No. 4	126-811
126-807	Female	4	16	No. 4	126-810
126-813	Male	20	— —	No. 4	— —
126-812	Female	20	— —	No. 4	— —

AMPHENOL ELECTRONICS CORPORATION *chicago 50, illinois*

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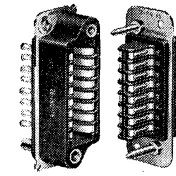
BLUE RIBBON CONNECTORS

These unique spring-ribbon contact connectors are finding increasing popularity throughout every part of the electronics industry. As a result of continuing AMPHENOL development work the Blue Ribbon line has been expanded to include keyed shells and latch-lock type cans—the complete line now offers the following outstanding features:

- Visual alignment is not required; ideal for multi-circuit connection, switching or re-routing.
- Spring contacts provide quick disconnect with low insertion and withdrawal force requirements.
- Insert material is famous AMPHENOL diallyl phthalate *blue* which meets government specifications MIL-P-4389 and MIL-P-14D.
- Contacts are finished with gold over a silver base plate, will not corrode, are easy to solder.
- Molded-in mounting plates are corrosion resistant passivated stainless steel.
- Available in latch-lock cans for cable-to-chassis applications.

Pin Polarization

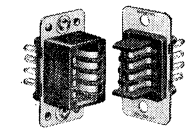
Plugs	Contacts	Mating Receptacles
26-159-16	16	26-190-16
26-159-24	24	26-190-24
26-159-32	32	26-190-32



26-190 16 26-159-16

Barrier Polarization

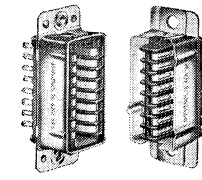
Plugs	Contacts	Mating Receptacles
26-182	8	26-183
26-4100-8P	8	26-4200-8S
26-4100-16P	16	26-4200-16S
26-4100-24P	24	26-4200-24S
26-4100-32P	32	26-4200-32S



26-4200-8S 26-4100-8P

Barrier Polarization With Keyed Shells

Plugs	Contacts	Shell Keys* Letters	Shell Keys* Numbers	Mating Receptacles
26-4101-8P	8	A	1	26-4201-8S
26-4102-8P	8	A	2	26-4202-8S
26-4101-16P	16	A-C	3-6	26-4201-16S
26-4102-16P	16	A-D	2-5	26-4202-16S
26-4101-24P	24	A-C	3-6	26-4201-24S
26-4102-24P	24	A-D	4-7	26-4202-24S
26-4101-32P	32	A-C	3-6	26-4201-32S
26-4102-32P	32	A-D	4-7	26-4202-32S



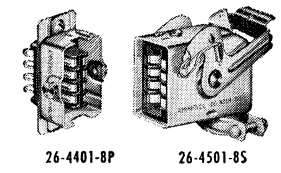
26-4201-8S 26-4101-8P

Barrier Polarization With Keyed Latch-Lock Shells

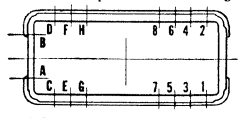
Male and female inserts interchangable; add P for plug contacts or S for socket contacts to part number when ordering.

Plugs End Cable Outlet	Plugs Side Cable Outlet	Contacts	Shell Keys* Letters	Shell Keys* Numbers	Mating Receptacles
26-4301-8	26-4501-8	8	A	1	26-4401-8
26-4302-8	26-4502-8	8	A	2	26-4402-8
26-4301-16	26-4501-16	16	A-C	3-6	26-4401-16
26-4302-16	26-4502-16	16	A-D	2-5	26-4402-16
26-4301-24	26-4501-24	24	A-C	3-6	26-4401-24
26-4302-24	26-4502-24	24	A-D	4-7	26-4402-24
26-4301-32	26-4501-32	32	A-C	3-6	26-4401-32
26-4302-32	26-4502-32	32	A-D	4-7	26-4402-32

**Other shell key combinations available require set up charge. For complete availability listing see your AMPHENOL distributor.*

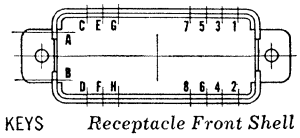


26-4401-8P 26-4501-8S



Plug Front Shell

SHELL KEYS



Receptacle Front Shell

Voltage Ratings: 5 Amp.

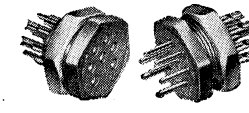
Pin Polarization	Barrier Polarization
750 Volts D.C. at Sea Level	800 Volts D.C. at Sea Level
300 Volts D.C. at 60,000 Feet Alt.	300 Volts D.C. at 70,000 Feet Alt.

MINIATURE HEXAGON CONNECTORS

Contacts	With Hex. Nut	With Locking Clip	With Hood & Clamp
4 pin	— —	126-214	— —
4 socket	— —	— —	126-215
5 pin	126-010	126-216	126-217
5 socket	126-011	126-218	126-223
7 pin	126-191	126-197	126-195
7 socket	126-192	126-198	126-196
9 pin	126-012	126-219	126-220
9 socket	126-013	126-221	126-222

Voltage Rating: 7.5 Amp.—500 Volts R.M.S. at Sea Level.

For interconnection of miniature electronic equipment; interchangeable hardware and contacts. 1-501 dielectric, gold-plated contacts; all hardware is solid brass, nickel-plated.



"Building to the future of Electronics"

AMPHENOL

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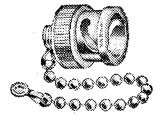
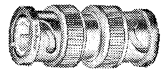
RADIO FREQUENCY CONNECTORS

AMPHENOL RF connectors are available in every popular series designation—the most complete line ever offered for military and commercial use. There are literally thousands of applications existing for these versatile connectors and more are being discovered every day. Any company engaged in electronics will concur.

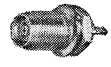
Finest materials, craftsmanship assembly, strict quality-control are the reasons for the outstanding reputation of AMPHENOL RF connectors —plus a complete engineering service that is always available to our customers.

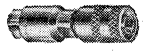
SUBMINAX





SERIES BNC





SERIES BN

SUBMINAX—50 OHM

	AMPHENOL Number	Description	For RG-/U Cables
Push-on	27-1	Plug	174, 21-596
	27-2	Jack	174, 21-596
	27-3	Receptacle	——
	27-4	Jack, Bulkhead	174, 21-596
	27-5	Cable Feed-Thru	——
	27-6	Plug, Right Angle	174, 21-596
Screw-on	27-7	Plug	174, 21-596
	27-8	Jack	174, 21-596
	27-9	Receptacle	——
	27-10	Jack, Bulkhead	174, 21-596
	27-11	Cable Feed-Thru	——
	27-12	Receptacle, Herm.	——
	27-26	Plug, Right Angle	174, 21-596

SUBMINAX—75 OHM

Push-on	27-13	Plug	21-597
	27-14	Jack	21-597
	27-15	Receptacle	——
	27-16	Jack, Bulkhead	21-597
	27-17	Cable Feed-Thru	——
	27-18	Plug, Right Angle	21-597
Screw-on	27-19	Plug	21-597
	27-20	Jack	21-597
	27-21	Receptacle	——
	27-22	Jack, Bulkhead	21-597
	27-23	Cable Feed-Thru	——
	27-24	Receptacle, Herm.	——
	27-25	Plug, Right Angle	21-597

SERIES BNC

Military Number	AMPHENOL Number	Description	For RG-/U Cables
UG-88/U	31-002	Plug	55, 58
UG-88B/U	31-018	Plug	55, 58
UG-88C/U	31-202	Plug	55, 58
UG-89/U	31-005	Jack	55, 58
UG-89A/U	31-019	Jack	55, 58
UG-89B/U	31-205	Jack	55, 58
CW-123/U	31-006	Cap and Chain	——
CW-123A/U	31-026	Cap and Chain	——
CW-155/U	31-007	Cap	——
CW-155A/U	31-027	Cap	——
CW-159/U	31-017	Shorting Plug	——
UG-254A/U	31-016	Receptacle Press.	——
UG-260/U	31-012	Plug	59, 62, 71
UG-260A/U	31-021	Plug	59, 62, 71
UG-260B/U	31-212	Plug	59, 62, 71
UG-261/U	31-015	Jack	59, 62, 71
UG-261A/U	31-022	Jack	59, 62, 71
UG-261B/U	31-215	Jack	59, 62, 71
UG-262/U	31-011	Panel Jack	59, 62, 71
UG-262A/U	31-023	Panel Jack	59, 62, 71
UG-262B/U	31-211	Panel Jack	59, 62, 71
UG-274/U	31-008	Adapter, Tee	——
UG-274A/U	31-208	Adapter, Tee	——
CW-282/U	31-210	Cap and Chain	——
UG-290/U	31-003	Receptacle	——
UG-290A/U	31-203	Receptacle	——
UG-291/U	31-001	Panel Jack	55, 58
UG-291A/U	31-020	Panel Jack	55, 58
UG-291B/U	31-201	Panel Jack	55, 58
UG-306/U	31-009	Adapter, Right-Angle	——
UG-306A/U	31-209	Adapter, Right-Angle	——
UG-447/U	31-817	Receptacle	——
UG-491A/U	31-218	Adapter	——
UG-492A/U	31-220	Adapter, Press.	——
UG-657/U	31-102	Receptacle, Press.	——
UG-909/U	31-206	Jack, Bulkhead	55, 58
UG-910/U	31-207	Jack, Bulkhead	59, 62, 71
UG-913/U	31-204	Plug, Right-Angle	55, 58
UG-914/U	31-219	Adapter, Straight	——
UG-1094/U	31-221	Receptacle, Bulk.	——
UG-1098/U	31-222	Receptacle, Right Angle	——
——	31-759	Shield Grounding Lug	——
——	31-842	Receptacle	——
——	31-850	Plug, Right Angle	59, 62, 71
——	31-851	Cable Feed-Thru	55, 58

SERIES BN

Military Number	AMPHENOL Number	Description	For RG-/U Cables
UG-85/U	82-21	Plug	55,58,59,62,71
UG-87/U	82-42	Receptacle	——
UG-114/U	82-25	Panel Jack	55,58,59,62,71
UG-115/U	82-26	Jack	55,58,59,62,71
UG-206/U	31-101	Receptacle, Bulk. Gold Plated	——
——	31-759	Shield Grounding Lug	——

SERIES N

UG-18B/U	82-86	Plug	5, 6, 21
UG-18C/U	82-203	Plug	5, 6, 21
UG-19B/U	82-87	Panel Jack	5, 6, 21
UG-19C/U	82-207	Panel Jack	5, 6, 21
UG-20B/U	82-88	Jack	5, 6, 21
UG-20C/U	82-210	Jack	5, 6, 21
UG-21B/U	82-61	Plug	8, 9, 10
UG-21C/U	82-96	Plug	8, 9, 10
UG-21D/U	82-202	Plug	8, 9, 10
UG-22B/U	82-62	Panel Jack	8, 9, 10
UG-22C/U	82-95	Panel Jack	8, 9, 10
UG-22D/U	82-208	Panel Jack	8, 9, 10
UG-23B/U	82-63	Jack	8, 9, 10
UG-23C/U	82-94	Jack	8, 9, 10
UG-23D/U	82-209	Jack	8, 9, 10
UG-27A/U	82-64	Adapter, Right-Angle	——
UG-27B/U	82-98	Adapter, Right-Angle	——
UG-27C/U	82-213	Adapter, Right-Angle	——
UG-28A/U	82-99	Adapter, Tee	——
UG-29A/U	82-65	Adapter, Straight	——
UG-29B/U	82-101	Adapter, Straight	——
UG-30/U	82-66	Adapter, Bulk. Pressurized	——
UG-30C/U	82-201	Adapter, Bulk. Pressurized	——
UG-57B/U	82-100	Adapter, Straight	——
UG-58/U	82-24	Receptacle	——
UG-58A/U	82-97	Receptacle	——
UG-94A/U	82-84	Plug	11, 12, 13
UG-95A/U	82-89	Jack	11, 12, 13
UG-96A/U	82-90	Panel Jack	11, 12, 13
UG-106/U	83-1H	Hood	8,9,10,11,12,13
UG-107A/U	82-36	Adapter, Tee	——
UG-107B/U	82-102	Adapter, Tee	——
UG-160A/U	82-67	Jack, Bulkhead	8, 9, 10
UG-160B/U	82-93	Jack, Bulkhead	8, 9, 10
UG-167A/U	82-104	Plug	17, 18
UG-167D/U	82-215	Plug	17, 18
UG-204A/U	82-105	Plug	14, 74
UG-204B/U	82-205	Plug	14, 74
UG-204C/U	82-214	Plug	14, 74
MX-564/U	82-48	Armor Clamp	10, 12
MX-564A/U	82-109	Armor Clamp	10, 12
UG-680/U	82-811	Receptacle, Bulk. Herm., Press.	——
MX-913/U	82-106	Cap and Chain	——
UG-935A/U	82-211	Panel Jack	10, 12
UG-940A/U	82-212	Jack	10, 12
UG-941A/U	82-204	Plug	10, 12
UG-1185/U	82-312	Plug, Cap. Con.	8, 9, 10, 87A, 115, 115A
UG-1186/U	82-313	Jack, Cap. Con.	8, 9, 10, 87A, 115, 115A
UG-1187/U	82-314	Panel Jack, Cap. Con.	8, 9, 10, 87A, 115, 115A
——	82-835	Angle Plug	8, 9, 10
——	82-849	Adapter, Straight, Pressurized	——
——	82-1275	Shield Grounding Lug	——
——	83-1H	Hood	8,9,10,11,12,13
——	83-1BC	Cap and Chain	——

SERIES C

UG-566A/U	82-536	Adapter, Tee	——
UG-567A/U	82-535	Adapter, Right-Angle	——
UG-568/U	82-504	Receptacle	——
UG-569/U	82-505	Receptacle Bulk.	——
UG-570/U	82-502	Jack, Bulkhead	8, 9, 10
UG-571/U	82-501	Panel Jack	8, 9, 10
UG-572/U	82-503	Jack	8, 9, 10
UG-573A/U	82-530	Plug	8, 9, 10
UG-628A/U	82-532	Plug, High-Voltage	8, 9A
UG-632/U	82-521	Jack, Bulkhead, High-Voltage	8, 9A
UG-634/U	82-515	Receptacle, Bulk. High-Voltage	——
UG-643/U	82-514	Adapter, Straight	——
UG-705/U	82-511	Receptacle, Bulk. Pressurized	——

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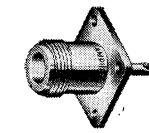
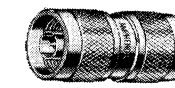
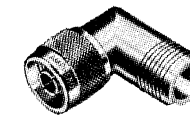
Military Number	AMPHENOL Number	Description	For RG/U Cables
UG-707A/U	82-533	Plug	14, 74
UG-709A/U	82-534	Plug	55, 58
UG-710A/U	82-531	Plug, Right-Angle	8, 9
UG-937/U	82-522	Jack, Bulkhead	10, 12
UG-938/U	82-523	Panel Jack	10, 12
UG-939/U	82-524	Jack, Bulkhead, High-Voltage	10, 12
UG-942A/U	82-539	Plug, High-Voltage	10, 12
UG-943A/U	82-538	Plug	10, 12
UG-944/U	82-526	Jack	10, 12
UG-945A/U	82-537	Plug, Right-Angle	10, 12
MX-1142/U	82-512	Cap and Chain for Jacks	— —
MX-1143/U	82-513	Cap and Chain for Plugs	— —
MX-1286/U	82-517	Armor Clamp	10, 12
— —	82-510	Hood	8, 9, 10
— —	82-519	Adapter, Tee	13 (74Ω)
SERIES HN			
UG-59A/U	82-38	Plug	8, 9, 10
UG-59B/U	82-804	Plug	8, 9, 10
UG-60A/U	82-39	Jack	8, 9, 10
UG-60B/U	82-814	Jack	8, 9, 10
UG-61A/U	82-40	Panel Jack	8, 9, 10
UG-61B/U	82-815	Panel Jack	8, 9, 10
MX-103/U	103-301	Tapering Tool	8, 9, 10
UG-212A/U	82-91	Adapter, Right-Angle	— —
UG-212C/U	82-115	Adapter, Right-Angle	— —
UG-333/U	82-56	Jack	17, 18
UG-333A/U	82-107	Jack	17, 18
UG-334/U	82-57	Panel Jack	17, 18
UG-334A/U	82-108	Panel Jack	17, 18
UG-495A/U	82-111	Plug	17, 18
UG-496/U	82-92	Receptacle	— —
UG-560/U	82-805	Receptacle	— —
MX-564/U	82-48	Armor Clamp	10
MX-564A/U	82-109	Armor Clamp	10
UG-929/U	82-114	Panel Jack	10, 116
— —	82-91A	Adapter, Right Angle	— —
— —	82-130	Cap & Chain-Jacks	— —
— —	82-320	Plug, Cap Con.	8,9,10,87A, 115, 115A
— —	82-321	Jack, Cap. Con.	8,9,10,87A, 115, 115A
— —	82-324	Panel Jack, Cap. Con	8,9,10,87A, 115, 115A
— —	82-816	Plug	54A
— —	82-833	Angle Plug	8, 9, 10
— —	82-836	Receptacle, Press.	— —
— —	82-843	Receptacle, Press., High-Voltage	— —
— —	82-856	Angle Plug	8, 9, 10
PUSH-ON			
	82-830	Plug	58
	82-831	Receptacle, Bulk.	— —
	82-832	Plug	59, 62, 71
— —	82-841	Receptacle, Bulk.	— —
— —	82-842	Plug	58
— —	82-845	Plug, Bulk.	58
— —	82-846	Jack, Bulk.	58
SERIES UHF Small Single Contact Connectors			
UG-106/U	83-1H	Hood	8, 9, 10, 11, 12, 13, 63, 65
UG-111/U	83-750	Plug	59, 62, 71
UG-175/U	83-185	Adapter, Reducing	58
UG-176/U	83-168	Adapter, Reducing	59, 62, 71
UG-177/U	83-765	Hood	29, 55, 58
UG-203/U	83-776	Plug	55, 59, 62, 71
SO-239	83-1R	Receptacle	— —
SO-239A	83-798	Receptacle	— —
PL-258	83-1J	Adapter, Straight	— —
PL-259	83-1SP	Plug	8, 9, 10, 11, 12, 13, 63, 65
PL-259A	83-1SPN	Plug (Mica-Filled Bakelite)	8, 9, 10, 11, 12, 13, 63, 65
PL-259A	83-756	Plug (Teflon)	8,9,10,11,12
PL-274	83-1F	Adapter, Bulk.	— —
M-358	83-1T	Adapter, Tee	— —
M-359	83-1AP	Adapter, Right-Angle	— —
M-359A	83-58	Adapter, Right-Angle	— —
M-360	83-1H	Hood	8, 9, 10, 11, 12, 13, 63, 65
UG-363/U	83-1F	Adapter, Bulk.	— —
UG-372/U	83-1HP	Hood	8, 9, 10, 11, 12, 13, 63, 65
UG-646/U	83-1AP	Adapter, Right-Angle	— —

Military Number	AMPHENOL Number	Description	For RG-/U Cables
49190	83-1SP	Plug	8, 9, 10, 11, 12, 13, 63, 65
49191	83-1J	Adapter, Straight	— —
49192	83-1AP	Adapter, Right-Angle	— —
49192A	83-58	Adapter, Right-Angle	— —
49193	83-1H	Hood	8, 9, 10, 11, 12, 13, 63, 65
49194	83-1R	Receptacle	— —
49195	83-1SPN	Plug (Mica-Filled Bakelite)	8, 9, 10, 11, 12, 13, 63, 65
49195	83-756	Plug (Teflon)	8, 9, 10, 11, 12
49199	83-1T	Adapter, Tee	— —
49482	83-776	Plug	55, 59, 62, 71
491049	83-1F	Adapter, Bulk.	— —
— —	83-1AC	Cap and Chain	— —
— —	83-1BC	Cap and Chain	— —
— —	83-1RTY	Receptacle	— —
— —	83-59	Plug, Right-Angle	8, 9, 10, 11, 12, 13, 63, 65
— —	83-716	Receptacle, Pressure Proof	— —
— —	83-786	Hood & Gang Nut	29, 55, 58
— —	83-812	Receptacle	— —
— —	83-822	Plug	8,9
— —	83-850	Plug, Solderless	11
— —	83-851	Plug, Solderless	8, 9, 10, 11, 12 13 63 65
Small Twin Contact Connectors			
UG-102/U	83-22SP	Plug	22
UG-103/U	83-22R	Receptacle	— —
UG-104/U	83-22AP	Adapter, Right-Angle	— —
UG-105/U	83-22J	Adapter, Straight	— —
UG-106/U	83-1H	Hood	22
UG-196/U	83-22T	Adapter, Tee	— —
SO-264	83-22R	Receptacle	— —
PL-275	83-22F	Adapter, Straight, Bulkhead	— —
PL-284	83-22SP	Plug	22
PL-285	83-22J	Adapter, Straight	— —
PL-293	83-22AP	Adapter, Right-Angle	— —
M-360	83-1H	Hood	22
49193	83-1H	Hood	22
— —	83-1AC	Cap and Chain	— —
— —	83-1BC	Cap and Chain	— —
— —	83-65	Adapter, Reducing	.250 Diam.
— —	83-821	Plug	22
Large Single Contact Connectors			
UG-357/U	83-21R	Receptacle	— —
UG-358/U	83-21SP	Plug	34
M-365	83-2H	Hood	34
49208	83-2H	Hood	34
— —	83-787	Plug	14
Large Twin Contact Connectors			
SO-265	83-2R	Receptacle	— —
PL-295	83-2SP	Plug	57,130
PL-305	83-2J	Adapter, Straight	— —
M-365	83-2H	Hood	57, 130
49188	83-2SP	Plug	57, 130
49189	83-2J	Adapter, Straight	— —
49196	83-2R	Receptacle	— —
49208	83-2H	Hood	57, 130
SERIES LC			
UG-154/U	82-59	Plug	17, 18
UG-352/U	82-80	Receptacle	— —
UG-352A/U	82-110	Receptacle	— —
BETWEEN SERIES ADAPTERS			
			Mates With
UG-201/U	31-830		N Female and BNC Male
UG-201A/U	31-216		N Female and BNC Male
UG-273/U	31-028		BNC Male and UHF 49194 or Equivalent
UG-349A/U	31-217		N Male and BNC Female
UG-564/U	82-508		C Male and N Female
UG-565A/U	82-540		C Female and N Male
CABLE TRANSITION			
		From RG-/U Cable	To RG-/U Cable
	82-150	17, 18	8, 9 or 10
CABLE SPLICE			
			For RG-/U Cables
	82-152		35, 164
CABLE END SEAL			
			For RG-/U Cables
	152-201		8-11







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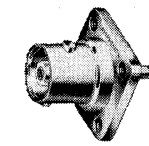

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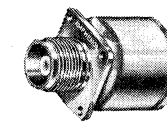
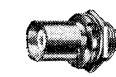
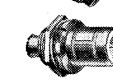


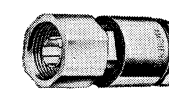
SERIES HN





PUSH-ON

SERIES UHF



SERIES LC

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AMPHENOL

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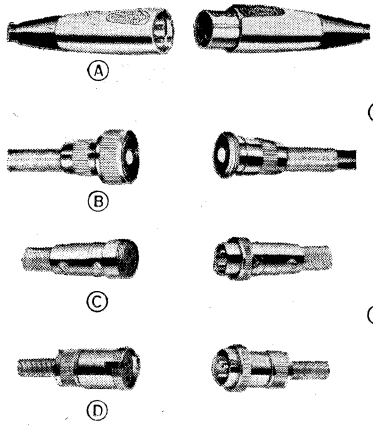
MICROPHONE CONNECTORS



Ⓐ MODERN DESIGN QWIKS

Newest, most efficient, most attractive connectors ever offered for microphone use. Gold-plated contacts, 1-501 Blue dielectric, satin-nickel finish contribute to the beauty, the efficient performance of the new QWIKs. Instant connect, disconnect—just click them in!

Three Contacts AMPHENOL Number	Description	Four Contacts AMPHENOL Number
91-853	Male plug	91-857
91-854	Female plug	91-858
91-855	Male receptacle	91-859
91-856	Female receptacle	91-860

Ⓑ SERIES 75

Coupling-ring connectors available with a complete line of accessory fittings. Easy to use, versatile in application, these connectors provide mating connections at every junction through the use of slip-off, slip-on coupling rings. Single contact.

AMPHENOL Number	Description
75-CCC1	Cap and chain
75-MC1F	Straight plug
75-MC1FA	Angle plug
75-MC1M	Cable jack
75-MC1P	Phone plug adapter
75-MC1S	Microphone switch
75-PC1M	Locknut receptacle
75-CL-PC1M	Locknut receptacle, closed circuit

Ⓒ SERIES 80

One and two contact connectors designed for microphone applications; assure positive connections free from noise, leaks or shorts.

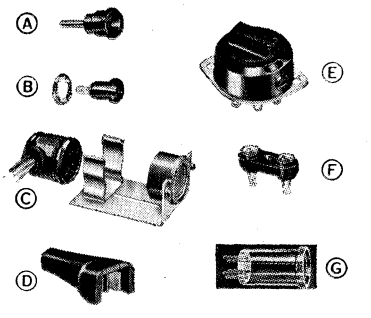
One Contact AMPHENOL Number	Description	Two Contact AMPHENOL Number
80-M	Male plug	80-MC2M
80-F	Female jack	80-MC2F
80-C	Female receptacle	80-PC2F
80-F1	Female plug	80-MC2F1
80-M1	Male jack	80-MC2M1
80-C1	Male receptacle	80-PC2M

Ⓓ SERIES 91

Three and four contact connectors for audio or any type of portable sound equipment. Screw-on connection. Connectors polarized.

Three Contacts AMPHENOL Number	Description	Four Contacts AMPHENOL Number
91-MC3M	Male plug	91-MC4M
91-MC3F	Female jack	91-MC4F
91-PC3F	Female receptacle	91-PC4F
91-MC3F1	Female plug	91-MC4F1
91-MC3M1	Male jack	91-MC4M1
91-PC3M	Male receptacle	91-PC4M

MISCELLANEOUS ELECTRONIC COMPONENTS



POLYSTYRENE SHEET STOCK

Optical clarity suitable for dial window and gauge glass applications.

AMPHENOL Number	Description
19-0628	4" x 8" x 1/16"
19-0938	4" x 8" x 3/32"
19-1258	4" x 8" x 1/8"
19-1878	4" x 8" x 3/16"
19-2508	4" x 8" x 1/4"

Ⓐ SINGLE PRONG PLUGS

Bakelite plugs, black or red; for use with Tip Jacks.

AMPHENOL Number	Description
71-1S	For 3/32" socket
71-1M	For 1/8" socket
71-1L	For 5/32" socket

Ⓑ TIP JACKS

Bakelite, black or red. Mount in 3/8" hole.

AMPHENOL Number	Description
78-1S	For 3/32" plug
78-1L	For 5/32" plug
78-1M	For 1/8" plug
78-1P	For .080" phone tip

Ⓒ MAGIC EYE ASSEMBLIES

Completely wired with escutcheon and hardware. Tube not included with either.

AMPHENOL Number	Description
58-MEA6	6 contact type
58-MEA8	8 contact octal type

Ⓓ UNIVERSAL GRID CAP

For use with tube grid caps from 1/4" to 3/8" diameter.

AMPHENOL Number	Description
63-1	Black grid cap

Ⓔ TAP CHANGE SWITCH

8-position single pole continuous switch with white markings clearly visible in window cap. Side set-screw for locking switch arm.

AMPHENOL Number	Description
36	Numerals 1 to 8, internal solder lugs
36-1	Numerals 1 to 8
36-2	Imp. marks 0-2-4-8-16-250-500

Ⓕ CRYSTAL HOLDER SOCKET

Mica-filled bakelite; for crystal holders having 2 1/8" prongs on 3/4" centers.

AMPHENOL Number	Description
33-2	Black bakelite
33-2T	Mica-filled

Ⓖ COIL FORMS

Molded of AMPHENOL 912-A polystyrene for use in receivers and low-powered transmitters.

AMPHENOL Number	Description
24	Miniature, for self-tapping screw
24-4P	Plug-in, 4 prong
24-5P	Plug-in, 5 prong
24-6P	Plug-in, 6 prong
24-5H	Plug-in, miniature, 5 prong
24-6H	Plug-in, miniature, 6 prong

POLYWELD & ACRYWELD CEMENTS & THINNERS

Polyweld 912 and Acryweld 901 are perfect cements for their respective materials —provide an actual weld.

AMPHENOL Number Polyweld 912	Acryweld 901	Description
53-912-2	53-901-2	2 ounce bottle
53-912-4	53-901-4	4 ounce bottle
53-912-P	53-901-P	Pint container
53-912-Q	53-901-Q	Quart container
53-912-G	53-901-G	1 gallon can
53-912-5G	53-901-5G	5 gallon can

AMPHENOL Number Polyweld Thinner	Acryweld Thinner	Description
53-916-2T	53-901-2T	2 ounce bottle
53-916-4T	53-901-4T	4 ounce bottle
53-916-PT	53-901-PT	Pint container
53-916-QT	53-901-QT	Quart container
53-916-GT	53-901-GT	1 gallon can
53-916-5GT	53-901-5GT	5 gallon can

AMPHENOL AMPHENOL ELECTRONICS CORPORATION *chicago 50, illinois*

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MISCELLANEOUS ELECTRONIC COMPONENTS

Ⓐ HIGH-VOLTAGE SOCKETS

Above or below mounting. Provide finest performance under high-voltage contact-to-chassis conditions.

AMPHENOL Number	Description
77A-4T	4 contacts, mica-filled bakelite
146-101	8 contacts, melamine

Ⓑ STEATITE TRANSMITTING TUBE SOCKETS

Low-loss steatite, Clover Leaf contacts—permanently secured mounting plate.

AMPHENOL Number	Description
148-101	Small and medium 4 pin
148-111	Octal

Ⓒ BRACKET TYPE SOCKETS

For upright panel mounting. Available in combinations as follows:

AMPHENOL Number	With Retaining Clip	With Terminal Block	With Bottom Cover	With Underwriters' Shield	For Super Jumbo 4-pin Tubes	For UX4-pin Tubes
146-105	X		X		X	
146-106	X				X	
146-107	X	X	X		X	
146-109				X		X
146-110						X

Ⓓ ADAPTER SOCKETS

For miniature tubes; modernize tube checkers and analyzers!

AMPHENOL Number	Description
78-A7P	7 pin
78-A9P	9 pin

Ⓔ MAGNAL & DUODECAL SOCKETS

For cathode ray and television tubes.

AMPHENOL Number	Description
49-SS11L	11 contact, magnal
59-402	12 contact

Ⓕ ETHYLON "A" SOCKETS

Miniature 7 and 9 pin sockets, molded of AMPHENOL Ethylon-A with exceptionally high "Q" factor and low-loss properties.

AMPHENOL Number	Description
59-305	8 pin octal, Zip-in
59-307	7 pin miniature, Zip-in
59-309	9 pin miniature, Zip-in
59-355	8 pin octal, with mounting plate
59-357	7 pin miniature with mounting plate
59-359	9 pin miniature with mounting plate
59-367	7 pin miniature with tube shield base
59-369	9 pin miniature with tube shield base

Ⓖ MINIATURE RETAINER RING SOCKETS

Requiring a minimum of space, these sockets are especially designed for installation in compact electronic equipment.

AMPHENOL Number	Description
78-S3S	3 contact
78-S4S	4 contact
78-S5S	5 contact
78-S6S	6 contact
78-5P	5 contact
78-7P	7 contact
78-7PT	7 contact, mica-filled bakelite

Ⓗ MOLDED-IN-PLATE SOCKETS

Famous AMPHENOL "Mips", molded of high strength black bakelite with sturdy steel mounting plate molded-in. Contacts grip tube prongs firmly—retain their resilience indefinitely.

AMPHENOL Number	Description
77-MIP-4	4 contact
77-MIP-5	5 contact
77-MIP-6	6 contact
77-MIP-7L	7 large
77-MIP-7S	7 small
77-MIP-8	8 octal
77-MIP-9	9 octal style
77-MIP-11	11 octal style
77-MIP-12	12 octal style
88-8	8 octal compact
88-8X	8 loktal compact
77-MIP-8FK	8 octal, with 11-3K floating socket kit
11-3K	Kit for converting any "Mip" to floating socket

Ⓘ BARRIER TYPE SOCKETS

Long creepage paths, Patented Clover-Leaf contacts, melamine bodies—above or below chassis mountings; top quality throughout.

AMPHENOL Number	Description
146-103	Octal, top mounted
146-104	Octal, threaded inserts, top mounted
146-111	7 pin, miniature
146-203	146-103, bottom mounted
146-204	146-104, bottom mounted

Ⓙ "S" TYPE REPLACEMENT SOCKETS

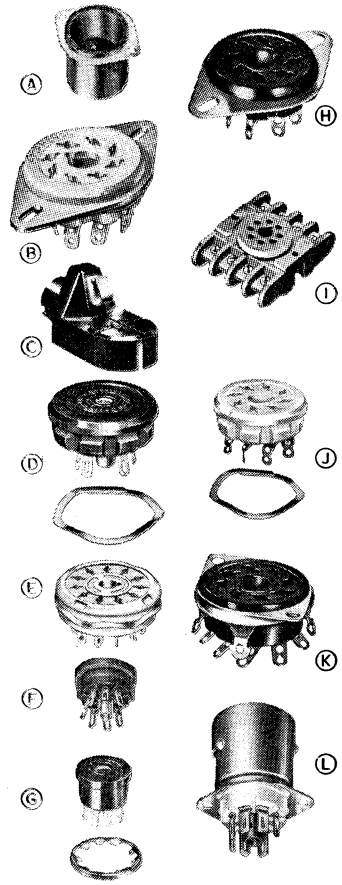
Convenient and versatile; assembled with retainer rings to chassis of sturdy mounting plate with slotted holes.

AMPHENOL Number With Mtg. Plt.	Black Bakelite Without	Description
78-RS4	78-S4	4 contact
78-RS5	78-S5	5 contact
78-RS6	78-S6	6 contact
78-RS7L	78-S7L	7 large
78-RS7S	78-S7S	7 small
78-RS8	78-S8	8 octal
78-RS8L	78-S8L	8 loktal
78-RS9	78-S9	9 octal
78-RS11	78-S11	11 octal
	Steatite	
49-RSS4	49-SS4	4 contact
49-RSS5	49-SS5	5 contact
49-RSS6	49-SS6	6 contact
49-RSS7L	49-SS7L	7 large
49-RSS7S	49-SS7S	7 small
49-RSS8	49-SS8	8 octal

Ⓚ SADDLE TYPE OCTAL SOCKETS

Economical below-chassis mounting sockets. Black bakelite.

AMPHENOL Number	Description
168-001	8 contact, wrap-around, 4 grounding lugs
168-015	8 contact, tuning-fork, 4 grounding lugs



Ⓛ MINIATURE 7 & 9 PIN SOCKETS

For tv, fm and radio use—sockets available for any miniature application. All have .095" rivet holes unless marked.

AMPHENOL Number	Bottom Mounting—No Shield Base Description	Center Shield
59-409	9 contact, black bakelite	L
59-410	9 contact, mica-filled	L
147-500	7 contact, black bakelite	L
* 147-502	7 contact, black bakelite	L
147-504	7 contact, black bakelite	O
147-505	7 contact, mica-filled	S
AMPHENOL Number	**Top Mounting—Tube Shield Base Description**	**Center Shield**
† 59-403	9 contact, mica-filled	L
59-406	9 contact, black bakelite	L
59-407	9 contact, mica-filled	L
147-905	7 contact, black bakelite	L
147-913	7 contact, mica-filled	S
147-916	7 contact, mica-filled	S
147-921	7 contact, steatite	S
† 147-924	7 contact, steatite	S
† 147-925	7 contact, steatite	L

Rubber mounted †.125 dia. rivet holes.

"Building to the future of Electronics"

AMPHENOL

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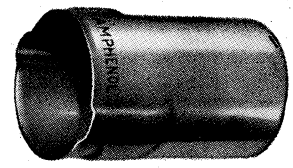
MISCELLANEOUS ELECTRONIC COMPONENTS

Ⓐ TUBE SHIELDS FOR MINIATURE SOCKETS

Protects tubes from damage, promotes circuit stability, integral spiral spring.

AMPHENOL Number	Description
5-401	For 7 pin—1⅜"
5-402	For 7 pin—1¼"
5-405	For 9 Pin—1½"
5-408	For 9 pin—1 15/16"
5-409	For 9 pin—2⅜"

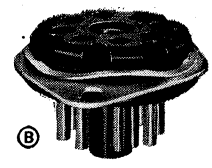


Ⓐ

Ⓑ "CP" TYPE PLUGS

Black bakelite plugs, extremely compact and useful for multi-wire applications. Quickly, easily installed. Mate with "S" type sockets.

AMPHENOL Number With Mtg. Plate	AMPHENOL Number Without	Description
86-RCP4	86-CP4	4 contact
86-RCP5	86-CP5	5 contact
86-RCP6	86-CP6	6 contact
86-RCP7L	86-CP7L	7 large
86-RCP7S	86-CP7S	7 small
86-RCP8	86-CP8	8 octal
86-RCP9	86-CP9	9 octal style
86-RCP11	86-CP11	11 octal style



Ⓑ

Ⓒ SHIELDED MULTI-WIRE CABLE CONNECTORS

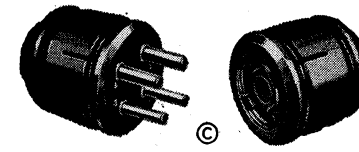
Consist of "S" type sockets and "CP" plugs. Accommodates cable up to ⅜" diameter.

With Grommet Cap 3-13

AMPHENOL Number Female	AMPHENOL Number Male	Description
78-PF4	86-PM4	4 contact
78-PF5	86-PM5	5 contact
78-PF6	86-PM6	6 contact
78-PF8	86-PM8	8 octal
78-PF9	86-PM9	9 octal style
78-PF11	86-PM11	11 octal style

With Cable Clamp 3-24

AMPHENOL Number Female	AMPHENOL Number Male	Description
78-PF4-11	86-PM4-11	4 contact
78-PF5-11	86-PM5-11	5 contact
78-PF6-11	86-PM6-11	6 contact
78-PF7S-11	86-PM7S-11	7 small
78-PF8-11	86-PM8-11	8 octal
78-PF9-11	86-PM9-11	9 octal style
78-PF11-11	86-PM11-11	11 octal style

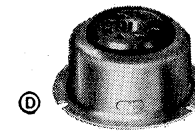


Ⓒ

Ⓓ RECEPTACLE SHELLS

For "S" type sockets or "CP" type plugs. 61-61 lowers below surface; others extend above or below surface.

AMPHENOL Number	Description
23-1S	Shell only, small
23-1L	Shell only, large
61-61	Shell only

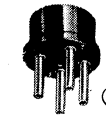


Ⓓ

Ⓔ UNSHIELDED SPEAKER PLUGS

Molded-in-prongs that cannot work loose. For test panels, inter-communication systems, etc.

AMPHENOL Number	Description
71-4	4 contact, finger grip
71-5	5 contact, finger grip
71-6	6 contact finger grip
71-7	7 contact, finger grip
70-8	8 contact
70-9	9 contact
70-12	12 contact
70-20	20 contact
71-3S	3 contact, miniature cable plug
71-4S	4 contact, miniature cable plug
71-5S	5 contact, miniature cable plug
71-6S	6 contact, miniature cable plug
86-CP-3S	3 contact miniature chassis plug
86-CP-4S	4 contact, miniature chassis plug

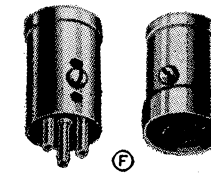


Ⓔ

Ⓕ MINIATURE CABLE CONNECTORS

Black bakelite bodies, cad. plated brass shells. Polarized.

AMPHENOL Number Male	Description	AMPHENOL Number Female
	SHORT SHELL	
91-MPM3S	3 contact	91-MPF3S
91-MPM4S	4 contact	91-MPF4S
	LONG SHELL	
91-MPM3L	3 contact	91-MPF3L
91-MPM4L	4 contact	91-MPF4L
91-MPM5L	5 contact	— —
91-MPM6L	6 contact	— —
	FLARED SHELL	
— —	3 contact	91-MPF3
— —	4 contact	91-MPF4
91-MPM5	5 contact	91-MPF5
91-MPM6	6 contact	91-MPF6

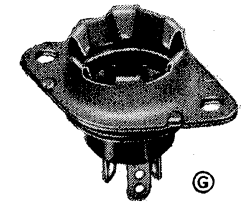


Ⓕ

Ⓖ SHIELDED CHASSIS UNITS

Economical chassis receptacles for connecting shielded or unshielded cables. Mounts on surface or behind chassis or panel. Female only.

AMPHENOL Number	Description
78-PCG3	3 contact
78-PCG4	4 contact
78-PCG5	5 contact
78-PCG6	6 contact

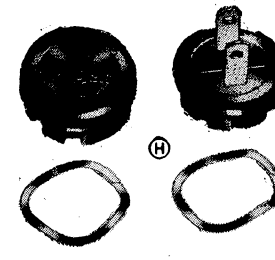


Ⓖ

Ⓗ 110-VOLT PLUG & RECEPTACLE INSERTS

UL approved; black bakelite bodies. Rated at 15 amps.

AMPHENOL Number Retainer Ring Type	Receptacles Description	AMPHENOL Number Mounting Plate Type
61-F	2 pole, universal	61-F1
60-F	3 pole, polarized	60-F1
	2 pole, universal	61-MIP-61F
	Plugs	
61-M	2 pole, standard	61-M1
61-MP	2 pole, polarized	61-MP1
60-M	3 pole, polarized	60-M1

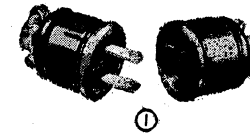


Ⓗ

Ⓘ 110-VOLT SHIELDED CABLE CONNECTORS

Fully shielded cable terminals; black bakelite bodies.

AMPHENOL Number With Cable Clamps	AMPHENOL Number With Grommet	Description
60-F11	60-F4	3 pole receptacle
60-M11	60-M4	3 pole polarized plug
61-F11	61-F4	2 pole universal receptacle
61-M11	61-M4	2 pole standard plug
61-MP11	61-MP4	2 pole polarized plug



Ⓘ

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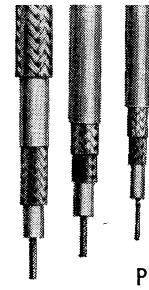
Standard Jacket		Low Temp. Black Jacket		Impedance in Ohms	Jacket O.D.	Max. Oper. Volts-Rms
Military Number RG-/U	AMPHENOL Number	Signal Corps Number RG-/U	AMPHENOL Number			
5	21-001			52.5	.332	3000
		5B	21-294	50	.328	3000
		6A	21-330	76	.332	2700
7	21-003			97	.370	1000
8	21-004	8A	21-290	52	.405	4000
9	21-005			51	.420	4000
9A	21-231	9B	21-332	51	.420	4000
		10A	21-338	52	.405	4000
11	21-007	11A	21-296	75	.405	4000
		12A	21-340	75	.405	4000
13	21-009	13A	21-334	74	.420	4000
14	21-010	14A	21-336	52	.545	5500
17	21-013	17A	21-298	52	.870	11000
18	21-014	18A	21-300	52	.870	11000
19	21-015	19A	21-303	52	1.120	14000
		20A	21-305	52	1.120	14000
21	21-017	21A	21-308	53	.332	2700
22	21-038			95	.405	1000
		22B	21-310	95	.420	1000
29	21-018			53.5	.184	1900
34	21-019	34A	21-429	71	.625	5200
35	21-020	35A	21-311	71	.870	10000
54A	21-022			58	.250	3000
55	21-023			53.5	.206	1900
		57A	21-313	95	.625	3000
58	21-024	58B	21-315	53.5	.195	1900



RG TYPE COAXIAL CABLE

POLYETHYLENE DIELECTRIC

Standard RG-/U coaxial cable, produced to government specifications. Low temperature black jacket is non-contaminating, operates at —40° C. All cables manufactured to highest quality standards.

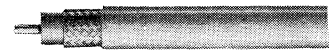
Standard Jacket		Low Temp. Black Jacket		Impedance in Ohms	Jacket O.D.	Max. Oper. Volts-Rms
Military Number RG-/U	AMPHENOL Number	Signal Corps Number RG-/U	AMPHENOL Number			
58A	21-199	58C	21-316	50	.195	1900
59	21-025	59A	21-291	73	.242	2300
62	21-026	62A	21-318	93	.242	750
63	21-027	63B	21-320	125	.405	1000
71	21-029			93	.250	750
		74A	21-321	52	.545	5500
		79B	21-325	125	.405	1000
108	21-261	108A	21-327	76	.245	1000
		111A	21-329	95	.420	1000
114	21-440	114A	21-520	185	.405	1000
164	21-125			71	.870	10000

TEFLON DIELECTRIC

RG-/U coaxial cables with teflon dielectric operate without difficulty at temperatures from —73° C. to +260° C. Teflon is outstanding not only because of its efficiency at high temperatures but also because of its extremely low loss and high voltage breakdown.

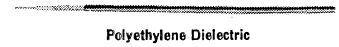
Military Number RG-/U	AMPHENOL Number	Nom. Imp. Ohms	Jacket O.D.	Max. Oper. Volts
62C	421-100	93	.242	750
87A	421-250	50	.425	4000
115	421-641	50	.375	4000
115A	421-699	50	.415	4000
116	421-378	50	.425	4000
117	421-377	50	.730	5000
118	421-374	50	.730	5000
119	421-398	50	.470	5000
120	421-399	50	.470	5000
126	421-443	50	.290	2000
140	421-379	73	.242	1700
141	421-382	50	.195	1500
142	421-385	50	.206	1500
143	421-388	50	.325	2000
144	421-391	72	.395	3000

NOISE-FREE COAXIAL CABLE



Similar to RG-/U	AMPHENOL Number	Impedance in Ohms
8	21-539	52
11	21-467	75
54A	21-553	58
58A	21-537	50
59	21-541	73

SUBMINIATURE COAXIAL CABLE



Polyethylene Dielectric		
Similar to RG-/U	AMPHENOL Number	Impedance in Ohms
174	21-598	50
	21-597	75
Polyfluoron Dielectric		
	521-596	50

MICROPHONE CABLE

Polyethylene Dielectric	
AMPHENOL Number	Description
21-146	Low capacitance sound equipment cable

SPECIAL APPLICATION CABLE

ALJAK COAXIAL CABLE

Polyethylene Dielectric		
Regular RG-/U Core	AMPHENOL Number	Impedance in Ohms
8	21-606	50
11	21-607	75
Teflon Dielectric		
87A	421-608	50
144	421-609	75

TRIAXIAL CABLE

Similar to RG-/U	AMPHENOL Number	Impedance in Ohms
8	21-583	52
11	21-529	75
58A	21-204	50
59	21-527	73

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AMPHENOL

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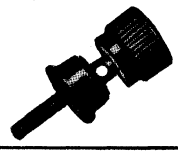
EBY SALES CO. of NEW YORK

INSULATED BINDING POSTS

Knob and base are molded bakelite, with brass inserts and have non-removable tops. Following have knurled base to prevent post twisting.



Spec's.	No. 30 Junior	No. 37 Ensign	No. 40 Commander	No. 43 Admiral
Knob Diam.	½" x 7/16" H.	½" x 7/16" H.	9/16" x ½" H.	⅝" x 17/32" H.
Base Diam.	½" x ¼" H.	½" x ¼" H.	⅝" x ¼" H.	23/32" x ¼" H.
Stem	6-32, ⅝"	6-32, ⅝"	8-32, ⅞"	8-32, ¾"
Neck Diam.	3/16"	3/16"	13/64"	13/64"
Neck Hole	3/32"	3/32"	3/32"	None
List Price	$.38 Ea.	$.44 Ea.	$.61 Ea.	$.77 Ea.

Following have boss on base to insulate stem from metal panel. Boss is flat on two sides. Stem length is from bottom of boss.

Spec's.	No. 38 Ensign	No. 41 Commander	No. 44 Admiral	No. 46 Admiral
Knob Diam.	½" x 7/16" H.	9/16" x ½" H.	⅝" x 17/32" H.	11/16"x19/32"H.
Base Diam.	17/32"x¼"H.	⅝" x ¼" H.	23/32" x ¼" H.	23/32" x ¼" H.
Stem	6-32, ½"	8-32, ⅝"	8-32, 9/16"	8-32, 9/16"
Neck Diam.	3/16"	13/64"	13/64"	13/64"
Neck Hole	3/32"	3/32"	None	None
List Price	$.48 Ea.	$.66 Ea.	$.66 Ea.	$.83 Ea.

Following have dowel pin on base.

Spec's.	No. 39 Ensign	No. 42 Commander	No. 45 Admiral	No. 47 Admiral
Knob Diam.	½" x 7/16" H.	9/16" x ½" H.	⅝" x 17/32" H.	11/16"x19/32"H.
Base Diam.	½" x ¼" H.	⅝" x ¼" H.	23/32" x ¼" H.	23/32" x ¼" H.
Stem	6-32, 9/16"	8-32, ¾"	8-32, ¾"	8-32, ¾"
Neck Diam.	3/16"	13/64"	13/64"	13/64"
Neck Hole	3/32"	3/32"	None	None
List Price	$.48 Ea.	$.66 Ea.	$.66 Ea.	$.83 Ea.

No. 51

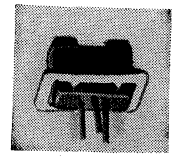
UNIVERSAL TYPE

Model No. 51—New convenient multi-type binding post for simple rapid connection. Banana plug can be inserted at top. Rated at 30 amps at 1000 volts. Similar to Superior binding post DF30C. Available in red or black..... **$0.67**

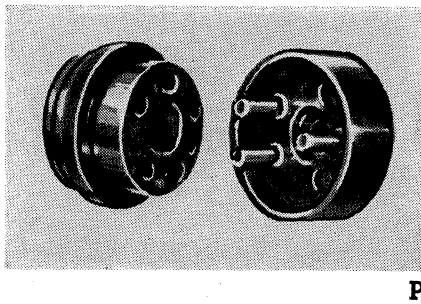
Model No. 55—Same as the 51 binding post with the exception that it is designed to accommodate the standard .080 phono-tip **$1.50**

TRANSISTOR SOCKET

SM3. Low loss phenolic casting (Grade MTS-E-4 per Jan P14) three contacts of beryllium copper silver plated tin dipped to facilitate soldering. Supplied with push on mounting bracket. **List, ea. $0.40**



SM-5. Same as above but with 5 contacts. **List, ea. $0.34**
SM-6. Same as above but with 6 contacts. **List, ea. .37**
SM-7. Same as above but with 7 contacts. **List, ea. .40**
SM-8. Round subminiature socket made of the same low loss phenolic as the rectangular sockets. Nickel plated saddle for mounting. **List, ea. $0.65**
SH-1. Brass nickel plated round metal shield for SM-8 socket. **List, ea. $0.18**



SPEAKER CONNECTORS

Made of general purpose bakelite, plug is one piece construction, with protective flange that prevents touching of live contacts. Female is supplied with separate contacts for rapid assembly.

60-3M	3 Prong Male	List Price **$.14 Ea.**
60-4M	4 Prong Male	List Price **.15 Ea.**
60-5M	5 Prong Male	List Price **.16 Ea.**
60-5F	5 Contact Female for use with 3, 4, or 5 prong male	List Price **.14 Ea.**

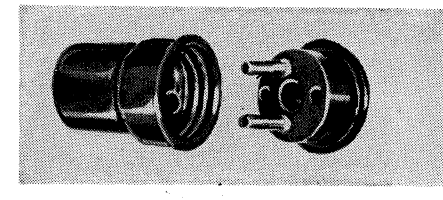
Above with wire leads available on request.

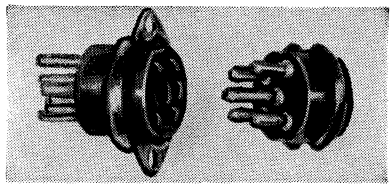
PHONO CONNECTORS

Designed for use in combining radio and phonograph sections of instrument, made of general purpose bakelite. Female is supplied with separate contacts, for use with 2, 3 or 4 prong male.

75-2M	2 Prong Male	List Price **$.10 Ea.**
75-3M	3 Prong Male	List Price **.10 Ea.**
75-4M	4 Prong Male	List Price **.11 Ea.**
75-4F	4 Contact Female	List Price **.14 Ea.**
75-4F	4 Contact Female	List Price **.14 Ea.**

Above with wire leads available on request.





ALL-PURPOSE CONNECTOR

A new, compact connector made of general purpose bakelite for use where space is an important factor. Female, for use with 2, 3, 4 or 5 prong male, has saddle mount.

119-2M	2 Prong Male	List Price **$.10 Ea.**
119-3M	3 Prong Male	List Price **.10 Ea.**
119-4M	4 Prong Male	List Price **.10 Ea.**
119-5M	5 Prong Male	List Price **.10 Ea.**
119-5F	5 Contact Female	List Price **.15 Ea.**

TERMINAL STRIPS & SCREW TERMINALS

A complete selection of terminal lug strips and screw terminals are available on request. Write for our complete catalog.

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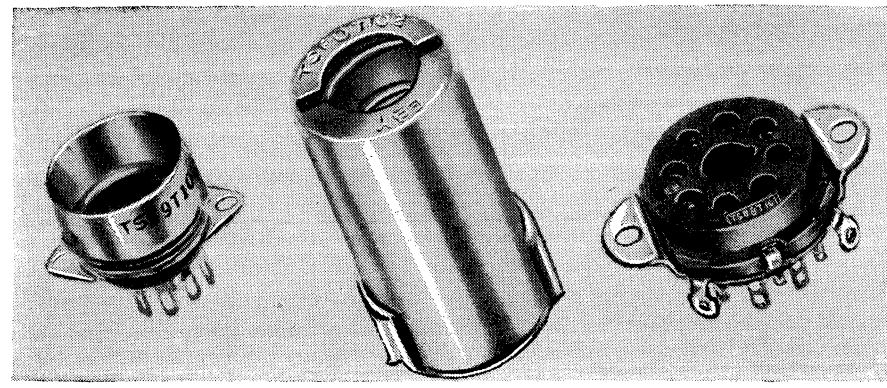
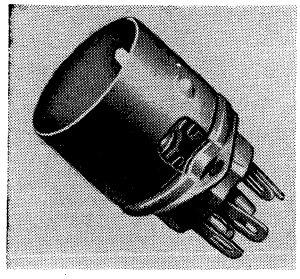
EBY SALES CO. of N. Y.

JAN SOCKETS and SHIELDS



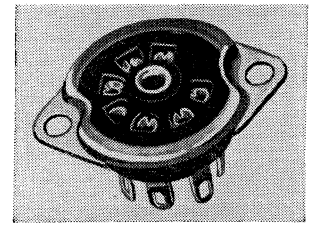
S128A	S-28A1	DESCRIPTION	Eby No.	List
TSE7T102	TS102C01	7 pin shield base ceramic	9715	$70.00/C
	TS102C02	7 pin Cer. Top. Sad. Mt.	9726-60	55.00/C
	TS102C03	7 pin Cer. Bot. Sad. Mt.	9727-160	55.00/C
TSE7T101	TS102P01	7 pin shield base mica filled	9736	50.00/C
	TS102P02	7 pin mica filled top mt. sad.	9726-61	32.00/C
	TS102P03	7 pin mica filled bot. mt. sad.	9727-161	32.00/C
TSE9T102	TS103C01	9 pin shield base ceramic	9717	95.00/C
	TS103C02	9 pin Cer. Top Mt. Saddle	9739-36	85.00/C
	TS103C03	9 pin Cer. Bot. Mt. Saddle	9713-160	85.00/C
TSE9T101	TS103P01	9 pin shield base mica filled	9718	70.00/C
TSF0T101	TS102U01	7 Pin Tube Shield—1 3/8"	9700	28.00/C
TSF0T102	TS102U02	7 Pin Tube Shield—1 3/4"	9701	28.00/C
TSF0T103	TS102U03	7 Pin Tube Shield—2 1/4"	9702	33.00/C
TSF0T104	TS103U01	9 Pin Tube Shield—1 1/2"	9703	33.00/C
TSF0T105	TS103U02	9 Pin Tube Shield—1 13/16"	9704	34.00/C
TSF0T106	TS103U03	9 Pin Tube Shield—2 3/8"	9710	40.00/C
	TS103P02	9 pin mica filled top mt. Sad.	9739-32	38.00/C
	TS103P03	9 pin mica filled bot. mt. sad.	9713-161	38.00/C
TSB8T102	TS101C01	Octal saddle ceramic	9756	105.00/C
TSB8T101	TS101P01	Octal saddle mica filled	9753	68.00/C
	TS101P02	Octal, Saddle, Mica-filled w/Pem Nut	9751-18	85.00/C
	TS101P02	Octal mica w/tapped saddle	9751-21	75.00/C
	TS101C02	Octal ceramic w/tapped saddle	9751-20	110.00/C
	TS101C02	Octal ceramic w/pem nut	9751-36	115.00/C

STANDARD MINIATURE SOCKETS & SHIELDS



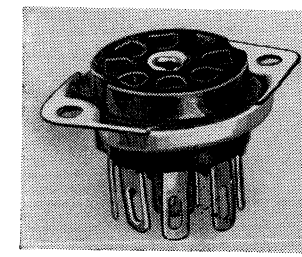
SHOCK SHIELD TYPE

Cat. No.		List each
8322	7 Pin, black bake., 7/8" M.C.	$0.30
8329	7 Pin, mica-filled, 7/8" M.C.	.35
8328	7 Pin, ceramic, 7/8" M.C.	.55
9723	9 Pin, black bake., 1 1/8" M.C.	.45
9714	9 Pin, mica-filled, 1 1/8" M.C.	.50
9716	9 Pin, ceramic, 1 1/8" M.C.	.95



SADDLE TYPE, TOP MOUNT

Cat. No.		List each
8323	7 Pin, black bake., 7/8" M.C.	$0.15
8327	7 Pin, mica-filled, 7/8" M.C.	.20
8326	7 Pin, ceramic, 7/8" M.C.	.45
9001	9 Pin, black bake., 1 1/8" M.C.	.20
9430	9 Pin, mica-filled, 1 1/8" M.C.	.25
9735	9 Pin, ceramic, 1 1/8" M.C.	.75



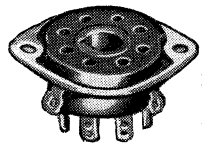
SADDLE TYPE, BOTTOM MOUNT

Cat. No.		List each
8578	7 Pin, black bake., 7/8" M.C.	$0.15
9064	7 Pin, mica-filled, 7/8" M.C.	.20
9012	9 Pin, black bake., 1 1/8" M.C.	.20
9401	9 Pin, mica-filled, 1 1/8" M.C.	.25
9713	9 Pin, ceramic, 1 1/8" M.C.	.75

SHIELDS FOR SADDLE TYPE SOCKET

8757 Shield for 7 pin, 1 3/4" high ..... List Price, ea. $0.10
8758 Adaptor for above ..... .05
8759 Shield for 9 pin, 2-1/16" high ..... List Price, ea. $0.15
8760 Adaptor for above ..... .05

See JAN table above for shields for shock shield type sockets.

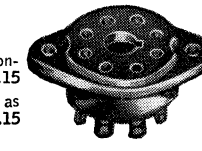


OCTAL SADDLE SOCKETS

No. 9067—Black bake., cadmium plated steel saddle, 4 gnd. lugs. Cadmium plated brass contacts. 1 5/16" M.C. ..... List, ea. $0.14
No. 8451—Loctal type, same specifications as above ..... List, ea. .17

OCTAL ALL-MOLDED SOCKETS

No. 8490—Black bake., cadmium plated brass contacts. 1 5/16" mounting centers..... List, ea. $0.15
No. 8191—Loctal type, same specifications as above ..... List, ea. .15



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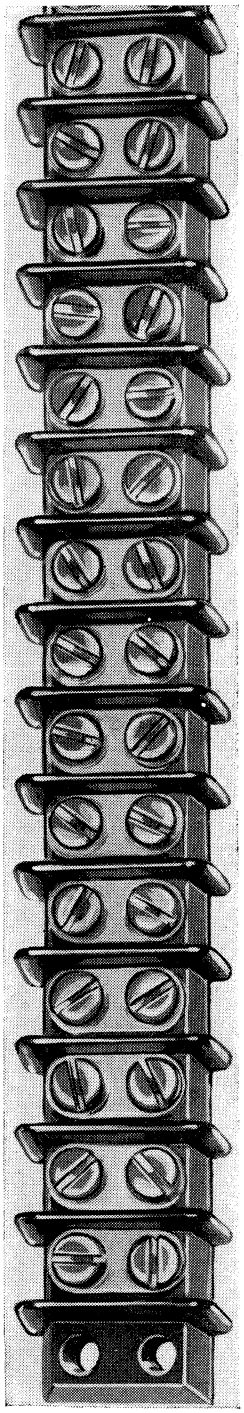
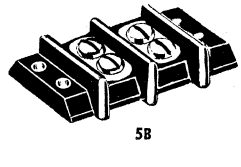
EBY SALES CO. of N. Y.

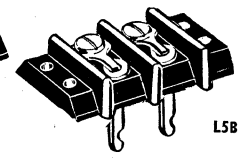
EXCELLEX BARRIER STRIPS

— All stock barriers are supplied in black bakelite for commercial use. Other materials such as Black "CF", Mica "MF", Melamine "CM", Mineral Melamine "MM" and Acme Resin "MD" are also available upon request. The following materials will meet the latest military specifications Mil P-14C.

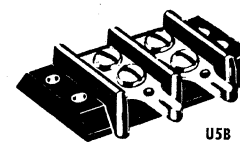




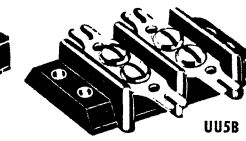
5B



L5B



U5B



UU5B

SERIES 14

Height 13/32" — Width 14/16" — Thickness 1/4" — Terminals 3/8" — Centers 5/16" — Binding Head Screws 5/40 x 1/4" Long.

EBY No.	LIST PRICE	EBY No.	LIST PRICE	EBY No.	LIST PRICE	EBY No.	LIST PRICE
1CF14-5B	$0.15	1CF14-L5B	$0.19	1CF14-U5B	$0.19	1CF14-UU5B	$0.19
2CF14-5B	0.25	2CF14-L5B	0.32	2CF14-U5B	0.32	2CF14-UU5B	0.32
3CF14-5B	0.33	3CF14-L5B	0.44	3CF14-U5B	0.44	3CF14-UU5B	0.44
4CF14-5B	0.42	4CF14-L5B	0.57	4CF14-U5B	0.57	4CF14-UU5B	0.57
5CF14-5B	0.51	5CF14-L5B	0.69	5CF14-U5B	0.69	5CF14-UU5B	0.69
6CF14-5B	0.59	6CF14-L5B	0.83	6CF14-U5B	0.83	6CF14-UU5B	0.83
7CF14-5B	0.68	7CF14-L5B	0.95	7CF14-U5B	0.95	7CF14-UU5B	0.95
8CF14-5B	0.77	8CF14-L5B	1.08	8CF14-U5B	1.08	8CF14-UU5B	1.08
9CF14-5B	0.86	9CF14-L5B	1.21	9CF14-U5B	1.21	9CF14-UU5B	1.21
10CF14-5B	0.95	10CF14-L5B	1.33	10CF14-U5B	1.33	10CF14-UU5B	1.33
11CF14-5B	1.03	11CF14-L5B	1.45	11CF14-U5B	1.45	11CF14-UU5B	1.45
12CF14-5B	1.12	12CF14-L5B	1.58	12CF14-U5B	1.58	12CF14-UU5B	1.58
13CF14-5B	1.21	13CF14-L5B	1.71	13CF14-U5B	1.71	13CF14-UU5B	1.71
14CF14-5B	1.31	14CF14-L5B	1.84	14CF14-U5B	1.84	14CF14-UU5B	1.84
15CF14-5B	1.40	15CF14-L5B	1.96	15CF14-U5B	1.96	15CF14-UU5B	1.96
16CF14-5B	1.49	16CF14-L5B	2.09	16CF14-U5B	2.09	16CF14-UU5B	2.09
17CF14-5B	1.57	17CF14-L5B	2.21	17CF14-U5B	2.21	17CF14-UU5B	2.21
18CF14-5B	1.66	18CF14-L5B	2.34	18CF14-U5B	2.34	18CF14-UU5B	2.34
19CF14-5B	1.75	19CF14-L5B	2.46	19CF14-U5B	2.46	19CF14-UU5B	2.46
20CF14-5B	1.84	20CF14-L5B	2.60	20CF14-U5B	2.60	20CF14-UU5B	2.60

SERIES 18

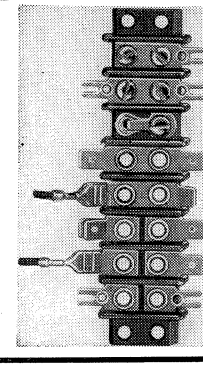
Height 1/2" — Width 1-1/8" — Thickness 5/16" — Terminals 7/16" — Centers 27/64" — Binding Head Screws 6/32 x 1/4" Long.

EBY No.	LIST PRICE	EBY No.	LIST PRICE	EBY No.	LIST PRICE	EBY No.	LIST PRICE
1CF18-5B	$0.20	1CF18-L5B	$0.24	1CF18-U5B	$0.24	1CF18-UU5B	$0.24
2CF18-5B	0.31	2CF18-L5B	0.41	2CF18-U5B	0.41	2CF18-UU5B	0.41
3CF18-5B	0.42	3CF18-L5B	0.57	3CF18-U5B	0.57	3CF18-UU5B	0.57
4CF18-5B	0.54	4CF18-L5B	0.74	4CF18-U5B	0.74	4CF18-UU5B	0.74
5CF18-5B	0.64	5CF18-L5B	0.90	5CF18-U5B	0.90	5CF18-UU5B	0.90
6CF18-5B	0.75	6CF18-L5B	1.07	6CF18-U5B	1.07	6CF18-UU5B	1.07
7CF18-5B	0.88	7CF18-L5B	1.23	7CF18-U5B	1.23	7CF18-UU5B	1.23
8CF18-5B	0.99	8CF18-L5B	1.40	8CF18-U5B	1.40	8CF18-UU5B	1.40
9CF18-5B	1.10	9CF18-L5B	1.56	9CF18-U5B	1.56	9CF18-UU5B	1.56
10CF18-5B	1.22	10CF18-L5B	1.73	10CF18-U5B	1.73	10CF18-UU5B	1.73
11CF18-5B	1.33	11CF18-L5B	1.89	11CF18-U5B	1.89	11CF18-UU5B	1.89
12CF18-5B	1.44	12CF18-L5B	2.06	12CF18-U5B	2.06	12CF18-UU5B	2.06
13CF18-5B	1.56	13CF18-L5B	2.22	13CF18-U5B	2.22	13CF18-UU5B	2.22
14CF18-5B	1.67	14CF18-L5B	2.39	14CF18-U5B	2.39	14CF18-UU5B	2.39
15CF18-5B	1.78	15CF18-L5B	2.55	15CF18-U5B	2.55	15CF18-UU5B	2.55
16CF18-5B	1.90	16CF18-L5B	2.72	16CF18-U5B	2.72	16CF18-UU5B	2.72
17CF18-5B	2.01	17CF18-L5B	2.88	17CF18-U5B	2.88	17CF18-UU5B	2.88
18CF18-5B	2.12	18CF18-L5B	3.05	18CF18-U5B	3.05	18CF18-UU5B	3.05
19CF18-5B	2.24	19CF18-L5B	3.21	19CF18-U5B	3.21	19CF18-UU5B	3.21
20CF18-5B	2.35	20CF18-L5B	3.38	20CF18-U5B	3.38	20CF18-UU5B	3.38
21CF18-5B	2.47	21CF18-L5B	3.55	21CF18-U5B	3.55	21CF18-UU5B	3.55
22CF18-5B	2.59	22CF18-L5B	3.72	22CF18-U5B	3.72	22CF18-UU5B	3.72
23CF18-5B	2.71	23CF18-L5B	3.89	23CF18-U5B	3.89	23CF18-UU5B	3.89
24CF18-5B	2.63	24CF18-L5B	4.06	24CF18-U5B	4.06	24CF18-UU5B	4.06
25CF18-5B	2.75	25CF18-L5B	4.23	25CF18-U5B	4.23	25CF18-UU5B	4.23

SERIES 10

Height 5/16" — Width 5/8" — Binding Head Screws — 2/56 x 3/16" Long.

EBY No.	LIST PRICE
1CF10-5B	$0.47
2CF10-5B	0.74
3CF10-5B	0.99
4CF10-5B	1.25
5CF10-5B	1.53
6CF10-5B	1.79
7CF10-5B	2.05
8CF10-5B	2.32
9CF10-5B	2.59
10CF10-5B	2.83
11CF10-5B	3.11
12CF10-5B	3.33
13CF10-5B	3.64
14CF10-5B	3.90
15CF10-5B	4.17
16CF10-5B	4.42
17CF10-5B	4.69
18CF10-5B	4.96
19CF10-5B	5.23
20CF10-5B	6.50



A full range of contact terminals and jumpers as shown in the adjoining photograph are also available. Contact termination strips are available upon request. Order by EBY part number for stock barriers. For information on special materials or terminals write for information and price.

Lugs L, U, UU available at $4.40/C.

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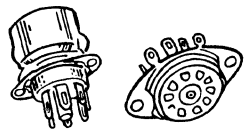
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

ERIE TEFLON TUBE SOCKETS



SO-427-1 SO-429-3

ADVANTAGES. Teflon tube sockets offer ultra superior electrical advantages. Its extremely low dielectric constant and dissipation factor result in a capacity, between pins, only twice that of air, and a circuit Q better than 5,000. Contributing to circuit stability is the fact that the capacity and Q remain constant; the actual change is negligible, over a frequency range of 60 cps to 30,000 Megacycles and a temperature range of minus 110° F to plus 500° F. Sockets meet all RMA and JAN Specifications

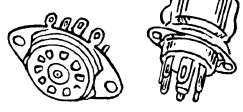
ENGINEERING DATA.

Capacity between two adjacent pins.....	0.4MMF
Q.....	5000
Loss Factor.....	.0002
Surface Resistance.....	10^{13} OHMS
Dielectric Strength, 60 cps.....6500V, RMS	
Flashover Voltage, between exposed metal surfaces, 60 cps.....at Sea level	2500V, RMS
at 60,000 ft.	650V, RMS

HOW TO ORDER Teflon miniature tube sockets by type number.

7-Pin Type No.	Mounting	9-Pin Type No.
SO-427-1	Can	SO-429-1
SO-427-2	Saddle	SO-429-2
SO-427-3	Saddle with lugs	SO-429-3

ERIE KEL-F* TUBE SOCKETS



SO-439-3 SO-437-1

ADVANTAGES. Erie Kel-F Insulated 7 and 9-Pin Miniature Tube Sockets are designed to fill the need of the electronics industry for high performance tube sockets for use where high or low ambient temperatures or frequency stability are problems. Kel-F, a thermoplastic Fluorocarbon Polymer, is readily molded to accurate dimensions. It is dimensionally stable throughout its wide service temperature range from a low of −320° F to +390° F, and there is no appreciable change in its electrical and physical properties.

Water absorption is zero by ASTM Test — hence it is unaffected by extreme humidity.

All metal parts of sockets are precision made and plated to JAN Specifications. Contacts exceed all JAN Specifications for tube retention, tab flexing and pin contact resistance.

ENGINEERING DATA.

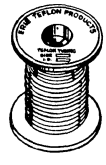
Capacity between two adjacent pins.....	0.45 MMF
Loss Factor.....	.01
Surface Resistance.....	10^{13} OHMS
Dielectric Strength, 60 cps.....6500V, RMS	
Flashover Voltage, between exposed metal surfaces, 60 cps.....at Sea level	3000V, RMS
at 60,000 ft.	650V, RMS

HOW TO ORDER Kel-F miniature tube sockets by type number.

7-Pin Type No.	Mounting	9-Pin Type No.
SO-437-1	Can	SO-439-1
SO-437-2	Saddle	SO-439-2
SO-437-3	Saddle with lugs	SO-439-3

*M. W. Kellogg Trademark.

ERIE TEFLON SPAGHETTI



TEFLON SPAGHETTI

DIELECTRIC STRENGTH — 500 volts per mil.

COLORS — Natural, Red, Black.

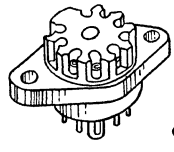
HOW TO ORDER Specify size, color and length.

SPECIFICATIONS

Size	Nom. I. D.	Wall Thickness
No. 24	.023"	.016 ± .004"
No. 20	.035"	.016 ± .004"
No. 18	.046"	.020 ± .006"
No 16	.056"	.020 ± .006"
No. 14	.070"	.020 ± .006"

ERIE TEFLON CONNECTORS

9-PIN CONNECTOR



CN-409M

USE. Teflon 9-Pin Connectors are designed to mate with 9-Pin Miniature Tube Sockets, Catalog No. SO-429-3.

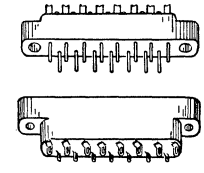
ADVANTAGES. Teflon 9-Pin Connectors provide exceptionally low loss between pins and between pins and ground. The Teflon insulation offers a loss factor of less than 0.0002; surface resistivity of 3.5 x 10^{13} ohms; dielectric constant of 2.0 (60 cycles to 30,000 megacycles). It will not DC plate or carbonize under arcing.

Pins are silver-plated brass and insulating body is designed with "windows" for making easy solder connections.

HOW TO ORDER. Specify Teflon 9-Pin Connector No. CN-409-M for mating with Miniature Tube Socket No. SO-429-3.

15- and 18-PIN CONNECTORS

CN-415M



CN-415F

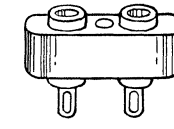
USES. Erie Teflon Connectors are designed for low-loss, high frequency service in interconnection of radio, radar and other electronic equipment — where connectors must be unaffected by wide range in ambient temperatures, pressure altitudes, humidity, and mechanical shock and vibration.

ADVANTAGES. The principal characteristics of these Teflon connectors are outlined in the tabulation below.

Material of terminals in male connectors is Brass, silver-plated, gold-flashed; female connectors, Beryllium Copper, silver-plated, gold-flashed.

HOW TO ORDER. Specify Erie Teflon Connector Type CN-415 or CN-418 for 15 or 18-pin connectors, with subscript M or F for male or female types, or both for mating pairs.

CRYSTAL SOCKETS



CS-441

USES. Teflon Crystal Sockets are designed for use wherever low loss and frequency stability are desired and mechanical shock and vibration are problems.

ADVANTAGES. Made of Teflon, these Crystal Sockets are unusually sturdy and due to the inherent resiliency of the plastic, they aid in absorbing shock and vibration in severe service. Teflon Crystal Sockets have a loss factor of less than 0 0002 and a dielectric constant of only 2.0 from 60 cycles to 30,000 megacycles.

Teflon Crystal Sockets mount by means of a single hole and can be either screw or rivet mounted. Assembly is facilitated as there is no danger of breakage as with ceramics.

HOW TO ORDER.

Specify Teflon CS-441 Crystal Sockets for 0.050 pins spaced 0.486 inches.

Specify Teflon CS-442 Crystal Sockets for 0.095 pins spaced 0.486 inches.

CONNECTOR CHARACTERISTICS

CATALOG NO.	NUMBER OF TERMINALS	DIAMETER OF TERMINALS	VOLTAGE RATING (Volts RMS)	BREAKDOWN VOLTAGES (DC) (After 95% Humidity at 70°C)				CURRENT RATING (Amperes)	CONTACT RESISTANCE
				Between Terminals		Between Terminals and Gnd.			
				At Sea Level	At 60,000 Ft	At Sea Level	At 60,000 Ft.		
CN-418-M	18	0.064	900	3500	800	3500	800	7.5	0.003
CN-418-F	18	0.064	900	3500	800	3500	800	7.5	0.003
CN-415-M	15	0.064	900	4000	1000	4000	1000	7.5	0.003
CN-415-F	15	0.064	900	4000	1000	4000	1000	7.5	0.003

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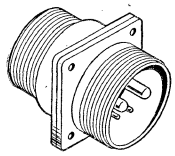
Cannon Electric AN Connectors

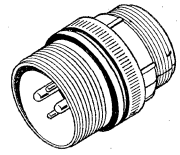
A representative selection of Cannon Electric "AN" type connectors are listed. Each meets or surpasses the latest specification MIL-C-5015B. Each insert arrangement is available with pin or socket contacts, and will mate with "AN" type having the same size and layout.

The contact size indicates the current rating: Size 20, 10 amp; Size 16, 20 amp; Size 12, 35 amp; Size 8, 60 amp; Size 4, 110 amp; Size 0, 200 amp.

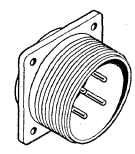
CANNON PLUGS



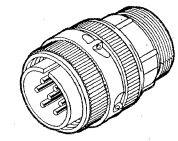
AN3100A — *Wall mounting receptacle. Two-piece shell construction for use with conduit.*



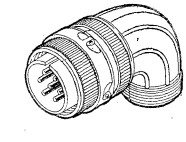
AN3101B—*Cable connecting receptacle for cable extension requirements where mounting is not required.*



AN3102A—*Box mounting receptacle mounts directly on equipment.*



AN3106B — *Straight plug — split shell, and mates with standard receptacles.*



AN3108B—*Angle 90° plug— split shell, and used for sharp take-off of cable.*

AN3100A

Cannon Type	Net Each
AN3100A-10SL-3P	$0.92
AN3100A-10SL-4P	.86
AN3100A-12S-3S	.82
AN3100A-12S-3P	.76
AN3100A-14S-2P	.92
AN3100A-14S-2S	1.01
AN3100A-14S-7P	.91
AN3100A-14S-7S	.95
AN3100A-18-1P	1.39
AN3100A-18-1S	1.58
AN3100A-18-10S	1.30
AN3100A-18-10P	1.20
AN3100A-20-27S	1.94
AN3100A-20-27P	1.74
AN3100A-20-29S	2.10
AN3100A-20-29P	1.68
AN3100A-24-28S	3.00
AN3100A-24-28P	2.36
AN3100A-28-11S	3.20
AN3100A-28-15P	3.60
AN3100A-28-15S	3.89
AN3100A-28-21P	3.70
AN3100A-28-21S	4.02

AN3101B

Cannon Type	Net Each
AN3101A-10SL-3P	$0.76
AN3101A-10SL-4P	.70
AN3101B-12S-3S	.97
AN3101B-12S-3P	.99
AN3101B-14S-2P	1.00
AN3101B-14S-2S	1.09
AN3101B-14S-7P	.98
AN3101B-14S-7S	1.03
AN3101B-18-1P	1.55
AN3101B-18-1S	1.75
AN3101B-18-10A	1.62
AN3101B-18-10P	1.52
AN3101B-20-27S	2.12
AN3101B-20-27P	1.96
AN3101B-24-28S	3.24
AN3101B-24-28P	2.62
AN3101B-28-11S	3.58
AN3101B-28-15P	3.92
AN3101B-28-15S	4.24
AN3101B-28-21P	4.10
AN3101B-28-21S	4.36

AN3102A

Cannon Type	Net Each
AN3102A-8S-1P	$0.62
AN3102A-8S-1S	.58
AN3102A-10S-2P	.51
AN3102A-10S-2S	.55
AN3102A-10SL-3P	.58
AN3102A-10SL-4P	.52
AN3102A-12S-3P	.54
AN3102A-12S-3S	.58
AN3102A-14S-1P	.65
AN3102A-14S-1S	.69
AN3102A-14S-2P	.66
AN3102A-14S-2S	.76
AN3102A-14S-5P	.77
AN3102A-14S-5S	.82
AN3102A-14S-7P	.65
AN3102A-14S-7S	.69
AN3102A-14S-9P	.59
AN3102A-14S-9S	.62
AN3102A-16S-1P	.90
AN3102A-16S-1S	.95
AN3102A-16S-5P	.64
AN3102A-16S-5S	.69
AN3102A-16S-8P	.78
AN3102A-16S-8S	.82
AN3102A-18-1P	1.12
AN3102A-18-1S	1.31
AN3102A-18-8P	1.04
AN3102A-18-8S	1.20
AN3102A-18-9P	1.03
AN3102A-18-9S	1.16
AN3102A-18-10P	.96
AN3102A-18-10S	1.06
AN3102A-20-7P	1.09
AN3102A-20-7S	1.23
AN3102A-20-11P	1.39
AN3102A-20-11S	1.63
AN3102A-20-27P	1.48
AN3102A-20-27S	1.66
AN3102A-20-29P	1.40
AN3102A-20-29S	1.82
AN3102A-22-14P	1.56
AN3102A-22-14S	2.12
AN3102A-22-19P	1.56
AN3102A-22-19S	1.76
AN3102A-24-5P	1.76
AN3102A-24-5S	2.12
AN3102A-24-28P	1.90
AN3102A-24-28S	2.56
AN3102A-28-11P	2.46
AN3102A-28-11S	2.74
AN3102A-28-12P	2.10
AN3102A-28-12S	2.82
AN3102A-28-15P	3.10
AN3102A-28-15S	3.35
AN3102A-28-21P	3.22
AN3102A-28-21S	3.46
AN3102A-32-7P	3.29
AN3102A-32-7S	3.89
AN3102A-32-13P	2.50
AN3102A-32-13S	3.26
AN3102A-36-7P	3.83
AN3102A-36-7S	4.96
AN3102A-36-10P	3.71
AN3102A-36-10S	4.61

AN3106B

Cannon Type	Net Each
AN3106B-8S-1P	$0.83
AN3106B-8S-1S	.79
AN3106B-10S-2P	.79
AN3106B-10S-2S	.83
AN3106B-10SL-3S	1.13
AN3106B-10SL-4S	1.04
AN3106B-12S-3P	.80
AN3106B-12S-3S	.91
AN3106B-14S-1P	1.00
AN3106B-14S-1S	1.04
AN3106B-14S-2P	1.01
AN3106B-14S-2S	1.10
AN3106B-14S-5P	1.12
AN3106B-14S-5S	1.17
AN3106B-14S-7P	1.00
AN3106B-14S-7S	1.04
AN3106B-14S-9P	.94
AN3106B-14S-9S	.97
AN3106B-16S-1P	1.36
AN3106B-16S-1S	1.41
AN3106B-16S-5P	1.10
AN3106B-16S-5S	1.15
AN3106B-16S-8P	1.24
AN3106B-16S-8S	1.28
AN3106B-18-1P	1.62
AN3106B-18-1S	1.81
AN3106B-18-8P	1.48
AN3106B-18-8S	1.66
AN3106B-18-9P	1.52
AN3106B-18-9S	1.66
AN3106B-18-10P	1.40
AN3106B-18-10S	1.50
AN3196B-20-7P	1.63
AN3106B-20-7S	1.76
AN3106B-20-11P	1.92
AN3106B-20-11S	2.17
AN3106B-20-27P	1.98
AN3106B-20-27S	2.20
AN3106B-20-29P	1.92
AN3106B-20-29S	2.35
AN3106B-22-14P	2.24
AN3106B-22-14S	2.72
AN3106B-22-19P	2.16
AN3106B-22-19S	2.34
AN3106B-24-5P	2.42
AN3106B-24-5S	2.76
AN3106B-24-28P	2.60
AN3106B-24-28S	3.20
AN3106B-28-11P	3.26
AN3106B-28-11S	3.54
AN3106B-28-12P	2.88
AN3106B-28-12S	3.62
AN3106B-28-15P	3.90
AN3106B-28-15S	4.20
AN3106B-28-21P	4.06
AN3106B-28-21S	4.30
AN3106B-32-7P	4.00
AN3106B-32-7S	4.61
AN3106B-32-13P	3.22
AN3106B-32-13S	4.06
AN3106B-36-7P	5.47
AN3106B-36-7S	6.60
AN3106B-36-10P	5.35
AN3106B-36-10S	6.25

AN3108B

Cannon Type	Net Each
AN3108B-8S-1P	$0.84
AN3108B-8S-1S	.80
AN3108B-10S-2P	.82
AN3108B-10S-2S	.86
AN3108B-10SL-3S	1.17
AN3108B-10SL-4S	1.08
AN3108B-12S-3P	.98
AN3108B-12S-3S	.96
AN3108B-14S-1P	.97
AN3108B-14S-1S	1.01
AN3108B-14S-2P	.98
AN3108B-14S-2S	1.08
AN3108B-14S-5P	1.09
AN3108B-14S-5S	1.15
AN3108B-14S-7P	.97
AN3108B-14S-7S	1.01
AN3108B-14S-9P	.91
AN3108B-14S-9S	.95
AN3108B-16S-1P	1.34
AN3108B-16S-1S	1.39
AN3108B-16S-5P	1.08
AN3108B-16S-5S	1.13
AN3108B-16S-8P	1.22
AN3108B-16S-8S	1.26
AN3108B-18-1P	1.67
AN3108B-18-1S	1.86
AN3108B-18-8P	1.62
AN3108B-18-8S	1.78
AN3108B-18-9P	1.57
AN3108B-18-9S	1.71
AN3108B-18-10P	1.48
AN3108B-18-10S	1.58
AN3108B-20-7P	1.69
AN3108B-20-7S	1.82
AN3108B-20-11P	1.98
AN3108B-20-11S	2.23
AN3108B-20-27P	1.96
AN3108B-20-27S	2.26
AN3108B-20-29P	1.98
AN3108B-20-29S	2.41
AN3108B-22-14P	2.32
AN3108B-22-14S	2.82
AN3108B-22-19P	2.26
AN3108B-22-19S	2.42
AN3108B-24-5P	2.50
AN3108B-24-5S	2.84
AN3108B-24-28P	2.68
AN3108B-24-28S	3.30
AN3108B-28-11P	3.34
AN3108B-28-11S	3.58
AN3108B-28-12P	3.04
AN3108B-28-12S	3.70
AN3108B-28-15P	3.92
AN3108B-28-15S	4.24
AN3108B-28-21P	4.10
AN3108B-28-21S	4.36
AN3108B-32-7P	4.15
AN3108B-32-7S	4.75
AN3108B-32-13P	3.36
AN3108B-32-13S	4.12
AN3108B-36-7P	5.60
AN3108B-36-7S	6.74
AN3108B-36-10P	5.49
AN3108B-36-10S	6.39

AN accessories

DUST CAPS—CA2322

Cannon Type	Net Each	Fits
CA2322-1	$0.23	8S
CA2322-2	.28	10S, 10SL
CA2322-3	.29	12S, 12
CA2322-4	.36	16S, 16
CA2322-5	.43	16S, 16
CA2322-6	.42	18
CA2322-7	.50	20
CA2322-8	.59	22
CA2322-9	.65	24
CA2322-10	.82	28

DUST CAPS—CA2209

Cannon Type	Net Each	Fits
CA2209-1	$0.48	8S
CA2209-2	.50	10S, 10SL
CA2209-3	.52	12S, 12
CA2209-4	.58	14S, 14
CA2209-5	.67	16S, 16
CA2209-6	.65	18
CA2209-7	.74	20
CA2209-8	.84	22
CA2209-9	.92	24
CA2209-10	1.08	28
CA2209-11	1.28	32
CA2209-12	.80	36
CA2209-13	2.85	40
CA2209-14	3.11	44
CA2209-15	3.88	48

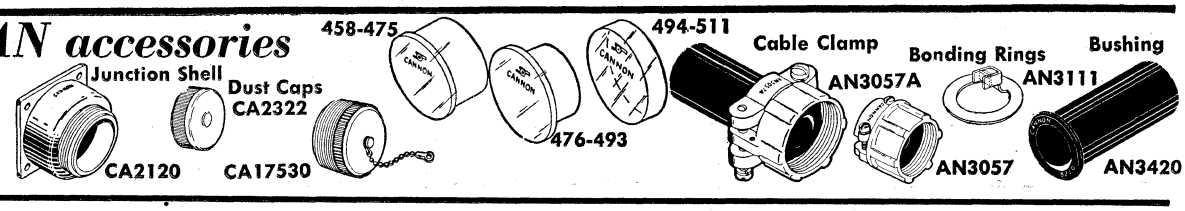
JUNCTION SHELLS CA2120

Cannon Type	Net Each	Fits
CA2120-1	$0.64	8S
CA2120-2	.68	10S
CA2120-2A	.25	10SL
CA2120-3	.25	12S, 12
CA2120-4	.26	14S, 14
CA2120-5	.26	16S, 16
CA2120-9	.27	18
CA2120-10	.28	20
CA2120-11	.29	22
CA2120-12	.29	24
CA2120-13	.53	28
CA2120-14	.39	32
CA2120-15	.44	36

CABLE CLAMP (WITH BISHING)

Cannon Type	Net Each	Fits
AN3057-3A	$0.28	8S, 10S
AN3057-4A	.28	10SL, 12S, 12
AN3057-6A	.32	14S, 14
AN3057-8A	.32	16S, 16
AN3057-10A	.34	18
AN3057-12A	.38	20, 22
AN3057-16A	.60	24, 28
AN3057-20A	.84	32
AN3057-24A	.96	36
AN3057-28A	1.52	40
AN3057-32A	3.00	44

AN accessories



TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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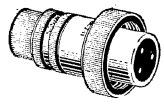
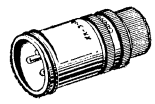


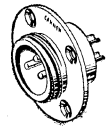
TYPE "XK-11" STRAIGHT CORD PLUG (With Socket Insert)
Shell is of die-cast zinc, nickel plated finish. Equipped with quick-acting coupling ring. Solder pot connections are easily accessible. Takes $\frac{7}{16}$" to $\frac{9}{32}$" cable. Built for long, dependable service. Mates with -12, -14

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	XK-1-11	$5.50
3	15-amp.	0.083	XK-3-11	5.50
4	{3-10-amp.} {1-15-amp.}	0.085	XK-4-11	7.80



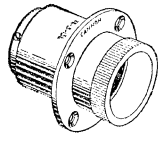
TYPE "XK-12" STRAIGHT CORD PLUG (With Pin Insert)
For use in conjunction with straight cord plug (socket insert) or wall receptacle (socket insert) with coupling nut. Shell is made of die-cast zinc, nickel plated finish. Takes $\frac{7}{16}$" to 9/32" cable.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	XK-1-12	$3.15
3	15-amp.	0.083	XK-3-12	3.15
4	{3-10-amp.} {1-15-amp.}	0.085	XK-4-12	4.75



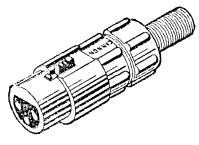
TYPE "XK-14" WALL RECEPTACLE (With Pin Insert)
Body fits in a $\frac{3}{4}$" hole and extends $\frac{13}{32}$" behind a $\frac{1}{16}$" flange. Flange is 1½" in diameter, drilled for four No. 4-40 mounting screws on a $\frac{5}{8}$" radius, 90° apart. Shell is made of bright nickel plated brass. Solder pots extend ¼" beyond body. Has external Acme thread on shell and mates with straight cord plug XK-11.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.045	XK-1-14	$3.15
3	15-amp.	0.047	XK-3-14	3.15
4	{3-10-amp.} {1-15-amp.}	0.049	XK-4-14	4.75



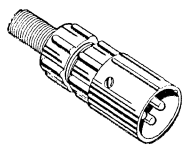
TYPE "XK-13L" WALL RECEPTACLE (With Socket Insert)
Body fits in a $1\frac{1}{64}$" hole and extends $1\frac{5}{32}$" behind flange. Flange is 1½" in diameter and drilled for four No. 4-40 flat-head mounting screws on a $\frac{5}{8}$" radius, 90° apart. Shell is made of brass, nickel finish. Solder pots on contacts extend ⅛" beyond body. Mates with corresponding straight cord plug (pin insert) XK-12.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.144	XK-1-13L	$5.90
3	15-amp.	0.146	XK-3-13L	6.05
4	{3-10-amp.} {1-15-amp.}	0.148	XK-4-13L	7.60



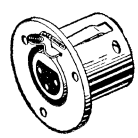
TYPE "XL-11" STRAIGHT CORD PLUG (Socket Insert)
Type XL-11 is equipped with latchlock device and has a raised polarizing boss. No. 1 contact engages before Nos. 2 and 3, and may be used for grounding purposes, if desired. $\frac{7}{16}$" cable accommodation. Overall dimensions: length 2-3/32"; with relief spring, 2-27/32" approx. Nickel finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.099	XL-3-11	$1.55
4	10-amp.	.099	XL-4-11	2.15



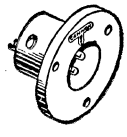
TYPE "XL-12" STRAIGHT CORD PLUG (Pin Insert)
Type XL-12 plug has alignment rib in addition to polarizing groove. Cable accommodation is $\frac{7}{16}$". Insert is removable for soldering or inspection. Overall dimensions: length, 1⅞"; with cable relief spring, 2⅝"; max. diameter ¾". Insert dia. ⅝".

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.079	XL-3-12	$1.50
4	10-amp.	.079	XL-4-12	2.00



TYPE "XL-13" RECEPTACLE (Socket Insert)
A wall mounting receptacle similar to XL-14 except that it has socket insert assembly and latch locking device. Overall dimensions: flange diameter, $1\frac{7}{16}$"; flange thickness $\frac{3}{32}$"; rear of flange to solder pot extension $1\frac{3}{16}$"; barrel dia., $\frac{15}{16}$"; three 0.136" dia. mounting holes.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.132	XL-3-13	$1.55
4	10-amp.	.132	XL-4-13	2.15



TYPE "XL-14" RECEPTACLE (Pin Insert)
This wall mounting receptacle has three mounting holes having 0.136" diameter. Overall dimensions: flange diameter, $1\frac{7}{16}$"; flange thickness, 3/32"; length behind flange to solder pot extension, 1-1/64"; barrel diameter, ¾". Nickel plated zinc shell.

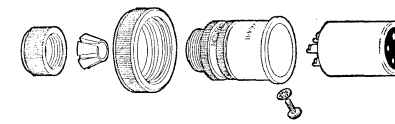
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.059	XL-3-14	$1.20
4	10-amp.	.059	XL-4-14	1.70

Note: All illustrations are not shown in same scale reduction.

TYPE XK CONNECTOR SERIES

SATIN NICKEL FINISH STANDARD ON XK

CANNON "TYPE XK" PLUGS AND RECEPTACLES—A quality line of Connectors, same inserts and similar in design to the "Type X" Series, but equipped with the fast-acting, sturdy Acme threaded coupling ring and therefore, ideal for use on equipment which is subjected to considerable vibration and tension on cables, such as on sound trucks and other portable units. XK-1 500v; XK-3 200v; XK-4, 133v service.



EXPLODED VIEW XK-4-11

TYPE XL CONNECTOR SERIES

The Cannon Electric Type "XL" Connector combines various features found in other Cannon types into a small fitting comparable only in size to the Type "X" for low level sound transmission circuits. Among the leading features are the following: (1) convenient latchlock device to hold connector tight; (2) lightweight; (3) polarizing means; (4) compression gland with relief spring or integral clamp, if desired; (5) streamlined design; (6) tapped metal for insert retaining screw; (7) provision for special grounding contact and grounding to shell. Contacts are 15-amp. for No. 14 B&S stranded wire in 3 contact insert; 10-amp. in 4 contact insert. Various finishes are available, nickel being standard. Steel shell types are available with satin chrome finish. Flashover Voltage 1400-1600v.

(XL Series continued on next page)

★ **XLR SHOWN ON FOLLOWING PAGES**

SATIN NICKEL FINISH STANDARD ON XL

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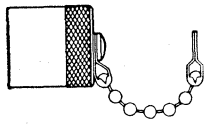
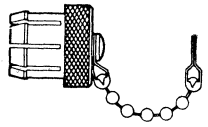
(XL Series continued)

XL DUST CAPS

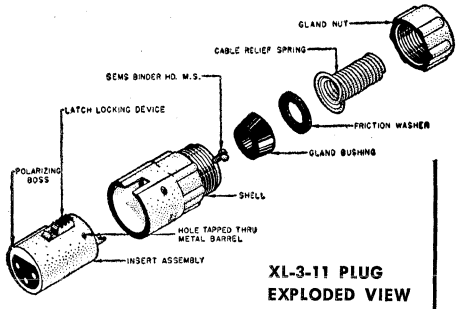


TYPE XL-13N-RC
FOR SOCKET ASSEMBLIES
List Pr. 2.55



TYPE XL-14N-PC
FOR PIN ASSEMBLIES
List Pr. 2.15

SATIN NICKEL FINISH STANDARD ON XL

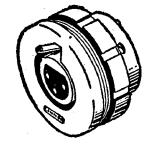


XL-3-11 PLUG EXPLODED VIEW

TWO GANG WALL RECEPTACLES (See opposite column)	List Pr.
XL-3-35-2G (2 socket inserts)	$9.35
XL-4-35-2G (2 socket inserts)	10.55
XL-3-36-2G (2 pin inserts)	9.30
XL-4-36-2G (2 pin inserts)	10.25

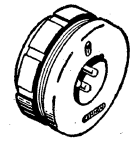
TYPE P CONNECTOR SERIES

(P Series continued on next page)



TYPE "XL-13N" RECEPTACLE (Socket Insert)
Similar to XL-14N except has socket insert assembly, with latchlock device, and polarizing boss on insert barrel. No. 1 contact engages before Nos. 2 and 3 and may be used for grounding circuit if desired. Overall dimensions: flange and barrel and nut are identical to XL-14N, length from face of flange including solder pot extension, 1-17/64". Nickel finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.211	XL-3-13N	$1.55
4	10-amp.	.211	XL-4-13N	2.15

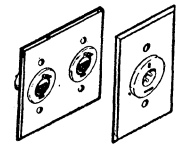


TYPE "XL-14N" RECEPTACLE (Pin Insert)
Designed to be mounted in a panel and has lock nut, accommodating up to $\frac{5}{16}$" panel. Two fittings may be mounted on a single gang plate. Overall dimensions: flange diameter, $1\frac{7}{16}$"; barrel diameter, 1"; width flange to barrel, $\frac{23}{64}$" with $\frac{15}{64}$" max. solder pot extension; flange thickness, $\frac{6}{32}$".

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.205	XL-3-14N	$1.45
4	10-amp.	0.205	XL-4-14N	1.95

TYPE "XL" ADAPTER RECEPTACLES

	List Pr.		List Pr.		List Pr.
XL-3-50	$1.75	XL-3-50T	$1.90	XL-3-50N	$2.15
XL-4-50	2.40	XL-4-50T	2.60	XL-4-50N	3.15



SINGLE GANG WALL RECEPTACLES Type XL-3-35 (Socket Insert)—Face plate similar to type used in P-35. Takes an XL-3-13N receptacle. Wt. 0.75.

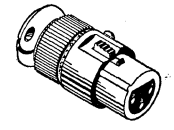
Cat. No.	List Price
XL-3-35	$4.40
XL-4-35	4.85

SINGLE RECEPTACLES Type XL-3-36 (Pin Insert)—Takes an XL-3-14N Receptacle. Nickel finish. Takes XL-14N receptacle. Wt. 0.715 lb.

Cat. No.	List Price
XL-3-36	$4.45
XL-4-36	4.95

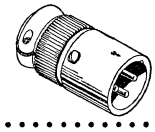
TYPE XL-42 RECEPTACLE (Pin Insert)
The XL-42 receptacle is similar to the X-42 shown under "X" fittings, except that it has the XL type insert. For angle 90° mounting purposes.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.063	XL-3-42	$1.50
4	10-amp.	0.063	XL-4-42	1.65



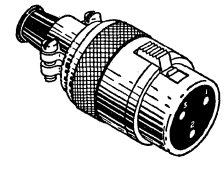
STEEL SHELL PLUGS INTEGRAL CLAMP TYPES—TYPE XL-3-11SC
The steel shell type is built for rugged service and has cable entry of $\frac{1}{4}$" min., $\frac{15}{16}$" max., $\frac{3}{16}$" shorter overall shell than zinc type. Otherwise same construction, mating with regular XL receptacle. Satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.133	XL-3-11SC	$3.40
4	10-amp.	0.133	XL-4-11SC	4.00



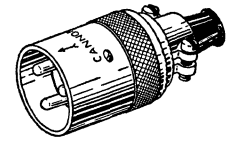
TYPE XL-3-12SC PLUG (Pin Insert)
Steel shell corresponds to XL-3-12 except that shell is steel with integral clamp. For $\frac{5}{16}$" max. entry. Shell is $\frac{7}{32}$" shorter in overall length than corresponding zinc shell.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.125	XL-3-12SC	$3.35
4	10-amp.	0.125	XL-4-12SC	3.85



TYPE P-CG-11S CORD PLUG COMBINATION STEEL & ZINC (With Socket Insert)—This new type plug with steel shell and integral zinc clamp has an overall length of $3\frac{3}{16}$". $\frac{11}{64}$" shorter than the old type. The new rubber bushing allows a $\frac{9}{32}$" D. cable entry, and on P4, P5, P6 and P8 $\frac{3}{8}$" D. max. cable entry. Satin chrome finish.

Poles	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.202	P2-CG-11S	$6.15
3	30-amp.	0.202	P3-CG-11S	6.30
4	30-amp.	0.198	P4-CG-11S	6.65
5	30-amp.	0.203	P5-CG-11S	7.00
6	30-amp.	0.208	P6-CG-11S	7.20
8	15-amp.	0.208	P8-CG-11S	7.70



TYPE P-CG-12S CORD PLUG COMBINATION STEEL & ZINC (With Pin Insert)—Similar construction and materials to the -11S, except for pin insert. New rubber bushing on P4 to P8 fittings is contained within the shell and lines the solder pot cavity. Same cable entry sizes as -11S. Satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.165	P2-CG-12S	$5.00
3	30-amp.	0.168	P3-CG-12S	5.15
4	30-amp.	0.164	P4-CG-12S	5.30
5	30-amp.	0.168	P5-CG-12S	5.40
6	30-amp.	0.172	P6-CG-12S	5.65
8	15-amp.	0.168	P8-CG-12S	6.00

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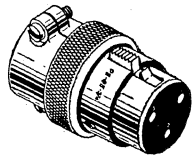
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

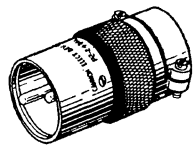
CANNON PLUGS — CANNON ELECTRIC CO.

3209 Humboldt Street, Los Angeles, Calif. • Telephone CApitol 5-1251



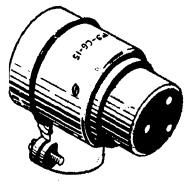
TYPE "P-23" STRAIGHT CORD PLUG (with Socket Insert), HEAVY DUTY—Shell is die-cast zinc for severe service, but employs features such as the latch type locking device which is standard on "Type P." It has integral clamp for ¾" cable. Also made for 9/16" and ⅝" cable if specified. Satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.166	P2-23	$8.90
3	30-amp.	0.170	P3-23	9.20
4	30-amp.	0.174	P4-23	9.65
5	30-amp.	0.178	P5-23	10.10
6	30-amp.	0.182	P6-23	10.40
8	15-amp.	0.178	P8-23	11.05



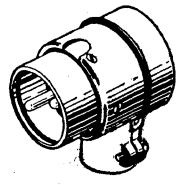
TYPE "P-24" STRAIGHT CORD PLUG (with Pin Insert), HEAVY DUTY—Corresponds with "Type P-23" plug (socket insert). Built for hard service. The skirt is steel, body is die-cast zinc. Has integral clamp, for ¾", ⅝" or 9/16" cable, if specified. Satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.170	P2-24	$9.00
3	30-amp.	0.173	P3-24	9.20
4	30-amp.	0.176	P4-24	9.35
5	30-amp.	0.179	P5-24	9.55
6	30-amp.	0.182	P6-24	9.95
8	15-amp.	0.179	P8-24	10.40



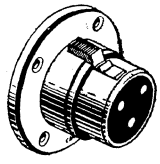
TYPE "P-CG-15" 90° CORD PLUG (with Socket Insert)
Has split shell and all other "Type P" features found in Type P-15, 90° plug except cable connection, which is an integral clamp for cable 17/32" or smaller. Satin chrome plated zinc shell. New, heavier clamp.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.220	P2-CG-15	$6.90
3	30-amp.	0.224	P3-CG-15	7.15
4	30-amp.	0.228	P4-CG-15	7.50
5	30-amp.	0.232	P5-CG-15	7.80
6	30-amp.	0.236	P6-CG-15	8.00
8	15-amp.	0.232	P8-CG-15	8.50



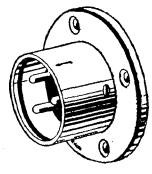
TYPE "P-CG-16" 90° CORD PLUG (with Pin Insert)
Corresponds to Type P-CG-15 90° plug (Socket insert), having integral clamp for 17/32" or smaller cable. Barrel is of steel and shell of cast aluminum alloy, satin chrome finish. Removable cap for easy access to contacts for wiring or inspection. New heavier clamp.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.195	P2-CG-16	$6.45
3	30-amp.	0.198	P3-CG-16	6.55
4	30-amp.	0.201	P4-CG-16	6.65
5	30-amp.	0.204	P5-CG-16	6.80
6	30-amp.	0.207	P6-CG-16	7.10
8	15-amp.	0.204	P8-CG-16	7.40



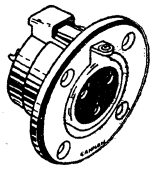
TYPE "P-17" PANEL RECEPTACLE (with Socket Insert) Surface Mounting—P-17 has latch locking device and all other "Type P" features. Made of die-cast zinc. Satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points 90° apart on 13/16" radius for four No. 4-40 machine screws. Body extends 1" in front of ⅛" mounting flange.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.125	P2-17	$7.70
3	30-amp.	0.129	P3-17	8.00
4	30-amp.	0.133	P4-17	8.40
5	30-amp.	0.137	P5-17	8.90
6	30-amp.	0.141	P6-17	9.20
8	15-amp.	0.137	P8-17	9.85



TYPE "P-18" PANEL RECEPTACLE (with Pin Insert) Surface Mounting—Corresponds to "Type P-17," Panel Receptacle. Shell is made of zinc, with satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points on 13/16 radius for four No. 4-40 machine screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.156	P2-18	$4.15
3	30-amp.	0.159	P3-18	4.35
4	30-amp.	0.162	P4-18	4.50
5	30-amp.	0.165	P5-18	4.70
6	30-amp.	0.168	P6-18	5.05
8	15-amp.	0.165	P8-18	5.55

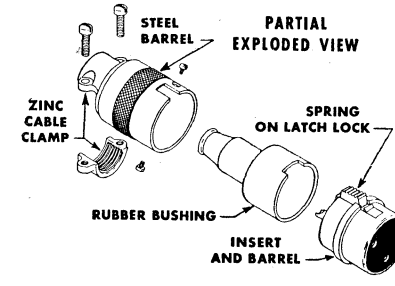


TYPE "P-13" PANEL RECEPTACLE (with Socket Insert) Flush Mounting—Has latch locking device which operates from front of panel. Made of die-cast zinc with satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points on 13/16 radius for four No. 4-40 machine screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.202	P2-13	$5.15
3	30-amp.	0.206	P3-13	5.35
4	30-amp.	0.210	P4-13	5.65
5	30-amp.	0.214	P5-13	6.00
6	30-amp.	0.218	P6-13	6.20
8	15-amp.	0.214	P8-13	6.65

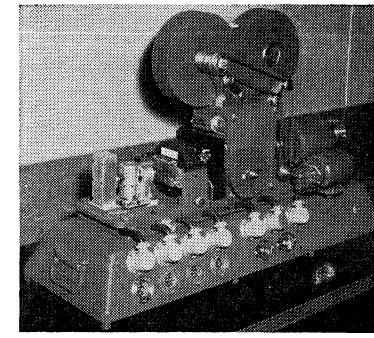
TYPE P CONNECTOR SERIES

CANNON "TYPE P" FITTINGS. Universally used in sound and allied applications. "Type P" Fittings include a size and type for every requirement, with a high standard of quality. All 90° Plugs have split-shell construction for quick, easy access for wiring or inspection. Splash-proof but not weather-proof. Plug and receptacle dust caps are available. Laboratory tests show an average voltage-drop of not more than 10 millivolts, with current flowing at the rated capacity. Insulating material is black phenolic which has a 0.7% absorption in 24 hours of immersion in water and a dielectric strength of 550 volts per mil at 60 cycles. Two to 6 contact inserts accommodate No. 10 B&S stranded wire; 8 contact insert No. 14 wire. Shell designs of the P-CG-11S and P-CG-12S, cord plugs have such improvements as shorter length, new rubber bushing, improved latch and spring, integral clamp. Shell of plug material is steel, integral clamp zinc.



NEW TYPES WILL MATE WITH SAME CORRESPONDING FITTINGS AS OLD DESIGN

APPLICATION



"P" series connectors used on 16 mm. sound recorder, Mfg. by Reeves Sound Studios Inc.

(P Series continued on next page)

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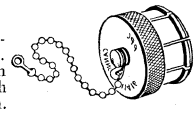
TYPE P CONNECTOR SERIES

SEE AUDIO BULLETIN FOR COMPLETE DETAILS

ACCESSORY ITEMS

DUST CAPS

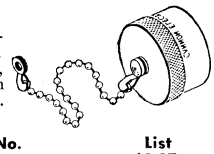


Fits all "Type P" fittings with pin inserts. Made of brass, satin chrome finish, with bright nickel bead chain.

Lbs.	Cat. No.	List
0.081	PPC	$2.80
0.082	PCI*	3.30

**Type PCI is insulated inside for application where contacts are "hot".*

TYPE PRC DUST CAP



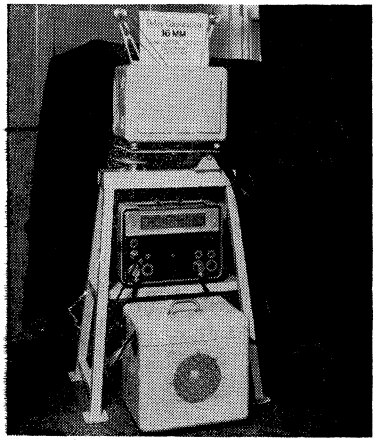
Fits all "Type P" fittings with pin inserts. serts. Made of brass, satin chrome finish, with bright nickel bead chain.

Lbs.	Cat. No.	List
0.095	PRC	$2.37

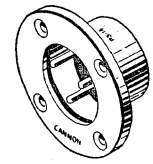
MINIMUM FLASHOVER VOLTAGES ON P INSERTS

P2—1600v, P3—1600v
P4—1900v, P5—1600v
P6—1600v, P8—1300v

APPLICATION

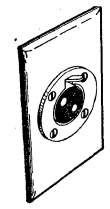


TYPE "XL" AND "P" CONNECTORS SHOWN ON 16 MM. SOUND MOTION PICTURE PROJECTOR MFG. BY DeVRY CORPORATION.



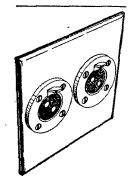
TYPE "P-14" RECEPTACLE (Pin Insert), FLUSH MOUNTING Flange is 2" in diameter, drilled with four 0.120" diameter holes to take four No. 4-40 mounting screws, arranged 90° apart on a radius of $\frac{13}{16}$". Shell is die-cast zinc, satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.104	P2-14	$2.70
3	30-amp.	0.107	P3-14	2.80
4	30-amp.	0.110	P4-14	3.00
5	30-amp.	0.113	P5-14	3.10
6	30-amp.	0.116	P6-14	3.35
8	15-amp.	0.113	P8-14	3.70



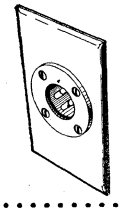
TYPE "P-35" SINGLE GANG WALL RECEPTACLE (with Socket Insert)—Furnished with brackets for standard switch box. Shell has satin chrome finish on brass plate. Plate is 4½" high and 2¾" wide. Latch Locking Device operates from front of panel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.341	P2-35	$8.95
3	30-amp.	0.345	P3-35	9.15
4	30-amp.	0.349	P4-35	9.45
5	30-amp.	0.353	P5-35	9.80
6	30-amp.	0.357	P6-35	10.00
8	15-amp.	0.353	P8-35	10.45



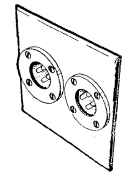
TYPE "P-35-2G" TWO-GANG WALL RECEPTACLE (With Socket Inserts)—Furnished with brackets for standard switch box. Plate is 4½" high and $4\frac{9}{16}$" wide. Both receptacles have latch locking device, operated from front of panel. Plate has satin chrome finish on brass plate.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.448	P2-35-2G	$18.00
3	30-amp.	0.456	P3-35-2G	18.55
4	30-amp.	0.464	P4-35-2G	19.50
5	30-amp.	0.472	P5-35-2G	20.40
6	30-amp.	0.480	P6-35-2G	20.95
8	15-amp.	0.472	P8-35-2G	22.25



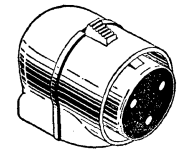
TYPE "P-36" SINGLE GANG WALL RECEPTACLE (With Pin Insert)—Plate is 4½" high and 2¾" wide. Furnished with brackets for standard switch box. Satin chrome finish on brass plate.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.277	P2-36	$6.95
3	30-amp.	0.280	P3-36	7.10
4	30-amp.	0.283	P4-36	7.20
5	30-amp.	0.286	P5-36	7.40
6	30-amp.	0.289	P6-36	7.60
8	15-amp.	0.286	P8-36	7.90



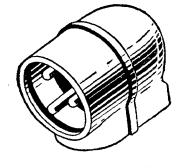
TYPE "P-36-2G" TWO-GANG WALL RECEPTACLE (With Pin Insert)—Plate is 4½" high and $4\frac{9}{16}$" wide. Furnished with brackets for standard switch box. Satin chrome finish on brass plate.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.554	P2-36-2G	$14.25
3	30-amp.	0.563	P3-36-2G	14.65
4	30-amp.	0.572	P4-36-2G	14.95
5	30-amp.	0.579	P5-36-2G	15.35
6	30-amp.	0.588	P6-36-2G	16.10
8	15-amp.	0.579	P8-36-2G	17.05



TYPE "P-41" 90° MICROPHONE OR PANEL RECEPTACLE (With Socket Insert)—Can be mounted in equipment or instrument panel. Equipped with latch locking device. Cap is removable for easy wiring. Shell is die-cast zinc, finished in black wrinkle enamel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.249	P2-41	$11.55
3	30-amp.	0.253	P3-41	11.80
4	30-amp.	0.257	P4-41	12.25
5	30-amp.	0.261	P5-41	12.75
6	30-amp.	0.265	P6-41	13.05
8	15-amp.	0.261	P8-41	13.70



TYPE "P-42" 90° MICROPHONE OR PANEL RECEPTACLE (With Pin Insert)—For mounting on equipment or instrument panel. Cap is removable for easy wiring. Shell is made of die-cast zinc with black wrinkle enamel finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.176	P2-42	$8.40
3	30-amp.	0.179	P3-42	8.65
4	30-amp.	0.182	P4-42	8.80
5	30-amp.	0.185	P5-42	9.00
6	30-amp.	0.188	P6-42	9.35
8	15-amp.	0.185	P8-42	9.85

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TYPE "03-42" MICROPHONE OR PANEL RECEPTACLE (with Pin Insert)—Has flat base, with two lugs for mounting with #4-40 machine screws. Made of die-cast zinc, and chromium plated.

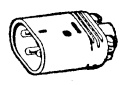
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.271	03-42	$8.65

TYPE "03-41" 90° MICROPHONE OR PANEL RECEPTACLE (Socket Insert)—Flat base is flanged and is attached to microphone or panel by means of two #4-40 machine screws. Made of die-cast zinc, satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.274	03-41	$8.65

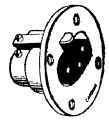
TYPE "03-11" STRAIGHT CORD PLUG (with Socket Insert)
Has integral clamp for 9/32" or smaller cable. Made of die-cast zinc, chromium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.113	03-11	$6.10



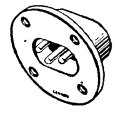
TYPE "03-12" STRAIGHT CORD PLUG (with Pin Insert)
Mates with No. 03-11, 03-13 and 03-41. Has integral cable clamp for 9/32" or smaller cable. Made of die-cast zinc, chromium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.104	03-12	$6.10



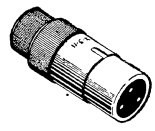
TYPE "03-13" FLUSH WALL RECEPTACLE (with Socket Insert)
Flange is 2" in diameter, drilled with four holes to take No. 4-40 mounting screws, 90° apart on a radius of 13/16". Made of die-cast zinc, chromium plated. Latch locking device is operated from panel front.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.148	03-13	$7.15



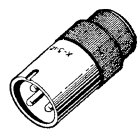
TYPE "03-14" FLUSH WALL RECEPTACLE (with Pin Insert)
The flange is 2" in diameter, drilled with four holes to take No. 4-40 oval-head machine screws, 90° apart, on a radius of 13/16". Made of die-cast zinc, chromium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.107	03-14	$7.15



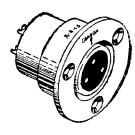
TYPE "X-11" CORD PLUG (with Socket Insert)
Sturdily built for dependable service. Light in weight. Shell is die-cast zinc, nickel finish. Will take 3/16" to 9/32" cable. Mates with: X-14 wall receptacle, X-12 straight cord plug, X-42 microphone receptacle and X-44L receptacle.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	X-1-11	$2.75
3	15-amp.	0.083	X-3-11	3.90
4	{3-10-amp.} {1-15-amp.}	0.085	X-4-11	4.00



TYPE "X-12" CORD PLUG (with Pin Insert)
Mates with: X-11 straight cord plug (socket insert) or X-13 wall receptacle (socket insert). Shell is die-cast zinc, nickel finish. Will take 3/16" to 9/32" cable.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.061	X-1-12	$2.25
3	15-amp.	0.063	X-3-12	2.95
4	{3-10-amp.} {1-15-amp.}	0.065	X-4-12	3.25



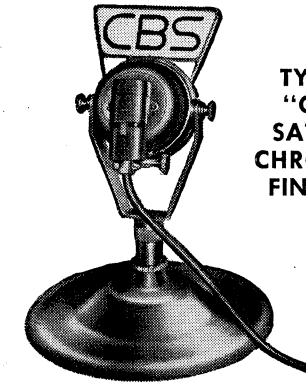
TYPE "X-13" WALL RECEPTACLE (with Socket Insert)
Body fits in 7/8" hole and extends 1-1/8" behind flange. Flange is 1-3/8" in diameter and drilled for three No. 4-40 screws 120° apart. Shell is die-cast zinc, nickel finish. Mates with X-12.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	X-1-13	$2.15
3	15-amp.	0.083	X-3-13	3.20
4	{3-10-amp.} {1-15-amp.}	0.085	X-4-13	3.30

TYPE O CONNECTOR SERIES

CANNON "TYPE O" PLUGS AND RECEPTACLES. This series consists of a line of 3-contact oval-shaped plugs and receptacles, equipped with Latch Locking Device. Contacts are silver-plated, full-floating, non-twisting, with a 30 a. current rating. Solder terminals are tinned for ease of wiring. 30 a. contacts accommodate No. 10 stranded wire. 2400 v. flashover.

APPLICATION



TYPE "O" SATIN CHROME FINISH

TYPE X CONNECTOR SERIES

CANNON "TYPE X" PLUGS AND RECEPTACLES. The "Type X" Series of small connectors offers inexpensive fittings of reliable quality for sound service, radio, public address systems and geophysical research. In addition to compactness, many exclusive Cannon features are embodied in this series, such as full floating contacts in all socket inserts. Solder pot cable connections are easily accessible. Cable glands are removable. Contacts are so positive that no latching device is needed for ordinary uses.

SATIN NICKEL FINISH — STANDARD ON X

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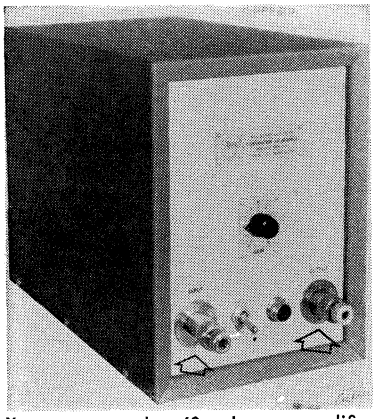
(Continued from previous page)

APPLICATION

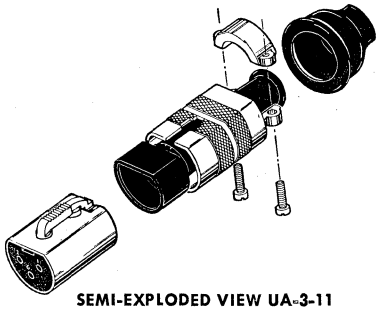


X connectors used on 60-cycle servo amplifier for laboratory and general use, manufactured by Servo Corp. of America.

TYPE UA CONNECTOR SERIES

The UA Series of audio connectors, designed in co-operation with the RETMA Committee, has all the features of Type P, O, and XL plus the following: (1) gold-plated contacts for long life and "no noise" (2) double protection rubber relief collar and rubber bushings (3) flat-top polarization for finger-touch action (4) stronger and better latch lock (5) steel plug shells and insert barrel (6) spring-action insert removal.

Insulators are high dielectric, molded general-purpose phenolic, 15 a. contacts with 2400 v minimum flashover; for No. 14 stranded wire. Max. cable entry is 1/2". Shown in Audio Bulletin.

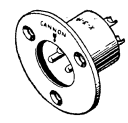


SEMI-EXPLODED VIEW UA-3-11

showing rubber cushion that fits over pin contacts to avoid shocks, provide protection from moisture, improve insulation factors.

(UA Series continued next page)

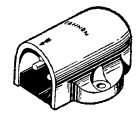
TYPE "X-14" WALL RECEPTACLE (With Pin Insert)



Body fits in 3/4" hole and extends 23/32" behind the flange, which is 1-3/8" in diameter and drilled for three No. 4-40 machine screws, 120° apart. Shell is zinc, nickel plated finish. Mates with X-11. Solder pots extend 1/4" beyond rear skirt.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.040	X-1-14	$1.90
3	15-amp.	0.042	X-3-14	2.45
4	3-10-amp. 1-15-amp.	0.044	X-4-14	2.50

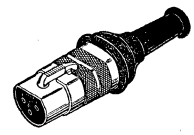
TYPE "X-42" MICROPHONE RECEPTACLE (With Pin Insert)



Has all the features of "Type X" straight cord plugs and wall receptacles but it is mounted on a flat base. Shell is die-cast zinc, nickel finish. Mates with X-11. Mounting holes are 0.144" in diameter and 1" apart.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.063	X-3-42	$2.65

TYPE UA-3-11 PLUG (Socket Insert)



The UA-11 plug is approximately 3-1/2" long (including rubber bushing); 1-3/16" wide and 1-1/32" thick. Steel shell and barrel. Mates with UA-12, UA-32, and UA-42.

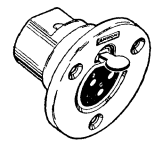
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.15	UA-3-11	$5.35

TYPE UA-3-12 PLUG (Pin Insert)

The UA-12 plug is approximately 3-1/4" long, including rubber relief collar. Steel shell. Mates with UA-3-11, UA-3-13, and UA-3-31.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.11	UA-3-12	$4.40

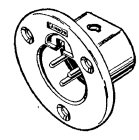
TYPE UA-3-13 RECEPTACLE (Socket Insert)



The UA-13 receptacle has a round flange compared to the rectangular flange of the UA-31. Three mounting holes are provided, 0.120" diameter countersunk for No. 4 machine screws. Mates with UA-3-12.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.14	UA-3-13	$4.10

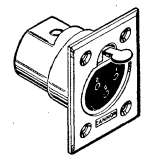
TYPE UA-3-14 RECEPTACLE (Pin Insert)



The UA-14 receptacle, like the UA-13, has a round flange. Barrel extends 25/32" behind flange with 15/64" solder pot extension. A 1" hole is required to mount. Mates with UA-3-11.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.08	UA-3-14	$2.50

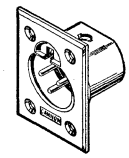
TYPE UA-3-31 RECEPTACLE (Socket Insert)



The UA-31 receptacle has a rectangular flange construction, extends 1-3/32" behind flange plus 3/16" max. solder pot extension, and requires a 1" clearance hole. Mates with UA-3-12.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.13	UA-3-31	$4.10

TYPE UA-3-32 RECEPTACLE (Pin Insert)



The UA-3-32 Receptacle is similar to UA-31. Barrel extends 25/32" plus 15/64" max. solder pot extension behind flange, and requires a 1" clearance hole. Mates with XL-3-11.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.07	UA-3-32	$2.50

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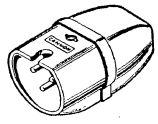
CANNON PLUGS — CANNON ELECTRIC CO.

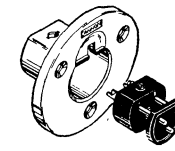
3209 Humboldt Street, Los Angeles, Calif. • Telephone CApitol 5-1251



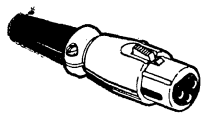
TYPE UA-3-42 RECEPTACLE (Pin Insert)

The UA-42 is a special mounting receptacle adaptable to microphones and other applications where it is advisable to mount receptacle parallel to the equipment, etc. Similar to XL-42 and X-42 types.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.08	UA-3-42	$4.95



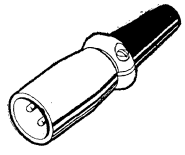
UA-3-14
EXPLODED VIEW



XLR-*- 11C PLUG (Socket Insert)

Type XLR-11C is equipped with latchlock device and polarizing boss. Insulators are resilient polychloroprene. Shells are diecast zinc, with nickel finish. Integral cable clamp and bushings. Cable accommodation is 7/32". Overall dimensions: Length: (with bushing) 2 15/16"; Max. Diameter: 0.750. Mates with XLR-12C, XLR-32 and other corresponding XL types.

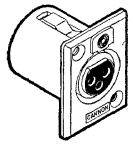
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	10-amp.	0.107	XLR-3-11C	$2.15
4	15-amp.	0.107	XLR-4-11C	2.45



XLR-*-12C PLUG (Pin Insert)

Type XLR-12C has polarizing groove. Insert is removable for wiring, soldering, and inspection. Insulation material is phenolic. Shells are diecast zinc, with nickel finish. Integral clamp and bushings. Cable accommodation is 7/32". Overall dimensions: Length: (with bushing) 2-21/32"; Max. Diameter: 0.750. Mates with XLR-11C, XLR-31 and other corresponding XL types.

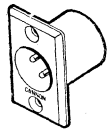
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	10-amp.	0.088	XLR-3-12C	$1.60
4	15-amp.	0.088	XLR-4-12C	1.80



XLR-*- RECEPTACLE (Socket Insert)

Type XLR-31 New narrow flange and Push-Lever Release. Insulation is resilient polychloroprene. Overall dimensions: Flange: 1 5/16" X 1 1/16"; Flange Thickness: 3/32"; Length Skirt: 31/32". Shell is zinc, with nickel finish. Mates with XLR-32, XLR-12C and other corresponding XL types.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	10-amp.	0.154	XLR-3-31	$2.10
4	15-amp.	0.154	XLR-4-31	2.40



XLR-*-32 RECEPTACLE (Pin Insert)

Type XLR-32 New narrow flange. Insulation is phenolic. Insert is removable for inspection and soldering. Shell is diecast zinc with nickel finish. Overall dimensions: Flange: 1 7/16" X 7/8"; Flange Thickness: 3/32"; Skirt: 3/4". Mates with XLR-31, XLR-11C and other corresponding XL types.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	10-amp.	0.065	XLR-3-32	$1.30
4	15-amp.	0.065	XLR-4-32	1.50

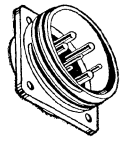
TYPE XLR CONNECTOR SERIES

SATIN NICKEL FINISH
NOW STANDARD ON
XLR

TYPE SK -M7-21C-½ PLUG (With Socket Insert)

½" clamp entry, mates with receptacle shown below.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
7	{3-10-amp. {4-30-amp.	0.66	SK-M7-21C-½	$4.25



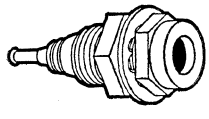
Type SK -M7-32S RECEPTACLE (With Pin Insert)

Mounting receptacle for BP-M7-21C-1/2" plug shown above. Center line to center line mounting holes 1.038". Clearance hole, 1-5/16".

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
7	{3-10-amp. {4-30-amp.	0.04	SK-M7-32S	$2.40

TYPE K CONNECTOR SERIES

For telephone recording connectors made by large suppliers of telephone equipment.



TEST POINT JACKS

High quality phone tip jack to accommodate standard RETMA 0.081" dia. phone tip for laboratory use. Rugged construction, nylon insulation for maximum life under hard usage. In 7 colors. See Bulletin TJ-2 for details.

Contacts	Capacitance	Wt. Lbs.	Cat. No.	List Pr.
1	5-7ufd	0.006	45E	$0.60

45-E TEST POINT JACK

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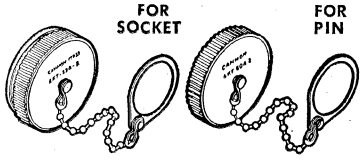
TYPE LK & LKT (TV) CONNECTOR SERIES

The LK & LKT (TV) connectors are used on television cameras and related equipment,and are a part of the Cannon "K" series. The assemblies with the "LK" prefix are standard "K," those prefixes with "LKT" have special shells or cable entry construction.

The R24C insert has the following arrangement of 24 contacts: 3 No. 16 coaxials, 21 No. 14 contacts. Shells are aluminum alloy cadmium plated; insulators are melamine, contacts are silver-plated brass.

LKT DUST CAPS

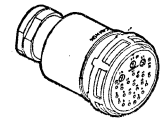


For pin insert assemblies. Chain 6¾" long, Eyelet 1½" dia.

Cat. No.	Wt. Lbs.	List Price
LKT-60A-2	0.113	$3.80

For socket insert assemblies.

Cat. No.	Wt. Lbs.	List Price
LKT-59A-2	0.147	$3.03



TYPE LKT-R24C-21-7/8 PLUG (With Socket Insert)

Special long end bell and coupling means include gland nut, friction washer, bushing, gland washer and packing ring to support cable.

Contacts	Cat. No.	Wt. Lbs.	List Pr.
24	LKT-R24C-21-7/8	1.01	$19.75

TYPE LKT-R24C-22-7/8 PLUG (With Pin Insert)

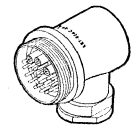
Same basic construction as LKT-R24C-21-7/8, except for: pin insert, exterior thread, rubber bumper ring.

Contacts	Cat. No.	Wt. Lbs.	List Pr.
24	LKT-R24C-22-7/8	0.860	$19.90

TYPE LKT-R24C-23-7/8 ANGLE 90° PLUG (With Socket Insert)

Similar to above fittings except for shell style which is a special 90° type shell. 7/8" cable entry.

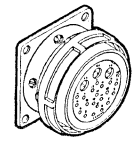
Contacts	Cat. No.	Wt. Lbs.	List Pr.
24	LKT-R24C-23-7/8	1.04	$31.03



TYPE LKT-R24C-24-7/8 ANGLE 90° PLUG (With Pin Insert)

Similar to above except for pin insert, exterior thread and rubber bumper ring.

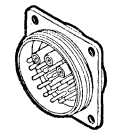
Contacts	Cat. No.	Wt. Lbs.	List Pr.
24	LKT-R24C-24-7/8	0.772	$31.70



TYPE LK-R24C-31S RECEPTACLE (With Socket Insert)

Wall- or box-mounting receptacle with four 0.169 dia. mounting holes 2.077" center to center, 2-9/16" square flange.

Contacts	Cat. No.	Wt. Lbs.	List Pr.
24	LK-R24C-31S	0.372	$10.61

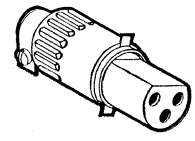


TYPE LK-R24C-32S RECEPTACLE (With Pin Insert)

Similar to above receptacle except for exterior thread.

Contacts	Cat. No.	Wt. Lbs.	List Pr.
24	LK-R24C-32S	0.183	$8.00

TYPE U subminiature CONNECTOR SERIES



TYPE U-11 PLUGS (Socket Insert)

Silcan (silicone) resilient insulation. Mates with corresponding UC-50-002, UC-50N-302, UC-12-002.

Contacts	Cat. No.	Wt. Lbs.
3	UC-3-11	0.001
6	UD-6-11	0.019
12	UE-12-11	0.026

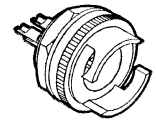
FOR REPLACEMENT AND LIMITED APPLICATIONS ONLY

TYPE U-50-002 RECEPTACLES (Pin Insert)

For solder applications; hermetically sealed. Mates with corresponding UC-11 Plug.

Contacts	Cat. No.	Wt. Lbs.
3	UC-3-50-002	0.007
6	UD-6-50-002	0.012
12	UE-12-50-002	0.015

FOR REPLACEMENT AND LIMITED APPLICATIONS ONLY



TYPE U-50N-302 RECEPTACLES (Pin Insert)

Locknut for mechanical application including a lockwasher. Mates with corresponding U-11.

Contacts	Cat. No.	Wt. Lbs.
3	UC-3-50N-302	0.008
6	UD-6-50N-302	0.014
12	UE-12-50N-302	0.030

FOR REPLACEMENT AND LIMITED APPLICATIONS ONLY

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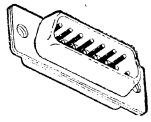
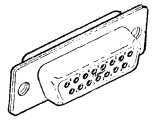
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



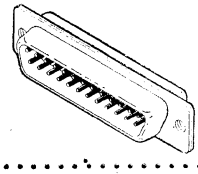
TYPE DA-15P CONNECTOR (Pin Insert)
(approx. actual size)

Contacts	Cat. No.	Wt. Lbs.	List Pr.
15	DA-15P	0.013	$2.57



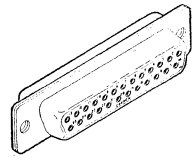
TYPE DA-15S CONNECTOR (Socket Insert)

Contacts	Cat. No.	Wt. Lbs.	List Pr.
15	DA-15S	0.014	$3.10



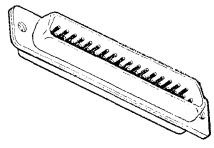
TYPE DB-25P CONNECTOR (Pin Insert)

Contacts	Cat. No.	Wt. Lbs.	List Pr.
25	DB-25P	0.023	$3.67



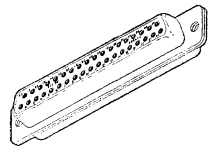
TYPE DP-25S CONNECTOR (Socket Insert)

Contacts	Cat. No.	Wt. Lbs.	List Pr.
25	DP-25S	0.031	$4.57



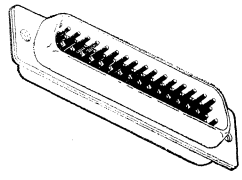
TYPE DC-37P CONNECTOR (Pin Insert)

Contacts	Cat. No.	Wt. Lbs.	List Pr.
37	DC-37P	0.035	$5.20



TYPE DC-37S CONNECTOR (Socket Insert)

Contacts	Cat. No.	Wt. Lbs.	List Pr.
37	DC-37S	0.035	$6.53

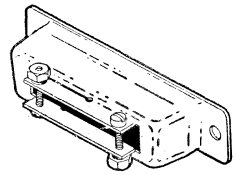


TYPE DD-50P CONNECTOR (Pin Insert)

Contacts	Cat. No.	Wt. Lbs.	List Pr.
50	DD-50P	0.035	$6.77

TYPE DD-50S CONNECTOR (Socket Insert)

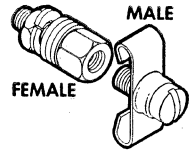
Contacts	Cat. No.	Wt. Lbs.	List Pr.
50	DD-50S	0.040	$8.60



"D" JUNCTION SHELLS Fit Pin or Socket Assemblies.

Cat. No.	Wt. Lbs.	List Pr.
DA-J/S	0.010	$.68
DB-J/S	0.014	.70
*DC-J/S	0.014	.97
*DD-J/S	0.016	1.00

*Sizes DC and DD have 3 Clamp Screws.

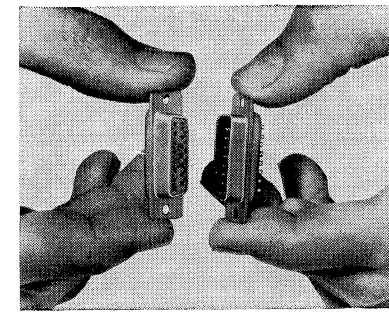


LOCKING DEVICES FOR D TYPES

Cat. No.		List Pr.
20418	(Female screw lock assembly for all sizes)	$ .25
20419	(Male screw lock assembly for sizes DA, DB, DC)	.25
20420	(Male screw lock assembly for size DD)	.42

TYPE D subminiature CONNECTOR SERIES

Type "D" sub-miniatures are small, compact, lightweight connectors in 4 sizes, having 15, 25, 37, or 50 gold-plated contacts with 5 a current rating; flashover; 1700 v dc, 1200 v ac rms. Wire size No. 20; Cadmium plated steel shell. Rack type can be used to connect and make a movable plug with addition of junction shell. Insulation is high dielectric Nylon FM 10001, keystone polarization. Average contact resistance 4.56 (8 max.) milliohms per ampere. See "D" Bulletin for complete data.



DA-15P with mating DA-15S

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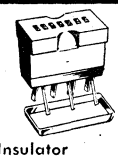


FLAT TYPE SUB-MINIATURE

Insulator Material	Model No.	List Price Ea.
5 Pin	770 BC	.44
6 Pin	813 BC	.47
7 Pin	790 BC	.50

Mica Filled Castings, Beryllium Copper Contacts.

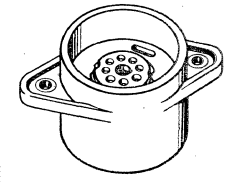
MOUNTING RINGS

5 Pin	756	.03
6 Pin	843	.04
7 Pin	768	.04

VENTILATED SHIELD

*Brass, Nickel Plated
**Steel, Cad. Plated

Model No.	Height	List Price Ea.
	7 PIN	
121V*	1 3/8"	.36
120V*	1 3/4"	.36
149V*	2 1/4"	.42
127V**	1 3/8"	.29
126V**	1 3/4"	.30
148V**	2 1/4"	.39
	9 PIN	
193V*	1 1/2"	.42
191V*	1-15/16"	.45
195V*	2 3/8"	.50
192V**	1 1/2"	.40
190V**	1-15/16"	.42
194V**	2 3/8"	.46



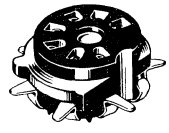
HIGH VOLTAGE SOCKET

Model No.	List Price Ea.
962	.45

9 PIN BASE SHIELD TYPE PRINTED CIRCUIT SOCKET

Beryllium Copper Contacts for 1/16" Board

Model No.	Material	List Price Ea.
623 BC	Mica	1.45

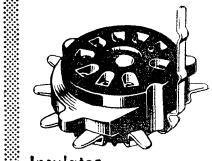


Top Solder

PRINTED CIRCUIT SOCKETS with Ground Contact

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	649	.21
Mica Filled	650	.22
	9 PIN	
Gen. Purp.	657	.26
Mica Filled	658	.28

Contact Material — Brass, Tin Lead.
Also available in all subminiature sizes.



Top Solder

PRINTED CIRCUIT SOCKETS with Shield Contact

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	651	.22
Mica Filled	652	.23
	9 PIN	
Gen. Purp.	659	.27
Mica Filled	660	.29

Contact Material — Brass, Tin Lead.
Also available in all subminiature sizes.

7 PIN BASE SHIELD TYPE PRINTED CIRCUIT SOCKET

For 1/16" Board

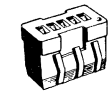
Model No.	Material	List Price Ea.
622 PHSP	Mica	1.25

Contacts — Phosphor Bronze

UHF SOCKET

	Model No.	List Price Ea.
Saddle Type	510 Bottom Mounted	.29
	511 Top Mounted	.29
Snap on	509	.31

Material — Mica
Brass Contacts

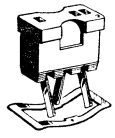


PRINTED CIRCUIT TYPE SUB-MINIATURE

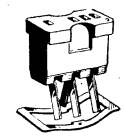
	Model No.	List Price Ea.
3 Pin	786 BC	.46
4 Pin	805 BC	.47
5 Pin	788 BC	.48
6 Pin	815 BC	.51
7 Pin	792 BC	.54

Mica Filled Castings.
Contact Material — Beryllium Copper.

TRANSISTOR TYPE SUBMINIATURE SOCKETS



Insulator Material	Model No.	List Price Ea.
	3 PIN	
POINT & JUNCTION TYPE TRANSISTORS		
Mica Filled	799BC	.42
4 PIN — LINOTETRAR TYPE TRANSISTOR		
Mica Filled	803BC	.43



Contact Material — Beryllium Copper, Silver Plated and Gold Flashed

FLAT SADDLE SUB-MINIATURE SOCKETS

Model No.	List Price Ea.
3 PIN — 840	.65
4 PIN — 842	.66
5 PIN — 844	.67
6 PIN — 846	.70
7 PIN — 848	.73
8 PIN — 851	.96

Material — Mica Casting
Saddle is Brass Nickel Plated

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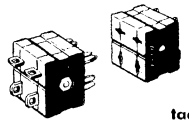
ELCO • ELCO SALES COMPANY Philadelphia 24, Pa. • ELCO

Elco Varicon Miniature-Connectors provide the simplest, quickest, most positive means for connecting electronic or electric circuits. Varicons introduce "Keying Control", making it impossible to connect unmatched parts. Contact combinations in any number demanded by your specific needs are possible with Varicons; and any connector may be assembled by you or us from stock parts.

Prices below are for Varicons in General Purpose Phenolic. Varicons are also available in Low-Loss Mica Phenolic, Alkyd, and General Purpose Phenolic in assorted colors, prices for which will be furnished upon request. For general specifications of ALL Varicons, refer to description beneath Connector Kit at lower right hand corner of this page. For any other information regarding these "Miniature Connectors that work like Giants", your inquiry will meet with our immediate reply.

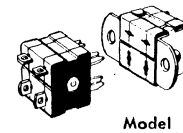


VARICONS

Plain with no hardware

2nd and 3rd digit numerals in Model Nos. designate number of Contacts in Connector.

MALE Model No.	Price	FEMALE Model No.	List Price Ea.
M1022	.29	F1022	.27
M1042	.40	F1042	.38
M1062	.52	F1062	.48
M1082	.63	F1082	.59
M1102	.78	F1102	.71
M1122	.90	F1122	.83
M1142	1.08	F1142	.99
M1162	1.26	F1162	1.16
M1182	1.44	F1182	1.33

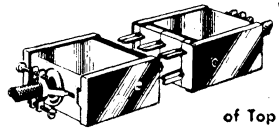


VARICONS

With bracket

Substitute the numeral "2" instead of the numeral "1" in the first digit of the Model Number if a double tier is desired. List price can be computed by doubling the List Price of the appropriate Single Tier VARICON with Bracket and adding .03 ea.

MALE Model No.	Price	FEMALE Model No.	List Price Ea.
M10220	.34	F10220	.32
M10420	.45	F10420	.43
M10620	.57	F10620	.53
M10820	.68	F10820	.64
M11020	.84	F11020	.77
M11220	.96	F11220	.89
M11420	1.14	F11420	1.05
M11620	1.31	F11620	1.22
M11820	1.50	F11820	1.38

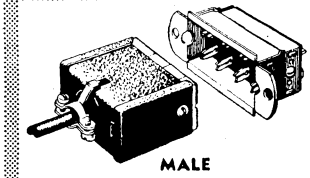


VARICONS

With cover top clamp

Hole can be located on End instead of Top by changing final digit from 4 to 5.

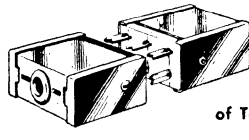
MALE Model No.	Price	FEMALE Model No.	List Price Ea.
M10425	.86	F10425	.84
M10624	.98	F10624	.94
M10824	1.09	F10824	1.05
M11024	1.27	F11024	1.20
M11224	1.44	F11224	1.37
M11424	1.68	F11424	1.59
M11624	1.91	F11624	1.82
M11824	2.15	F11824	2.04
M22024	2.51	F22024	2.39
M22424	3.09	F22424	2.96
M22824	3.67	F22824	3.53
M23224	4.26	F23224	4.09
M23624	4.89	F23624	4.73



VARICONS

With recessed housing

MALE Model No.	Price	FEMALE Model No.	List Price Ea.
M10626	.93	F10626	.88
M10826	1.07	F10826	1.03
M11026	1.27	F11026	1.20
M11226	1.45	F11226	1.38
M11426	1.69	F11426	1.60
M11626	1.92	F11626	1.83
M11826	2.16	F11826	2.05
M22026	2.47	F22026	2.36
M22426	3.06	F22426	2.92
M22826	3.63	F22826	3:50
M23226	4.22	F23226	4.06
M23626	4.85	F23626	4.69



VARICONS

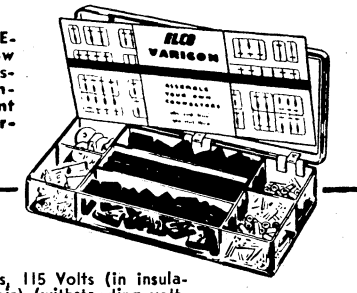
With covers — top hole

Hole can be situated on End instead of Top by changing final digit from 2 to 3.

MALE Model No.	Price	FEMALE Model No.	List Price Ea.
M10423	.67	F10423	.65
M10622	.79	F10622	.75
M10822	.90	F10822	.86
M11022	1.07	F11022	1.00
M11222	1.24	F11222	1.17
M11422	1.48	F11422	1.39
M11622	1.71	F11622	1.62
M11822	1.96	F11822	1.84
M22022	2.24	F22022	2.13
M22422	2.83	F22422	2.69
M22822	3.40	F22822	3.27
M23222	3.94	F23222	3.83
M23622	4.62	F23622	4.46

KITS

VARICON MINIATURE-CONNECTOR KITS now make it possible to assemble your own connectors when you want them! In General Purpose Phenolic, Low-Loss Mica Phenolic, Alkyd, Colors. Write for prices.



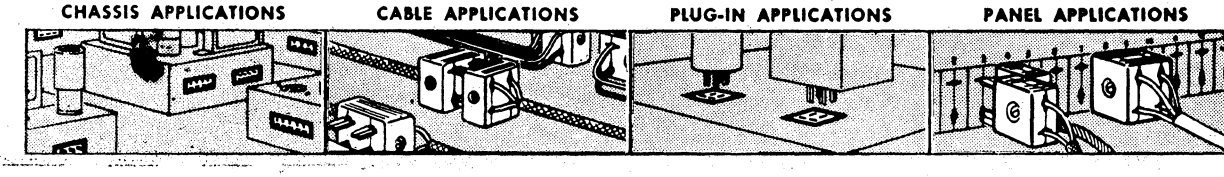
GENERAL SPECIFICATIONS

Current Rating 15 Amps, 115 Volts (in insulator); 30 Amps (in free air) (withstanding voltage between closest terminals 4000 volts); Contact Resistance .001 ohm. Low Capacitance. All Male & Female components are identical. 300 ohm line spacing. Contacts in use are always under pressure, cannot be overstressed or overstrained.

GP-1	10.00
LL-1	13.75
*C-1	14.50

*Colored

CHASSIS APPLICATIONS **CABLE APPLICATIONS** **PLUG-IN APPLICATIONS** **PANEL APPLICATIONS**



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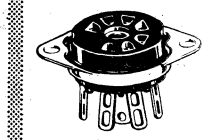
JAN SOCKETS AND SHIELDS

Part No.	DESCRIPTION	Designation Per JAN/S28A-1	List Price Each
235 BC	7 Pin Mica	TS 102P01	.59
238 BC	7 Pin Ceramic	TS 102C01	.97
169 BC	9 Pin Mica	TS 103P01	.77
176 BC	9 Pin Ceramic	TS 103C01	1.20
335 PHSPTD	Octal Mica	TS 101P01	.80
336 PHSPTD	Octal Mica—with Bushings	TS 101P02	1.12
338 PHSPTD	Octal Ceramic	TS 101C01	1.20
337 PHSPTD	Octal Ceramic—with Bushings	TS 101C02	1.54
342 PHSPTD	Octal Mica—GRC	TS 101P0	.78
121	7 Pin Shield 1-3/8"	TS 102U01	.25
120	7 Pin Shield 1-3/4"	TS 102U02	.25
149	7 Pin Shield 2-1/4"	TS 102U03	.31
193	9 Pin Shield 1-1/2"	TS 103U01	.31
191	9 Pin Shield 1-15/16"	TS 103U02	.34
195	9 Pin Shield 2-3/8"	TS 103U03	.39

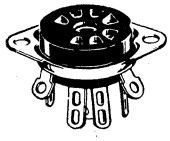


RTMA SADDLE TYPE

Bottom Mounting

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	100	.14
Mica Filled	105	.17
Ceramic	220	.45
	9 PIN	
Gen. Purp.	270	.20
Mica Filled	271	.24
Ceramic	272	.63

Contact Material — Brass, Cad. Plated

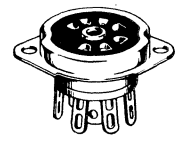


RMA SADDLE TYPE

with Ground Lugs
Bottom Mounting

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	300	.15
Mica Filled	305	.19
Ceramic	320	.46
	9 PIN	
Gen. Purp.	370	.20
Mica Filled	371	.25
Ceramic	372	.65

Contact Material — Brass, Cad. Plated

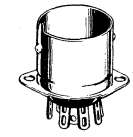


JAN SADDLE TYPE

Top Mounting

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	240	.14
Mica Filled	241	.17
Ceramic	113	.45
	9 PIN	
Gen. Purp.	196	.20
Mica Filled	197	.24
Ceramic	170	.63

Contact Material — Brass, Cad. Plated

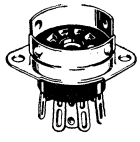


JAN BASE SHIELD TYPE

Top Mounting

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	ST 234	.30
Mica Filled	ST 235	.35
Ceramic	ST 238	.56
	9 PIN	
Gen. Purp.	ST 167	.41
Mica Filled	ST 169	.47
Ceramic	ST 176	.95

Contact Material — Brass, Cad. Plated

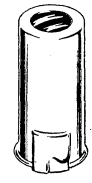


SNAP-ON JAN TYPE

Top Mounting

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	250	.16
Mica Filled	251	.20
Ceramic	252	.47
	9 PIN	
Gen. Purp.	450	.24
Mica Filled	451	.29
Ceramic	452	.69

Contact Material — Brass, Cad. Plated



JAN TYPE SHIELDS

Per Jan/S-28

Material
Steel, Cad. Plated

Model No.	Height	List Price Ea.
	7 PIN	
127	1⅜"	.18
126	1¾"	.19
148	2¼"	.28
	9 PIN	
192	1½"	.29
190	1-15/16"	.31
194	2⅜"	.35

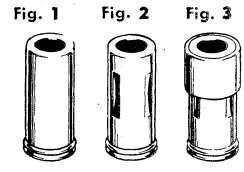


Fig. 1 Fig. 2 Fig. 3

SNAP-ON TYPE SHIELDS

Material
Steel

Fig.	Model No.	Desc.	Height	List Price Ea.
		7 PIN		
1	200		1-53/64"	.08
2	224	Slit	1-53/64"	.12
3	225	Slit & Lead	1-53/64"	.49
		9 PIN		
1	227		2-1/16"	.10
2	228	Slit	2-1/16"	.14
3	229	Slit & Lead	2-1/16"	.57

PRINTED CIRCUIT SOCKETS

with Ground Contact

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	545	.19
Mica Filled	546	.20

Contact Material — Brass, Tin Lead.
Also available in all subminiature sizes.

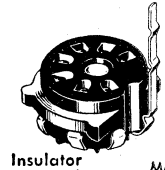
Bottom Solder

PRINTED CIRCUIT SOCKETS

with Ground Contact

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	645	.19
Mica Filled	646	.20
	9 PIN	
Gen. Purp.	653	.26
Mica Filled	654	.27

Contact Material — Brass, Tin Lead.
Also available in all subminiature sizes.



Bottom Solder

PRINTED CIRCUIT SOCKETS

with Shield Contact

Insulator Material	Model No.	List Price Ea.
	7 PIN	
Gen. Purp.	647	.20
Mica Filled	648	.21
	9 PIN	
Gen. Purp.	655	.27
Mica Filled	656	.28

Contact Material — Brass, Tin Lead.
Also available in all subminiature sizes.

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POMONA ELECTRONICS CO., INC.

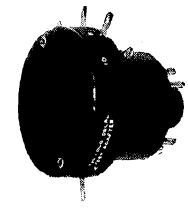
PECO

TEST SOCKET ADAPTERS

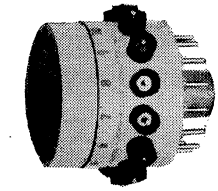
MODEL TVS-7
For seven pin miniature tubes....$1.65 net

MODEL TVS-8
For eight pin octal tubes .....$1.55 net

MODEL TVS-9
For nine pin miniature tubes .....$1.85 net



MODEL TVS-1 DUO-DECAL TEST SOCKET ADAPTER
For television picture tubes $1.95 net



MODEL TVS-14 DIHEPTAL TEST SOCKET ADAPTER
For radar, cathode ray and industrial oscilloscope.....$14.90 net

Peco Test Socket Adapters are ideal for making measurements of voltage, resistance, audio and video without tracing complicated circuits from the bottom of the chassis. They Feature: Extended test tabs for easy use with either alligator clips or test prods; Low R.F. loss with a power factor less than 0.010 at 10 Mc; Mica-filled sturdy phenolic construction; High insulation resistance, the I.R. exceeds 500,000 megohms at 40% R.H., at 24° C; Distributed capacity, low inter-element capacity, approximately 1 micro-micro farad; High voltage operation, voltage breakdown between elements exceeds 1700 volts AC or DC; On model TVS-14 voltage breakdown exceeds 7500 volts.

SPECIAL ADAPTERS DESIGNED TO YOUR SPECIFICATIONS. INQUIRIES INVITED.

SOCKET SAVERS

MODEL SS-7
Seven pin miniature
$1.95 net

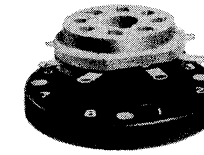
MODEL SS-8
Eight pin octal
$1.95 net

MODEL SS-9
Nine pin miniature
$1.95 net

The Socket Saver is designed to be installed on tube checkers and other electronic equipment to prevent wear and tear of sockets on original equipment. They are easily installed and removed eliminating the necessity of replacing and rewiring sockets on original equipment. Built of quality materials including silver plated phosphor bronze contacts and pins to give maximum service.

SURFACE MOUNTED BREADBOARD SOCKETS

MODEL XS-7
Seven pin miniature
$.49 net



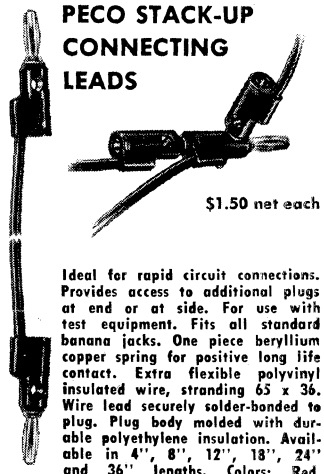
MODEL XS-8
Eight pin octal
$.57 net

MODEL XS-9
Nine pin miniature
$.57 net

Ideal for Electronic and Experimental use

Surface Mounted Breadboard Sockets are used for experimental circuit design, portable and enclosed units, plug-in and packaged assemblies. They feature: An insulated base to prevent connections from shorting to chassis; Eliminates double chassis design; Circuits may be wired in an enclosed unit; The base connections are numbered for easy identification; Silver plated phosphor bronze contacts; Standard center to center mounting holes; For ease of installation the 7 and 9 Pin Miniatures may be mounted either in the center or on the sides, the 8 Pin Octal is mounted on the sides; Small mounting holes permit the re-use of experimental chassis.

PECO STACK-UP CONNECTING LEADS

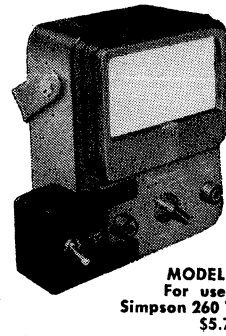


$1.50 net each

Ideal for rapid circuit connections. Provides access to additional plugs at end or at side. For use with test equipment. Fits all standard banana jacks. One piece beryllium copper spring for positive long life contact. Extra flexible polyvinyl insulated wire, stranding 65 x 36. Wire lead securely solder-bonded to plug. Plug body molded with durable polyethylene insulation. Available in 4", 8", 12", 18", 24" and 36" lengths. Colors: Red, Black, Yellow, Green and Orange.

Specify length and color when ordering.

METER REVERSING POLARITY SWITCH

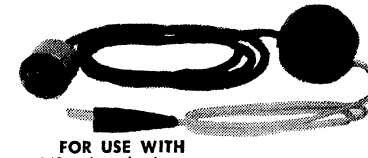


MODEL MS-1
For use with Simpson 260 Tester
$5.75 net

The MS-1 is designed to reserve polarity when making circuit test without removing test leads to meter. It is instantly attached by plugging into test lead holes on Simpson Tester Model 260. Saves time in circuit testing.

PECO CR ADAPTER

For checking Cathode Ray Tubes with Tube Checker
$6.45 net



MODELS	FOR USE WITH
CR-1	Jackson 648 tube checkers
CR-2	Hickok 532-3-4 and 600-5 tube checkers
CR-3	Precision 10-00 checkers
CR-4	Precision 9-00 checkers
CR-5	115 & 715 Jackson tube checkers
CR-6	Precision 6-00 checkers
CR-7	Sylvania 139-140, 219-220 tube checkers
CR-8	Simpson 330 & 555 tube checkers

The CR Adapters are designed for easy connection of Cathode Ray Tubes to Tube Checkers without removing the Cathode Ray Tubes from the cabinet and chassis. It checks them for shorts, relative emission, slow heater, and filament continuity. This time saving compact piece of equipment is easy to use and prevents guesswork, thus readily convincing set owner when tube is faulty.

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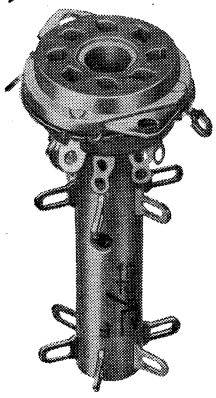
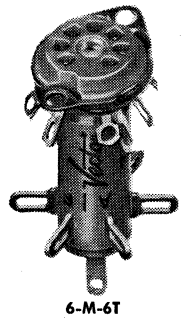
Net

Vector

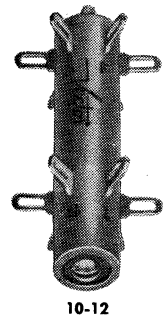
POST SOCKET TURRETS



10-0-12T



6-M-6T

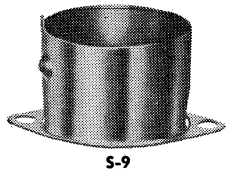


10-12

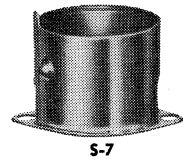
VECTOR SOCKET TURRETS are widely used for mounting circuit components. The posts are Grade XXXP phenolic (or glass silicone to order) ½" O.D. with 1/16" wall. Sockets are mica filled phenolic. The terminals are hot tinned brass, saddles cad. plated steel. Also available are premium quality sockets with hot tinned brass or steel saddles, beryllium copper, silver plated terminals (Add "J" to Cat. No. for this). Terminal Turrets without sockets, useful for many mountings, are listed at the end of the table:

Catalog Number	Socket Type	Unit Height	Turret Rings	No. Terms.	Space Between Rings	Other Information
10-0-12T	Octal	2½"	2	12	1⅜"	Bonded Assy.
8-0-9T	Octal	2 "	2	9	1 "	Bonded Assy.
6-0-6T	Octal	1½"	1	6	—	Bonded Assy.
10-MB-12	7 P.Min.	2½"	2	12	1⅜"	Bolted Assy.
8-M-9T	7 P.Min.	2 "	2	9	1 "	Riveted Assy.
6-M-6T	7 P.Min.	1½"	1	6	—	Riveted Assy.
10-NB-12	9 P.Nov.	2½"	2	12	1⅜"	Bolted Assy.
8-N-9T	9 P.Nov.	2 "	2	9	1 "	Riveted Assy.
6-N-6T	9 P.Nov.	1½"	1	6	—	Riveted Assy.
10-12	None	2½"	2	12	1⅜"	Terminal Turrets
8-12	None	2 "	2	12	1 "	Terminal Turrets
6-12	None	1½"	2	12	⅝"	Terminal Turrets

TUBE BASE SHIELDS



S-9



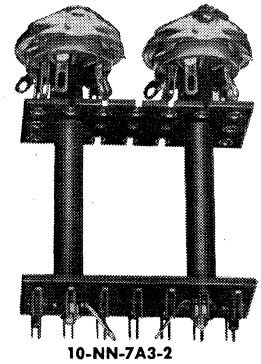
S-7

TUBE BASE SHIELDS are intended to be mounted above the socket as a base for conventional bayonet type tube shields. Material is cadmium plated steel.

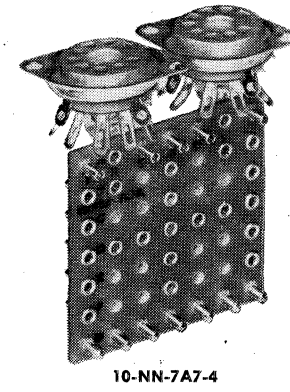
Cat. No.S7.....For 7 Pin Min. Sockets
Cat. No.S9.....For 9 Pin Noval Sockets

Vector

DECK TURRET AND WALL TURRET



10-NN-7A3-2



10-NN-7A7-4

DECK TURRET & WALL TURRET assemblies provide means for mounting circuit components similarly to Post-Turrets but are somewhat better adapted to compact multi-tube assemblies. Deck Turrets have terminal strips parallel to the socket plane whereas Wall Turrets have strips perpendicular thereto (See figures). They are designed for use on a chassis or with plug in units. Pattern "A" strip is standard.

* Catalog Number	Type	No. of Sockets Type	Unit Height	Strip Dimens.	No. of holes Strips	No. of Terms.	Space Between Strips
10-NN-7A3-2	2 Decks	2 Nov.	2½"	1.90x0.84	7x3	14	1-7/16"
10-3N-11A3-2	2 Decks	3 Nov.	2½"	2.96x0.84	11x3	22	1-7/16"
10-4N-15A3-2	2 Decks	4 Nov.	2½"	4.02x0.84	15x3	30	1-7/16"
10-5N-19A3-2	2 Decks	5 Nov.	2½"	5.08x0.84	19x3	38	1-7/16"
10-NN-7A7-4	1 Wall	2 Nov.	2½"	1.90x1.90	7x7	22	—
10-3N-11A7-4	1 Wall	3 Nov.	2½"	2.96x1.90	11x7	29	—

* For miniature sockets instead of novals change letter "N" to "M". Change may also be made by user if desired and any combination of Sockets may be set-up subject to space limitations. Other heights are obtainable at factory, viz 2", 3" or greater.

STRUCTURES FOR CIRCUITRY

Unitize — Vector structures provide economical methods of unitized modular construction of electronic circuitry. Unitized assembly on Vector Turrets eliminates useless lead length and improves performance.

Miniaturize — Better space utilization, compactness, accessibility and ease of assembly are some of the advantages of the Vector modular system.

Plug-inize — Vector turrets combined with a Lip-Loc case forms a plug-in unit . . . for faster final assembly and ease of equipment maintenance.

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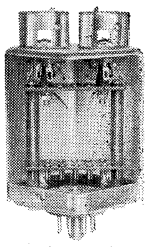
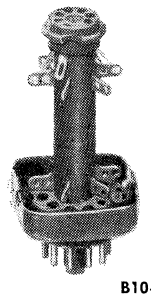
Vector

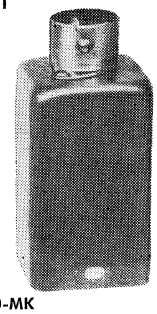
SMALL ROUND OR SQUARE PLUG IN UNITS & CASES

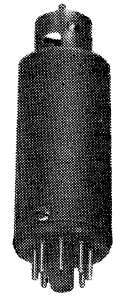


C12-NNK-2



B10-MK





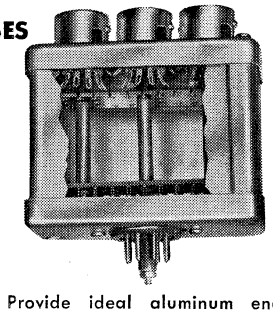
G2-10-M

SMALL ROUND & SQUARE PLUG IN UNITS & CASES for single and two-tube applications utilize deep drawn aluminum cases, with caustic etch finish. Plugs are tube base type; octal 8 or 11 pins for B, C & G2 types, 9 pin noval for G2.1 size and 7 pin Min. for G2.2. Sockets are mica filled phenolic with brass, cad plated contacts. Also available are premium quality sockets with beryllium copper, silver plated terminals. (Add "J" to Cat. No. for this).

Catalog Number	Type of Plug	Type of Socket	Type of Turret	Dimensions Height	Size
B 10 MK	Octal 11	7 P.Min.	Post	2½"	1-7/16" Sq.
B 10 NK	Octal 11	9 P.Nov.	Post	2½"	1-7/16" Sq.
B 10 TK	Octal 11	None	Post	2½"	1-7/16" Sq.
B 12 OK	Octal 11	Octal	Post	3 "	1-7/16" Sq.
C 12 MK	Octal 11	7 P.Min.	Post	3 "	2 " Sq.
C 12 NK	Octal 11	9 P.Nov.	Post	3 "	2 " Sq.
C 12 TK	Octal 11	None	Post	3 "	2 " Sq.
C 12 NNK-2	Octal 11	(2) 9 P.Nov.	2 Decks	3 "	2 " Sq.
C 12 MMK-2	Octal 11	(2) 7 P.Min.	2 Decks	3 "	2 " Sq.
G2-10-M	Octal 8	7 P.Min.	None	2½"	1¼" Diam.
G2-10-N	Octal 8	9 P.Nov.	None	2½"	1¼" Diam.
G2.1-8-N	9 P.Nov.	9 P.Nov.	None	2 "	¾" Diam.
G2.2-8-M	7 P.Min.	7 P.Min.	None	2 "	⅝" Diam.

(Add "-2" to Cat. No. for 2 deck type; and "-4" for wall type; see section above). Terminal wafers available for G2, G2.1 and G2.2. Military quality also available in all types at extra cost. (Add "J" to Cat. No.)
The above are the most popular types, but many others are available at the factory viz 2", 2½", 3" or 4" height in B, C & G2 types. 8 pin Octal plugs can be supplied instead of 11 pin in all cases. Deck or Wall Turrets instead of post turrets are also available.

LIP LOC CASES



Plug-In Unit made with Kit 4-EK3 using Case EX-12

LIP-LOC CASES: Provide ideal aluminum enclosures without interior structures for Plug-in-Units, instruments, etc., consist of two drawn end pieces and 2 L shaped center-section members which clamp between the end pieces. Only 2 screws need be removed to disassemble. Parts may be mounted on any 4 of 6 sides, with good accessibility. These cases may be combined readily with Turrets and Plugs to make compact Plug-in-Units. (Caustic etch finish is standard or anodized to special orders.)

CASE DIMENSIONS

Catalog Number	Base Length	Base Width	Height
DX-12	3.055"	2.1"	3"
EX-12	3.88"	1.63"	3"
E1X-12	5.88"	1.63"	3"
E2X-12	4.82"	1.70"	3"
FX-12	4.5"	2.44"	3"
G1X-12	4.125"	2.1"	3"
G1.1X-12	5.1"	2.1"	3"

(Also longer or shorter heights, perforated center sections or type Xa with 4 piece port type center-section are obtainable.)

MULTI-USE PLUG-IN-KIT:

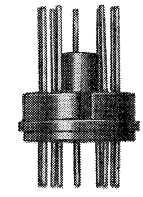
These flexible assemblies provide simple readily wired packages utilizing LIP-LOC cases and Deck-Turrets which may be arranged to mount many circuit assemblies. For example, KIT 4-EK3 may be set-up to mount 1 to 3, either 7 or 9 pin miniature sockets in any order using adapter rings to accommodate different socket diameters. Socket holes are ¾" diameter with slots for saddle screws. Plug buttons are supplied to close socket holes where tubes are not required. (If octal sockets are required, holes can be enlarged by customer.) 7 and 9 pin sockets are supplied and also an equal number of JAN type shield bases of each type and corresponding to the number of socket holes in the cover. An extra undrilled plug base is supplied so that larger plugs such as the "Blue-Line" may be mounted. (Latter is not supplied but spacers & screws for this are included.) Finish is caustic etch on aluminum. Sockets are mica filled phenolic, commercial grade, terminal strips and spacers are phenolic. Adapter rings to mount 7 pin sockets are furnished. Two Deck type strips with ZIP terminals are assembled with 9 pin sockets and 11 pin octal type plug into case. One extra third deck is supplied as a loose part which may be easily inserted in the stack if desired. Overall height of all units is 3".

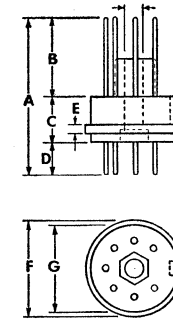
Kit Number	Sockets	Base Dimens.	Deck Spacing (2 Decks)	Number Terminals Per Deck
KIT 4-EK3	3N or 3M	1⅝"x3⅞"	1-7/16"	22
KIT 5-E2K3	4N or 4M	1.68"x4.82"	1-7/16"	30
KIT 6-E1K3	5N or 5M	1⅝"x5⅞"	1-7/16"	38

Many other case sizes and structures are obtainable at the factory.

Vector

TUBE BASE PLUGS





TUBE BASE PLUGS fit standard 7 Pin Miniature and 9 Pin Noval sockets. Castings are mica filled phenolic, have ⅛" Dia. center hole and nut cavity, may be mounted with a center screw or, if letter "R" is added to Cat. No., "Tru-arc" retaining rings and grooving will be supplied to enable mounting in chassis hole.

DIMENSIONS PER DRAWING
— in inches —

Catalog Number	Type	A	B	C	D	E	F	G	H
P7	7p. Min.-long pin	1⅛	17/32	5/16	.291	1/16	.621	.568	.126
P9	9p. Nov.-long pin	1⅛	17/32	5/16	.291	1/16	.748	.700	.126
P7A	7p. Min.-short pin	.791	3/16	5/16	.291	1/16	.621	.568	.126
P9A	9p. Nov.-short pin	.791	3/16	5/16	.291	1/16	.748	.700	.126

Add R to Nos. for Tru-Arc Ret. Ring & Grooving for mounting in .04"-.06" chassis.
Add F to Cat. No. for two threaded inserts on side diametrically opposed (1-72 thread).

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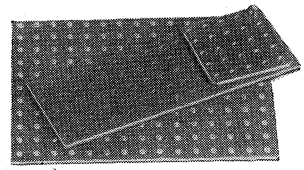
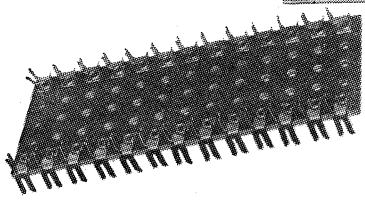
TERMINAL PUNCH BOARD

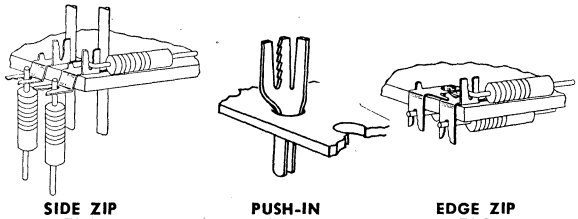




TERMINAL PUNCH BOARD is used for quick mounting of circuitry, thru use of pre-punched terminal holes. Pattern "A" provides an all-over grid of holes .093" in diameter, spaced 0.265" in each direction; thickness is 1/16". Pattern "AA" is the same but board is 3/32" thick. Pattern "B" has 1/16" dia. holes on a 3/16" grid and is 1/16" thick. Grade XXXP phenolic is used.

Cat No.	Pattern	Width Approx.	Length Approx.	Thickness	No. Holes Each Dir.
64A18	A	4⅞"	17"	1/16"	64 x 18
64AA18	AA	4⅞"	17"	3/32"	64 x 18
90B30	B	5-11/16"	17"	1/16"	90 x 30

VECTOR ZIP TERMINALS

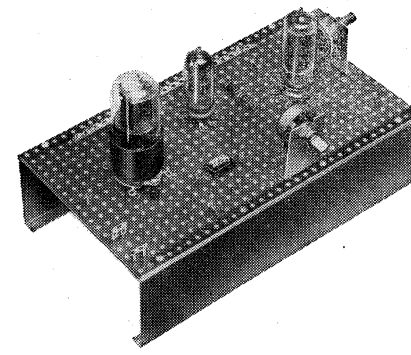


SIDE ZIP T9.0 | PUSH-IN T9.4 | EDGE ZIP T9.1

VECTOR ZIP TERMINALS — Remarkable new "ZIP" Terminals do "everything". The PUSH-IN Type need only be pushed into the .093" hole (Pattern A or AA board) and holds itself in without staking (May be staked if desired for maximum holding). It is provided with serrated slots to grip inserted wires — it also has through panel hole and additional slot on opposite side and is offset for Riser wire application. "Side Zip" type as used in Deck type units provides side projecting fork and is eyeletted in place in .093" hole. "Edge Zip" is similar to latter but laps over edge of strip with main fork perpendicular to strip. Hot tin dipped eyelets listed separately for attaching ZIPS (except Push-in type) may also be used alone as terminals.

Cat No.	Type	Mtg. Hole	Length
9.0	Side Zip	.093	
9.1	Edge Zip	.093	
9.4	Push-in	.093	
7.0	Eyelet	.093	3/32"
7.1	Eyelet	.093	1/8 "
7.2	Eyelet	.093	5/32"
15	Eyelet	.062	3/32"
15.1	Eyelet	.062	1/8 "

EXPERIMENTER'S CHASSIS KIT

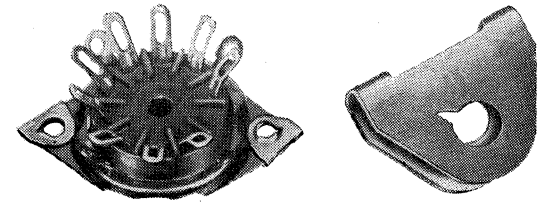


The EXPERIMENTER'S CHASSIS Kit for rapid setup of circuitry provides a perforated phenolic board, type AA described above, aluminum channel supports, PUSH-IN ZIP terminals as above, miniature seven pin, nine pin and octal sockets,self tapping screws and spacers for mounting sockets, pot and switch mtg brackets, and other miscellaneous hardware and strips. Instructions for assembly are supplied with the kit.

Cat No.	Description
Kit-20X	Low Cost sampler with 4-3/34" x 8½" Deck & accessories
Kit-21X	4¾" x 17" Deck—Terminals, Sockets, many accessories

Vector

SOCKET SADDLE NUTS



U nuts designed especially to slip over and clamp on socket saddles provide convenient means for quickly screwing sockets to chassis. Two types are available, No. 4-40 U which fits No. 4-40 screws and No. 4Z U which fits a No. 4 sheet metal screw. The latter is stronger since it is of thicker metal than the former. Screws should be hardened steel for both nuts to avoid stripping and are also listed below: Material is cad. plated steel.

Cat. No.	Thread	Screw Length
4-40 U Nut	4/40	—
4-Z U Nut	4 Z	—
S4/.250 Screw	4-40	¼"
S4Z/.250 Screw	4 Z	¼"

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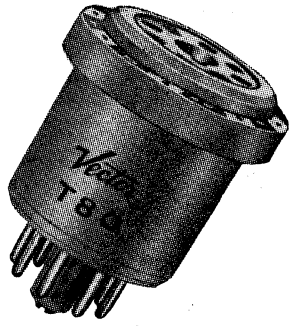
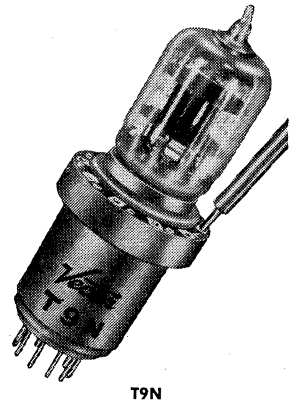
TUBE SOCKET TEST ADAPTERS



T80



T9N

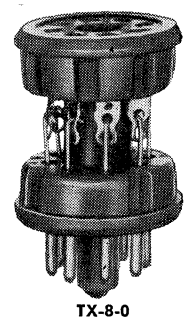
TUBE SOCKET TEST ADAPTERS are inserted between the socket and the tube and provide test tab elements for checking. Connections are wired straight thru from plug to socket. Beryllium copper socket contacts for long-life — molded tan phenolic bodies.

Catalog Number	Socket Type
T-8-0	Octal
T-7-M	Miniature
T-9-N	Noval
T-789	Set of above three in kit
P-1	Probe for above

EXPERIMENTER'S TEST ADAPTERS

EXPERIMENTER'S TEST ADAPTERS. These are similar to the Socket Test Adapter but are less the shells and tabs so that connections can be cross-connected in any desired way. User must solder connections (Outer shells available at factory — add "S" to number to obtain).

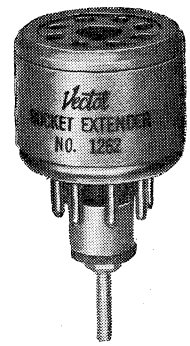
Catalog Number	Socket Type
TX-8-O	Octal
TX-7-M	Miniature
TX-9-N	Noval
TX-789	Set of above three in kit



TX-8-0

SOCKET EXTENDERS

SOCKET EXTENDERS provide a replaceable unit for use in tube testers. Wear is shifted from the socket in the tester to the one in the Extender so that when it is worn out a new one can be easily inserted. Sockets have highest grade beryllium copper contacts. A screw projects thru the plug and may be used to hold the unit firmly in place if desired. Socket to plug leads are soldered and an outer shell is used.



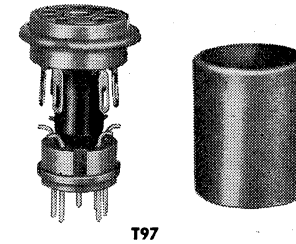
Catalog Number	Socket Type
#1262	Octal 8
#1263	9 P. Noval
#1264	7 P. Miniature

THE ROTOPROBE

THE ROTOPROBE is a new type of test adapter to which a rotating test lead is permanently attached. Rotation of the shell causes a contact arm to move across the pins connecting the socket elements so that any position may be quickly contacted. This serves the same purpose as the usual Test Adapters but is more convenient and faster.

Catalog No.	Socket Type
T-8-B	Octal
T-7-B	Miniature
T-9-8	Noval
T-789-B	Set of above three in kit

SOCKET CHANGE ADAPTERS



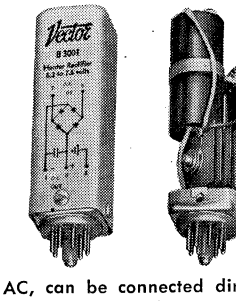
T97

SOCKET CHANGE ADAPTERS facilitate use of unlike tube bases in existing sockets where a change of tube types is required. To be wired by user. Add "S" to number for an outer shell which may be cemented in place.

Cat. No.	Socket	Plug
T 780	7 P. Min.	Octal 8
T 79	7 P. Min.	9 P. Nov.
T 807	Octal 8	7 P. Min.
T 809	Octal 8	9 P. Nov.
T 97	9 P. Nov.	7 P. Min.
T 980	9 P. Nov.	Octal 8

Vector

HEATER RECTIFIER



VECTOR HEATER RECTIFIER, Type B3001 — Small full-wave selenium rectifier-filter circuit for eliminating AC hum by supplying DC heater current to first stage of low-level amplifier and preamps. Octal plug for convenient mounting; space above chassis only 1⅜" x 1⅜" x 4". Rated input voltage 6.3 to 7.5V AC, can be connected directly to available AC filament supply. Provides up to 0.3 amps DC. Produces no external magnetic fields; completely shielded, with grounding connection to case.

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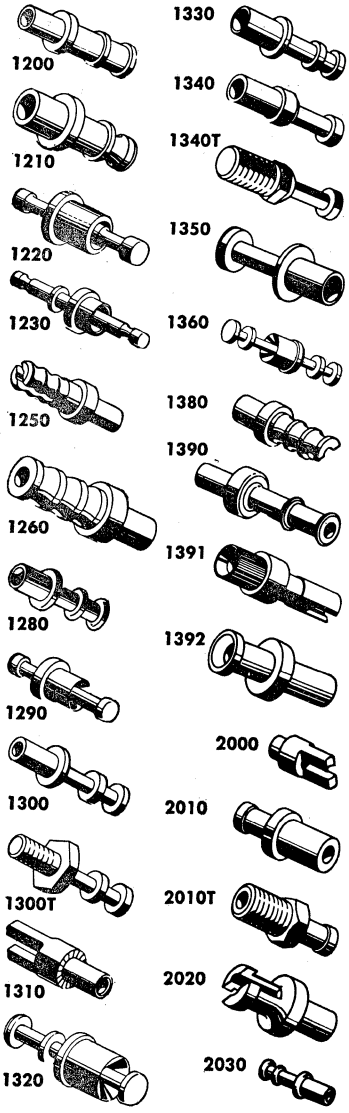
IMMEDIATE DELIVERIES

This is only a partial listing of our many electronic products. Immediate deliveries from the World's most complete warehouse stock. Available in bulk or in new tarnish-free packages. All USECO standard products are available from your distributor. He has them in stock for immediate shipment.

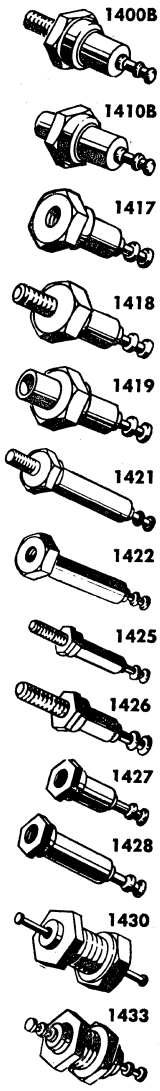
STANDARDIZED ELECTRONIC HARDWARE

U. S. ENGINEERING CO.

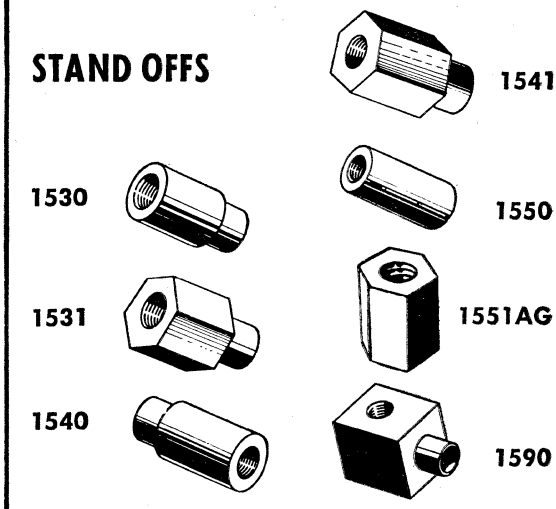
STANDARD TERMINAL LUGS



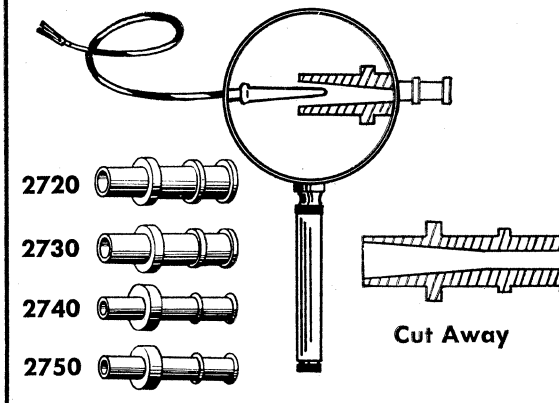
INSULATED TERMINALS



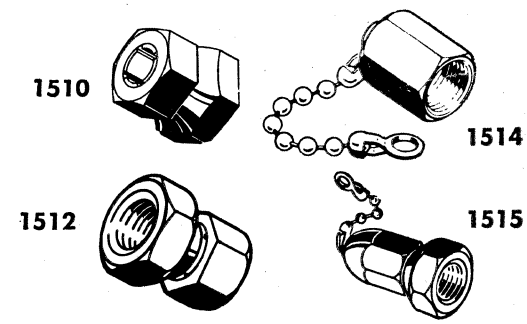
STAND OFFS



TAPER PIN TERMINALS



SHAFT LOCKS



USECO Herminal lugs are made in these size ranges:

SHANK DIAMETERS FROM .062 to .203
SHOULDER DIAMETERS FROM .093 to .250
SHANK LENGTHS FROM .037 to .230
LENGTHS ABOVE SHOULDERS .095 to .468

Special designs by request. Write for catalog with complete specifications. All USECO standard products are available from your distributor. He has them in stock for immediate shipment.

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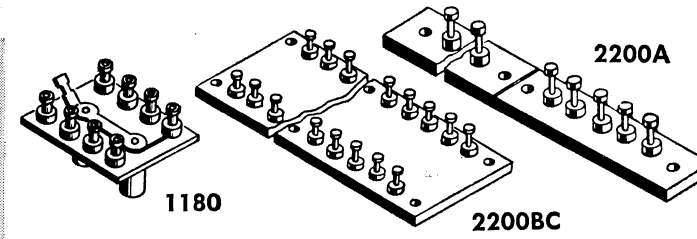
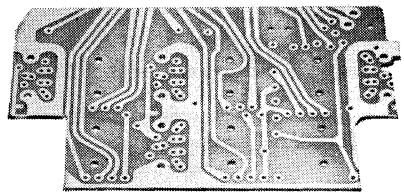
All USECO standard products are available from your distributor. He has them in stock for immediate shipment.

TERMINAL BOARDS

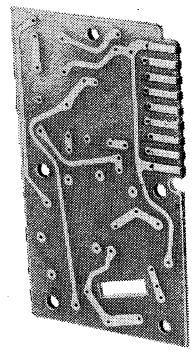
USECO manufactures Terminal Boards to customer specifications. In addition we maintain a large stock of Standard Terminal Boards. See catalog for complete line. Made to meet all approved MIL and JAN specs.



ETCHED CIRCUITS



Quality etched and printed circuits require specially trained personnel. USECO's Staff offers you unsurpassed experience, creative imagination and technical skill. Circuit samples of your design are often supplied at cost. Your prototype inquiries are invited. Furnished in any plated finish as specified.

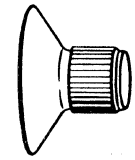


"PLATED-THRU" CIRCUITS

Made by an exclusive USECO process, our "PLATED-THRU" circuits assure you of optimum performance. Experienced in producing circuits with all types of base materials and all precious metal platings. Engineering and design facilities are available.

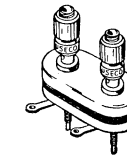
All USECO standard products are available from your distributor. He has them in stock for immediate shipment.

KNOBS



625
1000
1038

BINDING POSTS



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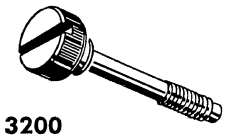
CAPTIVE SCREW



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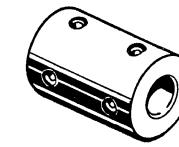

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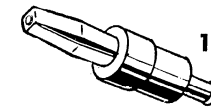
PLUGS



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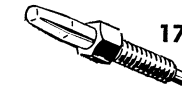

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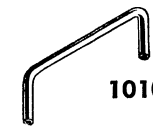
CHASSIS BEARINGS

1560

HANDLES



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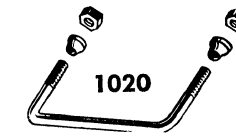

1020

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RCA TEST EQUIPMENT

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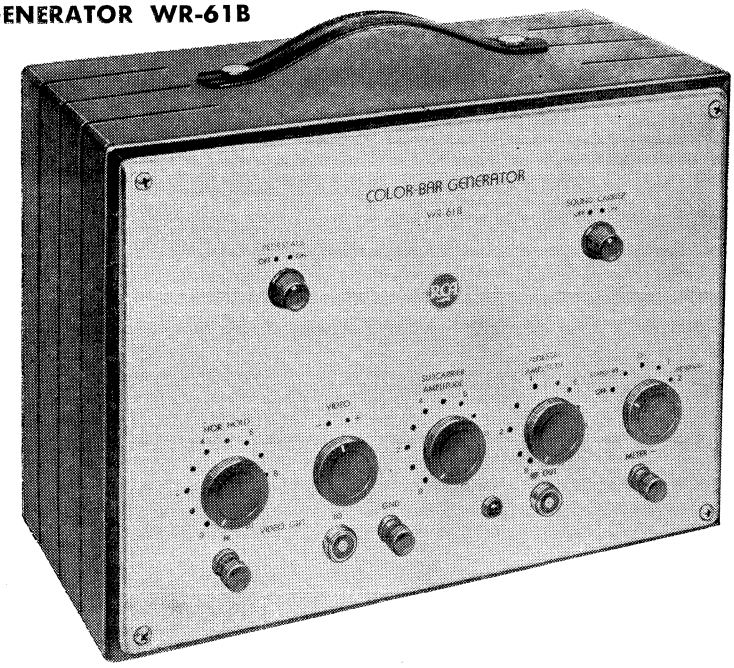
COLOR-BAR GENERATOR WR-61B



The RCA WR-61B Color-Bar Generator is a compact, lightweight instrument designed for use in checking the overall operation of color television receivers, and for adjusting monitors. The WR-61B generates the signals for producing 10 bars of different colors simultaneously (without manual switching), including the bars corresponding the R-Y, B-Y, G-Y, I, and Q signals. The bars are accurately spaced at 30-degree phase intervals.

The output signal from the WR-61B, fixed at channel 3, consists of an unmodulated sound carrier, and a picture carrier modulated by a color sub-carrier, and horizontal synchronizing pulses at 15,750 cps. The picture carrier, color subcarrier, sound carrier, bar frequency, and horizontal sync pulses are crystal controlled for accuracy and stability.

Separate video output, with reversible polarity, is available for checking studio monitors. Video output at the HI terminal is approximately 8 volts peak-to-peak across 4700 ohms.

189 Kc pedestals, adjustable in amplitude, provide luminous channel information.

Luminance signals are provided at the edges of the color bars to check the "fit" or registration of the luminance and chrominance signals. Amplitude of the color subcarrier and the bar signals is adjustable to facilitate checking color-sync lock action in the receiver.

The WR-61B is supplied with a shielded rf-output cable for connection to balanced 300-ohm inputs, and a shielded video cable for connection to 75-ohm video circuits.

$247.50 (User Price)*

Supplied with rf-output cable, video output cable, ground lead, TV-input adapter, instruction booklet.

* Optional. Prices higher in Alaska and Hawaii.

Electrical:

RF Output:

Frequencies ... 61.25 Mc, 65.75 Mc. TV (Channel 3)
Voltage ... at least 0.01 volt peak-to-peak
Composite Picture Signal ... 61.25-Mc picture carrier, 15,750-cps horiz. sync pulses, 3563.795-Mc color subcarrier keyed at 189 Kc
Sound Carrier Frequency ... 65.75 Mc (unmodulated)
Impedance (at end of rf-output cable) approx. 300 ohms

Video Output Voltage:

HI Terminal 8 volts peak-to-peak across 4700 ohms
LO Connector 0.25 volt peak-to-peak across 75 ohms

No. of Color Bars ... 10

Power Requirements:

Supply-Line Voltage ... 105-125 volts
Frequency ... 60 cps
Power Consumption ... 50 watts

Mechanical:

Dimensions:
Height ... 10 inches
Width ... 13½ inches
Depth ... 7½ inches

Weight (aaprox.):

Packed ... 17 lbs.
Unpacked ... 13 lbs.

Finish ... Blue-gray hammeroid case, brushed-aluminum panel

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RCA WR-46A VIDEO DOT/CROSSHATCH GENERATOR

The RCA WR-46A Video Dot/Crosshatch Generator is designed for use in checking and adjusting static and dynamic convergence in color-TV receivers and for checking the vertical- and horizontal-scanning linearity of both color and black-and-white television receivers. The unit is compact and portable, permitting use in the factory, service shop, or in the home, where installation of a color-TV receiver requires adjustment of the convergence circuits.

The WR-46A provides a choice of vertical-bar, horizontal-bar, dot, or crosshatch pattern output. The output signal is continuously adjustable in amplitude on all patterns from 0 to 35 volts peak as measured across a 4000-ohm load and is more than sufficient to drive either a black-and-white or color picture tube directly. This range of output makes it possible to inject the test-pattern signal directly into the grid or cathode circuits of black-and-white receivers, or into the three individual grid circuits or common cathode circuit of color picture tubes or into different points in the video-amplifier section of both black-and-white and color-TV receivers.

The number of dots or bars in a vertical row is adjustable from approximately 10 to 25 by means of a front-panel control. A brightness-equalizer control is provided to permit adjustment of the brightness ratios between the vertical and horizontal bars.

Special attention has been given to the synchronizing circuits in the WR-46A to produce a video test pattern which is exceptionally free of crawl and jitter. A synchronizing signal is taken from the TV receiver under test, after the receiver has been tuned to a broadcast signal, to synchronize the vertical- and horizontal-oscillators in the WR-46A. For best results, the horizontal and vertical sync in the receiver should be locked together by tuning in a broadcast signal on the receiver. The generator signal should then be locked to the receiver sync. If a generator employing only internal sync is used, it is possible to obtain proper static and dynamic convergence during the adjustment procedure but, unless the generator sync is crystal controlled, dynamic convergence may be unsatisfactory when a broadcast color picture is received.

Both "plus" and "minus" output is available, and the output leads are dc isolated, permitting connection into any section of the video amplifier. Three video-output leads, a sync-pickup lead, and a ground lead are supplied with the instrument. The output leads are coded red, green, and blue for connection to the "red", "green", and "blue" grids of color picture tubes in receivers which do not utilize the picture tube for matrixing. The output voltage is properly divided in the WR-46A so the correct voltage ratios are available at the output leads. In receivers which utilize the picture tube for matrixing, such as the RCA 21-CT-660-series receivers, only one lead need be connected to the common cathode circuit. The WR-46A is housed in a blue hammeroid case, has a brushed aluminum panel, and is equipped with a black leather carrying handle.

$179.50 (User Price)* The WR-46A is supplied complete with video output cable, sync-pickup lead, ground lead, and instruction booklet.

* Optional. Prices higher in Alaska and Hawaii.

SPECIFICATIONS

ELECTRICAL

Patterns:

Vertical Bars — 10 to 25, approx.; continuously adjustable

Horizontal Bars — 15

Dot

Crosshatch

Video Output:

Continuously adjustable, 0 to 35 volts peak across 4000-ohm load

Polarity — positive or negative

Power Characteristics:

Voltage — 117 volts

Frequency — 60 cps

Consumption — 85 watts

TUBE COMPLEMENT

5 RCA-12AT7	1 RCA-6AL5	1 RCA-6AX5-GT
1 RCA-6S4	1 RCA-6BQ7-A	1 RCA-6CL6
1 RCA-6U8		

MECHANICAL

Dimensions — 10" H x 13½" W x 8" D

Weight (approx.) — 17 lbs.

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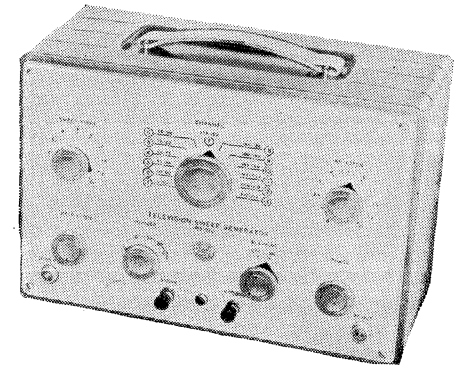
TELEVISION SWEEP GENERATOR WR-59C



Featuring preset sweep positions from channel 2 through channel 13, the WR-59C also provides a continuously adjustable video sweep signal from 50 Kc to 50 Mc. The WR-59C combines all the essential features required in a sweep generator for trouble-shooting and aligning both black-and-white and color receivers.

The WR-59C provides flat output on all channels. The push-pull oscillator provides output on fundamental frequencies and output is free of harmonics and spurious components. Output voltage is more than adequate for all service and manufacturing applications.

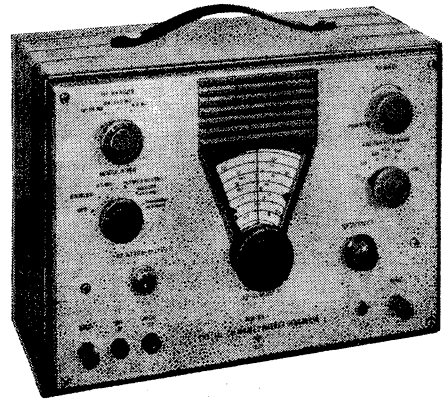
An outstanding feature of the generator is the dual-piston attenuator which provides smooth, even attenuation over a wide voltage range. Energy is capacitively coupled from the oscillator, and the attenuator may be set to give flat output from as low as 5 microvolts to as high as 100,000 microvolts.

Other features of this fine instrument include a blanking circuit, phasing control for use with an oscilloscope sweep, and a separate attenuator control for adjusting the output level of the video-frequency output signal.

RF ..... TV Channels 2 to 13-preset
Maximum Sweep Frequency is not less than 12 Mc
IF ..... 300 Kc to 50 Mc, continuous tuning
Sweep Width ..... continuously variable for both IF and RF ranges
Output Voltage (rms) ..... 0.1 volt min.
Cable Termination:
RF Positions ..... 300 ohms balanced
IF Position ..... 100 ohms
Maximum Attenuator Ratio:
RF Positions ..... 20000 to 1
IF Position ..... 4000 to 1
Maximum Amplitude Variation of Sweep Envelope
(at maximum rated sweep width) ..... All positions less than ±1 db
Horizontal Sweep for Oscilloscope:
Phase Adjustment Range ..... 160°
Frequency ..... Power Line
Tube Complement 2-6J6, 2-6C4, 1-6AT6, 1-6X4
Power Supply ..... 105/125 volts, 50/60 cps
Dimensions ..... 9¾" h, 13½" w, 7½" d
Weight ..... 20 lbs.
Finish ..... Blue-gray hammeroid case, satin-aluminum panel

$274.50 (User Price)* includes balanced 300-ohm rf output cable and resistance terminated if/vf-output cable, and instruction booklet.

CRYSTAL-CALIBRATED MARKER GENERATOR WR-89A



Featuring continuous tuning, the RCA WR-89A Crystal-Calibrated Marker Generator furnishes you with an rf carrier of crystal accuracy for use in aligning and trouble-shooting of TV and communications receivers, transmitters, and other equipment in such services as fm, aeronautical, and marine, operating in the frequency range of 19-260 Mc. Calibration of the generator may be checked at 2.5 Mc intervals throughout its tuning range by means of a built-in harmonic crystal oscillator of high accuracy.

In this one versatile instrument you not only get a multiple-marker generator, but also a very useful bar-pattern generator for checking both vertical and horizontal deflection linearity of a TV receiver. When video and sync information from an operating TV receiver is fed into the WR-89A, you can use the generator as a rebroadcast transmitter to produce a TV picture on any channel of another TV receiver.

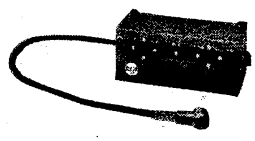
And when an external rf signal is fed into the WR-89A, you may also use the generator as a heterodyne frequency meter for measuring the frequency of the external signal.

These and other important advantages reflect the expert engineering and functional design of the WR-89A—assuring you the dependability so essential for today's critical testing requirements.

Variable-Frequency Oscillators:
Frequency Ranges (on Fundamentals) ..... 19-55 Mc
55-260 Mc
Output Voltage:
On VFO Ranges ..... at least 0.1 rms volt
On 4.5 Ms ..... at least 0.1 rms volt
Total Length of Dial Scale ..... 144 inches approx.
Fine Tuning Drive Ratio ..... 11.6 to 1
RF Attenuator:
Range of Attenuation ..... at least 60 db
Type ..... Single-piston capacitor
Output Cable Impedance ..... 90 ohms
2.5-Mc Crystal Calibrator:
Accuracy ..... ±0.01%
Total Number of Check Points 96
4.5-Mc Crystal Oscillator:
Accuracy ..... ±0.02%
Internal Modulation ..... 4.5 Mc, 4.5 Mc & 600 cps, 600 cps, 100-150 Kc
External Modulation Frequency ..... up to at least 10 Mc
Tube Complement 1-OA2, 1-6AS6, 1-6CB6, 1-6J6, 1-6U8, 1-6X4, 1-6X8, 1-12AT7
Power Supply ..... 105/125 volts, 50/60 cps
Power Consumption ..... 55 watts
Dimensions ..... 10" h, 13½" w, 7½" d
Weight ..... 15 lbs.
Finish ..... Blue-gray hammeroid case, satin-aluminum panel

$242.50 (User Price)* complete with rf-output cable, tubes, and instruction booklet.

VIDEO MULTIMARKER WG-295A



The RCA WG-295A Video MultiMarker provides five simultaneous absorption-type markers accurately preset at the following frequencies required in marking the video response curves in color receivers: 0.5 Mc (for Q filter); 1.5 Mc (for I filter); 2.5 Mc (for band-pass-filter); 3.58 Mc (color subcarrier frequency); 4.5 Mc (sound-trap frequency).

Each of the marker frequencies in the WG-295A is definitely and quickly identified simply by touching the corresponding contact on the MultiMarker; this has the effect of reducing the amplitude of the particular marker notch. The WG-295A is connected between the IF/VF output on the sweep generator and the regular video output cable.

$24.95 (User Price)*

* Optional. Prices higher in Alaska and Hawaii.

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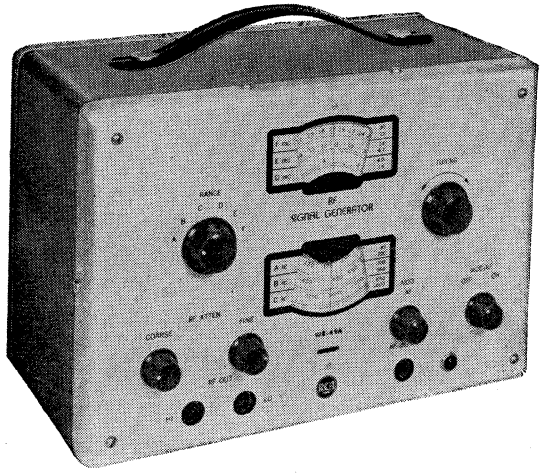
RF SIGNAL GENERATOR WR-49A



You don't have to bother with the nuisance job of connecting dc blocking capacitors to the probe tip of the RCA WR-49A RF Signal Generator, because it has built-in dc blocking capacitors. With it, you can inject rf signals into plate circuits and other points where dc is present without placing a dc load on the circuit under test—and with protection from burn-out in both the equipment and signal generator.

The functional-design dial facilitates accurate and easy readings. And full-length shielding of the output cable minimizes radiation and hum pickup in the receiver under test or adjacent test equipment. And that's not all! The extremely stable cathode-follower output stage isolates the oscillator from effects of load reactance and resistance, thereby maintaining good output waveform, voltage regulation, and frequency stability.

Compact and lightweight, the WR-49A can be depended upon in such applications as alignment and signal tracing of am and fm radio receivers, alignment of low-frequency if amplifiers in TV receivers, and signal tracing and trouble-shooting in TV receivers.

(Performance figures taken at line voltage of 117 volts, 60 cps)

RF Characteristics:
- Six Ranges:
  - "A" Range ..... 85 Kc to 200 Kc
  - "B" Range ..... 200 Kc to 550 Kc
  - "C" Range ..... 550 Kc to 1600 Kc
  - "D" Range ..... 1.6 Mc to 4.8 Mc
  - "E" Range ..... 4.7 Mc to 14 Mc
  - "F" Range ..... 13 Mc to 30 Mc
- Maximum RF Output Voltages** (all ranges):
  - At RF OUT HI Connector ..... at least 0.05 rms volt
  - At RF OUT LO Connector ..... at least 0.01 rms volt
- Accuracy of Dial Calibration ..... ±1%
- Attenuator Range ..... 65 db
- Internal Modulating Frequency ..... approx. 400 cps
- Internal Percentage of Modulation† ..... adjustable up to 70%
- Audio-Frequency Output ..... at least 8 rms volts across 15,000-ohm load
- External Modulation:
  - Modulating Frequency ..... 15 Kc max.
  - Voltage Required for 30% modulation using 400 cps† ..... 10 rms volts
  - Impedance at AF IN/OUT connector (400 cps) ..... approx. 16,000 ohms
- Tube Complement 1 RCA-12AU7, 1 RCA-6C4
- Power Characteristics:
  - Supply Voltage ..... 105/125 volts, 50/60 cps
  - Consumption ..... 15 watts
- Dimensions ..... 7½" h, 10½" w, 6" d
- Weight ..... 8 lbs.
- Finish ..... Blue-gray hammercoid case, satin-aluminum panel

**Open-circuit value.

† With WR-49A tuned to 1 Mc.

$59.50 (User Price)* complete with tubes, output cable, and instruction booklet.

AUDIO SIGNAL GENERATOR WA-44B

You'll find the WA-44B excellent for: amplifier frequency-response checks; use in measuring intermodulation distortion in amplifiers; frequency response checks of tone controls; running frequency response curves on phonograph equalizers; checking input and output impedances of amplifiers; use in measuring resonance frequency of loudspeakers and speed of recorder/reproducer mechanisms.

And this compact, lightweight instrument is equally useful in: tuning bass-reflex enclosures; determining unknown audio frequencies; determining inductance and capacitance; audio signal tracing; determining the resonance frequency of LC circuits; and locating cabinet resonance and rattles. The RCA WA-44B features a new RC-type oscillator having a wide frequency range, which facilitates checking response of high-fidelity amplifiers, and an age control circuit which insures stable performance. The output is flat within ±1 db over the entire frequency range.

- Frequency Ranges:
  - "A" band ..... 11 to 110 cps
  - "B" band ..... 110 to 1100 cps
  - "C" band ..... 1.1 to 11 kc
  - "D" band ..... 11 to 100 kc
- Frequency Response ..... ±1 db from 11 cps to 100 kc with a reference frequency of 1100 cps
- Frequency Stability ..... ±3% or better, under normal operating conditions
- Output Voltage (continuously variable):
  - "HI" ..... 15 volts rms (max.)
  - "LO" ..... 2.5 volts rms (max.)
- Total Harmonic Distortion ..... 2% or less from 30 cps to 15 kc
- Hum Level ..... 0.1% or less of rated output
- Power Characteristics:
  - Supply Voltage ..... 105-125 volts, 50/60 cps.
  - Consumption ..... 35 watts
  - Tube Complement 6BH6, 6AK6, 6AQ5, OA2, NX4
- Dimensions ..... 7" high x 10½" wide x 6" deep
- Weight ..... 10 lbs.
- Finish ..... Blue-gray hammercoid case, satin aluminum panel

$107.50 (User Price)* complete with tubes, output cable, and instruction booklet.

* Optional. Prices higher in Alaska and Hawaii.

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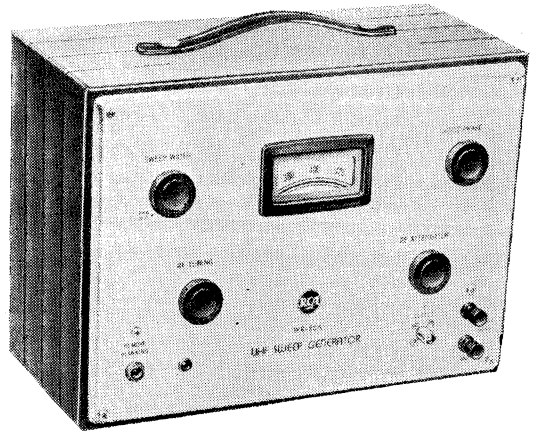
UHF SWEEP GENERATOR WR-86A



"Laboratory performance for the price of a service instrument" best characterizes the WR-86A. Invaluable for UHF TV applications from 300 to 950 Mc, this UHF sweep generator combines a wide sweep range with a high output voltage of excellent amplitude linearity. A blanking circuit is included to provide a reference base line on an oscilloscope. Horizontal sweep frequency for the 'scope can be obtained from front-panel terminals. The WR-86A has 50-ohm output and will work into a 50-ohm unbalanced load or, with the WG-296 padded balun provided, into a 300-ohm balanced load. Use accessory WG-298A UHF Demodulator for visual observation and measurement of standing-wave ratio of termination on 300-ohm line.

- Output frequency continuously variable on center frequencies from 300 to 950 Mc.
- Sweep width is 10% of indicated dial frequency up to 750 Mc; 75 Mc width from 750 to 950 Mc.
- Adjustable piston-type attenuator gives 60 db range of attenuation.
- At least 0.6-volt output across either 50 ohms or 300 ohms.
- Ampltitude variation at maximum sweep width no greater than 0.1 db/Mc.
- Lightweight and portable; attractively styled.

Electrical:

Sweep Oscillators:

Frequency Range (Continuously variable): Center frequencies from 300 to 950 Mc.

Sweep Width (Continuously variable): 10% of indicated dial frequency up to 750 Mc; 75 Mc from 850 to 950 Mc.

Output System:

Attenuator: Type ..... Piston; Range ..... 60 db

Output: Impedance ..... 50 ohms †; Voltage, across 50-ohm load or across loaded 300-ohm balun at least 0.6 volts

Amplitude Variation of sweep envelope at maximum sweep width** ..... 0.1 db/Mc Max.

Power Supply:

Voltage ..... 105-125 volts
Frequency ..... 60 cps
Power ..... 60 watts

Mechanical:

Dimensions ..... 13½"L, 9¾"H, 7½"D
Weight ..... 14 lbs.
Finish ..... Blue-gray hammeroid

† A 50-to-300 ohm balun (RCA WG-296) for matching the WR-86A to loads of 300 ohms is supplied with the instrument.

** When connected across properly terminated load of 50 ohms.

$275.00 (User Price)* complete with rf output cable (4 feet long), WG-296 50-to-300-ohm Padded balun, WG-227 rf output cable, and instruction book.

5-INCH OSCILLOSCOPE WO-78A

The WO-78A Oscilloscope is a dual-bandwidth oscilloscope designed especially for both color and black-and-white TV equipment production and servicing, and other applications requiring an instrument of high sensitivity and wide-band response. Bandwidth is changed by means of a front-panel switch.

The WO-78A has excellent phase characteristics throughout its 4.5-Mc band pass range. Push-pull output stages in both the vertical and horizontal amplifiers minimize "line bounce", "cross-talk," and astigmatism.

An outstanding feature of the new WO-78A is the push-button voltage calibration which eliminates the need for external connections and does not require that the probe and cable be disconnected from the test circuit. This calibration feature, combined with flat frequency response out to 4.5 Mc, make possible simultaneous voltage measurement and waveshape observation of such critical waveforms as the color-sync burst in color-Tv receivers. Other features of this fine instrument include a horizontal sweep oscillator having a frequency range from 10 cps to 100 Kc, front-panel switch positions for locking in on TV-line and field-scanning frequencies, automatic sync-signal limiting, a feature which eliminates the need for a separate sync-injection control, and a flat-faced high-sensitibity cathode-ray tube.

Frequency Response:

Vertical Amplifier:
Wide Band ..... 3 cps to 4.5 Mc within −1 db
Narrow Band ..... 3 cps to 500 Kc within −3 db
Horizontal Amplifier ..... 3 cps to 1.0 Mc within −6 db

Deflection Sensitivity:

Vertical Amplifier:
Wide Band ..... 100 mv p-p per inch
Narrow Band ..... 10 mv p-p per inch
Horizontal Amplifier 200 mv p-p per inch

Sweep Frequencies:

Variable ..... 10 cps to 100 Kc
Preset ..... Submultiple of 60 and 15,750 cycles

Synchronization ..... Automatic

Attenuators (Frequency compensated on all positions):

Wide Band ..... 7 positions from 0.10 to 100 p-p volts
Narrow Band ..... 7 positions from .010 to 10 p-p volts

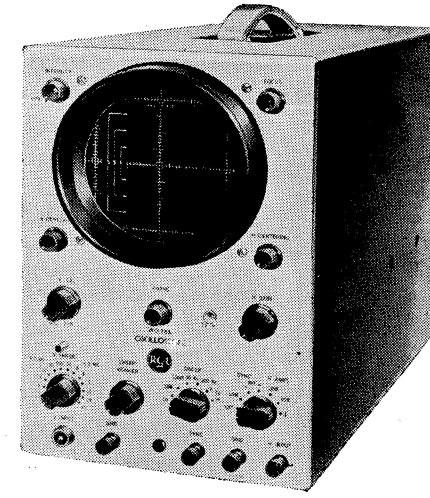
Calibration ..... Built-in with push-button control

Power Supply ..... 105/125 volts, 50-60 cps

Dimensions ..... 13¼" h, 9" w, 19¼" d

Weight (shipping) ..... 58 lbs.

Finish ..... blue-gray hammeroid case satin-aluminum panel



$425.00* includes WG-294 Direct Probe and Cable, WG-293 Low-capacitance Probe, alligator clip, ground cable, insulator, green graph screen, instruction booklet. (User Price)*

* Optional. Prices higher in Alaska and Hawaii.

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RCA TEST EQUIPMENT

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7" OSCILLOSCOPE WO-56A

Featuring identical, direct-coupled vertical and horizontal amplifiers, the WO-56A 7-inch oscilloscope provides facilities which allow fast and accurate trouble-shooting of TV receivers. The identical amplifiers also permit the use of the WO-56A in special applications.

Each amplifier consists of three push-pull stages of amplification, a feature which provides high deflection sensitivity with good stability. The trace can be expanded to approximately three times the diameter of the screen and centered on any portion for examination of waveshape details. The use of push-pull stages also reduces astigmatic distortion, thus providing a uniformly sharp trace over the entire useful area of the screen.

The seven-inch cathode-ray tube gives a large, clear display for accuracy in alignment applications. The metal shield which surrounds this tube greatly minimizes hum pickup, thereby eliminating the necessity of carefully arranging sets and equipment on the service bench to avoid hum pickup. A retractable light shield and a green graph screen reduce ambient-light reflections on the face of the tube.

Although designed primarily for television servicing, the WO-56A can be used in industrial applications as well as in the usual oscilloscope applications, such as waveshape analysis, adjustment of radio receivers and transmitters, determination of peak-to-peak and instantaneous voltages, and tracing vacuum-tube characteristics.

Frequency Response:

Vertical Amplifier

Flat from 0 to 500 Kc within — db
Flat from 0 to 1 Mc within —6 db

Input Resistance and Capacitance:

Vertical Amplifier
With Direct Probe and Cable WG-218
1 megohm shunted by 75 $\mu\mu f$
With Low-Capacitance Probe WG-216B
10 megohms shunted by 9.5 $\mu\mu f$

Horizontal Amplifier
1 megohm shunted by 35 $\mu\mu f$

Sync Input.....1 megohm shunted by 35 $\mu\mu f$

Deflection Sensitivity:

Vertical Amplifier	Millivolts per inch rms	p-p
With Direct Probe and Cable WG-218	10.6	30.9
With Low-Capacitance Probe WG-216B	106.0	300.0
Horizontal Amplifier	21.2	60.0

Sweep Frequencies:

Variable .....3 cps to 30,000 cps
Preset { "TV/V" position approx. 30 cps; "TV/H" position approx. 7875 cps }

Power Supply.....105/125 volts, 50/60 cps

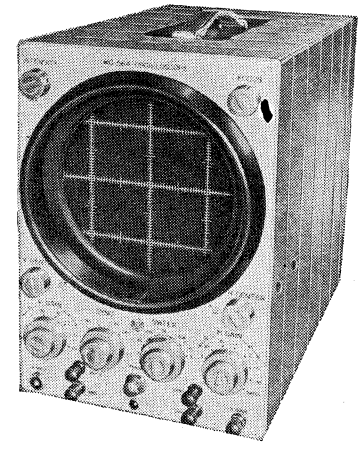
Tube Complement.....4-BH6, 5-12AU7, 1-6X4, 1-1V2, 1-7JP1

Dimensions.....13⅜" h, 9" w, 16⅝" d

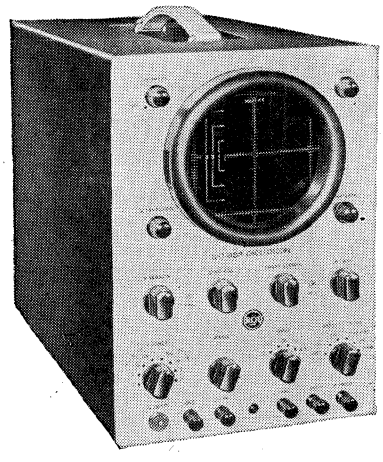
Weight .....31 pounds

Finish.....Blue-gray hammeroid case satin-aluminum panel

$274.50 (User Price)* complete with matched probes and cables, including the WG-216B Low Capacitance Probe.



5" OSCILLOSCOPE WO-88A



If your present 'scope is a temperamental performer on the service bench, or if your business is limited by "substitute" TV servicing methods, you owe it to yourself to find out about the "88."

"Superlative in its price class" best describes this new 5" 'scope.

Tops on the list of quality features is the 88's "picture-perfect" square-wave response and its remarkably faithful reproduction of horizontal and vertical sync and blanking pulses, sweeep alignment traces, and other complex wave-shapes encountered in TV servicing.

A direct-coupled push-pull, two-stage vertical amplifier with frequency-compensated and voltage-calibrated attenuators gives the "88" plenty of deflection sensitivity with a uniform frequency response maintained over the entire range of the attenuators. And sync action is exceptionally stable over the entire range of the 'scope.

You will find such quality extras as — front-panel source of calibrating voltage, graph screen scaled directly in peak-to-peak volts, "plus" and "minus" sync, 60-cycle sweep with wide angle phasing control, special maintenance control adjustments accessible from outside of cabinet, high-impedance input, and many others in the new RCA "88."

WG-388A **Wide Band Modification Kit . . .** to adapt the WO-88A Oscilloscope for Color TV.
The WG-388A Modification Kit includes all parts and a detailed instruction bulletin for modifying the WO-88A to provide for both narrow-band and wide-band operation from dc to 4.5 Mc. With the modified WO-88A, it is possible to observe and measure the color-burst signal and trouble-shoot in the chromjnance circuits of color television receivers.
$5.95 (User Price)* complete with instruction bulletin.

Frequency Response (minimum values):

Vertical Amplifier:
From 0 to 100 Kc.....flat
At 500 Kc.....within —3 db
At 1 Mc.....within —10 db
Rise Time .....0.5 microsecond or better

Horizontal Amplifier: (reference frequency 1000 cps)
At 10 cps.....within —1 db
At 200 Kc.....within —6 db

Deflection Sensitivity (minimum limits):

Vertical Amplifier:	Volts Per Inch rms	p-p
With WG-218 Direct Probe and Cable	0.025	0.07
With WG-216B Low-Capacitance Probe	0.25	0.7
Horizontal Amplifier	0.6	1.7
Calibrating Voltage	0.35	1.0

Input Resistance and Capacitance:

Vertical Amplifier:
With WG-218 Direct Probe and Cable .....1 megohm shunted by 75 $\mu\mu f$
With WG-216B Low Capacitance Probe .....10 megohms shunted by 9.5 $\mu\mu f$
Horizontal Amplifier:
At Input Terminals .....2.2 megohms shunted by 55 $\mu\mu f$
Sweep-Circuit Frequency.....(Four Ranges) 15 cps to 30 Kc
Tube Complement.....1-6X4, 1-12AU7, 2-6AU6, 1-1V2, 2-12AT7, 1-5UP1
Power Supply .....105/125 volts, 50/60 cps
Dimensions .....13½" h, 9" w, 16½" d
Weight .....25 lbs.
Finish.....Blue-gray hammeroid case, frosted-aluminum panel

$169.50 (User Price)* complete with matched probes and cables, including the WG-300A Direct/Low-Capacitance Probe and Cable and instruction booklet.

* Optional. Prices higher in Alaska and Hawaii.

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SENIOR VOLTOHMYST WV-98A

The WV-98A Senior VoltOhmyst is an ultra-modern vacuum-tube voltmeter which is completely new in size, shape, and design.

The new Senior VoltOhmyst incorporates all the important time-proved performance features of earlier VoltOhmyst and includes an improved circuit providing 3 percent accuracy on ac and dc voltage measurements; and a big, full-vision meter face with one of the easiest reading scales ever designed into a vacuum-tube voltmeter, and a rugged die-cast aluminum case.

The new instrument features a high-impedance, frequency-compensated attenuator network used in conjunction with a full-wave vacuum-tube detector. This combination permits rectification and transfer of an ac voltage, in a circuit under test, to the sensitive electronic bridge in the instrument without undue frequency discrimination, waveform error, or circuit loading.

With the WV-98A, you can readily obtain quantitative measurements of practically all of the important complex-waveform voltages found in video, sync. and deflection circuits. The instrument permits direct reading of peak-to-peak voltages up to 4,200 volts.

Like all RCA VoltOhmysts, it has high input resistance, electronic protection against burnout, zero-center scale, molded plastic meter case, rugged 200 microampere meter movement, ±1% multiplier resistors, and other outstanding VoltOhmyst extras.

The WV-98A is supplied with the WG-299B DC/AC-Ohms Probe and Shielded Cable. The WG-299B single-unit, switch probe is designed with a handy built-in switch for simple finger-tip selection or dc or ac-ohms operation.

CHARACTERISTICS

DC Voltmeter:
- Seven continuous ranges.....0 to 1.5, 5, 15, 50, 150, 500, 1500 volts
- Input Resistance (including 1 megohm in probe):
  - All Ranges .....11 megohms
- Sensitivity for the 1.5-volt range.....7.3 megohms-per-volt
- Overall accuracy.....±3% of full scale

AC Voltmeter—Fourteen continuous ranges:
- Peak-to-peak ranges.....0 to 4, 14, 42, 140, 420, 1400, 4200 volts
- RMS ranges (for sine waves).....0 to 1.5, 5, 15, 50, 150, 500, 1500 volts
- Input resistance and capacitance with WG-299B set to AC-OHMS:
  - 1.5, 5, 15, 50, 150-volt ranges
    0.83 megohm (min.) shunted by 70 $\mu\mu f$
  - 500-volt range
    1.3 megohms shunted by 60 $\mu\mu f$
  - 1500-volt range
    1.5 megohms shunted by 60 $\mu\mu f$
- Frequency response with WG-299B set to AC-OHMS
  - 1.5, 5, 15, 50, 150, 500-volt ranges flat from 30 cps to 3 Mc for voltage source having 100-ohm impedance, or lower
- Overall accuracy:
  - All ranges.....±3% of full scale

Maximum Input Voltages:
- DC voltage (with no ac voltage present) .....1500 volts
- AC voltage (with no ac voltage present):
  - RMS for sine waves.....1500 volts
  - Peak-to-peak for sine waves....4200 volts
  - Peak-to-peak for complex waves 2000 volts
- Combined ac and dc voltages:
  - Sum of dc and peak ac voltages 2000 volts

Ohmmeter:
- Seven continuous ranges..0 to 1000 megohms
- Center scale values.....10, 100, 1000, 10,000 ohms; 0.1, 1, 10 megohms

Tube Complement....1 RCA-6AL5, 1 RCA-12AU7

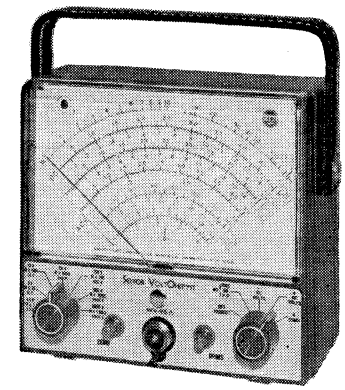
Power Supply:
- Voltage rating .....105-125 volts
- Frequency rating .....50/60 cps
- Power Consumption (approx.).....5 watts

Battery (1.5-volt cell).....1 RCA-VSO36

Overall Dimensions.....6½" h, 7" w, 3¾" d

Weight .....6 lbs.

Finish.....blue-gray hammeroid case—satin-aluminum panel



$75.00 (User Price)* complete with new single unit, switch-probe, WG-299B DC/AC-Ohms Probe and Shielded Cable, ground lead, and instruction booklet.

JUNIOR VOLTOHMYST WV-77B

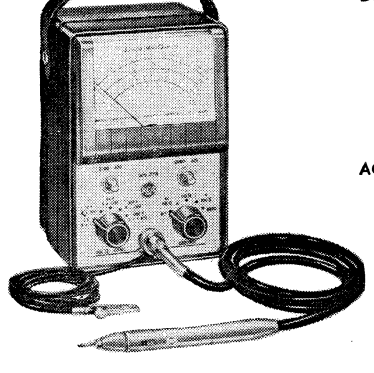
The new RCA WV-77B Junior VoltOhmyst embodies several new design features in addition to operational characteristics which have made earlier versions of the instrument the choice of thousands in radio and TV servicing, industry, electronics, communications, broadcasting, and in the armed forces. The new instrument is factory assembled, factory wired, and factory tested; it is factory calibrated with the finest laboratory standards.

Using the reliable VoltOhmyst bridge circuit, a sensitive 200-microampere meter movement, and ±1% carbon-film multiplier resistors, the all-electronic WV-77B incorporates features usually found in more expensive instruments. As a DC Voltmeter, it measures from 0.05 volt to 1200 volts in five ranges, even in presence of ac. Less than 3 uuf input capacitance with 11-megohm input resistance makes the WV-77B invaluable for dc measurements in avc, oscillator, and other high-impedance circuits.

As an ac voltmeter, the WV-77B measures from 100 millivolts to 1200 volts (rms) in five ranges. High ac-input impedance of vacuum-diode signal rectifier permits use in audio and rf applications. Frequency range is flat with 1 db from 30 cps to 3 Mc, and from 50 kc to 250 Mc when used with the WG-301A accessory probe.

As a wide-range ohmmeter, the WV-77B measures resistance from 0.2 ohm to 1-billion ohms in five ranges. Danger of burnout of low-current devices such as battery-tube filaments is minimized by use of a single 1.5-volt battery in the ohmmeter circuit. The meter is electronically protected against burnout on all functions.

SPECIFICATIONS



DC Voltmeter
- Ranges .....0 to 3, 12, 60, 300, 1200 volts
- Constant Input Resistance (With DC Probe WG-299A).....11 megohms
- Accuracy:
  - With function selector set on "+Volts" ±3% of full scale
  - With function selector set on "−Volts" ±5% of full scale

AC Voltmeter:
- Ranges (rms).....0 to 3, 12, 60, 300, 1200 volts
- Accuracy .....±5% of full scale
- Input Characteristics:
  - 3, 12, and 60-volt ranges 0.2 megohm shunted by 75 $\mu\mu f$
  - 300-volt range 1.0 megohm shunted by 50 $\mu\mu f$
  - 1200-volt range 2.0 megohm shunted by 50 $\mu\mu f$
- Frequency Response†
  - Flat within ±1 db from 30 cps to 3 Mc
  - With Crystal-Diode Accessory Probe WG-301A Flat within ±1 db from 50 Kc to 250 Mc

Ohmmeter:
- Ranges, five .....0 to 1,000 megohms
- Center Scale Values.....10, 1000, 10,000 ohms; 1.0, 10 megohms

Power Supply....105-125 volts, 50-60 cps, 5 watts (approx.)

Tube and Battery Complement: (1) RCA 12AL5, (1) RCA 12AU7, (1) VSO36

Over-all dimensions.....8" h, 5⅜" w, 4½" d

Weight .....4 lbs.

† On 3, 12 and 60-volt ranges with source impedance of 100 ohms.

$55.00 (User Price)* complete with new, single-unit WG-299B DC/AC-Ohms Probe and cable, ground lead, and instruction booklet.

* Optional. Prices higher in Alaska and Hawaii.

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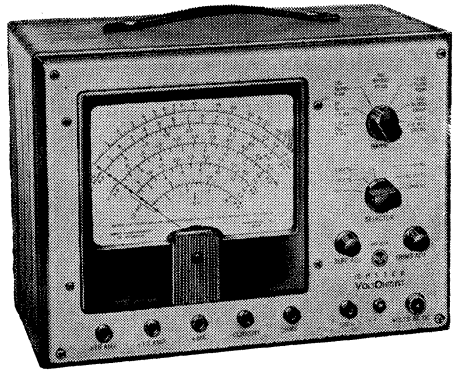
MASTER VOLTOHMYST WV-87A



Featuring a 7½" meter, the new WV-87A Master VoltOhmyst is the deluxe member of the RCA VoltOhmyst family. Its peak-to-peak scales are particularly useful for television, radar, and other types of pulse work.

The WV-87A measures dc voltages accurately in high-impedance circuits, even with ac present. It also reads rms values of sine waves and the peak-to-peak values of complex waves or recurrent pulses, even in the presence of dc.

Like all RCA VoltOhmysts, the WV-87A features ±1% multiplier and shunt resistors, a ±2% meter movement, high-input resistance, zero-center scale adjustment for discriminator alignment, dc polarity-reversing switch, and a sturdy metal case for good rf shielding.

The RCA WV-87A Master VoltOhmyst has the accuracy and stability necessary for many laboratory applications. Its large, easy-to-read meter also makes it especially desirable as a permanently mounted instrument in the factory and repair shop.

DC Voltmeter:
- Ranges ..... 0 to 1.5, 5, 15, 150, 500, 1500 volts
- Input Resistance All Ranges ..... 11 megohms
- Sensitivity on 1.5-V Range ..... 7.3 megohms/volt
- Overall Accuracy ..... ±3% of full scale

AC Voltmeter:
- Ranges:
  - RMS Values of Sine Waves ..... 0 to 1.5, 5, 15, 50, 150, 500, 1500 volts
  - Peak-to-Peak Values of Sine Waves and Complex Waves ..... 0 to 4, 14, 42, 140, 420, 1400, 4200 volts
- Overall Accuracy ..... ±5% of full scale
- Input Resistance and Capacitance (With Direct Probe and Cable WG-218) 1.5, 5, 15, 50, 150, V Ranges ..... 0.83 meg. shunted by 85 $\mu\mu f$
- Frequency Response (up to and including the 500-volt range)
  - For Source impedances of approximately 100 ohms or lower ..... 30 cps to 3 Mc
  - For Souce impedances of approximately 1000 ohms or lower ..... 30 cps to 500 Kc

Ohmmeter:
- 0 to 1000 Megohms in 7 Ranges ..... Rx1, Rx10, Rx100, Rx1000, Rx10K, Rx100K, Rx1 Meg.

Direct-Current Meter:
- Ranges, Nine ..... 0 to 0.5, 1.5, 5, 15, 50, 150, 500 milliamperes; 0 to 1.5, 15 amperes
- Overall accuracy ..... ±3% of full scale

Tube and Battery Complement 2-6AL5, 1-12AU7, 1-VS036
Power Supply ..... 105/125 volts, 50/60 cps
Dimensions ..... 10" h, 13½" w, 7" d
Weight ..... 8 pounds
Finish ..... Blue-gray hammeroid case, satin-aluminum panel

$112.50 (User Price)* complete with probes and cables, including: Direct Probe and Cable, DC/Direct Switch Probe, Ohms Probe and Cable, Positive Current Lead, Negative Current Lead, Ground Lead, and instruction booklet.

ULTRA-SENSITIVE DC MICROAMMETER WV-84A

A battery operated microammeter, the RCA WV-84A is capable of reading from 0.002 to 1000 microamperes in six ranges. The WV-84A can be used with an external battery to measure resistance values as high as 90,000 megohms or may be used with an external resistor as a voltmeter with an input resistance of at least 100 megohms per volt.

Circuit features of the WV-84A include negligible loading of the circuit under test, meter movement electronically protected against burn-out, and a self-contained battery power supply which makes the instrument completely portable.

The WV-84A is finding increased use by research laboratories in many fields — chemistry, medicine, electro-mechanics, electronics, nucleonics — for conducting experiments involving feeble currents. Industrial users find it an excellent instrument for making current and voltage measurements in electrolysis and corrosion investigations. The WV-84A may also be used for checking currents in light meters, in ultra-violet and infra-red detectors, and in spectrophotometric devices.

DC Microammeter:
- Ranges, Six—0 to 0.01, 0.1, 1, 10, 100, 1000ua
- Overall Accuracy:
  - On X.01 Range ..... ±5% of full scale
  - On all other ranges ..... ±4% of full scale
- Voltage drop on all ranges ..... 0.5 volts

DC Voltmeter:
- Ranges and Input Resistance:
  - 0 to 1-Volt Range ..... 100 megohms
  - 0 to 10-Volt Range ..... 1000 megohms
  - 0 to 100-Volt Range ..... 1005 megohms

Megohmmeter:
- Ranges, Two ..... 900 to 9000, 9000 to 90000 megohms
- Tube and Battery Complement ..... 2 RCA-3S4, 2 RCA-VS106 1½ volts, 2 RCA-VS102 22½ volts

Dimensions ..... 9½" h x 6¼" w x 5$\frac{11}{16}$" d
Weight ..... 9½ lbs. (including batteries)

$100.00 (User Price)* includes instruction booklet, and two precision multiplier resistors, less batteries.

* Optional. Prices higher in Alaska and Hawaii.

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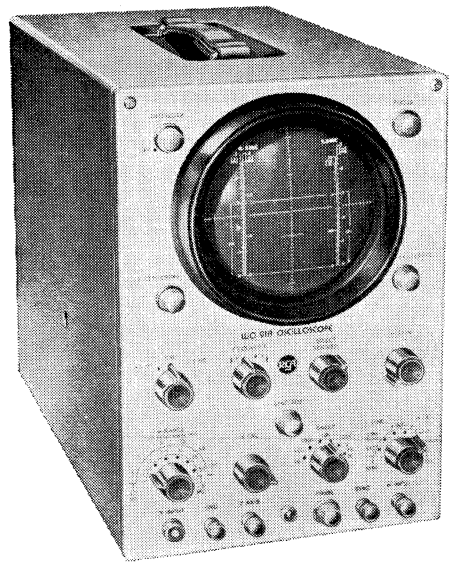
5-INCH OSCILLOSCOPE COLOR AND BLACK & WHITE WO-91A



$229.50 (User Price)* — Supplied with WG-300A Direct/Low-Capacitance Probe and Cable, Alligator Clip, clip insulator, ground cable, green graph screen, instruction booklet.

The WO-91A is a new low-cost, 5-inch oscilloscope designed for use in production and servicing of both black-and-white and color-TV receivers. It incorporates all the 'scope functions needed to trouble-shoot and repair black-and-white and color sets. The WO-91A can be used to observe and measure color burst signals and is equally useful for signal tracing and aligning wide-band video amplifiers and in chrominance circuits. It includes a multi-scale graph screen, scaled directly in volts, which makes direct measurement of peak-to-peak voltages as simple as with a VTVM. Has 2-position switch in vertical amplifier which gives choice of wide-band or narrow-band (high sensitivity) operation. Frequency response: Wide-band position, within ±1 db from 10 cps to 4.5 Mc; Narrow band position, within —1 db from 10 cps to 0.5 Mc; within —6 db at 1.5 Mc. Sensitivity: 0.05 volt peak-to-peak per inch (0.018 volt rms) in narrow-band position: 0.15 volt peak-to-peak per inch (0.053 volt rms in wide-band position).

- Voltage-calibrated, frequency - compensated, 3-to-1 step attenuator for "V" amplifier.
- Simplified, semi-automatic voltage calibration for simultaneous voltage measurement and waveshape display.
- Vertical-polarity reversal switch for "up-right" or "inverted" trace display.
- Sturdy single unit Low-Capacitance/Direct Probe and Cable minimizes circuit loading.
- Shielded vertical-input connector and shielded cable for minimizing hum and stray field pick-up.
- Z-Axis input.
- Preset "V" and "H" sweep positions.
- "Plus" or "minus" internal-sync selector.
- Positive-lock internal sync.

SPECIFICATIONS

Frequency Response:†

Vertical Amplifier:
- Wide-Band Positions (10 cps to 4.5 Mc) ..... within ±1 db
- Narrow Band (High-Sensitivity) Positions
  - 10 cps to 0.5 Mc ..... within —1 db
  - 10 cps to 1.5 Mc ..... within —6 db
- Horizontal Amplifier (10 cps to 500 Kc) ..... within —6 db

Deflection Sensitivity: Vertical Amplifier:	4.5-Mc (Wide-Band) Positions rms	4.5-Mc (Wide-Band) Positions p-p	1.5-Mc (High-Sensitivity) Positions rms	1.5-Mc (High-Sensitivity) Positions p-p
At V INPUT Connector	0.058	0.15	0.018	0.05 volt/in
With WG-300A set to "DIRECT"	0.053	0.15	0.018	0.05 volt/in
With WG-300A set to "LOW CAP"	0.53	1.5	0.18	0.5 volt/in

Horizontal Amplifier (at H INPUT terminal) ..... 0.18 rms volt/in

Rise Time (Vertical Amplifier)
- 4.5-Mc Positions ..... 0.1 μsec
- 1.5-Mc Positions ..... 0.5 μsec

Input Resistance and Capacitance:

Vertical Amplifier:
- At V INPUT connector ..... 1 megohm shunted by 40 μμf
- With WG-300A probe set to "DIRECT" ..... 1 megohm shunted by 75 μμf
- With WG-300A probe set to "LOW CAP" ..... 10 megohms shunted by 11 μμf

Horizontal Amplifier (At H INPUT terminal) ..... 2.2 megohm shunted by 30 μμf

SYNC Input Terminal ..... 0.5 megohm shunted by 35 μμf

Sweep Oscillator:
- Frequency Range (continuously adjustable) ..... 10 cps to 100 Kc
- Preset Positions ..... 30 cps (TV "V"); 7875 cps (TV "H")

Z-Axis Input:
- Minimum input voltage for blanking ..... 12 rms volts
- Frequency response ..... 3 cps to 500 Kc

Power Requirements:
- Voltage ..... 105-125 volts
- Frequency ..... 50-60 cps
- Average, Power Consumption ..... 65 watts

Tube Complement

1 RCA-6AN8, 2 RCA-6J6, 1 RCA-12AT7 ,1 RCA-12AU7, 1 RCA-12AX7, 1 RCA-5Y3, 1 RCA-1V2, 1 RCA-5UP1

Mechanical
- Height ..... 13½"
- Width ..... 9"
- Length ..... 16½"
- Weight (net) ..... 30 lbs.

† Reference Frequency, 10 kc

* Optional. Prices higher in Alaska and Hawaii.

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RCA TEST EQUIPMENT

FOR SERVICE • INDUSTRY • SCHOOLS • LABORATORIES

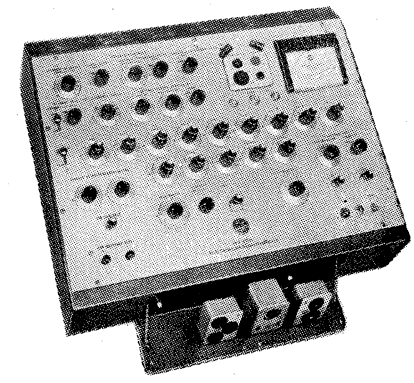
ELECTRON-TUBE MICROMHOMETER WT-100A

The RCA WT-100A Electron-Tube MicroMhoMeter is a laboratory-quality instrument which brings a reliable concept of tube-testing technique to users of tubes on the production-line, in the laboratory, and in circuit design. A uniquely designed, compact, self-contained unit, it offers a versatility and accuracy which compares favorably with more elaborate and complex tube-factory equipment used for measuring transconductance. This remarkable instrument provides test results which correlate with tube manufacturers' published data.

The RCA WT-100A makes it possible to test tubes under actual voltage and current conditions . . . to set up tests from tube manufacturers' published data . . . to obtain test results in terms of actual performance, which can be evaluated against original specifications. Now, true transconductance readings can be obtained simply and quickly on a "portable-type" instrument with a single, direct-reading meter.

In addition to testing tubes at published ratings, the instrument can also be set up to provide the operating voltage for a circuit of specific design to determine the performance of the tube under the desired circuit conditions.

The wide range of controls, the flexibility, and the accuracy of the WT-100A makes this instrument an invaluable tool for testing tubes where accuracy and proper evaluation of test results is required.



SPECIFICATIONS

(Based on a line voltage of 117 volts, 60 cps.)

ELECTRODE TEST VOLTAGES
- Plate—Continuously adjustable from 40-300 volts at currents from 300 to 100 ma
- Grid-No. 3—0-100 volts in four ranges 0 to 3, 10, 30, 100 volts
- Grids-No. 2 and No. 4—Continuously adjustable from 0-300 volts at currents up to 30 ma
- Grid-No. 1—0-100 volts in four ranges 0 to 3, 10, 30, 100 volts

FILAMENT OR HEATER VOLTAGES
- AC—0-117 volts in five ranges 0 to 3, 10, 30, 100, 300 volts
- DC—0-3 volts
- Cathode Resistor—Continuously adjustable from 0-350 ohms
- Grid-No. 1 Resistor—Continuously adjustable from 0-5 megohm
- Tube Drop Voltage—0-300 volts in four ranges 0 to 1, 10, 100, 300 volts

CURRENT METER RANGES
- Plate, Grid-No. 3, Grids-No. 2 & No. 4, Grid-No. 1
  - 0 to 3, 10, 30, 100, 300, 1000 μamp
  - 0 to 3, 10, 30, 100, 300 ma
- Heater (AC)—0 to 1, 3 amp
- Transconductance Meter Ranges—0 to 300, 1000, 3000, 10,000, 30,000, 100,000 micromhos
- Tube Complement—1 RCA-OA2, 1 RCA-5U4-GB, 1 RCA-6AU6, 1 RCA-6CB5, 1 RCA-6CL6, 2 RCA-6U8, 1 RCA-6X4, 1 RCA-12AU7

POWER REQUIREMENTS
- Voltage—105-125 volts
- Frequency—60 cps
- Power Consumption—standby 100 watts; maximum load 250 watts

DIMENSIONS
- Width—23½ inches
- Height—8 inches
- Depth—18½ inches

WEIGHT
- Net—50 pounds
- Crated—110 pounds

FINISH
- Blue-grey hammeroid case, etched satin-aluminum panel

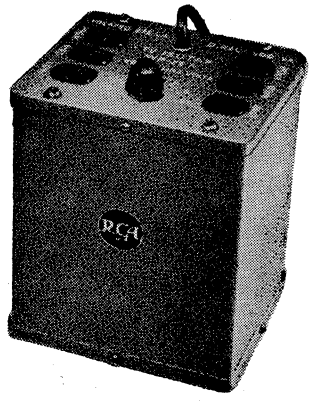
$785.00 (User Price)* complete with four multiple-socket plug-in units and instruction booklet. (Note: Industrial type sockets available on separate order.)

SPECIAL FEATURES OF THIS REMARKABLE MEASURING INSTRUMENT

- Measures true transconductance to an accuracy of *better than* ±3%
- Measures transconductance up to 100,000 ohms in 6 ranges
- Measures transconductance of *low-plate-resistance* types
- Measures transconductance of *high-perveance types*
- Measures *control-grid-to-plate* and *suppressor-grid-to-plate* transconductance
- Measures heater currents including 600-ma series-string TV types
- Built-in calibrating circuit — no null meters or extra devices required
- Has easy-to-read meter for all measurements
- Burn-out proof meter
- Regulated power supplies for all dc volt.
- 250-ma dc supply for filaments of battery-operated tube types

Particularly Useful in
- Production line testing
- Design/development work
- Preselecting for critical applications
- Quality control programs
- Preventive maintenance

TV ISOTAP WP-25A



speed up your servicing

. . . use the RCA TV Isotap to avoid wasted time and uncertainty in TV trouble-shooting. Use the 500-volt-ampere autotransformer winding for testing power transformer types of TV receivers. Use the 275-va isolated secondary winding for testing transformerless types of TV and ac-dc radio receivers.

Service sets at normal line voltage for quick check of circuit voltages—break down intermittent components by operating set at extra-high line voltage—make sure set functions satisfactorily at low-line voltage.

prevent damage to your test equipment

. . . use the RCA TV Isotap to avoid expensive damage to your valuable test equipment. Eliminate possibility of crossed line plugs on transformerless receivers and test equipment and prevent costly short circuits.

minimize shock hazard

. . . use the RCA TV Isotap to avoid the shock hazard in servicing transformerless types of radio and TV receivers. WP-25A provides transformer isolation and greatly minimizes shock hazards.

cut down costly returns

. . . by using the RCA TV Isotap to avoid service recalls which are often caused by a difference of line voltage in the customer's home. With the WP-25A you can check the set in the shop at high, medium, and low-line voltages.

* Optional. Prices higher in Alaska and Hawaii.

SUPPLY LINE
- Voltage Range ..... 105-130 volts
- Switch positions 105, 110, 115, 120, 125, 130, OFF
- Frequency ..... 50-60 cps

OUTPUT VOLTAGES

Direct receptacles (with 500 max va load and selector set to value of supply-line voltage)
- LOW ..... 105 volts
- MED ..... 115 volts
- HIGH ..... 130 volts

Isolated receptacles (with resistive load of 275 max va and selector set to value of supply-line voltage)
- LOW ..... 105 volts
- MED ..... 115 volts
- HIGH ..... 130 volts

LOAD RATINGS (40°C Ambient)

Continuous operation
- Direct receptacles ..... 500 va max
- Isolated receptacles ..... 275 va max

Intermittent operation
- Direct receptacles ..... 750 va max
- Isolated receptacles ..... 450 va max

Regulation (no load to full continuous load)
- Direct receptacles .... approx. 1.5 per cent
- Isolated receptacles .. approx. 6 per cent

DIMENSIONS ..... 5¾"h, 5"w, 4⅜"d.
WEIGHT (net) ..... 12 lbs.
FINISH ..... Dark cobalt, gray lacquer

$17.95 (User Price)*

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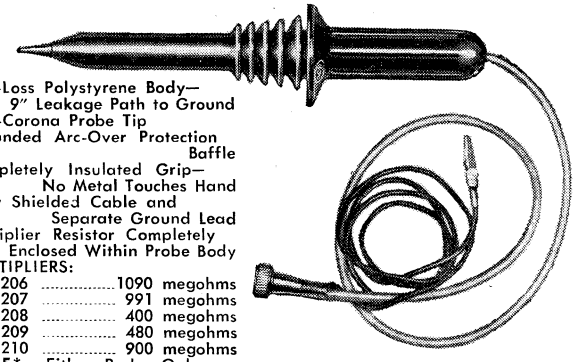
FOR SERVICE • INDUSTRY • SCHOOLS • LABORATORIES

HIGH VOLTAGE PROBES WG-289, 290

RCA High Voltage Probes WG-289 and WG-290 are identical except for their connectors. The WG-289 is provided with microphone-type connector for use with the VoltOhmysts and other voltmeters having microphone-type connectors. The WG-290 is equipped with phone-tip connectors for use with voltmeters having phone-tip jacks.

These High Voltage Probes are capable of extending the dc voltage range of your meter to 50,000 volts. When used with a VoltOhmyst the input resistance is increased to 1000 megohms, an important feature when working in high-impedance circuits where loading seriously affects the stability of the circuit under test.

A choice of five multiplier resistors is available enabling these probes to be used with practically all popular electronic and non-electronic voltohmmeters.



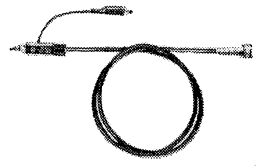
Low-Loss Polystyrene Body—
9" Leakage Path to Ground
Anti-Corona Probe Tip
Grounded Arc-Over Protection Baffle
Completely Insulated Grip—
No Metal Touches Hand
Fully Shielded Cable and
Separate Ground Lead
Multiplier Resistor Completely
Enclosed Within Probe Body

MULTIPLIERS:

WG-206	1090 megohms
WG-207	991 megohms
WG-208	400 megohms
WG-209	480 megohms
WG-210	900 megohms

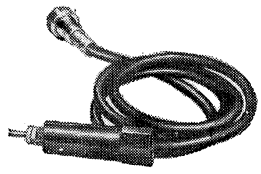
$7.15* Either Probe Only
$2.80* Resistor Only

SPECIAL PURPOSE PROBES



DIRECT PROBE AND CABLE WG-294

A shielded coaxial-type cable 48" long with "slip-on" type probe point. Fitted with microphone type connector. Probe has 11" ground lead with clip. **$4.50***



DIRECT PROBE AND CABLE WG-218 - WG-220

The WG-218 is a shielded input cable for use with voltmeters and oscilloscopes. It is fitted with a probe tip at one end and a microphone-type connector at the other. WG-220 is the same electrically as the WG-218 but is fitted with pin-plug tips. **$3.75***

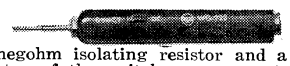
WG-300A DIRECT/LOW CAPACITANCE PROBE AND CABLE

The WG-300A is a slim, sturdy, single unit low-capacitance probe and cable designed for use with the RCA WO-88A and WO-91A 'Scopes. The cable is 48" long and is completely shielded from the microphone connector to the probe tip to minimize hum and stray field pick-up. A built-in switch provides instant selection of direct or low-capacitance operation. Input characteristic: 10 megohms resistance, 11 uuf capacitance. Includes ground lead and clip. **$14.25***

CRYSTAL-DIODE PROBE WG-301A

"Slip-on" type for use with the WG-299A DC/AC Ohms Probe and cable extending the frequency range of VoltOhmysts to 250 Mc. **$7.75***

DC/DIRECT PROBE WG-222



"Slip-on" type with built-in 1-megohm isolating resistor and a unique switching facility. By virtue of the switch arrangement, it is possible to measure dc or resistance without changing probes. The WG-222 slips on the front of the WG-218 or WG-220. **$3.50***

LOW-CAPACITANCE PROBE WG-216B

"Slip-on" type for use with the WG-218 or WG-220 Direct Probe in conjunction with an oscilloscope. When the WG-216B is used with the WO-88A Oscilloscope, the total input resistance is 10 megohms shunted by a capacity of less than 10 uuf. **$7.00***

LOW-CAPACITANCE PROBE WG-293

"Slip-on" type for use with WG-294 Direct Probe and Cable and WO-78A Oscilloscope. Probe has 10 megohms input resistance and only 14 uuf input capacitance. Fully shielded. **$7.50***

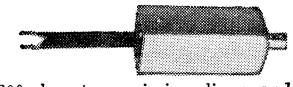
CRYSTAL-DIODE PROBE WG-264

Consists of a germanium diode rectifier and RC network in a plastic housing. It conveniently slips on the direct probe of VoltOhmysts, such as the WV-98A. RF voltages at frequencies up to 250 Mc may be accurately measured with the WG-264. The ac voltage range extends from 20 milli-volts to 20 volts rms; dc voltages up to 250 volts can be present. **$7.75***

DEMODULATOR PROBE WG-291

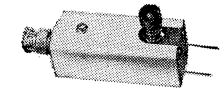
Has an input range of 500 Kc to 250 Mc with input capacitance of only 2.25 uuf. It separates the modulation from the rf carrier in an amplitude-modulated wave by means of a rectifier and a filter having a short time constant and an output frequency range of 30 to 5000 cps. The WG-291 has a maximum input voltage of 20 rms volts and a max. dc voltage rating of 250 volts. **$7.95***

50-TO-300-OHM PADDED BALUN WG-296



Provides efficient matching of 50-ohm output from WR-86A UHF Sweep Generator or to 300-ohm transmission lines and circuits. It has a 50-ohm coaxial input and 300-ohm line output. **$13.50***

UHF DEMODULATOR FOR 300-950 Mc WG-298A



Excellent for checking standing-wave ratios on 300-ohm line terminations. Fits 50-ohm BNC type connectors. **$37.50***

DC/AC OHMS PROBE AND CABLE WG-299B

A special feature of the WG-299B is the handy built-in fingertip switch for instant selection of dc or ac/ohms operation. The probe, designed for use with VoltOhmysts, is completely shielded from connector-to-tip and is insulated to prevent accidental shorts, grounds and shocks. **$8.75***

WG-302A RF/IF/VF SIGNAL TRACING PROBE

The WG-302A "slip-on" high-frequency probe is designed for use with the WG-300A probe and cable and the (WO-88A and WO-91A) 'Scope, to permit visual signal tracing for rapid isolation of trouble in radio receivers and in television IF and video stages. **$8.50***

WG-304A RF MODULATOR

The WG-304A is an accessory used to check the overall frequency response of TV receivers from antenna to picture tube grid. The unit permits modulation of an rf marker signal from a marker generator (such as WR-89A) by a signal from a video sweep generator (such as WR-59C). **$28.50***

WG-305A VIDEO TEST ADAPTER

Designed to simplify trouble-shooting in the video stages of color-TV receivers employing a 6CL6 in the second video amplifier stage. The WG-305A makes it possible to inject video signal from the WR-36A directly into the grid circuit of the 6CL6. **$4.50***

* User price (optional). Prices higher in Alaska and Hawaii.

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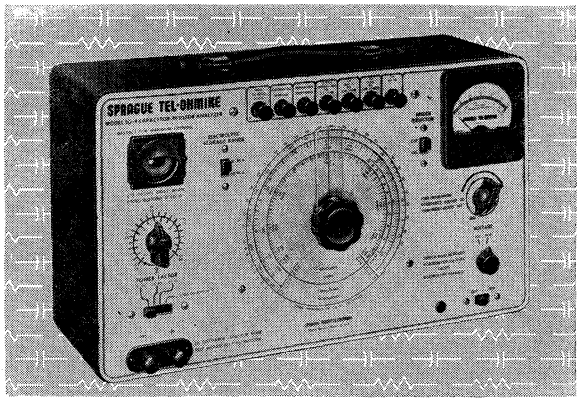
Net

SPRAGUE CAPACITORS

TO-4 TEL-OHMIKE® CAPACITOR-RESISTOR ANALYZER

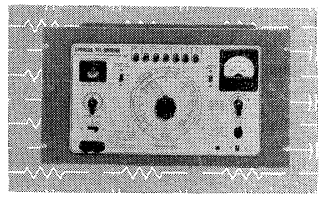


Modern service shops find the Tel-Ohmike a **must.** Although moderately priced for radio and TV service shops, it offers the quality and accuracy required by electronic laboratories. The Tel-Ohmike comes complete with step-by-step instruction manual.

- **CAPACITANCE BRIDGE** measures up to 2000 mf in five overlapping ranges. The special 1 mmf to 100 mmf range is exclusive with the Sprague Tel-Ohmike.
- **INSULATION RESISTANCE** directly read on large meter up to 20,000 megohms for paper, ceramic, and mica capacitors. No guessing with neon lamps.
- **LEAKAGE CURRENT** of electrolytics measured directly on meter, with exact rated voltage up to 600v. applied from continuously adjustable power supply. Two ranges: 0-6-60 ma. No guessing on eye-width or counting lamp blinks when you use a TO-4!
- **POWER FACTOR** of electrolytic capacitors measured by Wien Bridge up to 55% in three ranges.
- **RESISTANCE BRIDGE** measures from 2.5 ohms to 25 megohms at line frequency.
- **MAGIC-EYE TUBE** simplifies bridge balancing for capacitance, power factor, and resistance measurements.
- **PUSH-BUTTONS** for instant range selection, also discharge capacitors for safety automatically upon release.
- **MODERN CASE** finished in two-tone gray; measures 8⅞" high, 14⅝" wide, 6⅛" deep. Weight only 12½ pounds.

MODEL TO-4RM FOR RACK MOUNTING

Electrically identical with the standard instrument, Model TO-4RM has a standard 19" wide x 10½" high panel for mounting in standard relay racks. User net price of the TO-4RM is $83.50.

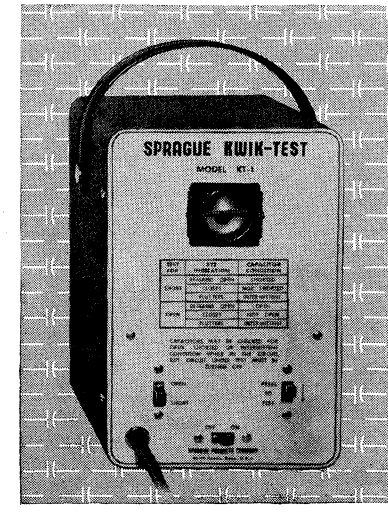


MODEL TO-4.....115 VAC/50-60 cy.....$73.50 net
Model TO-4X.....115-230 V/25-60 cy..... $79.50 net

KT-1 KWIK-TEST® CAPACITOR CHECKER

An **IDEAL** supplement to the TO-4 Tel-Ohmike. With 75 to 100 capacitors in each set, here's a quick, easy way to check them all in a jiffy, for the KT-1 tests capacitors while they're wired in a set. NO NEED TO REMOVE THEM FROM THE CIRCUIT! The KT-1 instantly tells you whether or not a capacitor is open, shorted, or intermittent.

- Simply press a button and magic eye tube tells you if a capacitor is open, shorted, or intermittent.
- Checks by-pass, blocking, and coupling capacitors from 30 mmf to 2000 mmf, even when capacitor under test is wired in parallel with a resistance as low as 60 ohms. Capacitors between .1 mf and 2000 mf may be tested even when in parallel with resistance as low as 2 ohms.
- Sturdy steel case with medium gray wrinkle finish. Light gray front panel with clear black markings.
- Overall size of the KT-1 is 9" high x 6" wide x 5¼" deep —Net weight, 6 lbs.



MODEL KT-1.....115 VAC/50-60 cy.....$34.50 net
MODEL KT-1X.....115-230 V/25-60 cy..... 39.50 net

All prices subject to change without notice.
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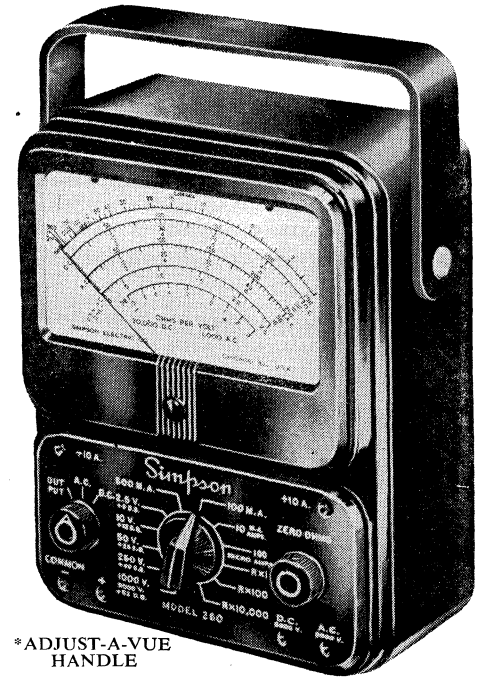
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

★ Simpson

INSTRUMENTS THAT STAY ACCURATE

WORLD FAMOUS MODEL 260 * Set Tester

World's Most Popular High Sensitivity Set Tester For RADIO and TELEVISION



*ADJUST-A-VUE HANDLE

There are more Simpson 260 high sensitivity volt-ohm-milliammeters in use today than all others combined. No other instrument of its kind has approached the world-wide popularity of the Simpson 260.

Removal of the Model 260 from its heavy, handsome case of molded bakelite will disclose how it differs from most set testers. You will see a sub-panel with a score of small recesses each holding a separate resistor or other component. You will notice complete absence of cable wiring. All connections are short and direct, thus offering a strength and firmness of assembly and the finest of insulation to reduce chances of shorts. All components are readily accessible.

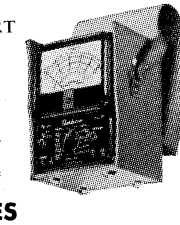
At 20,000 ohms per volt the 260 is highly dependable, rugged and accurate. Its practically negligible current consumption assures remarkably accurate voltage readings. It provides DC current readings as low as 2 microamperes and up to 10 amperes. Dependable resistance readings can be made up to 20 megohms and as low as 1/5 ohm. With the 260 you can measure automatic frequency control, diode balancing circuits, grid currents of oscillator tubes and power tubes, bias of power detectors, automatic volume control diode currents, high-mu triode plate voltage, as well as a wide range of other measurements which cannot be checked with ordinary servicing instruments.

ROLL-TOP SAFETY CASE MODEL — Offers the highest degree of efficient, economical instrument protection. A flick of the finger rolls the top up or down for instant use or full protection. Case is heavy, molded bakelite.

EVER-REDY CARRYING CASE — Saves you time. Large, one-piece lid folds back to expose meter and switches. Made of tough, long-wearing vinyl.

←Model 260RT (Roll-Top Safety Case Model)

Model 260→ in Ever-Redy Carrying Case



DEALER'S NET PRICES

MODEL 260, complete with test leads and Operator's Manual (Size: 5¼"x7"x3⅛". Weight: 3½ lbs. Shipping Wt: 5 lbs.)	**$38.95**
1818 LEATHER CARRYING CASE	**6.75**
4236 EVER-REDY VINYL CARRYING CASE	**8.75**
MODEL 260RT in Roll-Top Safety Case, complete with test leads and Operator's Manual (Size: 6⅜" x 9" x 4¾". Weight: 6½ lbs. Shipping Wt.: 9 lbs.)	**46.90**
HIGH VOLTAGE PROBE for 260 (25,000V)	**9.95**
HIGH VOLTAGE PROBE for 260 (50,000V)	**12.50**

***ADJUST-A-VUE HANDLE** — Exclusive Simpson feature. Props instrument at convenient viewing angle on workbench.

RANGES

20,000 Ohms per Volt DC, 1,000 Ohms per Volt AC
VOLTS, AC and DC: 2.5, 10, 50, 250, 1000, 5000
OUTPUT: 2.5, 10, 50, 250 Volts AC
MILLIAMPERES, DC: 10, 100, 500
MICROAMPERES, DC: 100
AMPERES, DC: 10
DECIBELS (5 ranges): —12 to +55 DB. ODB = .006 watt in 500 ohms.
RESISTANCE, DC: 0-2K ohms (12 ohms center), 0-200K ohms (1.2K ohms center), 0-20 megohms (120K ohms center).

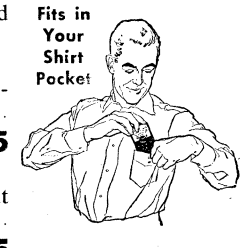
NEW! MIDGETESTER, Model 355, AC-DC Volt-Ohmmeter

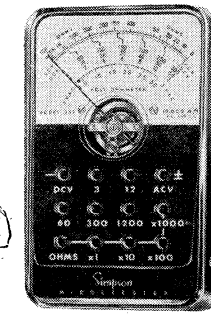
***SELF SHIELDED*, 10,000 Ohms Per Volt AC and DC**

World's smallest! Ideal for appliance repair, radio-TV service, etc. Utilizes the rugged Core Magnet Meter Movement.
VOLTS, DC: 3, 12, 60, 300, 1200.
VOLTS, AC: 3, 12, 60, 300, 1200.
RESISTANCE, DC: 0-10K ohms (120 ohms center); 0-100K ohms (1.2K ohms center); 0-1 megohm (12K ohms center); 0-10 megohms (120K ohms center).

SIZE: 2¾" wide, 4½" high, and 1" thick.
WEIGHT: 7 oz.
MODEL 355 with Leads, Operator's Manual **$29.95**

ZIPPER CASE, Leather with Belt Loop #6355 ..... **$2.95**





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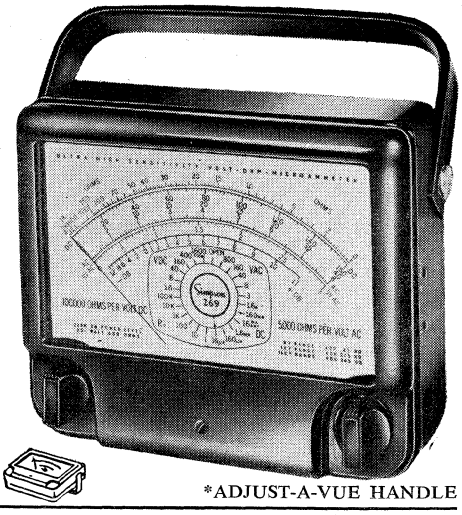
★ Simpson

INSTRUMENTS THAT STAY ACCURATE

100,000 OHMS PER VOLT

MODEL 269*, AC-DC Volt-Ohm-Microammeter



Self Shielded . . . 33 ranges . . . 7″ scale . . . rugged Core Magnet Meter Movement. Can replace VTVM's for many voltage and resistance checks. Carrying case and accessory probes available.

VOLTS DC: 1.6, 8, 40, 160, 400, 1600, 4000 . . . 100,000 ohms per volt.

VOLTS AC: 3, 8, 40, 160, 800 . . . 5,000 ohms per volt.

OUTPUT: 3, 8, 40, 160 volts AC.

DECIBELS: —12 to +45.5 DB in 4 ranges. ODB = .001 watt in 600 ohms.

RESISTANCE DC: 0-2K ohms (18 ohms center); 0-20K ohms (180 ohms center); 0-200K ohms (1.8K ohms center); 0-2 megohms (18K ohms center); 0-20 megohms (180K ohms center); 0-200 megohms (1.8 megohms center).

CURRENT DC: 0-16, 0-160 ua; 0-1.6, 0-16, 0-160 ma; 0-1.6, 0-16 a.

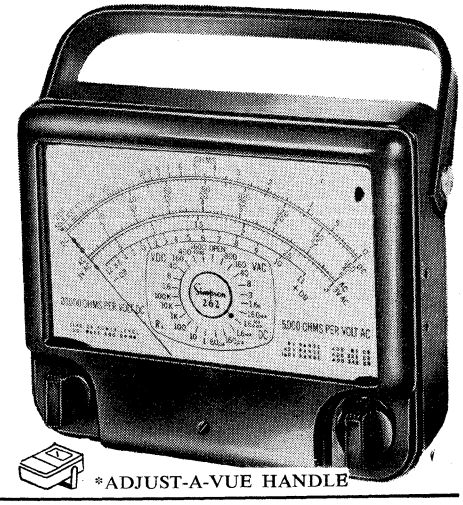
SIZE: 7-15/16″ x 6″ x 2-15/16″. WEIGHT: 4 lbs.

MODEL 269 with leads and Operator's Manual **$88.00**

*ADJUST-A-VUE HANDLE

DELUXE VOM

MODEL 262*, AC-DC Volt-Ohm-Milliammeter



This compact instrument is made possible by the Simpson **Self Shielded** Core Magnet Meter Movement . . . 20,000 ohms per volt . . . 33 ranges . . . 7″ scale. Carrying case and accessory probes available.

VOLTS DC: 1.6, 8, 40, 160, 400, 1600, 4000 . . . 20,000 ohms per volt.

VOLTS AC: 3, 8, 40, 160, 800 . . . 5,000 ohms per volt.

OUTPUT: 3, 8, 40, 160 volts AC.

DECIBELS: —12 to +45.5 DB in 4 ranges. ODB = .001 watt in 600 ohms.

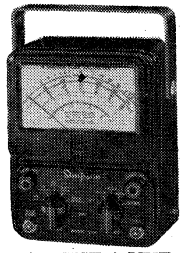
RESISTANCE DC: 0-500 ohms (4.5 center); 0-5K ohms (45 ohms center); 0-50K ohms (450 ohms center); 0-500K ohms (4.5K ohms center); 5 megohms (45K ohms center); 0-50 megohms (450K ohms center).

CURRENT DC: 80, 160 ua; 1.6, 16, 160 ma; 1.6, 16 a.

SIZE: 7-15/16″ x 6″ x 2-15/16″. WEIGHT: 4 lbs.

MODEL 262 with leads and Operator's Manual **$59.50**

*ADJUST-A-VUE HANDLE



*ADJUST-A-VUE HANDLE

VACUUM TUBE VOLT-OHMMETER* MODEL 303*

An Unusually Versatile VTVM

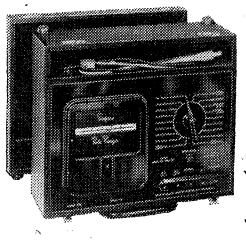
AC VOLTS: 1.2, 12, 60, 300, 1200.
DC VOLTS: 1.2, 12, 60, 300, 1200.
OUTPUT: 1.2, 12, 60 volts AC.
RESISTANCE DC: 1K ohms (10 ohms center); 100K ohms (1000 ohms center); 1 megohm (10K ohms center); 10 megohms (100K ohms center); 1000 megohms (10 megohms center).

DECIBELS: —20 to +63 DB in 5 ranges. ODB = .001 watt in 600 ohms.

R.F. VOLTS: 20 volts maximum. Frequency — Flat 20 Kc to 100 Mc.

LINE VOLTAGE: 105-125V, 50/60 Cycles.
Accessory Probes and Carrying Case available.

MODEL 303 with DCV Probe, ACV-Ohms Probe, Ground Lead, Operator's Manual **$68.00**



ROTO-RANGER MODEL 221, AC-DC

Volt-Ohm-Milliammeter

25 Separate Meters at the Turn of One Switch!

VOLTS, DC: 2.5, 10, 50, 300, 1000, 5000 . . . 20,000 ohms per volt.

VOLTS, AC: 2.5, 10, 50, 250, 1000, 5000 . . . 1,000 ohms per volt.

CURRENT DC: 100 ua; 10, 100, 500 ma; 10 a.

OUTPUT: 2.5, 10, 50, 250 volts AC.

RESISTANCE DC: 0-2K (12 ohms center); 0-200K (1.2K ohms center); 0-20 megohms (120K ohms center).

SIZE: 12¾″ x 10⅛″ x 5⅜″. WEIGHT: 9 lbs.

MODEL 221 with Leads and Manual **$75.00**

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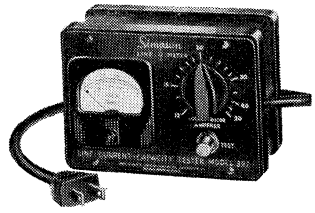
Simpson

INSTRUMENTS THAT STAY ACCURATE

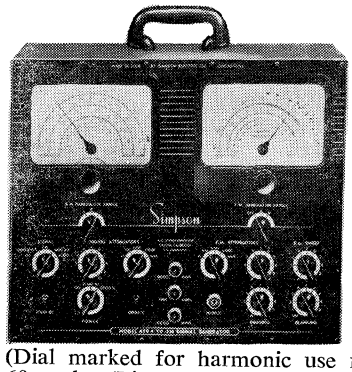
LINE-O-METER, Model 397
Line Current-Capacity Tester



The Line-O-Meter **pretests** the current capacity of electrical lines. It tells whether existing wiring is adequate to handle **motor starting currents** of heavy duty appliances such as air conditioners.

RANGE — 13 to 50 amp (single phase, 117 V, 60 cycle lines).
SIZE AND WEIGHT — 5½" x 3-11/16" x 2½", 2 lbs.
Model 397 with cord and Operator's Manual **$29.95**

TV-FM SIGNAL GENERATOR
MODEL 479



MARKER GENERATOR FREQUENCIES: Fundamental and second harmonic. Band A, 3.3 to 15.6 megacycles; Band B, 15 to 76 megacycles; Band C, 75 to 250 megacycles. FM GENERATOR FREQUENCIES: Band A, 2 to 120 megacycles; Band B, 140 to 260 megacycles. (Dial marked for harmonic use for UHF.) Sweep rate 60 cycles (Line Frequency).
SIZE: 17" x 14" x 7½". WEIGHT: 29 lbs. Shipping Wt.: 35 lbs.
POWER: 50 watts, 105-125 volts, AC only.
NOTE: Specify 50 or 60 cycles.
ACCESSORIES: Listed on page 5 of this bulletin.
MODEL 479 including 2 Oscilloscope Cables, 1 Impedance Matching Output Cable, 1 Signal Input Cable, Operator's Manual, UHF Instructions..... **$325.00**

Model 406

No. 0186

CHROMATIC AMPLIFIER and CHROMATIC PROBE
(For 479 and 480)

In just 15 seconds—you can convert your Simpson Model 480 Genescope or Model 479 TV-FM Signal Generator for servicing color TV with these two new Simpson accessories. No internal changes or connections are necessary.
CHROMATIC AMPLIFIER, Model 406, complete with instructions **$31.95**
CHROMATIC PROBE, No. 0186, complete with instructions..... **$9.95**

ACCESSORIES

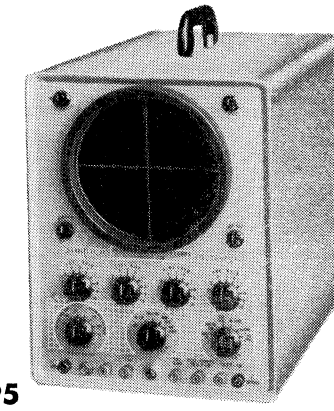
High Frequencies Crystal Probe and Cable for 479 and 480 ..... **$7.50**
Output Cable, 45 Mc, for 479 and 480..... **$4.25**

NEW! COLORSCOPE
Model 458

100% RESPONSE AT 3.58 MC COLORBURST

DUAL BANDWIDTH — NARROW OR WIDE

BIG 7-INCH SCREEN



Dealer's Net Price **$229.95**

New Simpson COLORSCOPE Model 458 is ideal for servicing BOTH black and white AND color TV

SPECIFICATIONS

Frequency Response of Vertical Amplifier
Wide Band Position
From 20 cycles/sec. to 4.5 mc/sec.—flat within ±1 db.
From 10 cycles/sec. to 5.0 mc/sec.—within ±2 db.
Full response at the Burst Frequency (3.58 mc/sec.)
Narrow Band Position
From 20 cycles/sec. to 200 kc/sec.—flat within ±1 db.
From 10 cycles/sec. to 300 kc/sec.—within ±2 db.
Rise Time (Wide Band Position) — less than 0.05 microseconds.
Maximum Vertical Deflection Sensitivity
Wide Band Position — 40 Millivolts R.M.S./inch
Narrow Band Position — 15 Millivolts R.M.S./inch
Frequency Response of Horizontal Amplifier
From 20 cycles/sec. to 200 kc/sec.—flat within ±1 db.
From 10 cycles/sec. to 300 kc/sec.—within ±2 db.
Maximum Horizontal Deflection Sensitivity
Horizontal Input "Hi"—115 Millivolts R.M.S./inch
Horizontal Input "Low"—1.4 volts R.M.S./inch
Z-axis sensitivity (Voltage required to extinguish the beam) less than 4.0 volts R.M.S.
Calibrating Voltage (@ 117.5 VAC Input to Colorscope) 18 P-P volts ±10%
Maximum Input Voltage—600 volts peak
Input Resistance (Minimum)—3.3 Megohms ±10%
Input Capacitance @ 5.0 mc/sec.—20 uuf ±10%
Sawtooth Sweep Range—14 cycles/sec. to 250 kc/sec.
Power Consumption @ 117½ volts AC, 60 cycles/sec. — 80 watts ±10%
Case Dimensions (Over-all)—11" wide, 14½" high, 16⅜" deep. Net Weight: 29 lbs

OSCILLOSCOPE CALIBRATOR, Model 276

The Simpson Model 276 Oscilloscope Calibrator adapts your oscilloscope for quick and accurate voltage measurements by comparative methods.
R.M.S.: .36 — .9 — 3.6 — 9 — 36 — 90
PEAK: .50 — 1.25 — 5 — 12.5 — 50 — 125
PEAK TO PEAK: 1.0 — 2.50 — 10 — 25 —100 — 250

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Net

Simpson

INSTRUMENTS THAT STAY ACCURATE

NEW... PORTABLE
Field Strength Meter
Model 498

Multi-Power

Operates Anywhere

Covers All Channels

This newest Simpson field strength meter provides means for the measurement of television signals in any locality. It answers the need of service technicians for a combination power line or battery operated field strength meter that is self-charging.

MODEL 498 covers all channels, UHF and VHF. Measures relative field strength from approximately 50 microvolts to .5 volts. Excellent for fringe areas. Also useful as a tuner substitute when servicing TV. Continuously variable sensitivity. Operates from any **one** of **four** sources: (1) 117 V AC line; (2) Self-contained storage battery*; (3) Your automobile battery; and (4) Your external battery.

SIZE: 8" x 11" x 8½". WEIGHT: 11½ lbs. Shipping Wt: 15 lbs.

MODEL 498, 117 A.C.V. and 6.3 D.C.V., less battery. **$155.50**

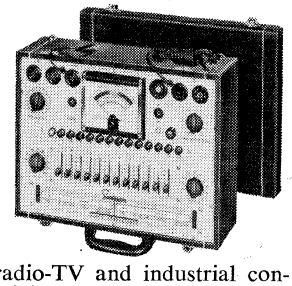
No. 5721 Storage battery, 12 ampere hour capacity. **$9.50**

*Internal storage battery can be recharged by self-contained charger or from your automobile battery while traveling between jobs.

PLATE CONDUCTANCE

TUBE TESTER
Model 1000

Extra Lo-Volt Leakage Test
Will Not Damage Any Tube



MODEL 1000 is ideal for radio-TV and industrial control servicing. Tests any receiving tube, including 9 pin miniatures and sub-miniatures with base arrangements in a line or circle. The Simpson plate conductance method makes testing simpler . . . more positive . . . more accurate. Multi-position toggle switches provide quick adjustment.

Snap-Out-Snap-In transparent plastic windows are provided over the roll chart . . . add new tube data at any time.

LINE VOLTAGE: 105-125 Volts, 50-60 cycle.
SIZE: 15¾" x 11¾" x 6".
WEIGHT: 15 lbs. Shipping Wt: 19 lbs.

MODEL 1000 complete with Operator's Manual **$135.00**

NEW! SIMPSON MODEL 434 NEW!
VARIDOT WHITE DOT GENERATOR

VARIABLE DOT SIZE . . . VARIABLE DOT NUMBER

Lets You Adjust the Number and Size of Dots to Match any Receiver Manufacturers' Recommendations

The NEW Simpson Model 434 provides white dot patterns with variable dot size (from 1 to 8 scanning lines, with corresponding dot widths), and variable dot number, from 6 to 12 horizontal dots, and 6 to 12 vertical dots.

With the Model 434 White Dot Generator, you make linearity adjustment of black and white TV and linearity and convergence adjustments on color TV receivers with confidence. Adjustable dot size provides a check of receiver transient response.

Horizontal and vertical sync pulses are provided, with adjustable vertical sync which can be operated at line frequency or off line frequency. This also operates as a hum-check control for both color and black and white receivers. This feature is rarely found in test equipment offered at this price. Vertical and horizontal synchronization assures you of correct aspect ratio . . . ample attenuation . . . 300 ohm RF output.

Positive or negative video output . . . excellent for accurate and fast checking transient response of video amplifiers is available.

Housed in attractive Simpson grey hammerloid case.

Modulated RF output is available, operating on fundamentals from Channel 2 to Channel 6. Line Voltage: 117 Volts, 50-60 cycles, 45 watts. Weight is approximately 11½ lbs.

SHIPPING WEIGHT: 15 lbs.

DEALER'S NET PRICE, Complete with operating instructions and output cables **$147.50**

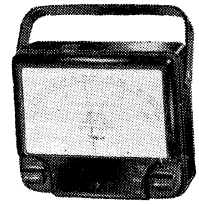
* Simpson

INSTRUMENTS THAT STAY ACCURATE

TEMPERATURE TESTERS — Check 3 Temperatures at 1 Time

THERM-O-METER*
Model 388-3L

Measures Temperatures from −50° to +1000° F



The Therm-O-Meter measures the temperature of air, gases, liquids, or solids by means of thermocouple type leads. Readings can be made in 15 to 30 seconds, and up to a distance of 7½'. Model 388-3L, the three-lead model, is particularly useful where two or three temperatures must be measured at the same time.

LEADS — Two types available: General Purpose and Surface Temperature probe. Length is 7½'.

SIZE AND WEIGHT—7-15/16" x 6" x 2-15/16", 4 lbs.

MODEL 388-3L* (for three leads) with one No. 0190 general purpose lead, battery and, Operator's Manual. **$64.50**

MODEL 388* (for one lead) with one No. 0190 general purpose lead, battery, and Operator's Manual. **$59.50**

Ever-Redy Carrying Case, Vinyl, No. 5262..... **$9.95**

General Purpose Lead, No. 0190..... **$4.95**

Surface Temperature Probe Lead, No. 0187..... **$6.95**

*Adjust-A-Vue Handle supports instrument at convenient angles.

TEMPERATURE METER
Model 385-3L

Measures Temperatures from −50° to +70° F

The Temperature Meter was developed primarily for servicing refrigeration equipment such as deep-freeze units, home refrigerators, and walk-in coolers. It can also be used to service air-conditioning units when the test requirements fall within its temperature range.

MODEL 385-3L, for three 15-foot leads, is especially useful where two or three temperatures must be checked at the same time, such as in setting up a refrigerator thermostat or in checking ambient temperature rises and control apparatus.

LEADS — General purpose type, 15' long. Thermistor tip.

SIZE AND WEIGHT — 3" x 5⅞" x 2½", 1½ lbs.

MODEL 385-3L (for three leads) with one test lead and Operator's Manual **$33.95**

MODEL 385 (for one lead) with one test lead and Operator's Manual **$30.00**

Additional Thermistor Lead, No. 0010 ..... **$3.95**

Ever-Ready Carrying Case, Leather, No. 4299..... **$5.50**

SIMPSON MICROTESTERS (Size: 3" x 5⅞" x 2½")

AC-DC VOLT-OHM-MILLIAMMETER, Model 240

Designed for radio testing . . . 1000 ohms per volt, AC and DC.

AC VOLTS: 15, 150, 750, 3000.
DC VOLTS: 15, 75, 300, 750, 3000.
DC MILLIAMPERES: 15, 150, 750.
OHMS: 0-3000 (center scale 30); 0-300,000 (center scale 3000). Model 240 Leads.

$26.35

AC-DC VOLT-OHM-MILLIAMMETER, Model 230 — AC Volts: 10, 250, 1000 (400 ohms per volt) — DC Volts: 10, 50, 250, 1000 (1000 ohms per volt) — DC Milliamperes: 10, 50, 250 — Ohms: 0-1000, 0-100,000 — with Leads **$24.95**

DC AMMETER, Model 375 — 0-1, 2.5, 5, 10, 25 amps **$19.95**

DC MILLIAMMETER, Model 373 — 0-1, 5, 10, 25, 50, 100, 250, 1000 ma **$19.95**

DC MICROAMMETER, Model 374 — 0-50, 100, 250, 500, 1000 ua **$23.00**

AC AMMETER, Model 370 — 0-1, 0-2.5, 0-5, 0-10, 0-25 amps **$19.95**

AC MILLIAMMETER (Self-contained transformer), Model 378 — 0-5, 25, 100, 250, 1000 ma **$22.60**

DC VOLTMETER (Res. 1000 ohms per volt), Model 377 — 0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 DC volts **$19.95**

AC VOLTMETER (Rec. Type — 1000 ohms per volt), Model 376 — 0-5, 10, 25, 50, 100, 250, 500, 1000 AC volts **$19.95**

AC VOLTMETER, Model 371 — 0-150, 0-300, 0-600 volts **$18.40**

OHMMETER, Model 372—0-500 ohms (5 ohms center); 0-5000 ohms (50 ohms center); 0-50,000 ohms (500 ohms center); 0-500,000 ohms (5,000 ohms center); 0-5 meg. (50,000 ohms center); 0-50 meg. (500,000 ohms center) — with Leads **$25.50**

AC VOLT-AMP-WATTMETER, Model 390 — Volts: 0-150, 300 — Amps: 0-3, 15 — Watts: 0-300, 600, 1500, 3000—with break-in plug and Leads.... **$39.50**

AC-DC VOLT-WATTMETER, Model 391 — AC or DC — Volts: 0-130, 0-260 — Watts: 0-1500, 0-3000 — with Cord and Plug **$30.00**

AC-DC VOLT-WATTMETER, Model 392 — AC or DC — Volts: 0-130, 0-260 — Watts: 0-1000, 0-5000 — with Cord and Plug **$35.00**

BATTERY TESTER, Model 379 — (Separate arcs for Radio A Batteries, Hearing Aid A Batteries, and for all B Batteries) — with Leads **$23.70**

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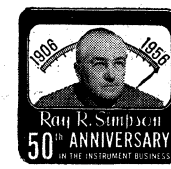
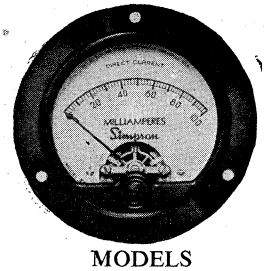
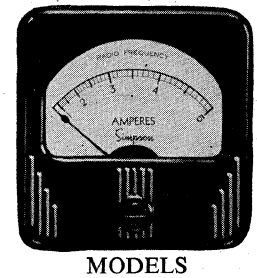


Simpson PANEL INSTRUMENTS



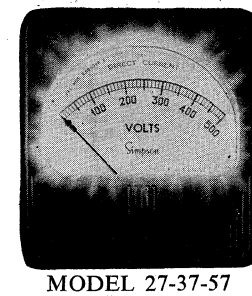
MODELS
125, 135, 145, 155

2½" ROUND CASE — OPEN FACE STYLE. Flange diameter, 2¾"; depth overall, 2-5/16"; body diameter, 2-11/64"; scale length, 1⅞". Bakelite case.



MODELS
127, 137, 147, 157

2½" RECTANGULAR CASE. Width, 2⅜"; height, 2⅜". Mounts in round hole. Body diameter, 2-3/16". Scale length, 1⅞". Bakelite case.



MODEL 27-37-57
ILLUMINATED

3½" RECTANGULAR CASE. Width, 3"; height, 3⅛". Mounts in round hole. Body diameter, 2¾". Scale length, 1-5/16". Bakelite case.

NOTE: The 2½" and 3½" rectangular instruments indicated (*) are also carried in stock with lucite illuminated dials. Supplied complete with socket and 6 volt bulb for an additional cost of $1.50 dealer's net. RF ammeters, lucite illuminated, must be supplied with external thermocouple. Add $4.95 for couple. All instruments are calibrated for use on non-magnetic panels.

VOLTMETERS

RANGE	APPROX. RESIST-ANCE	MODEL 125-127	MODEL 25-27 DC	MODEL 29	APPROX. RESIST-ANCE	MODEL 155-157	MODEL 55-57 AC	MODEL 59
0-1.5		.....	.....	.....	3 ohms	$ 8.70	$ 9.30	$10.80
0-3		$ 9.90	$10.35	$11.40	12	8.70	9.30	10.80
0-5		9.90	10.35	11.40	33	8.70	9.30	10.80
0-8		9.90	10.35	11.40	.....	.....	.....	.....
0-10		9.90*	10.35*	11.40	133	8.70*	9.30*	10.80
0-15		9.90	10.35	11.40	300	8.70*	9.30*	10.80
0-25	1000	9.90	10.35	11.40	833	9.15	9.60	10.80
0-30	ohms	9.90	10.35	11.40	.....	.....	.....	.....
0-50	per volt	9.90*	10.35*	11.40	3.333	9.15	9.60	10.80
0-100		9.90	10.35	11.40	16.666	9.60	10.05	10.80
0-150		9.90*	10.35*	11.40	25.000	9.75*	10.50*	11.40
0-200		9.90	10.35	11.40	.....	.....	.....	.....
0-250		9.90	10.35	11.40	41.166	9.75	10.50	11.40
0-300		9.90*	10.35*	11.40	50.000	9.75*	10.50*	11.40
0-500		10.35	10.80*	11.85	83.333	14.10	14.85	15.90
0-750		10.35	10.80	11.85	125.000	14.10	14.85	15.90
0-1000		12.30	12.90*	13.95	166.666	14.10	14.85	15.90
0-1500	2000	.....	12.90	13.95	.....	.....	.....	.....
0-2000	ohms	.....	12.90*	13.95	.....	.....	.....	.....
0-2500	per volt	.....	12.90	13.95	.....	.....	.....	.....
0-3000		.....	12.90*	13.95	.....	.....	.....	.....
0-4000		.....	12.90*	13.95	.....	.....	.....	.....
0-5000		.....	12.90*	13.95	.....	.....	.....	.....

External resistors are furnished on AC meters having a range of 500 volts or higher. DC 1000 volts or higher.

MILLIAMMETERS

RANGE	APPROX. RESIST-ANCE	MODEL 125-127	MODEL 25-27 DC	MODEL 29	APPROX. RESIST-ANCE	MODEL 155-157	MODEL 55-57 AC	MODEL 59
0-1	46 ohms	$ 9.15*	$ 9.60*	$10.65	.....	.....	.....	.....
0-1.5	46	9.15	9.60	10.65	.....	.....	.....	.....
0-3	46	9.15	9.60	10.65	.....	.....	.....	.....
0-5	23	9.15	9.60	10.65	.....	.....	.....	.....
0-10	7	9.15*	9.60*	10.65	2.000 ohms	$ 8.70	$ 9.30	$10.95
0-15	1.5	9.15*	9.60*	10.65	875	8.70	9.30	10.95
0-20	1.0	9.15	9.60	10.65	.....	.....	.....	.....
0-25	2.2	9.45*	9.90*	11.25	390	8.70	9.30	10.95
0-50	3.0	9.45*	9.90*	11.25	80	8.70	9.30	10.95
0-75	2.0	9.45	9.90	11.25	.....	.....	.....	.....
0-100	1.5	9.45*	9.90*	11.25	20	8.70	9.30	10.95
0-150	1.0	9.45	9.90	11.25	.....	.....	.....	.....
0-200	.75	9.45*	9.90*	11.25	.....	.....	.....	.....
0-250	.60	9.45	9.90	11.25	5	8.70	9.30	10.95
0-300	.50	9.45*	9.90*	11.25	.....	.....	.....	.....
0-500	.30	9.45*	9.90*	11.25	.9	8.70	9.30	10.95
0-750	.20	9.45	9.90	11.25	.....	.....	.....	.....
0-1000	.15	9.45	9.90	11.25	.....	.....	.....	.....

MICROAMMETERS

RANGE	APPROX. RESISTANCE	MODEL 125-127	MODEL 25-27 DC	MODEL 29
0-25	2200 ohms	$16.20	$16.80	$18.75
0-50	2000	13.80	14.25	15.45
0-100	2000	12.00	12.45	13.95
0-200	1000	10.05	10.65	12.00
0-500	200	9.60	10.20	11.40
25-0-25	2000	.....	14.40	15.60
50-0-50	2000	.....	12.60	14.10
100-0-100	1000	.....	10.80	12.15
500-0-500	46	.....	9.75	10.80

MILLIVOLTMETERS

RANGE	APPROX. RESISTANCE	MODEL 125-127	MODEL 25-27 DC	MODEL 99
0-50	5 ohms	$9.30	$9.75	$10.80
0-100	10	9.30	9.75	10.80

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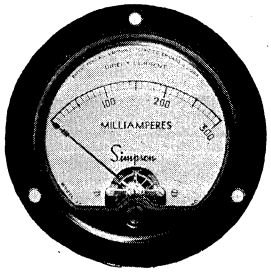
Simpson PANEL INSTRUMENTS

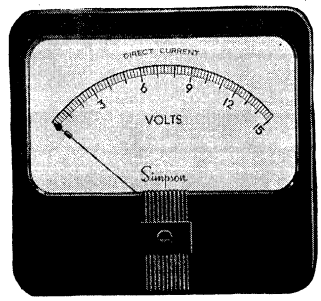


MODELS 25, 35, 45, 55

3½" ROUND CASE — OPEN FACE STYLE. Flange diameter, 3½"; depth over-all, 2¼"; body diameter, 2¾"; scale length, 2-9/16". Bakelite case.

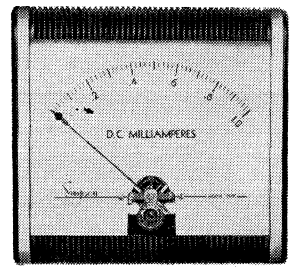
MODELS 27, 37, 47, 57

3½" RECTANGULAR CASE. Width, 3"; height, 3⅛". Mounts in round hole. Body diameter, 2¾". Scale length, 2-9/16". Bakelite case.



MODELS 29, 39, 49, 59

4½" RECTANGULAR CASE. Width, 4 21/32"; height, 4-13/64". Mounts in round hole. Body diameter, 2¾" Scale length, 3-29/32". Bakelite case.



MODELS 1160, 1161, 1162

New 5½" Modernistic Meter. Supplied on special orders only. Also available in 2½", 3½" and 4½" sizes.

AMMETERS

RANGE	APPROX. RESISTANCE	MODEL 125-127 DC	MODEL 25-27 DC	MODEL 29	APPROX. RESISTANCE	MODEL 155-157 AC	MODEL 55-57 AC	MODEL 59
0-1	.050 ohms	$9.30	$9.75	$10.80	.287 ohms	$8.70	$9.15	$10.95
0-1.5	.033	9.30	9.75	10.80	.185	8.70	9.15	10.95
0-2	.025	9.30	9.75	10.80	.115	8.70	9.15	10.95
0-3	.0166	9.30	9.75	10.80	.027	8.70	9.15	10.95
0-5	.010	9.30	9.75	10.80	.012	8.70	9.15	10.95
0-10	.005	9.30	9.75	10.80	.003	8.70	9.15	10.95
0-15	.0033	9.30	9.75	10.80	.0015	8.70	9.15	10.95
0-25	.002	9.30	9.75	10.80	.003	8.70	9.45	11.55
0-30	.00166	9.30	9.75	10.80	.....	.....	.....	.....
0-50	.001	9.30	9.75	10.80	.001	.....	10.35	13.50
0-75	5	9.30	9.75	10.80	.010	8.70	9.15	10.95
0-100	5	9.30	9.75	10.80	.010	8.70	9.15	10.95
0-150	5	9.30	9.75	10.80	.010	8.70	9.15	10.95
0-200	5	9.30	9.75	10.80	.010	8.70	9.15	10.95
0-250	5	9.30	9.75	10.80	.010	8.70	9.15	10.95
0-300	5	9.30	9.75	10.80	.010	8.70	9.15	10.95
0-500	5	9.30	9.75	10.80	.010	8.70	9.15	10.95
0-750	5	9.30	9.75	10.80	.010	.....	.....	.....
0-1000	5	9.30	9.75	10.80	.....	.....	.....	.....
15-0-15	.0033	9.90	10.50	11.55	.....	.....	.....	.....
30-0-30	.00166	9.90	10.50	11.55	.....	.....	.....	.....
50-0-50	.001	9.90	10.50	11.55	.....	.....	.....	.....

AC-DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50 MU) listed above CAN be supplied with external shunts and include 6-foot leads. AC ammeters listed above 50 amperes are basic 5 ampere movements, and must be used with current transformers. Ranges not listed can also be supplied. All are used with current transformers; 2-foot lead included. Price of external shunts or current transformers should be added to meter prices shown.

WATTMETERS — DYNAMOMETER TYPE

RANGE WATTS	MAX. VOLTS	MAX. AMPS	MODEL 175-177	MODEL 75-77	MODEL 79	RANGE WATTS	MAX. VOLTS	MAX. AMPS	MODEL 175-177	MODEL 75-77	MODEL 79
0-75	150	1.0	$20.55	$21.90	$28.50	0-600	300	4.0	$22.80	$24.00	$30.60
0-150	150	2.0	20.55	21.90	28.50	0-1500	300	10.0	22.80	24.00	30.60
0-300	150	4.0	20.55	21.90	28.50	0-3000	300	20.0	22.80	24.00	30.60
0-750	150	10.0	20.55	21.90	28.50						

A C VOLTMETERS — RECTIFIER TYPE

RANGE	APPROX. RESISTANCE	MODEL 45-47	MODEL 49
0-1		$14.10	$15.60
0-3		14.10	15.60
0-5		14.10	15.60
0-10	1000	14.10	15.60
0-15	ohms	14.10	15.60
0-50	per volt	14.10	15.60
0-100		14.10	15.60
0-150		14.10	15.60
0-300		14.10	15.60
0-1		14.70	16.20
0-3		14.70	16.20
0-5		14.70	16.20
0-10	2000	14.70	16.20
0-15	ohms	14.70	16.20
0-50	per volt	14.70	16.20
0-100		14.70	16.20
0-150		14.70	16.20
0-300		14.70	16.20

A C MILLIAMMETERS — RECTIFIER TYPE

0-1	600 ohms	$13.95	$15.15
0-2	400	13.95	15.15
0-5	200	13.95	15.15

A C MICROAMMETERS — RECTIFIER TYPE

0-100	3400 ohms	$16.80	$18.15
0-200	2400	14.85	16.35
0-300	1800	14.70	16.05
0-500	1200	14.40	15.75

D C GALVANOMETERS

SCALE	MICRO-SENSITIVITY AMPERES	RESIST-ANCE	MODEL 125-127	MODEL 25-27
50-0-50	500-0-500	46 ohms	$ 9.15	$ 9.75
50-0-50	75-0- 75	2000	10.50	11.55

R F AMMETERS

INTERNAL THERMOCOUPLE TYPE

RANGE	APPROX. RESISTANCE	MODEL 135-137	MODEL 35-37	MODEL 39
0-1	.205 ohms	$10.35*	$11.55*	$13.95
0-1.5	.177	10.35	11.55	13.95
0-2	.104	10.35*	11.55*	13.95
0-2.5	.088	10.35	11.55	13.95
0-3	.076	10.35*	11.55*	13.95
0-5	.039	10.35*	11.55*	13.95
0-8	.025	10.35	11.55	13.95
0-10	.021	10.35	11.55	13.95

RF MILLIAMMETERS

‡0-115	..... ohms	.....	$23.70	.....
0-150	4.5	.....	13.95	$16.05
0-250	3.0	.....	13.95	16.05
0-500	.6	.....	13.95	16.05

‡ 0-100 linear scale—50 divisions.

VOLUME LEVEL INDICATORS—DECIBEL METERS

ZERO POWER LEVEL—6 MW. 500 OHM LINE

RANGE	MODEL 145-147	MODEL 45-47	MODEL 49
GENERAL PURPOSE TYPE —10 to +6 db 5000 ohms	$14.25	$14.40	$15.75
HIGH SPEED TYPE —10 to +6 db 5000 ohms	.....	15.30	16.50
LOW SPEED TYPE —10 to +6 db 5000 ohms	.....	15.30	16.50

VOLUME LEVEL INDICATORS—VU METERS

REFERENCE LEVEL—1 MW 600 OHM LINE

RANGE	145-147	45-47	142
Not illuminated A or B Scale—3900 ohms	.....	$17.40	$18.45
Illuminated A or B Scale—3900 ohms	.....	.....	21.15

Model 142 has same physical appearance as Model 29

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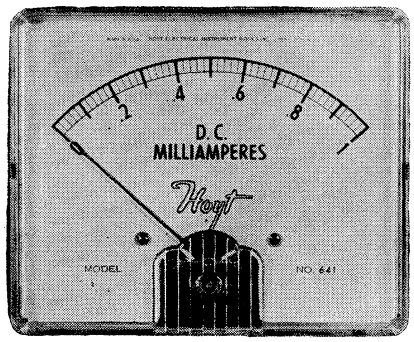
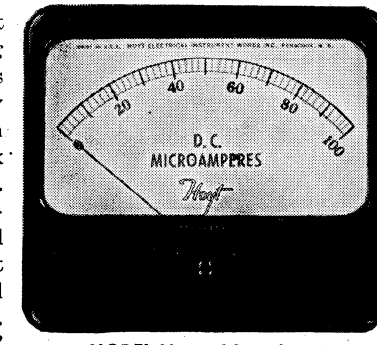
Hoyt PANEL AND PORTABLE INSTRUMENTS

Fine Instruments for more than Fifty Years

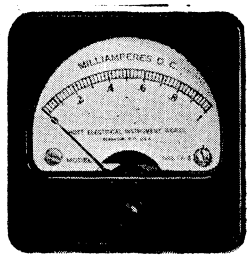


MODEL Nos. 641, 645 and 649
Plastic Styrene Cases

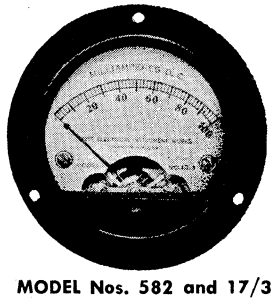
HOYT moving-coil Meters are built on the D'Arsonval principle using carefully selected jewel bearings and polished steel pivots. Accuracy within 2%. Alnico Magnets with soft-iron pole-pieces of uniform flux density used in all movements. Permanently correct balance assured by HOYT "cross arm" spiral wire balance. High torque to weight ratio. Quick response and good damping under all conditions. Choice of "knife-edge" or "lance" type pointers.



MODEL Nos. 600 and 647
Bakelite Cases



MODEL Nos. 635 and 597



MODEL Nos. 582 and 17/3

MODEL DC	MODEL AC	CASE TYPE PANEL MTG.	SCALE LENGTH AC - DC	FLANGE	BODY DIA. AC - DC	BODY DEPTH AC - DC
17/3	552	Bakelite Rd.	1⅞"	2.690"	2.200"	1⅜"
17/3	552	Metal Rd.	1⅞"	2 35/64"	2 1/16"	1 19/64"
635	636	Bakelite Sq.	1⅞"	2⅜" x 2⅜"	2.200"	1.400"
649	650	Styrene Sq.	2½"	2⅝" x 2⅜"	2.200"	1⅛"
17/L	560	Metal Rd.	2¼"	3 7/32"	2½"	1½"
17/L	560	Metal Surface	2¼"	3 1/16"	2½"	—
582	584	Bakelite Rd.	2½"	3½"	2¾"	1⅜"
597	598	Bakelite Sq.	2½"	3" x 3"	2¾"	1⅜"
570	580	Metal Rd.	2⅝"	3¾"	3"	1 11/16"
570	580	Metal Surface	2⅝"	3⅝"	3"	—
607	610	Bakelite Sq.	2¾"	3⅝" x 3 5/16"	2¼"	1 1/16"
574	617	Metal Rd.	3¾"	4½"	3¾"	1 19/32"
574	617	Metal Surface	3¾"	4½"	3¾"	—
600	601	Bakelite Sq.	3¾"	4½" x 4"	2¾"	1 1/16"
641†	642†	Styrene Sq.	4¼"	4½" x 3 27/32"	2¾"	1⅛"
645†	646†	Styrene Sq.	4½"	4⅝" x 4 3/16"	2¾"	1⅛"
647	648	Bakelite Sq.	4"	4½" x 4 3/16"	2¾"	1⅛"
602	—	Metal Rd.	5"	6 11/16"	3"	1¼"
583	—	Metal Rd.	6¼"	8⅜"	3"	1 17/32"

PRICES:

Range	PANEL MOUNTING #17/3 #635, #649	#17/L	#582 #597	#570 #607	#574, 641-5 #600, 647	#583	#602	PORTABLE #578	#515
D.C. MILLIAMMETERS									
	$8.70	$9.00	$9.20	$9.70	$10.20	$15.50	$12.50	$11.15	$13.10
Standard Single Milliammeter Ranges: 0/1*, 0/3, 0/5, 0/10, 0/15, 0/25, 0/30, 0/50, 0/100, 0/150, 0/200, 0/300, 0/500 MA.									
D.C. MICROAMMETERS									
0/20	$15.70	$16.00	$16.20	$16.70	$17.20	....	....	....	....
0/50	13.20	13.50	13.70*	14.20	14.70	....	....	$15.65	$17.60
0/100	11.50	11.80	12.00	12.50	13.00	$18.30	$15.30	13.95	15.90
0/200	9.75	11.10	10.30	10.80	11.30	16.60	13.60	12.25	14.20
0/500	9.30	9.50	9.80	10.30	10.80	16.10	13.10	11.75	13.70
D.C. MILLIVOLTMETERS									
0/50	8.70	9.00	9.20	9.70	10.20	15.50	12.50	11.15	13.10
D.C. AMMETERS									
0/1	8.70	9.00	9.20	9.70	10.20	15.50	12.50	11.15	13.10
0/5	8.90	9.20	9.35	10.20	10.40	16.20	13.20	11.35	13.30
Prices for Standard Ranges of 0/10, 0/15, 0/25, 0/30*, 0/50* Amps. are same as 0/5 Amp. prices above on all models.									
D.C. VOLTMETERS									
	9.40	9.70	9.90	10.40	10.90	16.20	13.20	11.85	13.80
Prices for Standard Ranges of 0/1, 0/3, 0/5, 0/10, 0/15, 0/25, 0/30, 0/50*, 0/100, 0/150*, 0/300* volts are same as above on all models. Prices for Standard Ranges of 0/500, 0/600, 0/750 volts are below.									
	9.90	10.20	10.40	10.90	11.40	16.70	13.70	12.35	14.30

* These ranges carried in stock on Model 582 or 597 only. (Calibrated for non-magnetic panels.)

NOTE: If "in-between" ranges are required, add $1.00 to price of next higher range listed. If "zero-center" ranges are required, add $1.00 to price of that range. For in-between ranges on moving-coil type Voltmeter 150 volts and up, add $2.50 to prices shown. Voltmeter Sensitivity — Ranges 1-50 volts are 100 ohms per volt. Ranges 50-500 volts are 1000 ohms per volt. Ranges 500-750 volts are 2000 ohms per volt.

NOTE: Please specify type of case on order from chart above. Unless specified, all meters are calibrated on non-magnetic panels. If steel panels are used, give thickness of steel and size of panel hole (No extra charge). All prices are net — subject to change or withdrawal without notice.

STANDARD SWITCHBOARD SHUNTS

For price of high current Ammeters, add price of 50 millivoltmeter to price of external shunt, below. 3-ft. leads furnished with shunts. Further specs. on request.

0/25	$7.00	0/100	$7.00*	0/500	$12.25	0/1500	$37.45
0/30	7.00	0/150	7.00	0/600	14.65	0/2000	44.75
0/50	7.00	0/200	7.00	0/800	19.00	0/2500	56.75
0/75	7.00	0/300	8.10*	0/1000	26.50	0/3000	68.15

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Hoyt PANEL AND PORTABLE INSTRUMENTS

Fine Instruments for more than Fifty Years

PRICES: Range	PANEL MOUNTING #552 #636, #650	#560	#584 #598	#580 #610	#617 #601, 648	PORTABLE #562	#517
A.C. MILLIAMMETERS							
	$8.40	$8.80	$9.00	$9.60	$10.20	$11.15	$13.10
Standard single Milliameter ranges for all models at above prices are 0/10, 0/30, 0/50, 0/100, 0/150, 0/200, 0/300, 0/500 MA.							
A.C. AMMETERS							
	$8.40	$8.80	$9.00	$9.60	$10.20	$11.15	$13.10
Standard single Ammeter ranges for all models at above prices are 0/1, 0/3, 0/5, 0/10, 0/15, 0/25, 0/30*, 0/50* Amps. AC Ammeters are self-contained to 75 Amps.							
0/75	....	....	10.70	11.30	11.70	12.85	14.80
A.C. VOLTMETERS							
	$8.40	$8.80	$9.00	$9.60	$10.20	$11.15	$13.10
Prices for Standard Ranges of 0/5, 0/10, 0/15 volts same as above on all models.							
Prices for Standard Ranges of 0/25, 0/30, 0/50, 0/100 volts are below.							
	$8.70	$9.10	$9.30	$9.90	$10.20	$11.15	$13.10
Prices for 0/150* and 0/300* volts are:							
	$9.45	$9.90	$10.10	$10.60	$11.10	$12.05	$14.95
Prices for 0/500 and 0/600* volts are:							
	....	....	$14.50	$15.00	$15.50	$16.45	$19.35

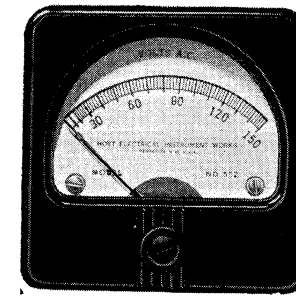
* These ranges carried in stock on Model 584 or 598 only (calibrated for non-magnetic panels).
NOTE: For AC Rectifier-type Voltmeters — 5 through 300 volts — add $5.00 to price of comparable DC model. (See DC-AC Specification Chart on opposite page.)

NOTE: If "in-between" ranges are required, add $1.00 to next higher price as shown above. Standard calibration is for non-magnetic panels. Steel panel calibration at no extra charge if order specifies thickness of steel and size of panel hole. Please specify type meter case on order.

HIGH CURRENT DONUT TYPE TRANSFORMERS

For prices of higher current AC Ammeters, add price of ammeter model above to transformer price below. Transformers have 2-ft. leads and 2 VA burden. Other ranges available on request.

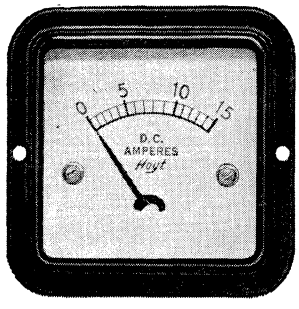
100/5	$8.45	200/5	$8.45	600/5	$10.55
150/5	8.45	300/5	8.45		



MODEL Nos. 636 and 598

HOYT A.C. Meters for indicating 60 cycle Voltage and Current are of the repulsion type with pneumatic damping. Furnished in the same case styles and sizes as HOYT D.C. Meters, they match the D.C. meter where both types are used on the same panel. See DC-AC Specification Chart on opposite page.

Accuracy is 2%. A choice of pointers is available, and special shields can be supplied at additional cost.



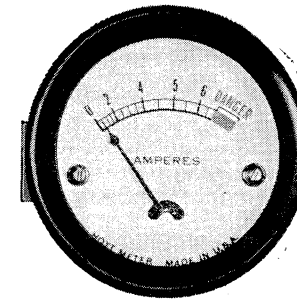
MODEL No. 693
2½" Rect. Case

MAGNETIC VANE MOVEMENTS

HOYT magnetic Vane-type Indicators have been used for many years by the leading manufacturers of electrical devices.

Attractive appearance is combined with a sturdy movement. Furnished in round or square cases at low cost. Standard finish on metal cases is black. Chrome Plate is available at slight additional cost. Many types of mounting arrangements available.

NOTE: A.C. Vane Meters are furnished in quantity only. Prices on request.



MODEL No. 640
2¼" Round Case

MODEL DC	MODEL AC	CASE TYPE PANEL MTG.	SCALE LENGTH AC - DC	FLANGE	BODY DIA. AC - DC	BODY DEPTH AC - DC
640	531AC	Nar. Metal Rd.	1¼"	2 9/32"	2"	1 5/64"
640	531AC	Metal Surface	1¼"	2⅜"	2"	—
693	594	Metal Sq.	1 5/16"	2⅝" x 2⅝"	2 1/16"	9/16"

Range	#640	#693
D.C. MILLIAM.		
0/3	$2.55	$2.60
0/5	2.30	2.35
0/10	2.15	2.20
0/15	1.85	1.90
Prices for ranges of 0/25, 0/30, 0/50, 0/100, 0/150, 0/200, 0/300, 0/500 MA are:	$1.80	$1.85

Range	#640	#693
D.C. AM.		
Prices for ranges of 0/1, 0/5, 0/10, 0/15 Amps. are:	$1.80	$1.85
0/25	2.25	2.30
0/30	2.25	2.30
0/50	2.45	2.50
0/75	2.85	2.95
0/100	3.30	3.40

Range	#640	#693
D.C. VOLTM.		
Prices for ranges of 0/1, 0/3, 0/5, 0/10, 0/15 volts are:	$1.80	$1.85
0/25	2.10	2.15
0/30	2.10	2.15
0/50	2.25	2.30
0/100	2.25	2.30
0/150	2.30	2.35

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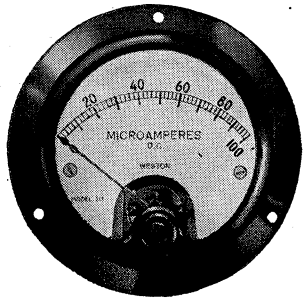
WESTON INSTRUMENTS

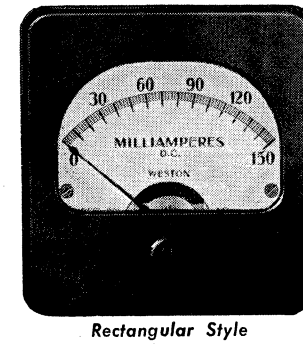


Round Style

PANEL INSTRUMENTS

These panel instruments reflect half a century of instrument skill, and the Weston tradition of building instruments to the highest standards of dependability and service.

Models 301, 425 and 476 are available in round flush bakelite cases 3½" or 3⅜", and 3¼" metal cases with black finish; also in round surface metal and rectangular flush bakelite cases. Models 301 and 425 supplied in round surface bakelite cases. All are calibrated normally for use on non-magnetic panels. For magnetic panel use, instruments will be adjusted for a specified steel panel thickness. Order instruments in bakelite cases for use on circuits above 300 volts when it is not possible to connect in grounded side of line. The 1301 line of instruments listed at bottom, incorporate the Weston CORMAG ® self-shielded mechanism. They can be mounted interchangeably on magnetic or non-magnetic panels without need for adjustment. For other instrument prices, write to Weston Electrical Instrument Corporation, Newark 5, New Jersey.



Rectangular Style

3½" PANEL INSTRUMENTS

MODEL 301 — D-C VOLTMETERS

Approximate resistance of Model 301 in ohms per volt — 1 to 30 volts, 62; 50 to 150 volts, 200; 200 volts, 250.

Range	Price	Range	Price	Range	Price
3	$15.75	15	$15.75	150	$17.25
5	15.75	30	15.75	200	18.00
8	15.75	50	15.75		
10	15.75	100	16.50		

With Resistance of 1,000 ohms per volt

Range	Price	Range	Price	Range	Price
50	$16.50	300	$20.25	1.5KV	$44.25*
100	17.25	500	24.75	2 KV	49.25*
200	18.75	1KV	32.25	3 KV	59.25*

* Supplied with external resistor.

MODEL 301 — D-C MILLIAMMETERS *

Range	Approx. Res. Ohms	Price	Range	Approx. Res. Ohms	Price
1	105	$15.75	30	1.2	$15.75
1.5	27	15.75	50	2.0	15.75
2	27	15.75	100	1.0	15.75
5	5.7	15.75	150	0.66	15.75
10	2.0	15.75	200	0.5	15.75
15	2.0	15.75	300	0.33	15.75
20	2.0	15.75	500	0.2	15.75

* Milliammeters with ranges above 40 MA. are shunted, and have a drop of approximately 100 MV.

MODEL 301 — D-C AMMETERS *

Single Ranges: 1/1.5/2/3/5/10/15/30/50 at $15.75

* Ammeters are supplied in self-contained ranges up to 50 amperes inclusive, and have a drop of 50 MV ±5%. Ranges above 50 amperes require external shunts.

MODEL 301 — D-C MICROAMMETERS

Range	Price	Range	Price
20	$30.00	100	$27.00
30	30.00	200	19.50
50	28.25	500	19.50

MODEL 301 — RECTIFIER TYPE A-C VOLTMETERS

Range	1000 ohms per volt	2000 ohms per volt	Range	1000 ohms per volt	2000 ohms per volt
1	.....	$28.00	50	$25.00	$28.00
1.5	.....	28.00	100	25.75	28.75
3	$25.00	28.00	150	26.50	29.50
5	25.00	28.00	300	28.75	.....
15	25.00	28.00			

MODEL 301 — RECTIFIER TYPE A-C MILLIAMMETERS

Range	Price	Range	Price
0.5	$28.00	2	$24.25
1	24.25	5	24.25

MODEL 301 — RECTIFIER TYPE A-C MICROAMMETERS

Range	Price	Range	Price
100	$34.50	250	$28.00
200	28.00	500	28.00

MODEL 301 VU METER

A OR B SCALE.....Price $35.00

MODEL 476 — A-C AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/30/50 at $15.75

MODEL 476 — A-C VOLTMETERS

Single Ranges: 1.5/3/5/8/10/15/30/50 at $15.75

Range	Price	Range	Price
100	$16.50	250	$18.75
130	17.25	300	19.50
150	17.25	500	22.50

MODEL 425 — THERMOCOUPLE TYPE AMMETERS

Single Ranges: 1/1.5/2/3/5/8/10/15/20 at $23.25

MODEL 425 — THERMO MILLIAMMETERS

Ranges: 10/20/50 .....$57.75

100/115/120/150/200/300/500 .....$26.50

CORMAG® 3½" PANEL INSTRUMENTS

MODEL 1301 — D-C VOLTMETERS

With sensitivity of approximately 1000 ohms per volt.

Single Ranges: 3/5/10/15/30/50/100/150 at $12.00

200 volts at $12.50

MODEL 1301 — D-C AMMETERS *

Single Ranges: 1/2/3/5/10 at $11.50

15/30/50 at $12.50

* Ammeters are supplied in self-contained ranges up to 50 amperes inclusive, and have a drop of 50 MV ±5%. Ranges above 50 amperes require external shunts.

MODEL 1301 — D-C MILLIAMMETERS

Range	Approx. Res.	Price	Range	Approx. Res.	Price
1	88	$11.50	50	2.0	$11.50
5	8	11.50	100	1	11.50
10	1.1	11.50	200	0.5	11.50
15	1.1	11.50	300	0.33	11.50
20	1.1	11.50	500	0.2	11.50
30	1.0	11.50			

MODEL 1301 — D-C MICROAMMETERS

Range	Price
100	$14.50
200	12.00
500	12.00

MODEL 1302 — RECTIFIER TYPE A-C VOLTMETERS

Range	Price 1000 Ω/V	Price 2000 Ω/V	Range	Price 1000 Ω/V	Price 2000 Ω/V
1.5	$.....	$17.50	50	$17.00	$.....
3	17.00	17.50	100	17.00	.....
5	17.00	.....	150	17.00	18.00
15	17.00	17.50	300	17.50	.....

MODEL 1302 — RECTIFIER TYPE A-C MILLIAMMETERS

Single Ranges: 1/5 at $17.00

MODEL 1302 — RECTIFIER TYPE A-C MICROAMMETERS

Range	Price
200	$19.50
500	17.00

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WESTON INSTRUMENTS

4¼" PANEL INSTRUMENTS

MODEL 961—D-C INSTRUMENTS

Rated accuracy 2% of full scale—Scale 3.17" (80.3 mm)—Permanent Magnet Moving Coil Type.

D-C VOLTMETERS

Range	Scale Div.	Price
1	50	$24.00
2	40	24.00
3	60	24.00
5	50	24.00
7.5	75	24.00
10	50	24.00
15	75	24.00
25	50	24.00
50	50	24.00
80	40	24.00
100	50	24.75
130	65	25.50
150	75	25.00
200	40	26.25
250	50	27.75
300	60	28.50
500	50	31.50

Self-contained ranges listed have sensitivity of approximately 200 ohms per volt up to and including 200 volts; higher ranges are 1000 ohms per volt.

D-C MILLIAMMETERS

Range	Scale Div.	Approx. Res.	Price
1	50	80	$24.00
3	60	7.3	24.00
5	50	2.8	24.00
10	50	1.25	24.00
25	50	1.0	24.00
50	50	2	24.00
100	50	1	24.00
200	40	0.5	24.00
300	60	0.33	24.00
500	50	0.2	24.00

Ranges above 25 milliamperes are shunted and have a drop of approximately 100 millivolts.

D-C AMMETERS

Range	Scale Div.	Price	Range	Scale Div.	Price
1	50	$24.00	5	50	$24.00
1.5	75	24.00	10	50	24.00
2	40	24.00	25	50	24.00
3	60	24.00	50	50	24.00

Regularly supplied with self-contained shunts up to and including 50 amperes, but can be supplied with external 50 mv shunts and 5 foot (0.065 ohm) leads.

D-C MICROAMMETERS

Range	Scale Div.	Approx. Res. Ohms	Price
30	60	1800	$39.75
50	50	720	38.00
75	75	450	38.00
100	50	250	36.50
200	40	400	27.75
300	60	175	27.75
500	50	80	27.75

MODEL 963—THERMO AMMETERS

Rated accuracy 2% of full scale . . . Scale 3.17" . . . Thermocouple type.

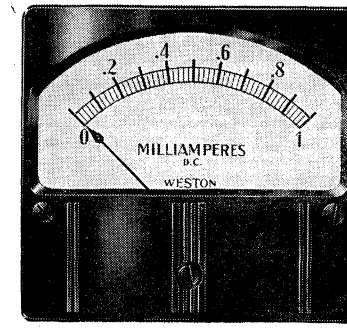
POWER CONSUMPTION: 1 to 4 amperes incl. varies from 0.2 to 0.4 watt per ampere. Approx. 5 amperes and above—0.2 watt per ampere.

Frequency errors less than 2% up to 65 megacycles.

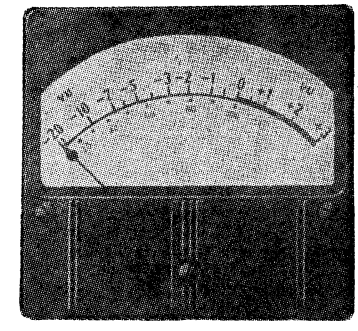
Amps.	Scale Div.	Price	Amps.	Scale Div.	Price
1	50	$31.50	5	50	$31.50
1.5	75	31.50	6	60	31.50
2	40	31.50	8	40	31.50
2.5	50	31.50	10	50	31.50
3	60	31.50	15	75	31.50
4	40	31.50	20	40	31.50

The ranges are all self-contained.

Through the use of specially controlled characteristics, thermo ammeters can be supplied to meet the special requirements of the FCC for antenna ammeters.



MODEL 961



MODEL 962—TYPE 30 VU METERS

Model 962 VU Meters are available with a choice of two scales. Type A stresses the level in VU and is used largely in monitoring wire lines. Type B emphasizes per cent use of transmitter output and is the standard for broadcast service. Scale backgrounds are buff colored.

Scale A or B.....Model 962—**$42.50**

MATCHED A-C AND D-C PORTABLE INSTRUMENTS

MODEL 433—A-C INSTRUMENTS

Scale Length 4.04"—Accuracy within ¾ of 1% — Movable Iron Type — Shielded Case Size 5-1/16" x 5¼" x 3¼"—Weight 2½ lbs.—Hand Calibrated Mirror Scales Bakelite Case with Carrying Strap.

Note: These instruments are calibrated for use in a horizontal position.

A-C VOLTMETERS

Made with single, double and triple ranges. For use on frequencies from 25 to 125 cycles.

Range	Net Price
10, 30, 50, 75	$ 72.00
10/5, 20/10, 30/15	79.50
450/300/150	101.25
600/300/150	103.50
750/300/150	105.75

A-C MILLIAMMETERS

Made in single and double ranges only, for use on frequencies from 25 to 500 cycles.

Range	Net Price
15, 30, 75, 500	$70.50
300/150	85.50

A-C AMMETERS

Made in single, double and triple ranges for use on frequencies from 25 to 500 cycles. All instruments have two binding posts; double and triple range instruments are provided with a range selector switch.

Range	Net Price
1, 1.5, 2, 3	$ 70.50
15, 25, 30	76.50
2/1, 5/2.5, 10/5	85.50
3/1.5/0.75, 5/2.5/1, 10/5/1	130.50
20/5/2, 30/7.5/3, 50/20/5	136.50

MODEL 931—D-C INSTRUMENTS

Scale Length 4.04"—Accuracy within ½ of 1% Core Magnet Moving Coil Type. Case Size 5-1/16" x 5¼" x 3¼"—Weight 2 lbs. — Hand Calibrated Mirror Scales — Bakelite Case with Carrying Strap.

Note: These instruments are calibrated for use in a horizontal position.

D-C VOLTMETERS

Range	Net Price 1,000 Ohms Per Volt	Net Price 5,000 Ohms Per Volt
3, 15, 50	$ 82.00	$ 97.00
300/150/3	100.00	115.00
750/300/150	106.75	121.75

D-C AMMETERS

Range	Net Price
1, 1.5, 3, 5	$ 85.00
30/15/3	91.00
50/20/5	100.00

Self-contained up to 50 amperes inclusive, but can be supplied with external 50 mv shunts and 5 ft. leads.

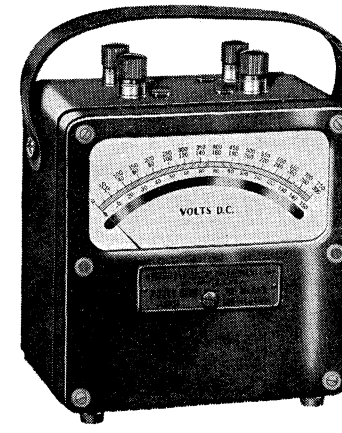
D-C MILLIAMMETERS

Range	Net Price
15, 150	$ 80.50
1500/150/15	100.00
15/1.5/.15	104.50

Single range Milliammeters with ranges above 30 ma are shunted and have a drop of 50 mv ±5%.

D-C MICROAMMETERS

Range	High Resistance: Approx. Res. Ohms	High Resistance: Net Price	Low Resistance: Approx. Res. Ohms	Low Resistance: Net Price
30	2300	$104.50	490	$112.00
100	2000	97.00	60	104.50
200	600	89.50	15	97.00



MODEL 432—D-C AND SINGLE PHASE A-C WATTMETERS

Double voltage and single or double current ranges, self-contained up to 300 volts and 50 amperes, frequencies from 25 to 125 cycles.

Electrodynamometer Type
Accuracy ½ of 1% .....Scale Length 4.04"
Case Size 5 1/16" x 5¼" x 3¼".....Wt. 3¼ lbs.

Normal Volts	Normal Amps	Net Price
150/75	1	$124.75
Double Current Ranges		
300/150	5/2.5	145.75

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Net

WESTON Electronic TEST EQUIPMENT

A New Simplified Approach to TV Alignment

The Weston Model 980 line provides servicemen with the most advanced, and by far the most simple and accurate method of TV receiver alignment. It comprises all of the instruments necessary for all-purpose observation of complex wave forms by the electronic industry.

With the Weston method, the output of the sweep generator is fed into the calibrator making it unnecessary to connect the calibrator to the TV set. Only two connections are necessary. This eliminates receiver oscillations ordinarily encountered with the conventional method of receiver test hook-up. Further, there is no disappearance of markers at trap resonant frequencies. Response curve is not disturbed. Annoying trimmer touch-up on trap circuits is minimized.

This simplified technique is only possible when the companion instruments—Weston Calibrator and Sweep Generator—are used with a scope having provisions for Z-axis intensity modulation. However, individual instruments in the Model 980 line can be used with available test equipment in the conventional method of alignment.

WESTON MODEL 985 CALIBRATOR

The Weston Model 985 Calibrator is a highly functional instrument for TV shop, engineering, laboratory, and industrial alignment applications. Markers are provided for waveform patterns, local tuner oscillator frequencies, and trap circuit alignment. The instrument is extremely useful for making linearity adjustments, calibrating signal generators, and determining signals of unknown frequencies.

FEATURES

SCALE CALIBRATION: The frequency calibration of each frequency setting can be checked and adjusted with crystal accuracy. Crystal calibrating points are available at 1.5 and 4.5 megacycles throughout the entire scale. A scale shift knob is provided to align properly the scale with the crystal calibrating dots. A neon type bulb is utilized to indicate visibly the crystal frequency points.

SCALE PRESENTATION: Slide rule type in which one scale is visible at a time. Ten scale range bands available . . . total scale length of 8¼ ft.

DUAL MARKERS: 4.5 mc side band markers permit simultaneous observation of video and sound carrier.

INTERNAL MARKERS: Special circuitry provides an internal marker of either a positive or negative pulse suitable for Z-axis intensity modulation of the scope pattern. This eliminates the necessity of feeding an RF calibrator signal directly into the TV receiver which can cause overload and oscillation in the TV set. The marker is visible even at the sound trap frequencies.

HETERODYNE DETECTION: With an input sensitivity of 500 microvolts, the local TV receiver-tuner channel oscillator frequency can be determined without tuner disassembly.

BAR PATTERN GENERATOR: Amplitude modulated signals of the band oscillator at 400 cycles for the horizontal linearity check and 300 KC for the vertical linearity check can be readily fed to TV antenna terminals to produce horizontal and vertical bars.

SPECIFICATIONS

FREQUENCY RANGE (with Variable Frequency Oscillator):
- 4-110 megacycles in 7 bands.
- 170-260 megacycles in 3 bands.
- Use of second harmonic is suitable for UHF 340-520 megacycles in 3 bands.

OUTPUT ATTENUATOR RANGE: 100% to 1%.

CRYSTAL MARKER ACCURACY: 1.5 mc position ±0.01%
4.5 mc position ±0.01%

INTERNAL MODULATION FREQUENCIES: 400 cps, 300 KC, 4.5 mc

HETERODYNE INPUT SENSITIVITY: 500 microvolts

LINEARITY ADJUSTMENT: Horizontal — 400 cycles
Vertical — 300 KC

DUAL MARKERS: Video and sound . . . available for either Z-axis intensity modulation of scope or conventional marker pip display.

TUBE COMPLEMENT: 6BA7, 12AT7, 6CL6, 6AL5, 6X4, 6T4.

POWER SUPPLY: 105/125 volts, 50/60 cycles per second.

SCALE LENGTH: 8¼ ft.

CASE: Grey hammertone finished steel.

PANEL: Aluminum finish with etched black markings.

SIZE: 13.5" x 10" x 6.75"

APPROX. WEIGHT: 18¾ lbs.

Model 985 ..... **Net Price $199.50**

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WESTON Electronic TEST EQUIPMENT

MODEL 983 OSCILLOSCOPE

The Model 983 is a high gain, wideband Oscilloscope designed to accurately reproduce waveforms comprising a wide band of frequencies. High sensitivity of 15 millivolts per inch RMS makes this Oscilloscope ideal for — setting resonant traps . . . signal tracing in low level stages . . . as a general null indicator . . . for phase characteristic measurement in Industrial Applications . . . and for sweep frequency visual alignment of TV receivers.

The scope contains identical vertical and horizontal push-pull amplifiers with a choice of a-c or d-c coupling without affecting either sensitivity or bandwidth. Both amplifiers have compensated step attenuators and cathode follower input.
It has excellent square wave reproduction with overshoot of only 2 to 5% with a rise time of 0.1 microsecond. The scope response is essentially flat throughout the specified range of 4.5 mc and is usable to 6 mc.

The unit has provisions for internal voltage calibration, internal phased sine wave, and Z-axis intensity modulation. Reversal of polarity of both horizontal and vertical signals is easily accomplished by means of toggle switching. Tube replacements are non critical, and etched circuitry facilitates quick and rapid maintenance.

SPECIFICATIONS

WIDE BAND FREQUENCY RESPONSE: Flat within 1.5db from 0-3.6 mc and within —3db to 4.5 mc on both vertical and horizontal amplifiers. Transient response: overshoot 2 to 5%. Rise time: 0.1 microsecond.

HIGH DEFLECTION SENSITIITY: 15.0 millivolts per inch, RMS, on both vertical and horizontal amplifiers.

PHASE SHIFT: Between Horizontal-Vertical Amplifiers, 0 to 500 kc — 0°; to 1 mc within 2°; by internal adjustment with gain controls at max. 0° phase shift possible on any specific frequency to 6 mc.

CALIBRATING VOLTAGES: 500 millivolts, 5 volts, 50 volts, 500 volts, peak to peak.

Z-AXIS MODULATION: Input terminal mounted on front panel.

SWEEP FREQUENCIES: 10-500,000 cps, variable. Preset TV/V Position—30 cps. Preset TV/H Position—7875 cps. Retrace Time—better than 2% to 100 kc; at 500 kc less than 10%.

INTERNALLY PHASED SINE WAVE.

VERTICAL AND HORIZONTAL POLARITY: Reversible.

INPUT IMPEDANCE: Vertical Amplifier (without Shielded Cable), 1 meg shunted by 60$\mu\mu$f. Vertical Amplifier (with Shielded Cable), 1 meg shunted by 120$\mu\mu$f. Vertical Amplifier (with Low Capacitance Probe), 2 meg shunted by 15$\mu\mu$f. Horizontal Amplifier (without Shielded Cable), 1 meg shunted by 60$\mu\mu$f.

POWER SUPPLY: 105/125 volts, 50/60 cycles.

TUBE COMPLEMENT: (1)-1V2, (1)-5U4-GA, (5)-6BQ7A, (4)-12BY7A, (4)-6AH6V, (1)-6U8, (1)-5UP1, (1)-OD3, (1)-5N060T, (1)-6BK7A.

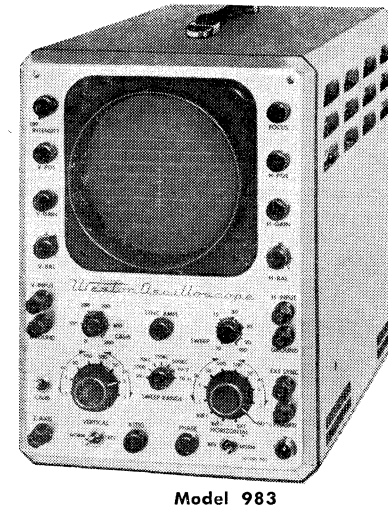
CASE: Grey hammertone finished steel.

PANEL: Aluminum finish with etched, black markings.

SIZE: 10" x 14" x 19.5". (254 x 342.9 x 457.2mm)

APPROX. WEIGHT: 40 lbs. (18.2 kgs.)

Net Price $329.50



Model 983

WESTON MODEL 984 SWEEP GENERATOR

The Weston Model 984 is a top performance instrument, precision built for effective trouble shooting of sound and video IF circuits, associated trap circuits, TV tuners, video amplifiers and all-purpose visual alignment. It has a high flat output voltage.

FEATURES

BLANKING: Special circuitry produces a zero output reference base which is essential for relative gain measurements.

RF OUTPUT: Frequency modulated signal, TV Channels 2 to 13 inclusive, complete FM coverage available by means of two preset selector positions. FREQUENCIES ARE FUNDAMENTALS OF THE OSCILLATOR FREQUENCY.

IF/VIDEO OUTPUT: Frequency modulated signals ranging to 50 megacycles, continuous tuning, signals free from harmonics.

SWEEP WIDTH: Full 10 megacycles on all channels.

SCOPE TERMINAL: For scope without 60 cycles phased position.

SPECIFICATIONS

SWEEP WIDTH: 0-10 Megacycles (continuously variable for both IF and RF ranges).

OUTPUT VOLTAGE (RMS): 0.1 Volt . . . sweep is linear.

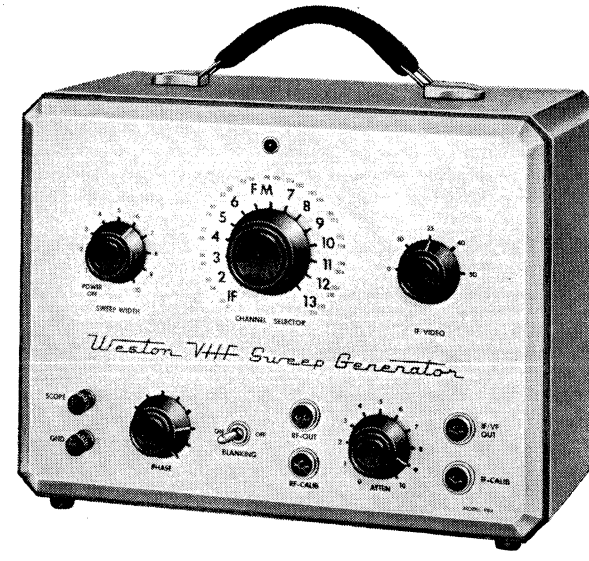
RF OUTPUT: TV channels 2 to 13 preset. Complete FM coverage available by means of two additional preset selector positions.

IF/VIDEO OUTPUT: 50 Megacycles (continuous tuning).

HORIZONTAL SWEEP FOR OSCILLOSCOPE: Phase adjustment range — 165°. Frequency — Power Line 50-60 cycles per second.

CABLE TERMINATION: RF output — 300 ohms balanced. IF output — 100 ohms.

POWER: 105/125 volts, 60 cycles.



TUBE COMPLEMENT: 6J6, 6U8, 12AT7, 6X4.

CASE: Grey hammertone finished steel; leather carrying handle.

PANEL: Etched aluminum satin finish.

SIZE: 13.50" x 10" x 6.75".

APPROX. WEIGHT: 14 lbs. 4 oz.

Model 984 ..... **Net Price $199.50**

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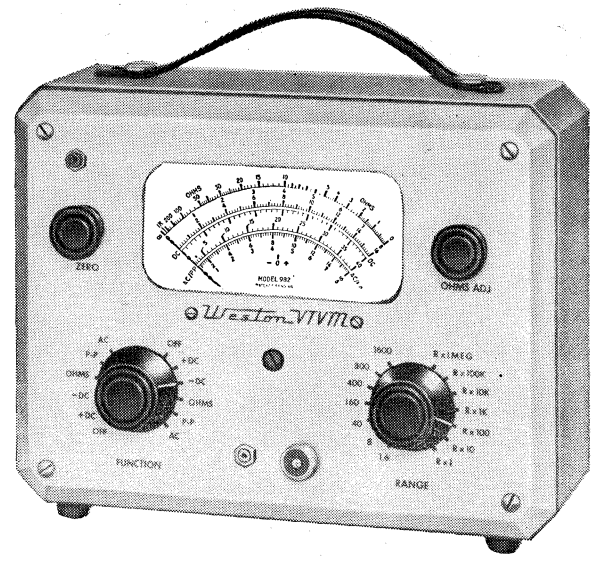
WESTON Electronic TEST EQUIPMENT

WESTON MODEL 982
VACUUM TUBE VOLTMETER

The Weston Model 982 is a self-contained, battery operated Vacuum Tube Voltmeter. It is particularly adaptable to the Radio-TV Servicing industry where the requirements of peak to peak measurement of a-c voltages exclude the use of conventional meters. This instrument makes possible quantitative measurement of all complex wave form voltages utilized in video, sync and deflection circuits with no a-c line interference in critical measurements.



FEATURES

BATTERY OPERATED: Unit affords complete isolation from spurious response due to stray a-c fields and circulating ground currents. Extremely low drain for long battery life. Power Consumption: Less than 25 milliwatts.

DIRECT PEAK TO PEAK MEASUREMENTS.

NO SWITCHING OF LEADS IS REQUIRED: One shielded lead is used for all measurements, a-c, d-c, ohms, and peak to peak.

RANGE FUNCTION SWITCH: Makes negative and positive d-c potentials measurable DIRECTLY.

HIGH INPUT IMPEDANCE: 10 megohms on d-c for accurate measurements — 2.8 megs. a-c, RMS — 1 meg. a-c, peak to peak.

NO ZERO SCALE DRIFT: Instrument can be used immediately without waiting for warm up . . . resetting of zero corrector when switching from range to range is entirely eliminated.

DC ISOLATION ADAPTOR: Makes d-c measurements possible in the presence of a-c voltages.

FREQUENCY RESPONSE: Suitable for measurement of TV wave forms, such as sync pulses, saw tooth, drive voltages, and other complex wave form voltages.

DISCRIMINATOR ALIGNMENT: Zero corrector knob has sufficient latitude to center scale.

A-C VOLTS: 20 cps — 1.5 kc; Peak-to-Peak Volts: 20 cps — 300 kc; for voltages above 160 volts peak-to-peak containing frequency components up to 300 kc a low capacitance probe is furnished. For frequencies above 300 kc to 250 megacycles an RF Probe is available.

RF PROBE is available as an accessory.

SPECIFICATIONS

ACCURACY: ±3% d-c — ±5% a-c, RMS. Sinusoidal wave form.

IMPEDANCE: 10 megs. d-c — 2.8 megs., a-c, RMS — 1 meg. a-c, peak to peak.

RANGES:

D-C Volts	1.6	8	40	160	400	800	1600
A-C Volts	1.6	8	40	160	400	800	1200
P-P Volts	1.6	8	40	160	400	800	1600
Low-C Probe P-P Volts				16	80	400	1600
Ohms	X1 Meg.	X100K	X10K	X1K	X100	X10 (10 ohms center)	X1

BATTERY LIFE: Battery A* — Approx. 90 days . . . is easily replaceable (Standard 1.5 volt, Size D Cell).
Battery B* — Shelf life approx. 1 year.

SCALE LENGTH: 4.63".

CASE: Grey hammertone finished steel with carrying strap.

PANEL: Aluminum finish with markings etched in black.

SIZE: 10" x 7.38" x 3.625".

APPROX. WEIGHT: 6 lbs. (complete with batteries and accessories).

*Based on maximum use — 8 hours per day.

Model 982 ..... **Net Price $69.50**

WESTON MODEL 980 ANALYZER
(VOLT-OHM-MILLIAMMETER)

The Weston Model 980 Volt-Ohm-Milliammeter is a highly sensitive, accurate and rugged instrument with a combination of functional ranges which provide a wide range of test measurement applications in the electronic field. The instrument has a d-c sensitivity of 20,000 ohms/volt, and an a-c sensitivity of 1000 ohms/volt. Accuracy is 2% d-c, 3% a-c.

Range and functional switching is greatly simplified by use of a single dial for all ranges and functions.

SPECIFICATIONS

ACCURACY: 2%, d-c; 3%, a-c.

SCALE LENGTH: 4.63".

RANGES:
- D-C Volts: 1.6, 8, 40, 160, 400, 1600 . . . at 20,000 ohms/volt.
- A-C Volts: 1.6, 8, 40, 160, 400, 1600 . . . at 1,000 ohms/volt.
- DB Range: −15 db to +54 db (in six ranges).
- D-C Milliamperes: 8, 80, 800.
- D-C Microamperes: 80.
- D-C Amperes: 8.

Ohms Range	Center Scale	Full Scale
R x 1	25	1,000
R x 10	250	10,000
R x 100	2,500	100,000
R x 1,000	25,000	1 megohm
R x 10,000	250,000	10 megohms

CASE: Black molded bakelite, with carrying strap.

PANEL: Black molded bakelite with engraved white markings.

SIZE: 6.25" x 7.50" x 3.25".

APPROX. WEIGHT: 2.69 lbs.

Model 980 ..... **Net Price $42.50**

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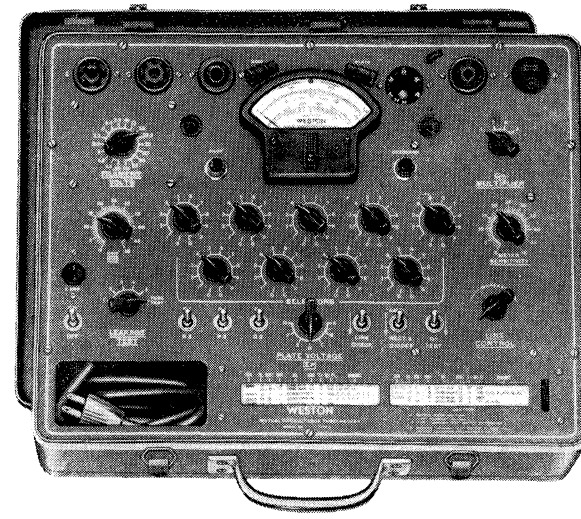
WESTON Electronic TEST EQUIPMENT

WESTON MODEL 981 PROPORTIONAL MUTUAL CONDUCTANCE TUBECHECKER



FEATURES

METER MEASUREMENT OF HIGH LEAKAGE RESISTANCE: Provides an accurate meter measurement of leakage resistance as high as 5 megohms between tube elements, thus being particularly useful for TV servicing and TV line production assembly.

MULTIPLE SWITCHING FACILITIES: Protection against obsolescence is assured through the use of nine single circuit, twelve position, selector switches. These multiple switching facilities make possible many more combinations of tube connections.

TWIN SECTION TUBES: Three toggle switches make it possible to rapidly check and compare the respective sections of twin section tubes at only one setting of the selector switches.

SINGLE SOCKET FOR EACH TUBE BASE REGARDLESS OF TUBE CONNECTION: Eliminates the possibility of plugging a tube into the wrong socket. Sockets are provided for conventional type tube bases as well as acorn, and 7 and 8 pin subminiatures.

Gm MEASUREMENTS: Gm measurements are made more accurately by using filtered d-c plate, screen grid and control grid potentials. A precision voltage divider network and selector switch allows a proportionate value of signal voltage to be chosen for testing tubes having transconductances up to 30,000 micromhos. Signal voltages of 5.2, 2.6, 1.3, and 0.65 volts peak-to-peak having a frequency of 5000 cycles are provided.

ROLL INDEX CHART: Provides comprehensive, up-to-date test data on commonly encountered tubes, as well as those infrequently used.

LEAKAGE TEST: The leakage tests are performed at a d-c potential of 125 volts. For each numbered position of the LEAKAGE TEST switch, a specific tube element is isolated and connected into a series ohmmeter circuit consisting of the isolated element, the 125 volt d-c potential, a current limiting resistor, a milliammeter, and all other elements of the tube.

VOLTAGE REGULATOR TUBES: A selenium rectifier supply furnishes 200 volts d-c for testing of voltage regulator tubes.

SUBMINIATURE TYPE TUBES: A 45 volt potential source facilitates testing of subminiature tubes.

SPECIFICATIONS

FILAMENT VOLTAGES: .65, 1.1, 1.5, 2, 2.5, 0.6a, 3.3, 5, 6.3, 7.5, 10, 13, 20, 27.5, 35, 47, 70, 115.

PLATE VOLTAGES: 90, 130, 220 volts d-c; 22, 44, 160 volts a-c.

SIGNAL VOLTAGES: 5.2, 2.6, 1.3, 0.65 volts peak-to-peak.

Gm RANGE: Up to 30,000 micromhos.

POWER REQUIREMENTS: 100 to 125 volts, 60 cycles single phase a-c, 30 watts.

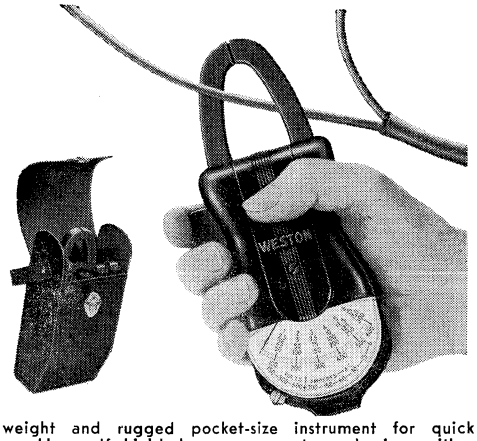
CASE: Grey hammertone finished steel.

SIZE: 17.50" x 13.25" x 6.00".

WEIGHT: 23½ lbs. (10.7 Kgs.).

Model 981 ..... **Net Price $199.50**

Model 749 Miniature Clamp Volt-Ammeter

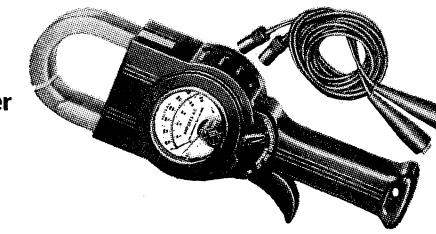


Light weight and rugged pocket-size instrument for quick easy servicing. Has self-shielded core magnet mechanism with spring backed jewels, and shatter-proof Plexiglas window. Only one scale for all ranges and functions. Jaws take up to 1" round, or 1¾" x ⅜" rectangular conductors. Furnished with test leads in scuff-proof case. Plug-in adapter available with plug receptacles for reading ampere scale directly, or reducing the range by a factor of ten. Also permits voltage measurements.

RATED ACCURACY: (Model 749) ±3% full scale deflection.
RANGES: Current 300/150/60/30/15/6 amperes a-c.
Voltage 600/300/150 volts a-c.

Model 749 — $44.50 complete
Plug-in Adapter — $4.75

Model 633 Clamp Volt-Ammeter and Clamp-Ammeter



MODEL 633 Type VA-1

	Net Price
Model 633 Type VA-1 (Incl. Potential Leads) — 1000/250/100/25/10 amperes a-c 700/350/175 volts a-c	$ 95.00
Model 633 Type A-1 — 500/250/100/50/25/10 amperes a-c	$ 87.00
Model 633 Type A-2 — 1000/500/250/100/25/10 amperes a-c	$ 87.00
Model 633 Type A-3 — 2000/1000/500/250/100/50 amperes a-c	$ 95.00
Model 9958, 50 Foot Extension Cable, Plug & Receptacle for Model 633 Types A-1, A-2, A-3	$ 72.00
Leather Carrying Case (Model 633 Types VA-1, A-1, A-2, A-3)	$ 13.50
Leather Carrying Case (Model 9958 — Cable, Plug and Receptacle)	$ 22.50

— NOTE —

Model 633 instruments may be used for continuous duty up to 500 amperes.

Approximate Dimensions and Weights

Model 633 Types VA-1, A-1, A-2, A-3.....13⅝"x4⅜"x2½" 3¼ lbs.
Leather Carrying Case (Types VA-1, A-1, A-2, A-3)....14½"x5½"x3⅝" 2¼ lbs.
Model 9958, 50 Foot Extension Cable, Plug & Receptacle....4¼ lbs.
Leather Carrying Case (Model 9958—Cable, Plug & Receptacle) 14"x8½"x3¾" 4¼ lbs.

Prices Subject To Change Without Notice.

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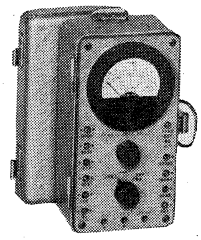
Net

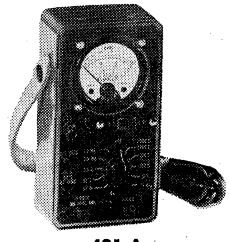
MULTITESTERS and VTVM'S

More Ranges — More Accuracy — More Style for the Money

Chicago INSTRUMENTS

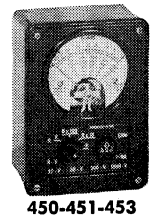


421-D



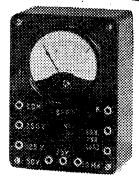
431-A

551-660

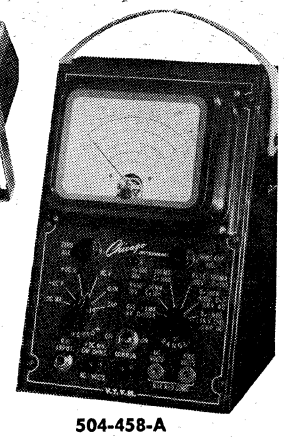


450-451-453

541



371-312



504-458-A

Model 421-D AC-DC VOM Net $24.50
Rugged, aluminum military type case with removable cover offers complete protection against extra hard usage. Bridge selected multipliers and shunts accurate within 1%. 5000 ohms per volt sensitivity. AC-DC Volt Ranges: 0-4/10/40/100/400/1000. DC Milliamperes: 0-4/40/100/400. Ohms Full Scale: 0-10,000/100,000/1 meg. Ohms Center Scale: 60/600/6000.

Model 431-A AC-DC VOM Net $19.50
A quick, rotary type range selector is featured in this popular multitester. Shunts and multipliers accurate to 1%. 1000 ohms per volt sensitivity. AC-DC Volt Ranges: 0-15/30/150/300/1500/3000. DC Amperes: 0-7.5. DC Milliamperes: 0-1.5/150. Ohms Full Scale: 0-10,000/100,000/1 meg. Ohms Center Scale: 60/600/6000. Aluminum Case with handy leather carrying strap. Size: 6⅛" x 3¼" x 2¾".

Model 450 Featherweight VOM Net $14.00
The original palm size multitester has retained its popularity over the years because of its accuracy, convenience and rugged dependability. Tiny molded case has no projections to catch in the pocket — a real pleasure to use! 1000 ohms per volt sensitivity. Same accuracy as larger Chicago instruments. DC Volts: 0-5/10/50/500/1000. Mils: 0-1. Ohms Full Scale: 5000/50,000/500,000. Ohms Center Scale: 30/300/3000. Size only 3-15/16" x 2⅞" x 2".

Model 451 Featherweight AC-DC VOM Net $16.00
Same as Model 450 with exception of ranges: DC Volts: 0/10/50/100/500/1000. AC Volts and Output: 0-10/50/100/500/1000. Ohms Full Scale: 500,000. Ohms Center Scale: 3500.

Model 453 Featherweight AC-DC VOM Net $19.50
Same as Model 450 except for ranges. AC-DC Volts: 0/15/30/150/300/1500/3000. D.C. Mils: 0-150. Ohms Full Scale: 5000/50,000/500,000. Special Carrying Cases for all 450 Series VOMA's. Dual Compartment Leather Case (One compartment for test leads). Net $5.00

Model 371 Simplex VOM Net $7.00
An extremely useful iron vane type instrument that offers more features for its price than anything on the market. DC Volt Ranges: 0-3/15/30/300. DC Mils: 0-25. Ohms Full Scale: 10,000. Molded Bakelite Case only 1⅞" x 2¾" x 3⅞".

Model 312 Simplex AC-DC VOM Net $9.00
Similar to Model 371 except for ranges. AC-DC Volts: 0-25/50/125/250. AC-DC Mils: 0-50. Ohms Full Scale: 100,000. Ohms Center Scale: 2400. Capacity: .05 to 15 MFD.

Model 551 AC-DC VOM Net $17.50
A radically new type of multitester offering more useful ranges than many instruments twice its size and price. All shunts and multipliers are within 1% accuracy and are mounted inside the actual meter case. 1000 ohms per volt sensitivity. Instrument protected by attractive black leather wrap-around case permanently attached. Compare these ranges: DC Volts: 0-5/10/50/100/500/2000. AC Volts: 0-12.5/25/125/250/1250. Lo Ohm Scale: 0-1000. Ohms Full Scale: 0-200,000/2 meg. DC Mils: 0-1/10/100. Size only 6½" x 5½" x 2⅜".

Model 660 Hi Sensitivity VOM Net $29.50
Similar to Model 551 except 20,000 ohms per volt. AC-DC Volts 0-2.5/10/25/100/250/1000 and 2500 VDC. Five ohms ranges to 40 meg. DC Mils: 0-250.

Model 458-A AC-DC VOM Net $29.50
Exclusive design case slanted for better visibility. Ideal for bench use as large meter can easily be read at a distance. Contains every useful range including amperes. Appearance similar to Model 504 V.T.V.M. 1000 Ohms per volt sensitivity. AC-DC Volts: 0-2.5/10/50/250/1000/5000. AC-DC Mils: 0-1/10/100. AC Amps: 0-.05/1/5/10. DC Amps: 0-1/10. Ohms Full Scale: 1000/200,000/2 meg. Ohms Center Scale: 50/2250/22,500. Attractive brown Hammerloid finished case with leather carrying strap. Size 10⅛" x 6¾" x 5½" over all.

Model 504 Vacuum Tube Voltmeter Net $47.00
A complete service laboratory in an easy to read slant front case is yours in this top quality instrument. Precision 1% multipliers, ease of function-range selection and capacitance ranges are found only in instruments costing much more. Zero center for TV and FM alignment. Price includes DC probe and test leads. Sizes: 10" x 6¾" x 6". 30 Ranges. AC-DC Volts 0-5/10/50/100/500/1000/5000. Decibels: —20 to +16. Ohms: 0-1000/10K/100K/1 meg/100 meg/1000 meg. Ohms Center Scale: 10/100/1000/10K/1 meg/10 meg. Capacitance: 50 to 5000 mmf./.0005 to .05 mf./.05 to 5 mf./.5 to 50 mf./5 to 500 mf./50 to 5000 mf. DC Mils: 0-1/10/100/500.

Model 504 Accessories
Model P-505 R.F. Probe. Extends range to 100 MC. **Net $6.50**
Model P-506 High Voltage Probe. Extends range to 30,000. **Net $6.50**

Model 541 Unidial Electronic Multitester Net $35.00
An extremely high grade compact VTVM with single knob selector for both function and range. 11 Megohm input. High torque jewelled meter with burn-out protection. Decibel scale. Polarity reverse for D.C. volts. Peak volts scale. 1% Resistors. Latest TV type rectifier. AC operation. A precision factory wired and tested instrument at the price of a kit. No batteries used on ohm function. Ranges: AC-DC Volts: 0-3/30/300/1200. Ohms: 1/5 ohm to 1000 meg. Size Only 6¾" x 5¼" x 3¼".

Model 541 Accessories
Model 541-1 Hi-voltage Probe. Extends range to 30,000 V. **Net $6.50**

Model 541-2 Hi Frequency Probe
Extends frequency response to 200 MC **Net $6.50**

Model 1030 Elite Test Leads for 450 Series. Polarized rubber insulation — **Net $.85**
Model 1048 Test Leads for all Chicago Instruments. **Net $1.00**
Texon carrying case for Model 421D **Net $3.90**
Texon carrying case for Model 431A **Net $3.90**
Texon carrying case for Model 541 **Net $5.00**

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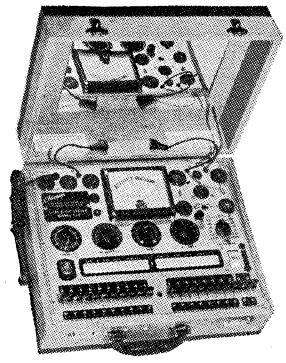
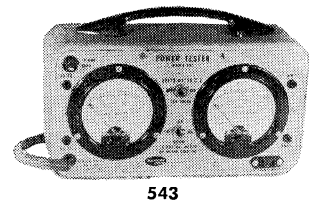
Chicago INSTRUMENTS

TUBE CHECKERS AND SPECIAL PURPOSE INSTRUMENTS



531-532 TUBE CHECKER



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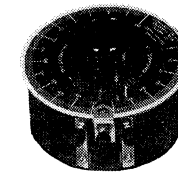
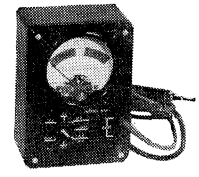


501 SELECTOHM

545



454

555

4710

Model 532 Tube Checker and Service Unit **Net $99.00**

Consists of an up-to-minute plate conductance tube checker, an AC-DC Volt-Ohmmeter, a condenser leakage tester, selenium rectifier and dry battery tester, all in one attractive luggage type carrying case. The tube checker features a patented quick set-up key arrangement that tests diodes as diodes, triodes as triodes and pentodes as pentodes. Illuminated roll chart lists all receiving tube types. Lid contains **handy chrome mirror** to assist in making picture tube adjustments. Volt Ohmmeter ranges: AC-DC Volts: 0-10/100/500/1000. Ohms: 0-5000/50,000/500,000/50 meg. Readings are all made on modern, 5" square lucite meter. Add the cost of each instrument in this attractive case and you will recognize the outstanding value the Model 532 offers. Price includes test leads and picture tube adapter, Fabricoid covered case and instruments. Dimensions: 16" x 13" x 7½".

Model 531 Tube Checker and Battery Tester **Net $74.00**

Similar to the Model 532 above but for tube, dry battery and selenium rectifier testing only. Battery tester is the latest design which tests all popular types under rated load. Price includes test leads, picture tube adapter, simulated leather covered wood carrying case and instructions. Dimensions: 16" x 13" x 7".

Model 543 Appliance Power Tester. **Net $32.00**

Shows volts, amps and watts simultaneously for accurate analysis of all types of electrical appliances. Provision for shorting out ammeter on motor starting current. Highest quality jewelled meters. AC Volts: 0-150/300. AC Amps: 0-5/15. AC Watts: 0-600/1200 and 0-1750/3500. Dimensions: 11½" x 6" x 4".

Model 454 Featherweight Dry Battery Tester **Net $12.00**

Tests all portable radio batteries and flashlight type dry batteries under standard factory specified load. Volt Ranges: 1.5/6/15/22.5/30/45/67.5/90. Price includes test leads. Dimensions: 3-15/16" x 2⅞" x 2".

Model 4710 Portable or Counter Type Dry Battery Tester **Net $18.00**

Boost your profitable dry battery sales with this instant reading instrument. Tests Radio and Flashlight batteries according to factory specifications. Volt Ranges: 1½ to 10 and 10 to 150. Complete with test leads. Dimensions: 6¾" x 5¼" x 3¼".

Model 545 Photo-Flash Battery Tester **Net $17.50**

The only tester of its type which will properly test photoflash batteries from 1½ V to 510 V under individual loadings.

Model 501 Selectohm Linear Potentiometer **Net $10.00**

Precision wire wound potentiometer is of laboratory quality but is priced so the service man and industrial user may take advantage of its many uses. Widely used as a resistance substitute for determining value of blackened, burned out resistors, for making quick set-ups in circuit design, decade box, divider network, etc. 100,000 ohm linear scale is accurately calibrated with 500 ohm markings. Rated at 25 watts.

Model 555 Centi-Low Range Ohmmeter **Net $49.50**

An instrument so sensitive it will detect a shorted winding in a motor or generator, detect poor solder connections and switch contacts. Never before available except in costly laboratory set-ups. The Model 555 is priced for the motor and generator maintenance man, factory inspection department as well as for the laboratory. Powered by self-contained long life dry battery external batteries or power supply when ohmmeter is continuously operated. Low Ohm Ranges: lowest increment .01 ohms, center .5 ohms, high 5 ohms. Ohms Range: lowest increment 0.2 ohms, center 5 ohms, high 50 ohms. Price includes Kelvin principle test leads which introduce no error into the indicated meter reading and a special leatherette carrying case. Over all size: 7" x 5-½" x 3-¾".

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CHICAGO INDUSTRIAL INSTRUMENT CO.

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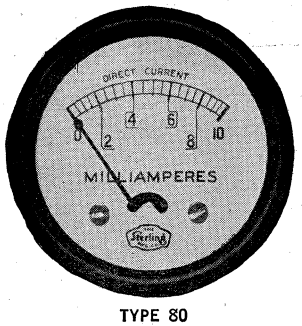
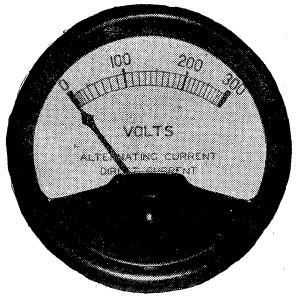
STERLING PANEL METERS



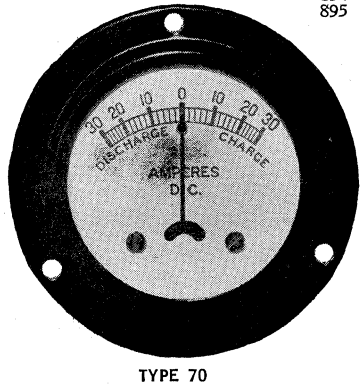
TYPE 80

Flush case, narrow flange, standard finish black enamel. Speed Nut Mounting. Diam. flange 2 5/32". Speed Diam. case 2". Depth case 31/32" Requires hole 2 3/32" in diam. Length terminals 7/16".



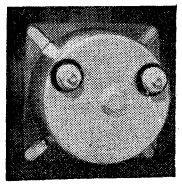
TYPE 88

Flush case, narrow apron flange. Standard finish black enamel. Same dimensions as Type 80. Speed Nut Mounting.

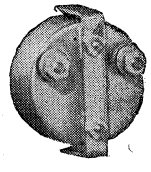


TYPE 70

Flush case, wide flange, standard finish black enamel. Screw holes in flange for mounting. Diam. flange 2 5/8". Diam. case 2". Depth case 7/8". Requires hole 2 3/32" in diam.



STERLING'S NEW SPEED NUT CLAMP



REGULAR BACK CLAMP

ALTERNATING CURRENT METERS

A.C. VOLTMETERS

Number	Range	List Price
870	0-4 Volts	$4.00
871	0-6 Volts	4.00
872	0-10 Volts	4.00
873	0-15 Volts	4.00
910	0-30 Volts	4.00
879	0-50 Volts	4.25
911	0-75 Volts	4.25
874	0-150 VHR†	5.50
912	0-250 Volts	6.00
875	0-300 Volts	6.25
913	0-500 Volts	7.25
876	0-600 Volts	7.25
877	0-750 Volts	8.75
878	0-10-140 Volts	5.50

†VHR—Volts High Resistance

A.C. MILLIAMMETERS

Number	Range	List Price
880	0-25 Milliamperes	$4.00
881	0-50 Milliamperes	4.00
882	0-100 Milliamperes	4.00
883	0-250 Milliamperes	4.00
914	0-300 Milliamperes	4.00
884	0-500 Milliamperes	4.00

A.C. AMMETERS

Number	Range	List Price
886	0-1 Amperes	$4.00
915	0-2 Amperes	4.00
887	0-3 Amperes	4.00
888	0-5 Amperes	4.00
916	0-7½ Amperes	4.00
889	0-10 Amperes	4.00
917	0-15 Amperes	4.00
890	0-20 Amperes	4.25
918	0-25 Amperes	4.25
892	0-30 Amperes	4.25
891	0-60 Amperes	4.50
893	0-60 Amperes	4.75
894	0-75 Amperes	4.75
895	0-100 Amperes	4.75

DIRECT CURRENT METERS

D.C. VOLTMETERS

Number	Range	List Price
801	0-1 Volts	$2.50
802	0-3 Volts	2.50
803	3-0-3 Volts	2.50
804	0-5 Volts	2.50
805	0-6 Volts	2.50
806	0-8 Volts	2.50
807	0-10 Volts	2.50
808	0-15 Volts	2.50
809	0-25 Volts	2.50
810	0-25 Volts High Res.	3.75
811	0-50 Volts	2.50
812	0-50 Volts High Res.	4.25
823	0-75 Volts	2.75
813	0-100 Volts	2.75
814	0-100 Volts High Res.	4.25
815	0-150 Volts	3.00
816	0-150 Volts High Res.	4.25
817	0-300 Volts	4.25
818	0-500 Volts	5.75
819	0-750 Volts	6.75
820	0-8-160 Volts	3.75

RESISTANCE METERS

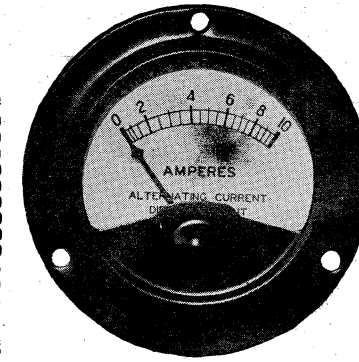
Direct Reading

901.....4.5 Volts, 10,000 Ohms 3 Flashlight cells required. **List Price $3.75**

902....2 M.A., 9 Volts, 100,000 Ohms, 6 Flashlight cells required **List Price $5.25**

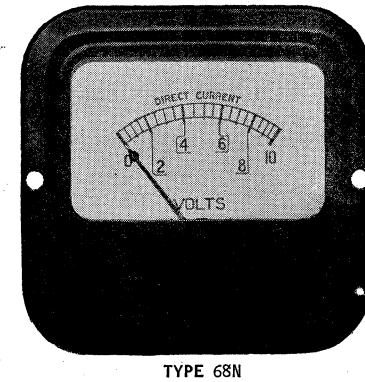
D.C. MILLIAMMETERS

Number	Range	List Price
835	0-2 Milliamps.	$4.00
836	0-5 Milliamps.	3.25
837	0-10 Milliamps.	3.00
838	0-15 Milliamps.	2.50
839	0-25 Milliamps.	2.50
840	0-50 Milliamps.	2.50
841	0-100 Milliamps.	2.50
842	0-150 Milliamps.	2.50
843	0-200 Milliamps.	2.50
844	0-300 Milliamps.	2 50
845	0-400 Milliamps.	2.50
846	0-20-100 Milliamps.	3.25
847	0-15-150 Milliamps.	3.25
848	0-500 Milliamps.	2.50



TYPE 78

Flush case, wide flange with apron. Standard finish black, screw holes in flange for mounting. Same dimensions as Type 70.

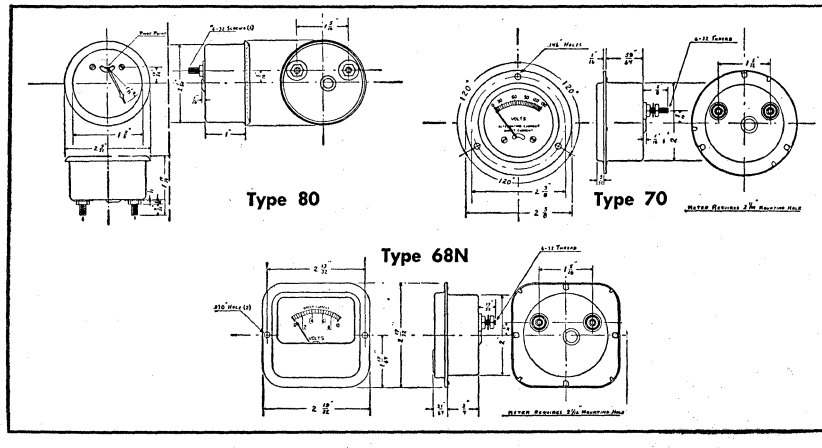


TYPE 68N

Flush case, square flange, standard finish black enamel. Screw holes in flange for mounting. Width flange 2 5/8". Diam. case 2 3/32". Depth case 3/4".

D.C. AMMETERS

Number	Range	List Price	Number	Range	List Price
855	0-1 Amperes	$2.50	868	0-20 Amperes	$2.75
859	1-0-1 Amperes	2.50	863	20-0-20 Amperes	2.50
856	0-3 Amperes	2.50	865	0-30 Amperes	2.75
860	3-0-3 Amperes	2.50	867	30-0-30 Amperes	2.75
857	0-5 Amperes	2.50	869	0-40 Amperes	3.50
861	6-0-6 Amperes	2.50	866	0-50 Amperes	3.50
858	0-10 Amperes	2.50	925	50-0-50 Amperes	3.75
862	10-0-10 Amperes	2.50	926	60-0-60 Amperes	3.75
864	0-15 Amperes	2.50	927	75-0-75 Amperes	4.00



TYPE 70 PRICES LISTED

Note: Specify if for magnetic steel panel mounting.

Type 80, 88, 78, and 68N square flange case furnished for any range of meter at an additional list price of 25c each.

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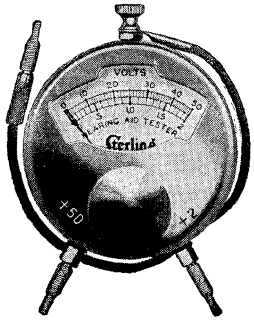
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Sterling Hearing Aid Battery Testers

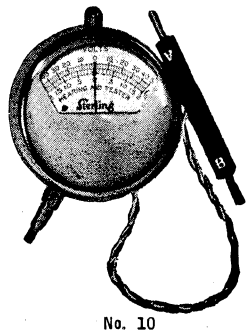


No. 31A

NO. 31A DOUBLE VOLTMETER—for special 30 or 45 v. "B" batteries and 1½ v. "A" batteries, scale 0-50 v. 1 v. div., scale 0-2 v., 1/10 v. divisions. Carefully engineered to impose the correct loads on the small delicate batteries used to operate vacuum tube hearing aids. Equipped with new STERLING flexible plugs ..... **Price $4.25**

NO. 32A DOUBLE VOLTMETER—for special 30 v. "B" batteries and 1½ v. "A" batteries, scale 0-35 v. 1 v. div. scale 0-2 v. 1/10 v. divisions. Equipped with new STERLING flexible plugs ..... **Price $4.25**

NO. 10 DUAL CONTACT PROD METER in pocket or desk model. Marked "A" at one contact and "B" at the other, the prod is simply inserted into the corresponding battery for quick and easy reading. No. 10 is for earlier type hearing aid batteries. Scale 50-0-50 v., 2 v. div. and 2-0-2 v., 1/10 v. div. No. 10 has one cord and one plug. **Price $5.00**



No. 10

NO. 11 Formerly called the 10S this tester is used on 22½ v. and 30 v. "B" batteries. The load requirement is proportionately less than 1 mil. No. 11 has one cord and one plug ..... **Price $7.50**

NO. 12 This new meter has no spur and a new voltage scale 30-0-30 v., 1 v. div. and 2-0-2 v., 1/10 v. div. Made extra sensitive for the latest type miniature batteries. Load: on 22½ v. batteries approx. 565 micro-amperes, on 15 v. batteries approx. 375 micro-amperes, on 1½ v. batteries approx. 40 mils ..... **Price $7.50**

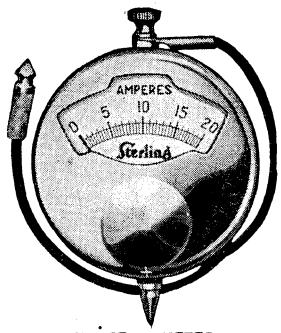
NO. 13 TRANSISTOR TYPE BATTERY TESTER with voltage scale 0-7, 2/10 v. divisions. Tests up to five mercury batteries in series. Indicates battery strength with a minimum consumption of power ..... **Price $4.65**

No. 13

Sterling Pocket Meters

Standard Line Direct Current Pocket Ammeters, Voltmeters and Voltammeters.

		LIST PRICE
	Ammeters	
No. 23	for photo-flash dry batteries. 0-20 amp. scale, ½ amp. div.	$3.00
No. 24	for testing No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions	$2.75
No. 24A	for testing dry cells including the heavy-duty Ignition type of cell. 0-50 ampere scale, 1 ampere divisions	$2.85
	Voltmeters	
No. 33	for ordinary single cells and Flashlight" cells, 0-3 v. scale 1/10 v. div.	$2.85
No. 34	for "Hot Shot" and Radio batteries. 0-10 volt scale, 1/5 volt. div.	$2.85
No. 34A	for 12 volt batteries. 0-16 volt scale, ½ volt divisions	$3.00
No. 34B	for ordinary 22½ v. radio "B" batteries. 0-30 v. scale, 1 v. divisions	$3.00
No. 34C	for testing ordinary 45 v. radio "B" batteries. 0-50 v. scale, 1 v. div.	$3.25
	Voltammeters	
No. 44	for "Hot Shot" and Radio batteries and No. 6 dry cells, 0-35 ampere scale, 1 ampere divisions; 0-10 volt scale, 1/5 volt divisions	$3.25
No. 44A	for 12 volt batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-16 volt scale, ½ volt divisions	$3.25
No. 45	for testing No. 6 dry cells and ordinary 45 volt radio "B" batteries. 0-35 ampere scale, 1 ampere divisions; 0-50 volt scale; 1 volt divisions	$4.25
No. 45A	for testing dry cells including the heavy-duty Ignition type and ordinary 45 v. radio "B" batteries. 0-50 amp. scale, 1 amp. div.; 0-50 v. scale, 1 v. div.	$4.50



No. 23 AMMETER

SPECIAL PURPOSE POCKET METERS

Voltmeters

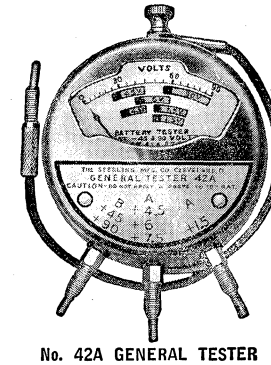
No. 37A for 45 v. "B" batteries and 1.5 "A" batteries. Scale 0-50 v., 1 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. "B" and 1½ v. "A" batteries $3.75

No. 38A for 90 v. "B" batteries and 1.5 "A" batteries. Scale 0-100 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. and 90 v. "B" batteries and 1½ v. "A" batteries $4.00

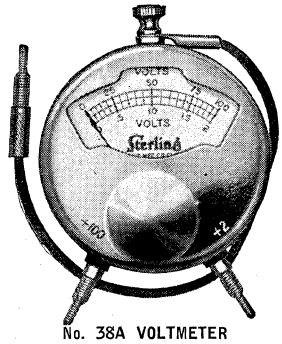
No. 39A for 90 v. and 135 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-150 v., 5-v. div. Scale 0-2 v., 1/10 v. div. Tests 90 v. and 135 v. "B" batteries and 1½ v. "A" batteries $4.00

No. 40A for 90 v. and 135 v. "B" batteries and 4.5 v., 6 v. and 7.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-10 v., 1/5 v. div. Tests 90 v. and 135 v. "B" batteries and 4½ v., 6 v. and 7½ v. "A" batteries $4.25

No. 42A Graphic General Tester. Red and Green color chart for all standard batteries including 45 v. and 90 v. "B" batteries and 1.5 v., 4.5 v., 6 v., and 7.5 v. "A" batteries. 0-100 v. scale for special sizes of "B" batteries, 5 v. div. Tests all Portable Radio batteries $6.25

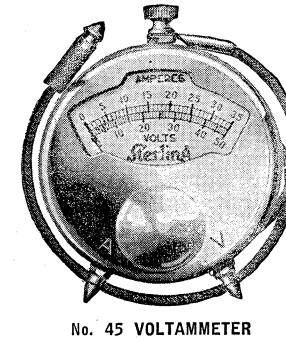


No. 42A GENERAL TESTER



No. 38A VOLTMETER

STANDARD LINE—Sterling's direct current pocket ammeters, voltmeters and voltammeters may be used in all kinds of battery testing, in railroad signal work, for photo flash purposes and in telephone and low-voltage electrical work generally. **They are polarity indicators.** Meters 2½" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments. Shipping Weight 4 lbs.



No. 45 VOLTAMMETER

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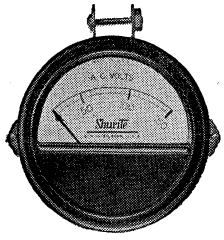
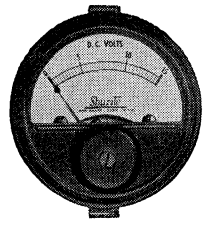
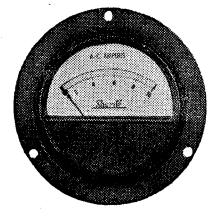
Shurite PANEL METERS



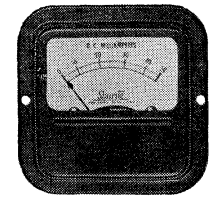
Model 550 AC



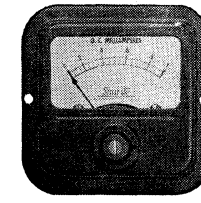
Model 550 DC with Zero Adjuster



Model 650 AC (or DC)



Model 950 DC (or AC)



Model 9300Z Zero Adjuster Built In

0-1 DC MILLIAMPERES

Sensitive-type meters such as Stock No. 9300Z, 0-1 DC Ma. with approximately 1000 ohms internal resistance, and Stock No. 9332Z, 0-3 DC Ma., 500 ohms internal resistance, open new design possibilities. Where the necessarily more costly D'Arsonval permanent magnet meter was formerly thought to be the only choice, these Shurite variations are now used in many circuits. Substantial quantity production makes moderate prices possible.

Shurite panel meters are attractive, rugged, dependable instruments with accuracy well within 5%. All models have metal cases, telephone-black front; all require $2\frac{5}{32}$" hole. DC meters are polarized-vane solenoid type, or moving-magnet construction when indicated, AC meters are double-vane repulsion type with jeweled bearing. Although the jewel construction costs more to build, it pays off by providing continuing accuracy during a longer useful life. All are guaranteed.

- **GUARANTEE:** Meters are guaranteed to users against defective workmanship and material, and will be repaired or replaced if sent to the factory postpaid with 40¢ handling charge within one year after purchase.
- **ALL-METAL DIALS**—age and moisture resistant, lithographed in black on white for high visibility.
- **STURDY DESIGN**—with husky new coil frames designed to prevent breakage, rigidly mounted in cases with anti-turning hex head studs. Interchangeable in other respects with a popular brand formerly available.
- **MODERN APPEARANCE**—with concealed coils and new raised dial design, enhancing appearance and greatly increasing readability.
- **WIDE SELECTION**—Shurite offers the broadest line of standard meters in the economy-priced field. Distributor stocks are backed by an extensive factory inventory.

TYPICAL USES: Shurite products, with their rugged design, and ability to duplicate readings, enjoy wide acceptance in the electronic and electrical fields for transmitters, receivers, TV antenna rotator controls, battery indicators, appliances, power sources, battery eliminators, electric fence controllers, and the very popular basic meters in radio test kits, battery voltage indicators on emergency lighting, burglar and fire alarm systems, output meters on rectifiers, rate-of-charge indicators, testers for hearing aid batteries and their chargers, ammeters for plating sets, and polarity indicators for metals analysis, automotive test equipment to pin-ball circuit testers, and well-depth indicators. Shurite has long been the favorite brand for hobbies and experiments.

DC MILLIAMMETERS

RANGE	RESIST.	Model 550*		Model 650*	Model 950	
Ma.	Approx. Ohms	Stock No.	Net Each	Stock No.	Stock No.	Net Each
0-1**	1000	5300Z	$3.45	6300Z	9300Z	$3.50
0-3L**	500	5332Z	3.10	6332Z	9332Z	3.15
0-3	4800	5301	2.55	6301	9301	2.60
0-5	3475	5302	2.30	9302	9302	2.35
0-10	870	5303	2.15	6303	9303	2.20
0-15	485	5304	1.85	6304	9304	1.90
0-25	172	5305	1.80	6305	9305	1.85
0-50	46	5306	1.80	6306	9306	1.85
0-100	10.4	5307	1.80	6307	9307	1.85
0-150	4.7	5308	1.80	6308	9308	1.85
0-200	2.8	5309	1.80	6309	9309	1.85
0-300	1.5	5310	1.80	6310	9310	1.85
0-400	.46	5311	1.80	6311	9311	1.85
0-500	.30	5312	1.80	6312	9312	1.85

** Sensitive type, note internal resistance. Moving-magnet construction, patent pending. Price includes zero built-in adjuster.

* For zero adjuster add 35¢ to price and Z to stock number.

No zero adjuster on Model 950 stock models; except 9300Z and 9332Z.

AC MILLIAMMETERS

RANGE	RESIST.	Model 550		Model 650	Model 950	
Ma.	Approx. Ohms	Stock No.	Net Each	Stock No.	Stock No.	Net Each
0-10	4800	5607	$3.25	6607	9607	$3.30
0-25	750	5601	2.95	6601	9601	3.00
0-50	150	5602	2.95	6602	9602	3.00
0-100	37	5603	2.95	6603	9603	3.00
0-250	5.4	5604	2.95	6604	9604	3.00
0-500	1.34	5605	2.95	6605	9605	3.00

No zero adjuster on AC meters.

DC AMMETERS

RANGE	RESIST.	Model 550*		Model 650*	Model 950	
Amps	Approx. Ohms	Stock No.	Net Each	Stock No.	Stock No.	Net Each
0-1	.105	5201	$1.80	6201	9201	$1.85
0-3	.02 Max	5202	1.80	6202	9202	1.85
0-5	.02 Max	5203	1.80	6203	9203	1.85
0-8	.02 Max	5204	1.80	6204	9204	1.85
0-10	.02 Max	5205	1.80	6205	9205	1.85
0-15	.02 Max	5206	1.80	6206	9206	1.85
0-25	.02 Max	5207	2.25	6207	9207	2.30
0-50	.02 Max	5208	2.45	6208	9208	2.50
3-0-3	.02 Max	5210	2.00	6210	9210	2.05
5-0-5	.022	5211	2.00	6211	9211	2.05
6-0-6	.02 Max	5212	2.00	6212	9212	2.05
10-0-10	.02 Max	5213	2.25	6213	9213	2.30
20-0-20	.02 Max	5214	2.30	6214	9214	2.35
30-0-30	.02 Max	5215	2.45	6215	9215	2.50
50-0-50	.02 Max	5216	2.55	6216	9216	2.60

* For zero adjusters add 35¢ to price and Z to stock number.

No zero adjuster on Model 950 stock models.

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AC AMMETERS

RANGE	RESIST.	Model 550		Model 650	Model 950	
Amps	Approx. Ohms	Stock No.	Net Each	Stock No.	Stock No.	Net Each
0-1	.42 Max	5501	$2.90	6501	9501	$2.95
0-3	.072 Max	5502	2.90	6502	9502	2.95
0-5	.041 Max	5503	2.90	6503	9503	2.95
0-10	.02 Max	5504	2.90	6504	9504	2.95
0-15	.02 Max	5508	2.90	6508	9508	2.95
0-30	.02 Max	5505	3.15	6505	9505	3.20
0-50	.02 Max	5506	3.35	6506	9506	3.40

No zero adjuster on AC meters.

DC VOLTMETERS

RANGE	RESIST.	Model 550*		Model 650*	Model 950	
Volts	Approx. Ohms	Stock No.	Net Each	Stock No.	Stock No.	Net Each
0-1	10	5101	$1.80	6101	9101	$1.85
0-3	93	5102	1.80	6102	9102	1.85
3-0-3	250	5103	1.90	6103	9103	1.95
0-5	300	5104	1.80	6104	9104	1.85
0-6	390	5105	1.80	6105	9105	1.85
0-8	600	5106	1.80	6106	9106	1.85
0-10	880	5107	1.80	6107	9107	1.85
0-15	2370	5108	1.80	6108	9108	1.85
0-20	3500	5121	1.85	6121	9121	1.90
0-25	1240	5109	2.10	6109	9109	2.15
0-25H**	5800	5110	2.70	6110	9110	2.75
0-50	2540	5122	2.25	6122	9122	2.30
0-50H**	11800	5111	2.90	6111	9111	2.95
0-75	3740	5112	2.25	6112	9112	2.30
0-100	5140	5113	2.25	6113	9113	2.30
0-100H**	23800	5114	2.95	6114	9114	3.00
0-150	7540	5115	2.30	6115	9115	2.35
0-150H**	34800	5116	3.05	6116	9116	3.10
0-300H**†	74800	5117	3.15	6117	9117	3.20
0-500H**†	124800	5118	3.40	6118	9118	3.45
0-750H**†	184800	5119	4.00	6119	9119	4.05

* For zero adjuster add 35¢ to price and Z to stock number.
No zero adjuster on No. 950 stock models.

** H denotes high resistance.

† Supplied with external resistors.

AC VOLTMETERS

RANGE	RESIST.	Model 550		Model 650	Model 950	
Volts	Approx. Ohms/Volts	Stock No.	Net Each	Stock No.	Stock No.	Net Each
0-4	11	5401	$2.95	6401	9401	$3.00
0-6	15.8	5402	2.95	6402	9402	3.00
0-10	27	5403	2.95	6403	9403	3.00
0-15	32.3	5404	2.95	6404	9404	3.00
0-25	53	5412	2.95	6412	9412	3.00
0-50	96	5405	3.55	6405	9405	3.60
0-150	135	5406	3.55	6406	9406	3.60
0-300*	100	5407	4.20	6407	9407	4.25
0-600*	100	5408	4.60	6408	9408	4.65
0-750*	100	5409	5.20	6409	9409	5.25

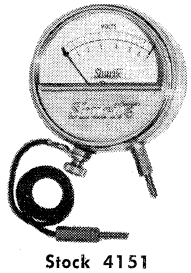
* Supplied with external resistors. No zero adjuster on AC meters.

RESISTANCE METERS

RANGE		Model 550*		Model 650*	Model 950	
Ohms	Volts	Stock No.	Net Each	Stock No.	Stock No.	Net Each
10,000	4.5**	5701	$2.40	6701	9701	$2.45

* For zero adjuster add 35¢ to price and Z to stock number.
No zero adjuster on No. 950 stock models.

** Requires 3 flashlight cells for resistance readings but does not require resistor for voltage readings.

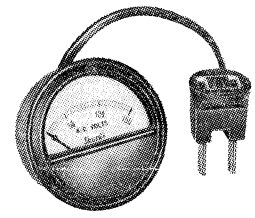


Stock 4151

POCKET TYPE METERS

A typical pocket meter in bright-plated Model 450 case is this transistor battery tester, 0-7 DC volts. Please ask for Catalog 63 which includes Battery Testers (Pocket Type) which have stock numbers beginning with the digit 4. **Stock No. 4151**, 0-7 DC volts, approx. resistance 670 ohms. $2.30

HANDY AC LINE VOLTAGE TESTER



Stock 5406-LT—Here's how to use this highly popular line tester: push in the plug and read line voltage, then plug in the TV set, ironer, toaster, washer, air-conditioner, or other appliance and note the new reading. Find (and demonstrate) voltage drop or inadequate wiring as a major source of service problems with this compact, sturdily-built device. Cord is permanently attached to metal-cased meter which tests single outlets without accessories. Range 0-150 Volts A.C. Standard package of 6 individually boxed meters includes attractive counter display at no extra charge. Per meter $3.95

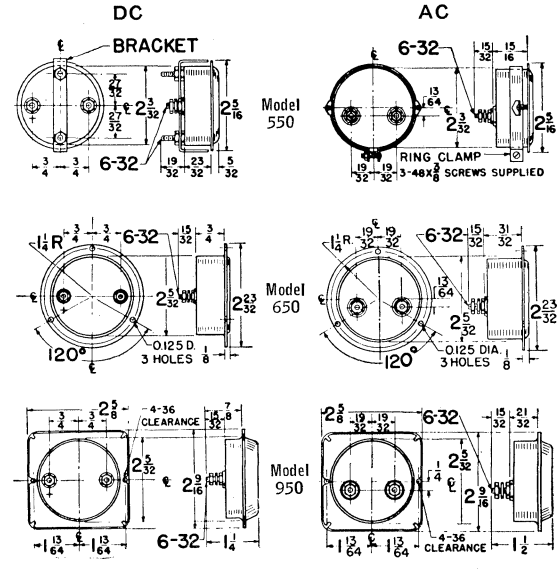
FLANGE ADAPTER RING

To adapt any Model 550 (round) meter to look like Model 650, use this 2¾" flange attached from front of panel. Telephone black finish.

Model 5-A, including hardware.....**Net $0.18**

MOUNTING DETAILS

All cases are flush mounted using $2\frac{5}{32}$" hole; most standard ranges use 6-32 studs as shown:



IMPORTANT — HOW TO ORDER

For all standard models, give: (1) Model Number, (2) Range, (3) Stock Number. If Model number and stock number are not stated, Model 550 will be supplied.

ZERO ADJUSTERS (Z)

Zero adjusters are available only in Models 550-DC and 650-DC. No zero adjusters on any AC models, none on 950-DC models except on No. 9300Z and 9332Z. When ordering, add Z to stock number. Example: Stock number for Model 550-DC voltmeter, 0-1 volt range—without zero adjuster is 5101. With zero adjuster, it is 5101Z.

PANEL CALIBRATION (S)

Meters are calibrated for non-magnetic panels. If for magnetic (steel) panel mounting, specify thickness and overall size of panel, and add -S to stock number when ordering, as 5101-S. If thickness of steel panel is not specified, meter will be supplied for .040 panel.

VISCOSITY DAMPING (V)

Careful application of new silicone compound on bearing surfaces damps pointer overtravel. Add V to stock number, as 5406V, and 5 cents to price. Not regularly stocked; available only on quantity order.

SEE YOUR DISTRIBUTOR

Besides carrying most types, and being able to obtain your other needs promptly, your authorized Shurite distributor of electronic parts is qualified to suggest the right meter for your need.

(PRICES SHOWN ARE U.S.A. DEALER NET FOR INDIVIDUALLY BOXED METERS)

SHURITE METERS NEW HAVEN 8, CONNECTICUT

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Net prices effective March 19, 1956

HICKOK TEST INSTRUMENTS HICKOK

DYNAMIC MUTUAL CONDUCTANCE *TUBE TESTER*

Most Accurate Engineers' Laboratory Model

Tests Tubes Per Tube Handbooks and JAN Specifications

Model 700: For precise laboratory measurements of the most important vacuum tube characteristics, Transconductance (Mutual Conductance). With this Tube Tester it is possible to duplicate the results found in tube manuals. This instrument places a separate voltage on each element of the tube. These voltages can be varied and measured by means of separate variable rheostats and meters in each circuit. A.C. ripple has been completely filtered out of the plate, screen and grid circuits.

In addition to providing accurate measurements of Mutual Conductance, it is possible to study the behavior of various tubes when used in non-conventional and special types of circuits. Amplification Factor and Plate Resistance may be obtained from the test results.

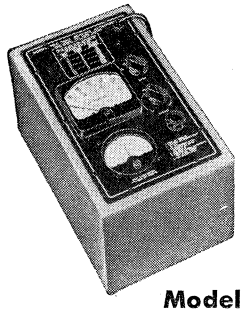
The HICKOK Model 700 may be operated in either of two ways. First, by making use of alternating current null methods of measurement in which capacitance and resistance errors have been eliminated; and second, by direct reading on a meter. The Null Method of making measurements on the tube is the most accurate and is the one which is recommended where sufficient time for the test is available.

Complete with all leads and accessories. Attractive and sturdy case.

Model 700

TECHNICAL FEATURES...

1. Micromho ranges are available as follows: 600, 1500, 3000, 6000, 15,000, 30,000 and 60,000 micromhos.
2. Four separate signal voltages are available, 1.0 volts, 0.5 volts, 0.1 volt and 0.05 volts.
3. Plate voltage supply is continuously variable from zero to 300 volts. An individual D.C. voltmeter in the plate circuit reads plate voltage at all times.
4. Screen voltage is continuously variable from 0 to 300 volts. This is metered by means of a separate D.C. Voltmeter in the screen circuit.
5. The control grid voltage is continuously variable from 0 to 75 volts. This voltage is measured by means of a separate D.C. Voltmeter in the grid circuit. Provision is made to make bias either negative or positive. Suppressor can be used as control grid if desired.
6. An extra negative circuit is provided for holding unused tube elements negative while test is being made on other elements.
7. Provision is made for testing tubes under self-bias conditions when required by that particular tube or when such information is desired.
8. Filament voltage may be applied to the tube up to 117 volts A.C. The separate A.C. Voltmeter in this circuit measures the voltage applied to the filament at all times. This voltage is continuously adjustable. A two-range filament current meter is provided — enabling the measurement of filament current up to 8 amperes.
9. A D.C. Milliammeter is provided for measuring plate current, screen current, or cathode current. This reads from 0 to 150 ma. and may be switched into the three circuits for this purpose.
10. A separate D.C. Microammeter is mounted in the control grid circuit to read grid current, if and when it exists.
11. Amplification factor can be easily calculated from values obtained from the meter readings. Other factors may be similarly calculated.
12. Provision is made for testing tapped filaments either in series or in parallel.
13. Provision is made for adjusting to the electrical center of filament type tubes.
14. Twin tube sections may be tested either singularly or in parallel.
15. Screen grid tubes can be connected as triodes or tetrodes, etc., as may be desired. Switching arrangement is provided for this purpose.
16. A built-in power supply is included with the instrument providing thoroughly filtered D.C. on plate, screen, and control grid.
17. A voltage adjustment with an accurate A.C. meter in the circuit is provided to insure exact signal voltage and correct phasing.
18. Includes a filament current meter with double scale for measurement of filament current up to 8 amps.
19. Designed and calibrated for 60 cycles, 110 or 120 volts operation. 150 watts. Calibration for other frequencies and voltages available.
20. Approximate size — 8" D. x 20" W. x 29" L. Approximate 70 lbs. net, 90 lbs. shipping.



Model 7001: Null Reading Apparatus is self-contained in a small case placed alongside the Model 700 tester. It consists of a voltage supply (source from the Model 700 to assure correct phasing), a sensitive A.C. Galvanometer, a calibrated resistor, and an accurate A.C. Voltmeter. It is connected directly into the plate circuit of the tube under test by binding posts on the panel of the Model 700. The grid-signal-produced-component of plate current is balanced by an equal and opposite current applied to the plate from the power supply through the calibrated resistor. The reading of the Micromho Meter at the top of the panel is proportional to the Transconductance of the tube, and is therefore calibrated in Micromhos. The effect of the Null Reading Method is to reduce resistance in series with the plate to zero, thereby assuring the highest accuracies obtainable.

Model 7001: for obtaining bridge type null readings of 1½% accuracy. 8" D., 8" W., 13½" L.

Model 7001

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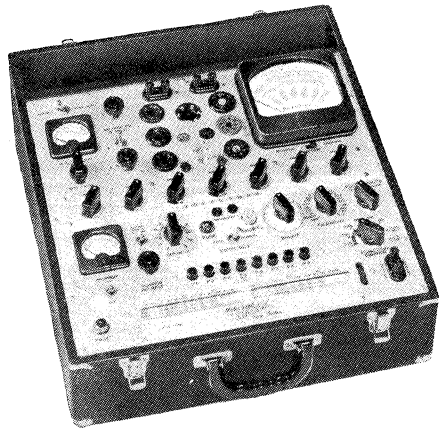
DYNAMIC MUTUAL CONDUCTANCE *TUBE TESTERS*



Model 539B

MOST ACCURATE PROFESSIONAL'S PORTABLE

Model 539B: Most complete and most accurate Dynamic Mutual Conductance portable tube tester. Designed to furnish professional accuracy for laboratory design engineers and field engineers in all phases of electronics.

6 Micromho ranges: 60,000, 30,000, 15,000, 6,000, 3,000 and 600 Micromhos. Plus Rectifier Diode Range and Voltage Regulator (VR) Range. The 600 Micromho range is especially suited for more accurate testing of subminiature tubes.

Model 539B: Illustrated at left, strong portable carrying case with detachable cover. Case is attractively covered with durable black leatherette 16¾" W., 18⅜" L., 7½" D. 28 lbs. 110-125 VAC. 40 watts. Includes test leads, instruction book and guarantee.

SPECIFICATIONS

Choice of four AC signals: .25, .5, 1 or 2.5 Volts may be applied to the grid of the tube under test (in addition to the DC bias on the grid).

Separate DC voltmeter measures grid bias. Vernier adjustment of grid bias control permits acurate setting of the grid voltage. Separate AC meter measures line voltage at all times.

Voltage Regulator Test—Tests VR tubes under actual operating conditions—gives reading of striking voltage, regulating voltages and current at the same time.

Separate voltages (rectified DC) applied to each element of the tube.

Reads leakage on the Ohmmeter scale of the Micromho meter (to 50 Megohms). Also, has the regulator neon test lamp for a quick "good-bad" check.

Tests Selenium Rectifiers and Germanium Diodes.

Jacks are provided for measuring filament current by exterior means.

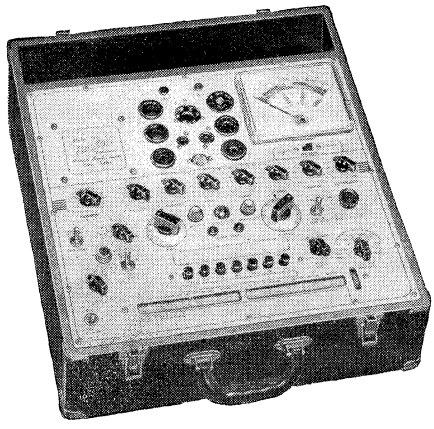
Self bias may be applied to the grid of the tube under test by a switching arrangement on the tester.

Permits matching of tubes such as 6SN7 when used in multivibrator circuits.

Tests future life of the tube by measuring the efficiency of the cathode. Tests tube for noise.

Tests the gas content. Gas test measures control grid current, thereby detecting any minute amount of gas in the tube.

Provision for testing tubes at normal plate and screen volts or at low plate and screen volts.



Model 750

PORTABLE RADIO-TV and COMMUNICATION TECHNICIANS' MODEL

Model 750: Accurately tests all tubes normally encountered in all phases of Electronic work including the latest ruggedized type tubes used by Airlines, Hearing Aid Tubes, Black and White and Color Television tubes, etc., and the new Series Heater-String (600 M.A.) tubes.

Model 750: Illustrated at the left, strong, portable carrying case with detachable cover. Case is attractively covered with durable black leatherette. 16¾" W., 18⅜" L., 7½" D. 24 Lbs. 110-125 V. A.C., 40 watts. Test leads, instruction book and guarantee are included.

SPECIFICATIONS

Micromho ranges on the dial of the large HICKOK 5" Meter: 0-1500, 0-3000, 0-6000, 0-15,000, 0-30,000 micromhos. Also, two "Replace-Good" ranges.

Tests voltage regulator (VR) tubes in accordance with any manufacturer's handbook data or by use of the up-to-date roll chart furnished.

a. Accurate DC Voltmeter readings up to 200 volts.
b. Accurate DC Milliammeter Measurements up to 100 milliamperes.
— Both on the Micromho Meter.

Two plate and screen voltages provided — Normal and Low — controlled by a Selector switch. The Low range is for use with subminiature tubes and for other tubes requiring a low range of plate and screen volts.

New 0-1500 Micromhos range for increased accuracy in testing sub-miniature tubes.

Four signal voltages provided — as low as .25 volt.

Two "red-green" ranges on the Micromho Meter scale offer easier customer readings.

Quick and easy scale selection — The Chart identifies the range to be read by the letters A or B. A simple selector switch carries the same letters and identifies the various ranges.

Short test — Recent HICKOK engineering achievements have provided a highly accurate short test which will show up even the slightest heater cathode leakage condition of a vacuum tube.

Meter indicates whether the line voltage is low or high and permits correction.

Permits matching of tubes such as 6SN7 when used in critical circuits.

Forecasts the future life of the tube under test. Tests the gas content of the tube. Tests for tube noise.

Bias and line fuses prevent accidental damage. Chart arrangement provides quickest tube selection. The Tube's location on the chart is indicated by a key type number stamped beneath the chart openings.

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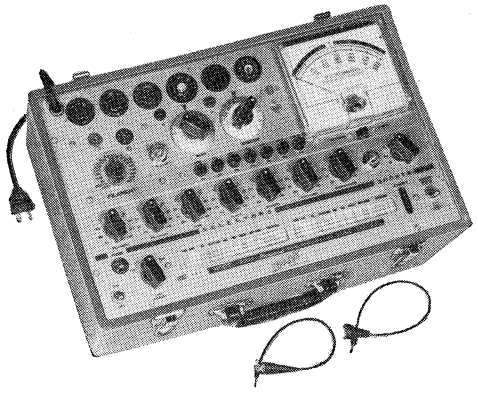
RADIO *and* TELEVISION TECHNICIANS' SMALL SIZE MODELS



Model 600A

DYNAMIC MUTUAL CONDUCTANCE IN A HANDIER, PORTABLE SIZE

Model 600A: New lighter weight portable. Dynamic Mutual Conductance in a radio and TV technicians' popularly priced model. Smaller, handier, but built to the high HICKOK standard for accuracy and dependability. A very popular model for on-location or shop-bench servicing. Builds customer confidence and increases tube sales.

Model 600A, illustrated at the left. Strong portable carrying case with detachable cover. Case is attractively covered in durable, dark red leatherette. 16¾" W., 11¾" L., 7½" D. 16 lbs. net, 21 lbs. shipping weight. 110-120 V.A.C. 40 watts. Panel is gold annodized.

HICKOK testers remain up to date. . . . Periodically revised roll-charts, covering new tubes, are available to all registered owners of HICKOK Tube Testers. See chart offer at bottom of page G-38.

SPECIFICATIONS:

Scale readings in micromhos for most accurate tube evaluation. A.C. Signal 2.5 volts: 0-3000, 6000, 15,000 micromhos.

Contains the HICKOK Tube Gas Test.

Tests tubes to manufacturers' specifications as well as indicates reserve capacity.

High sensitivity meter with large 5" multi-color scale is easier to read more accurately.

Tests TV picture tubes when used with C.R.T. Adapter shown on page G-38.

Detects more weak tubes with professional accuracy.

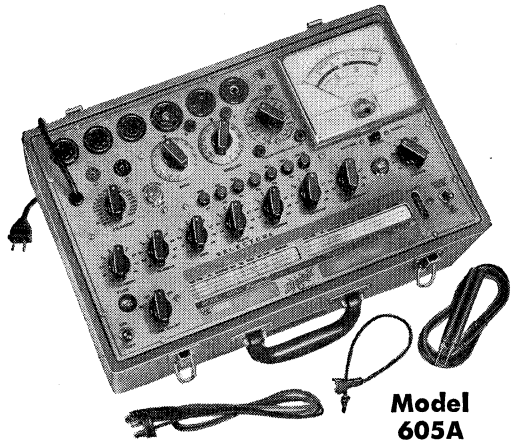
Tests tubes under simulated operating conditions.

Tests the latest tubes including miniature and sub-miniature types. Includes high-speed built-in roll chart.

Filament voltage from .6 to 117 volts in 18 steps.

Contains the new HICKOK improved "Short Test" to show up even the slightest heater-cathode-leakage.

ALL-PURPOSE TUBE *and* SET TESTER IN A HANDIER, PORTABLE SIZE



Model 605A

Model 605A: New, lighter weight portable. Radio and television technicians' popularly priced, all-purpose tube and set tester with built-in 20,000 ohm per volt D.C. multimeter panel. Designed for speedy, highly accurate radio and TV servicing.

Built to the high HICKOK quality standard throughout. Provides Dynamic Mutual Conductance circuits with tube readings in micromhos. A popular technicians model for on-location servicing. Smaller, lighter, but built entirely with highest quality components for accuracy and dependability.

Excellent for leakage tests of electrolytics, and checks for hum in any stage of receivers. Built with a minimum number of jacks. Ranges are selected with a rotary master switch. Test leads supplied.

Model 605A, illustrated at the left. Same case as Model 600A, above 17 lbs. net, 22 lbs. shipping weight 110-120 V.A.C. 40 watts.

SPECIFICATIONS:

Contains all features of the Model 600A listed above, including the HICKOK standard built-in roll chart and new HICKOK improved "Short Test."

New, large 5" meter scale is easier to read more accurately. Attractive lucite window has static-proof coating.

Accurate, built-in multimeter panel measures:
Volts: 0-1000 A.C. — D.C. in four ranges each.
Sensitivity: 20,000 ohms per volt D.C.
1,000 ohms per volt A.C.

Resistance: 0.1 to 100 megohms. (Center scale 25, 2500, 500,000 ohms.)

Inductance: to 70 henries. (By use of conversion chart furnished).

Capacitance: 50 microfarads, 5 microfarads, as low as .001 microfarads.

Current: D.C.; 10, 100, 500 MA.

Decibels: —10 to +50.

New bias fuse prevents accidental damage to bias potentiometer.

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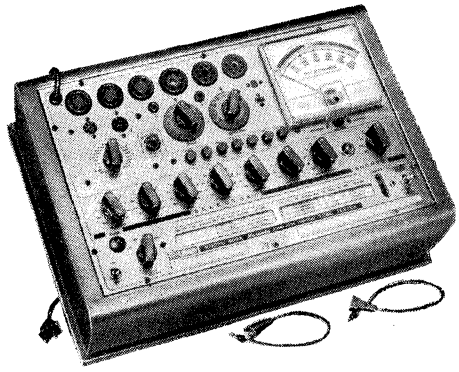
DYNAMIC MUTUAL CONDUCTANCE IN A SMALLER COUNTER MODEL



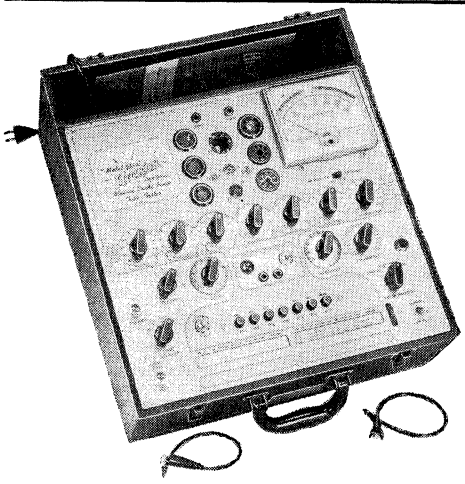
Model 600AC, a lower cost dealer's counter model. Attractively designed to set on the counter and increase your tube sales. Highly accurate Dynamic Mutual Conductance circuits. Encourages customers to bring their tubes in where they can see the actual tests. If customers' tubes check "OK" you have an excellent opportunity to invite him to bring his receiver in for a thorough check of all its circuits. With the 600-AC you will build customer confidence, increase tube sales and promote your complete radio and TV service.

Model 600AC, illustrated at the left. Gold annodized aluminum panel. Beautifully styled, blue enameled steel case. 13" W., 18½" L., 6" H. 17 lbs. net, 22 lbs. shipping weight. 105-125 V.A.C. 40 watts.

Model 600AC

SPECIFICATIONS:

Dual-scale meter provides readings in micromhos for the technician.
A.C. Signal 2.5 volts: 0-3000, 6000, 15,000 micromhos.
Filament voltage from .6 to 117 volts in 18 steps.
Detects more weak, ordinarily passable tubes.
Contains the HICKOK Tube Gas Test.
Checks TV picture tubes when used with C.R.T. Adapter shown on page G-38.
Contains all necessary tube information on a handy built-in roll chart.
Tests tubes under simulated operating conditions.
Tests all the latest tubes including television.
Large 5" easy-to-read multi-color meter scale provides increased accuracy in testing today's newer tubes.
Contains the new HICKOK improved "Short Test" to show up even the slightest heater cathode leakage of a vacuum tube.



PROFESSIONAL RADIO-TV TECHNICIANS PORTABLE MODEL

Model 533AP: Radio, television and communication technicians' portable model with true Dynamic Mutual Conductance circuits pioneered by HICKOK. Acclaimed by the experts as the only true test of a tube.

Model 533AP, illustrated at the left. Strong, portable carrying case with detachable cover. Designed for on-location or shop-bench servicing. Case is attractively covered with durable black leatherette. 16¾" W., 18⅜" L., 7½" D. 23 lbs. net, 30 lbs. shipping weight. 110-130 V.A.C. 40 watts.

Model 533AP

SPECIFICATIONS:

New Bias Fuse prevents accidental damage to bias potentiometer. New lucite meter window has static-free coating.
Tube readings in micromhos — 0-3000, 6000, 15,000.
Tests tubes under simulated operating conditions.
Contains the HICKOK Tube Gas Test and Tube Noise test.
Incorporates the new test feature that forecasts future life of a tube.
Most valuable for accurate matching of tubes in television servicing.
Larger, 5" easy-to-read meter scale and calibrated GM circuit provide increased accuracy in testing today's newer tubes.
Tests all the latest tubes including miniature and subminiature types.
An improved "Short Test" is incorporated into the design of this tester to show up even the slightest heater cathode leakage of a vacuum tube.
Completely built of highest quality components for lasting accuracy and dependability.

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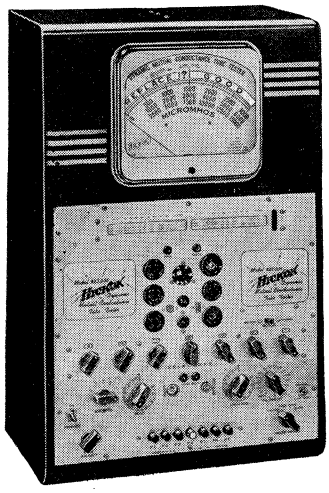


IN AN ATTRACTIVE DISPLAY MODEL

MOST EFFECTIVE TUBE SALESMAN

Model 533DM. Dealers who use this tube tester enthusiastically report that it is the best salesman they ever used.

Customer convincing, the 533ADM contains a huge, illuminated nine-inch meter that clearly and accurately shows condition of the tube under test. Dual-scale meter provides micromho readings for the technician, and a multi-color "Good," "Replace," scale for easy customer interpretation across the counter.

Contains the HICKOK Tube Gas Test, and a circuit for accurate forecast of future tube life.

Detects more weak tubes.

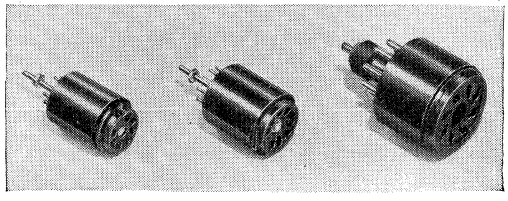
Tests all the latest tubes including television.

AC Signal 2½ Volts: 0.3000, 6000, 15,000 micromhos.

Model 533DM, illustrated at the left. 9" chrome meter case, gold anodized aluminum panel. Strong, attractive, enameled steel case. 26½" H., 17" W., 11" D. 33 lbs. net, 43 lbs. ship. weight. 110-130 V. A.C. 65 watts.

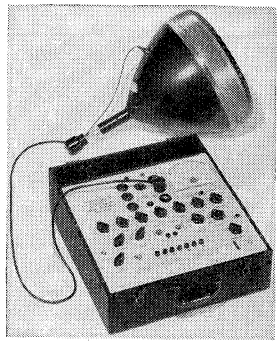
Model 533DM

TUBE TESTER SOCKET ADAPTERS



Set of three most popular types.
7-Pin . . . 8-Pin . . . 9-Pin

- Easy to permanently install.
- Add years more life to your tester.
- Eliminate wear on tube sockets in your HICKOK tube tester.
- Available as a set of 3 most popular types from your Radio-TV Parts Jobber.

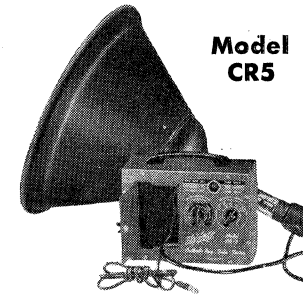


Model CRT

CRT, CATHODE RAY TUBE TEST ACCESSORY . . . built for use with any HICKOK Tube Tester for accurate testing of all electro-magnetic picture tubes, including Philo. Includes HICKOK Tube Gas Test, the grid control test, short test and cathode emission test. By increasing the voltage on filament of a cathode ray tube, and holding that higher voltage for a few minutes, many tubes can be brought back to full operating brilliance.

NEW TV PICTURE-TUBE TESTER

Model CR5



Light-Weight, Easy to Use, Fully Field Tested

Model CR5: VIDEOCHEK Cathode-Ray Tube Tester is an electrical instrument specially designed for use by TV servicemen and dealers in checking the electron gun of cathode-ray tubes. This equipment tests for both shorts and open elements in the electrodes of the electron gun through use of a sensitive neon lamp.

The CR5 permits a rapid determination of the condition or quality of the emitting cathode. This check uses the cathode-ray tube in conjunction with a neon lamp in a bridge circuit. The combination is rugged, both electrically and mechanically, and there is no sensitive meter to be damaged.

The beam current (peak) principal of test, which is essentially equivalent to light output, is employed for electron guns of the tetrode designs (conventional electromagetically-focussed types). For triode type electron guns, a peak emission check is used to determine the condition of the cathode.

The tube socket furnished provides for tubes having 6.3 volt heaters utilizing the duodecal basing which is used on approximately 99% of all TV picture tube types.

Housed in a distinctive portable metal case with built-in lead compartment. 6" H., 8½" W., 3" D., 5 lbs. net. 117 volts, 50-60 cycles, 20 watts. Furnished complete including leads, instruction book and guarantee.

TUBE TESTER ROLL CHARTS

HICKOK periodically issues revised tube reference charts to include the data on all tubes available at time of each printing. This is another HICKOK service designed to help you maintain the speed and accuracy necessary in your profession. Order direct from the factory. 2-year subscription (4 charts) prepaid only $3.00. Be sure to list Model Number of your tester.

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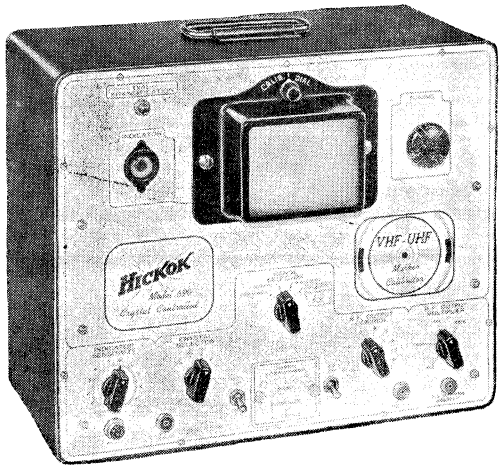


VHF-UHF MARKER GENERATOR

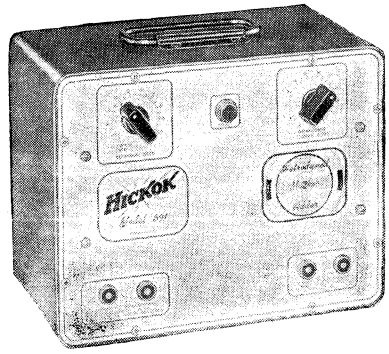
Model 690: Crystal controlled. High .25 volt RF output. Provides dual markers with any TV sweep generator. Features another HICKOK First — a Non-Parallax shadow type dial. Conventional dials unless viewed at exact, right-angle introduce error, since hairline indicator is always a slight distance from the scale. The HICKOK Non-Parallax dial can be viewed from any angle without introducing error. The 45 inches of dial can be self-calibrated to within .05% accuracy with self-contained crystal calibrator. Complete RF coverage channels 2 thru 83. Also, 3.57 mc crystal (color burst frequency) is available. Leading TV manufacturer's engineers have tested this unit and comment highly on its frequency, stability and time saving features. You need the 690 for VHF or UHF black and white alignment right now.

Model 690

OUTSTANDING FEATURES

- Exceptionally rapid and time saving method is employed in calibrating the dial. No counting of beats —no interpolation—no remembering of frequencies.
- Calibrates other signal generators to crystal accuracy.
- Complete IF-RF coverage thru channel 83. Picture and sound settings marked for all channels.
- Marker can be modulated by self-contained 400 cycle. Especially valuable in stage-by-stage alignment. Eliminates use of another instrument.
- Provision for two other crystals, in addition to 2.5 mc crystal supplied. 3.58 mc crystal, frequency of the color burst, available for color work.)
- View two markers at once on response curve . . . main marker and marker of crystal selected. Greatly speeds alignment.
- Both electronic-eye and headphone jack provide visual or audible zero-beat.
- Attenuation is controlled by both step attenuator and vernier for completely regulated output.
- Unit is completely double-shielded.
- All VHF frequencies on fundamentals. No spurious or confusing beats.
- Strong, attractive steel portable case. 16½" W., 13¼" H., 8" D. 26 lbs. Net; 34 lbs. Ship.

UHF or VHF HETERODYNED MARKER ADDER



Model 691: This unit in conjunction with the Model 695 Sweep-Alignment and Model 690 Marker provides the utmost in TV alignment technique. Takes guesswork out of alignment jobs. Eliminates errors previously introduced by overload due to markers. The 691 provides a marker visible at all times (including trap points) and will not change in amplitude or distort the response curve WHAT-SO-EVER. This feature, in addition to the accuracy and minimum leakage of the other units (690-695), will greatly simplify any alignment. The outputs of the sweep and marker generators are heterodyned and applied to a scope in such a manner that the marker signal will never pass through the receiver itself — therefore cannot cause overloading. This unit will work well with any of your present equipment that has an output of 50,000 microvolts or more.

Model 691

OUTSTANDING FEATURES

- Input RF voltage required: 50,000 microvolts.
- Output marker voltage; maximum 3 volts.
- Attenuation of marker; variable 0 to 60 db.
- Attenuation of response curve; variable 0 to 20 db.
- Input impedance: 90 ohms.
- Power supply required: 105-125 volts A.C., 50-60 cycles, 25 watts.
- Attractive steel portable case. 11¼" W., 8¼" H., 7" D. 10 lbs. Net; 15 lbs. Ship.

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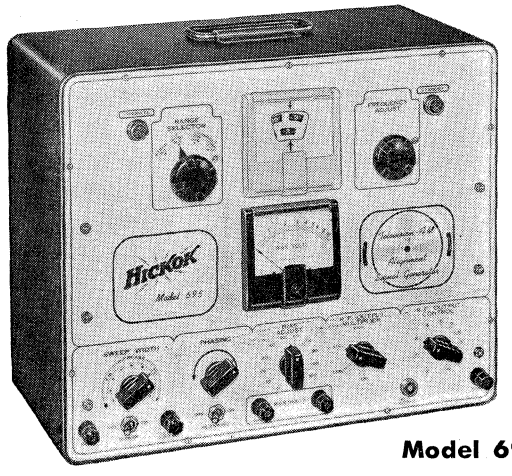


UHF-VHF SWEEP-ALIGNMENT GENERATOR

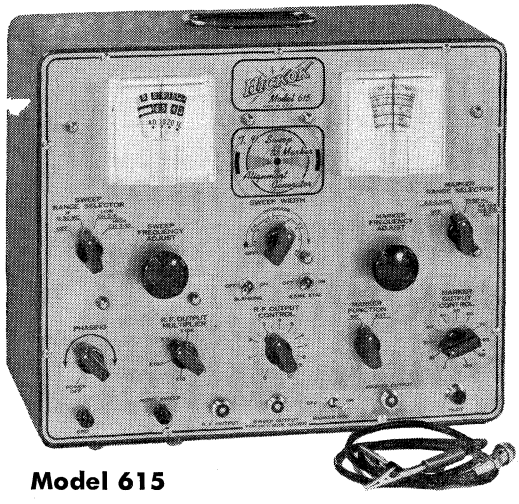
All Electronic Sweep

Model 695: Here is a completely new generator with ALL-ELECTRONIC sweep. It will exactingly fill top requirements of the professional TV serviceman or lab. engineer. There are no moving parts to wear out. Though moderately priced, this unit features a sweep signal that is absolutely linear and without amplitude modulations. Features a high .3 volt output. Triple shielded — no leakage problem here. Signal can be attenuated from 300,000 to 3 microvolts. 0-12 volts variable bias voltage with continuous tuning allows set alignment to more sensitive for "fringe areas," or less sensitive for "prime areas" to prevent overloading. Continuous tuning and detailed, easy-to-read scales provide foolproof method of alignment. Three RF oscillators provide complete VHF coverage on fundamentals (UHF on harmonics) and heterodyned output IF 0 to 50 mc. This assures the strong signal necessary for aligning front ends.

Model 695

OUTSTANDING FEATURES

- All-Electronic sweep.
- Fundamental output on all VHF channels (.3 volt output).
- Continuously variable tuning.
- 0 to 50 mc. IF heterodyned output, .15 volts output.
- Blanking of oscillator, provides reference base line.
- 100 db. attenuation, .3 volt to 3 microvolts.
- Triple shielded, very low leakage. Provides attenuation down into "snow" region to check IF's for oscillation.
- Metered, variable DC bias voltage 0-12 volts. Eliminates use of batteries for fixed bias.
- 170° of phasing.
- Sweep width of 0-15 mc., ±3 mc. depending on frequency.
- Linear sweep.
- Amplitude variation of less than 0.1 db. per mc.
- Output impedance is 90 ohms.
- Attractive steel portable case. 16¼" W., 13¼" H., 8" D. 30 lbs. net; 38 lbs. Shipping.



Model 615

Latest Television
SWEEP and MARKER
UHF-VHF ALIGNMENT GENERATOR
For Black and White or Color

Model 615: A complete, single-unit TV sweep and marker generator specifically engineered to provide all the necessary features and ranges required for visual alignment of modern TV receivers. Permits complete TV video IF and RF alignment. Provides harmonic output on UHF. Both the marker and the sweep have excellent attenuation. (Due to the high sensitivity of today's TV receivers, alignment equipment must have good attenuation to achieve required results.) Hickok all-electric sweep features no moving parts to wear out or become inoperative. In any FM oscillator it is most desirable to eliminate amplitude modulation because it distorts the final curve as viewed on a scope. In the Model 615, amplitude modulation is less than 0.1 db per megacycle. Marker frequency accuracy is at least 0.5% at any setting. Non-parallax — knife-edge pointers practically eliminate reading errors.

Strong 0.25 volts RMS marker amplitude and excellent attenuation of marker. Frequency: 2.5 to 5.5 MC, 19 to 50 MC, 54 to 108 MC and harmonic 108 to 216 MC.

Built-in retrace blanking is controllable from front panel to provide zero reference base line.

Built-in switching arrangement and panel connector permit internal marker mixing with FM or external with heterodyned marker adder such as HICKOK Model 691.

Variable sweep width: 0-15 MC.

Dual fused for extra protection of power transformer and other components.

Generates frequencies necessary for proper alignment of color TV receivers. Has video sweep in addition to IF and RF sweep.

Built-in 4.5 MC crystal provides dual markers for IF or RF alignment, and very accurate 4.5 MC signal for inter-carrier sound alignment.

Both marker and crystal oscillators may be amplitude modulated approximately 30% by a self-contained 900 cycle internal modulator.

Excellent sweep linearity. Includes video sweep for checking video amplifiers.

External sweep variable phasing (170°) is provided on front panel for use with 'scopes which do not have variable sweep phasing control.

Attractive portable steel case 13¼" H., 16¼" W., 8" D. 31 lbs. net. 39 lbs. shipping.

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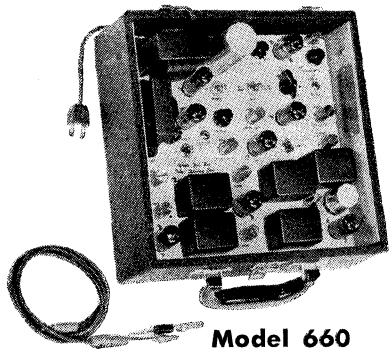
HICKOK TEST INSTRUMENTS HICKOK

NEW, CRYSTAL CONTROLLED WHITE DOT-BAR TV COLOR DISPLAY GENERATOR



Model 660

SPECIFICATIONS

Video Output:
0 to 4 volts Peak-to-Peak.
300 ohm output impedance.
Black positive or negative.
300 white dots, less those in blanking.
Crosshatch white lines, 20 vertical and 15 horizontal, less those in blanking.
Sidelock color frequency crystal is 3.563795 MC output 1 volt Peak-to-Peak.
RF Output Voltage
.05 volts maximum.
.001 volts minimum.

Model 660: Features light weight, portable style with detachable cover. Weighs only 15 pounds. Especially designed for home service calls. This equipment is ideal for the alignment of color TV receivers. It is accurate and unusually easy to use. Preset channels allow easy selection through a built-in switching arrangement.
Provides either of 3 patterns on the screen of any color TV receiver:
White Line Crosshatch; 20 vertical and 15 horizontal, less those in blanking.
White Dot (small size); 300 dots, less those in blanking.
Color Display Pattern; crystal-accurate blended in sequence of orange, red, magenta, blue, cyan, green.

DESIGN FEATURES:

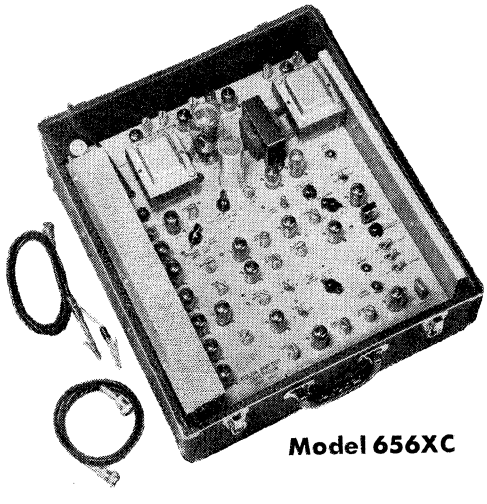
Model 660 features the necessary high degree of stability not found in variable white-dot generators. In the 660 all frequencies generated are crystal controlled and locked together with extreme stability.
Frequency of chrominance (color) signal is exactly crystal controlled to reduce possibility of alignment errors. This feature permits increased accuracy over ordinary color generators which use a free running oscillator.
RF output frequency is in preset channels, 2 thru 6, to allow easy selection through a built-in switching arrangement.
Small dot and crosshatch size down to two lines in both horizontal and vertical planes.
Color display pattern with crystal accuracy is a blending in the following color sequence: Orange, Red, Magenta, Blue, Cyan and Green.
Ratio of sync to video is variable from 10 to 90%.
The small-size portable design of this equipment permits easy on-location color TV checks to quickly determine ability of a receiver to produce color in the proper hue . . . even in the absence of a station signal.
The circuit of the 660 is such that regardless of future color TV receiver design, this instrument will be useable.
The exceptionally stable timer circuit will hold synchronization over a very wide range of line voltages that may be encountered in on-location servicing.

Used By Leading Color TV Receiver Manufacturers

RF modulated by all video outputs (60% modulation). Sturdy, black leatherette covered portable case with detachable cover. 10½" x 10½" x 5¼" D. 15 lbs. 105-125 volts, 50-60 cycles, 40 watts.

Includes complete instruction book with color channel alignment waveforms, 2 crystals, output cable and instrument guarantee.

100% FULLY SATURATED NTSC* STANDARD TV COLOR BAR GENERATOR



Model 656XC

*National Television Systems Committee as approved by Federal Communications Commission.

Model 656XC: Matched to the other HICKOK instruments, housed in a handy portable detachable cover carrying case attractively covered with durable black leatherette. 16¾" W., 18⅜" L., 7½" D. 34 Lbs. net; 42 Lbs. shipping.

Absolutely stable. Entirely independent of changes in line voltage. Compare the wave form information and sharpness of detail of the 656XC with any other TV color bar generator. . . . You'll pick the HICKOK immediately.

Model 656XC: Produces a standard 100% fully saturated NTSC color bar pattern on color TV sets. This is a must for non-obsolescence. Regardless of future color television receiver design this HICKOK color bar generator will be compatible. This is the type of signal that is transmitted over the air. All literature and alignment data are published around this standard NTSC signal. The Model 655XC provides signal for complete color alignment. Produces color bars on TV screen in the following order from left to right: green, yellow, red, magenta, white, cyan, blue and black. Phase of colors produced is accurately set with precision delay lines. The amplitude of sub-carrier and the amplitude of the brightness component are accurately set with precision resistive Networks. This results in the high stability required for proper alignment. Proper colors are generated within 30 seconds after warmup. In addition to color bar patterns, the 656XC produces: White Dot Crosshatch (20 vertical and 15 horizontal, less those in blanking; Vertical Lines Only; Horizontal Lines Only; and Small Size White Dots are "locked" to assure stability. This locking is achieved through the extremely stable crystal controlled timer circuit. The white dots are of perfect size (approx. 2 lines thick) to permit accurate convergence adjustments. 300 dots are present in each raster, less those in blanking region.

DESIGN FEATURES:

Precisely crystal controlled: Sub carrier and horizontal framing.
Produces clearly defined wave forms to provide ease of alignment and assure minimum possible error.
NTSC standard phase and brightness: This NTSC standard signal was used in designing all color TV receivers, and is now used by TV manufacturers.
Self checking: Assures operator that generator is producing accurate NTSC standard signal at all times.
Generates 3 primaries, 3 complements plus black and white. (An essential feature of this equipment is that white is produced by adding the 3 primaries.)
Equivalent vestigal side band modulation avoids overloading of chroma channels. This instrument was designed and built in cooperation with leading color TV receiver manufacturers, and is specified by them for their field service engineers.
Generator is self contained . . . no complicated external synchronizing connections.
Output is either R.F. or Video. Video: 0-2 volts peak-to-peak open circuit. 0-1 volt peak-to-peak across 100 ohms with positive or negative output. R.F.: modulated output modulated through color bar pattern is available through channels 2 thru 6.
A sound carrier is also provided for accurate setting of local oscillator in TV receivers.
In addition to color bars this instrument generates the necessary signals to align R-Y, B-Y or I and Q type demodulators. These signals appear at black level with equal amplitudes.
Provision for switching I, Q, R-Y, B-Y or Chroma On-or-Off.
The 3.58 MC sub-carrier output of one volt peak-to-peak is also available for trouble-shooting and alignment of color synchronizing circuits.

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NEW UNIVERSAL VIDEO GENERATOR
COMPATIBLE FOR COLOR OR BLACK AND WHITE RECEIVERS

Model 650C

This fine new instrument is the first of its kind. Now available to rapidly and accurately solve your service problems. Does in minutes many TV servicing jobs that would require hours by other methods.

The 650C has a new timer circuit which delivers video pulses of 60 cycles, 900 cycles, 15,750 cycles and 315 kc., singularly or in any combination, both positive and negative output. Pulses are all locked together and crystal controlled for greater accuracy.

Pulses can be used directly, metered in peak-to-peak volts or to modulate the self-contained RF oscillator.

RF oscillator covers all TV channels in two bands (2-6 and 7-13), all on fundamentals. RF output is metered at all times from 1 to 10,000 microvolts with calibrated attenuation and variable percentage modulation. RF can be externally modulated with video frequencies from 5 cycles to 4 MC with variable percentage modulation on all channels.

Self-contained, substitute external video amplifier, 5 cycles to 4 MC with a variable gain from 0 to 10, with high input impedance, low output impedance and metered peak-to-peak voltage output.

Includes horizontal and vertical sawtooth voltages which can be directly substituted for vertical and horizontal oscillator in a TV receiver. Both the vertical and horizontal sawtooth amplitude is sufficient to give full raster deflection and in the case of flyback type high voltage power supplies the horizontal sawtooth can be used to light up the picture tube.

The 650C also contains an AC line voltage scale for instantaneous check on line voltage fluctuation, a common source of TV trouble.

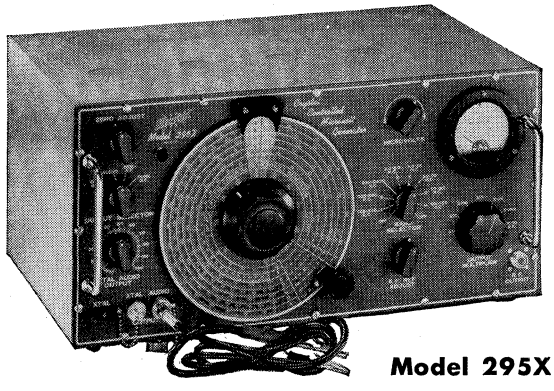
This tester is an absolute must for accurate registration adjustment of the three color guns of color TV receivers, as well as accurate adjustment of focus, convergence, centering of individual beams, purity yoke, dynamic convergence, linearity and aspect ratio. A real time saver, you need the 650C for TV servicing now.

OUTSTANDING FEATURES

Quickly localizes and identies trouble in any section of a TV receiver.
Provides electronically accurate bar or dot pattern on the screen of any TV receiver — independent of station operation.
R.F. output, directly calibrated in microvolts for sensitivity measurements.
Attractive portable case. 16¼" x 13¼" x 7". 29 lbs. net; 37 lbs. shipping.
Substitute Video Amplifier with gain of 0 to 10.
Provides white-dot pattern for convergence adjustment of color TV receivers.
Fast, accurate, the ideal instrument for fringe area TV servicing.

NEW . . . ALL-BAND MICROVOLT SIGNAL GENERATOR

For Accurate Communication Receiver Work



Model 295X

- **125 KC to 175 megacycle continuous coverage on fundamentals.**
- **Attenuation down to .1 microvolt. — No external attenuator pad required.**
- **Output 0.1 microvolt to 100,000 microvolts on all ranges.**

Model 295X: Designed and built to exacting specifications, this generator is in a class by itself. The 295X is the only signal generator available today covering wide bands with these outstanding characteristics and at a moderate price. Advanced HICKOK engineering has provided this high quality instrument, which will find wide use in nearly every phase of the electronic industry.

An ideal generator for mobile radio applications such as police, taxicabs, airlines, or wherever critical alignment and a low microvolt signal is essential. Many other applications are possible since it covers AM radio bands as well as many of the identification marker frequencies for TV alignment. All in all, it is a very versatile signal generator.

Model 295X: Multi-purpose case design with attractive etched aluminum panel. 19" W., 12½" D., 9" H.

SPECIFICATIONS

125 KC to 175 MC continuous on fundamentals.
Output 0.1 microvolt to 100,000 microvolts when terminated at 50 ohms.
Outstandingly low leakage—encased in a copper cage, silver plated.
Constant metered output.
120 db non-frequency discriminating attenuator.
400 cycle modulation — approximately 30%.
Crystal Oscillator — 1 MC crystal provided. Oscillator functions on any crystal from 400 KC to 20 MC.
Vernier control allows fine hairline accuracy frequency settings.
No loading — Frequency does not change when the attenuator is changed.
Rigid quality control in manufacturing insures that this instrument will conform exactly with the outlined specifications even in the critical (below 1 microvolt) region.

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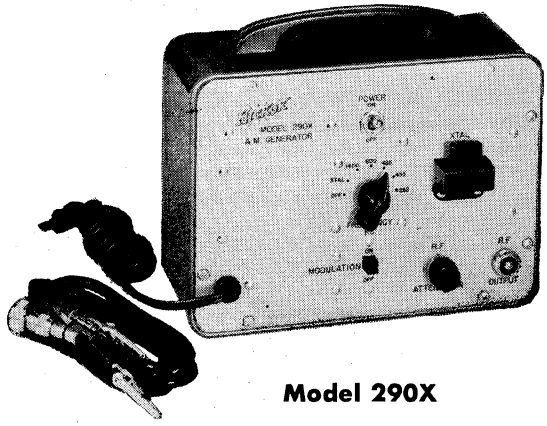
HICKOK TEST INSTRUMENTS HICKOK

NEW, HIGHLY ACCURATE AM GENERATOR

High Output, Minimum Leakage



Model 290X

Model 290X: Specifically designed to meet the accuracy and high speed requirement of today's radio servicing.

This equipment provides a highly accurate and stable source of RF power for alignment of AM broadcast receivers. Can be checked against a crystal to 0.05%.

The 290X features unusual ease and speed of operation to make it the most versatile AM generator on the market today.

All ouput frequencies are easily obtained by dialing the front panel selector switch to the desired RF frequency.

If desired, crystal accuracy may be obtained through addition of a crystal in the crystal holder provided.

VERY STABLE, Quick and EASY TO USE.

SPECIFICATIONS

5 preset calibrated frequencies: 262 KC, 455 KC, 465 KC, 600 KC, 1400 KC.
Internal crystal oscilator for frequencies of 500 KC to 20 MC.
400 cycle modulation on RF carrier.
High unmodulated RF output.
Audio output 400 CPS for checking speakers.
RF output variable through front panel control.
Attractive steel portable case 9½" W., 6" H., 3¼" D., 6 lbs.
105-125 volt, 50-70 cycles.
Furnished complete including test leads and instrument guarantee.
Instructions are permanently mounted on back of instrument case.

UNIVERSAL CRYSTAL CONTROLLED SIGNAL GENERATOR

Model 288X

MODEL 288X

High Output AM-FM Generator

A variable frequency signal generator, crystal controlled, for accurate AM and FM alignment. Useable in TV alignment as a marker oscillator in connection with television front-end or IF alignment, or the 288X can also be used as an FM generator to align the sound IF amplifier of a TV receiver. RF unmodulated or internally amplitude modulated at 400 cycles, or internally frequency modulated. RF variable from 110 kc. to 110 mc. on AM and 1 kc. to 160 mc. on FM, in 7 bands, all fundamental. Fixed 50-mc. output is internally frequency modulated at 60 cycles or at 400 cycles for FM and television. Fixed, crystal-controlled 100-kc. and 1000-kc. outputs either unmodulated or internally amplitude modulated. Fixed 1000 kc. internally frequency modulated at 60 cycles for visual IF alignment. 50 mc. and 1000 kc. oscillators beat with variable RF oscillator to give variable FM signals. Variable AF output 0-15,000 cycles; fixed AF, 400 cycles. Outputs continuously variable with multiplier and linear controls. Db meter — 10 to plus 38 in 3 ranges. 105-125-volt 60-cycle operation. Test leads included.

SPECIFICATIONS

Dimensions—13¼" x 16¼" x 7" D.
Net Weight—25 lbs.—Ship. 33 lbs.
Meter—Model 51X
Scale—over 100"
Satin-aluminum finish panel
Blue baked Hammertex finished steel case

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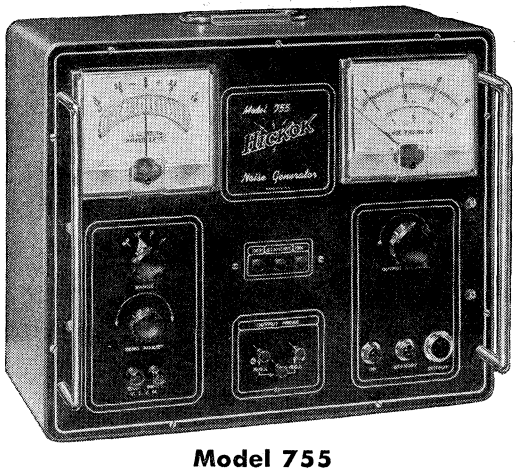
MOST PRACTICAL UNIVERSAL NOISE GENERATOR

Industrial Engineer and Radio-TV Technician's Model



Model 755

(with 300 mc head)

Also available with 1000 mc head.

Model 755: Extremely versatile unit for measurement of Noise factor in any receiver. This equipment is HICKOK engineered to provide the First Noise Generator in a completely self-contained unit. No additional equipment is required. Unit has two indicating Meters. Most valuable for improved TV service. Quickly indicates amount of Noise inherent in receiver. By reducing the Noise in a TV receiver, the snow is reduced resulting in a clearer picture.

The Model 755 is designed with a VTVM side and a Generator Noise Side.

VOLTMETER SECTION:
Meter readings: 0-0.1 V., 0.5 V., 1.0 V., and 5.0 V., Zero Center. Zero adjust provided for cancelling out contact potential (plus or minus 1 Volt maximum).

VTVM Meter scale permits reading double power to eliminate referring to instruction book for calculations.
VTVM is voltage regulated.

OUTPUT SECTION:
DB Meter Output readings:
Receiver Input Impedance 300 Ohms: 0-19 db
Receiver Input Impedance 75 Ohms: 0-19 db
Receiver Input Impedance 50 Ohms: 0-17 db
NO BALUM NECESSARY TO MATCH IMPEDANCE.
Frequency Response: 10 MC to 250 MC.

SPECIAL FEATURES:
Permits extremely low sensitivity measurements. Has built-in stand-by position for Noise output. Spring loaded output control—increases life of noise diodes by returning it to zero output when not in use.
Noise diodes are built into probe whereby the output noise is connected directly to receiver input. This eliminates cancelling out capacities to the generator.

Three separate scales on the noise figure Meter permit more simplified reading.

UHF Head with 100-1000 MC is available . . . 50 Ohms output, 0-17 db. Dual-purpose portable case. 16¼" W., 13¼" H., 8" D. 25 lbs. Net; 33 lbs. Shipping. Power consumption: 50-60 cycles, 115 Volts, 50 Watts.

Model 710

AMPLITUDE METERED OUTPUT IN 5 RANGES

Multiplier	Output Resistance	Sine Wave Volt. Range RMS	Square Wave Volt. Range Peak-to-Peak Volts
X1	1000 Ohms	1.5 -15	5 -50
X.1	100 Ohms	.15 - 1.5	.5 - 5
X.01	10 Ohms	.015 - .15	.05 - .5
X.001	1 Ohms	.0015- .015	.005- .05
X Zero*	0 Ohms	0	0

*Provided for zero reference.

NEW SINE-SQUARE WAVE GENERATOR

For Laboratory and Industrial Use

Model 710: This new instrument is a professional laboratory design to provide an accurately calibrated source of sine-wave and square-wave functions over a very wide frequency range.

TECHNICAL FEATURES

- Sine wave total harmonics distortion below 1%.
- Hum level better than 90 db down.
- Square wave rise time less than 0.1 Micro-second.
- Direct coupled output for square wave.
- Synchronization output provided.
- Edge-lighted parallax correcting hairline on frequency dial facilitates highly accurate readings.
- May be used as a portable instrument or for rack Mounting.

FREQUENCY COVERAGE
20 cycles to 1 MC in 5 ranges.
(A) Scale: 20 to 200 cps; x1, x10, x100, x1K.
Calibrated to ±2%, ±1 cps.
(B) Scale: 200 KC to 1 MC.

POWER CONSUMPTION:
50-60 cps., 115 Volts, 110 Watts, 8¾" H., 12" D., 16" W. (19" wide when rack mounted). 44 lbs. Net; 52 lbs. Shipping.

NEW UHF-VHF FIELD STRENGTH METER

Model 235

Model 235: Attractively designed technician's equipment for measurement of Field Strength. Large 4" meter is accurately calibrated in microvolts. Handy portable size design has self-contained battery power supply.

RANGES: VHF range has a sensitivity of from 10 Microvolts to 100,000 Microvolts.

UHF range sensitivity is from 30 Microvolts to 50,000 Microvolts.

TECHNICAL FEATURES: Frequency calibration is marked in Channel numbers for easier measurement. An Impedance Matching Network is available.
Phone Jack Audio Monitoring.
8½" W., 5" D., 11½" H., 10 lbs. Net; 15 lbs. Shipping.

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CAPACITANCE TESTER, TRUE VACUUM TUBE VOLT-OHM MILLIAMMETER

Model 209-A

POWER SUPPLY: 105-125 V, 50-70 cycles. Ranges Volts, A-C and D-C 0-3, 12, 30, 120, 300, 1200. Mils (D-C): 0-3; 12; 30; 120; 300; 1200. Cap.: 0-10,000 mmf in 2 ranges, 0-1000 mf in 5 ranges. Ind.: 50 mh-100 henries. Ohms: 0.1 ohm to 10,000 megohms in 8 ranges. Frequency: A-C up to approximately 200 mc may be measured. Input Impedance: Volts D-C: 12 megohms, Volt A-C: 12 megohms.

LABORATORY SIZE . . . LARGE NINE-INCH METER WITH ZERO CENTER SCALE

Model 209-A: A universal test instrument for all radio and electronic service work. Accurately and easily measures wide ranges of inductances, capacitances, resistances, currents and voltages, both A.C. and D.C.

This new giant size instrument matches the size and attractiveness of the Hickok complete line of test equipment. Large 9-inch meter improves ease of operation. Has a 1200 Volt scale, and a new Peak-to-Peak Voltmeter to measure peak to peak or RMS values of A.C.

The new Zero-Center scale on D.C. permits much faster alignment of discriminator and other galvanometer applications.

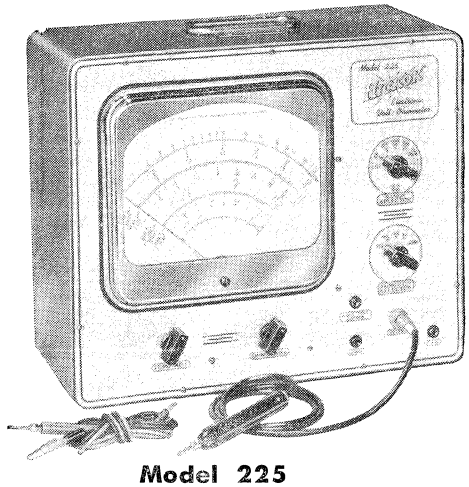
High input impedance prevents loading when making voltage tests. Measurement of inductances are possible with the use of a conversion chart supplied in the instruction book. Possibility of damage due to overload is slight in all except current measurements. Power supply permits normal operation and accuracy with wide line voltage fluctuation.

Includes high frequency probe and all leads.

SPECIFICATIONS:

Dimensions—13¼" H., 16¼" W., 7" D.
Weight—18 lbs. Net; 26 lbs. Ship.
Attractive gray finish steel portable case with non-glare black scale and panel.

NEW LOW PRICE ELECTRONIC VOLT OHMMETER



Model 225

- *Huge HICKOK-Built 9" Meter*
- *Accurate Peak-to-Peak Scales*
- *Fast Continuity Tests*
- *AC-DC Single Unit Probe*

Model 225: HICKOK practical engineering provides the low-cost answer to your needs for a multi-range Volt-Ohmmeter in a professional engineer's top quality instrument.

Designed around the HICKOK-built 9" internal pivot meter, the 225 offers many new features to improve the speed and accuracy of your radio-TV servicing.

Extra long scales minimize reading errors and permit permanent placement of the equipment at a more practical working distance.

Additional features: • Built-in audio tone speeds continuity tests • Accurate Peak-to-Peak scales for measurement of complex waveforms • D.C. Zero-Center scale for galvanometer applications • New, HICKOK single unit A.C.-D.C. probe.

SPECIFICATIONS:

Dimensions—13¼" H., 16¼" W., 7" D.
Weight—15 lbs. Net.—23 lbs. Shipping.
Blue baked Hammertex finish steel case with etched aluminum panel.

Test leads and dual-purpose AC-DC probe are included.

SPECIFICATIONS

RANGES—D.C. VOLTMETER:

Plus D.C. Volts: 0 to 1.5, 3, 12, 30, 120, 300, 1200.
Minus D.C. Volts: 0 to 1.5, 3, 12, 30, 120, 300, 1200.
Input Resistance: 10 megohms with new HICKOK Dual-Probe.
Zero-Center Scale: For discriminator alignment and other galvanometer applications.

OHMMETER:

Design Center: 10 ohms.
Ranges: x1, x10, x100, x1000, x10,000, x100,000, x1 megohm.
Readability: 0.2 ohms to 1,000 megohms.

A.C. VOLTMETER:

7 Ranges A.C. RMS: 0 to 1.5, 3, 12, 30, 120, 300, 1200.
7 Ranges A.C. Peak-to-Peak: 0 to 4, 8, 32, 80, 320, 800, 3200.
Frequency Characteristics: Flat from 40 cps. to 3.5 mc.

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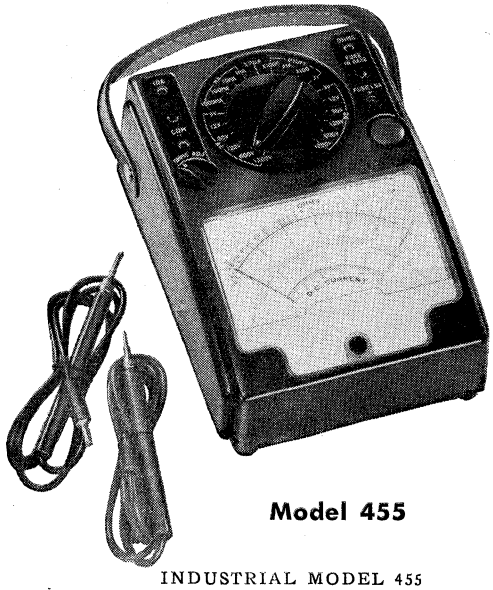


Model 455

LATEST DESIGN VOLT-OHM-MILLIAMMETER

YOU CAN'T BURN IT OUT!

Model 455: A new portable multimeter incorporating the very latest engineering advancements including a new technique that protects both the meter and the entire internal circuit against accidental burnouts. In fact, any high voltage or current may be applied directly across any function including ohms without any danger to the meter movement or associated components.

Molded case: 8½" L., 5⅞" W. Height is 3" tapering down to 1¾". Net weight: 3¾ lbs. Attractive and durable neoprene carrying case is available to house instrument and leads.

• Exclusive overload cut-out and fuse system provides complete protection against accidental burnouts for the Meter, all Resistors, Shunts and other components • New streamlined ultra-modern case design with curved face and slanted meter dial permits easy reading while instrument is lying flat. • Wide vision non-breakable lucite face permits extra light to facilitate meter reading. • Built with a single Function—and—Range selector switch. • Batteries housed in special compartment accessible without removing case. No soldering required—just snap batteries in or out. • Incorporates full-wave bridge-type rectifier circuit.

SPECIFICATIONS

INDUSTRIAL MODEL 455

Sensitivity:	20,000 ohms per volt DC. 20,000 ohms per volt AC.
Volts:	3, 12, 30, 120, 600, 1200 volts AC. 3, 12, 30, 120, 600, 1200 volts DC.
Resistance:	0 to 100 megohms in four ranges.
Center Scale Ranges:	5, 500, 5000, 500,000 ohms.
Current:	50 microamperes; 1, 10, 100, 1000 milliamperes; 10 amperes.

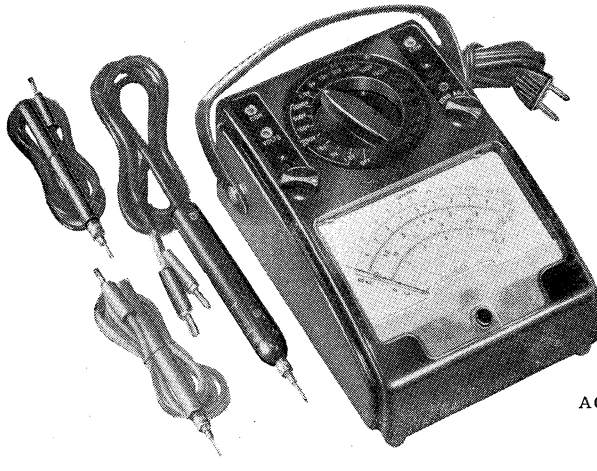
AUDIO MODEL 456

Sensitivity:	20,000 ohms per volt DC. 1,000 ohms per volt AC.
Volts:	3, 12, 30, 120, 600, 1200 volts AC. 3, 12, 30, 120, 600, 1200 volts AC.
Resistance:	0 to 100 megohms in four ranges.
Center Scale Ranges:	5, 500, 5000, 500,000 ohms.
Current:	50 microamperes; 1, 10, 100, 1000 milliamperes; 10 amperes.
DB Range:	—18 to 57 in 5 ranges.

Frequency compensated for accurate readings over the entire audio range. Includes provision for output measurements.

LATEST DESIGN VACUUM TUBE VOLTMETER

No Batteries Required



Model 415

Model 415: A new design electronic volt-ohmmeter with a single selector switch, 5-inch meter, and modern slanted-face case that permits increased speed in field or laboratory uses.

No batteries are required for this instrument . . . not even for the ohmmeter section. The advantage of this built-in DC voltage supply assures sensitivity and is thoroughly reliable as proven in equipment supplied to the military.

All DC ranges are of zero-center design for instant polarity identification in troubleshooting the many present day complex circuit arrangements.

Molded Case: 8½" L., 5⅞" W. Height is 3" tapered down to 1¾". 5 lbs. net weight. 105-125 volts, 50-60 cycles, approx. 15 watts. Includes new combination AC-DC single unit Dual-Probe, ohms lead, ground lead, complete instruction book and guarantee.

SPECIFICATIONS

AC Voltmeter

AC voltages are based on peak-to-peak detection and are calibrated in RMS.

7 RMS Voltage Ranges: 0-1.5, 5, 15, 50, 150, 500, 1500.

Frequency Response: 50 cycles to 2.5 megacycles.

Input Capacity: Approx. 150 mmf.

DC Voltmeter

7 DC Voltage Ranges: 0-1.5, 5, 15, 50, 150, 500, 1500.
All ranges are zero-center.

Ohmmeter

7 Ohms Ranges: x1, x10, x100, x1k, x10k, x100k, x1 megohm.
Design center: 10 ohms.
Readability: 0.2 ohm to 2000 mag-ohms.

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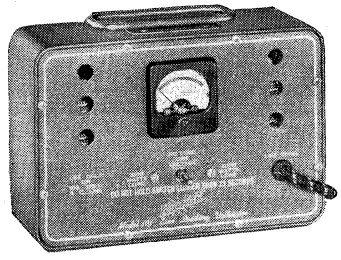
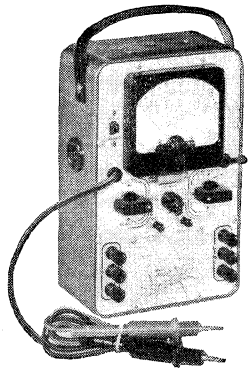


Model 101

NEW LINE LOADING VOLTMETER

MODEL 101: Electricians and appliance installation technicians are indeed receptive to this new time-saver. A built-in front panel switching arrangement permits 1000 watt or 2000 watt line load and reads resulting AC line voltage change due to load. Field service and electrical unit installers effectively use this equipment to quickly determine circuit capacity and adequacy of existing wiring to handle air conditioning units, freezers, etc. in homes or institutions. Instrument plugs into any 115 volt AC outlet and continuously reads line voltage, from 50 to 140 volts. Entirely self-contained. Housed in attractive steel portable case, 9¼" W., 6¼" H., 3¼" D. 5 lbs. net weight. Moderately priced for every electrician or appliance installation service company.



Model 900C

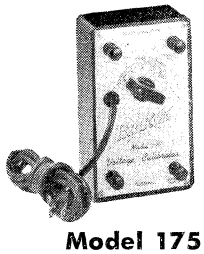
LOAD CHECK APPLIANCE TESTER

MODEL 900C: Appliance repairs are generally easy when you know precisely what is causing the trouble. This equipment will quickly spot the trouble and help you to build a profitable appliance service business. Basically a wattmeter load tester, it will permit a quick and easy test for shorts, high resistance, continuity of circuitry or accurate calculation of power factor.

When readings on this tester are compared to the rated values of the appliance, a quick and accurate evaluation of trouble can be determined. Permanently attached leads and AC receptacle prevent loss or misplacement. Spring loaded test prods eliminate electrical shock hazard to operators by necessitating a push-to-test action. A 20 watt range permits checking of non-inductive loads such as butter conditioner in new refrigerators, etc., and also has adequate multiple ranges (0 to 260 volts and 0 to 2000 watts) to service all major household appliances including electric ranges.

9A and 9B eads are available as a quickly attachable accessory for measurement of 3-wire circuits. With the C-105 (10 to 1) transformer accessory, this instrument is an excellent tool for load checking of industrial equipment up to 130 amps. and 10,000 watts (used Intermittently). A sturdy portable carrying case is available in black simulated leather. Has compartments for transformer, prods and leads and has removable cover. 11½" H., 10¾" W., 5½" D. 13 lbs. net weight.

Complete and detailed operating instructions with schematic diagrams are permanently mounted on the back of the portable steel case. 9½" H., 6¼" W., 4¼" D. 6½ lbs. net weight.



Model 175

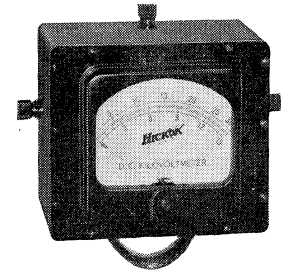
OSCILLOSCOPE VOLTAGE CALIBRATOR

MODEL 175: Permits quick and accurate Peak-to-Peak voltage measurements on any 'scope. Convenient switching arrangement permits peak-to-peak voltage measurement of wave shapes without disconnecting calibrator from 'scope.

Readings are accurate to 5% at 115 volts.

Calibrates 'scope peak-to-peak at any desired voltage. Ranges: peak-to-peak 0.1, 1.0, 10.0, 100.0 volts.

Small, compact, very easy to use. Attractive metal case 6" L., 3¾" W., 2" D. 115 volts, 50-60 cycles, 5 watts. 3 lbs. net weight.



Model 465

DOUBLE RANGE DC KILOVOLTMETER

MODEL 465: For measuring DC Voltages as high as 30,000 volts. Has a sensitivity of 10,000 ohms per volt. This instrument has many industrial uses and features low current drain.

Phenolic case provides ample protection against the high voltages being measured.

Furnished complete with leads and carrying case 7", 6⅛", 4¼". 6 lbs. net weight. 8½ lbs. shipping.

PROBES and ACCESSORIES

TYPE 34 Crystal Modulator Probe: Use with any 'scope to trace a modulated RF signal, at any frequency, through radio or TV receiver from the antenna post to the detector or discriminator. 4 ft. long. 2 oz. net; 2 lbs. shipping. A quick and accurate aid to trouble-shooting with your 'scope.

TYPE 35 Crystal Demodulator Probe: Same technical advantage as Type 34 Probe listed above; however, the Type 35 is specifically designed for Model 675 HICKOK Oscilloscope and has Amphenol Type connector.

TYPE 75 Termination Pad: Is available for use with the HICKOK 610A or any other TV-FM alignment generator. Eliminates most standing waves on the length of output cable to insure accurate frequency match of the generator and TV receiver. Can be used on both 90 and 300 ohm inputs. Net weight 6 oz.; 2 lbs. shipping.

CRYSTALS:

.005% accuracy for Model 295X.
4.5 mc for Model 610A or 695.
Specified channels for Model 610A or 695.
Special frequencies for Model 610A or 695.

TVP-1 Television Probe: Increases 'scope usefulness in servicing TV receivers. Enables technician to accurately duplicate manufacturers' pattern. Reduces loading effect. Made of black phenolic with chrome probe and four foot heavy duty cord with spade connectors. Net weight 6 oz.; 2 lbs. shipping.

PR30KV, High Voltage DC Probe: Extends the range of your VTVM to 30,000 volts DC. Doubles the use of any voltmeter. Ideal for use with the HICKOK 203, 209, 215, 225 or 415. Made of heavy duty black phenolic, with a four foot cord and cable type connector. Net weight 6 oz.; 2 lbs. shipping.

PR30KVA High Voltage DC Probe: Same technical advantage of PR 30 listed above; however, this probe is specifically designed for use with the HICKOK Model 209A. Same weight and physical dimensions as PR 30 listed above.

PR25KV High Voltage DC Probe: Specifically designed to extend range of HICKOK Models 450, 455 and 435A to 25,000 volts DC. This probe can also be used with any other 20,000 ohm per volt DC multimeter with a 250 volt scale. Same weight and physical dimensions as PR 30 listed above.

PR15 RF Crystal Probe: For use with HICKOK Model 215 or Model 225. Net weight 12 oz.; 21 lbs. shipping.

Instrument Covers: Heavy, transparent-film plastic dust covers are available for all HICKOK Test Instruments.

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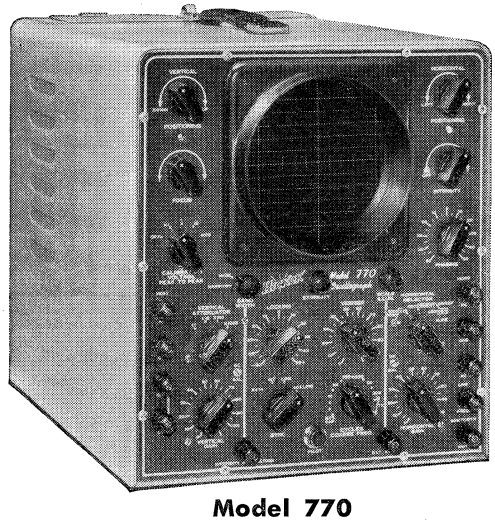
PROFESSIONAL ENGINEERS'



Model 770

Laboratory OSCILLOSCOPE

Model 770: A new 5-inch oscilloscope with unusual versatility for the complete analysis of electrical and electronic circuits.

Wide band amplifier of DC to 5MC, built-in voltage calibrator, recurrent and driven sweep, excellent locking, high gain, hum free and clear, stable trace qualify the 770 as ideal for use in all phases of electrical work.

This equipment provides the necessary range and stability for measurements of fine accuracy. The 770 will respond accurately to voltages in wide ranges of both frequencies and amplitudes.

The new type flat-faced tube permits a more linear reading as well as facilitates photography for permanent records of any pattern or series of patterns.

SPECIFICATIONS

VERTICAL AMPLIFIER

Frequency Response: Wide Band; DC to 5 MC (within 3 db). Narrow Band; DC to 2.5 MC (within 3 db).
Pulse Response: Excellent pulse response with a Rise Time of 0.7 Microseconds.
Sensitivity: Wide Band; 35 MV RMS per inch. Narrow Band; 10 MV RMS per inch.
Vertical Attenuator: Frequency compensated decade steps of 1 to 1, 10 to 1, 100 to 1 and 1000 to 1. Self-contained voltage calibrator provides peak-to-peak calibrating voltages of 100, 10, 1, 0.1 volts.
Gain Control: Non-frequency discriminating 10 to 1 gain control.
Input Impedance: 2.2 megohm, 50 $\mu\mu$f.
Deflection: Full screen vertical deflection without low or high frequency distortion.
Shock Mounted Amplifiers.
Direct Connection: Sensitivity; 25 volts RMS per inch. Input Impedance; 2.2 megohms, 20 $\mu\mu$f.

HORIZONTAL AMPLIFIER

Frequency Response: DC to 500 KC (within 3 db).
Sensitivity: 75 MV RMS per inch.
Horizontal Attenuator: Frequency compensated decade steps of 1 to 1, and 10 to 1.
Line Sweep: Phaseable approximately (180°) line frequency.
Input Impedance: 2.2 megohms, 50 $\mu\mu$f.
Deflection: 3 times full screen horizontal deflection without low or high frequency distortion.
Shock Mounted Amplifiers.
Direct Connection: Sensitivity; 35 volts RMS per inch. Input Impedance; 2.2 megohms, 20 $\mu\mu$f.

TIME BASE GENERATOR

Sweep Functions: Recurrent and driven.
Frequency: Frequency coverage from 2 CPS to 30 KC in 7 ranges. Provision for external capacities for slower frequency sweeps.
Fixed Sweep Frequencies: 30 and 7875 cycles.
Synchronization at line or 2 times line frequency.
Time Base Expansion: Time base expansion of six times full screen (30 inches) with complete positioning of expanded trace.

DISPLAY INFORMATION

The trace is displayed on a type 5ADP1 (5ABP1) flat faced Cathode Ray Tube with high accelerating and post accelerating voltages, providing sharp trace detail with greater brilliance and better definition. Flat faced tube provides a linear reading and permits accurate photography of the display information.
Intensity Modulation: Input provided for Intensity (X-Axis) Modulation.

SPECIAL FEATURES

Both B+ and line are fused for extra protection.
Test Signals: Line Frequency; 3 volts RMS per inch. Sawtooth; available from front panel. Shielded; Mu Metal magnetic shield gives maximum protection to cathode ray tube against effect of external magnetic fields. Flat Faced Tube; permits linear reading of display information and facilitates photography. Stabilized; sweep lengths and synchronizations are maintained as signal line varies.

ILLUMINATED CALIBRATED SCREEN

The illuminated calibrated screen is backed with a green filter which reduces reflections caused by incidental illumination thereby permitting accurate qualitative and quantitative measurements. Astigmatic focus control provides a new standard in undistorted sharpness.

FOR SPECIAL APPLICATIONS

Some engineers may prefer a 5ADP11 tube for short persistence or 5ADP7 tube for long persistence observations. Either is available in the Models 770HA (with High Actinic Tube) or 770LP (with Long Persistence Tube) at a slightly higher cost.

DIMENSIONS

14" H., 12" W., 18" D. 50 lbs.

POWER SUPPLY REQUIRED

105-125 Volts, 50-400 CPS.

POWER CONSUMPTION

Approximately 125 watts. Furnished complete with test leads, instruction book and guarantee.

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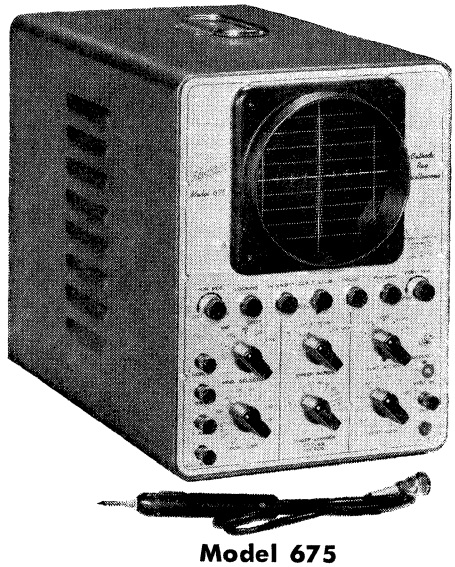


Model 675

WIDE BAND...HIGH SENSITIVITY

With Illuminated, Calibrated Screen

Model 675: Here is a new 5-inch scope that provides all the late design features to permit unusual accuracy in servicing present-day electronic equipment . . . including color TV receivers. This instrument features practical engineering advantages heretofore found only in much higher priced equipment. The 675 features wide band frequency response from 1 cycle through 3.58 MC (within 1 db.).

The illuminated, calibrated screen with astigmatic focus provides a new standard in undistorted trace detail. The stability of this equipment plus the many definitely new circuit innovations provides a technician's scope that will rival the features of many high-priced engineer's models. The unusually wide range of the Model 675 is not achieved at the expense of sensitivity therefore, the need for band width switching has been eliminated. Check the specifications listed below, and then see your Radio-Electronic Parts Jobber for an actual demonstration of this high quality though moderately priced scope.

SPECIFICATIONS

VERTICAL AMPLIFIER: Frequency Response: 1 CPS to 4.5 MC (within 3 db). Pulse Response: Excellent pulse response with a Rise Time of .08 Microseconds. Sensitivity: 20 MV RMS per inch. Vertical Attenuator: Frequency compensated decade steps of 1 to 1, 10 to 1, 100 to 1 and 1000 to 1. Gain Control: Non-frequency discriminating 10 to 1 gain control. Input Impedance: 1 megohm, 40 $\mu\mu$f. Trace Reversal: A switch is provided for reversing the polarity of the vertical trace. Deflection: Full screen vertical deflection without low or high frequency distortion. Shock Mounted Amplifiers. Self-Contained Voltage Calibrator.

HORIZONTAL AMPLIFIER: Frequency Response: 1 CPS to 450 KC (within 3 db). Pulse Response: Good pulse response with a Rise Time of 2 microseconds. Sensitivity: 250 MV RMS per inch. Horizontal Attenuator: Frequency compensated decade steps of 1 to 1 and 10 to 1. Input Impedance: 1 megohm, 40 $\mu\mu$f. Line Sweep: Phaseable approximately (180°) line frequency. Gain Control: Non-frequency discriminating 10 to 1 gain control. Deflection: Full screen horizontal deflection without low or high frequency distortion.

TIME BASE GENERATOR: Sweep Function: Recurrent. Frequency coverage from 10 CPS to 100 KC. in four calibrated decade ranges, with vernier control of 10 to 1. Time Base Expansion: Time base expansion of ten times full screen around center line (40 inches) with complete positioning of expanded trace. Writing Speed: The wide frequency coverage together with expansion will produce writing speeds variable from 25,000 Microseconds per inch (based on 4 inches) or 10,000 Microseconds per CM (based on 10 CM) to 0.25 Microseconds per inch (based on 40 inches) or 0.1 Microseconds per CM based on 100CM).

DISPLAY INFORMATION: The Trace is displayed on a type 5UP1 Cathode Ray tube with a high accelerating potential providing sharp trace detail. Intensity Modulation: Input provided for Intensity (Z-Axis) Modulation.

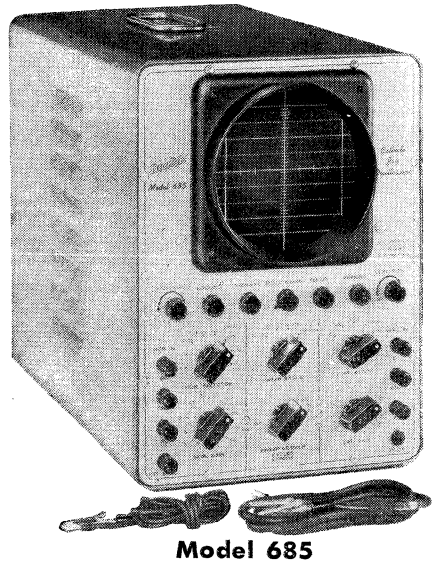
DUAL FUSED: Both B+ and Line are fused for extra protection.

ILLUMINATED, CALIBRATED SCREEN: The Illuminated, Calibrated Screen is backed with a green filter which reduces reflections caused by incidental illumination thereby permitting accurate qualitative and quantitative measurements. Astigmatic focus control provides a new standard in undistorted trace sharpness.

FOR SPECIAL APPLICATIONS: Some engineers may prefer a 5UP11 tube for short persistence or 5UP7 tube for long persistence observations. Either is available in the Models 675HA (with High Actinic Tube) or 675 LP (with long Persistence Tube) at a slightly higher cost.

13" H., 10" W., 16" D., 35 lbs. 105-125 Volts, 50-400 CPS. 125 Watts at 115 volts.

Furnished complete with high and low capacity probe, instruction book and guarantee.



Model 685

INDUSTRIAL'S PORTABLE
With Triggered Sweep

Model 685: An engineer's quality 5-inch oscilloscope with DC amplifiers. Permits accurate measurements of electrical phenomena such as modulation, phase relations, voltage amplitudes and distortion. Good shock mounted amplifiers and circuit design permit excellent locking and stability for uses in all phases of TV and electronic work. A maximum full screen vertical and three-times full screen horizontal deflection is allowed without low or high frequency distortion.

The vertical gain control provides a non-frequency discriminating 10 to 1 gain.

Identical horizontal and vertical attenuators are frequency compensated in decade steps from 1 to 1 through 1000 to 1. The vertical attenuator has a fixed voltage calibration of .1 volt peak-to-peak. The horizontal sweep has a phaseable (approximately 180°) line frequency signal. Has 120 cycle line sweep.

This equipment as a time base generator function has frequency coverage from 1 to 100,000 cycles in four calibrated decade ranges with 10 to 1 vernier control. Input is provided for intensity (Z-Axis) modulation.

The illuminated, calibrated screen is backed with a green filter to reduce reflections caused by incidental illumination. This 'scope is one of the biggest values available today.

Vertical Amplifier:
DC to 750 KC (within 3 db)
20 MV RMS per inch

Horizontal Amplifier:
DC to 750 KC (within 3 db)
30 MV RMS per inch

Includes provision for the addition of external capacitors to provide slow sweeps . . . to 5 seconds.

Attractive steel portable case with professional type panel. 13" H., 10" W., 16" D. 35 lbs. 105-125 volts, 50-400 CPS. Approximately 65 watts. Furnished complete with test leads, instruction book and guarantee.

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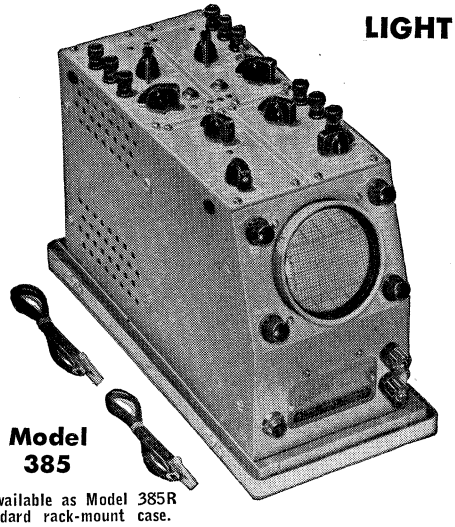


Model 385

Also available as Model 385R in standard rack-mount case.

LIGHT WEIGHT 3" PORTABLE OSCILLOSCOPE

Model 385: A new light weight field engineer's portable that incorporates all the latest quality features. Ease of use and dependable design is similar to a model used by the Armed Services. Contains DC Amplifiers, both horizontal and vertical. Frequency coverage to 4MC, 3 db down. Both vertical and horizontal attenuators are fully compensated.

Features unitized construction for quick accessibility to circuitry as well as replaceable circuit sections. Case is shock mounted. Built-in retractable light shield, with CR tube mounted at a 20° angle, facilitates use of the portable model. Terminal board at rear provides direct connection to CR tube elements. This equipment has provision for Z-Axis modulation.

Also available with shock mounted, moisture-proof case. 6" W, 9" H, 13½" D. 15 lbs. net. Less carrying case: 5½" W, 8" H, 13¼" D. 11 lbs. net. In rack mount case as Model 385R: 5¼" H., 19" W., 11½" D. 15 lbs. net.

105-125 volts, 50-1000 cycles. Power consumption is 60 watts at 115 volts. 4 foot Coaxial Test Cable and 4 foot Ground Lead. Telescopic light shield and ruled plastic screen are included.

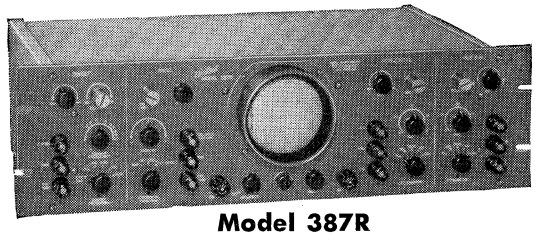
SPECIFICATIONS

VERTICAL AMPLIFIER—Frequency Response: Wide Band; DC to 4 MC (within 3 db). Narrow Band; DC to 2 MC (within 3 db). Pulse Response: Wide Band; excellent pulse response with a Rise Time of .08 Microseconds. Narrow Band; excellent pulse response with a Rise Time of .1 Microseconds. Sensitivity: 75 MV RMS per inch. Vertical Attenuator: Frequency compensated decade steps of 1 to 1, 10 to 1, 100 to 1. Variable voltage calibration of 0 to 1 volt. Gain Control: Non-frequency discriminating 10 to 1 gain control. Input Impedance: 2.2 megohms, 25 $\mu\mu$f. Deflection: Half screen vertical deflection without low or high frequency distortion. Direct Connection Provision: Sensitivity; 17 volts RMS per inch. Input Impedance; 4.7 megohms, 30 $\mu\mu$f.

HORIZONTAL AMPLIFIER—Frequency Response: DC to 500 KC (within 3 db). Pulse Response: Excellent pulse response with a rise time of .1 microseconds. Sensitivity: 75 MV RMS per inch. Horizontal Attenuator: Frequency compensated decade steps of 1 to 1, 10 to 1 and 100 to 1. Variable voltage calibration of 0 to 1 volt. Input Impedance: 2.2 megohms, 25 $\mu\mu$f. Gain Control: Non-frequency discriminating 10 to 1 gain control. Deflection: Full screen horizontal deflection without low or high frequency distortion. Direct Connection: Sensitivity; 25 volts RMS per inch. Input Impedance; 4.7 megohms, 30 $\mu\mu$f.

TIME BASE GENERATOR—Sweep Function: Recurrent. Frequency: Frequency coverage from 3 CPS to 50 KC in six ranges. Locking: Internal or external. Time Base Expansion: Time base expansion of six times full screen (18 inches) with complete positioning of expanded trace.

DISPLAY INFORMATION—The Trace is displayed on a type 3RP1 Cathode Ray tube with a high accelerating potential providing sharp trace detail. Intensity Modulation: Input provided for Intensity (Z-Axis) Modulation.



Model 387R

3-INCH RACK MOUNT Industrial's Oscilloscope

Model 387R: An accurate 3-inch oscilloscope featuring identical horizontal and vertical amplifiers with a frequency response of DC to 500 KC.

The standard rack-mount case is very popular with engineers and laboratory technicians. 5¼" H., 19" W., 11½" D. 15 lbs. 105-125 volts, 50 to 1000 CPS. Approximately 62 watts.

SPECIFICATIONS

VERTICAL AMPLIFIER—Frequency Response: DC to 500 KC (within 3 db.) Pulse Response: Excellent pulse response with a Rise Time of .2 Microseconds. Sensitivity: 10 MV RMS per inch. Vertical Attenuator: Frequency compensated 1% decade steps of 1 to 1, 10 to 1, 100 to 1 and 1000 to 1. Variable voltage calibration on 5th position of 0 to 1 volt. Gain Control: Non-frequency discriminating 10 to 1 gain control. Input Impedance: 1 megohm, 45$\mu\mu$f. Deflection: Full screen vertical deflection without low or high frequency distortion. Shock Mounted Amplifiers. Direct Connection: Sensitivity: 17 volts RMS per inch. Input Impedance: 4.7 megohms, 30 $\mu\mu$f.

HORIZONTAL AMPLIFIER—Frequency Response: DC to 500 KC (within 3 db). Sensitivity: 14 MV RMS per inch. Horizontal Attenuator: Frequency compensated 1% decade steps of 1 to 1, 10 to 1, 100 to 1, 1000 to 1. Variable voltage calibration on 5th position of 0 to 1 volt. Gain Control: Non-frequency discriminating 10 to 1 gain control. Input Impedance: 1 megohm, 45$\mu\mu$f. Deflection: Full screen horizontal deflection without low or high frequency distortion. Shock Mounted Amplifiers. Direct Connection: Sensitivity: 25 volts RMS per inch. Input Impedance: 4.7 megohms, 30 $\mu\mu$f.

TIME BASE GENERATOR—Sweep Function: Recurrent or driven. Frequency: Frequency coverage from 1 CPS to 100 KC in five calibrated decade ranges 10 to 1 vernier control with decade steps of x1, x10, x100, x1000, x10,000. Slower sweeps may be obtained by the addition of an external capacitor. Locking: Internal or external. Time Base Expansion: Horizontal gain control in conjunction with a special sweep positioning control provides 10 to 1 expansion around center line. Choice of external sync. either positive or negative.

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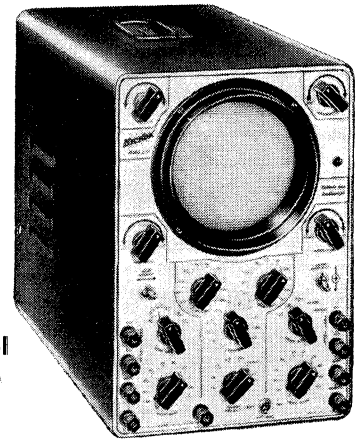


Model 670A

NEW MODEL 670A OSCILLOSCOPE

Accurate, Stable . . . with AC-DC AMPLIFIERS

Model 670A: A general purpose oscilloscope designed to permit visual study and analysis of electrical and electronic circuits, wave forms, modulation, phase relations, voltage amplitude, hum, gain and distortion in amplifiers and a means for measuring voltages and frequencies of AC signals.

This equipment has DC Amplifiers for excellent square-wave response. Horizontal and vertical attenuators, polarity reversing switches, direct coupled and balanced push-pull amplifiers, Z-axis (intensity modulation) post on front panel to facilitate connection of blanking or intensity voltages, in addition to other time-saving features identifying this scope as a most practical instrument for TV and general electronic use.

SPECIFICATIONS

VERTICAL AMPLIFIER—Frequency Response: DC to 600 KC (within 3 db). Pulse Response: Excellent pulse response with a Rise Time of .6 Microseconds. Sensitivity: 16 MV RMS per inch. Vertical Attenuator: Frequency compensated decade steps of 1 to 1, 10 to 1, and 100 to 1. Demodulator Circuit for viewing modulation on RF. Gain Control: Non-frequency discriminating 10 to 1 gain control. Input Impedance: 2.2 megohm, 30 $\mu\mu$f. Deflection: Full screen vertical deflection without low or high frequency distortion. Shock Mounted Amplifiers. Polarity Reversing Switch. Direct Connection: Sensitivity: 12 volts RMS per inch. Input Impedance; 3.3 megohms, 15 $\mu\mu$f.

HORIZONTAL AMPLIFIER—Frequency Response: DC to 250 KC (within 3 db). Pulse Response: Excellent pulse response with a Rise Time of 1.2 Microseconds. Sensitivity: 10 MV RMS per inch. Line Swep: Phaseable approximately (180°) line frequency. Input Impedance: 1 magohm, 35 $\mu\mu$f. Deflection: Minimum full screen horizontal deflection without low or high frequency distortion. Shock Mounted Amplifiers. Polarity Reversing Switch. Direct Connection: Sensitivity; 13 volts RMS per nch. Input Impedance; 3.3 megohm, 15 $\mu\mu$f.

TIME BASE GENERATOR—Sweep Function: Recurrent. Frequency: Frequency coverage from 3 CPS to 50 KC, in 6 ranges with vernier control. Locking: Internal, external and 120 cycle locking. Fixed Sweep Frequencies: 30 and 7875 cycles. Time Base Expansion: Time base expansion of five times full screen (25 inches) with complete positioning of expanded trace.

DISPLAY INFORMATION—The trace is displayed on a type 5UP1 Cathode Ray Tube wth a high accelerating potential providing sharp trace detail. Intensity Modulation: Input provided for Intensity (Z-Axis) Modulation.

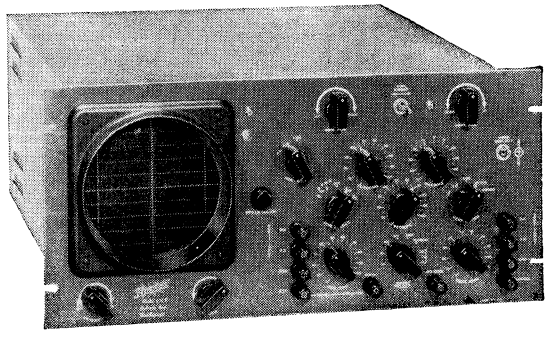
CALIBRATED SCREEN—Permits accurate qualitative and quantitative measurements. Astigmatic focus control provides a new standard in undistorted trace sharpness.

FOR SPECIAL APPLICATIONS—Some engineers may prefer a 5UP11 tube for short persistence or 5UP7 tube for long persistence observations. Either is available in the Models 670HA (with High Actinic Tube) or 670LP (with Long Persistence Tube) at a slightly higher cost.

Portable steel case with etched aluminum panel. 13″ H., 10″ W., 18″ D. 27 lbs. 105-125 Volts, 50-70 CPS. Approximately 65 watts. Furnished complete with test leads, instruction book and guarantee.

RACK MOUNT 'SCOPE

with AC-DC AMPLIFIERS and Illuminated, Calibrated Screen



Model 670R

Same technical specifications as Model 670A listed above. Model 670R: In sturdy steel, rack mount design in attractive dark gray finish panel with white lettering. Case size: 8¾″ H., 19″ W., 18″ D., 27 Lbs. net, 35 Lbs. shipping. Test leads are included.

Model 670R: A high quality Oscilloscope that is engineered to meet the more exacting requirements of today's electronic equipment maintenance as well as provide a modern tool for the electronic engineer in design work. Identified as the Model 670R, this scope has D.C. amplifiers for excellent square wave response — even down to D.C.

Push-pull vertical amplifiers, polarity reversing switches, horizontal attenuator and Z-axis (intensity modulation post) on front panel for easier connection of blanking or intensity voltages, are additional time-saving features that make this scope a most practical instrument. Attractive dark gray panel with white lettering provides a professional type case that fits standard rack mount panels which are rapidly growing in popularity.

High Sensitivity: 0.015 (15 millivolts) RMS per inch. Demodulator circuit for viewing modulation on RF signal . . . Recurrent linear sweep; 3 cycles to 50,000 cycles. Reversing switches for both horizontal and vertical deflection. Fixed sweep frequency for horizontal and vertical wave forms of TV receivers. Both negative and positive synchronizing. Line phasing control (approximately 180°). Vertical amplifier useable beyond 2 MC. Direct coupled, balanced (push-pull) amplifiers for both vertical and horizontal deflection. Provision for Z-axis modulation. A 3-step attenuator in the horizontal amplifiers circuit operates in conjunction with the vernier attenuator control permits a more accurate adjustment of gain in cases where voltages under question are comparatively high. Permits the study and analysis of wave forms, and other electric and magnetic phenomena. Excellent square wave response. Provides for the visual testing and alignment of amplitude and frequency modulated receivers, as well as television equipment when used with a frequency modulated oscillator or sweep generator.

HICKOK . . . CHOICE OF THE EXPERTS

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HICKOK Meters

For Accuracy and Dependability

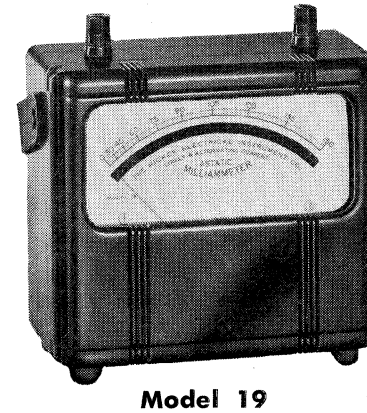
MODEL 19 AC-DC ASTATIC MILLIAMMETERS, AMMETERS, VOLTMETERS, WATTMETERS, WATTLESS COMPONENT INDICATORS

Accuracy within ½ of 1% on AC or DC.

Astatic Electrodynamometer movements. Not affected by external magnetic fields. Scale length: 5½ inches. Wattmeter scales are uniform, others uniformly squared. Mirror scales.

Model 19 portable instruments designed for precision AC or DC measurements. They are of astatic dynamometer type with a greater accuracy than most other portable AC and DC instruments. Owing to the astatic design the indications are the same on either AC or DC.

Dimensions: 4" x 6¼" x 7⅛". Weight 4½ lbs. Case material: Molded phenolic.



Model 19

MODEL 13 AC DYNAMOMETER INSTRUMENT

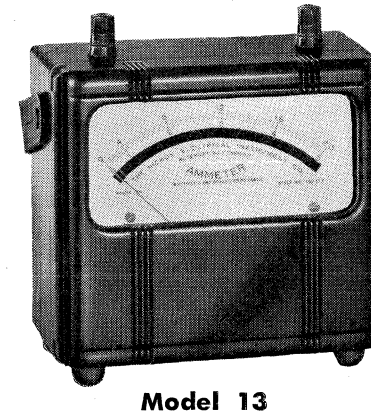
Accuracy within ½ of 1%.

Shielded from effect of External Magnetic fields. Ammeters, Milliammeters, Voltmeters, Wattmeters — single phase. Mirror scales, Knife Edge Pointers. Scale length: 5½ inches.

These instruments are correct on AC of any frequency up to 125 cycles. Built for use on higher frequencies. Deviations from the sinusoidal wave form met in ordinary testing have no noticeable effect on the calibration of these instruments. Voltmeters and wattmeters are self-contained up to 750 volts, designed to perform continuous service.

Also furnished as Model 13M Iron Vane Type for special applications.

Dimensions: 4" x 6¼" x 7⅛". Weight: 3½ lbs. Case material: Phenolic.



Model 13

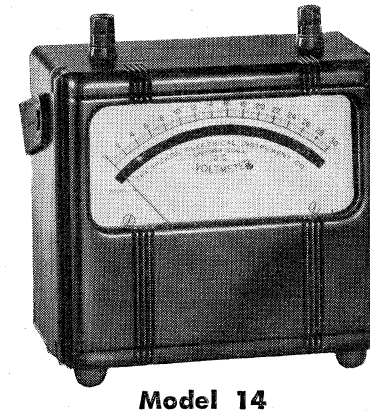
MODEL 14 DC AMMETERS, MILLIAMMETERS, MICROAMMETERS, VOLTMETERS, MILLIVOLTMETERS, VOLT-AMMETERS, THERMO-COUPLE METERS

Accuracy within ½ of 1%.

D'Arsonval movements. Shielded from effect of external magnetic fields. Uniform scales provided in DC meter with anti-parallax mirrors. Scale length: 5½ inches.

Voltmeters in this model have a resistance of approximately 1000 ohms per volt, the exact resistance being marked on data card furnished with the instruments. Model 14 millivoltmeters are supplied with leads for connection to external shunts. Ammeters are self-contained up to 150 amperes, having negligible temperature coefficient built-in shunts. The drop across the ammeters is 50 millivolts. Model 14 microammeters are of the high torque, have excellent damping, and other rugged characteristics not usually found in high sensitivity instruments.

Dimensions: 7⅛" x 6¼" x 3½". Weight: 6½ lbs. Case material: Polished phenolic. Excellent magnetic damping.



Model 14

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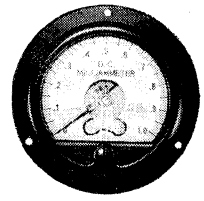
HICKOK Meters

For Accuracy and Dependability

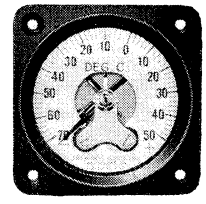
3½" ROUND-250 DEGREE METER

All DC meters can be supplied with accuracy either 1% or 2% of full scale deflection. The AC meters, which use copper-oxide rectifier-type movements, have accuracy within 5% of full scale deflection under all conditions. These instruments are as accurate as panel mounting instruments of equal size and have the advantage of two and one-half times longer scale. They are damped in accordance with American Standards Association Specifications, and their response time is also in accordance with these specifications. Allows readings to be taken quickly and more accurately.



2½" 250 DEGREE AIRCRAFT METER

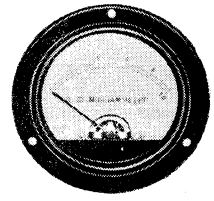
This instrument is mounted in a regulation aircraft case per Army-Navy specification, including the shielding and dimensional requirements. Has scale approximately 4⅜" long. Quick readability makes them desirable as flight instruments. Aircraft-type dial is available. Mechanism specially designed for aircraft service and will meet vibration-resistant requirements, etc.



RUGGEDIZED PANEL METERS

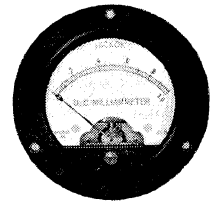
2½", 3½" or 4½"

The high Hickok standard of quality is now available in a ruggedized DC or rectifier type AC meter. This instrument provides the practical answer to requirements for shock proof meters with dependable accuracy. This highly efficient shock mount design permits pointer and scale divisions to be easily read when meter is under vibration. Exceptionally thick flint hard glass withstands pressure and shock tests designated by military specifications. Designed for flush mounting. Luminous dials can be supplied. Furnished in sealed case.



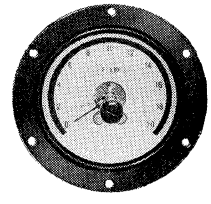
3½" ROUND FLUSH MOUNTINGS

Accurate within 1½%. Large opening symmetrically designed admits a maximum of light to the dial. Thick flange eliminates danger of breakage and improves appearance. Metal dials with white background are supplied in all standard ranges. Special dial designs are supplied on quantity orders, at no extra charge. Internal illumination can be furnished.

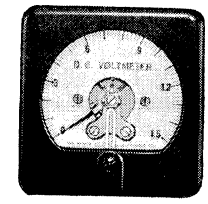


4½" 250-DEGREE RUGGEDIZED METER

DC Model: 48-250R. AC Model: 49-250R (Rectifier type). Accuracy: 2% as standard and available to 1%. For flush mounting. These long scale 250-degree arc angle instruments are now available as shock proof ruggedized and sealed. Permits a scale length approx. 2½ times as long as conventional instruments in the same size case. Use of these meters offers possibility of considerable saving to panel space. Available in 3½" and 4½" sizes.

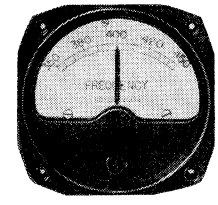


3½" SQUARE 250 DEGREE METER SAME AS THE ROUND 250 DEGREE METER



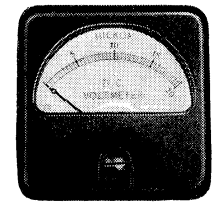
All DC meters can be supplied with accuracy either 1% or 2% of full scale deflection. The AC meters, which use copper-oxide rectifier-type movements, have accuracy within 5% of full scale deflection under all conditions. These instruments are as accurate as panel mounting instruments of equal size and have the advantage of two and one-half times longer scale. They are damped in accordance with American Standards Association Specifications, and their response time is also in accordance with these specifications. Allows readings to be taken quickly and more accurately.

DIRECT READING FREQUENCY METER, AIRCRAFT TYPE



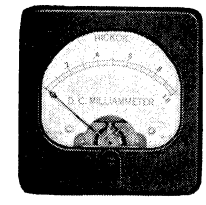
These Hickok improved self-contained frequency meters can be mounted in aircraft type cases of the large AN size. These are the smallest size frequency meters. This type of case is often convenient where space is a limiting factor. Suitable for aircraft use. Movement is shockproof. Case is dust and waterproof in accordance with Army-Navy aircraft instrument specifications. Radium or fluorescent dials and pointers available.

2½" MINIATURE SQUARE PANEL MOUNTING



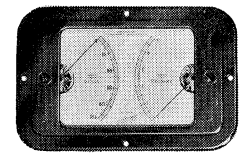
Flush mounting, phenolic case, wide flange only; and metal cases, wide and narrow flanges. Accurate within 1½%. These miniature panel mounting instruments are of the standardized 2½" size, but have extra long scale lengths by reason of the wide angle of deflection and longer scale radius. Five types of cases are available. Lance type pointers regularly supplied, however, small spade pointers can be furnished.

3½" SQUARE FLUSH MOUNTINGS



Accurate within 1½%. Large opening, symmetrically designed, admit maximum light to the dial. Thick flange eliminates danger of breakage and improves appearance. Require less panel space than round flush instruments. Metal dials with white background are supplied in all standard ranges. Special dial designs supplied on quantity orders at no extra charge. Internal illumination obtainable by means of bulb inserted in a socket through the instrument base.

SPACE SAVING DOUBLE-MOVEMENT METER



Model 76DC, Model 77 AC, Accuracy 1½%. 4" x 6" flush mounting phenolic case. Black finish standard. DC scale length is 2⅝". AC scale length 2¼". This unusually functional meter features a double movement to permit maximum size dial in a unique space saving arrangement that facilitates reading of two separate indications with minimum effort.

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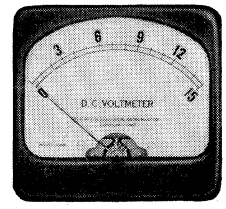
HICKOK Meters

For Accuracy and Dependability

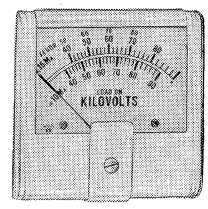
4" RECTANGULAR PANEL



Accuracy within 1½%. Molded phenolic cases — for flush or surface mounting. Dull Black finish standard. Other phenolic colors available. DC Scale length 3¾" — longest which can be attained in an instrument of this size. AC Scale length 3.2", 85 degrees deflection. Can be furnished with or without illuminated dials. Available also in 2½", 3½", and 5", for flush mounting.

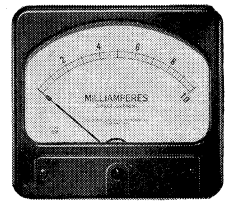
Volt-ammeters, volt-milliammeters, etc., having built-in push-button switches available.

3½" RECTANGULAR SEMI-FLUSH



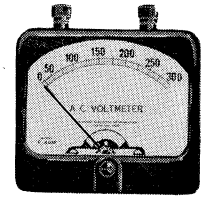
The new lucite-window model with a scale length of 3¼". Designed as attractive, modernistic replacements for conventional 3½" round or square flange instruments, and can be used in any space large enough to accommodate the standard 3½" meter. This instrument is furnished shielded or unshielded and available in most AC and D.C. ranges. Furnished in clear front with frosted effect border as shown. Also available in 5".

4⅝" RECTANGULAR PANEL METER



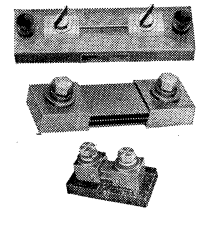
Model 68 DC, Model 69 AC, Accuracy 1½%. Developed specifically to meet requirements for a 4⅝" instrument that permits maximum length of scale, new efficiency small movement, and choice of two mounting stud locations to permit maximum versatility in semi-flush panel mount applications. Also available as an illuminated type with a new illumination technique that permits bulb replacement from front panel without necessitating removal of instrument from panel.

4" "P" SERIES PORTABLE INSTRUMENTS



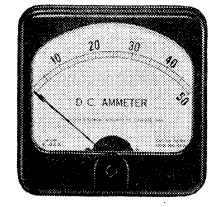
Scale lengths — AC Models P49, P49M — 3.25". DC Model P48 — 3.7". Accurate within 1½%. Dimensions: 4" x 3¾" x 2-3/16". Not shielded. These meters are manufactured in many ranges of voltmeters, millivoltmeters, ammeters, milliammeters, microammeters, volt-ammeters, and wattmeters for use on both alternating and direct currents. A high quality solid leather carrying case can be supplied at extra charge.

SHUNTS



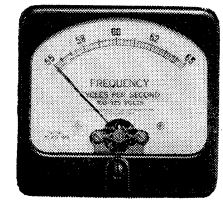
Hickok Portable Precision Shunts are of sufficient size to keep the temperature rise within the limits of N. E. M. A. standards. Shunts are accurately adjusted for 50 millivolt drop at full current value. The shunt resistance material has negligible thermo-electric effect against copper and negligible temperature coefficient within the limits of operation of the shunt. Will operate at rated capacity continuously without impairment of accuracy. Leads supplied with all shunts when ordered with ammeters.

4" RECTANGULAR



Large dial area. Accurate within 1½%. Molded bakelite cases — furnished shielded or unshielded. Dull black finish standard, other colors available. Flush mounting. DC scale length 5". AC scale length 4.25". Illuminated dials available. This instrument is a companion to other Hickok rectangular models but has proportionately larger dials, and is ideally suitable for use in electronic-testing equipment where multiple scale arcs are needed.

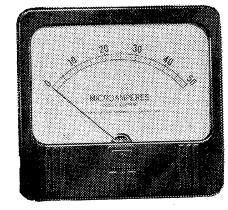
4" RECTANGULAR FREQUENCY METER



Frequency meters are self-contained with dimensions of 3¼" x 4" x 2⅜". No external reactor is used. The instruments can be supplied shielded from the effect of external magnetic fields.

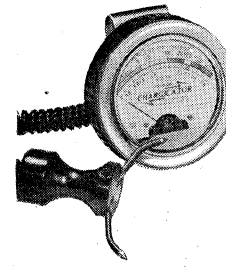
Available in 25, 50, 60, 400 or 800 cycle center scale.

7" SQUARE PANEL METER



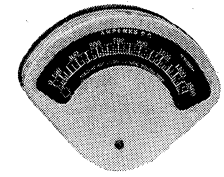
Model 74 DC, Model 75 AC, Accuracy 1½%. Semi-flush phenolic case. Black finish furnished as standard. Available shielded or unshielded. DC Scale length is 5¼". AC Scale length is 4½". The large dial area of this meter makes it ideal for use in multi-scale arrangements for electronic testing equipment or panel board uses.

CHARGICATOR



The newest instrument designed to improve battery servicing. This instrument measures the state of charge in a lead-acid storage battery, instantly and accurately. It's handier, cleaner, and quicker than a hydrometer and avoids acid damage to clothing. The chargicator also provides a complete test of all other factors affecting the life or condition of a battery. 4½" portable shown. Also available in 2½" and 3½" round panel mount for continuous connection.

FAN TYPE METER



D'Arsonval movement. Accuracy 1%. Scale length: 7 inches. Dimensions: 8-19/32" x 6-11/16" x 2-1/16". This instrument is available in any combination of DC ranges. It has a window in the top of the case so that a light can be mounted above it for external illumination. This window is optional. It can be supplied with mirror scales and knife-edge pointers. The movements are especially designed for use in places where vibrations are encountered.

CURRENT TRANSFORMERS

Hickok midget current transformers "Donut" design—for use with inserted primaries. SERIES 1 is primarily intended for use with ammeters, and conforms to N. E. M. A. standards ½X as to ratio only. SERIES 2 conform to N. E. M. A. standards ½X as to ratio and phase angle, and are intended for use with wattmeters, also may be used with both wattmeters and ammeters. Secondary leads are five feet long with soldering lugs made to fit ¼" dia. stud.

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HICKOK Meters

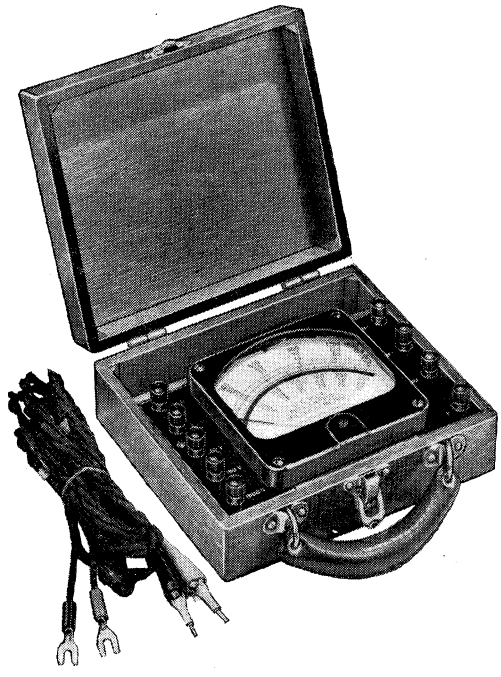
For Accuracy and Dependability

POCKET PORTABLE

MODEL 480 and 481—Accuracy within 1%. Unshielded. DC Model 480: Scale length 3.7". Voltmeters, millivoltmeters, ammeters, milliammeters, microammeters, and volt-ammeters. AC Model 481. Scale length 3.25". Ammeters, milliammeters, voltmeters, wattmeters — single phase. Mirror scales, knife edge pointers.

Oak Case furnished with slip hinges permits the cover to be removed. The resistor compartment is separate from the meter movement and beneath the panel on which the binding posts are mounted. These instruments are specifically designed for smallness and accuracy. They will easily slip into the pocket and their high accuracy enables them to be used in many testing and inspecting applications. Found especially handy for field service work and are extensively used by the U. S. Signal Corps. Built with full open faces, enabling the use of multiple scales, which are easily readable and unusually long. The movements are especially designed for portable use in these models, and are of the very highest quality.

Dimensions: 6¾" x 4¾" x 2¾". **Weight:** 3 lbs.



MODEL 440—Accuracy either 1% or ½ of 1%. Scale length 4¾". Panel and the 5" meter cover are phenolic. Has a built-in lead compartment with leads supplied.

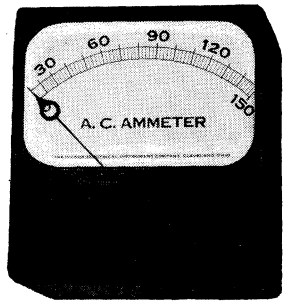
The instrument comes in an oak case with strong, flexible carrying handle. Case is furnished with slip hinge cover, permitting the cover to be removed for easier use. This type of case is especially handy for field service work and is extensively used. All types have mirror scales, knife edge pointers and full open faces. The latter feature enables the use of multiple scales, which are easily readable and unusually long. The movements are especially designed for portable use in these models, and are of the very highest quality. This particular instrument has three DC voltage ranges; 30, 150, and 1500. Two millivolt ranges: 75 and 150. Three milliampere ranges; 30, 60, and 300. These instruments, however, are available in any combination of DC ranges. **Dimensions:** 8½" x 7¼" x 3½". **Weight:** 4 lbs.

Also available in the AC Type, Model 441, with a scale length of 4¼".

SWITCHBOARD TYPE

MODEL S12 DC, D'Arsonval Movements. Model S-11 AC, Electrodynamometers. Model S-11M AC, Magnetic Vane Movements. Scale length of 5⅛". Shielded from External Magnetic Fields. Ideally suited for heavy industrial applications. Movements are of the large switchboard type. The AC Ammeter at left is furnished either self contained or with an external switchboard mounting current transformer. Cases can be supplied impervious to magnetic dust, dirt and moisture found in heavy industries. Can withstand severe vibration, shocks and extreme of temperature though still maintain the guaranteed accuracy of 1%. Available in surface type or flush type cases. Pressed steel cases, black enamel finish.

Dimensions: 5⅜"W., 5⅞"H., 4¼"D. plus 1¼" mounting studs.



Hickok is one of the foremost pioneers and manufacturers of electrical indicating instruments. Here shown are a few of the more popular types furnished. However, any practical range and type can be supplied. Your inquiry is invited. Kindly list details of your requirements. Prices are available on request.

THE HICKOK ELECTRICAL INSTRUMENT CO.

10500 Dupont Avenue, Cleveland 8, Ohio

HICKOK . . . Electrical Indicating Instruments

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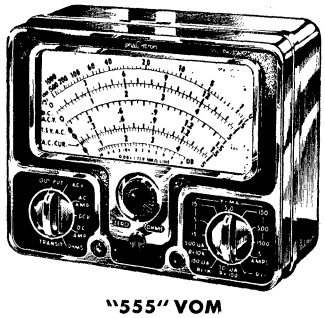
PHAOSTRON TESTING EQUIPMENT

Standard of Quality for the Industry

Dependability, flexibility and guaranteed maximum accuracy are built-in characteristics of all PHAOSTRON Instruments. The portable units shown here have been acclaimed by engineers as the finest instruments of their kind available–regardless of price. These Phaostron Test Instruments are ready-to-use for years of trouble-free, dependable top performance, produced to the highest quality standards–in compact, magnetically shielded metal cases.



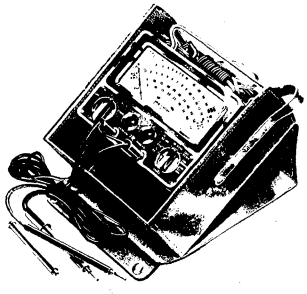
"555" VOM

The expertly designed 555 Volt-Ohm Milliameter is contained in a magnetically shielded metal case, which insures continued accuracy and integrity for years. Has complete AC Current Ranges from 1.5 Milliamperes to 15 Amperes.

Separate Range and Function Switches. Only 2 Jacks.

3% DC, 4% AC Permanent Accuracy.

Complete with probes and batteries..... **$39.95**



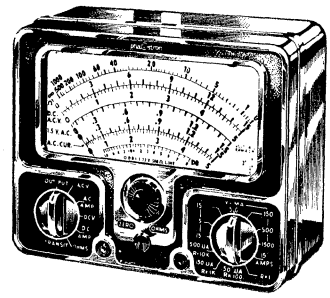
"777" V. T. T. M.

(Vacuum Tube Voltmeter)

A completely self-contained, ready-to-use test instrument. Accessories and High-frequency Coaxial Cable, DC Probe, AC Line Cord and Instruction Book all fit in the Genuine Leather Case supplied with it.

42 Unduplicated Ranges – Illuminated Dial doubly shielded, time-proven 200 microamp movement. Permanent Accuracy 3% DC, 5% AC. Large, easy to read Color Coded Scales. Separate Range and Function Switches. Many other features

Complete with Coaxial cable, DC Probes and Leather Case **$69.95**



"555A" VOM

The only Volt-Ohm Milliameter with all these features:

Meter movement protected up to 1000 times overload by a rectifier network.

The "555A" Measures: AC & DC Current, AC & DC Voltage, Output, Resistance. 43 Unduplicated Ranges.

Separate range and function switches. Only 2 Jacks.

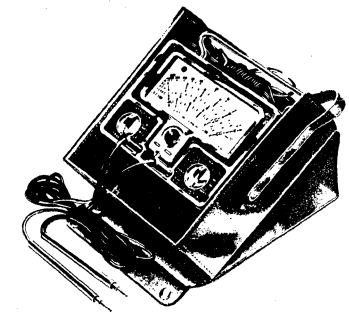
Double Magnetic Shielding.

3% DC, 4% AC Permanent Accuracy.

Complete with probes and batteries..... **$44.50**

PORTABLE LABORATORY INSTRUMENT

The finest instrument of its kind. Guaranteed Accuracy–each instrument carries a signed record of readings from certified standards. Overload network provides protection up to 500 times full scale for short periods. Double probe outlets – Cords may be plugged into low resistance jacks – or used with the 3-way binding posts. Instrument easily removed from leather carrying case for laboratory use.



"666" VOM

Carefully designed for long trouble-free service and performance. Fused to prevent most common burnouts and instrument damage. Signal light warns operator of overloads and incorrect polarity. Doubly shielded 45 UA movement assures continuous accuracy.

Sensitivity; 20,000 Ohms/Volt DC.
2,000 Ohms/Volt AC

Complete A.C. Current Ranges (From 1.5 MA to 15 Amps.). Chrome Handle serves as Power Cord Reel.

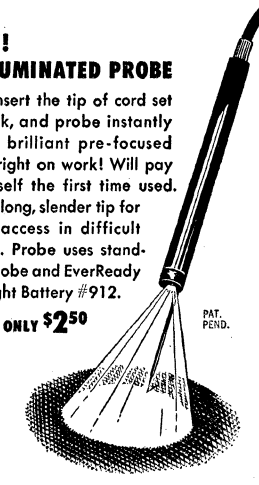
Complete with Probes, Power Cord, Batteries and Leather Carrying Case..... **$59.50**

NEW! ILLUMINATED PROBE

Just insert the tip of cord set in jack, and probe instantly gives brilliant pre-focused light right on work! Will pay for itself the first time used. Extra long, slender tip for easy access in difficult areas. Probe uses standard globe and EverReady Penlight Battery #912.

ONLY $2.50

PAT. PEND.



Your Key to Excellence PHAOSTRON **PHAOSTRON INSTRUMENT & ELECTRONIC CO.**

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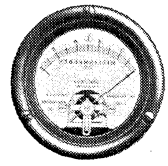
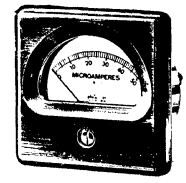
PHAOSTRON PANEL METERS

Standard of Quality for the Industry

1½" RUGGEDIZED

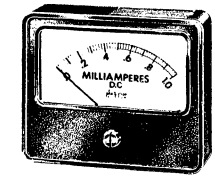


2½" 3½" 4½" RUGGEDIZED

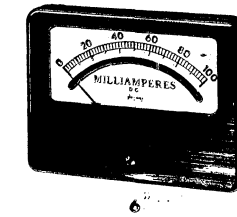


2½" 3½" SQUARE CUSTOM

2½" 3½" ROUND CUSTOM



3½" 4½" RECTANGULAR



6" RECTANGULAR

		RUGGEDIZED AND SEALED METERS				CUSTOM METERS						
TYPE	RANGE	1½" Square	2½" Round	3½" Round	4½" Round	2½" Round or Square	3½" Round or Square	3½" Rect. Black**	3½" Rect. Chrome**	4½" Rect. Black**	4½" Rect. Chrome**	4"x 6" Rect.**
Voltmeter DC 1000 OHMS/VOLT	0-1.5 0-3 0-5 0-8 0-10 0-15 0-30 0-50 0-80 0-100 0-150 0-200 0-300 0-500	14.75	14.25	14.75	15.75	11.00	11.75	12.50	14.50	13.50	15.75	17.75
Voltmeter AC 1000 OHMS/VOLT Rectifier Type	0-1.5 0-3 0-5 0-10 0-15 0-25 0-50 0-100 0-150 0-300	17.00	16.50	17.00	18.00	14.75	15.50	16.25	18.25	17.25	19.50	21.50
Ammeter DC	0-1 0-1.5 0-2 0-3 0-5 0-10 0-15 0-30 0-50 5-0-5 10-0-10 15-0-15 20-0-20 30-0-30 50-0-50	Not Available At Present	19.00	19.50	20.50	10.00	10.75	11.50	13.50	12.50	14.75	16.75
Milliammeter DC	0-1 0-1.5 0-2 0-3 0-5 0-10 0-15 0-20 0-30 0-50 0-100 0-150 0-200 0-300 0-500 1-0-1 100-0-100	13.50	13.00	13.50	14.50	10.00	10.75	11.50	13.50	12.50	14.75	16.75
Milliammeter AC Rectifier Type	0-1 0-2 0-5	17.00	16.50	17.00	18.00	14.75	15.50	16.25	18.25	17.25	19.50	21.50
Microammeter DC	0-20* 0-30 0-50 0-100 0-200 0-500 50-0-50 100-0-100 500-0-500	— — — 19.75 16.25 15.00 19.75 16.25 13.50	— — 21.75 19.25 15.75 14.50 19.25 15.75 13.00	22.50 22.50 22.50 19.75 16.25 15.00 19.75 16.25 13.50	23.50 23.50 23.50 20.75 17.25 16.00 20.75 17.25 14.50	— — 15.00 13.00 11.00 10.50 13.00 11.00 10.00	18.50 18.50 15.75 13.75 11.75 11.25 13.75 11.75 10.75	19.25 19.25 16.50 14.50 12.50 12.00 14.50 12.50 11.50	21.25 21.25 18.50 16.50 14.50 14.00 16.50 14.50 13.50	20.25 20.25 17.50 15.50 13.50 13.00 15.50 13.50 12.50	22.50 22.50 19.75 17.75 15.75 15.25 17.75 15.75 14.75	31.25 31.25 29.25 28.00 19.75 18.75 28.00 19.75 16.75
Microammeter AC Rectifier Type	0-100 0-200 0-250 0-500	22.00 18.25 18.00 17.25	21.50 17.75 17.50 16.75	22.00 18.25 18.00 17.25	23.00 19.25 19.00 18.25	17.75 15.75 15.50 15.00	18.50 16.50 16.25 15.75	19.25 17.25 17.00 16.50	21.25 19.25 19.00 18.50	20.25 18.25 18.00 17.50	22.50 20.50 20.25 19.75	30.25 21.00 21.00 20.75
Null Indicator	A B C	Not Available At Present	26.00	28.25	30.25	20.75	21.50	22.25	24.25	23.75	26.00	—
VU Meters	A B		25.75	26.25	27.25	18.50	19.25	20.00	22.00	21.00	23.25	25.25
Expanded Scale AC Volt Meters	90-130	27.00	26.50	27.00	28.00	24.75	25.50	26.25	28.25	27.25	29.50	31.50

*60° SCALE

**ADD $2.50 FOR ILLUMINATED TYPE

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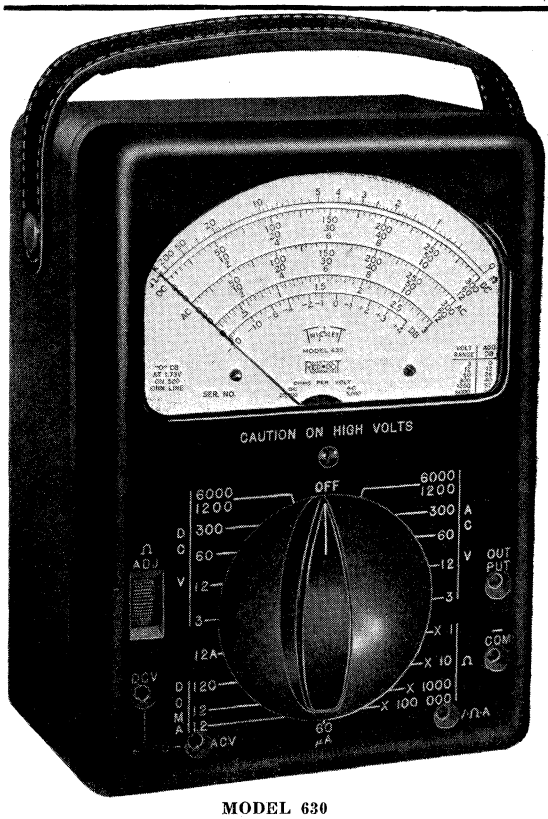
Net

Radio Triplett Testers



MODEL 630

MODEL 630
VOLT-OHM-MILLIAMMETER

RANGES

D.C. VOLTS: 0-3-12-60-300-1200-6000, at 20,000 Ohms/Volt. (For greater accuracy on TV and other High Resistance Circuits.)

A.C. VOLTS: 0-3-12-60-300-1200-6000, at 5,000 Ohms/Volt. (For greater accuracy in Audio and other High Impedance AC Circuits.)

DB.: —30, +4, +16, +30, +44, +56, +70 (For Direct Reading of Output Levels.)

D.C. MICROAMPERES: 0-60, at 250 M. V.

D.C. MILLIAMPERES: 0-1.2-12-120, at 250 M. V.

D.C. AMPERES: 0-12, at 250 M. V.

***OHMS:** 0-1000-10,000 (4.4-44 at center scale)

***MEGOHMS:** 0-1-100 (4400-440,000 Ohms center scale)

OUTPUT: Condenser in series with AC Volt ranges.

*Resistance ranges are compensated for greatest accuracy over wide battery voltage variations. Series Ohmmeter circuits for all ranges to eliminate possibility of battery drain when leaving switch in OHMS position.

Streamlined Tester with large 5½" meter, flush with the panel. Unit construction — Resistors, shunts, rectifier, batteries — all housed in a molded base integral with the switch. Provides direct connections without cabling. Simple to operate — only one switch, flush with panel surface, selects both circuit and range. Special 1% resistors are sealed in molded compartment. Batteries easily replaced — Balanced double-spring tension grip makes this operation simple. Assures permanent contact. Pre-calibrated rectifier for easy replacement.

Enclosed selector switch of molded construction keeps dirt out. Retains contact alignment permanently. A Triplett design representing the culmination of a quarter-century of switch making experience.

This Volt-Ohm-Milliammeter incorporates a 5½" instrument with 4⅜" scale. Dial has black markings on white except AC and OHM are red. A completely insulated, molded, black case, 3⅜" x 5½" x 7½", and panel with engraved white markings. Leather strap handle. Rubber feet provided without charge fit into rear holes of 630, 630-A and 650; prevent slipping of tester when it lays on flat surface.

Weight: 4 lbs.

MODEL 630.....U.S.A. DEALER NET.....$39.50

See G-66 for Carrying Cases.

VOLT-OHM-MILLIAMMETER
MODEL 630-A

A Laboratory-type Volt-Ohm-Milliammeter with mirror-scales and more accurate components to compensate for the average individual characteristics of each instrument.

Especially designed for the engineer and technician who is in need of an instrument assuring the finest degree of accuracy possible in a commercially produced tester.

The long, mirrored scales eliminate parallax in making readings and special ½% resistors provide for greater accuracy.

In addition, the popular Model 630-A has the same ranges and all the other advanced design features as Model 630 above.

Model 630-A—U. S. A. Dealer Net.....$49.50

Complete with leads, alligator clips, rubber feet, batteries and instruction manual.

MODEL 630-A

630 PROBES — SHUNTS 630-A

HIGH VOLTAGE PROBES

Pt. T-79-68—0-12,000 D.C. Volts.....$14.50
Pt. T-79-69—0-12,000 A.C. Volts.....$14.50
Pt. T-79-70—0-30,000 D.C. Volts.....$14.50
Pt. T-79-71—0-30,000 A.C. Volts.....$14.50

EXTERNAL SHUNTS

Pt. T-91-247— 30 Amperes (Plug-In).....$ 9.00
Pt. T-91-248— 60 Amperes (Portable).....$12.00
Pt. T-91-255—120 Amperes (Portable).....$12.00

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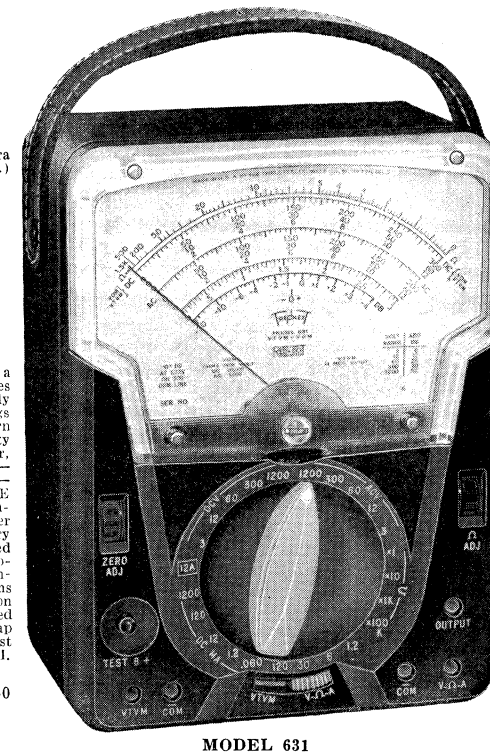
Radio TRIPLETT Testers

COMBINATION VOLT-OHM-MILLIAMMETER AND VACUUM TUBE VOLTMETER



MODEL 631

34 RANGES VOLT-OHM-MILLIAMMETER

D.C. VOLTS: 0-3-12-60-300-1200 at 20,000 ohms per volt.
(For greater accuracy on TV and other high resistance circuits.)
A.C. VOLTS: 0-3-12-60-300-1200 at 5,000 ohms per volt.
(For greater accuracy in Audio and other high impedance A.C. Circuits. With the extra sensitivity of 5,000 ohms per volt, A.C. voltage readings can be taken without loading the circuit.)
D.C. MICROAMPERES: 0-60 at 250 M.V.
D.C. MILLIAMPERES: 0-1.2-12-120-1200 at 250 M.V.
D.C. AMPERES: 0-12 at 250 M.V.
D.B.: —30, +4, +16, +30, +44, +56.
OHMS: 0-1500-15,000 (6.8-68 center scale. First division is 0.1 ohm.)
MEGOHMS: 0-1.5-150 (6,800-680,000 ohms center scale).
OUTPUT: Condenser in series with A.C. Volts.

RANGES VACUUM TUBE VOLTMETER

D.C. VOLTS: 0-1.2-6-30-120. (First division is 0.02 volt.)
Galvanometer center mark "—0+" for discriminator alignment.

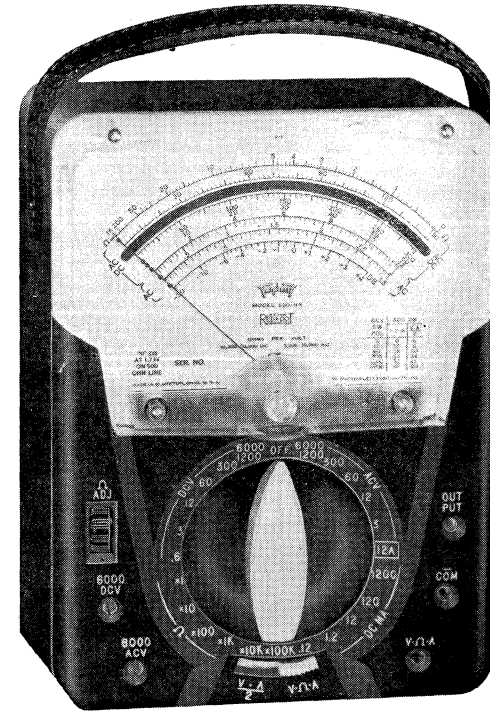
COMBINED wide-range testing facilities of two testers (Volt-Ohm-Milliammeter plus a Vacuum Tube Voltmeter) in a single, easy-to-use unit. "TWO-FOR-ONE" combination saves you money. No need to invest in two separate testers when one will do your work at only half the price. ONE SWITCH selects all ranges and minimizes chance of incorrect settings and burnouts. Large, easy-to-grip knob, flush with panel. UNUSUALLY HANDSOME modern streamlined styling. The best-looking tester you've ever owned. Second to none in utility and convenience of operation. UNIT CONSTRUCTION—insulated case. Resistors, rectifier, shunt and batteries all housed in molded compartments for easy accessibility. RECTIFIER—precalibrated rectifier unit for ease of replacement. BATTERIES EASILY REPLACED—batteries held in place with spring grip for reliable contact. MAXIMUM BATTERY LIFE for the Vacuum Tube Voltmeter circuit is an outstanding advantage. By using the Volt-Ohm-Milliammeter for all general testing (90% of your testing) and the Vacuum Tube Voltmeter only when you need it, you have the advantage of a VTVM with extremely long battery life. Batteries are used only about one-tenth as much as in the ordinary battery-operated VTVM. INSTRUMENT—5½" Meter separately housed, flush with panel. Adjusted to 50 Microamperes at 250 M.V. Has high flux magnet for increased ruggedness. Good temperature compensation. SCALE—4.588" long at top arc. D.C. and DB are black on white; A.C. and Ohms are red on white for easy reading. PUSH BUTTON—to check B+ voltage for VTVM. Condition of batteries easily checked without opening tester case. MOLDED CASE—Heavy, black molded (¼" thick) completely insulated, 3 $\frac{7}{32}$" x 5½" x 7½", with removable black leather strap handle. PANEL—black molded with colored markings engraved. LEADS—48" long, with test prods and removable alligator clips at one end, 48" lead with one meg built in for VTVM. Banana type for low contact resistance. Pencil-thin prods.

MODEL 631—Suggested U.S.A. Dealer Net.....$59.50

Complete with leads, batteries, etc.

See G-66 for Carrying Cases.

70-RANGE VOLT-OHM-MILLIAMMETER MODEL 630-NA



MODEL 630-NA

First Volt-Ohm-Milliammeter to incorporate all these features: METER PROTECTION AGAINST OVERLOADS . . . . HIGH ACCURACY ON SAME SCALE FOR AC AND DC . . . . 70 RANGES; NEARLY DOUBLE THOSE OF THE CONVENTIONAL TESTER . . . . FREQUENCY COMPENSATION FROM 35 CPS TO 20 KC ON ALL RANGES UP TO AND INCLUDING 300 VOLTS. TEMPERATURE COMPENSATION. ACCURATE WITHIN A WIDE RANGE OF AMBIENT TEMPERATURES.
D.C. VOLTS: 0-0.240-0.6-3-12-60-300-1200-6000 at 10,000 Ohms/Volt
0-0.120-0.3-1.5-6-30-150-600-3000 at 20,000 Ohms/Volt
A.C. VOLTS: 0-3-12-60-300-1200-6000 at 5,000 Ohms/ Volt
0-1.5-6-30-150-600-3000 at 10,000 Ohms/Volt
DECIBELS: —30 to +70 in 12 ranges
D.C. MICROAMPERES: 0-120 at 240 M.V.
0-60-600 at 120 M.V.
D.C. MILLIAMPERES: 0-1.2-12-120-1200 at 240 M.V.
0-6-60-600 at 120 M.V.
D.C. AMPERES: 0-12 at 240 M.V.
0-6 at 120 M.V.
*OHMS: 0-1K-10K-100K (4.4-44-440 at center scale)
*MEGOHMS: 0-1-10-100 (4400-44,000-440,000 Ohms center scale)
OUTPUT: Condenser in series with A.C. Volt ranges
*Resistance ranges are compensated for greatest accuracy over wide battery voltage variations. Series Ohmmeter circuits for all ranges to eliminate possibility of battery drain when leaving switch on OHMS position.
ACCURACY: D.C. 1½% to 1200V, 3% to 6000V
A.C. 3% to 1200V, 4% to 6000V**
**At 25° C and using 25-133 cps sine wave

INSTRUMENT—5½" meter separately housed, flush with panel, adjusted to 40 microamperes at 120 M.V. BANANA PLUGS—Provide best low resistance contacts for the test leads and hold firmly in the jacks under all conditions. BATTERIES—Self-contained. One 30V mini-max Eveready #413 and one Eveready 1.5V #950, or equivalent. PRESSURE CONTACT SWITCHING—The firm double wiping contacts always provide clean positive switch contact. SCALE—4.5" long at top arc. Black on white except 1.5 and 3 ACV and Ohms which are red on white. Mirror scale and knife edge pointer. CASE—Heavy black molded, completely insulated, 3 $\frac{7}{32}$" x 5½" x 7½", with removable black leather strap handle. Transparent (lucite) molded meter window provides striking two-tone effect and is unbreakable. Fully anti-static treated. PANEL—Black molded with engraved white markings. KNOBS—One large flush mounted molded range selector knob on 24-position switch. One slide switch for doubling the range selection. One flush mounted knob for ohmmeter adjustment. LEADS—48" long, with test prods and removable alligator clips. WEIGHT—Approximately 4 lbs. Complete with leads, alligator clips, batteries, rubber feet and instruction manual.

MODEL 630-NA—Suggested U.S.A. Dealer Net.....$69.50

HIGH VOLTAGE PROBES

Pt. T-79-151—0-12,000 D.C.-A.C.....$14.50
Pt. T-79-152—0-30,000 D.C.-A.C.....$14.50

EXTERNAL SHUNTS

Pt. T-91-429—0-15-30 Amperes (Plug-In).....$ 9.00
Pt. T-91-430—0-30-60 Amperes (Portable).....$12.00
Pt. T-91-431—0-60-1200 Amperes (Portable).....$12.00

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Radio TRIPLETT Testers

MODEL 650 VACUUM TUBE VOLTMETER

READS PEAK TO PEAK VOLTAGE DIRECTLY FROM 15 CPS TO 150 MC.

32 RANGES

D.C. VOLTS: 0-1-5-10-50-100-500-1000.
A.C.-R.F. VOLTS: 0-1-5-10-50-100-500.
PEAK TO PEAK VOLTS: 0-2.8-14-28-140-280-700.
(Read on 0-1400 scale.) (Peak-to-peak value of sine wave to 1400 volts.)
OHMS: 0-1000-10,000-100,000.
MEGOHMS: 0-1-100-1000.
ACCURACY: D.C. Volts=3%, A.C.-R.F. Volts=5%, Ohms=3% of linear scale.
DECIBELS: Tabled in instruction book for different impedances.
Galvanometer Center "—0+" for discriminator alignment on all DCV ranges —.5 to +.5 volts on 0-1 DCV range.

1—Peak to Peak ACV and RF measurements made with one probe eliminates troublesome change of probe when changing from ACV to RF measurement. 2—For convenience, DC Volts and Ohms are in single combination probe. 3—ONE selector switch for all ranges. 4—One volt full scale reading on both AC and DC. 5—Especially designed and insulated, but still shielded RF probe with short leads for high frequency measurements. 6—Zero center mark for FM discriminator alignment plus other Galvanometer measurements. 7—High input impedance 11 Megohms on DC for accurate measurements. 8—Special means for making adjustment for ACV zero shift with line voltage variation. 9—High precision resistors throughout. 10—Special circuit arranged so that OFF position shorts meter for greater damping and meter safety during transportation. 11—2-color scale meter 4⅜" long.

Insulated molded case and panel, dimensions, 3¾" x 5½" x 7½". Removable black leather strap handle. Weight: 5 lbs. (complete with battery and accessories).

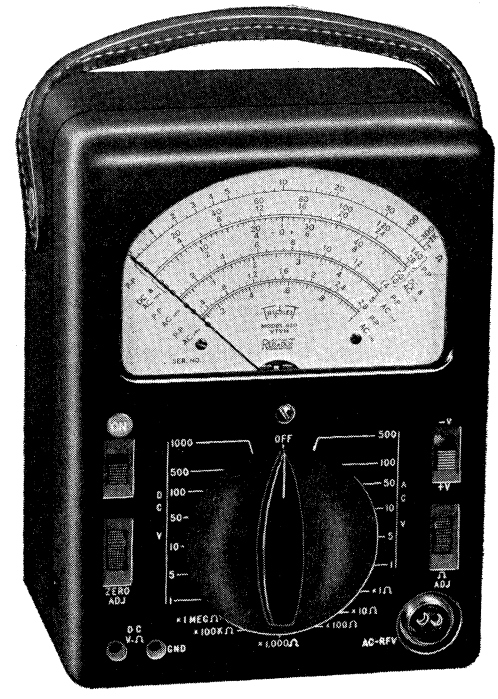
Rubber feet provided without charge fit into rear holes of 650; prevent slipping of tester when it lays on flat surface.

Accessories supplied with 650: 1 each AC Power Cord, DC Volt-Ohm lead (Shielded); AC-RF Volt Shielded tube probe; 2 alligator clips for probe tips.

MODEL 650.....U.S.A. DEALER NET.....$89.50

ACCESSORIES AVAILABLE: DC High Voltage Probe: 50 KV-500 DC Volt range, 10 KV-100 DC Volt range, 5 KV-50 DC Volt range, $14.50; Stand for holding tester at about a 45° angle, $.50 net.

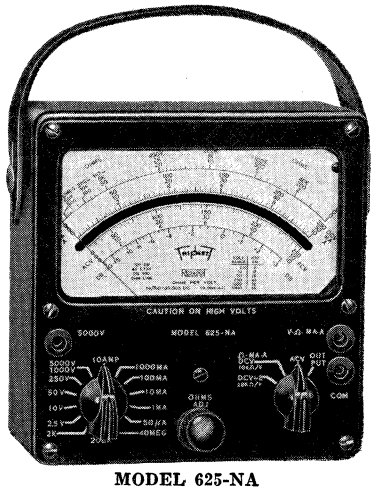
See G-66 for Carrying Cases.



MODEL 650

VOLT-OHM-MILLIAMMETER

MODEL 625-NA



MODEL 625-NA

Long 5" mirror scale for better reading accuracy; 6" meter; Resistance ranges to 40 Megohm; Low Ohm Range 0-2000 (12 Ohms center scale); D.C. Volt ranges with dual sensitivity (10,000/20,000 Ohm/Volt); A.C. Volt ranges at 10,000 Ohm/Volt permit checking many audio and high impedance A.C. circuits where a vacuum tube voltmeter usually is required. Low voltage ranges permit direct measurement of many bias and output voltages. Special film type resistors provide greater stability on all ranges.

Insulated, black molded case with removable strap handle, 6" x 5½" x 2½". Molded black panel with white markings. Leads and instructions furnished. Weight 3 lbs.

39 RANGES

D.C. VOLTS: 0-1.25-5-25-125-500-2500, 20,000 Ohm/Volt.
0-2.5-10-50-250-1000-5000, 10,000 Ohm/Volt.
A.C. VOLTS: 0-2.5-10-50-250-1000-5000, at 10,000 Ohm/Volt.
D.C. MICROAMPS: 0-50, at 250 M.V.
D.C. MILLIAMPS: 0-1-10-100-1000, at 250 M.V.
D.C. AMPERES: 0-10, at 250 M.V.
OHMS: 0-2000-200,000 (12-1200 center scale).
MEGOHMS: 0-40 (240,000 Ohms center scale).
DECIBELS: —30, +3, +15, +29, +43, +55, +69. Reference Level "0" DB at 1.73 V. on 500 Ohm line.
OUTPUT: Condenser in series with A.C. Volts.

MODEL 625-NA.....U.S.A. DEALER NET.....$49.50

FOR TELEPHONE SERVICE

MODEL 630-T

RANGES

D.C.: Accuracy 2%.
VOLTS: 0-0.3-3-12-60-300-600 at 20,000 Ohms/Volt.
M.A.: 0-.06-1.2-12-120 at 150 M.V.

A.C.: Accuracy 5%.
VOLTS: 0-3-12-60-300-600 at 3000 Ohms/Volt.
OHMS: 0-1K-10K-100K-1 Meg and 10 Meg.

Designed for work inside on panel and checking circuits on pole.

Special straps supplied to hold instrument in easy reading position while supported from lineman's neck, leaving both hands free.

Large rectangular dial on 5½" meter, flush with panel.

MODEL 630-T

One recessed range switch will select any range on instrument.

Special banana jack connectors to eliminate all shock hazard.

Interior designed for easily accessible components.

Hand and neck strap, test leads with alligator clips and instruction manual supplied with unit.

Black molded case, completely insulated to protect instrument from ground, 7½" x 5½" x 3⅞". Weight: 4 lbs.

MODEL 630-T.....U.S.A. DEALER NET.....$52.50

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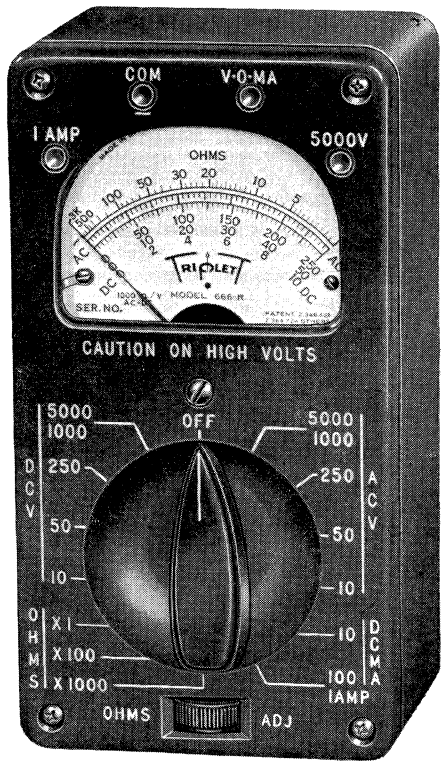
Radio TRIPLETT Testers



MODEL 666-R

POCKET-SIZE VOLT-OHM-MILLIAMMETER

RANGES

D.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms per volt.
A.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms per volt.
D.C. M.A.: 0-10-100, at 250 M.V.
D.C. AMP.: 0-1, at 250 M.V.
OHMS: 0-3000-300,000 (20-2000 center scale).
MEGOHM: 0-3 (20,000 Ohm center scale). (Compensated Ohmmeter circuit.)

Pocket-Size Volt-Ohm-Milliammeter with these latest specialized features meets your needs for A.C. and D.C. Voltage, Direct Current and Resistance analyses.

SINGLE RECESSED SWITCH (LARGE KNOB) SELECTS ALL RANGES

All resistors, shunts, rectifier and batteries housed in a molded base integral with the switch. Eliminates chance for shorts. Direct connections. No Cabling. All precision film or wire-wound resistors are mounted in their own compartment—assures greater accuracy.

3″ 0-200 Microammeter, 250 M.V. Red and black markings on a white background. Easy-to-read scale.

Precalibrated rectifier unit and batteries easily replaced. One 1.5 Volt Eveready #935 and two 1.5 Volt Eveready #915, or equivalent, self-contained.

Handy and pocket-size, black molded case is completely insulated. Size: $3\frac{1}{16}$″ x $5\frac{7}{8}$″ x $2\frac{9}{16}$″. Leather strap handle. Black molded panel with engraved white markings.

Furnished complete with batteries, 50″ test leads and instruction book at an amazingly low price.

Weight: 1½ lbs.

MODEL 666-R.....U.S.A. DEALER NET.....$26.50

CARRYING CASE—Black leather strap handle. snap cover.

MODEL 669.....U.S.A. DEALER NET.....$5.50

MODEL 669-RL CASE (For Tester 666-R)

Model 666-R can be permanently and easily installed in this popular camera-type cowhide leather case. Attachment is made by the two top panel screws of the tester. When the case is opened the lower flap drops down and the top folds back, exposing the entire tester panel and meter dial. When the tester is hung up by the leather strap handle, the operator is permitted the use of both hands in his work.

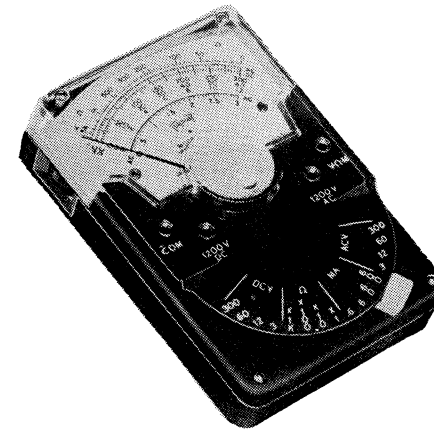
Model 669-RL (Case only).....U.S.A. DEALER NET.....$6.00

Model 310
MIGHTY MITE VOLT-OHM-MILLIAMMETER

THE ONLY COMPLETE MINIATURE V-O-M WITH 20,000 OHMS/VOLT AND SELECTOR SWITCH CONTROL FOR ALL RANGES.

RANGES—DC Volts: 0-3-12-60-300-1200 at 20,000 Ohms/Volt; AC Volts: 0-3-12-60-300-1200 at 5,000 Ohms/Volt; DC Microamperes: 0-600 at 250 MV; DC Milliamperes: 0-6-60-600 at 250 MV; Ohms: 0-20,000-200,000 (200-2000 at center scale); Megohms: 0-2-20 (20,000-200,000 Ohms at center scale). Self-shielded bar ring instrument movement for checking in strong magnetic fields. Strong plastic meter window. New Probe-A-Test feature by fitting interchangeable test prod tip into top of tester, making it the common probe. Selector Switch for faster settings—the only miniature V-O-M with selector switch for quick foolproof selection of all ranges. Printed circuit. Banana-type jacks for positive connections and long life. Case, fully insulated, $1\frac{13}{16}$″ x 2¾″ x 4¼″. Wt. approx. 14 ozs. complete with battery.

MODEL 310.....U.S.A. DEALER NET.....$29.50
Complete with leads, batteries and instruction manual.



Model 310

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION

POCKET-SIZE VOLT-OHM-MILLIAMMETER

A precision-manufactured marvel of compactness that provides a complete miniature laboratory for D.C. and A.C. voltage. Direct Current and Resistance analyses.

RANGES

D.C. VOLTS: 0-10-50-250-1000-5000, 1000 Ohm/Volt.
A.C. VOLTS: 0-10-50-250-1000-5000, 1000 Ohm/Volt.
D.C. MA: 0-10-100-500, at 250 Millivolts.
OHMS: 0-2000-400,000 (12-2400 center scale).

Attractive streamlined black molded case, completely insulated, $3\frac{1}{16}$″ x $5\frac{7}{8}$″ x $2\frac{9}{16}$″. Black molded panel with white markings.

Battery self-contained, plug-in type, 1.5V. Eveready No. 935 or equivalent. 50″ test leads with clips and plugs furnished.

Weight: 1½ lbs.

Accessories available to special order for extending ranges: External pin jack shunts for Direct Current ranges, resistors for A.C.-D.C. volt ranges, battery and resistors for Ohms ranges.

MODEL 666-HH.....U.S.A. DEALER NET.....$24.50

CARRYING CASE

Attractive black leather carrying case with strap handle.

MODEL 669 CASE.....U.S.A. DEALER NET.....$5.50

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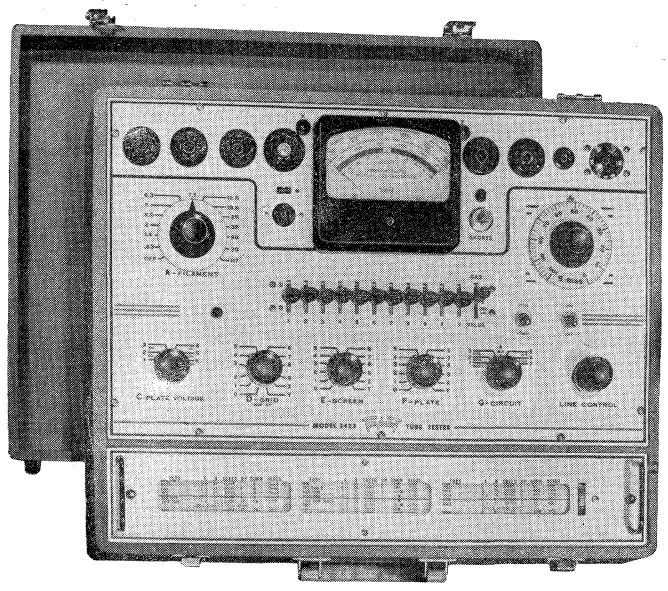
Net

Radio TRIPLETT Testers



Model 3423

Tests all types receiving tubes, low power transmitting tubes, rectifiers, thyratrons, voltage regulator tubes, eye tubes, subminiature, acorn, ballast tubes and pilot lamps. Also checks the new series filament tubes.

NEW MUTUAL CONDUCTANCE TUBE TESTER

Here is Proportional Mutual Conductance tube testing by a new patented circuit—offering advantages hitherto unavailable to the service trade. The right Tube Tester for TV and Radio Tubes. The circuit provides the true proportional relationship to the Gm curve for measuring in Micromhos the tube characteristics. Diodes, transistors and low power thyratrons are tested on the GOOD-?-BAD scale.

This new tester handles the most perplexing tube testing problems in many fields—Radio Servicing, Industrial Production, Laboratory Testing, Theatre and P.A. Equipment, Communications, etc. Patented circuit for Proportional Mutual Conductance tube testing employs actual signal oscillator (4KC) for grid signal. Thus, hum and ripple, and tubes with open grids present no problem, and cannot give false readings. Signal component of output is picked off and measured by the specially designed instrument circuit. Tests all types of receiving tubes, low power transmitting tubes, rectifiers, thyratrons, voltage regulator tubes, eye tubes, subminiature, acorn, ballast tubes and pilot lamps. Continuity test circuit also may be used to check electrical appliances for shorts or open circuits. Flexible three-position lever switches for complete coverage of both present and future tube connections. Only three positions mean no guess work on settings. Speed and ease of operation mark use of the tester. 0-10 ACV (variable) available for testing low voltage tubes. Also five other voltages available. (10, 30, 70, 100 and 250). Full range filament voltage settings provides complete and accurate filament or heater voltage at tube base connections: .63, 1.4, 2.0, 2.35, 2.5, 3.15, 4.2, 4.7, 5, 6.3, 7.5, 9.45, 12.6, 19.6, 25, 32, 50, 70, and 117 volts. Instrument is Model 420, 4″ long scale, knife edge pointer for easy readability; adjusted to 100 microamperes at 250 millivolts for good temperature compensation. Sockets: 4 prong, 5 prong, 6 prong, 7 prong large and small with combination for pilot lights and flashlight bulbs, 8 prong octal, 8 prong loctal, 7 prong miniature, 7 pin subminiature (for hearing aid tubes), 8 pin subminiature (round), 8 pin acorn, 9 pin subminiature. Wt. 21 lbs.

MODEL 3423 . . . . U.S.A. DEALER NET . . . $199.50

TUBE TESTER

A Triplett Tube Tester with new improved testing flexibility permitting checking any type radio receiving tube, miniature hearing aid tubes, and TV picture tubes. Also checks the new series filament tubes. The tester gives both "short" and "open" circuit check of each element of every tube — an accurate analysis of the condition of all tube elements, connections, taps, etc. TV picture tubes are checked without removing them from the receiver, by use of an adapter that may be purchased separately. "Continuity" test is provided for checking electrical appliances, motors, etc.

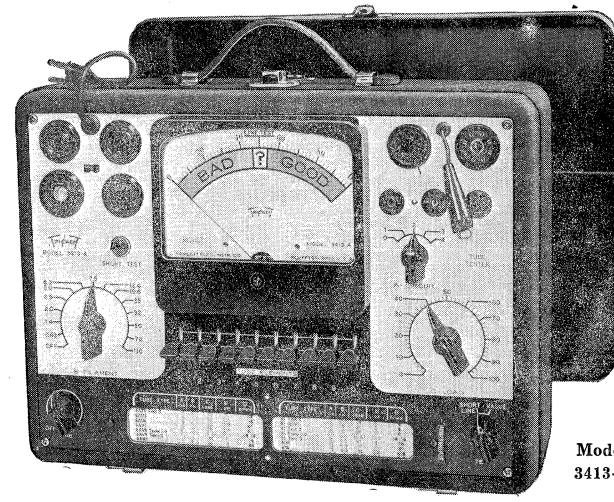
Model 3413-B has flexible 3-position lever switches for complete coverage of present and future tube connections. RETMA pin numbering of tube element levers makes for quick reference of tube base connections. Illuminated, easy-to-read roll type tube chart is built into the tester. Simplified test procedure makes it possible for user to add new tube data to chart when desired.

Line Voltage indication on center of meter dial permits observation and adjustment for line fluctuations. Filament voltage: 0.63 volts to 110 volts in 19 steps.

Large 6″ meter, has 3-color easy-to-read GOOD—?—BAD scale.

Portable metal case, 15 11/32″ x 11 1/32″ x 6 1/8″, black satin wrinkle finish, with removable, hinged cover and leather handle. Panel attractively etched in black, silver and red. Complete instructions supplied. Power: 115 V., 50-60 cycle A.C. Wt. 20 lbs.

MODEL 3413-B . . U.S.A. DEALER NET . . $79.50



Model 3413-B

PICTURE TUBE ADAPTER

BV Adapter T2247-BV for 3413-B permits testing picture tube right in the receiver or in a shipping carton.....DEALER NET.....$4.50

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Radio TRIPLETT Testers

TV-FM SWEEP SIGNAL GENERATOR WITH BUILT-IN MARKERS

FREQUENCY COVERAGE

Sweep Center Frequency: Range 1- 0- 60 MC
Range 2- 60-120 MC
Range 3-120-240 MC

Sweep Width: 0-12 MC
(Continuously Variable)

Marker Frequency:
3.5- 4.9 MC (Fundamental)
19.5-29.3 MC (Fundamental)
29 -48.6 MC (Fundamental)
48.6 MC to 243 MC on Harmonics

Crystal Frequency: To 20 MC (Fundamental) Can be used to produce Harmonics up to 243 MC. (Plug-in Crystals not included.)

Modulation: 600 Cycle on Both Crystal and Marker frequencies.

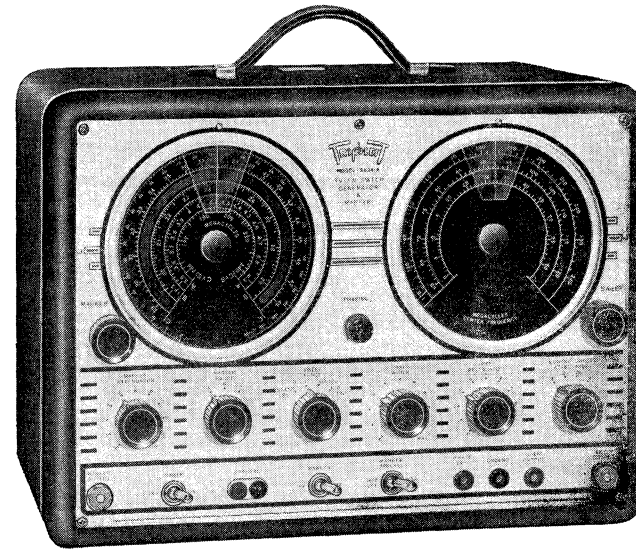
Model 3434-A provides a complete service laboratory for TV-FM servicing and other electronic requirements. No gaps in frequency. Continuous tuning over all TV-FM bands. Provisions for simultaneous presentation of two Markers. Audio output for quick check on video and sound amplifiers. Ladder type attenuator for coarse and fine output adjustment. Provision for simultaneous presentation of Crystal and Variable Markers. Illuminated, mirror-scaled Marker dials for precise adjustment. Smooth action dial drive with vernier scale. Balanced network for balanced input receivers. Sweep standby switch for temporary silencing of Generator during other work on equipment under test. Line filter. Regulated power supply. Completely shielded. Copper plated steel construction throughout.

Attractive steel case, black enamel finish, $15\frac{11}{32}$" x $11\frac{1}{32}$" x $8\frac{1}{4}$". Leather handle. Black, white and red etched markings on aluminum panel. Accessories — Two Co-Axial cables; heavy braid grounding strap; Polystyrene covered, shielded leads for audio, Phase 60 cycle output and additional ground.

Power: 105-115 volt, 50-60 cycle, 55 Watts. MODEL 3434-A—U.S.A. DEALER NET . . . Wt. 23 lbs.

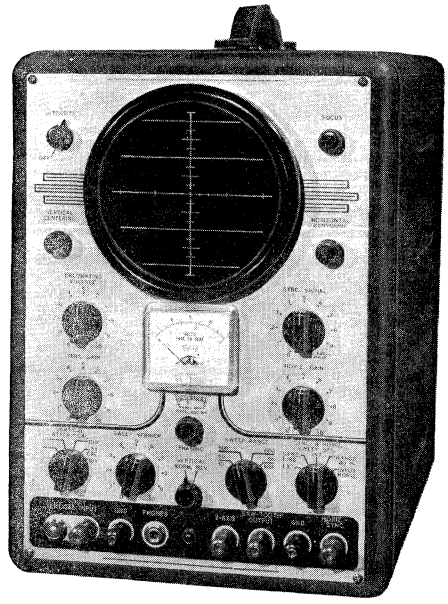
$239.50

USABLE FOR COLOR TV SERVICING



A FEW REASONS YOU'LL WANT MODEL 3434-A

- ★ Output 1. to 1.5 Volts RF.
- ★ Continuously variable sweep width from 100 KC to 12 MC.
- ★ Illuminated Frequency dial marked with channels and frequencies.
- ★ Variable Marker provides continuous tuning over all present TV Video and Sound IFs. Illuminated Mirrored dial.
- ★ Designed to provide HIGH OUTPUT for stage-by-stage alignment.
- ★ Self-contained Horizontal Bar Generator covers all channels on Marker Harmonics.
- ★ Unit produces color bars (red, green and blue with a 3.56 crystal, not supplied).



Model 3441-A

Model 3441-A
5" TV and INDUSTRIAL SCOPE

MAXIMUM SENSITIVITY 10 MV
4.5 MC BAND WIDTH USABLE TO 9 MC

- ★ Wide band for color TV servicing.
- ★ Return trace line if desired.
- ★ Provisions for external blanking.
- ★ Peak to Peak Voltmeter included. 0-.3V low to 0-1000V in 8 ranges.
- ★ Permits changing polarity to vertical input amplifiers, thus keeps wave form on Cathode Ray tube showing in a conventional manner.
- ★ Sweep Frequency Range—10 cps to 60 KC/Second.
- ★ Phone jack on front panel connected to output or vertical amplifier so you can hear as you see.
- ★ Saw-tooth output supplies a saw-tooth wave form from 10 to 60,000 cycles and may be attenuated from 0-70 volts peak to peak. Case, metal with black suede enamel finish, $11\frac{1}{32}$" x $15\frac{11}{32}$" x 16". Panel black, red and white characters etched in aluminum. Power supply 105-115 volts, 50-60 cycle, 80 watts. Wt. 38 lbs.

MODEL 3441-A.....U.S.A. DEALER NET.....$249.50

VERTICAL AMPLIFIER

This oscilloscope has wide band vertical amplifiers.

HORIZONTAL AMPLIFIER

Frequency range—Flat within 20% from 20 cycles to 150 KC. Deflection sensitivity—.15 RMS volts/inch. Vertical and horizontal output amplifiers.

INPUT IMPEDANCE

Vertical Amplifier—2 Megs in parallel with 45 MMF at input terminals.

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Indicating TRIPLETT Instruments

COLOR BAR GENERATOR

This new tester is indispensable for checking the overall performance of color TV receivers, including color phasing adjustments, color synchronizing and color matrixing.

In operation it produces with crystal controlled accuracy the standard bars of colors corresponding to R-Y, B-Y, I and Q axis. These 10 color bars are accurately spaced at 30° phase intervals.

Outstanding features of this tester include:

1—Crystal controlled R.F. output.

2—A built-in V.T.V.M. circuit with meter on the panel provides for quick and easy checking of sync, subcarrier and modulation amplitudes.

3—Unit completely self-contained—no extra accessories or equipment are needed. Easy to set up, with R.F. output direct.

4—Sound carrier (unmodulated) insures precise tuning of the receiver; and permits checking sound rejection and presence of beat interference between the color subcarrier and the sound carrier.

5—Brightness modulation is available to check for possible shift of hue in the bright areas or highlights.

6—The amplitude of the color subcarrier is adjustable; for checking the color sync lock action in the receiver.

7—Video signals of positive or negative polarity are provided for low impedance (75 ohms) and high impedance (5000 ohms) video circuits.

FREQUENCY—R.F. Output—Channel 3 (61.25 M.C. picture, 65.75 M.C. sound) supplied regular, channels 2 or 4 supplied on special order. Crystal controlled frequency.

COLORS: Crystal controlled accuracy, 10 bars of colors corresponding to R-Y, B-Y, I and Q axis.

VIDEO OUTPUT—Video signals of positive or negative polarity are provided for low impedance (75 ohms) and high impedance jacks (5000 ohms).

METER—Built in V.T.V.M. provides for measurements of sync, subcarrier and modulation amplitudes.

R.F. OUTPUT IMPEDANCE—Approximately 300 ohms (at end of R.F. Output cable).

COMPOSITE PICTURE SIGNAL—61.25 M.C. picture carrier; 15,750 c.p.s. horizontal sync pulses; 3563.795 K.C. color subcarrier keyed at 189 K.C.

CONTROLS—Video and Horizontal hold, Subcarrier modulation, Meter Zero, Power on-off and metering selector. Modulation and sound carrier push buttons.

MODEL 3439

GENERAL DESCRIPTION

OUTPUT CONNECTORS—R.F. output; low video; high video and ground.

OUTPUT LEADS—R.F. 300 ohm matching shielded cable, low video lead (shielded co-axial cable), high video test leads.

METER—Large 420-PL plastic full view meter with 4.14" scale.

CASE—Metal with black baked enamel suede finish, 15 11/32" x 11 1/32" x 6¼". Leather handle.

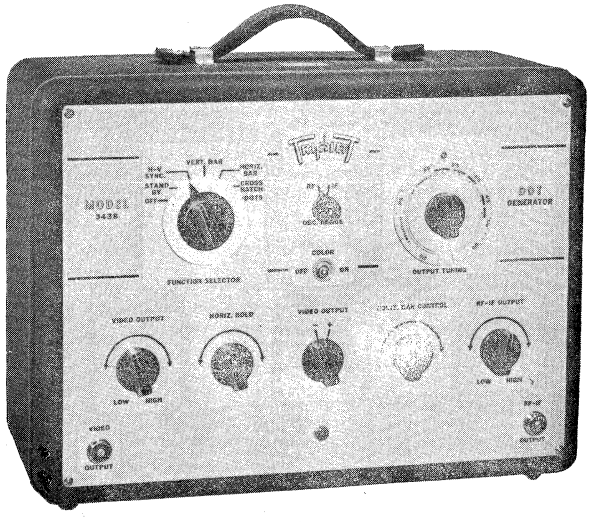
PANEL—Silver, black and red etched aluminum.

KNOBS—Black bar (rectangular with skirt) streamlined design.

POWER SUPPLY: 115 Volt, 50-60 cycles A.C. 55 watts.

WEIGHT—Approx. 16 lbs.

MODEL 3439.....U.S.A. DEALER NET.....$249.50



Model 3438

DOT-BAR-COLOR GENERATOR Model 3438

Has Its Own Vertical and Horizontal Sync Signals, and a Built-In Color Burst Oscillator For Checking The Three-Color Amplifiers

Checks video, RF, IF, sync and color circuits with modulated RF (channels 2 to 6) and IF (20 to 55 MC) outputs available. Horizontal sync pulses (15,750 cycles) and vertical sync pulses (60 cycles) available for checking sync circuits. Horizontal bars (480 cycles to 600 cycles) and vertical bars (crystal and controlled at 189 KC) for checking linearity on b/w and color sets. Cross hatch used to check overall linearity with 11 vertical bars and eight horizontal bars. A square block will be produced for the Cross Hatch pattern. White dots of proper size used to check convergence of color TV sets. Crystal controlled accuracy for varying colors through approximately 330° of the color spectrum with any combination of the function selector. Unit will produce red, blue and green color spectrum and colors corresponding to phases of R-Y, B-Y, I and Q axis. Can be used for signal tracing completely through either b/w or color TV sets. Completely self-contained. Plus or minus video signals for checking one or more stages of video amplifiers. Case, metal with baked enamel suede finish, 6¼" x 11 1/32" x 15 11/32", panel silver, black and red etched aluminum. Shielded output co-axial cable. Power supply 115V, 50-60 cycles, A.C. 55 watts. Wt. approx. 16 lbs.

MODEL 3438.....U.S.A. DEALER NET.....$229.50

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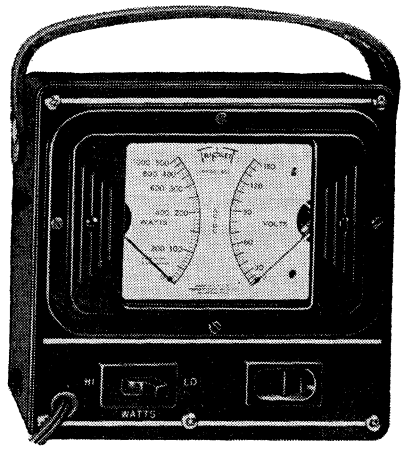
Radio TRIPLETT Testers

RADIO & TV SERVICING WITH LOAD-CHEK — Model 660



Model 660

RANGES

WATTS—A.C. or D.C.: 0-500 (50 division scale); 0-1000 (50 division scale)
VOLTS—A.C. or D.C.: 0-150 (65 division scale)

The LOAD-CHEK for the first time makes it possible for every technician to utilize what is perhaps the simplest and quickest of all service methods—servicing by Power Consumption Measurements, long proven by auto-radio servicemen as a rapid method of localizing troubles in auto radios. Triplett Model 660 is the first Wattmeter to be produced at moderate cost, and with the proper ranges, to bring this short-cut method within the reach of every radio and TV serviceman. Following are only two of many time-saving uses of this new instrument:

LOCATING A SHORT—The chassis tag may show a normal consumption of 225 Watts. Simply plug a power cord of the chassis into LOAD-CHEK (no loose ends to connect or be in the way). Note the reading—which should be possibly 350 Watts. By removing the rectifier tube you can determine at once which side of the tube the short is on. With a soldering iron and long-nosed pliers you can check through the chassis, locate and correct the trouble without having to lay down tools or to check with lead wires!

REPLACING BURNED-OUT RESISTORS—With the chassis to be repaired plugged into a LOAD CHEK MODEL 660, note the wattage reading with the burned out resistor circuit open. Now replace the resistor. Should the increase in watts be greater than the resistor rating, it indicates an extra load has caused the trouble which has not been cleared. LOAD-CHEK is made-to-order for the busy serviceman because it's a Time Saver; and at its moderate cost can be standard equipment on every service bench.

Black, molded, insulated case, 2½" x 5½" x 6", with removable black leather strap handle. Black molded panel with white markings. Weight: 2 lbs.

MODEL 660.....U.S.A. DEALER NET.....$29.50
MODEL 629—LEATHER CARRYING CASE...U.S.A. DEALER NET...$6.50

Model 661

RANGES

WATTS: D.C.-A.C. 0-150-300
VOLTS: D.C.-A.C. 0-150

This new LOAD-CHEK tester is designed for radio and low wattage appliances. Appearance and construction are the same as Model 660 with Watt range 150-300. Black molded case, 6" x 5½" x 2½", insulated to protect instrument from ground. Weight: 2 lbs.

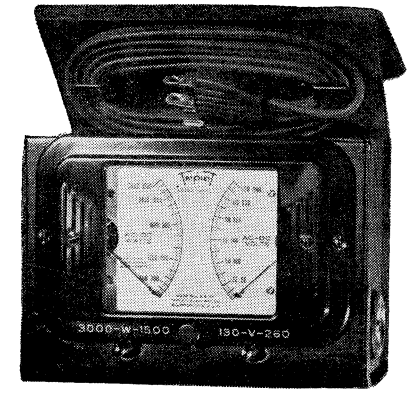
MODEL 661.....U.S.A. DEALER NET.....$29.50

APPLIANCE TESTERS — Model 2002

RANGES: 0-1500-3000 Watts A.C.-D.C. at 10 Amp. normal, 20 Amp. Max., 40 Amp. momentary; 0-130-260 Volts A.C.-D.C.

Model 2002 shows proper consumption of industrial equipment, radios, electric ranges, refrigerators, washers, etc., under actual operating conditions, on either D.C. or A.C. between 25 and 133 cycles. Wattmeter on the left and Voltmeter on the right permit Watts and Volts to be read simultaneously or independently. Shows if voltage remains within limits under operating loads. Shows faulty power lines. Heavy inner construction. Heavy leather case, with snap cover and leather handle, 6½" x 4½" x 3¼". Storage space for cord and plug furnished. Weight: 2 lbs.

MODEL 2002.....U.S.A. DEALER NET.....$39.50



Model 2002

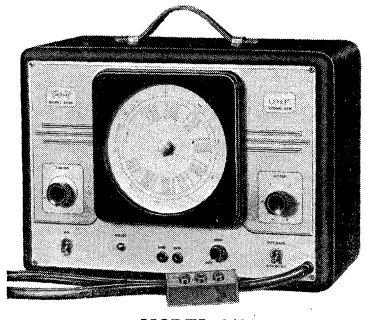
Model 2006

RANGES: 0-25 A.C.-D.C. Amperes: 0-130-260 A.C.-D.C. Volts.

Model 2006 is designed for those who prefer the Voltmeter-Ammeter method of testing electric ranges, refrigerators, washers and other household appliances, plus many industrial uses. Simultaneous readings of line voltage and current drain. Compact, portable, heavy leather case, with strap handle, 6½" x 4½" x 3¼". Adequate storage space for cord and plug furnished. Weight: 2 lbs.

MODEL 2006.....U.S.A. DEALER NET.....$34.50

UHF MARKER GENERATOR AND ALL-PURPOSE SIGNAL GENERATOR



MODEL 3436

UHF Continuously Variable Through Channels 14-83 on Linear Scale 13" Long—All Fundamental Readings (470-900 MC) Accuracy—½ % to 1 %

An easy-to-use invaluable test aid as a Signal Generator or Marker Generator for: (1) Adjusting UHF TV receiver front ends and UHF converters. (2) Setting the end limits of UHF converters and receivers. (3) Pre-setting fixed channel converters, a procedure especially needed in fringe areas where the station signal may be too weak for sufficient test indication. Pre-setting can be easily accomplished with the Triplett 3436. (4) A reliable signal source to compare the gain of UHF receivers and converters, also especially needed in fringe areas. Bad crystals in the UHF section can be detected by this method. (5) Used as an alignment generator for UHF converters and TV front ends. (6) Used as a UHF Horizontal Bar Generator, the tester generates approximately 12 lines by using the modulation and feeding into the front end of the receiver. This makes possible linearity adjustment of the TV picture.

Variable-link type attenuator. Adjustable modulation of RF signal at approximately 1000 cycles. Can be used as horizontal bar generator. ON-OFF switch. Also ON-OFF plate switch for pre-heating oscillator tube filament before applying plate voltage.

Heavy steel case, handsomely finished and professional in appearance, 15 11/32" x 11 3/32" x 8¼". Black baked-on suede enamel finish. Sturdy leather strap handle for ease in carrying; makes the generator adaptable for portable as well as test bench use. Weight: 24 lbs. net.

Panel etched heavy aluminum with red and black characters. Tubes, 6AF4, 6J5, 6K6, VR105 and 6X5. Complete with instruction books and test leads.

MODEL 3436.....U.S.A. DEALER NET.....$169.50

- Large dial with uniform frequency graduations—no crowding at end of dial. 13" of long easily readable scale. Marked in both frequency and channels. Hand drawn for extreme accuracy.
- RF output maximum .5 volt. Variations in output over the range of frequencies is minimized.
- Output impedance 150 to 300 ohms.
- Ranges: UHF all fundamentals on channels 14-83 (470-900 MC). No harmonics for confusion.
- Triple shielding and excellent stability through special construction.
- Audio output available at panel, 0-20 volts.
- Voltage regulated power supply—115 volt, 50-60 cycle A.C. Control tube supplies RF oscillator with voltage independent of line fluctuations.

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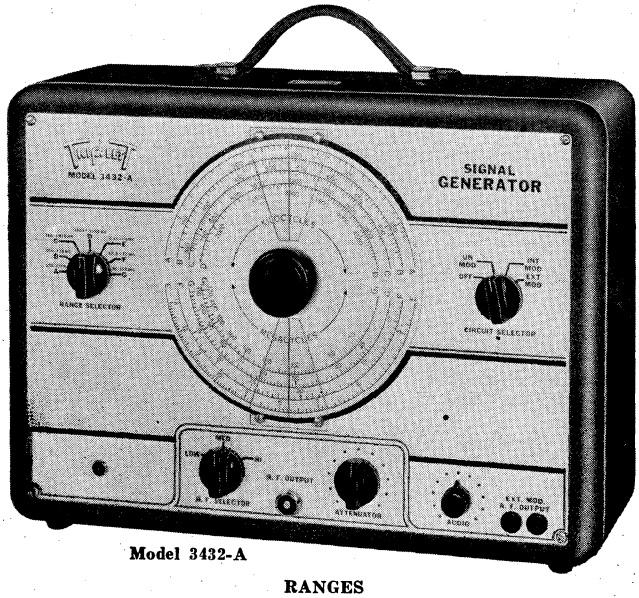
Net

Radio Triplett Testers

SIGNAL GENERATOR—160KC TO 110MC (Fundamentals)



Model 3432-A

- Complete frequency coverage from 160 KC to 110 MC (220 MC using harmonics) with no skips in frequency for AM-FM radio, monochrome and color TV servicing.
- R.F. circuits are double shielded with copper steel shields.
- Large easily read etched aluminum dial.
- Cathode follower output provides good stability by acting as a buffer to the oscillator.
- Step type attenuator.
- Jacks provided for either internal modulation or audio output. Both controlled by audio control to provide variable modulation or A.F. output.
- Smooth planetary drive dial for ease and accuracy in adjustment.
- On-Off indicated by pilot light.
- Seven directly calibrated 160° scales, quickly readable at a glance.

COMPLETE SHIELDING—Oscillator tube, coil assembly and switching circuit are one complete unit enclosed in double copper shielded assembly for minimum R.F. leakage.
RANGE SELECTOR—7-position follow-up coil switching. All coils are shorted except the one in use.
R.F. SELECTOR—3-position step attenuator.
CIRCUIT SELECTOR—Provides for internally modulated signal (variable 0 to 100% at 400 cycles), variable amplitude of external modulation 40 to 15,000 cycles, unmodulated signal, and variable audio 0-4 volts at 400 cycles.
OUTPUT ATTENUATOR—Provides fine control of R.F. output to co-axial cable connector.
OUTPUT CONNECTIONS—Low capacity co-axial cable fitting for R.F. output. Two jacks for A.F. output and external modulation.
OUTPUT LEAD—Co-axial cable approximately 3 feet long.
DIAL—Large 6¾" diameter etched aluminum.
POWER SUPPLY—115 Volt, 50-60 cycles A.C.
CASE—Metal with black baked enamel suede finish, 15 11/32" x 11 3/32" x 6¼". Black leather strap handle, rubber feet.
PANEL—Silver, black and red etched aluminum.
TUBES—12AU7, 6C4, 6X4.
WEIGHT—Approximately 12 lbs.

MODEL 3432-A.....U.S.A. DEALER NET.....$99.50

RANGES

BAND A	160-370 KC	BAND F	12.5-35 MC
BAND B	360-735 KC	BAND G	34-110 MC
BAND C	715-1875 KC	G (Harmonics)	68-220 MC
BAND D	1825-4950 KC		
BAND E	4.85-13 MC		

CARRYING CASES

MODEL 329—Black leather carrying case for molded base portables which accommodate Triplet 3" square model instruments.
U.S.A. DEALER NET.....$2.70

MODEL 639-N—Black neolite carrying case for Models 630, 630-A, 630-NA, 630-T and 631. Neolite strap handle. Cover snaps back; compartment in rear. Complete with stand.
U.S.A. DEALER NET.....$8.50

MODEL 639—Black leather carrying case for Models 630, 630-A, 630-NA, 631, 630-T.
U.S.A. DEALER NET.....$8.50

MODEL 639-P—Black leather carrying case, lined with ⅜" sponge rubber for Model 630, 630-A, 630-NA, 631, 630-T.
U.S.A. DEALER NET.....$13.50

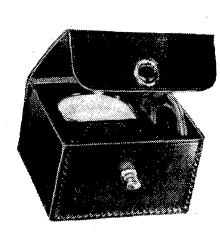
MODEL 659—Black leather carrying case for Model 650.
U.S.A. DEALER NET.....$9.50

MODEL 659-P—Black leather carrying case, lined with ⅜" sponge rubber for Model 650.
U.S.A. DEALER NET.....$14.50

MODEL 629—Black leather carrying case; flap folds over top; swivel fastener; for Models 625-NA, 660 and 661, also 625 series portable instruments.
U.S.A. DEALER NET.....$6.50

MODEL 669—Black leather carrying case for Models 666-HH and 666-R.
U.S.A. DEALER NET.....$5.50

MODEL 669-RL—Camera-type black leather case for Model 666-R. When case is opened, lower flap drops down and top folds back exposing entire tester panel and meter dial.
U.S.A. DEALER NET.....$6.00



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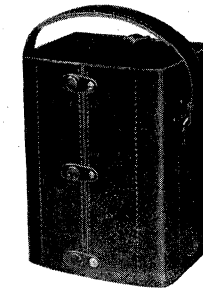
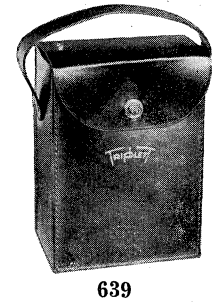


639-N



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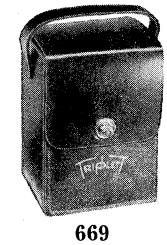

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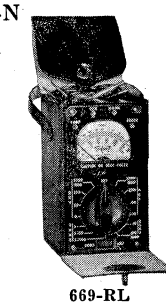

669-RL

HIGH VOLTAGE PROBES

Completely insulated polystyrene test probe with guard-type handle contains the voltage dropping resistors, high stability hi-voltage insulating compound. Probe is 11¾" long, with 48" hi-voltage wire lead with banana plug at tester end. For measuring high voltage employed in television receivers and other applications, external probes are available.

MODELS 630 and 630-A

		Dlr. Net
T-79-68	0-12,000 D.C. Volts	$14.50
T-79-69	0-12,000 A.C. Volts	$14.50
T-79-70	0-30,000 D.C. Volts	$14.50
T-79-71	0-30,000 A.C. Volts	$14.50

MODEL 625-NA

		Dlr. Net
T-79-83	0-10,000 D.C. Volts	$14.50
T-79-74	0-10,000 A.C. Volts	$14.50
T-79-130	0-25,000 D.C. Volts	$14.50
T-79-75	0-25,000 A.C. Volts	$14.50

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Radio TRIPLETT Testers

VU METER

Volume Unit and Decibel Meters are used to measure sound or noise levels in amplifiers for Public Address, Theatres, Broadcasting Studios, Broadcasting Static Equipment, etc.

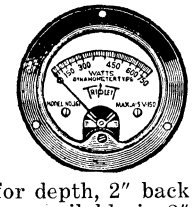
VU meters are used for volume level measurements—including broadcast monitoring. Ballistic characteristics comply with standardization recommendations of NBC and CBS and Bell Telephone Laboratories. Internal impedance 3900 Ohms. Steady state reference 1 Milliwatt. For 600 Ohm line. Dynamic characteristics provide for 99% full scale deflection in .3 seconds. Specify scale type when ordering:

Type "A": 0-100 (black) –20 to +3 VU on top arc (red).

Type "B": 0-100 (black) –20 +3 VU on bottom arc (red).

	Net Price
Model 321-PL or 327-PL VU	$17.90
Model 327-T VU	17.40
Model 327-T VU (Illuminated)	19.00
Model 420 VU	21.80
Model 420 VU (Illuminated)	24.80

WATTMETERS ELECTRODYNAMOMETER



These instruments can be used on single phase A.C. or D.C. as Wattmeters. On special order they can be made up as voltmeters or ammeters. Instruments are self-contained to 300 Volts—10 Amperes. Over that, external connection can be made. For use on frequencies up to 133 cycles per second. Available in three-inch model 361. Case dimensions same as 321-T, except for depth, 2" back of the flange ($2\frac{15}{16}$" over studs). Also available in 3" rectangular Model 367-A. Case diameter same as 327-T, except for depth, $2\frac{3}{64}$", back of flange ($2\frac{5}{8}$" over studs). Other characteristics of the 367-A, such as Range, Voltage, Amps., etc., same as 361. Wattmeters can be combined in the Triplett Twin case with a voltmeter or Ammeter. Accuracy within ±2%. Standard range as follows:

MODELS 361 AND 367-A — SINGLE PHASE

Range Watts	Normal Voltage	Normal Amps.	Sc. Div.	Net Price
0-75	150	½	75	$21.80
0-150	150	1	75	21.80
0-300	150	2	60	21.80
0-750	150	5	75	21.80
0-1500	150	10	75	21.80
0-150	300	½	75	24.10
0-300	300	1	60	24.10
0-600	300	2	60	24.10
0-1500	300	5	75	24.10
0-3000	300	10	60	24.10

DOUBLE RANGE WATTMETERS (Double Voltage Limits Only)

0-75-150	150-300	½	75	29.10
0-150-300	150-300	1	75	29.10
0-300-600	150-300	2	60	29.10
0-750-1500	150-300	5	75	29.10
0-1500-3000	150-300	10	75	31.90

DECIBEL METER

DB Meters permit the operator of public address systems, etc., to make instant adjustments to prevent sound blasting or distortion. General purpose type reads up 6 and down 10 decibels. Zero decibel = 1.73 Volts. Calibrated for use on a 500 Ohm line. Reference level 6 Milliwatts. Resistance: 5000 Ohms. They consist of a sensitive D.C. instrument coupled to a copper-oxide rectifier. Standard damping is provided unless highly damped instruments are specified. Quotation on request.

	Net Price
Models 321-PL or 327-PL	$14.50
Models 321-T or 327-T	13.90
Models 321-T or 327-T (Illuminated)	15.70
Model 420	15.50
Model 420 (Illuminated)	16.70

A.C. RECTIFIER TYPE INSTRUMENTS

VOLTMETERS

Range	Scale Div.	1000 Ohms Per Volt Models 321-T, 327-T Net Price	1000 Ohms Per Volt Model 421 Net Price	2000 Ohms Per Volt Models 321-T, 327-T Net Price	2000 Ohms Per Volt Model 420 Net Price
0-1	50	....	....	$17.80	$18.80
0-3	60	....	....	17.80	18.80
0-5	50	$15.70	$16.70	17.80	18.80
0-10	50	15.70	16.70	17.80	18.80
0-15	50	15.70	16.70	17.80	18.80
0-50	75	15.70	16.70	17.80	18.80
0-100	50	15.70	16.70	17.80	18.80
0-150	75	16.90	17.90	19.00	20.00
0-300	60	17.80	18.80	20.00	21.00

MILLIAMMETERS

Range	Scale Div.	Approx. Resis.	Model 321-T Net Price	Model 420 Net Price
0-.5	50	1400	$17.80	$18.80
0-1	50	1300	15.60	16.60
0-2	40	1000	15.60	16.60
0-3	60	1000	15.60	16.60

Sine Wave 77° F. ±5% Accuracy.
Moving Coil Permanent Magnet type.

D.C. AMMETER SWITCHBOARD SHUNTS

External shunts are available in the Ampere ratings listed and are to be used with instruments which operate at 50 M.V. full scale. The Ammeters will be supplied with dial reading in Amperes corresponding to rating of the shunt ordered. To determine price of the complete Ammeter, add shunt price to price of 0-50 Millivoltmeter in Model desired.

Shunts are furnished with 5 ft. wire leads. Quotation upon request for replacement, or special 24" or 30" leads.

Switchboard shunts have molded bases through 200 Amp. rating.

Curve Type Shunts (mount on meter studs)—50 M.V. (Specify on order.) 50 D.C. Amp. $3.40; 75 D.C. Amp., $4.10; 100 D.C. Amp., $4.70 net each.

Amps.	Price	Amps.	Price	Amps.	Price
50	$ 7.00	200	$ 7.00	600	$14.90
75	7.00	300	8.40	800	19.40
100	7.00	400	10.50	1000	36.00
150	7.00	500	12.80	2000	60.00

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Indicating TRIPLETT Instruments

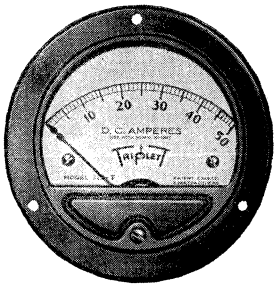
GENERAL CASE INFORMATION

Models	Scale Lengths D.C.-R.F.	Scale Lengths A.C.	Flange	Body Dia.	Body Depth	Case Mounting Material	Case Mounting Type	Style
221-PL D.C.	2.197″		2 11/16″	2-13/64″ Dia.	1″	Molded	Flush	Rear Screws
231-PL A.C.		1.92″	2 11/16″	2-13/64″ Dia.	1″	Molded	Flush	Rear Screws
221-T D.C.; 241-T R.F.	1.76″		2 11/16″ Dia.	2 7/8″	1 35/64″	Molded	Flush	Rim
231-S A.C.		1.58″	2 11/16″ Dia.	2 7/8″	1 5/16″	Molded	Flush	Rim
227-PL D.C.	2.197″		2 29/32″x2 3/4″	2 5/8″	1 3/32″	Molded	Flush	Rear Screws
237-PL A.C.		1.92″	2 29/32″x2 3/8″	2 5/8″	1 3/32″	Molded	Flush	Rear Screws
227-T D.C.; 247-T R.F.	1.76″		2 3/8″ Sq.	2 3/8″	1″	Molded	Flush	Rear Screws
237-S A.C.		1.58″	2 3/8″ Sq.	2 5/8″	1 3/8″	Molded	Flush	Rear Screws
321-PL D.C. 341-PL R.F.	3.11″		3 1/2″	2 3/4″	1″	Molded	Flush	Rear Screws
331-PL A.C.		2.65″	3 1/2″	2 3/4″	1″	Molded	Flush	Rear Screws
321-T D.C.; 341-T R.F.	2.49″		3 1/2″ Dia.	2 3/4″	35/64″	Molded	Flush	Rim
331-S A.C.		2.22″	3 1/2″ Dia.	2 3/4″	1 5/16″	Molded	Flush	Rim
327-PL D.C. 347-PL R.F.	3.11″		3 3/4″x3 1/4″	2 3/4″	1 3/32″	Molded	Flush	Rear Screws
337-PL A.C.		2.65″	3 3/4″x3 1/16″	2 3/4″	1 3/32″	Molded	Flush	Rear Screws
327-T D.C.; 347-T R.F.	2.49″		3″ Sq.	2 3/4″	1″	Molded	Flush	Rear Screws
337-S A.C.		2.22″	3″ Sq.	2 3/4″	1 3/8″	Molded	Flush	Rear Screws
361 Dynamometer		2.22″	3 1/2″ Dia.	2 3/4″	1 15/16″	Molded	Flush	Rim
420 D.C.; 440 R.F.	4.06″		4 5/8″x4 3/8″	2 3/4″	37/64″	Molded	Flush	Rear Screws
430 A.C.		3.6″	4 5/8″x4 3/8″	2 3/4″	37/64″	Molded	Flush	Rear Screws
420-PL D.C. 440-PL R.F.	4.14″		4 5/8″x4 3/8″	2 3/4″	1 1/16″	Molded	Flush	Rim
430-PL A.C.		3.6″	4 5/8″x4 3/8″	2 3/4″	1 1/16″	Molded	Flush	Rear Screws
626 D.C.; 646 R.F.	5.6″		6″x5 3/8″	3 1/8″	39/32″	Molded	Flush	Rear Screws
636 A.C.		5.3″	6″x5 3/8″	3 1/8″	1 39/32″	Molded	Flush	Rear Screws
Twin	2.49″	2.22″	5 5/8″x3 5/8″		1 5/8″	Molded	Flush	Rim

*Molded base

NOTE: Special finish for cases available in quantity.

‡Metal on Special Order.



Models 221-T, 231-S, 241-T, 321-T, 331-S, 341-T

D.C. VOLTMETERS — 1000 Ohms Per Volt (Film Type Resistors)

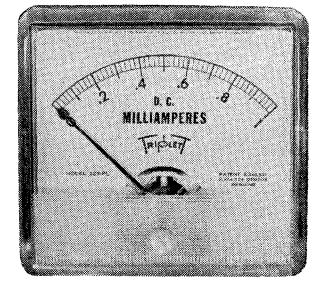
Range	Scale Div.	Models 221-T 227-T	Models 221-PL 227-PL	Models 321-T 327-T	Models 321-PL 327-PL	Model 420	Model 420-PL	Model 626
0-10		$ 9.70	$ 10.20	$ 10.20	$ 10.70	$ 11.20	$ 11.20	$13.20
0-25		9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-50		9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-100		9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-150		9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-200		9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-250		9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-300		9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-500		10.20*	10.70*	10.70	11.20	11.70	11.70	13.70
0-750		10.20*	10.70*	10.70	11.20	11.70	11.70	13.70
0-1000*		12.10	12.60	12.60	13.10	13.60	13.60	15.60
0-2000*		12.10	12.60	12.60	13.10	13.60	13.60	15.60
0-3000*		12.10	12.60	12.60	13.10	13.60	13.60	15.60
0-4000*		12.10	12.60	12.60	13.10	13.60	13.60	15.60
0-5000*		12.10	12.60	12.60	13.10	13.60	13.60	15.60

*Supplied with external resistors

D.C. VOLTMETERS — 1000 Ohms Per Volt (Wirewound)

Range	Scale Div.	Models 221-T 227-T	Models 321-T 327-T	Model 420	Model 626
0-1	50	$ 9.70	$10.20	$11.20	$13.20
0-3	**(30) 60	9.70	10.20	11.20	13.20
0-5	50	9.70	10.20	11.20	13.20
0-10	50	9.70	10.20	11.20	13.20
0-25	50	11.90	12.40	13.40	15.40
0-50	50	11.90	12.40	13.40	15.40
0-100	50	12.40	12.90	13.90	15.90
0-150	**(30) 75	12.40	12.90	13.90	15.90
0-300	**(30) 60	15.10	15.60	16.60	18.60
0-500	50	16.90†	17.40	18.40	20.40
0-750	**(30) 75	19.40†	19.90	20.90	22.90
0-1000	50	34.10‡	34.60	35.60	37.60
0-2000	40	55.90‡	56.40	57.40	59.40

D.C. Voltmeters, 125 Ohms per volt, wirewound (vacuum impregnated) resistors, can be supplied to special order. †Indicates instruments supplied with external wire-wound series resistors at prices shown. ‡Supplied with external resistor boxes at prices above. All other instruments are self-contained. Double-range panel voltmeters available on special order. D.C. VOLT-AMMETERS, VOLT-MILLIAMMETERS are available in combinations of listed Voltmeters and Ammeters. Prices on request.



Models 227-PL, 237-PL, 327-PL, 337-PL, 347-PL, 420-PL, 430-PL, 440-PL

D.C. MILLIVOLTMETERS

Range	Approx. Res.	Scale Div.	Models 221-T 227-T	Models 221-PL 227-PL	Models 321-T 327-T	Models 321-PL 327-PL	Model 420	Model 420-PL	Model 626
0-50	6.3	50	$9.00	$ 9.50	$ 9.50	$ 10.00	$10.50	$ 10.50	$12.50
0-100	12.5	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-150	20 (30)	75	9.00		9.50		10.50		12.50

D.C. MICROAMMETERS

0-20	3000	40	$16.00	$16.50	$16.50	$17.00	$17.50	$17.50	
0-50	1510	50	13.50	14.00	14.00	14.50	15.00	15.00	$ 17.00*
0-100	825	50	11.80	12.30	12.30	12.80	13.30	13.30	15.30*
0-200	360	40	10.10	10.60	10.60	11.10	11.60	11.60	13.60
0-500	156	50	9.60	10.10	10.10	10.60	11.10	11.10	13.10
50-0-50	825		11.80	12.30	12.30	12.80	13.30	13.30	
100-0-100	360		10.10	10.60	10.60	11.10	11.60	11.60	
500-0-500	55		9.00	9.50	9.50	10.00	10.50	10.50	

Lower torque microammeters are for use in horizontal positions only. For most photocell work, the 0-200 microammeter, 360 ohms resistance is recommended. *Supplied only with knife-edge pointers. **Scale division for 2″ models in parentheses.

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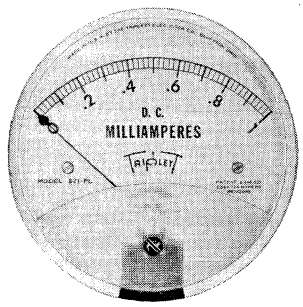
Indicating TRIPLETT Instruments



Models 221-PL, 231-PL, 321-PL, 331-PL, 341-PL

D.C. MILLIAMMETERS

Range	Approx. Res.	Scale Div.	Models 221-T 227-T	Models 221-PL 227-PL	Models 321-T 327-T	Models 321-PL 327-PL	Model 420	Model 420-PL	Model 626
0-1	55	50	$ 9.00	$ 9.50	$ 9.50	$10.00	$10.50	$10.50	$12.50
0-1.5	30	** (30) 75	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-3	14	** (30) 60	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-5	8.5	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-10	3.1	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-15	6.6	75	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-25	4	50	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-50	2	50	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-75	1.3	** (30) 75	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-100	1	50	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-150	0.6	** (30) 75	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-200	0.5	40	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-250	0.4	50	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-300	0.33**	(30) 60	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-400	0.25	40	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-500	0.2	50	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-750	0.13**	(30) 75	9.40	9.90	9.90	10.40	10.90	10.90	12.90
0-1000	0.1	50	9.40	9.90	9.90	10.40	10.90	10.90	12.90
500-0-500	55	50-0-50	9.00	9.50	9.50	10.00	10.50	10.50	12.50

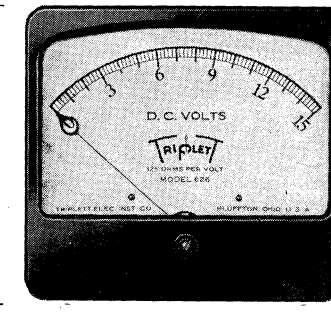
Ranges above 10 Milliamperes are shunted and have a drop of approximately 100 millivolts. Special resistance may be obtained to order. Double-range Milliammeters available on special order. Prices on request.

D.C. AMMETERS

Range	Scale Div.	Models 221-T 227-T	Models 221-PL 227-PL	Models 321-T 327-T	Models 321-PL 327-PL	Model 420	Model 420-PL	Model 626
0-1	50	$ 9.00	$ 9.50	$ 9.50	$10.00	$10.50	$10.50	$12.50
0-3	** (30) 60	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-5	50	9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-10	50	9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-15	** (30) 75	9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-25	50	9.70	10.20	10.20	10.70	11.20	11.20	13.20
0-30	** (30) 60	9.70	10.20†	10.20‡	10.70	11.20		13.20
0-50	50	9.70	10.20†	10.20‡	10.70	11.20		13.20

†221-PL only. ‡321-PL only.

D.C. Ammeters are self-contained up to and including 50 Amperes. Shunts 75 Amperes (50 M. V.) and higher are switchboard type with 5 ft. leads. Prices shown under (D. C. Ammeter Switchboard Shunts.)



Models 626, 636, 646

A.C. VOLTMETERS

	Approx. Ohms/Volt	Scale Div.	Models 231-S 237-S	Models 231-PL 237-PL	Models 331-S 337-S	Models 331-PL 337-PL	Model 430	Model 430-PL	Model 636
0-1.5	1.33	** (30) 75	$ 9.00	$ 9.50	$ 9.50	$ 10.00	$ 10.50	$ 10.50	$ 12.50
0-3	3.33	** (30) 60	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-5	4	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-10	10	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-15	16	** (30) 75	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-25	20	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-50	50	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-100	91	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-150	125	** (30) 75	9.90	10.40	10.40	10.90	11.40	11.40	13.40
0-250	144	50	10.40	10.90	10.90	11.40	11.90	11.90	13.90
0-300	144	** (30) 60	10.90	11.40	11.40	11.90	12.40	12.40	14.40
0-500	125	50	14.30	14.80	14.80†	15.30	15.80†	15.80	17.80†
0-750	125	** (30) 75	14.80	15.30	15.30*	15.80	16.30*	16.30	18.30*
0-1000	125	50	15.30*	15.80	15.80*	16.30	16.80*	16.80	18.80*

These A.C. Voltmeters are for use on frequencies from 25 to 133 cycles. †Indicates instruments supplied with external wire-wound series resistors at prices shown. *Supplied with external resistor boxes at prices shown above. All other instruments are self-contained. Double-range Voltmeters are available on special order. Prices on request.

A.C. AMMETERS

	Approx. Res.	Models 231-PL 237-PL	Models 331-PL 337-PL	Model 430-PL	Model 636
0-1	.21	$ 9.00	$ 9.50	$ 10.00	$ 10.50	$ 10.50	$12.50
0-2	.11	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-3	.02	** (30) 60	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-5	.01	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-10	.005	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-15	.002	** (30) 75	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-25	.001	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-30	.001	** (30) 60	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-50	.0005	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-75	.0003	75			11.00	11.50	12.00	12.00	14.00

For use on frequencies from 25 to 500 cycles. Instruments listed above are self-contained. For ranges above 75 (above 50 on 2" models), use current transformers, with 5 Amp. secondary. Add Do-Nut transformer price to price of 0-5 A.C. Ammeter shown above. Transformers, Primary Ampere Range 75, 100, 200, 250, 300, 400 Amp. $9.50 net each; 500, 600 Ampere, $12.00 net each; 750, 1000 Amp. $17.50 net each. and 1200 Amp., $26 net each.

A.C. MILLIAMMETERS

	Approx. Res.	Models 231-PL 237-PL	Models 331-PL 337-PL	Model 430-PL	Model 636
0-10	2900	50	$ 9.00	$ 9.50	$ 9.50	$ 10.00	$ 10.50	$ 10.50	$ 12.50
0-15	1150	** (30) 75	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-25	344	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-50	82	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-100	21	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-200	6.7	40	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-250	3.4	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50
0-500	0.8	50	9.00	9.50	9.50	10.00	10.50	10.50	12.50

For use on frequencies from 25 to 500 cycles.

THERMO AMMETERS (R.F.)

		Models 241-T 247-T	Models 341-T 347-T	Models 341-PL 347-PL	Model 440	Model 440-PL	Model 646
0-.5	Amps. .93 50	$ 10.00	$ 10.50	$ 11.00	$ 11.50	$ 11.50	$ 13.50
0-1	Amps. .35 50	10.00	10.50	11.00	11.50	11.50	13.50
0-1.5	Amps. .21 **(30) 75	10.00	10.50	11.00	11.50	11.50	13.50
0-2.5	Amps. .13 50	10.00	10.50	11.00	11.50	11.50	13.50
0-5	Amps. .06 50	10.00	10.50	11.00	11.50	11.50	13.50
0-10	Amps. .03 50	10.00	10.50	11.00	11.50	11.50	13.50

Internal couples are normally furnished at prices shown. If external couples are required, please specify on order, adding $4.50 net to price of instrument shown above. External couples only less meter, with leads, $5.50 net each.

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AERO Instrument Company

NORTH HOLLYWOOD, CALIFORNIA

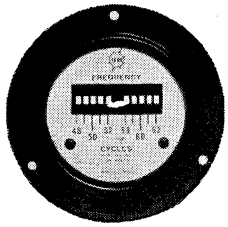
VIBRATING REED FREQUENCY & TIMING INSTRUMENTS

GENERAL DESCRIPTION

Vibrating Reed Instruments are direct reading frequency indicators for use where the efficient operation of A.C. equipment depends upon the maintenance of known or constant frequency. They are self contained, their accuracy is not affected by wide voltage variations or wave form distortions and require no auxiliary apparatus. They consist of a number of steel reeds, of high **Q**, each of which is tuned to a single frequency within the band covered by the instrument. Indication is by visual pattern formed by the vibration of the reed in resonance with the line frequency. Excitation is electromagnetic, and the reeds are the only moving elements. **Running Time Meters** are synchronous motor operated instruments to automatically measure service periods or service requirements.

APPLICATIONS

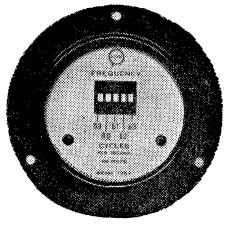
A large demand exists for VIBRATING REED FREQUENCY METERS for use with engine driven A.C. generator units as this is the most simple speed and frequency indicator yet devised for A.C. generator sets. These meters are also generally used in laboratory and portable test equipment, electronics, telephony, aircraft, industrial plants and numerous applications where electrical frequency indication is desired. Engineering services are available for those desiring assistance on their application problems. **Running Time Meters** are often used in conjunction with reed type frequency meters.



SERIES 7002

Range: 48-52 and 58-62 cycles for reading in either 50 or 60 cycles. **Voltage:** 125 volts ±20 volts. **Accuracy:** ±0.3% of designated frequency. **Power Consumption:** 1 watt. **Resistance:** Approximately 100 ohms per volt. Flush panel mounting.

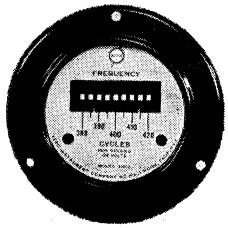
2810-134—48-52 and 58-62 cy. in 3½" flange MIL-M-6A molded bakelite case.....$25.00
2810-133—48-52 and 58-62 cy. in 3½" flange metal case..... 25.00
2810-153—48-52 and 58-62 cy. in 3¼" flange metal case..... 25.00
2810-123—48-52 and 58-62 cy. in 2½" flange metal case..... 25.00



SERIES 7004

Range: 59-63 cycles. Used extensively on standby power supplies for measuring generator frequency and engine speeds. **Electrical characteristics:** Same as the Series 7002.

6915-134—59-63 cy. in 3½" flange MIL-M-6A molded bakelite case. $21.50
6915-133—59-63 cy. in 3½" flange metal case $21.50
6915-153—59-63 cy. in 3¼" flange metal case $21.50
6915-123—59-63 cy. in 2½" flange metal case $21.50



SERIES 4009

Range: 380-420 cycles. For use on 400 cycle commercial power supplies and aircraft inverters. **Accuracy:** ±0.2% at 70° F. **Power consumption:** Approximately 1.25 watts. **Resistance:** Approximately 70 ohms per volt. Flush panel mounting.

4059-134—380-420 cy. in 3½" flange MIL-M-6A molded bakelite case. $31.00
4059-133—380-420 cy. in 3½" flange metal case $31.00
4059-153—380-420 cy. in 3¼" flange metal case $31.00
4059-123—380-420 cy. in 2½" flange metal case $31.00

VOLTAGES—All frequency meters can be supplied for voltages from 10 to 440 volts.

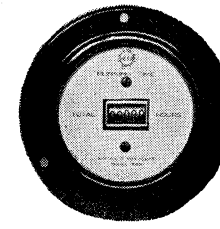
DISCOUNTS—Quantity prices quoted upon request.

SPECIAL INSTRUMENTS—Prices on special ranges will be furnished upon request.

RUNNING TIME METERS—Special ranges, frequencies and voltages available.

Write for catalog describing complete line of Aero stock instruments.

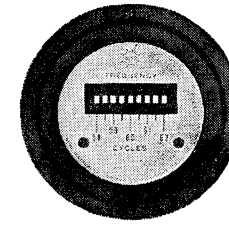
SERIES 1001



Direct reading indicators to automatically and cumulatively register total operating or idle time of any equipment, machine, circuit or system to which they are connected. **Range:** 0 to 10,000 hours in hours and tenths of hours—automatically resets. **Voltage:** 125 ±20 volts. **Power consumption:** 2.5 watts. **Frequency:** 50, 60 and 400 cycles.

61134—60 cy. in 3½" flange MIL-M-6A molded bakelite case.....$19.00
41134—400 cy.....Price upon request

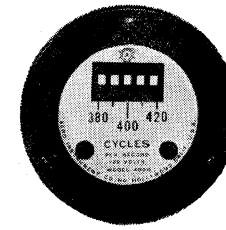
3½" SEALED METER



Meets all applicable requirements of MIL-M-6A Specification. All 3½" meters can be supplied in hermetically sealed cases. **Electrical characteristics:** Same as unsealed instruments.

Prices on all models available upon request.

1½" SEALED METER



Range: 380-420 cycles. For use in air borne or ground equipment where size and weight are important factors. **Voltage:** 125 ±20 volts. **Resistance:** Approximately 70 ohms per volt. **Accuracy:** ±0.2% at 70° F. or 1.5% over range of —65° to +165° F. **Breakdown voltage:** 1500 volts. **Power consumption:** Approximately 1.25 watts.

4005-115—380-420 cy. in 1½" hermeticaly sealed case.....$23.85

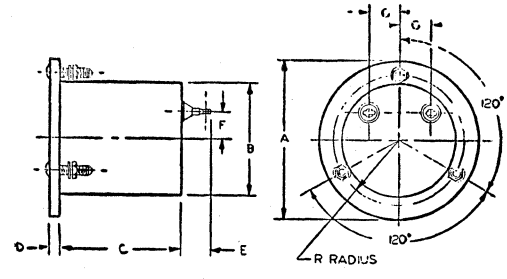


TABLE I

CASE STYLE	A MAX	B MAX	C MAX	D MAX	E MAX	F MIN	F MAX	G MIN	G MAX	R MIN	R MAX	MOUNTING SCREWS
A	2.10	1.51	1.56	0.14	0.40	.41	.55	.41	.55	.877	.873	4-36N5-2A

Series 4005
Range 380 to 420 C.P.S. Hermetically Sealed.

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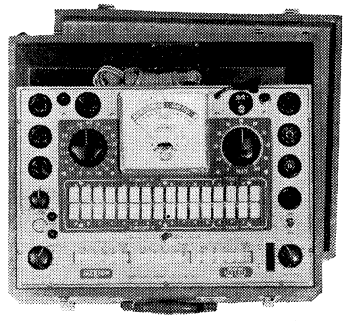
Feature-packed for faster testing

3-New Jackson Tube Testers

World's Fastest Fully-Flexible Tube Tester



Model 648P **$114.95** Net
Shipping Weight 23 pounds

New Jackson Dynamic® Model 648P

New! Zig-Zag Speed Chart—Eliminates unnecessary chart-twirling. Order of middle column of listings is inverted, starting at bottom. TV types listed in special section, so if you concentrate on TV servicing you find all your types listed together.

New! Variable Sensitivity Shorts Test—Lets you check interelement leakage at any value between 250K ohms and 2 megohms. Perfect for grid leak checks on tubes in RF, IF, and AGC circuits. Makes special Grid circuit checkers unnecessary.

Plus These Popular 648 Features

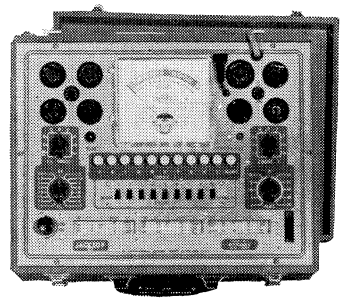
Dynamic-Principle—Originated by Jackson. Separate loads or voltages applied to each element of tube under test. Sequence switching with push-button speed makes the set-up time less than the warm-up time of the tube.

Automatic Line Voltage Indicator—You center the needle using the line-voltage switch and pointer automatically indicates the actual line voltage. Saves carrying a separate line voltmeter.

Life Line Indicator—Tells you when a good tube is approaching the end of its life. Avoids call-backs.

Easy Reading Meter—Easy to read from any angle. Calibrated in GOOD-BAD and percent of relative transconductance.

Portable Case—Finished in attractive gray and green tough plastic.



Model 561 **$89.95** Net
Shipping Weight 15 pounds

Jackson Dynamic® Model 561

Easy To Use—Fully Portable—Low Priced

Jackson Dynamic® Principle—Provides accurate tests under true load conditions. High voltage power supply for greatest accuracy.

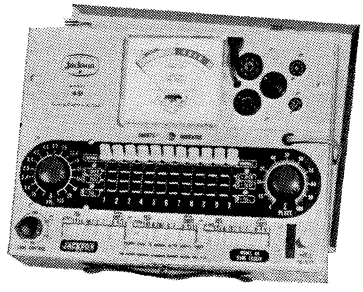
Built-In Zig-Zag Roll Chart—Nothing to lose or misplace. Easy action roll chart is printed Zig-Zag Fashion (inverted-order center column) to eliminate unnecessary chart-twirling. TV types listed in separate section for fastest use.

Variable Sensitivity Shorts Test—Variable from 250k to 2 megohms. Perfect for grid leak checks on RF, IF and AGC circuits.

Simplified Operation—Uses latest Jackson switching principle which provides spare positions and sockets for any future tubes.

Wide Application—Tests all receiving tubes, includes heater voltages for the newest series string tubes. Ample current for accurate tests on heavy-duty TV rectifiers and amplifiers.

Fully Portable—Attractive gray and green case will really take a beating. Cover is removable for use in shop.



Model 49 **$49.95** Net
Shipping Weight 16 pounds

Jackson Model 49 Low-Priced Tube Tester

With Amazing Plug-In Accessory Feature

The only tester of its kind in the world! In addition to making tube tests, this tester, when fitted with accessories can check selenium rectifiers, determine tube heater current, find high resistance leakage, and rejuvenate picture tubes. Look at the features you get for such a low price.

- All-steel fully portable case.
- Line Voltage Indicator.
- Lever action switches numbered to correspond with tube pin numbers.
- Complete shorts and merit tests.
- JACKSONITE finished case — scuff and scratch resistant.
- Plug-in accessories fitted with airplane fasteners, are in and out in a jiffy, won't interfere with normal tube testing even when plugged in.

These Accessories Available for the Model 49

Model P49B Plug-in Adapter Kit—Readies your 49 for any accessories. **$2.95 net.**

Model 49N High Resistance Shorts Tester—Variable 200K ohms to 2 megs. **$6.95 net.**

Model 49C Heater Current Tester—3 ranges 500 mils to 5 amps. **$14.95 net.**

Model 49R Selenium Rectifier Tester—20 to 650 ma, 25 to 300 volts. **$17.95 net.**

Model 49PR Picture Tube Rejuvenator—Restores cathode condition. Removes shorts. **$19.95 net.**

Model 49S Auxiliary Socket Adapter—For testing older type and subminiatures. **$11.95 net.**

Test data on new types for all Jackson Tube Testers appears monthly on page 65 of PF Reporter

JACKSON ELECTRICAL INSTRUMENT CO.

"Service Engineered" Test Equipment **DAYTON 2, OHIO**

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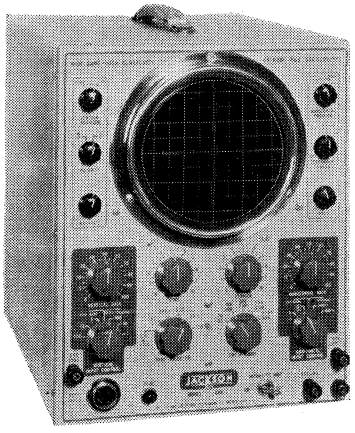
The perfect pair for all TV work

Color-IF-VHF-UHF

JACKSON 5-Inch Wide Band Oscilloscope Model CRO-2



CRO-2 **$225.00** Net
Shipping Weight 32 pounds

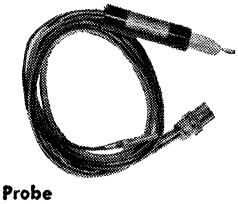
A laboratory-quality scope with highly stable circuitry to make it ideal for all TV work, color or black and white. Widely used in industrial laboratories, yet priced within the range of any television service shop.

Check these features against any television scope:

- Wide Band Amplifier, flat within 1 db from 20 cycles to 4.5 MC.
- Two Range Vertical Deflection sensitivity from .018 r. m. s. volts-per-inch.
- Highly stable amplifier circuits.
- Positive or Negative Internal Horizontal Sync.
- Linear Sweep Oscillator, 20 cycles thru 50 kc.
- Input Calibrating Voltage, 10 volts peak-to-peak.
- Vertical Polarity Reversal.
- Return Trace Blanking.
- Intensity Modulation—60 cycle internal, or external.
- Direct Connections to Deflection Plates, when desired.

Accessory Probes for Your Jackson CRO-2

Low Capacity Probe Model LC2-1P.....**$19.95 Net**
Cathode Follower Type with 2 to 1 attenuation ratio and not more than 8 uuf effective input capacitance. For use in critical circuits up to 25 volts.



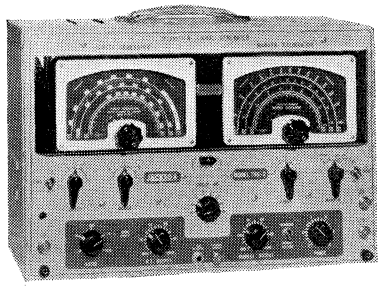
Low Capacity Probe

High Voltage Low Capacity Probe Model LC10-1P.....**$7.95 Net**
Attenuation ratio 10 to 1. For circuits where up to 1,000 volts may be present.

Demodulation Probe Model DEM-P.....**$9.95 Net**
For signal tracing in RF or IF sections or any demodulation application.

JACKSON Television Signal Generator Model TVG-2

Complete Sweep-Marker Generator plus Crystal Calibrator



TVG-2 **$259.95** Net
Shipping Weight 35 pounds

A complete television signal generator with ample output for aligning even the most badly detuned set. Also valuable in working with FM receivers, aircraft and police receivers, and other VHF receivers.

- Wide Range Sweep Oscillator 30 kc through 216 mc., on fundamentals.
- Video Sweep (30 kc.) for color circuit adjustments.
- Variable Sweep Width 0 to 18 mc.
- Accurate Marker (¼ of 1%) 4 mc. through 216 mc.
- Crystal Oscillator for any crystal 3 mc. to 20 mc. with Beat Detector.
- 400 cycle Modulation for Marker or Crystal Oscillators.
- Provision for Video Signal Modulation.
- RF output, 90 ohms impedance, or 300 ohms on max. output position.
- Oscilloscope Timing with Phase Control and Blanking.

JACKSON ELECTRICAL INSTRUMENT CO.

"Service Engineered" Test Equipment **DAYTON 2, OHIO**

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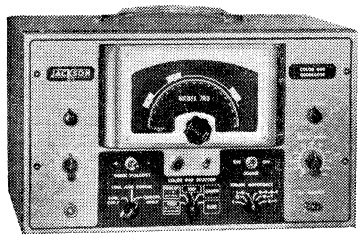
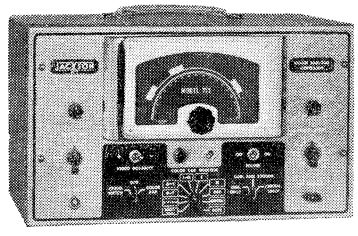
Get ready for COLOR

Two JACKSON Color Bar Generators



Model 700.



Model 712.

Choose from these two outstanding Jackson Color Generators to complement the equipment you already have for color alignment, test, and installation. Both offer the same manufacturer-proved system of color bar generation.

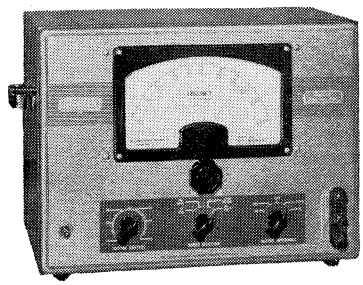
Model 700 Color Bar Generator . . . . . **$295.00 net**
Shipping Weight 30 pounds

Model 712 Color Bar, White Dot, Cross-Hatch Generator . . . . . **$395.00 net**
Shipping Weight 32 pounds

Model 7SC Carrying Case for 700 or 712 . . **$ 24.95 net**
Shipping Weight 12 pounds

- 8 simultaneous color bars, single color bars or color difference bars.
- Crystal controlled sound carrier and color burst signals.
- Video Output, or Modulated RF output on channels 3, 4, or 5.
- Horizontal Sync and Color Subcarrier Outputs.
- Individually generated, full-color bars—no matrixing, no multi-vibrators.
- Model 712 also includes crosshatch and white dot generators for convergence checks on multi-gun tubes. Small Dot size—¼" on 21" tube. Crosshatch may also be used for linearity and tilt adjustments.

Jackson Wide-Range Audio Oscillator Model 655

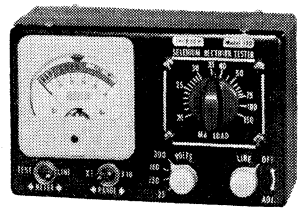


Model 655 **$135.00** Net
Shipping Weight 32 pounds

For Audio, TV, Laboratory Applications

- Highly stable, RC tuned sine wave generator.
- Range 20 cycles to 200 kc. in 4 ranges.
- Up to 500 milliwatts output.
- Output impedances, 10, 250, 500, 5000 ohms, or Hi-Z resistive.
- Frequency Characteristic—1 db. 30 to 15,000 cycles on transformer output.
- Accuracy, 3% or 1 cycle, whichever is greater.
- Hum level down 60 db. at maximum output.
- Harmonic Waveform distortion less than 5%, to 15,000 cycles.

Handy Pocket Size Selenium Rectifier Tester Model 710



- True dynamic test under rated load.
- Tests all types 20 to 650 ma., 25 to 300 volts.
- Line voltage adjustment.
- Positive meter indication on GOOD-BAD scale.
- Checks individual sections of full wave and bridge rectifiers.

Model 710 **Shipping Weight 5 pounds** **$29.50** Net

See your distributor or send for complete literature.

JACKSON ELECTRICAL INSTRUMENT CO.

"Service Engineered" Test Equipment

Dayton 2, Ohio

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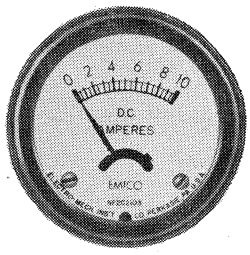
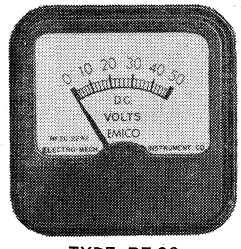
PRECISION-PLUS

EMICO PRECISION INSTRUMENTS

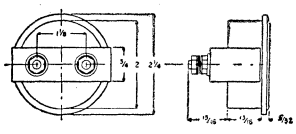
FOR PANELS AND TEST SETS



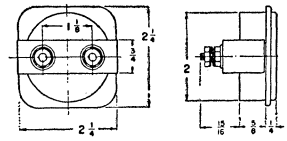
TYPE NF-2C



TYPE RF-2C



TYPE NF-2C



TYPE RF-2C

EMICO panel and test meters are rugged and reliable instruments. Cases are of steel and finished in durable black. DC meters have the new HI-TORK magnetic movements and are accurate to well within 5%. AC meters are of the moving iron type and are also accurate to within 5%.

MOUNTING—All model NF-2C and RF-2C meters will fit into a $2\frac{1}{16}$" diameter hole and are mounted by means of a U clamp.

DESIGN—EMICO meters are designed to give satisfactory service under the most severe conditions. They are styled to add to the prestige and appearance of electrical equipment.

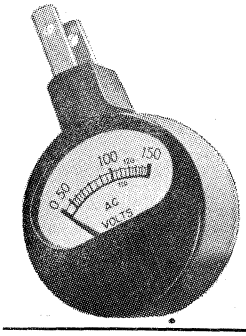
CALIBRATION—Since the instruments are calibrated in steel cases, their accuracy is not affected by panels made of magnetic materials of nominal thickness.

GUARANTEED—All EMICO instruments are guaranteed against defective material and workmanship for a period of one year after date of purchase, and will be repaired or replaced if sent to the factory postpaid with a 50c handling charge.

EMICO instruments are available in quantities to jobbers or manufacturers in the following sizes: NF-2", RF-2½", and RF-4½" at 3% accuracy. We invite your inquiries on instruments for special application.

EMICO VOLTAGE TESTER

Model 0-116



Designed to Accurately Test Voltage at the Receptacle

This new convenient voltage tester is strong, rugged and reliable. Case of steel finished in durable black. Damped meter movement, precision mechanism. Accuracy ±5%. 90° swivel at the prongs makes reading easy from any angle.

LIST PRICE $4.50

PRICE LIST

DC AMMETERS

Range	Approximate Resist. Ohms	MODEL NF-2C Catalog Number	MODEL NF-2C Dealers' Net Price	MODEL RF-2C Catalog Number	MODEL RF-2C Dealers' Net Price
0-1	.15	2101	$1.75	2201	$1.85
0-3	.032	2101-A	1.75	2201-A	1.85
0-5	.016	2102	1.75	2202	1.85
0-10	.00115	2103	1.75	2203	1.85
0-15	.00115	2103-A	1.75	2203-A	1.85
0-20	.00115	2104	1.75	2204	1.85
0-25	.00115	2104-A	1.75	2204-A	1.85
0-30	.00115	2105	1.75	2205	1.85
0-60	.000116	2106-A	2.40	2206-A	2.50
1-0-1	.08	2109	1.75	2209	1.85
3-0-3	.00115	2110	1.75	2210	1.85
6-0-6	.00115	2111	1.75	2211	1.85
10-0-10	.00115	2112	1.75	2212	1.85
15-0-15	.00115	2113	1.75	2213	1.85
20-0-20	.00115	2114	1.75	2214	1.85
30-0-30	.00115	2115	1.75	2215	1.85
75-0-75	.000116	2116-A	2.75	2216-A	2.85

DC MILLIAMMETERS

0-1	900	2120	$3.60	2220	$3.65
0-3	450	2121	2.50	2221	2.55
0-5	1250	2125	2.25	2225	2.30
0-10	430	2126	2.10	2226	2.15
0-20	70	2127	1.75	2227	1.85
0-25	65	2127-A	1.75	2227-A	1.85
0-30	60	2128	1.75	2228	1.85
0-50	15	2129	1.75	2229	1.85
0-100	8	2130	1.75	2230	1.85
0-150	2.75	2130-A	1.75	2230-A	1.85
0-200	2.75	2130-B	1.75	2230-B	1.85
0-300	.50	2131	1.75	2231	1.85
0-500	.35	2132	1.75	2232	1.85

DC VOLTMETERS (HIGH RESISTANCE)

(100 ohms/volt except 150 and 300 volt ranges are 200 ohms per volt)

0-10	1050	2140	$2.65	2240	$2.75
0-30	2800	2141	2.65	2241	2.75
0-50	4000	2142	2.85	2242	2.95
0-150	28000	2143	3.00	2243	3.10
0-300	55000	2144	3.10	2244	3.20

DC VOLTMETERS (LOW RESISTANCE)

Range	Approximate Resist. Ohms	MODEL NF-2C Catalog Number	MODEL NF-2C Dealers' Net Price	MODEL RF-2C Catalog Number	MODEL RF-2C Dealers' Net Price
0-1	33	2134	$1.75	2234	$1.85
0-3	100	2135	1.75	2235	1.85
3-0-3	30	2136	1.75	2236	1.85
0-5	140	2136-A	1.75	2236-A	1.85
0-8	225	2136-B	1.75	2236-B	1.85
0-10	280	2137	1.75	2237	1.85
0-15	450	2137-A	1.75	2237-A	1.85
0-20	600	2137-B	1.75	2237-B	1.85
0-30	1000	2137-C	1.75	2237-C	1.85
0-50	1400	2138	1.75	2238	1.85

AC AMMETERS

0-1	.365	6101	$2.90	6201	$3.00
0-3	.078	6102	2.90	6202	3.00
0-5	.023	6103	2.90	6203	3.00
0-10	.013	6104	2.90	6204	3.00

AC MILLIAMMETERS

0-25	750	6125	$2.90	6225	$3.00
0-50	175	6126	2.90	6226	3.00
0-100	58	6127	2.90	6227	3.00
0-250	12	6128	2.90	6228	3.00
0-500	1.75	6129	2.90	6229	3.00

AC VOLTMETERS

0-5	50	6135	$2.90	6235	$3.00
0-10	175	6136	2.90	6236	3.00
0-15	300	6137	2.90	6237	3.00
0-25	920	6137-A	2.90	6237-A	3.00
0-50	1800	6138	2.90	6238	3.00
0-150	9530	6139	3.50	6239	3.60
0-300	32000	6140	4.10	6240	4.15

PRICES—Prices listed are net and include all hardware and individual boxing Resistance approximate. If important request factory engineering confirmation.

ELECTRO-MECHANICAL INSTRUMENT CO.

PERKASIE, PENNSYLVANIA

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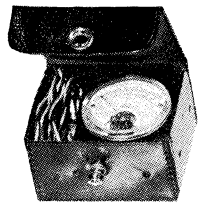
Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

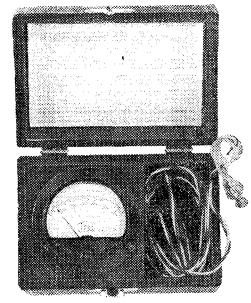
APPLIANCE TEMPERATURE TESTERS

A NEW IDEA IN TESTERS — The need for scientific but sturdy portable test equipment in the appliance service field is met by this exclusive line. Here the user profits from J-B-T's wide experience in building field test sets for many well-known manufacturers of ranges, irons, refrigerators, deep freeze units, and similar equipment. All J-B-T testers include the principle of remote reading of temperature,—and temperature measures the real usefulness of the appliance. Although called appliance testers, these handy portable testers have found a multitude of uses for trouble-shooting, experimenting and research in industry and in laboratories.

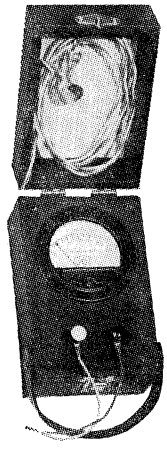
OVEN TESTERS



MODEL 23-JP-1. Latest addition to the widely-known family of J-B-T oven temperature testers is this modern and compact unit. Like the Models 32-JP-3 and 32-JP-4 described below, this indicating portable pyrometer is designed to save time and furnish reliable information in testing and setting thermostats on electric or gas ranges and other appliances by showing oven temperatures as they change. The same size of dial, 0-650°F., with 2⅜" scale arc reading, is used but covered by an all-plastic instrument front. The indicator is mounted on a black metal panel affixed inside a pocket-sized, black top-grain leather case 4½" x 2⅞" x 4¼" over hardware. Characteristic of more expensive pyrometers, the 23-JP-1 is automatically compensated for ambient temperature. Thus the tester eliminates calculations, avoids likelihood of serious error as temperatures change inside the instrument itself, and gives foolproof direct readings. Supplied with attached SA-116 5½' calibrated thermocouple, clip, and convection shield.....**$23.50**

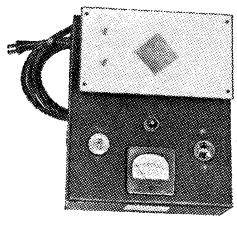


MODEL 32-JP-3. This sturdy, fast reading portable is by far the most widely used oven tester in the country. The rigid outer carrying case 6" x 3⅞" x 3¾" is covered in black leatherette; the glass-covered indicator fits in a 3¼" flanged metal case. The dial shows 0-650°F. in 10° divisions readable to 2½°. Exceptionally fast, continuous response. Automatic compensation for ambient temperature is valuable feature whether the tester is used for service work, sales demonstrations, or inspection. More details on the 32-JP-3 are available in Bulletin JP-103. Price includes attached SA-116 5½' calibrated thermocouple, clip for attaching to grill, and convection shield for steady readings. **$25.05**



VERSATILE OVEN TESTERS

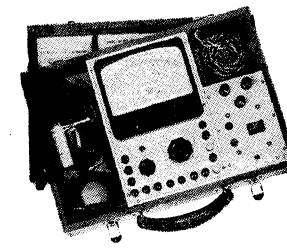
MODEL 32-JP-4. Companion tester to the 32-JP-3 with all the features of that tester, plus a leather carrying strap, and binding posts for quick attachment and interchanging of various thermocouples listed on this page, to check irons, washers, waffle-bakers, toasters, roasters, clothes dryers, etc. Range, 0-650°F; black leatherette case 6" x 3⅞" x 3¾". More details on the 32-JP-4 are available in Bulletin JP-104. Price includes SA-116 5½' calibrated thermocouple, clip and convection shield. **$26.15**



IRON TESTERS

MODEL 32-JIT. Self-contained bench type tester; checks all makes of irons; measures thermostat temperatures; and shows open or short circuits. Automatically compensated for room temperature. Also indicates operating temperature of the sole plate (working surface) on non-electric or cordless irons. Black metal base; overall size 10" x 12" x 5½", scale 0—650°F, 15 amp. fuse, 6' cord, 110-volt, 50-60 cycles.....**$31.65**

ALL-PURPOSE TESTERS



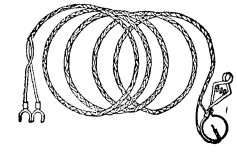
MODEL 61-JRT. This 9-in-1 tester speeds accurate temperature adjustment and current analysis of ranges, refrigerators, etc. Rapidly reads four cold zones, —100° F. to +80° F. up to 14' distant; two heat zones 0-600° F. up to 5½' distant; one voltage range 0-300 AC; and with transformer, two current ranges, 0-30 and 0-60 amps, AC. Sturdy, polished walnut case 15½" x 10$\frac{3}{16}$" x 4¾" with handle and slip hinges. Two-color etched metal panel. Separate switches protect bulb and ammeter circuits. Requires one standard flash-light cell, replaceable in the field. Temperature scale accuracy ±2% of full scale. Rectified AC readings ±5%. Accessories listed below may be added for testing irons, grills, roasters, washers, etc. Includes two SA-182 resistance bulbs, two SA-116 thermocouples, necessary electrical leads, and AS-TR-2 built-in transformer.....**$107.25**

For more details, see Bulletin JRT-349.

MODEL 61-JRT (LESS TRANSFORMER). Same unit, same scales, except does not read in amperes; AS-TR-2 transformer assembly omitted **$93.50**

THERMOCOUPLES

(See next page for Resistance Bulbs and Transformers)



SA-116 with SHIELD and CLIP. Standard flexible No. 22 gauge iron constantan, asbestos insulated, 5½', with attachment clip and convection shield as normally supplied with 23-JP-1, 32-JP-1, 32-JP-2, 32-JP-3, 32-JP-4, 60-JRT and 61-JRT Testers. (See SA-199 for extra quality, glass insulated type). **SA-116**.....**$1.80**

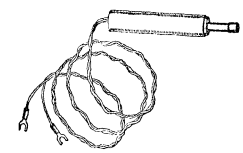
SA-170 (REPLACEMENT THERMOCOUPLE for IRON TESTERS 32-JIT and IT-1). Thermocouple and lead, including aluminum plate and special tip, quickly installed in the field.....**$2.10**

SA-175 (PLAIN TIP). For roasters, waffle irons, etc., 5½' iron constantan flexible No. 22 gauge, asbestos insulated, with small ball tip; used where clip and shield of SA-116 not suitable; for Models 32-JP-2, 32-JP-4, 60-JRT, and 61-JRT.....**$1.45**

SA-176 (for TOASTERS, etc.) 5½' iron constantan No. 22 gauge asbestos insulated, with special disc to collect heat; easily attached to 32-JP-2 and 32-JP-4 oven testers, also 60-JRT and 61-JRT **$2.55**

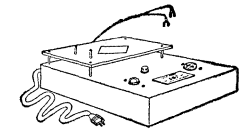
SA-188 (for AUTOMATIC WASHER TEMPERATURES, etc.) ⅜" diameter copper tube, 4" long, encloses thermocouple for insertion in pipe or sample of water. Has 6' leads for attachment to 32-JP-2 and 32-JP-4 oven testers, also 60-JRT and 61-JRT.....**$3.85**

SA-199 with SHIELD and CLIP. Same as SA-116 above, except duplex, non-fraying glass braid construction; diameter .115"; recommended for frequent use with these testers at temperatures above 400°F. **$2.25**



SA-300 (for SURFACE READINGS), not regularly stocked. Spring-type iron constantan in Transite tip with handle and 5' No. 22 gauge lead for extremely rapid heat readings; for attachment to 32-JP-2, 32-JP-4, 60-JRT and 61-JRT appliance testers **$7.50**

SA-301 (REPLACEMENT TIP FOR SA-300), not regularly stocked. Transite tip and thermal element only **$3.50**



ACCESSORY IRON TESTER, MODEL IT-1. This attachment is identical with the 32-JIT, except there is no meter. It is easily connected to Models 32-JP-2, 32-JP-4, 60-JRT and 61-JRT. Shows open circuits and shorts, checks sole plate temperatures and thermostats on all types of irons **$16.25**

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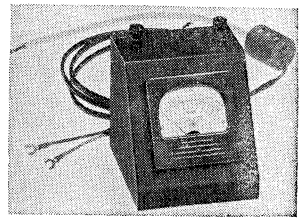
Net

TEMPERATURE INDICATORS

WHERE TO USE: To determine heat rise of motors, transformers and coils; for laboratory furnaces, inspection set-ups, for remote indication of infrared and other oven temperatures; and to check temperatures in industrial processes such as heat treating and annealing. When used with selector switch, permits centralized reading of one to ten thermocouples, as in diesel exhaust manifold applications.

MODEL 32-J

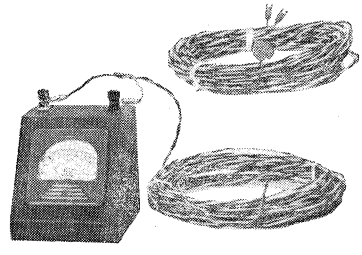


MODEL 32-J PYROMETER IN SN-7 STAND. Mounted in sloping front black metal stand, 4¼" high x 4⅜" deep x 4⅛" wide. Compensated for ambient temperature. Medium resistance system, damped for quick reading on 2⅜" scale, assures ruggedness and pointer stability. To retain the ±2% accuracy of the installation: use only the type and resistance of thermocouple and lead which are provided; do not cut extra lead—coil it—change in length changes calibration. A protection tube is not generally required. Many users find it convenient to keep an extra couple and lead on hand.

MODEL 32-J IN SN-7 STAND (Supersedes SN-3 Stand)
0°— 650° F— 350° C, includes SA-91 thermocouple, SA-84 lead, and CB-1 connector block.....**$30.25**
0°—1200° F— 650° C, includes SA-87, SA-82, and CB-1..... **30.25**
0°—2000° F—1100° C, includes SA-87, SA-82, and CB-1..... **30.25**

MODEL 32-J IN SN-8 STAND (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations. (Stand Supersedes SN-5)
0°—650° F with SA-91 thermocouple, SA-84 lead, CB-1 connector block, and SA-86 flexible lead and thermocouple.....**$34.10**

INFRARED TEMPERATURE UNITS

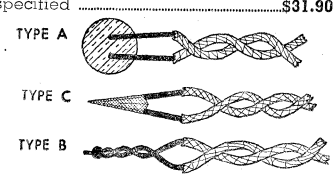


MODEL 32-J PYROMETER COMBINATION. When used with the thermocouples shown below, this unit checks operating temperatures of infrared baking, drying, and preheating. After selection of the proper matched tip, the user measures heat at the most important place in this method — at the surface of the work in process.
Here's a moderately-priced, always-handy tester for laboratory and pilot-run experiments, maintenance on the infrared heat source, and trouble-shooting on the finish itself. Equally important, the user can keep temperatures consistent and reproduce good results. Select the unit that manufacturers of finishes and of infrared ovens supply to their own field men. Like all pyrometers, this instrument is automatically compensated for ambient temperature — no need to re-set the zero adjuster when reading.

MODEL 32-J INFRARED PYROMETER COMBINATION. Indicator 0-650°F. for RP-1080 iron constantan, mounted in SN-7 sloping front metal stand 4¼" high x 4⅜" deep x 4⅛" wide; complete with two of the 35' thermocouples below (may be one type and a spare, or two types); SA-113 "A" disc type and SA-115 "B" ball type supplied if not otherwise specified **$36.30**

MODEL 32-J INFRARED PYROMETER WITH SINGLE THERMOCOUPLE. Same combination as above except SA-113 "A" disc type or one other type as specified **$31.90**

SPARE THERMOCOUPLES.

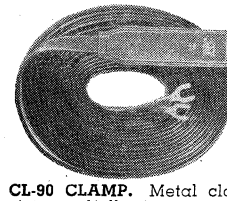


SA-113, 35' #20 asbestos-insulated duplex thermocouple with disc type "A" junction for attachment flush to surface.....**$5.25**

SA-114—35' thermocouple as above except needle type "C" junction for soft material or where crevices are present **$5.25**

SA-115—35' thermocouple as above except ball type "B" junction; an extremely durable all-purpose tip **$5.00**

RESISTANCE BULBS (FOR COLD TESTING)



SA-142. Bulb with 14' polyethylene ribbon type lead, for use only with Model 60-JRT; calibration is not interchangeable with SA-162; has no embossed number **$5.50**

SA-162. Bulb with 14' polyethylene ribbon type lead, for use only with Models 50-50 and 61-JRT; has embossed part number.....**$5.50**

CL-90 CLAMP. Metal clamp for holding SA-142 and SA-162 resistance bulbs in contact with surfaces up to ¼".....**$0.28**

TRANSFORMERS

AS-TR-2. Attachment for compartment of 61-JRT all-purpose tester, completely housed, with jumper lead and panel; reads 30 and 60 AC amp. scales on tester.....**$16.50**

AS-TR-3. Attachment for increasing usefulness of 60-JRT all-purpose tester. Includes side rails for attaching inside compartment; fully housed. Reads 30 and 60 AC amp. by dividing volt scale by 10 or 5 .....**$18.15**

TEMPERATURE ACCESSORIES

LEAD WIRES. To bring the reference junction within the pyrometer, compensating or extension lead wires should always be used. See the instrument dial for (1) the kind of lead and (2) combined resistance of lead and thermocouple. Standard leads include:

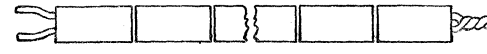
SA-82 6' compensating lead for chromel-alumel couples; duplex, stranded; asbestos-insulated, cotton-braid impregnated with moisture-proof and flame-proof compound; terminals at instrument end; other end tinned for connector block.....**$1.55**

SA-83 26' compensating lead for chromel-alumel same construction as above.....**$4.85**

SA-84 6' extension lead for iron-constantan, 1938 calibration; duplex; moisture-proof and flame-proof; same construction as above **$1.55**

SA-85 26' extension lead for iron-constantan, 1938 calibration; similar to above.....**$4.85**

SA-86 7' iron-constantan thermocouple and lead combined; twisted pair No. 20 Ga., asbestos-insulated—for intermittent use on 650° F scales; terminals at meter end; other end welded. (Resistance not interchangeable with SA-84 or SA-85).....**$1.85**



THERMOCOUPLES. For pyrometers and leads above, J-B-T thermocouples are carefully selected, standardized, and tested.

SA-87 12" No. 14 Ga. chromel-alumel, 2-hole ceramic beads, fits 5/16" hole; welded tip.....**$3.10**

SA-88 same except 24" No. 14 Ga.....**$3.85**

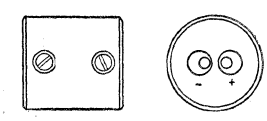
SA-89 12" No. 8 Ga. chromel-alumel, 2-hole ceramic beads, fits 7/16" hole; welded tip.....**$3.10**

SA-90 same except 24" No. 8 Ga.....**$3.85**

SA-91 12" No. 14 Ga. iron-constantan, 1938 calibration; 2-hole ceramic beads, fits 5/16" hole; welded tip.....**$2.60**

Flexible **Thermocouple,** 7' length, see SA-86 lead wire.
SA-92 same except 24" No. 14 Ga.....**$3.35**

CONNECTOR BLOCK Model CB-1. Lava connector block, withstands high temperatures, accommodates all thermocouples up to No. 6 Ga. Heavy brass connectors keep contact resistance low. Can be used independent of connector head. **$1.65**



PROTECTION TUBES. To support, enclose, and protect thermocouples like the above, especially at higher temperature or in damaging atmospheres, various wrought iron or alloy protection tubes are recommended. See Page 5 of Catalog 556 for such protection tubes and CH-6 connector head.

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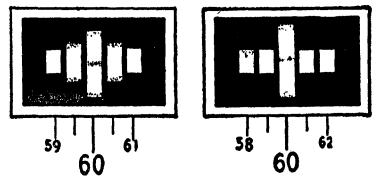
VIBRATING REED FREQUENCY METERS (PATENTED)

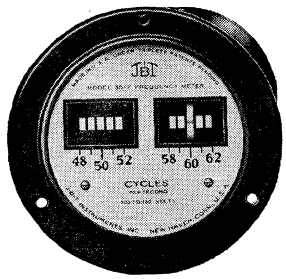
J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, and television service, on engine generator sets, in laboratories, in many types of electronic equipment, on panel and control boards, in inspection set-ups — wherever constant or known frequency is important to efficient operation of equipment. More than 14 years of continuous experience covering many thousands of these instruments are your assurance of quality for both commercial and defense applications.

The patented, simplified design used in the J-B-T meter operates on AC or interrupted DC. Each reed is adjusted to respond by resonance to but one frequency. As the current excites the driving coil, the reed "in tune" with the frequency in the coil will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. To determine frequency, simply read the reed.

The response patterns differ with the increments of frequency between reeds. For example, at 60 cycles, half-cycle steps give the broad response shown below at left, whereas full cycle steps bring the sharp response at right.



CAUTION: If a meter plugged in on a 60-cycle AC power line does not indicate exactly 60 cycles, trust the meter! Power supply may momentarily be off-frequency due to changing load conditions. All J-B-T Frequency Meters are accurately calibrated at the factory, entirely independent of frequency of power supply. Production and inspection equipment are checked regularly against National Bureau of Standards frequency signals.



10 REEDS

Range: 48-52 and 58-62 cycles. Double window for ease of reading either range. Often specified for export. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Accuracy ±0.3% at reference temperature. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

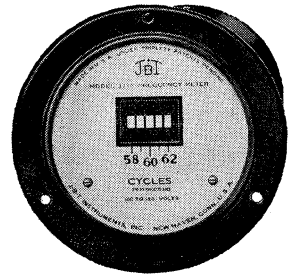
30-F, (illustrated). 48-52 and 58-62 cy., 3¼" Metal Case. **$27.50**

30-FX, 48-52 and 58-62 cy., 3½" Molded Case, MIL-M-6A mtg.

(Meter operating at 60 cycles) $27.50

5 REEDS

Used on standby power equipment. Handy for accurately measuring frequency of power source. Five reeds, 58-62 cycles, 100-130 volts. Other characteristics same as Model 30-F. See Table of Dimensions, lines 4 and 5. (This meter also is made with 7 reeds.)

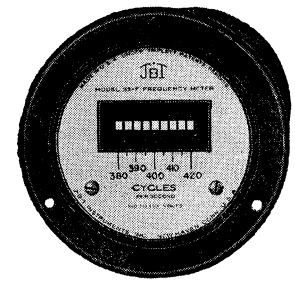


31-F, (illustrated). 58-62 cy., 3¼" Metal Case..... **$23.65**

31-FX, 58-62 cy., 3½" Molded Case, MIL-M-6A mtg..... **$23.65**

ADVANTAGES: Guaranteed accuracy at reference temperature of 77°F is ±0.3% or better of the AC frequency being measured, unless otherwise stated. Accuracy on interrupted DC may be somewhat less. High fatigue safety factor for continuous operation. Temperature compensations are not required as temperature coefficient of reeds is only approximately 75 parts per million per degree F., negative.

All meters are permanently calibrated at the factory and do not require subsequent adjustment. J-B-T reeds have relatively high Q characteristics, an especially desirable factor in electronic circuits. Wave form or external magnetic fields do not ordinarily have an adverse effect. Built with no pivoted parts and with lock washers at every critical point, these rugged meters can take rougher treatment than many instruments.

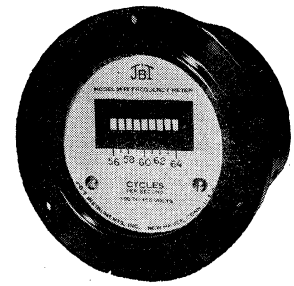


9 REEDS — 400 CY.

Used for measuring frequency of high-cycle power sources, particularly aircraft. Accuracy ±0.3% at reference temperature. Nine reeds, 380-420 cycle range. 100-130 volts; 70 ohms per volt; 1.75 watts power consumption. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

33-F, (illustrated). 380-420 cy., 3¼" Metal Case..... **$34.10**

33-FX, 380-420 cy., 3½" Molded Case, MIL-M-6A mtg..... **$34.10**



9 REEDS — 60 CY.

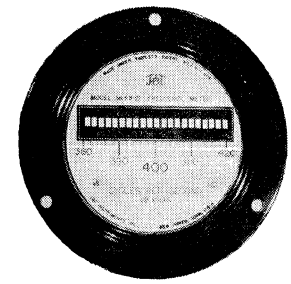
Covers a broad frequency band. Nine reeds, 56-64 cycles, or in half-cycle steps (accuracy ±0.2%) 58-62 cycles. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

34-F, 56-64 cy., 3¼" Metal Case, 1-cycle steps..... **$27.25**

34-FX, (illustrated). 56-64 cy., 3½" Molded Case, MIL-M-6A mtg. **$27.25**

34-F-Z, 58-62 cy., 3¼" Metal Case, ½-cycle steps..... **$28.90**

34-FX-Z, 58-62 cy., 3½" Molded Case, MIL-M-6A mtg..... **$28.90**



18 OR 21 REEDS

Advanced design offers 21 reeds as an interchangeable 3½" panel meter with 2-cycle intervals for close reading over the band of 380 to 420 cycles per second. Accuracy ±0.3% at reference temperature. The reed flag size is necessarily smaller than the 9-reed 400-cycle meter, sucn as the model 33-FX, but the 21 reeds are located in an enlarged window 2" wide with flags 3/32" high x 1/16" wide to give maximum readability. A revised internal construction for mounting the reeds in one clamp assures ruggedness. This instrument and its variations are particularly useful where unusually close indication of frequency throughout the band has not been available heretofore. These meters are not regularly stocked. See Table of Dimensions, line 5.

36-FX-21, (as illustrated). 380-420 cycles, 21 reeds, 28 volts operation, 3½" Molded Case; 17 ohms per volt; 1.7 watts power consumption. **$51.60**

36-FX-21-115, (as illustrated). 380-420 cycles, 21 reeds, 100-130 volts; 50 ohms per volt; 2.5 watts power consumption..... **$52.80**

30-FX-18, (not illustrated). 46-54 and 56-64 cycles, 18 reeds in one window with two groupings, 100-130 volts; 300 ohms per volt; 0.35 watts power consumption..... **$36.30**

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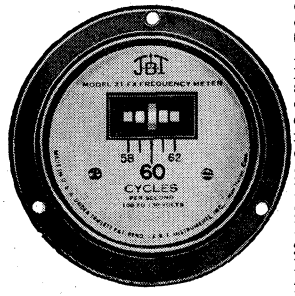
Net

2½" METERS — 5 REEDS

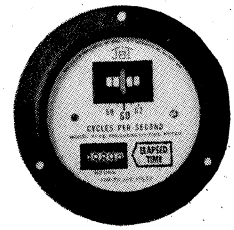
MODEL 21-FX, illustrated, matches other 2½" panel instruments. Meets ASA C39.1-1951 and MIL-M-6A (Type MR 24 or MR 25) in depth of case and mounting dimensions. Weighs only 4½ ozs.; 5 reeds; 850 ohms per volt; 0.15 watt power consumption. Also 116 to 124 cy.; 250 ohms per volt; 0.5 watt power consumption. 390 to 410 cy.; 100 ohms per volt; 1.3 watts power consumption. Flush panel mounting, see Print MD-20, also Table of Dimensions, Line 2.



(Operating at 60 cycles)

21-FX, 58-62 cy., 2-11/16" Molded Case, 1 cy. steps.....**$22.55**
21-FX, 116-124 cy., 2-11/16" Molded Case, 2 cy. steps.....**$25.30**
21-FX, 390-410 cy., 2-11/16" Molded Case, 5 cy. steps.....**$27.50**
21-FX, 380-420 cy., 2-11/16" Molded Case, 10 cy. steps..**$27.50**

ELAPSED TIME — FREQUENCY METERS

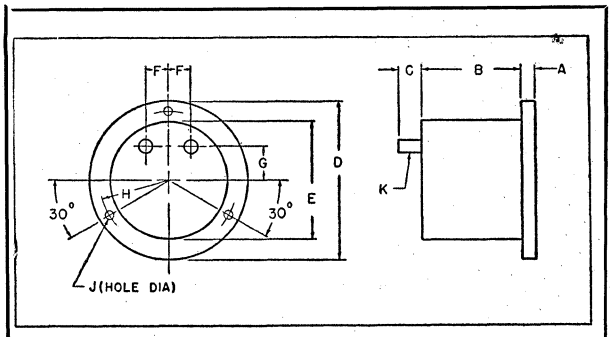


31-FE SERIES. To conserve panel space and centralize information, this panel instrument combines the elapsed time or running time meter with frequency reeds. It is used on motor generator sets and on electrical equipment where maintenance routine calls for periodic servicing. The J-B-T design, proved by years of field experience, uses a separate exciting coil for the reeds to achieve close control of reed amplitude and frequency. Reads 0-9,999.9 hours, and 58-62 cycles with 5 reeds, for 100-130 volt operation; self starting. Tenths shown in red, all other numerals in black. Black metal case with front mounting per Table of Dimensions, line 6. Power consumption is 3.5 watts. For variations having 7, 9, or 11 reeds, not regularly stocked, such as Model 34-FE, see revised print SK-45.

31-FE, 3¼" metal case.....**$33.00**
31-FEX-1, (per print SK-44—not regularly stocked) like Model 31-FE, except with 3½" metal flange permanently attached for MIL-M-6A front mounting per line 7, Table of Dimensions.....**$34.10**

RUGGEDIZED FREQUENCY METERS

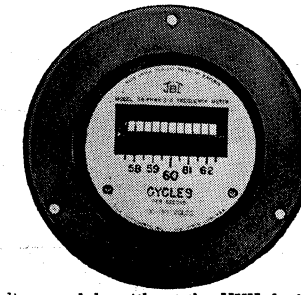
The inherently sturdy construction of vibrating reed meters usually does not need further ruggedization. Sealed meters can be supplied, on special order, to meet extra severe shock and vibration requirements. Such reed meters carry the suffix RUG.



NOTE ON METER VOLTAGE

J-B-T Vibrating Reed Frequency Meters of all sizes normally are made with two studs and are designed to be connected across one phase of a multi-phase line. The single phase voltage where the meter will be used thus becomes the voltage to be specified for the meter. Special meters with extra studs are made only for the purpose of reading two or more voltages, not additional phases.

3½" SEALED METERS



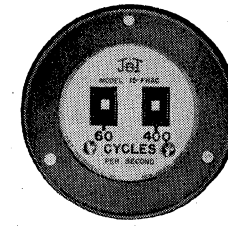
FHXX TYPE sealed meters, glass-to-metal construction, with solder terminals and detachable flange, supersede the former FHX sealed meters (Print SK-24). While JAN-I-6 and MIL-M-6A (Type MR36) do not refer to frequency indicators, the FHXX series uses the front mounting dimensions, and meets or exceeds the sealing and electrical requirements including the 3000 volt breakdown. Mounting dimensions are shown below. Standard voltage is 100-130. Electrical characteristics and accuracy are the same as for corresponding models without the HXX designation. Every meter tested in water where the absolute pressure of the air above the water is reduced to 2.5 inches of mercury (approx. 57,000 ft. altitude) and is maintained for one minute. While not regularly stocked, these meters are in production. For dimensions, see Table, line 8.

30-FHXX, 10 reeds, 48-52 cy. and 58-62 cy.....**$34.30**
31-FHXX, 5 reeds, 58-62 cy.....**30.45**
33-FHXX, 9 reeds, 380-420 cy.....**40.90**
34-FHXX, 9 reeds, 56-64 cy.....**34.05**
34-FHXX-11, 11 reeds, 55-65 cy.....**36.25**
34-FHXX-Z-11, illustrated, 11 reeds, 57.5-62.5 cy.....**37.90**

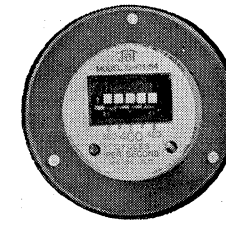
2½" SEALED METERS

On special order, J-B-T supplies 2½" sealed frequency meters with mounting per Type MR 26 of MIL-M-6A. See Table of Dimensions, Line 3. Typical is:
21-FHXX, 5 reeds, 58-62 cy. 100-130 volts **$34.85**

1½" SEALED METERS



MODEL 15-FHAC. Widely used as the frequency standard on audio-oscillators, the model illustrated operates 2 reeds, 60 and 400 cycles, at approximately 8-10 volts on 0.04 watts for a cathode follower circuit. Accuracy ±0.5% at 77°F. Steel case has telephone black case, solder terminals. Barrel is 1½" diameter; 2-3/32" detachable flange FL-4 covers glass-to-metal seal. See Table of Dimensions, line 1.
15-FHAC **$20.30**



15-FH-5 METERS (lower photo) also use the 1½" black metal case with 2-3/32" detachable flange and glass-to-metal seal. The 15-FH-5 series features 5 reeds in a row for 100-130 volt operation. Specified where size and weight are important. Same 100% inspection for approx. 57,000 ft. altitude as FHXX types. Standard meter, but not regularly stocked. See Table of Dimensions, line 1.
15-FH-54, 5 reeds, 390-410 cycles, 2.5 watts power consumption.....**$25.85**
15-FH-56, 5 reeds, 58-62 cycles, 0.25 watts power consumption.....**$21.45**
15-FH-400, 5 reeds, 380-420 cy., 2.5 watts power consumption.....**$25.85**

FREQUENCY METERS, TABLE OF DIMENSIONS, INCHES

	MODEL	MIL-M-6A* MOUNTING	A	B	C	D	E	F	G	H	J	K	TERMINAL DESCRIPTION
Line 1	15-FH Series	—	1/8	1-9/16	3/8	2-3/32	1-1/2	3/8	3/8	0.875	0.125		Solder, 1/16" dia. hole
Line 2	21-FX Series	MR 24, MR 25	13/64	1-3/8	23/32	2-11/16	2-5/32	7/16	9/16	1.220	0.116		10-32 NF-2 studs
Line 3	21-FHXX Series	MR 26	3/32	1-27/32	11/16	2-11/16	2-1/8	1/2	1/2	1.220	0.125		Solder, 3/32 hole
Line 4	30-F to 34-F Series	—	7/64	2-3/32	23/32	3-1/4	2-9/16	7/16	7/8	1.453	0.150		10-32 NF-2 studs
Line 5	30-FX to 36-FX Series	MR 34, MR 35	19/64	2	23/32	3-1/2	2-11/16	7/16	7/8	1.580	0.150		10-32 NF-2 studs
Line 6	31-FE Series	—	7/64	3-7/8	23/32	3-1/4	2-9/16	7/16	7/8	1.453	0.150		10-32 NF-2 studs
Line 7	31-FEX-1 Series	MR 34, MR 35	7/64	3-7/8	23/32	3-1/2	2-9/16	7/16	7/8	1.453	0.150		10-32 NF-2 studs
Line 8	30-FHXX to 34-FHXX Series	MR 36	3/32	2-1/4	5/8	3-1/2	2-11/16	1/2	3/4	1.580	0.150		Solder, 3/32 hole

* Also JAN-I-6 and ASA C39.1-1951 Mounting

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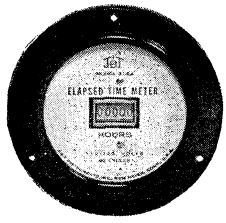
ELAPSED TIME METERS; 4" AND PORTABLE FREQUENCY METERS

ELAPSED (OR RUNNING) TIME METERS — 60 Cycles

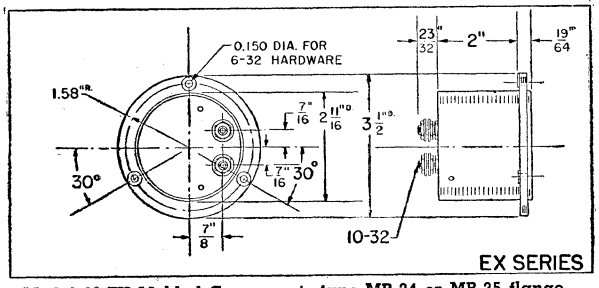


MODEL 31-EX. To record operating time of AC electrical and electronic equipment, this self-starting synchronous instrument registers in 1/10th hour steps to 9,999.9 hours, then automatically re-sets. Shows tenths in red numerals, all others in black. Black molded case per diagram below matches FX, 3½" frequency meters, and fully encloses all parts. J-B-T engineers recommend AC elapsed time meters for superior accuracy, especially where voltage or ambient temperatures vary widely. Popular for tube life, TV equipment, punch presses, conveyors, oil burners, maintenance schedules, etc. Types for 99,999 hours or for 50 cycles are available on special order.

31-EX, 60 cy., 110-125 volts **$15.95**
31-EX-200, 60 cy., 230 volt (not regularly stocked) **$17.05**
MODEL 31-ES, (Square Case), Same as 31-EX except black molded case 3" x 3", per print SK-34; 60 cy., 110-125 volts (not regularly stocked) **$17.05**

ELAPSED TIME METERS—Tenths of Minutes

MODEL 31-EXM, 60 cycles, 110-125 volts, reading 0-9,999.9 **minutes;** for short-run applications or readings at closer intervals than 31-EX. Tenths of minutes in red, minutes in black numerals, otherwise identical with 31-EX **$16.25**



Model 31-EX Molded Case, meets type MR-34 or MR-35 flange dimensions of MIL-M-6A, also JAN-I-6 and ASA C39.1-1951

3½" SEALED ELAPSED METERS—60 Cycles

MODEL 31-EHXX. Where rugged requirements make a completely sealed elapsed time meter desirable, this glass-to-metal construction, with flat glass front and 3½" diameter separable flange, often is specified. Heavy-duty solder terminals are supplied. Every instrument is checked in a vacuum chamber. Overall dimensions and appearance match the FHXX series sealed frequency meters. Maximum voltage between terminals and case, 1000 volts, R.M.S. See print SK-53. The meter registers in 1/10 hour steps to 9,999.9 hours, then automatically re-sets. Tenths indicator is in red, all others in black.

31-EHXX, 60 cy., 110-125 volts **$19.75**

2½" SEALED ELAPSED TIME METERS—60 Cycles

MODEL 21-EHXX. This new 2½" sealed meter, with front mounting dimensions the same as Type MR-26 electrical indicating instruments in MIL-M-6A, nevertheless offers a full-size counter reading 0-9,999.9 hours in 1/10th hour steps and a rugged self-starting synchronous motor. Glass-to-metal seal makes the instrument completely tamper-proof. Ask for Print SK-68.

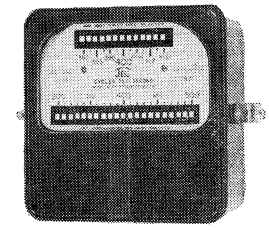
21-EHXX, 60 cycles, 110-125 volts **$24.75**

→SEALED ELAPSED TIME METER—400 Cycles←

MODEL 33-EHXX. Meeting a long-felt need for a stable 400-cycle elapsed time meter compact enough to fit in a 3½" flanged case, with all parts enclosed, is this new 400-cycle elapsed time meter. The instrument now is being produced only in sealed construction, glass-to-metal, with separable flange, heavy-duty solder terminals, and flat glass front. External appearance matches FHXX series and Model 31-EHXX sealed, 60-cycle, elapsed time meter. A slightly larger case is used per drawing SK-61.

33-EHXX, 400 cy., 0-9,999.9 hours, 1/10 hour steps, 110-125 volts. **$58.00**

400 CYCLE BROAD AND VERNIER INDICATORS

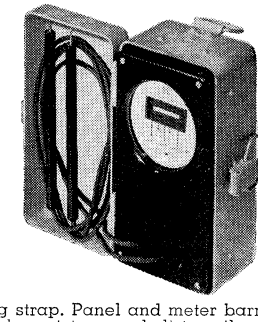


MODEL 41-FX. This 2-window frequency meter is widely used for electronic and aircraft testing in commercial and military applications. The lower window shows a broad range of 300-500 cycles, with 21 reeds in 10-cycle steps. The upper window gives a vernier effect with 13 reeds indicating 380-420 cycles in 4-cycle steps, with 2-cycle increments in the critical range of 396-404 cycles. Housed in black molded case with flush front 4 5/16" wide x 4 3/8" high and 2 29/32" deep behind panel over studs, the instrument blends well with other panel meters. Made for 100-130 volt operation. Also available with 4 studs for 200-240, 115, and 30 volts as used in aircraft analyzers. Power consumption is 2 watts at 30 volts, 4.6 watts at 115 volts, 7.7 watts at 200 volts. Full dimensions on drawing MD-38.

41-FX, 100-130 V **$120.00**
41-FX, triple voltage, without switch **135.00**

PORTABLE FREQUENCY TESTERS

METAL CASE (TS-328A/U, 33-FP-9M, 34-FP-9M)

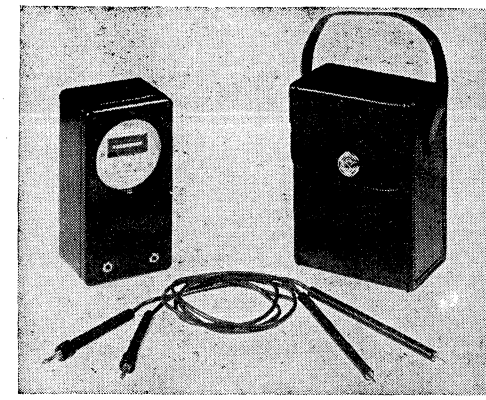


This portable frequency meter meets the exacting test requirements of aviation, signal and communication equipment. Its accuracy of ±0.3% results from the J-B-T reed construction, based on 13 years of field and laboratory use, plus care in manufacture and thorough run-in for permanent calibration. The sturdy, light-weight case of anodized aluminum with gray protective finish locks tightly when not in use. The detachable cover is the only removable portion; leads, sub-panel, and meter assembly are permanently attached. Case dimensions are 6⅜" long x 4" wide x 3-9/32" deep with attached D-ring for belt or carrying strap. Panel and meter barrel are molded in one piece to exclude moisture and dirt; coil and electrical connections are fungus treated. When made to Government specifications, using pertinent name plate, the 9-reed, 380-420 cycle model is known as TS-328A/U. It has the same case exterior as the TS-297/U multimeter. See print SK-63-10.

33-FP-9M, 380-420 cy., 9 reeds, 100-130 volts, 70 ohms per volt, 1.75 watts power consumption; commercial quality and packing. **$49.25**

34-FP-9M, 60 cycle portable same as above, except 9 reeds, 56-64 cy., 100-130 volts, 130 ohms per volt, 1 watt power consumption, commercial quality and packing **$42.35**

MOLDED CASE (33-FP-9L, 34-FP-9L)



Handy, compact, portable instrument of same ±0.3% accuracy and electrical characteristics as above. Housed in sturdy molded case 5⅞" x 3-1/16" x 2⅝". Black polished top grain leather carrying case 6-3/32" x 4¼" x 2¾" and 4' leads complete with sharp 5" insulated test picks and banana plugs also supplied. This model is popular for laboratory and engineering tests.

33-FP-9L, 380-420 cy., 9 reeds, 100-130 volts **$47.60**
34-FP-9L, 56-64 cy., 9 reeds, 100-130 volts **$40.70**

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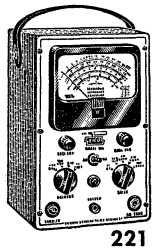
EICO LABORATORY PRECISION KITS • INSTRUMENTS • HI-FI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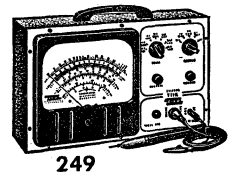
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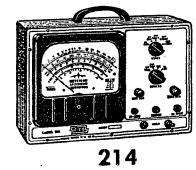
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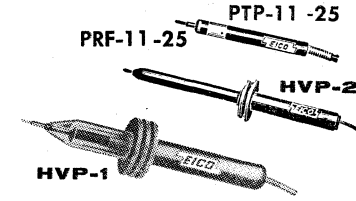

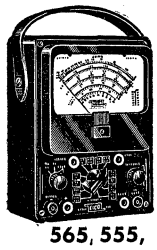
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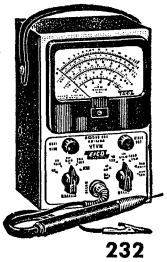
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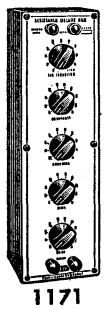
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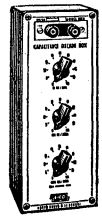
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803

Geiger Counter #803
Professional, all-electronic, rugged. Detects ore with as little as .01% uranium, reacts to even .05 milliroentgens/hour. — with flashing neon lamp and headphone clicks. Super-sensitive 900-volt geiger tube, thin brass envelope. Low-drain long-life power supply. Radioactive sample supplied. (Less 2-67.5 V and 2-1.5 V batteries).
KIT.....$19.95 Factory wired.....$29.95

Decade Resistance Box #1171
Exceptional accuracy, wide range and easy operation. Extremely wide range of 0-99,999 ohms in 1-ohm steps with 5 decades and ½% precision at any setting. Comparator position permits instant substitution of actual equivalent component of the resistance value indicated on the box. Uses ½% accuracy 1-watt resistors. Rugged, trouble-free construction. Heavy-gauge quality steel cabinet. Size: 12" x 3½" x 3". Ship. wt. 3 lbs.
KIT.....$19.95 Factory wired.....$24.95

Decade Condenser Box #1180
Uses only highest quality precision silver-mica capacitors: ±1% accuracy, 500 VDC rated, .001 power factor, minimum of 50,000 megs insulation resistance. Capacitors arranged in 3 decades to provide extremely wide range of 100 mmf to 0.111 mf in steps of 100 mmf. Smooth-action, positive detent ceramic water switches with silver-plated contacts. 5-way jack-top binding posts. Excellent for lab and circuit development work. Size: 9" x 3½" x 3½". Ship. wt. 3 lbs.
KIT.....$14.95 Factory wired.....$19.95

NEW Peak-to-Peak VTVM #232 complete with New Dual-Purpose AC/DC Uni-Probe
(Pat. Pend.)
EICO's revolutionary new engineering design! The professional peak-to-peak VTVM that beats 'em all—in laboratory precision features AND low prices! Measures DIRECTLY p-p voltage of complex and sine waves: 0-4, 14, 42, 140, 420, 1400, 4200 volts p-p. DC/RMS sine voltage ranges: 0-1.5, 5, 15, 50, 150, 500, 1500 volts (up to 30,000 V. with HVP probe). Resistance ranges: 0.2 ohms to 1000 megs. 7 non-skip ranges on every function. 4 functions: +DC Volts, —DC Volts, AC Volts, Ohms. Uniform 3 to 1 scale ratio for extreme wide-range accuracy. Large 4½" meter in can't-burn-out circuit. Calibration without removing from cabinet. Zero-center for TV-FM discriminator alignment. One zero-adjustment for all functions and ranges. Frequency Response: 30 cps - 3 mc. 1% precision ceramic multiplier resistors. Exceptional circuit stability and accuracy. New satin finish etched panel, and grey wrinkle steel case. Leather handle. New compact size for extra-easy portability: 8½" x 5" x 5". Ship. wt. 7 lbs.
KIT.....$29.95 Factory wired.....$49.95

NEW Dual-Purpose AC/DC Uni-Probe
(Pat. Pend.)
Available separately for EICO No. 221 and other VTVMs.
Terrific time saver! Only 1 probe performs all functions — a half-turn of probe-tip selects DC or AC-OHMS!
KIT.....$4.95 Factory wired.....$6.95

NEW Deluxe Peak-to-Peak VTVM #249 with 7½" Meter and Exclusive Uni-Probe
(Pat. Pend.)
ALL the outstanding and exclusive features of Model 232 — PLUS the convenience and readability of its big 7½" meter. An ideal bench instrument.
KIT.....$39.95 Factory wired.....$59.95

Vacuum Tube Voltmeter #221
The reliable, performance proved EICO VTVM — ever-popular universal instrument for all TV/radio/electronics servicing. Over 50,000 in use! Large 4½" meter in can't-burn-out circuit. Zero center for TV/FM discriminator alignment. 4 functions: +DC Volts, —DC Volts, AC Volts, Ohms. Electronic AC/DC ranges: 0-5, 10, 100, 500, 1000 volts. Reads up to 30,000 volts with HVP accessory probe. Reads peak-to-peak with PTP accessory probe. 5 Resistance ranges: 0.2 ohms to 1000 megs. 5 DB ranges: —20 to +55. DC input resistance: 25 megs. 1% precision ceramic multiplier resistors. Double-triode bridge circuit for extra stability and accuracy. Rugged grey wrinkle steel case; 3-color etched rubproof panel; leather handle. Complete with AC, DC and common leads. Size: 9-7/16" x 6" x 5".
KIT.....$25.95 Factory wired.....$39.95

Deluxe VTVM #214 with 7½" Meter
KIT.....$34.95 Factory wired.....$54.95
ALL the versatility and performance-proven features of Model 221 — PLUS the extra convenience and legibility of its big 7½" meter. An excellent bench instrument. Size: 9" x 13¼" x 6". Ship wt. 11 lbs.

Prices 5% higher on West Coast.

NEW Vacuum Tube Voltmeter Probes
*VTVM PEAK-TO-PEAK PROBES: For use with EICO or any VTVM. For direct reading of peak-to-peak voltages directly on VTVM DC scales. Model PTP-11: For any 11 megohm DC input res. VTVM. MODEL PTP-25: For any 25 megohm VTVM. Size: O.D. 5/16", L. 6". Ship. wt. 4 oz.
Either Model,
KIT.....$4.95 Factory wired.....$6.95

*VTVM RF PROBES: For RF measurements up to 250 mc. Accuracy ±10%. MODEL PRF-11: For any 11 megohm VTVM. MODEL PRF-25: For any 25 megohm VTVM. Size: O.D. 5/16", L. 6". Ship. wt. 4 oz.
Either Model,
KIT.....$3.75 Factory wired.....$4.95

*All the above new probes have ALL these EXCLUSIVE features: Fully shielded. Rugged terminal board mounting of all parts. Shock-mounted floating construction. Easy accessibility of all parts.

HIGH VOLTAGE PROBE: For use with EICO or any VTVM or 20,000 ohms/volt multimeter. Measures up to 30,000 volts DC in TV circuits. New streamlined design and 6-way safety protection: anti-dirt, anti-moisture design; 2 large flashguards; completely enclosed resistor; insulated grip (no metal touches your hand); anti-corona probe tip; insulated high voltage cable. Supplied with high quality resistor to match your instrument. Size: dia. 2¼", L. 11". Ship wt. ¾ lb.
Model HVP-2.....$4.95 Model HVP-1.....$6.95

6 EICO VOLT-OHM-MILLIAMMETERS

565 20,000 Ohms/Volt Multimeter
KIT $24.95. Wired $29.95.
• 31 FULL SCALE RANGES • DC/AC/OUTPUT VOLTS: 0-2.5, 10, 50, 250, 1000, 5000. • DC CURRENT: 0-100 ua; 10, 100, 500 ma; 10 Amp. • OHMS: 0-2000, 200K, 20 meg. • 5 DB RANGES: —12 to +55. • LARGE 4½" 50 UA METER MOVEMENT. • HIGH-IMPACT Bakelite case. 6¾" x 5¼" x 3". Ship. wt. 2¾ lbs.

555 20,000 Ohms/Volt Multimeter
KIT $29.95. Wired $34.95.
As above, with 1% precision resistors.

566 1000 Ohms/Volt Multimeter
KIT $14.90. Wired $18.95.
RANGES: Same as Model 536 (see below), plus 7 output voltage ranges. Large 4½" 400 ua meter movement. 6¾" x 5¼" x 3". Ship. wt. 3 lbs.

556 1000 Ohms/Volt Multimeter
KIT $16.90. Wired $23.50.
Same as Model 566, with 1% precision resistors.

536 1000 Ohms/Volt Multimeter
KIT $12.90. Wired $14.90.
• 31 1000 OHMS/VOLT FULL-SCALE RANGES! • DC/AC VOLTS: Zero to 1, 5, 10, 50, 100, 500, 5000. • DC/AC CURRENT: 0-1, 10 ma.; 0.1, 1 Amp. • OHMS: 0-500, 100K, 1 meg. • 6 DB RANGES: —20 to +69 • LARGE 3" 400 UA METER MOVEMENT. • HIGH-IMPACT Bakelite case. 6¼"x3¾"x2". Ship. wt. 2 lbs.

526 1000 Ohms/Volt Multimeter
KIT $13.90. Wired $16.90.
As above, with 1% precision resistors.

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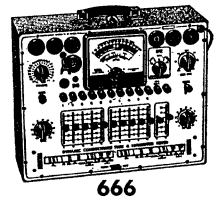
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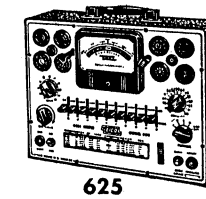
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PD, PLC, PSD

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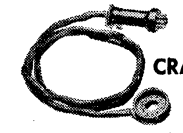
CRA

NEW! COLOR and Black-&-White Lab & TV 5" OSCILLOSCOPE #460

The FINEST professional 5 mc wide-band scope value. Ideal for research, h-f & complex waves, plus Color & Monochrome TV servicing. Flat from DC to 3.58 mc ±1 db (color burst freq.), flat DC to 4.5 mc +1, —3 db. Vert. sens. 25 rms mv/in. Vert. Z 3 megs. Has the following outstanding features not found in scopes up to several times its price, kit or wired: VERTICAL AMPLIFIER: direct-coupled (DC) thruout to eliminate l-f phase shift; push-pull thruout for negligible distortion; K-follower coupling between push-pull pentode stages for extended h-f resp. (minimizes h-f phase shift, extends useful resp. to 10 mc); full-screen undistorted vert. defl; 4-step freq-compensated decade step attenuator up to 1000:1. SWEEP CIRCUIT: perfectly linear sweeps, 10 cps — 100 kc (ext. cap. for down to 1 cps); pre-set TV vert. & hor. positions (30 & 7875 cps); automatic sync. ampl. & limiter eliminates sync amplitude adj. PLUS: direct or cap. coupling; bal. or unbal. inputs; edge-lit engraved lucite graph screen; dimmer; anti-glare filter; bezel fits std photo equipt. OTHER IMPORTANT FEATURES: High intensity trace CRT. Finest sq. wave resp. (.06 usec rise time). Push-pull hor. ampl., flat to 400 kc, sens. 0.6 rms mv/in. Built-in voltage calibration. Intensity mod. Sawtooth & 60 cps outputs. Astigmatism control. Retrace blanking. Instant, drift-free full-screen vert. positioning & 2X full-screen hor. positioning. Bal., cal., astig. adj. externally accessible. 5UP1 CRT, 2-6AU8, 2-6CB6, 1-12AU7A, 2-6J6, 1-6AX5, 1-1V2. Deep-etched satin aluminum panel, rugged grey wrinkle steel cabinet. Designed for easy building at home with no special equipment. 13" x 8½" x 16". Ship. wt. 30 lbs.

KIT.....$79.95 Factory wired.....$129.50

7" Push-Pull Oscilloscope #470

America's greatest scoop in big-scope value — way up in versatility, way down in price. • Boosted vertical sensitivity, 10 mv rms/inch. • Extended flat frequency response, 10 cps to 1 MC (±2 db). • 3-step frequency-compensated attenuator. • Cathode follower input. • Internal voltage calibrator. • Directly calibrated screen. • Extended sweep range, 15 cps to 100 ks. • Internal positive or negative, external, and line sync. • On front panel: sawtooth, 60 cps outputs; intensity modulation and external sync inputs. • Variable phasing of internal 60 cps sweep. • Direct connection to CRT plates available. • Size: 10" x 15" x 15". Ship. wt. 33 lbs.

KIT.....$79.95 Factory wired.....$129.50

5" Push-Pull Oscilloscope #425

All-new laboratory-precision scope with all the extra sensitivity and response for precise servicing of TV, FM and AM sets. • Push-pull undistorted vertical and horizontal amplifiers. • Boosted sensitivity, .05 to .1 rms volts/inch. • Useful to 2.5 MC. TV-type multivibrator sweep circuits, 15 cps — 75 KC. • Z-axis intensity modulation feature. • Dual positioning controls move trace anywhere on screen. • Complete with 2-6J5, 3-6SN7, 2-5Y3, and 5" C.R. Tube. • 3-color etched rub-proof panel; rugged steel case. 115 v., 60 cycle AC. Size: 8½" x 17" x 13". Ship. wt. 29 lbs.

KIT.....$44.95 Factory wired.....$79.95

EICO NEW Oscilloscope Probes

*OSCILLOSCOPE DIRECT PROBE: Fully-shielded for TV waveform tracing in low impedance or low frequency circuits where effect of cable capacity is unimportant and full scope sensitivity is desired. Eliminates stray pick-up and signal re-radiation. Size: O.D. 5/16", L. 6". Ship. wt. 4 oz.

Model PD
KIT.....$2.75 Factory wired.....$3.95

*OSCILLOSCOPE LOW CAPACITY PROBE: For TV waveform tracing in high impedance, high frequency or wide-band circuits. Eliminates distortion from overloading or frequency discrimination. Size: O.D. 5/16", L. 6". Ship. wt. 4 oz.

Model PLC
KIT.....$3.75 Factory wired.....$5.75

*OSCILLOSCOPE DEMODULATOR PROBE: For signal tracing and checking of TV and radio RF and IF stages; for stage-by-stage alignment; and for locating hum modulation, ratio detector marking and marker generator calibration. Demodulates amplitude-modulated carriers between 150 kc and 250 mc. AF response flat from 20 cps to 6 kc. Size: O.D. 5/16", L. 6". Ship. wt. 4 oz.

Model PSD
KIT.....$3.75 Factory wired.....$5.75

*All the above new probes have ALL these EXCLUSIVE features: Fully shielded. Rugged terminal board mounting of all parts. Shock-mounted floating construction. Easy accessibility of all parts.

Oscilloscope Voltage Calibrator #495

Makes your oscilloscope a wide-range, accurate, peak-to-peak AC electronic voltmeter. Enables measurement of peak-to-peak voltages of complex and TV sweep circuit waveforms seen on a scope; calibration of Vertical and Horizontal scope amplifiers; determination of voltage amplitude required for intensity modulation or synchronization. Square wave output at power-line frequency with full-scale readings of 0.1, 1, 10 or 100 volts. Output variable from zero, and accuracy ±5% of full-scale on each range. Size: 5" x 7⅝" x 4". Ship. wt. 4 lbs.

KIT.....$12.95 Factory wired.....$17.95

Electronic Switch #488

Makes your ONE scope more useful than TWO in many cases. Simultaneously observe 2 patterns on 1 scope's screen: for direct comparison of voltage and current amplitudes, waveforms, frequencies and phase relationships; setting up voltage reference level or zero base line; checking amplifier distortion or cross-over networks. Continuously variable switching rates in 3 ranges from less than 10 cps to over 2000 cps. Very useful as a square wave generator over same range. 5 tubes: 2-6AU6, 2-12AU7, 1-6X5, transformer-operated. 105-125 VAC, 50/60 cps. Size: 6" x 8" x 6". Ship. wt. 7 lbs.

KIT.....$23.95 Factory wired.....$39.95

Tube Tester #625

Brand new professional tube tester and merchandiser. EICO Service-Engineered for unbeatable value! Large 4½" full-vision meter. Tests CONVENTIONAL and TV TUBES including 9-pin miniatures. New lever-action switches — tests EVERY tube element. Illuminated "Speed Roll-Chart." 2 grid caps. Short and open-element tests. Spare socket for new tubes. Protective overload bulb. Electronic rectifier. 3-color etched panel; rugged steel case. 115 v., 60 cycle AC. Size: 12½" x 9½" x 4¼". Ship. wt. 12 lbs.

KIT.....$34.95 Factory wired.....$49.95

Picture Tube Test Adapter #CRA

(for EICO Models 625 and 625-K Tube Testers)
With the new Model CRA and your EICO Tube Tester, you check all sizes TV Picture Tubes as fast and easily as any ordinary tube. Model CRA gives a quantitative measurement of cathode emission, and tests for filament continuity and shorts between elements. Comes complete with standard 12-pin TV tube socket, octal plug-in connector, and extra long 4-foot cable that enables Pix Tube to remain in set WHILE TESTING.

Factory wired.....$4.50

Cathode Ray Tube Checker #630

Easy, fast, dependable testing of all sizes TV picture and oscilloscope type C-R tubes—right in the set or carton. Bridge measurement of peak beam current (proportional to screen brightness) using neon lamp as sensitive balance indicator. Balancing control calibrated directly in terms of tube condition. Detects open and shorted elements. Size: 9½" x 6½" x 3". Ship. wt. 5 lbs.

KIT.....$17.95 Factory wired.....$24.95

NEW! DYNAMIC CONDUCTANCE TUBE & TRANSISTOR TESTER #666

Unexcelled testing thoroness and accuracy. Checks transistor collector current and Beta using internal dc power supply. Tests all receiving tubes including subminiatures (and Color and Monochrome tv pic tubes with accessory adapter). Composite indication of mutual conductance, plate conductance, and peak emission. Simultaneous sel. of any 1 of 4 combinations of 3 plate, 3 screen, and 3 ranges of control grid voltage. Grid voltage variable over 3 ranges with 5% accurate pot. New series-string voltages for 600, 450 and 300 ma types. 5 ranges meter sens. with 1% precision shunts and 5% accurate pot. 10 SIX-position lever switches for free-point connection of every tube pin or cap. 10 push-buttons for rapid insert of any tube element in leakage circuit and speedy sel. of individual tube sections. Direct reading of inter-element leakage in ohms. New gear-driven rollchart. Steel case with cover and handle. Sensitive 200 ua meter.

KIT.....$69.95 Factory wired.....$109.95

Prices 5% higher on West Coast.

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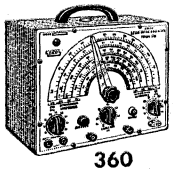
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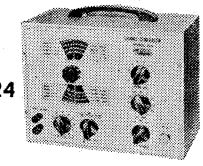
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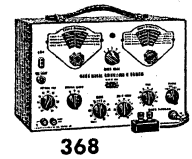
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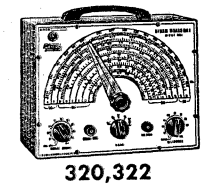
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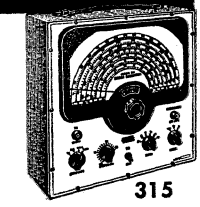
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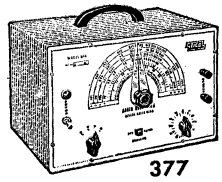
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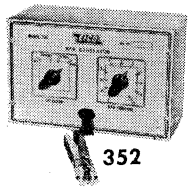
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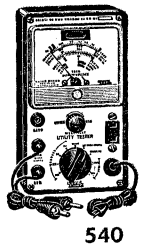
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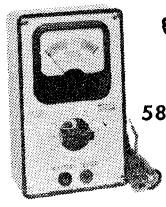
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8 GENERATORS TO CHOOSE FROM!

NEW! EICO RF Signal Generator #324

"The Best Generator Buy in the World!" say EICO customers. For IF-RF alignment, signal tracing and trouble-shooting of TV, FM, AM sets all on fundamentals . . . marker generator for alignment of new h-f and older I-f TV IF's . . . 400 cps sine wave audio testing . . . lab and experimental work. Extended frequency range: 150 kc to 145 mc on fundamentals in 6 bands; 111-435 mc on calibrated harmonics. ±1.5% frequency accuracy; 6:1 vernier tuning knob and excellent spread at most important alignment frequencies. Etched tuning dial, plexiglass windows, edgelit hairlines. Colpitts RF oscillator, directly plate-modulated by cathode follower for improved modulation. Variable depth of internal modulation 0-50% by 400 cps Colpitts oscillator. Variable gain external modulation amplifier: only 3.0 volts needed for 30% modulation. Turret-mounted slug-tuned coils. Fine and Coarse (3-step) attenuators, 50-ohm output Z. RF and AF outputs respectively 100,000 uv and up to 10 v. Tubes: 12AU7, 12AV7, selenium rectifier, xfmr-operated. 5-way jack-top binding posts for AF in/out; coaxial connector and shielded cable for RF out. Satin aluminum panel and grey wrinkle steel case. 8" H x 10" W x 4¾" D. Ship. wt. 10 lbs.

KIT.....$26.95 Factory wired.....$39.95

Deluxe RF Signal Generator #315

Laboratory-precision generator EICO Service-Engineered with 1% accuracy. Frequency range: 75 kc-150 mc in 7 calibrated ranges. Extremely stable. Illuminated hairline VERNIER TUNING. VR stabilized line supply. 400-cycle pure sine wave with less than 5% distortion. Tube complement: 6X5, 6SL7, 6C4, VR-150. 3-color etched panel; rugged steel case. 115 v., 60 cycles AC. Size: 12" x 13" x 7". Ship. wt. 21 lbs.

KIT.....$39.95 Factory wired.....$59.95

TV-FM Sweep Generator #360

Covers all TV-FM alignment frequencies, 500 KC - 228 MC. Vernier-driven dial. Center of each of 13 TV channels marked on front panel. Sweepwidth variable 0-30 MC with mechanical inductive sweep — permits gain comparison of adjacent TV channels. Crystal marker oscillator variable amplitude. Provides for injection of external marker. Phasing control. Complete with HF tubes. Less Crystal. Size: 10" x 8" x 6¾". 5 MC and 4.5 MC Crystals each $3.95. Ship. wt. 12 lbs.

KIT.....$34.95 Factory wired.....$49.95

***EICO* 5 MC and 4.5 MC Crystals $3.95 ea.**

Battery Tester #584

For accurate, true DYNAMIC test of all A and B portable radio batteries, lantern batteries, and other types — in or out of equipment. Test Positions (Volts): 1.5, 4.5, 6.0, 7.5, 9.0, 22.5, 45, 67.5, 75, 90, plus Spare Position. Test leads provided. High-impact Bakelite case and satin aluminum panel. 6¼" h x 3¾" w x 2" d.

KIT.....$9.95 Factory wired.....$12.95

NEW! Utility Tester #540

Designed expressly for "do-it-yourself" home appliance and car repairs, the #540 is extremely versatile, dependable and low in cost. It is an all-in-one combination MULTI-RANGE ac/dc voltmeter, ammeter, ohmmeter, wattmeter and leakage checker. Its special rotary switch range selector provides more convenient, surer and faster operation than comparable units. The instruction book contains an introduction to electricity, complete operating instructions, and procedures for common repair jobs. All voltage ranges (0-7.5, 15, 150, 300 volts) and current range (0-15 amps) are ac/dc. Direct-reading ohms range 0-1000 ohms. Neon lamp ac leakage test circuit permits continuity resistors between 1000 and 2,000,000 ohms and capacitors above .0005 mfd; also filament continuity and leakage between elements in radio and tv tubes. Panel outlet permits metering current up to 15 amps drawn by any appliance, motor or other device. Switch permits checking effect on line voltage. Kilowatts scale permits direct reading of power consumption. Provides "GOOD-BAD" readings on 6V and 12V automobile storage batteries, and permits checking of individual cells. Deep-etched brushed aluminum panel; rugged high-impact black bakelite case. 3½" meter in modern clear lucite case. Handy size, 13¾" x 6½" x 3½". Ship. wt. 3 lbs.

KIT.....$12.95 Factory wired.....$15.95

NEW! TV-FM Sweep Generator and Marker #368

The FINEST service instrument of this type ever offered in either kit or wired form at ANY price! Outstanding ease and accuracy in FM and TV (including Color) alignment. Entirely electronic sweep circuit with accurately biased Increductor: superb linearity on both sides of selected center freq. Newly-designed AGC circuit automatically adjusts osc. for max. output on each band with min. amplitude variations. Sweep gen. range 3-216 mc in 5 OVERLAPPING FUND. BANDS. Sweep width continuously variable from 0-3 mc lowest max. deviation to 0-30 mc highest max. deviation. Variable marker gen. range from 2-75 mc. in 3 FUND. BANDS plus a calibrated harmonic band 60-225 mc). Variable marker calibrated with int. xtal marker gen. 4.5 mc xtal included. Ext. marker provision. Double pi line filter. Edge-lit hair-lines eliminate parallax.

KIT.....$69.95 Factory wired.....$119.95

RF Signal Generators

MODEL 320: For AM-FM precision alignment and TV marker frequencies. Vernier Tuning Condenser. Highly stable RF oscillator, range: 150 KC - 102 MC with fundamentals to 34 MC. Separate audio oscillator supplies 400-cycle pure sine wave voltage. Pure RF, modulated RF or pure AF for external testing. 3-color etched panel; rugged steel case. Ship. wt. 10 lbs.

Model 320
KIT.....$19.95 Factory wired.....$29.95

MODEL 322: In addition to all the outstanding laboratory-precision qualities of the famous EICO Model 320, the brand new Model 322 features the individual calibration of each of its 5 bands.

Model 322
KIT.....$23.95 Factory wired.....$34.95

Sine & Square Wave Audio Generator #377

• Complete sine wave coverage: 20-200,000 cps. • Complete square wave coverage: 60-50,000 cps. • 2-gang tuning condenser. • All frequency range resistors have 1% or better accuracy • Large easy-reading dial calibration: 0-100 linear reference scale. • Response ±1.5 db from 60 cps to 150 kc. • Wien bridge RC oscillator. • Improved cathode follower output circuit. • Output Voltage: 10 v. at 1000 ohms load, 14 v. at 10,000 ohms and higher, 8 v. at 500 ohms on sine wave; square wave output higher. • High power output: 100mw into rated load. • Rated load impedance: 1000 ohms resistive. • Continuously variable output attenuator. • Distortion 1% of rated output. • Hum less than 0.4% of rated output. • Tubes: 6X5, 6SJ7, 2-6K6, 6SN7, 6S6 (G-E 6-watt lamp). • 3-color etched rub-proof panel; rugged steel case. 115 V., 50/60 cycles, 50 W. Size: 11⅛" x 7⅛" x 7⅝". Ship. wt. 14 lbs.

KIT.....$31.95 Factory wired.....$49.95

Bar Generator #352

Enables rapid adjustment of TV picture Vertical and Horizontal linearity without hard-to-find station-transmitted test pattern. Produces 16 to 23 V bars and 13 to 22 H bars, adjustable in number to accommodate all screen sizes. Incorporates VHF osc., RF osc., and LF multivibrator. Adjustable from Channel 2 to 6. Deluxe 3-way antenna terminal clip fits any type antenna terminal including plug-in type. Output voltage: 400,000 microvolts. Tubes: 1-12AU7, 1-6C4; selenium rectifier. Size: 5" x 7½" x 4½". Ship. wt. 6 lbs.

KIT.....$14.95 Factory wired.....$19.95

Prices 5% higher on West Coast.

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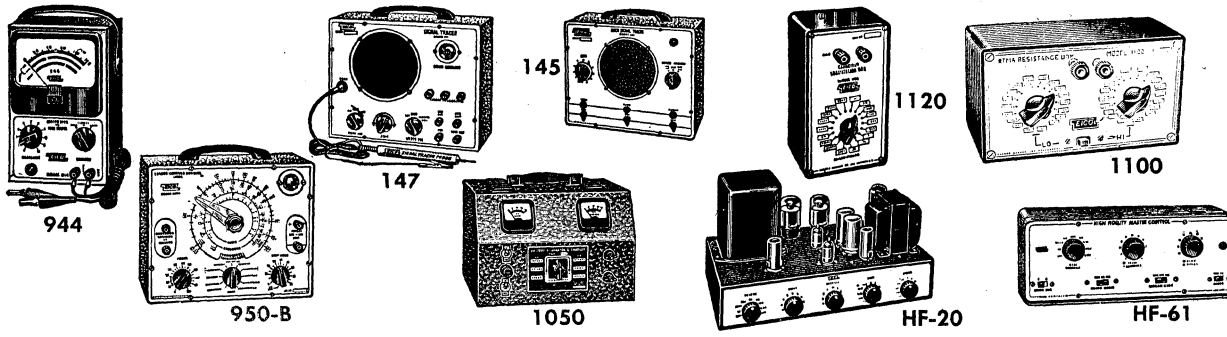

Flyback Transformer & Yoke Tester #944

Positive check of all types flybacks and yokes, in or out of set—in just seconds! Operates on the extremely sensitive grid-dip principle — shows up even 1 shorted turn. Exclusive separate calibration for air core and iron core flybacks for accurate testing of all types. Checks any inductance whose impedance is not too low. Large easy-to-read 4½" meter. 3 separate colored scales. Test continuity on yokes, coils, speakers, switches, etc. Smart professional styling—New satin finish etched panel and grey wrinkle steel case. New compact size for extra-easy portability: Size: 8½" x 5" x 5". Ship. wt. 5 lbs.

KIT.....$23.95 Factory wired.....$34.95 .

***EICO* Resistance-Capacitance Bridge & R-C-L Comparator #950-B**

This brand new professional resistance-capacitance bridge-type instrument is specially EICO Service-Engineered for extremely wide usefulness. It directly reads 0.5 ohms to 500 megs resistance (4 ranges), 10mmfd to 5000 mfd capacitance (4 ranges), and power factor. (Kit includes precision calibrating resistor.) Unique PRECISION COMPARATOR RANGE for resistance, capacitance and inductance comparison measurement against external standard. Leakage testing of all capacitors at rated DC working voltage with internal 0-500 VDC source. Electron-ray tube as both bridge balance and capacitor leakage indicator. 110 v. 60 cps transformer and rectifier. All ranges calibrated on front panel. 3-color etched rubproof panel; rugged steel case. Size: 10" x 8" x 4¾". Ship. wt. 10 lbs.

KIT.....$19.95 Factory wired.....$29.95

NEW Deluxe Multi-Signal Tracer #147

Entirely new 5-tube instrument provides high gain RF and low gain audio channels with both visual and aural monitors (electron-ray tube and 5" speaker). Permits RF, IF and audio signal tracing in TV, FM and AM sets. Highly useful noise localizer circuit that applies DC test voltage thru probe to suspected component and simultaneously picks up and amplifies effect. Wattmeter circuit detects abnormal power consumption in TV and radio receivers. May be connected as test speaker, amplifier, or output transformer, and has output for VTVM or scope. Excellent for gain-per-stage estimation, null detector, scope preamplifier, utility amplifier, small P.A. system. New satin finish etched panel; grey wrinkle steel case. 105-125 VAC, 50/60 cps. Size: 8" x 10" x 4¾". Ship. wt. 10 lbs.

KIT.....$24.95 Factory wired.....$39.95

Multi-Signal Tracer #145

Audibly traces all IF, RF, video and audio from ANT to SPKR or CRT without switching. Response well over 200 mc. 5" test speaker. Provision for visual tracing with VTVM. Complete with 6SJ7, 6K6, 6X5. Germanium crystal diode probe. 3-color etched panel; rugged steel case. 105-125 VAC, 50/60 cps. Size: 10" z 8" x 4¾". Ship. wt. 9 lbs.

KIT.....$19.95 Factory wired.....$28.95

6V & 12V Battery Eliminator & Charger #1050

Gives you all the electrical power you need for 6-volt and 12-volt battery charging and auto radio servicing. Two DC ranges: 0-8 v (10 amps continuous, 20 amps intermittent), 0-16 volts (6 amps continuous, 12 amps intermittent). Continuous voltage adjustment with variac-type transformer. Separate voltmeter and ammeter. Heavy duty selenium rectifiers. Fused primary; automatic reset circuit-breaker opens secondary circuit upon overload. Rugged, well-ventilated steel cabinet. Size: 8¾" x 10½" x 7¾". Ship. wt. 15 lbs.

KIT.....$29.95 Factory wired.....$38.95

RETMA Capacitance Substitution Box #1120

Enables rapid substitution of wide range of RETMA capitance values from 0.0001 to 0.22 mfd in an operating circuit to determine value for optimum performance and find value of damaged or illegible capacitors. Minimum accuracy ±10%. Uses silver-mica and molded plastic capacitors, most conservatively rated at 600 volts. Convenient 5-way jack-top binding posts. Size: 3¾" x 6½" x 3½". Ship. wt. 2 lbs.

KIT.....$5.95 Factory wired.....$9.95

RETMA Resistance Substitution Box #1100

Enables rapid substitution of resistances from 15 ohms to 10 megohms in decade multiples of 15, 22, 33, 47, 68, 100 ohms. Uses 36 standard 1 watt, ±10% RTMA resistors. 5-way jack-top binding post for connection of practically any type of test lead. Rugged, molded black bakelite cabinet; 2-color deep-etched satin aluminum panel. Size: 3¾" x 6½" x 3½". Ship. wt. 2 lbs.

KIT.....$5.95 Factory wired.....$9.95

***NEW!* 20-Watt Ultra-Linear Williamson-type High Fidelity Amplifier #HF20**

COMPLETE with Preamplifier, Equalizer and Control Section

A low-cost, complete-facility amplifier of the highest quality that sets a new standard of performance at the price, kit or wired. Every detail, down to the etched, brushed solid brass control plate, is of the fine quality EICO is famous for.

Rated power output: 20 watts (34 w peak). IM distortion (60 cps: 6 kc/4:1) at rated power: 1.3%. Mid-band harmonic distortion at rated power: 0.3%. Maximum harmonic distortion between 20 and 20,000 cps at 1 db under rated power: approx. 1%. Power response (20w): ±0.5 db 20-20,000 cps; ±1.5 db 10-40,000 cps. Frequency response (¼w): ±0.5 db 13-35,000 cps; ±1.5 db 7-50,000 cps.

5 feedback equalizations for LP's and 78's including RIAA. Variable turnover feedback tone controls do not affect volume and permit large boosts or cuts at either end of audio spectrum with mid-freqs. unaffected. Loudness control and separate level set control on front panel. Low Z output to tape recorder. 4 hi-level switched inputs: tuner, tv, tape, auxiliary (xtal/ceramic phono or 2nd tuner); 2 low-level inputs for proper loading with all leading magnetic, FM and quality xtal cartridges. Hum bal. control. Extremely fine output transformer has interleaved windings, tight coupling, careful balancing and grain-oriented steel. 8½" x 15" x 10". Ship. wt. 24 lbs.

KIT.....$49.95 Factory wired.....$79.95

***NEW!* High Fidelity Preamplifier**

Provides the most complete control facilities and finest physical design offered in a kit preamplifier. Utilizing recently developed high quality circuitry, it is suited for use with the finest power amplifiers in systems of the highest quality. FREQ. RESP. (thru hi level input): ±1 db 8-100,000 cps; ±0.3 db 12-50,000 cps. SENS. (for 2 v. RMS output): Tuner, TV, Tape, Aux — 0.6 v.; Phono (Mag) — 10 mv. HUM and NOISE: Tuner input — 75 db below 2.0 v. RMS; Phono input — 60 db below 2.0 v. RMS. IM DISTORTION (60 and 6000 cps, 4:1 ratio): 0.5% at 1.5 v. RMS output. TOTAL HARMONIC DISTORTION: 0.1% at 1.5 v. RMS output at 1 kc. TONE CONTROL RANGE: at 10 kc — 15 db boost, 15 db cut; at 50 cps — 15 db boost, 15 db cut. FILTER CUT-OFF FREQS: rumble filter: 50 cps or 100 cps at 12 db/octave; scratch filter: 5 kc or 10 kc at 12 db/octave. TUBES: 1-12AX7/ECC83, 2-12AU7/ECC82, 1-6X4. Size: 4⅞" x 12-5/16" x 4⅞", installed in case.

5 all-feedback low-distortion equalizations for lp's and 78's including RIAA. Feedback type high and low end filter circuits effective on all inputs. Variable turnover, low-distortion feedback tone controls do not affect volume or mid-frequencies. Centralab printed-circuit Senior "Compentrol" Loudness control provides adjustable Fletcher-Munson compensation or no compensation. 2 magnetic cartridge switched inputs for changer and turntable. Low Z output to tape recorder permits use of up to 30 ft. of cable and adjustment of listening level and tone without affecting tape output. Low Z K-follower output. 4 hi level switched inputs: tuner, tv, tape, aux. (xtal/ceramic phono or 2nd tuner); 3 low-level inputs for proper loading with all leading mag., FM and quality xtal cartridges. Hum bal. control. 4 convenience outlets.

#HF-61A
KIT.....$24.95 Factory wired.....$37.95

#HF-61, with Power Supply
KIT.....$29.95 Factory wired.....$44.95

Prices 5% higher on West Coast.

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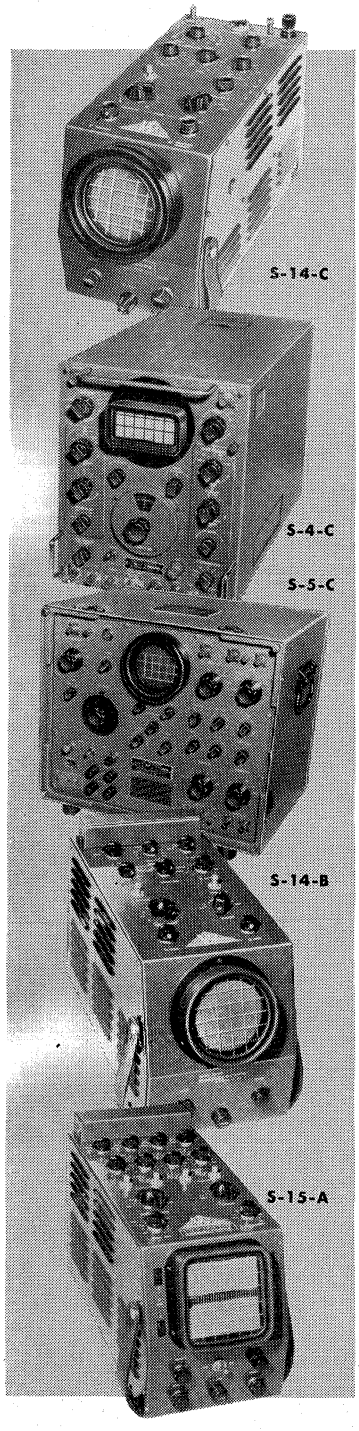
Waterman PRODUCTS



S-14-C COMPUTER POCKETSCOPE is a portable oscilloscope, especially designed for computers and business machine service. Lightweight and small size together with simplicity of operation makes this instrument IDEAL for field servicing. In addition . . . signal amplifier with 0.35 μs pulse rise from dc, with signals of 1 mv observable...calibrated fixed sweeps and continuously adjustable linear time base from 20 μs to 2 seconds . . . 5 x stable time base expansion with complete parading for accurate pulse position . . . sync limiting...special intensification circuits permits observation of pulses shorter than 10 μs at repetition rates slower than 1 pps . . . accessory attenuating and amplifying probes . . . make this instrument a MUST for computer type service.

S-4-C SAR PULSESCOPES are improved JANized equivalents to the Gov't Model AN/USM-25. These portable instruments (only 31.5 lbs. each) are for precision pulse time measurements in radar, TV and all electronics equipment. Portray all attributes of the pulse . . . internal crystal controlled markers of 10 and 50 μs available for self-calibration...in R operation a small segment of the A sweep is expandable for detailed observation with a direct-reading calibrated dial accurate to 0.1%. Video amplifier band-pass up to 11 mc . . . optional video delay 0.55 μs . . . pulse rise time better than 0.05 μs . . . R pedestal (sweep) 2.4 to 24 μs . . . video sensitivity of 0.1 v rms/in. Easily convertible from μs to yards. Operates from 50 to 400 cycles at 115 volts.

S-5-C LAB PULSESCOPES are JANized equivalents to the Gov't Model AN/USM-24C. These portable, AC, wide band-pass laboratory oscilloscopes are ideal for pulse as well as general purpose measurements. Internal delay of 0.55 us permits observation of pulse leading edge. Includes precision amplitude calibration, 10X sweep expansion, internal trace intensity time markers, internal trigger generators and many other features. Video amplifier .06 v RMS/inch . . . pulse rise time of 0.07 us or response to 11 mc . . . 5 to 50,000 us/in. triggered or repetitive sweep . . . internally generated markers from 0.2 to 500 us . . . trigger generator from 50 to 5000 pps. for internal and external triggering. Operates from 50 to 400 cycles at 115 volts AC.

S-11-A INDUSTRIAL POCKETSCOPE is a small, compact, and lightweight instrument for observing electrical circuit phenomena. The flexibility of the POCKETSCOPE permits its use for ac measurements as well as for dc. The vertical and horizontal amplifiers are capable of reproducing within—2 db from dc to 200 kc with a sensitivity of 0.1 v rms/in...repetitive time base from 3 cycles to 50 kc continuously variable throughout its range . . . variations of input impedance, line voltage or controls do not "bounce" the signal—the scope stabilizes immediately.

S-14-A HI-GAIN POCKETSCOPE provides the optimum in oscilloscope flexibility for analysis of low-level electrical impulses. Vertical and horizontal channels: 10 mv rms/inch with response within —2 db from dc to 200 kc and pulse rise of 1.8 μs . . . non-frequency discriminating attenuators and gain controls with internal calibration of trace amplitude . . . repetitive or trigger time base with linearization from ½ cycle to 50 kc with ± sync or trigger.

S-14-B WIDE BAND POCKETSCOPE is ideal for investigations of transient signals, dc signals, aperiodic pulses or recurrent waveforms. Vertical channel: 50 mv rms/in. within—2 db from dc to 700 kc . . . pulse rise time of 0.35 μs. Horizontal channel: 0.15 v rms/in. within—2 db from dc to 200 kc...pulse rise of 1.8 μs. Attenuators and gain controls are non-frequency discriminating . . . trace amplitude calibration . . . repetitive or triggered time base from ½ cycle to 50 kc . . . ± sync or trigger . . . trace expansion, filter graph screen and many other features.

S-15-A POCKETSCOPE is a portable, twin tube, high sensitivity oscilloscope with two independent vertical as well as horizontal channels. It is indispensible for investigation of electronic circuits in industry, school and laboratory. Vertical channels 10 mv rms/in. with response within—2 db from dc to 200 kc and pulse rise time of 1.8 μs...horizontal channels 1 v rms/in. within—2 db from dc to 150 kc...non-frequency discriminating controls . . . internal signal amplitude calibration . . . linear time base from ½ cycle to 50 kc, triggered or repetitive, for both horizontal channels.

S-12-B RAKSCOPE admirably fills the need for a small oscilloscope of wide versatility. With all the features of the S-11-A POCKETSCOPE, the RAKSCOPE is JANized (Gov't Model No. OS-11), and has many additional advantages; the sweep, from 5 cycles to 50 kc, is either repetitive or triggered . . . vertical and horizontal amplifiers are 50 mv rms/inch with band-pass from 0 to 200 kc . . . special phasing circuitry for frequency comparison.

Write for your complimentary copy of "POCKETSCOOP" • Official Waterman publication.

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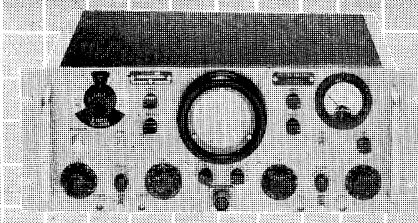
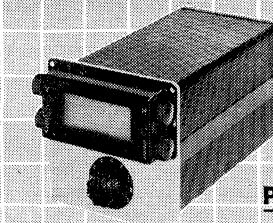
POCKETSCOPES® PULSESCOPES® RAKSCOPES® PANELSCOPES® RAYONIC TUBES®

SYSTEMS CONCEPT



RAKSCOPE S-12-C



PANELSCOPE®

The Waterman SYSTEMS RAKSCOPE, S-12-C series is a rack mounted oscilloscope with SYSTEMS CONCEPT. Systems concept is a basic means for rapid monitoring of desired signals with minimum operative effort and without the use of auxiliary switching or jack panels. S-12-C series provide the following:

1. BASIC UNIT—The basic S-12-C SYSTEMS RAKSCOPE is a complete combination systems monitoring and trouble-shooting oscilloscope with outstanding physical and electrical characteristics. The RAKSCOPE occupies but 7 inches of a standard 19″ rack and extends only 10 inches behind the front panel. Identical vertical and horizontal amplifiers are DC type having rise times better than 0.35 usec, and 50 or 71 millivolts rms per inch of deflection respectively. Signal calibration method uses a direct reading accurate meter. Time base sweeps are from ½ cps to 50KC in trigger or repetitive operation. Sync from internal or external sources provide stable operation by means of new sync lockout circuits. Special plug-in elliptical sweep circuit for easy phase and frequency checks greatly increase its systems utility. Construction is ruggedized throughout. Tube type options include standard commercial, ruggedized commercial or ruggedized military. Operable from 50 to 400 cycles.

2. CUSTOM MODIFICATION—Desired flexibility is obtained with the optional signal input selector. For the first time it is possible to select up to eleven different signal sources with the necessary built-in attenuation (supplied by us or by you) for each source. Thus the entire switching panel can be omitted from an overall system resulting in circuit and space economics. Standard elliptical sweep is 60 cycles, but plug-in units for other frequencies can be supplied. Accessories such as attenuating, direct, and amplifying probes are available.

Improve your existing or contemplated systems by including the S-12-C SYSTEMS RAKSCOPE as an integral part. Your local Waterman representative is ready to assist you in determining specific requirements.

The Waterman PANELSCOPE is a custom-built cathode ray tube oscilloscope, with simplified operation, and yet available at a low price. The PANELSCOPE concept provides for the following:

(1) MINIATURIZATION—Panel space required is only 5¼″ x 5-3/16″—depth is 10″ and the weight is less than 7 lbs. The PANELSCOPE can be installed in practically any equipment—mobile or stationary—air, sea, or land—military or commercial.

(2) SIMPLICITY OF OPERATION—Twist of a single rotary switch provides a synchronized pattern of desired incoming signal (up to 11 circuits) against proper linear time base. This is ideal for monitoring and trouble shooting, as it removes the need of fiddling with knobs as is done now on general purpose oscilloscopes. The static controls, such as beam, focus, positioning, and graticule brightness are located in tube escutcheon.

(3) CUSTOM DESIGN—A wide variety of—signal amplifiers with response from dc to megacycles and sensitivities from 5 millivolts—synchronized or triggered linear time base generators from ½ cycle (and lower if need be) to 2 microseconds—can be specified by you to fit your needs for particular equipment.

(4) PARTIAL KIT FORM—the PANELSCOPE comes fully wired and tested with chosen signal amplifier, linear time base generator and attendant sync. amplifier. The desired signal attenuators, frequency and amplitude determining components, and method of synchronization can be installed either by us or by you.

(5) POWER REQUIREMENT—Less than 10 watts of line power for built-in high voltage supply—The required B+ and heater current as selected by your requirements. For those cases where B+ and heater power is not available, auxiliary power pack can be supplied.

There is a place in your equipment for Waterman PANELSCOPE, a custom built oscilloscope at production prices, although your needs may be but one or two. Ask for specification sheets either from our representatives or direct from the factory.

RAYONIC CATHODE RAY TUBES BY WATERMAN

TUBE	PHYSICAL DATA		STATIC VOLTAGE		DEFLECTION*		LIGHT OUTPUT**
	FACE	LENGTH	A3	A2	VERT	HOR	
3JP1	3″	10″	3000	1500	111	150	40
3MP1	3″	8″		750	99	104	4
3RP1	3″	9.12″		1000	61	86	5
3SP1	1.5x3″	9.12″		1000	61	86	5
3XP1	1.5x3″	8.875″		2000	33	80	22

Deflection in volts per inch.
***Light output of a line in millifoot lamberts per millimeter at line width not to exceed .65mm.*

The basic properties of the cathode ray tube that concern the designer or the user are: deflection sensitivity, unit line brightness, line width, static voltage requirements and physical size. A comparison between cathode ray tubes manufactured by Waterman Products Company is shown in the table adjoining. These tubes are available in P1, P2, P7 and P11 phosphors. 3JP1, 3JP2, 3JP7, 3RP1, 3SP1 and 3XP1 are available as JAN tubes.

WATERMAN PRODUCTS

WATERMAN PRODUCTS CO., INC.

PHILADELPHIA 25, PENNA., U.S.A. • CABLE ADDRESS, POKETSCOPE, PHILA.

Manufacturers of Pocketscopes® • Rakscopes® • Pulsescope® • Panelscopes® and Rayonic® Tubes

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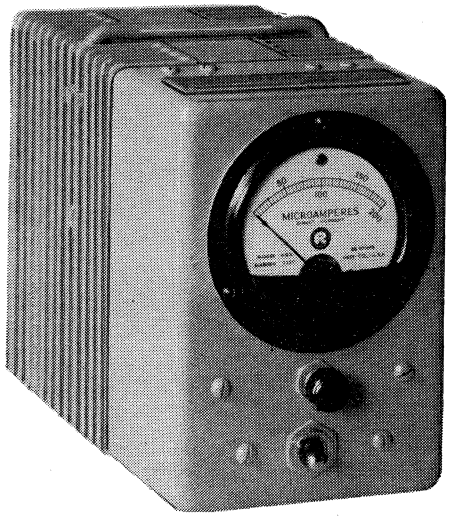
THERMISTOR BRIDGE TYPE POWER METERS



TRUE AVERAGE READING

These broad band R.F. power meters are of the absorption type consisting of an oil filled, air cooled coaxial load resistor and thermistor type power bridge calibrated to read watts.

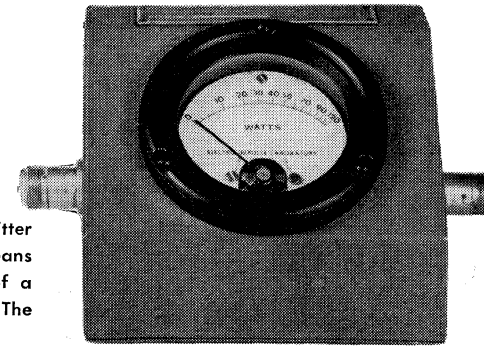
A thermistor is used as the power sensitive element. Temperature and voltage variation compensation is incorporated in a sensitive bridge type circuit. The instrument is battery operated.

The power is read directly on the 0-200 microamperes and is read in direct relation to the meter division. For instance, the full scale power reading is 200 watts at 200 microamperes, 100 watts at 100 microamperes and 25 watts at 25 microamperes.

The accuracy of this instrument is greater than that of the dummy load volt meter type power meters using a silicone diode for the power detecting element. The thermistor type power detector depends only on the heat developed by the radio frequency power in it, and errors, due to spurious resonance, poor V.S.W.R., are greatly reduced, if not completely absent. The accuracy is ±3% of full scale and no more than ±6% at any point of the scale.

MODEL	FULL SCALE POWER MEASURING RANGE IN WATTS	MAXIMUM V.S.W.R.	FREQUENCY RANGE MEGACYCLES	INPUT CONNECTOR	IMPEDANCE OHMS	ACCURACY	MAXIMUM POWER DISSIPATION
T.B. - 2	0 - .1 Watts	1.05	60 cps to 500Mc	Type N	51.5	±3%	1 Watt
T.B. - 3	0 - 100 Millo-Watts	1.05	60 cps to 500Mc	Type N	51.5	±3%	1 Watt
T.B. - 4	0 - 1 Watt	1.05	60 cps to 500Mc	Type N	51.5	±3%	1 Watt
T.B. - 5	0 - 10 Watts	1.05	60 cps to 500Mc	Type N	51.5	±3%	100 Watts
T.B. - 6	0 - 100 Watts	1.05	60 cps to 500Mc	Type N	51.5	±3%	100 Watts

FEED-THRU TYPE POWER MONITOR



Frequency Range 30-200 and 1500-1000 Mc

Measures incident and reflected power and permits adjustment of transmitter with antenna connected. Each instrument covers two power ranges, by means of a toggle switch. The direction of measurement is switched by means of a turning element in rear of instrument. The accuracy is ±5% of full scale. The instrument is self-contained and no auxiliary power is required.

MODEL	FULL SCALE POWER MEASURING RANGE IN WATTS	FREQUENCY RANGE MEGACYCLES	CONNECTORS	IMPEDANCE OHMS	ACCURACY
DC - 1A	1.5 to 6 watts	30-200 Mc	Type N	51.5	±5% of full scale
1B	1.5 to 6 watts	130-1000 Mc	Type N	51.5	±5% of full scale
DC - 2A	15 to 60 watts	30-200 Mc	Type N	51.5	±5% of full scale
2B	15 to 60 watts	130-1000 Mc	Type N	51.5	±5% of full scale
DC - 3A	150-600 watts	30-200 Mc	Type N	51.5	±5% of full scale
3B	150-600 watts	130-1000 Mc	Type N	51.5	±5% of full scale
DC - 4A	1500-6000 watts	30-200 Mc	Connector to be selected	51.5	±5% of full scale
4B	1500-6000 watts	130-1000 Mc		51.5	±5% of full scale

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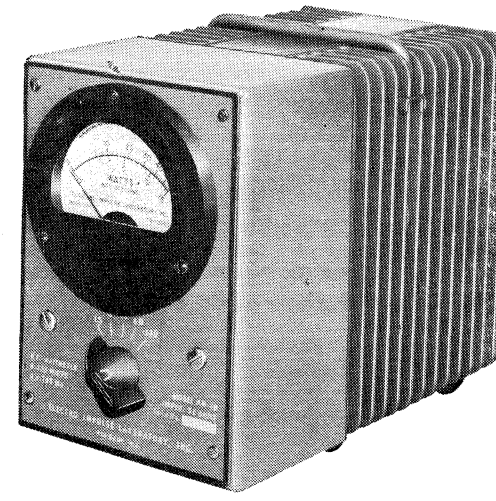
Electro IMPULSE Laboratory

RED BANK, NEW JERSEY

AVERAGE READING R.F. POWER METERS

100 kc to 700 mc . . . 1.5 watts to 6000 watts



These broad band R.F. power meters are of the absorption type consisting of an oil filled, air cooled, coaxial load resistor and voltmeter calibrated to read watts. The power meter is suitable for use as a field or laboratory test instrument, is completely shielded and non-radiating, permitting transmitter testing and adjustment without interference. The meter box is easily detached, permitting location of the load resistor at a remote point. In cases where power measurements are not required the load resistor may be used as a dummy load.

No correction curve is necessary to cover the frequency range. The spurious response usually associated with directional couplers and capacitative voltage dividers is absent in this purely resistive voltage divider.

Since this is a resistive voltage divider which has the same voltage division at DC, 60 cycle AC, and at high radio frequencies, this instrument can be calibrated and its calibration can be checked frequently on 60 cycle supply voltages. The instruction book accompanying our R.F. power meter gives full instructions on the calibration of these power meters, using 60 cycle power supply. Such calibration is necessary only when crystals or vacuum tubes are changed, or when possible damage to the crystals or vacuum tubes is suspected.

ACCURACY

These Power Meters do not use specially selected crystals or vacuum tubes. If the calibration instructions are carefully followed, an overall accuracy of —5% of full scale, but not more than 10% at any point of the upper 80% of the meter scale can be expected. For example, on the 60 watt scale an error of 5% of the full scale is 3 watts. At 15 watts this error would result in a reading somewhere between 12 and 18 watts. Our power meters are guaranteed to be within 10%, at the 15 watt point, and the reading should be between 13.5 and 16.5 watts.

MODEL	FULL SCALE POWER MEASURING RANGES IN WATTS	MAX. VSWR	FREQUENCY RANGE MEGA-CYCLES	INPUT CONNECTOR	IMPEDANCE OHMS	SUPPLY VOLTAGE	TUBE OR CRYSTAL	ACCURACY	MAX. POWER DISSI-PATION	EXTERNAL COOLING
PM-6	1.5, 6	1.10	.2-700Mc	Type N	51.5*	None	1N82	±5%	10 Watts	None
PM-7	150, 600	1.15	.2-500Mc	Type N	51.5*	None	1N82	±5%	600 Watts	None
PM-8	1.5, 6, 15, 60	1.1	.2-700Mc	Type N	51.5*	None	1N82	±5%	100 Watts	None
PM-9	2.5, 10	1.10	.2-700Mc	Type N	51.5*	None	1N82	±5%	10 Watts	None
PM-10	15, 60	1.10	.2-700Mc	Type N	51.5*	None	1N82	±5%	90 Watts	None
PM-15	150, 600, 2500	1.15	.2-500Mc	To be specified	51.5*	None	1N82	±5%	2500 Watts	30 GPH tap Water
PM-16	150, 600, 1500	1.15	.2-500Mc	To be specified	51.5*	115 Volts 60 cps	2B22	±5%	1500 Watts	
PM-17	1.5, 6, 15, 60, 120	1.10	.2-500Mc	Type N	51.5*	115 Volts 60 cps	2B22	±5%	90 Watts	None
PM-18	1.5, 6, 15, 60, 150, 600, 1000	1.15	.2-500Mc	Type N	51.5*	115 Volts 60 cps	2B22	±5%	600 Watts	None
PM-19	1.5, 6, 15, 60, 120	1.1	.2-700Mc	Type N	51.5*	None	1N82	±5%	100 Watts	None
PM-20	1.5, 6, 15, 60, 150, 600, 1500, 6000	1.15	.2-500Mc	To be specified	51.5*	115 Volts 60 cps	2B22	±10%	6000 Watts	40 GPH

***Also available with 75 ohms, 300 ohms and other impedances**

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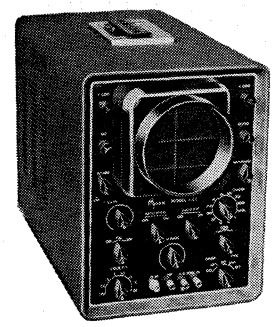
Hycon ... Field Proven Instruments



MODEL 622
5" OSCILLOSCOPE

A new oscilloscope concept...*automatic triggered sweep.* Simplifies adjustments, makes synchronization positive. Special CRT has flat face for usable trace edge to edge. One of today's most advanced TV servicing aids...

VERTICAL AMPLIFIER
Frequency Response: 6 cps to 6 mc ±3 db; down less than 0.5 db @ 4 mc
Sensitivity: 10 mv rms (28 mv peak-to-peak) per inch
Input Impedance: 1 megohm, 40 mmf (±2 mmf) over entire attenuator range

HORIZONTAL AMPLIFIER
Frequency Response: 1.5 cps to 500 kc ±3 db
Sensitivity: 75 mv rms (210 mv peak-to-peak) per inch
Input Impedance: 100k, 25 mmf

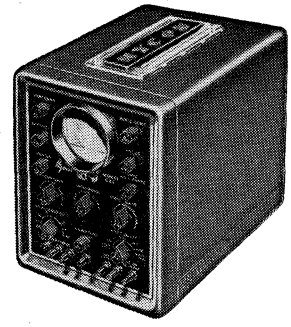
SWEEP CHARACTERISTICS
Usable writing speed... 0.03 sec/in to .3 μsec/in
Ranges...
a. 10 cps to 300 kc
b. Preset V & H television @ 7875 and 30 cps
c. 60 cps, variable phase line
Type... automatic triggered or straight triggered (by switching)

SYNCHRONIZATION
Internal, external, positive, negative or AC line

CALIBRATION
Internal 60 cps square-wave .05 volts peak-to-peak ±3%

POWER REQUIREMENTS
115 volts, 60 cycles, 175 watts

SIZE... WEIGHT
13⅝"x10½"x18¾"... 32 lbs.



MODEL 617
3" OSCILLOSCOPE

The general purpose scope that gives you most for your dollar... has *flat face* CRT for usable trace edge to edge. It combines laboratory accuracy with ruggedness and compactness that makes it ideal for field service...

VERTICAL AMPLIFIER
Frequency Response: 6 cps to 4.5 mc ±1 db
Sensitivity: .01 v/in rms
Input Impedance: 1 megohm, 35 mmf (±2 mmf) over entire range of attenuator

HORIZONTAL AMPLIFIER
Frequency Response: 6 cps to 500 kc ±3 db
Sensitivity: .075 v/in rms
Input Impedance: 1 megohm

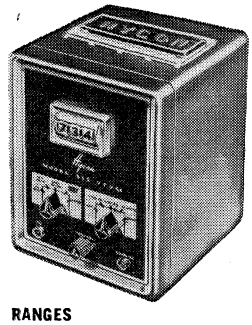
SWEEP RANGES
15 cycles to 100 kc
Television V & H frequencies
60 cycle, variable phase

CALIBRATION
Internal 60 cps square-wave 0.05 to 150 volts peak-to-peak ±5%

SYNCHRONIZATION
Internal, external, positive, negative or AC line

POWER REQUIREMENTS
115 volts, 60 cycles, 100 watts

SIZE... WEIGHT
8½"x11"x10¾"... 22 lbs.



MODEL 615
DIGITAL VTVM

A new dimension in VTVM's... direct, digital readout. Eliminates interpolation and multiple-scale confusion. Illuminated scale with decimal point and polarity sign...

RANGES
DC: 0-1, 10, 100, 1000 volts
AC: 0-10, 100, 1000 volts
Ohms: 0-1k, 10k, 100k, 1 megohm, 10 megohms

INPUT IMPEDANCE
11 megohms

FREQUENCY RESPONSE
Direct Probe: 30 cps – 3 mc
Accessory Crystal Probe: 50 kc – 250 mc

INDICATOR
3-digit illuminated counter

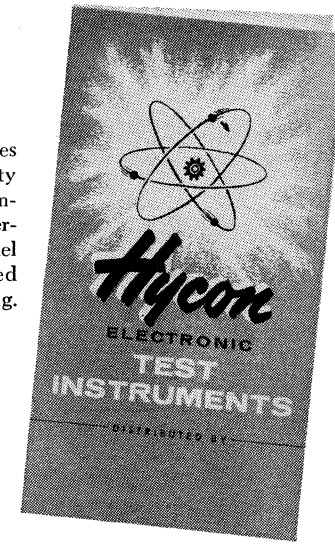
ACCURACY
DC and ohms: 1%... AC: 2%

POWER REQUIREMENTS
115 volts, 60 cycles, 30 watts

SIZE... WEIGHT
8½"x11"x7½"... 16 lbs.

SEND FOR INSTRUMENT FOLDER

Describes and illustrates complete line of quality test instruments... including new Telemetering Ratiometer (Model 625) for high speed production-line testing.



Dealers:

You may obtain a quantity of these folders for your customers. See your jobber, or write Hycon directly.

Hycon also offers the following advanced test instruments and accessories:

Model 616 Color Bar/Dot Generator • Model 623 3" DC-Coupled Oscillosynchroscope • Model 624 3" Industrial DC-Coupled Oscilloscope • TV Sweep Generator • Model 6211 Oscilloscope Divider Probe • Model 6217 Oscilloscope Demodulator Probe

"Where Accuracy Counts"

Hycon ELECTRONICS, INC.

Subsidiary of Hycon Mfg. Company

PASADENA, CALIFORNIA

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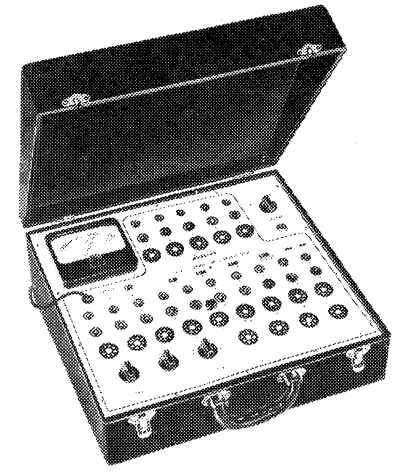
Instruments IN KIT & WIRED FORM . . . precise above all else

TEST 5 TUBES in 4 SECONDS each . . . ACCURATELY

• NEW PRECISE MODEL 116
Em & Gm ULTRAFAST TUBE & TRANSISTOR TESTER



Servicemen know the Precise Model 111 (the winner in an independent survey) easily rates "the finest tube tester in the field" at any price, BUT FOR AN ON THE JOB QUICK-TEST . . . the fastest, most accurate is the PRECISE Model 116. What's more you test tubes the foolproof method inherent in the famous Precise Model 111.

Did you ever wish you could plug in 5 of the same type tubes at once and check each one individually by rotating a switch? YOU CAN WITH THE PRECISE MODEL 116—Plug in 5 IF tubes and let them heat up at once and then check each one separately by rotating the TUBE BANK switch. ACTUALLY CHECK 5 TUBES IN 20 SECONDS. 4 SECONDS PER TUBE.

The Precise Model 111 taught the lesson that IF amplifier tubes (like the 6BC5 or 6AU6) should be tested for GM (mutual transconductance) while the power amplifiers (like the 6L6) should be tested for Em (emission). The Model 116 test checks each section of each tube separately . . . by rotating the FUNCTION SWITCH . . . each triode of a dual triode is checked individually . . . each diode and the triode of a duo-diode-triode is separately tested and not lumped as in other testers . . . and a pentode is tested as a pentode—not a diode. TRANSISTORS, SHORTS, GAS, LIFE, Em Gm etcetera can be tested with the PRECISE Model 116.

You can inexpensively extend the Precise Model 116 to test filament current, etc. The Model 116 gives an accurate, ultra-fast (3 basic knobs for testing) check of television tubes!

No Surplus—An etched panel—beautiful Moleskin covered wood carrying case and cover and specially simplified instructions makes the PRECISE MODEL 116 THE FINEST FAST-CHECK TUBE TESTER AND DOLLAR EARNING TRAVELING COMPANION A TV SERVICEMAN EVER HAD.

PTA-K (Picture tube adapter).....$2.95 PTA-W (Wired).....$4.25

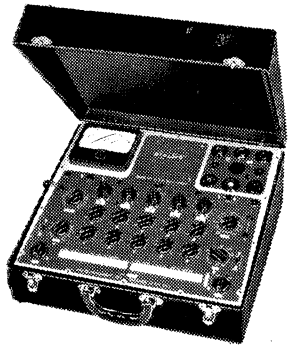
MODEL 116K in kit form..... $69.95

MODEL 116W factory wired.... $119.95

Incl. Carrying Case & Cover

★ ★

• NEW PRECISE MODEL 111 Mutual Conductance and Emission Tube Tester



111K.....kit form $79.95

111W...factory wired $139.95

Incl. Carrying Case & Cover

INDEPENDENT SCIENTIFIC SURVEY AND LAB TESTS PROVE PRECISE MODEL 111 "BEST COMMERCIAL TUBE TESTER AT ANY PRICE."

ENGINEERING DESIGN CONSIDERATION: To understand the Model 111 Mutual Conductance and Emission Tube Tester, it is perhaps best to spend a moment with the original design considerations. Basically we recognize the fact that:

1. A GM or Emission type tube tester actually read a goodly percentage of tube troubles—BUT each alone missed a great many. We could not say with any degree of assurance which type of tube test was the best. Certain applications required GM, while others required Emission. PRECISE Solution: The Model 111 checks Gm and Emission separately. It indicates on the roll chart the most important single test for normal applications. It is, of course, desirable to make both tests.
2. In series T.V. filament arrangements, which are daily enjoying greater popularity, the "Voltage Sapper" (a tube which developed too much filament voltage as compared to the other tubes) was a constant trouble. PRECISE Solution: The Model 111 allows the filament current to be measured directly on the meter.
3. A whole series of different test voltages (sweeping from zero voltage up) was required. PRECISE Solution: The Model 111 sweeps from 0 through the normal testing range when making measurements. This gives an average evaluation for the tube over an extended range of operation.
4. Short tests usually require elaborate switch manipulation. PRECISE Solution: The Model 111 uses a single rotary switch which checks each element against every other element. No conversion chart is required to ascertain which pins are shorted. This test may be made at any time hot or cold without changing any other switches.
5. The instrument would have to be rugged to stand the "trunk of a car" type of abuse. PRECISE Solution: In the Model 111 a heavy wooden cabinet houses the entire unit. The panel is deeply etched aluminum.
6. Tube Bias, being an important consideration, should actually be measured on the meter. PRECISE Solution: The Model 111 measures tube bias directly on the indicating meter.
7. The instrument should be simple to operate. PRECISE Solution: The Model 111 uses a no-blacklash roll chart, and a sectionalized design setting off each section.
8. There should be a provision for new tubes. PRECISE Solution: The Model 111 is one of the simplest type tube testers to set up for new tubes. The pin connections and function positions may be taken directly from the tube manual. The instrument already includes provisions for testing many color tubes.
9. It should check all modern tubes. PRECISE Solution: The Model 111 is provided with sockets for testing the following type bases. Large 4 prong, large 5 prong, large 6 prong, large 7 prong, medium 7 prong, miniature 7 prong, in-line 7 prong (sub-miniature), Octal, Noval, sub-miniature 8 prong, CRT and Loctals. Weight 24 lbs. Size 14" x 16" x 6".
10. The instrument should check Cathode Ray Tubes. PRECISE Solution: The Model 111 also checks cathode ray tubes with CRT adaptor. Model PTA-K $2.95, PTA-W $4.25.

Prices Slightly Higher in the West — Prices and Specifications Subject to Change Without Notice on All PRECISE Equipment.

PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.

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Net

Instruments IN KIT & WIRED FORM . . . precise above all else

THE FIRST AND STILL TOP COLOR SCOPE BELOW $1000

NEW AMAZING PRECISE MODEL #300 COLOR OSCILLOSCOPE

The Oscilloscope you've been seeking. . . . No other oscilloscope at any price — high or low — with these desirable features —in both Kit and Wired Form:

SPECIFICATIONS: PRECISE MODEL 300 OSCILLOSCOPE —

VERTICAL: Vertical-flat (3db) DC through 5 megacycles with sensitivity of greater than 10 millivolts push-pull (3.94 Millivolts/cm); Constant Resistance; Push-pull input immediately converted to single-ended normal or reverse phase by shorting bar at inputs 1 and 2; Frequency compensated vertical stepping attenuator selects AC or DC inputs; Push-pull DC amplifiers from input through output; Internal electronic mixing through inputs 1 and 2; five-way binding posts.

POSITIONING: Bridge type positioning on vertical and horizontal does not vary tube characteristics.

HORIZONTAL: Frequency compensated stepping attenuator in horizontal amplifier; Push-pull Horizontal out.

BLANKING: Internal (return trace blanked), external (return trace not blanked), 60 cycle or 120 cycle Blanking through Blanking amplifier circuit.

SYNCHRONIZATION: External, Internal Positive, Internal Negative, Internal 60 cycle or Internal 120 cycle synchronization.

SWEEP RATE: Driven or non-driven linear sweeps from 1 cycle to 80KC in five ranges (1-10 cycles uses external C circuit); Trigger potentiometer.

MAGNIFIER: Electronic magnifier and magnifier positioner allow any part of a signal to be magnified up to ten times (equivalent to 70 inches of horizontal deflection).

CALIBRATION: Internal square wave calibrator and potentiometer for using oscilloscope as a VTVM on Peak to Peak measurements.

CALIBRATION SCREEN: Edge-illuminated scale and graticule may be turned on or off; filtered screen.

OUTPUTS ON FRONT PANEL: Plus Gate output; Sawtooth output; 60 cycle phasing output; 60 cycle unphased output; Calibration output.

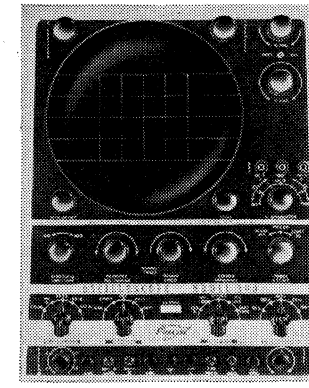
FOCUSING: Astigmatism, focus and intensity control.

CRT: NEW 7" Tube, normally supplied is medium persistency type 7VP1, or 7JP1 may also be used (oscilloscope green trace) — high persistency types available at additional cost.

DIRECT: Deflection plates available from rear of cabinet.

INTENSITY MODULATION: Z modulation through modulation amplifier.

GENERAL: Low loss components; Over-designed fused power supply for additional circuitry; Deeply etched aluminum panel. New parts from original manufacturers — (NO SURPLUS); Steel cabinet;

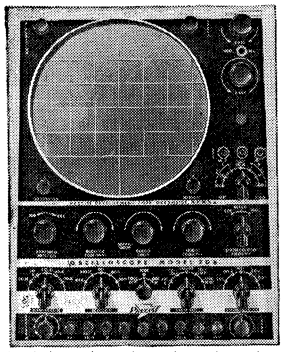


11" x 14" x 17"; complete with instruction book and all components; Accessories; Model 912T (MM) Demodulator Probe and Model 960 Capacity Attenuator Probe available at extra cost — please see specifications on following pages. There are many additional features and circuits in kit form, which may be added to the Model 300. Please write us for descriptive literature.

300K ..... **kit form $99.95**

300W ..... **factory wired $199.50**

★ ★



• NEW PRECISE 8½" COLOR OSCILLOSCOPE MODEL 308

USED BY COLOR MANUFACTURERS ALL OVER THE COUNTRY

An oscilloscope unique in the industry . . . THE ONLY 8½" scope on the commercial market . . . All the general specifications of the time proven PRECISE Model #300; plus over 85 sq. inches of viewing space provided by its NEW 8½" tube; ANODE INTENSIFIER; FREQUENCY SYNCHRONIZATION CONTROL TO ELIMINATE HORIZONTAL JITTERS (this and other features not found in other scopes at many times the cost) PLUS VOLTAGE REGULATION.

Weight.....35 lbs. Size.....11" x 14" x 19"

308K ..... **kit form $129.50**

308W ..... **factory wired $229.50**

★ ★

• NEW PRECISE MODEL #315 5" OSCILLOSCOPE

The PRECISE Model 315 is a best buy as a low cost, high quality oscilloscope for general radio and TV applications. It features such innovations as frequency compensated vertical and horizontal attenuators along with identical vertical and horizontal amplifiers.

The Model 315 is rugged and simple to build. It uses a 5CP1 type tube with a post accelerator. Both the horizontal and vertical sections are cathode-follower input type and are AC coupled.

The instrument is housed in a grey steel cabinet. Attractive brushed aluminum with black lettering and a bezel comprise the front panel.

SPECIFICATIONS:

VERTICAL — The vertical amplifiers are within ±6db through 500KC. Single ended, AC coupled, cathode follower, frequency compensated stepping attenuator input. Basic sensitivity is approximately 250 millivolts per inch. Outputs are push-pull.

HORIZONTAL — The same general specifications as the vertical amplifier.

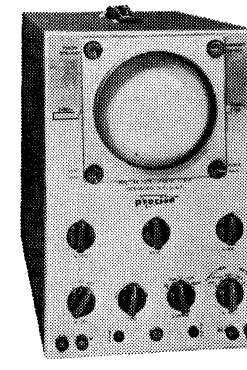
SYNCHRONIZATION — External, internal.

SWEEP RATE — From approximately 10 cycles to 100 KC. Hard vacuum type sweep circuit.

CALIBRATION — 6.3 volts sine wave.

FOCUSING — Focus, intensity and astigmatism controls. The astigmatism control is available from the rear. A standby switch is used to turn off CRT filaments when not in use.

As you know Precise does not use, nor advocate, surplus parts — especially in a kit. In accordance with this policy (although a cathode ray tube is supplied with each Model 315 as a convenience, at no charge) we are officially listing this instrument without CRT. The CRT supplied, free of charge, is new, guaranteed for 1 year, has never been used and was purchased from the Government in its original unopened carton. If a new tube, not Government, is desired it is available at an additional charge of $14.00.

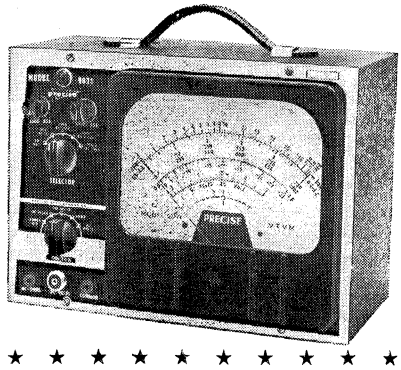


The Model 315K **$49.95**

The Model 315 Wired **$84.95**

PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.

Instruments IN KIT & WIRED FORM . . . precise above all else



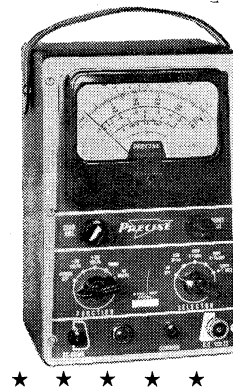
• NEW PRECISE MODEL 9071
Voltage Regulated VTVM

Special 7½" meter • 1% CERAMIC PRECISION RESISTORS • FM zero alignment scale • Coax DC connector • Burn-out proof circuit • DC input 25 Meg • Power transformer operated (no selenium rectifier used) • 4 tube circuit • Compact design • Size: 8½" x 12" x 5".

9071K.....kit form $35.95 • 9071W.....factory wired **$49.95**

Same ranges as Model 909

★ ★



• PRECISE MODEL 909 Vacuum Tube Voltmeter

WHAT BETTER WAY TO BUY THAN BY MAKING A COMPARISON!
Ceramic precision resistors—1% OR BETTER; deeply etched panel; steel cabinet; Amphenol type DC connector.

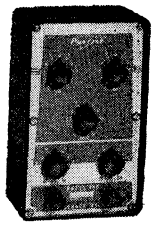
FREQUENCY RANGE: Up to 250 megacycles with PRECISE 912 Probe (available at additional cost).
VOLTAGE RANGE: Up to 30,000 V. with PRECISE 999 High Voltage Probe (available at additional cost).
FM & TV: Special true zero alignment scale for FM & TV discriminators; Burn-out proof circuit; 25 Megohm input impedance on DC; complete with test leads and internal battery; oversize 4½" meter; 105-120V., 50-60 cycles, AC; wt.: 10 lbs.; 10" x 7" x 5".

RANGES: +DC: 0-5-25-250-500-1000 Volts; —DC: 0-5-25-250-500-1000 Volts; AC: 0-5-25-250-500-1000 Volts Ohms: Rx1-Rx10-Rx1000-Rx10,000-Rx1,000,000 ohms; from .2 Ohms to 1 Billion Ohms; DB: From —20 to +55 DB.

909K.....**$25.98** • Factory Wired.....**$37.50**

★ ★

• PRECISE NEW MODEL 468
Resistance Decade Box



3¾"x6¼"x2"

PRECISE AGAIN LEADS THE FIELD with its New Low-Priced Resistance Decade Box. Compact in size for Bench Drawers and Tool Boxes.

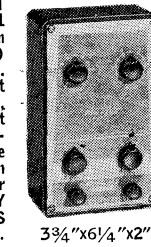
5 Separate Switches, 11 Positions on Each; plus or minus 1%. Readings from 10 OHM to 1,111,110 OHM in 5 Decades. 1% Dep. Carbon Non Ind. above 10 OHM. Binding Posts permit quick substitution of equivalent Resistors indicated on Selector Panel. Deeply etched Aluminum Panel; Rugged Construction; Complete with Simplified Construction Manual.

468K.....kit form **$18.95**

468W.....factory wired $24.95

• PRECISE MODEL 478
Newest Capacity Decade Box

PUTS 10,000 CAPACITORS IN YOUR POCKET . . . first in the low price field to reach over 1 MFD at 1% accuracy . . . Four decades from 100 MMFD to 1.1111 MFD (100 MMFD steps) . . . 10 TIMES THE CAPACITY RANGE . . . Capacitors well within 1%; SILVER MICA, except for highest values which are special low-drift, molded, oil impregnated; rated at 600 volts, except for highest ranges rated 400 volts. . . . All capacitors fully tested, including: leakage resistance (thousands of megohms); accuracy measured on standard bridges; voltage breakdown tested; power factor, temperature cycling and aging. — STURDY HIGH IMPACT BAKELITE CASE REDUCES GROUND CAPACITY AND INSURES LONG LIFE.



3¾"x6¼"x2"

478K.....kit form **$18.95**

478W.....factory wired $24.95

★ ★

• NEW PRECISE MODEL UPA-IN AND UPA-IP ULTRA PREAMPLIFIER

The PRECISE Model UPA-I preamplifier is an ultra-modern presentation of true high fidelity, set off in a beautiful rich brushed brass colored panel, designed to enhance a living area. • It embodies the most modern circuitry with separate controls for Bass Boost, Treble Boost and Roll-off, Volume, Record Compensation which also includes the latest AES curves (this year), a main Selector switch which connects to Phono, Microphone, Radio Television and an auxiliary position (4 separate input jacks are mounted on the rear chassis), a separate On-Off switch also operates the Convenience outlet at the rear of the instrument. • The instrument is designed so that it is completely self-contained or, if desired, it may be mounted directly into a console panel. In the latter case, no additional hardware is required because of a unique cabinet and chassis design. The cabinet dimensions are 12 x 4 x 4 and it weighs approximately six pounds. • The input gain and amplifier latitude is more than ample for Reluctance or Crystal inputs. Long lines may be used with the cathode-follower output.

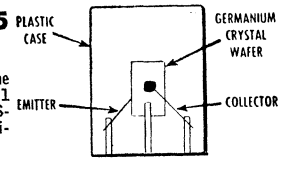
The UPA-I is available in two circuits:

UPA-IP has its own transformer supply and is operated directly from the 110 volt AC line.
UPA-IPK • Kit Form • **$25.95**
UPA-IPW • Wired Form • **$39.95**

UPA-IN does not include a power supply. Power is taken directly from the main amplifier. It does, however, have its own filtering circuits.
UPA-INK • Kit Form • **$19.95**
UPA-INW • Wired Form • **$34.95**

★ ★

T1 — TRANSISTOR KIT — Only $14.95



ANOTHER *NEW* EXCLUSIVE KIT BY PRECISE

PRECISE makes it possible to build your own experiments with the most remarkable kit you've ever seen . . . the new PRECISE T1 TRANSISTOR KIT. Components include transformer, chassis, TRANSISTORS, germanium diode, wire, etc. — everything you need for experimental construction PLUS the finest step-by-step instruction book.

PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.

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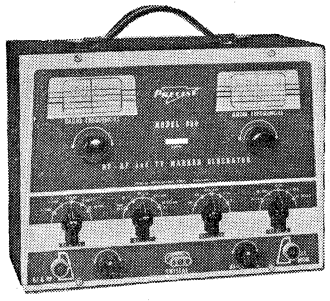
Instruments IN KIT & WIRED FORM . . . precise above all else



• PRECISE MODEL 630 RF-AF-TV Marker & Bar Generator

The very first kit to reach 110 MC on fundamentals, 330 MC on harmonics. The first kit to offer a complete factory preassembled and calibrated RF head. *Pre-tuned RF Head; Audio: 20-20,000 cycles; variable percent modulation; cathode-follower output; stepping attenuator; external modulation; speech amplifier; crystal marker; crystal amplitude control; RF & AF stand-by; Wien Bridge AF Oscillator; Colpitts RF Oscillator; Drum Dials; Coaxial fittings; individually tuned coils; constant output impedance; filtered line; Vernier tuning on RF & AF; Separate RF Section; Complete shielding.

RF FREQUENCIES: BAND 1—300KC to 1MC FUNDAMENTALS • BAND 2—1MC to 3MC FUNDAMENTALS • BAND 3—3MC to 10MC FUNDAMENTALS • BAND 4—10MC to 30MC FUNDAMENTALS • BAND 5—30MC to 110MC FUNDAMENTALS • BAND 5A—60MC to 220MC 2nd HARMONIC • BAND 5B—90MC to 330MC 3rd HARMONIC

AF FREQUENCIES: Band 1—20 to 40 Cycles • Band 2—40 to 200 Cycles • Band 3—200 to 2K Cycles • Band 4—2K to 20K

8" x 12" x 5"; leather handle; wrinkle steel cabinet; deeply etched aluminum panel; amphenol type connectors; wt.: 10 lbs.

630K (Kit)..... $33.95

*630KA preassembled RF head..$38.95

Factory Wired $53.95

★ ★

• PRECISE MODEL 610

Newest RF Signal Generator for AM, FM and TV

The first low-priced RF Signal Generator to reach 110 MC on fundamentals, 330 MC on harmonics, with the accuracy and stability of high-priced equipment. PRECISE achieves this by slug and capacity tuning of the coils, along with complete isolation of the Colpitts Oscillator by a Cathode Follower Buffer Output.

*The first kit to offer a complete factory pre-assembled and pre-tuned RF Head; Cathode-Follower Output; External Modulation; Speech Amplifier; Bridge Type AF Oscillator; Colpitts RF Oscillator; Drum Dial; Coaxial Fittings; Individually Tuned Coils; Vernier Tuning; Separate RF Section; Complete Shielding, 400 Cycle and 60 Cycle Internal Modulation.

RF FREQUENCIES:

BAND 1—	300KC to	1MC FUNDAMENTALS
BAND 2—	1MC to	3MC FUNDAMENTALS
BAND 3—	3MC to	10MC FUNDAMENTALS
BAND 4—	10MC to	30MC FUNDAMENTALS
BAND 5—	30MC to	110MC FUNDAMENTALS
BAND 5A—	60MC to	220MC 2nd HARMONIC
BAND 5B—	90MC to	330MC 3rd HARMONIC

8½" x 12" x 5"; leather handle; wrinkle steel cabinet; deeply etched aluminum panel; amphenol type connectors; wt.: 10 lbs. TUBE COMPLEMENT: 6C4, 12AX7, 6X5.

610K..... $23.95

#610KA preassembled RF head $28.95

610W (factory wired) $39.95

★ ★

• PRECISE MODEL 635

Universal AF Sine, Square and Pulse Generator

Efficiently and effectively ascertains all Audio and Video troubles

Sine waves; square waves; Wien Bridge Oscillator; Pulses; variable impedance output; voltage regulation insures a veritably constant output; cathode follower output; Minimum overshoot & round-off through 50,000 cycles on square waves and pulses; sine waves through 200,000 cycles.

8 x 11 x 5"; leather handle; wrinkle steel cabinet; deeply etched aluminum panel; amphenol type connectors; wt.: 10 lbs.

TUBE COMPLEMENT:
1—6AU6; 3—6SN7: 1—6X5; 1—6S6

RANGES: 20-40 cycles • 40-200 cycles • 200-2000 cycles • 2000-20,000 cycles • 20,000-200,000 cycles.

635-W.....Factory wired $52.50 • 635K.....Kit form $33.50

★ ★

• PRECISE MODEL 760

Voltage Regulated Power Supply

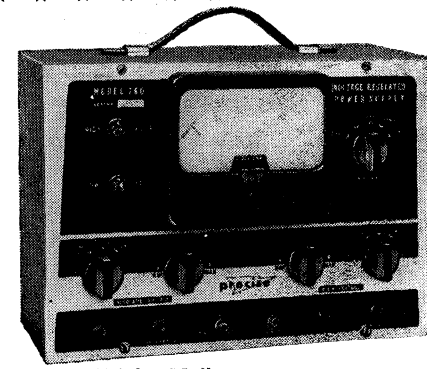
The Model 760 is an extremely versatile electronically regulated power supply capable of delivering an assortment of different voltages. It is invaluable in general repair and laboratory use.

REGULATED VOLTAGE

Range—75 volts to over 450 volts.
% Regulation—Within 1% at specified current duration.
% Ripple—.01% at specified currents.
Max. Current—100 ma depending on voltages.
Metering—Voltage and current are both metered by switches.
High Voltage—Unregulated variable to 1000 volts DC positive or negative. Voltage is metered. Maximum current of 1 ma.
Low AC Voltage—Unregulated 6.3 volts AC, 4 amperes capacity.
High AC Voltage—375 volts AC, 50 ma, DC Capacity. Unregulated.
V.R. Tube Reference DC Voltage—DC reference voltage, low current, available for reference or screen operation.
All voltages are capable of being used simultaneously except for the plus or minus 1000 volts. Either plus or minus may be used but not simultaneously.

GENERAL

The instrument is housed in a sturdy steel cabinet with a deeply etched aluminum panel. A rugged 4½" meter movement is used for all metering. Shunt and multiplier resistors are within 1% accuracy. A leather carrying handle is povided. 5 Way binding posts are used for the regulated outputs. All other voltages are available by pin jacks. The high and low voltage supplies each have a standby position and the voltage metered is indicated by a jeweled pilot light for the HV and LV.



Weight: 11 lbs.
Size: 8½" x 12" x 5"

760K.....kit form $39.95

760W.....factory wired $59.95

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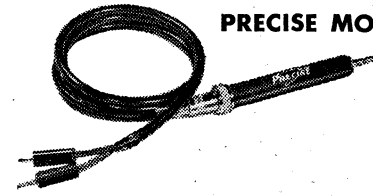
Instruments IN KIT & WIRED FORM . . . precise above all else

Model 970 Direct Probe: Shielded, interchangeable tips and non-hydroscopic insulation makes this an ideal utility probe.

Wired Only.....Dealer Net..... **$3.75**

PRECISE MODEL 970

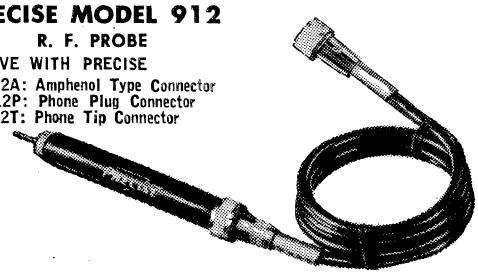


PRECISE MODEL 912

R. F. PROBE

EXCLUSIVE WITH PRECISE

Model 912A: Amphenol Type Connector
Model 912P: Phone Plug Connector
Model 912T: Phone Tip Connector



Pre-tested in production and upon completion to meet the rigid requirements of PRECISE • Individually calibrated at 75 megacycles for accuracy, impedance and shunt capacity • The lowest priced, finest factory wired and calibrated R. F. Probe in the industry today.

- FREQUENCY RANGE: RMS readings from AF through 250 megacycles. Veritably flat through 100 megacycles .
- BUILT IN 600 VOLT BLOCKING CAPACITOR.
- INPUT RESISTANCE: Approximately 200,000 ohms at 1 megacycle. Approximately 150,000 ohms at 10 megacycles Approximately 25,000 ohms at 100 megacycles

NOTE: This instrument is normally supplied for 25 megohm input impedance VTVM's. If it is to be used with 10 or 11 megohm instruments, specify "(10)" after Model Number. If it is to be used with oscilloscopes or 20,000 ohm per volt meters, specify "(MM)".

- PRECISE Models 909 and 9071 VTVM's use Type 912A(25)

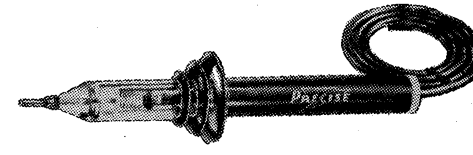
Wired Only.....Dealer Net..... **$4.25**

The PRECISE Model 999 High Voltage Probe was designed for high voltage measurements with special emphasis on SAFETY, OPERATIONAL SIMPLICITY AND RUGGED CONSTRUCTION. FIRST IN THE INDUSTRY to include any one or more of the following EXCLUSIVE features.

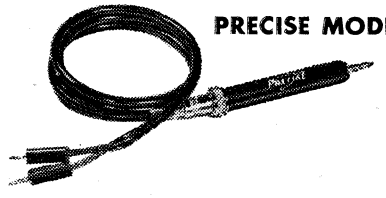
Multiple Insulation: The only probe with at least three individual media that must be penetrated before a voltage breakdown could occur.
Mechanically shockproof construction: The only probe to utilize a double spring suspension system in order to protect the Ceramic high wattage multiplier resistor.
Interchangeable Tips: The only probe where two tips are supplied — one, the conventional type for probing; the other, an alligator clip for connecting permanently to the circuit.
Swivel Lead Connection: A special fixed slip-ring arrangement is provided which prevents the test lead cable from snagging or developing high strains at the junction of the cable and probe handle.
Interchangeable Resistors.

Wired Only.....Dealer Net..... **$6.98**

MODEL 999



PRECISE MODEL 960



• 10 to 1 Capacity Attenuator Probe. Precise again sets the pace. . . . This time with the lowest priced Capacity Attenuator Probe, and what's more IT ALLOWS SCOPE MEASUREMENTS TO BE MADE WITH 1/10th THE CAPACITY LOADING EFFECT.

- FREQUENCY RANGE: Through 100 MC, flat through normal commercial oscilloscope frequencies.
- INPUT CAPACITY: Less than 7 mmfd.
- Each probe may be individually calibrated.
- Non hydro-scopic insulation.

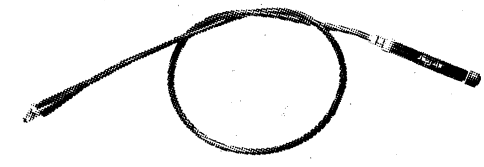
Factory Wired Only..... **$5.95**

Try a PRECISE RE-MO-TUNER . . . you'll wonder why someone hadn't made this available long ago. TV alignment problems — vertical, horizontal, etc., solved without stretching or straining. You stand in front of the set after you clip the RE-MO-TUNER on the controls behind it. Then twist the tuner knob. Sturdy . . . no parts to break . . . fits compactly into any tool box.

Two allow height and linearity to be adjusted at the same time.

Dealer Net..... **$2.95**

RE-MO-TUNER MODEL SMK



MODEL AT-2
AC-DC STEP ATTENUATOR KIT

The Model AT-2 Stepping Attenuator Kit was specifically designed for Precise Oscilloscopes, although it may readily be adapted to other instruments as a frequency compensated vertical stepping attenuator. It comes complete with all components, including a small etched pad which is placed over the extra assembly hole on the front panel of Precise Oscilloscopes. The pad has a dark grey background with raised, frosted aluminum characters. A small black pointer knob is supplied.
When calibrated, the pad should readily pass frequencies from DC through 10 megacycles.

Dealer Net..... **$3.45**

VOLTAGE REGULATION KIT

This special kit adds voltage regulation to the Precise Models 300 or 300B, similar to that used in the Model 308.

VR-300—Dealer Net **$3.95**

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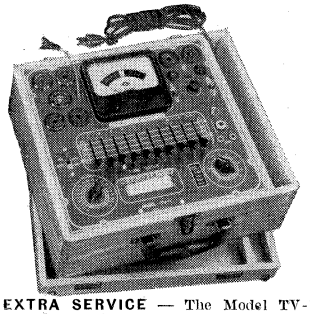
SUPERIOR TEST EQUIPMENT



EXTRA SERVICE — The Model TV-11 may be used as an extremely sensitive Condenser Leakage Checker. A relaxation type oscillator incorporated in this model will detect leakage even when the frequency is one per minute.

The New Model TV-11
Standard Professional

TUBE TESTER

SPECIFICATIONS

- Tests all tubes, including 4, 5, 6, 7, Octal, Lock-in, Peanut, Bantam, Hearing Aid, Thyratron, Miniatures, Sub-miniatures, Novals, Sub-Minars, Proximity fuse types, etc.
- Uses the new self-cleaning Lever Action Switches for individual element testing. Because all elements are numbered according to pin-number in the RMA base numbering system, the user can instantly identify which element is under test. Tubes having tapped filaments and tubes with filaments terminating in more than one pin are truly tested with the Model TV-11 as any of the pins may be placed in the neutral position when necessary.
- The Model TV-11 does not use any combination type sockets. Instead individual sockets are used for each type of tube. Thus it is impossible to damage a tube by inserting it in the wrong socket.
- Free-moving built-in roll chart provides complete data for all tubes.
- Newly designed Line Voltage Control compensates for variation of any line voltage between 105 Volts and 130 Volts.
- NOISE TEST: Phono-jack on front panel for plugging in either phones or external amplifier will detect microphonic tubes or noise due to faulty elements and loose internal connections.

The model TV-11 operates on 105-130 Volt 60 Cycles A.C. Comes housed in a beautiful hand-rubbed oak cabinet complete with portable cover.

$47.50 NET

The New Model TV-40

C.R.T. TUBE TESTER

A complete picture tube tester for little more than the price of a "make-shift" adapter!!
Tests ALL magnetically deflected tubes . . . in the set . . . out of the set . . . in the carton!!

The Model TV-40 is absolutely complete. Self-contained, including built-in power supply, it tests picture tubes in the only practical way to efficiently test such tubes; that is by the use of a separate instrument which is designed exclusively to test the ever increasing number of picture tubes!

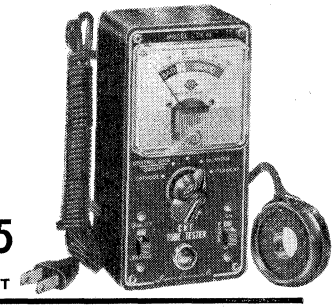
SPECIFICATIONS

- Tests **all** magnetically deflected picture tubes from 7 inch to 30 inch types.
- Tests for quality by the well established emission method. All readings on "Good-Bad" scale.
- Tests for inter-element shorts and leakages up to 5 megohms.
- Test for open elements.

EASY TO USE: Simply insert line cord into any 110 volt A.C. outlet, then attach tester socket to tube base (Ion trap need not be on tube). Throw switch up for quality test . . . read direct on Good-Bad scale. Throw switch down for all leakage tests.

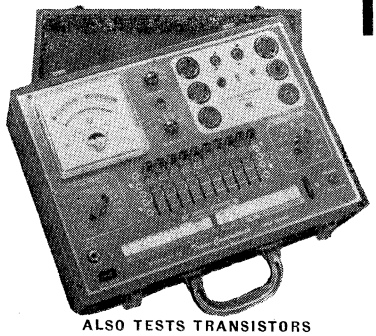
Model TV-40 C.R.T. Tube Tester comes absolutely complete — nothing else to buy. Housed in round cornered, molded bakelite case. Only .....

$15.85 NET



The New Model TV-12

TRANS-CONDUCTANCE TUBE TESTER



ALSO TESTS TRANSISTORS

TESTING TUBES

- **Employs improved TRANS-CONDUCTANCE circuit.** An in-phase signal is impressed on the input section of a tube and the resultant plate current change is measured. This provides the most suitable method of simulating the manner in which tubes actually operate in Radio & TV receivers, amplifiers and other circuits. Amplification factor, plate resistance and cathode emission are all correlated in one meter reading.
- **NEW LINE VOLTAGE ADJUSTING SYSTEM.** A tapped transformer makes it possible to compensate for line voltage variations to a tolerance of better than 2%.
- **SAFETY BUTTON** — protects both the tube under test and the instrument meter against damage due to overload or other form of improper switching.
- **NEWLY DESIGNED FIVE POSITION LEVER SWITCH ASSEMBLY.** Permits application of separate voltages as required for both plate and grid of tube under test, resulting in improved Trans-Conductance circuit.

TESTING TRANSISTORS

A transistor can be safely and adequately tested only under dynamic conditions. The Model TV-12 will test all transistors in that approved manner, and quality is read directly on a special "transistor only" meter scale.

The Model TV-12 will accommodate all transistors including NPN's, PNP's. Photo and Tetrodes, whether made of Germanium or Silicon, either point contact or junction contact types.

Model TV-12 housed in handsome rugged portable cabinet sells for only ..

$72.50 NET

The New Model TV-50

GENOMETER

A versatile all-inclusive GENERATOR which provides ALL the outputs for servicing: A.M. RADIO - F.M. RADIO - AMPLIFIERS - BLACK & WHITE TV - COLOR TV

7 Signal Generators in One!

- **R. F. Signal Generator for A.M.**
- **R. F. Signal Generator for F.M.**
- **Audio Frequency Generator**
- **Bar Generator**
- **Cross Hatch Generator**
- **Color Dot Pattern Generator**
- **Marker Generator**

Bar Generator: Projects an actual Bar Pattern on any TV Receiver Screen. Pattern will consist of 4 to 16 horizontal bars or 7 to 20 vertical bars.

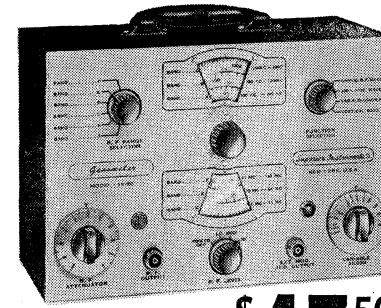
Cross Hatch Generator: Projects a crosshatch pattern on any TV picture tube. Pattern consists of non-shifting, horizontal and vertical lines, interlaced.

Dot Pattern Generator (for Color TV): The Dot Pattern projected on any color TV Receiver tube by the Model TV-50 will enable you to adjust for proper color convergence.

Marker Generator: The Model TV-50 includes all the most frequently needed marker points. 189 Kc., 262.5 Kc., 456 Kc., 600 Kc., 1000 Kc., 1400 Kc., 1600 Kc., 2000 Kc., 2500 Kc., 3579 Kc., 4.5 Mc., 5 Mc., 10.7 Mc., (3579 Kc. is the color burst frequency).

R. F. Signal Generator: Generates Radio Frequencies from 100 Kilocycles 60 Megacycles on fundamentals and from 60 Megacycles to 180 Megacycles on powerful harmonics.

Variable Audio Frequency Generator: Provides a variable 300 cycle to 20,000 cycle peaked wave audio signal (also fixed 400 cycle sine wave).



Comes absolutely complete with shielded leads and operating instructions. Only ...

$47.50 NET

MANUFACTURED BY SICO SUPERIOR INSTRUMENTS CO.

Manufactured by

SUPERIOR INSTRUMENTS CO.

NEW YORK 67, N. Y.

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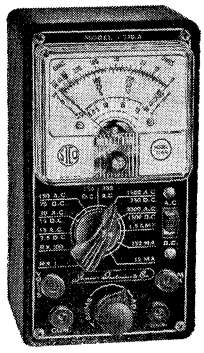
SUPERIOR TEST EQUIPMENT



The New Model 770-A — **The FIRST POCKET-Sized**

VOLT-OHM MILLIAMMETER

USING THE NEW *"FULL-VIEW"* METER

71% MORE SCALE AREA!!

Yes, although our new FULL-VIEW D'Arsonval type meter occupies exactly the same space used by the older standard 2½" Meters, it provides 71% more scale area. As a result, all calibrations are printed in large easy-to-read type and for the first time it is now possible to obtain **measurements instead of approximations** on a popular priced pocket-sized V.O.M.

FEATURES:

- Compact—measures 3⅛" x 5⅞" x 2¼"
- Uses "Full View" 2% accurate, 850 Microampere D'Arsonval type meter
- Housed in round-cornered, molded case
- Beautiful black etched panel. Depressed letters filled with permanent white, insures long-life even with constant use.

SPECIFICATIONS

6 A.C. VOLTAGE RANGES: 0-15/30/-150/300/1500/3000 volts.
6 D.C. VOLTAGE RANGES: 0-7.5/15/-75/150/750/1500 volts.
2 RESISTANCE RANGES: 0-10,000 Ohms, 0-1 Megohm.
3 D.C. CURRENT RANGES: 0-15/150 Ma., 0-1.5 Amps.
3 DECIBEL RANGES: —6 db to + 18 bd, + 14 db to + 38 db, + 34 db to + 58 db

The Model 770-A comes complete with self-contained batteries, test leads and all operating instructions.

$15.85 NET

The New Model 670-A

SUPER-METER

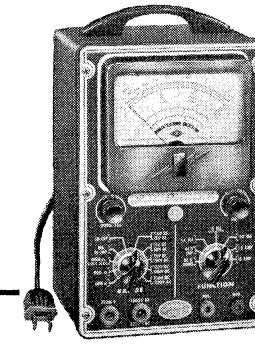
***A combination* Volt-Ohm Milliammeter plus capacity reactance inductance & decibel measurements**

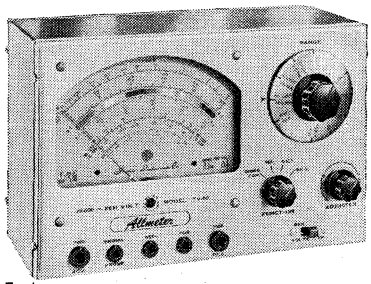
S P E C I F I C A T I O N S :

D.C. VOLTS: 0 to 7.5/15/75/150/750/1,500/ 7,500 Volts.
A.C. VOLTS: 0 to 15/30/150/300/1,500/3,000 Volts.
OUTPUT VOLTS: 0 to 15/30/150/300/1,500/3,000 Volts.
D.C. CURRENT: 0 to 1.5/15/150 Ma. 0 to 1.5/15 Amperes.
RESISTANCE: 0 to 1,000/100,000 Ohms 0 to 10 Megohms.
CAPACITY: .001 to 1 Mfd. 1 to 50 Mfd. (Quality test for electrolytics).
REACTANCE: 50 to 2,500 Ohms 2,500 Ohms to 2.5 Megohms.
INDUCTANCE: .15 to 7 Henries 7 to 7,000 Henries.
DECIBELS: —6 to + 18 + 14 to + 38 + 34 to + 58.
ADDED FEATURE: The Model 670-A includes a special GOOD-BAD scale for checking the quality of electrolytic condensers at a test potential of 150 Volts.

The Model 670-A comes housed in a rugged, crackle-finished steel cabinet complete with test leads and operating instructions.
Measures 6¼" x 9½" x 4½".

$28.40 NET





20,000 OHMS PER VOLT

The New Model TV-60

ALLMETER

INCLUDES SERVICES NEVER BEFORE PROVIDED BY AN INSTRUMENT OF THIS TYPE. READ AND COMPARE FEATURES AND SPECIFICATIONS BELOW!

Features:

- Giant **recessed** 6½" 40 Microampere meter with **mirrored** scale.
- Built-in Isolation Transformer.
- Use of the latest type **printed circuit** and 1% multipliers assure unchanging accurate readings.

SPECIFICATIONS:

8 D.C. VOLTAGE RANGES (At a sensitivity of 20,000 Ohms per Volt) 0 to 15/75/150/300/750/1500/7500/30,000 Volts.
7 A.C. VOLTAGE RANGES: (At a sensitivity of 5,000 Ohms per Volt) 0 to 15/75/150/300/750/1500/7500 Volts.
3 RESISTANCE RANGES: 0 to 2,000/200,000 Ohms, 0-20 Megohms.
2 CAPACITY RANGES: .00025 Mfd. to 30 Mfd.
5 D.C. CURRENT RANGES: 0-75 Microamperes, 0 to 7.5/75/750 Milliamperes, 0 to 15 Amperes.
3 DECIBEL RANGES: —6 db to + 58 db.

R.F. SIGNAL TRACER SERVICE: Enables following the R.F. Signal from the antenna to speaker of any radio or TV receiver and using that signal as a basis of measurement to first isolate the faulty stage and finally the component or circuit condition causing the trouble.

AUDIO SIGNAL TRACER SERVICE: Functions in the same manner as the R.F. Signal Tracing service specified above except that it is used for the location of cause of trouble in all audio and amplifier systems.

Model TV-60 comes complete with book of instructions; pair of standard test leads; high-voltage probe; detachable line cord; R.F. Signal Tracer Probe and Audio Signal Tracer Probe. Pliofilm bag for all above accessories is also included. Price complete. Nothing else to buy. **ONLY** .....

$52.50 NET

The New Streamlined Model TC-55

TUBE TESTER

FOR: The Experimenter or Part-time Serviceman, who has delayed purchasing a higher priced Tube Tester.
FOR: The Professional Serviceman, who needs an extra Tube Tester for outside calls.
FOR: The busy TV Service Organization, which needs extra Tube Testers for its field men.

Speedy, yet efficient operation is accomplished by: 1—Simplification of all switching and controls. 2—Elimination of old style sockets used for testing obsolete tubes (26, 27, 57, 59, etc.) and providing sockets and circuits for efficiently testing the new Noval and Sub-Minar types.

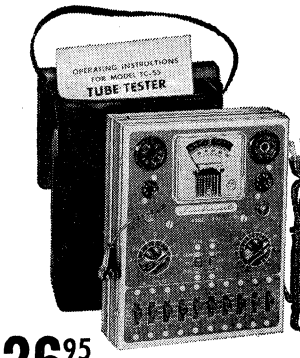
You can't insert a tube in wrong socket. It is impossible to insert the tube in the wrong socket when using the new Model TC-55. Separate sockets are used, one for each type of tube base. If the tube fits in the socket it can be tested.

"Free-point" element switching system. The Model TC-55 incorporates a newly designed element selector switch system which reduces the possibility of obsolescence to an absolute minimum. Any pin may be used as a filament pin and the voltage applied between that pin and any other pin, or even the "top-cap."

Checks for shorts and leakages between all elements. The Model TC-55 provides a super sensitive method of checking for shorts and leakages up to 5 Megohms between any and all of the terminals. Continuity between various sections is individually indicated. This is important, especially in the case of an element terminating at more than one pin. In such cases the element or internal connection often completes a circuit.

Elemental switches are numbered in strict accordance with R.M.A. specification. One of the most important improvements, we believe, is the fact that the 4 position fast-action snap switches are all numbered in exact accordance with the standard R.M.A. numbering system. Thus, if the element terminating in pin No. 7 of a tube is under test, button No. 7 is used for that test.

The Model TC-55 comes complete with operating instructions and charts. Housed in rugged steel cabinet. Use it on the bench—use it for field calls. A streamlined carrying case, included at no extra charge, accommodates the tester and book of instructions.



$26.95 NET

Manufactured by

SUPERIOR INSTRUMENTS CO.

NEW YORK 67, N. Y.

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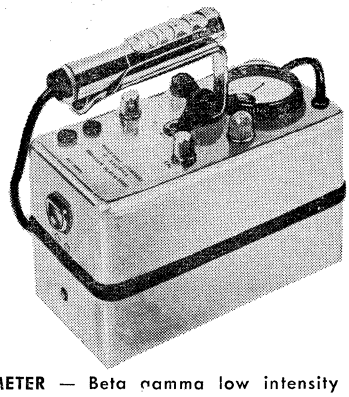
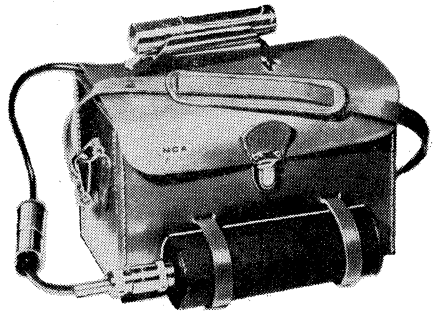
Net

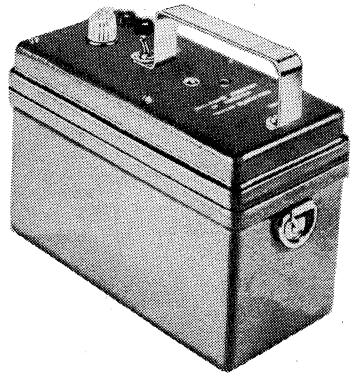
GEIGER COUNTERS • GEIGER TUBES
NUCLEAR INSTRUMENTS



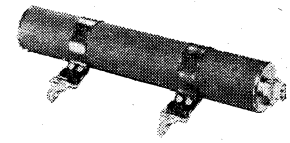
SURVEY METER — Beta gamma low intensity instrument. Model RM2NA.
Applications: Uranium prospecting, isotope labs, civil defense, industrial monitoring.



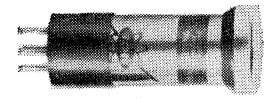
SURVEY METER — Combination high gamma sensitivity multiplier tube probes and the RM2NA. survey meter Models R6A, R6B and R6C, use the B6A, B6B and B6C tubes respectively.
Applications: Large area uranium prospecting and area survey. Used for aerial, automobile and foot survey, and radiometric assay of ore.



URANIUM FINDER — A highly sensitive instrument for detecting hard, beta and gamma radiation. Sensitivity approximately .02mr/hr for radium gamma, model RDN.
Application: Uranium prospecting, industrial and laboratory detection of radioactive areas.



MULTIPLIER TUBE — All metal multiple geiger tube with very high sensitivity for gamma rays. Available in 3 models with increasing sensitivity, B6A, B6B, and B6C. Sensitivities for radium gamma, up to 500,000 counts/min/mr/hr.
Application: Uranium prospecting, medical, laboratory and industrial gamma ray measurements.



GEIGER TUBES — Thin mica end window available in four window thicknesses, as models 1W, 1WA, 1WAA and 1WAAA.
Application: Accurate assay of alpha and soft or medium energy beta radiation.

GEIGER TUBE — Mica end window, bismuth cathode tube, highly sensitive to gamma rays from I-131, model B1W.
Application: Used as a probe in medical diagnostic tests with I-131.

GEIGER TUBE — All metal, thick wall gamma tube, — model M3. Thin wall hard beta, gamma sensitive — models M5, M5A, M5AV. Thin wall with bismuth cathode for high gamma sensitivity, models B5, B5A, B5AV.
Application: Low cost, rugged tubes used in uranium prospecting instruments. These are precision tubes and can be used in research, industry and medicine.

GEIGER TUBE — All glass thin wall tubes with 3 prong pee wee base. Sensitive to hard beta and gamma radiation. 5/8" diameter — Model 2A; 3/4" diameter model 2B.
Application: Used in low level beta gamma survey meters.

COSMIC RAY TUBE — Available in various dimensions. Active volume 2" x 30" — Model C1, 1" x 6" — Model C2, 1" x 12" — Model C3, 1" x 20" — Model C4, Other dimensions upon request.
Application: Cosmic ray research studies, suitable for coincidence and anti-coincidence experiments.

NUCLEONIC CORPORATION OF AMERICA • BROOKLYN 31, NEW YORK

MANUFACTURERS OF NUCLEAR DETECTION EQUIPMENT FOR

- OIL EXPLORATION
- URANIUM EXPLORATION
- CIVILIAN DEFENSE
- RADIOISOTOPE LABS.
- MEDICAL DIAGNOSIS, RESEARCH THERAPY
- EDUCATION IN ATOMIC ENERGY
- ATOMIC POWER PLANTS
- GEIGER TUBES FOR EQUIPMENT MANUFACTURERS
- HEALTH PHYSICS

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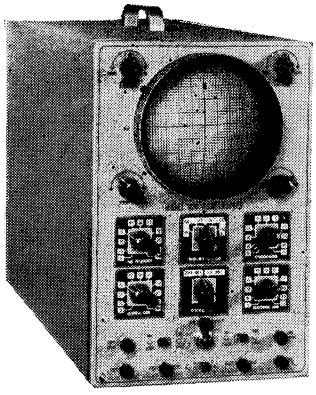
save MORE... service BETTER with EMC precision instruments



NEW EMC MODEL 601 OSCILLOSCOPE

- Uses new 5UP1—5" scope tube for sharp focusing and good intensity.
- Retrace blanking amplifier to eliminate confusion and give clearer pictures.
- Has built-in 60 cycle phasing control and sweep for TV servicing.
- Uses astigmatism control for better focusing.
- Provision for Z axis input or intensity modulation.
- Synchronization available on positive or negative phase of input voltage or from external source.
- Uses a 2 step compensated attenuator input.
- Has a 2 stage push-pull vertical amplifier with sensitivity of 0.2 volts per inch.
- Multivibrator sweep from 15 cycles to over 75 kilocycles.
- Full 5 mc band width for color TV servicing.

NEW MODEL 601 (completely wired and tested) **$117.00**

SPECIFICATIONS

Tube Complement: 1-5UP1 cathode ray; 3-12AU7 (vert. & horiz. amplifier and multivibrator); 2-5Y3 rectifier tubes; 2-6C4 (phase splitter and blanking amplifier); 1-12AT7 (horizontal amplifier).

Power Requirement: 105-130 volts 50/60 cycles AC-50 watts.

Dimensions: 8¾" wide x 14" high x 15½" deep—weight 29 lbs.

VOLOMETER* EMC MODEL 102

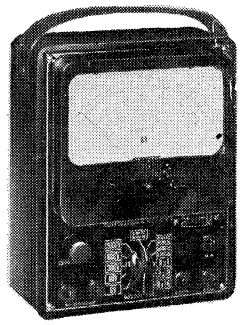
A sturdy, durable pocket instrument from EMC's economy line housed in a molded-bakelite case. This instrument features a three-inch, accurate to within 2%—800 microamperes D'arsonval-type meter with three AC current ranges; and the same zero adjustment for both resistance ranges.

SPECIFICATIONS:

AC VOLTAGE—5 RANGES: 0 to 12-120-600-3000 volts. **DC VOLTAGE—5 RANGES:** 0 to 6-60-300-600-3000 volts. **AC CURRENT—3 RANGES:** 0 to 30-150-600 ma. **DC CURRENT—4 RANGES:** 0 to 6-30-130 ma: 0 to 1.2 amps. **TWO RESISTANCE RANGES:** 0 to 1000 ohms; 0 to 1 megohm.

MODEL 102—Weight 1 lb. 5 oz.; Size 3¾" x 6¼" x 2" **$14.90**

*Reg. trade mark for volt-ohm miliameter.



VOLOMETER* EMC MODEL 104

A valuable addition to EMC's economy line is this accurate, precision-engineered instrument. This model features a 4½ inch, 50 microampere meter, with alnico magnet . . . housed in a molded-bakelite case; with three AC current ranges to 3 amps and three resistance ranges to 20 megohms.

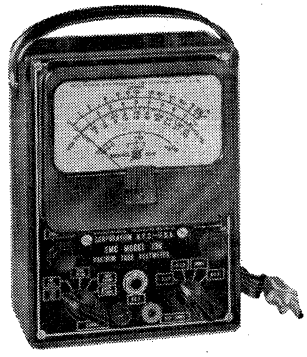
SPECIFICATIONS:

AC VOLTAGE—5 RANGES (1,000 ohms per volt): 0 to 6-60-300-600-3000 volts. **DC VOLTAGE—5 RANGES** (20,000 ohms per volt): 0 to 6-60-300-600-3000 volts. **AC CURRENT—3 RANGES:** 0 to 30-300 ma. 0 to 3 amps. **DC CURRENT—3 RANGES:** 0 to 6-60-600 ma. **THREE RESISTANCE RANGES:** 0 to 20K, 0 to 200K, 0 to 20 megs. **FIVE DB RANGES:** −4 to +67 DB.

MODEL 104—With carrying strap. Wt. 2 lb. 5 oz. Size: 5¼" x 6¾" x 2⅞" **$26.95**

MODEL HVT—30,000 Volt Probe for MODEL 104 ..... **7.95**

*Reg. trade mark for volt-ohm miliameter.



VACUUM TUBE VOLTMETER EMC MODEL 106

CHECK THESE FEATURES:

● Specially designed for field alignment of television and radio sets. ● Uses dual triode balanced bridge circuit ● All functions and ranges completely electronic—meter cannot burn out ● Zero center position for FM discriminator alignment ● Uses 1% precision resistors for voltage multipliers ● 5 DB ranges ● Full scale deflection of 1½ volts for both AC-DC volts ● Measures resistance in 5 ranges from .2 to 1000 megs. ● 1 meg. isolating resistor in probe ● Housed in compact, portable bakelite case ● Size: 4¼" x 5¼" x 2⅞", net wt. 3 lbs.

SPECIFICATIONS:

AC VOLTAGE—5 RANGES: 0 to 1.5, 10, 100, 300, 1000 volts. Input resistance 2 megohms. Frequency response flat from: 25 to 100,000 cycles. **DC VOLTAGE—5 RANGES:** 0 to 1.5, 10, 100, 300, 1000 volts (up to 30,000 volts with accessory probe). Input Resistance: 16.5 megs. or 1⅔ megohms per volt. **OHMS:** 1000-10,000-100,000-10 megohms, 1000 megohms. 10 megohms center on 1000 megohms range. **DECIBELS RANGES:** -24 to -1.5, -8 to +15, +12 to +35, +21.5 to +44.5, +32 to +55.

MODEL 106—Illustrated **$35.90**

MODEL 106—In Kit Form **23.90**

MODEL RFP—High Frequency Probe (useful to 200 megacycles) **6.95**

MODEL HVP—30,000 Volt Probe for MODEL 106 ..... **8.75**

MODEL IS—Rubber covered. Instrument stand for volt-ohm, miliameters and VT volt-meters **0.98**

EMC

ELECTRONIC MEASUREMENTS CORP.

FOR EMC'S COMPLETE LINE OF QUALITY TEST EQUIPMENT SEE PAGE U-174 AND U-175

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MicroMatch | RF POWER AND VSWR MEASURING EQUIPMENT

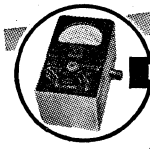
MICROMATCH is the registered trade name which identifies a complete line of M. C. Jones Electronics Co., Inc. R. F. Power and VSWR measuring instruments.

These instruments contain a patented circuit designed to produce an output essentially independent of frequency. They cover the frequency range of 0.5 to 4000 mcs. and power levels of 10 milliwatts to 120 kilowatts.

The R. F. Power and VSWR instruments are rugged field and laboratory type complete measuring equipment, consisting of both coupler and indicating units.

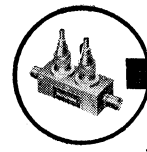
The DC and RF output coupler units only are sold principally to manufacturers who incorporate these units directly into government or commercial type transmitters.

Because they are made in quantity to the highest government and commercial standards, MICROMATCH instruments combine the highest quality with extremely low cost.



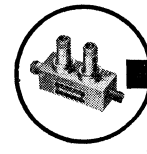
RF POWER and VSWR INSTRUMENTS

Model No.	Frequency Range (mcs.)	Power Range Incident & Reflected (watts)	RF Connectors and Impedance
261**	0.5 - 225	0 - 1000	Type 83-1R 52 ohms
262	-	0 - 1000 (relative)	Indicator only
263	0.5 - 225	0 - 10; 100; 1000	Type N* 52 ohms
701N	20 - 2000	0 - 1.2	Type N* 52 ohms
702N	28 - 2000	0 - 4	Type N* 52 ohms
703N	20 - 2000	0 - 12	Type N* 52 ohms
704N	46 - 2000	0 - 40	Type N* 52 ohms
705N	20 - 2000	0 - 120	Type N* 52 ohms
706N	28 - 2000	0 - 400	Type N* 52 ohms
711N	25 - 1000	0 - 30; 75; 300	N plus 83-1R Adapters
405B8	28 - 2000	0 - 4000	1⅝" Flange 51.5 ohms
445A9	28 - 2000	0 - 12,000	3⅛" Flange 50.0 ohms
445A10	20 - 2000	0 - 40,000	3⅛" Flange 50.0 ohms



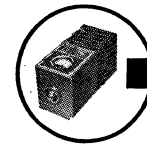
DC OUTPUT DIRECTIONAL COUPLERS

Model No.	Frequency Range (mcs.)	Power Range Incident & Reflected (watts)	RF Connectors and Impedance
576N1	42 - 2000	1.2	Type N* 52 ohms
576N2	28 - 2000	0 - 4	Type N* 52 ohms
576N3	20 - 2000	0 - 12	Type N* 52 ohms
576N4	46 - 2000	0 - 40	Type N* 52 ohms
576N5	42 - 2000	0 - 120	Type N* 52 ohms
576N6	28 - 2000	0 - 400	Type N* 52 ohms
402B8	28 - 2000	0 - 4,000	1⅝" Flange 51.5 ohms
442A9	28 - 2000	0 - 12,000	3⅛" Flange 50.0 ohms
442A10	20 - 2000	0 - 40,000	3⅛" Flange 50.0 ohms



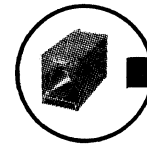
RF OUTPUT DIRECTIONAL COUPLERS

Model No.	Frequency Range (mcs.)	Coupling Attenuation	RF Connectors and Impedance
313N3	300 - 2000	30 db	Type N* 52 ohms
313N4	120 - 2000	40 db	Type N* 52 ohms
313N5	60 - 2000	50 db	Type N* 52 ohms
313N6	30 - 2000	60 db	Type N* 52 ohms
313N7	25 - 2000	70 db	Type N* 52 ohms



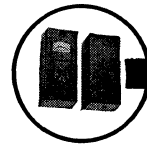
ABSORPTION TYPE RF WATTMETERS

Model No.	Frequency Range (mcs.)	Power Range (watts)	RF Connectors and Impedance
621N	1 to over 1000	0 - 120 milliwatts	Type N* 52 ohms
623N	1 to over 1000	0 - 1.2	Type N* 52 ohms
624N	1 to over 1000	0 - 4	Type N* 52 ohms
625C5	50 - 1000	0 - 120	Type C 50 ohms
611A7	50 - 1000	0 - 1200	3⅛" Flange 50 ohms
612A	44 - 1000	0 - 6000	3⅛" Flange 50 ohms



RF LOAD RESISTORS

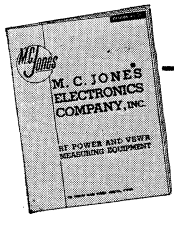
Model No.	Frequency Range (mcs.)	RF Power Dissipation (watts)	RF Connectors and Impedance
633N	3000	50 (air cooled)	Type N* 52 ohms
635N	3000	200 " "	Type N* 52 ohms
636N	3000	600 " "	Type N* 52 ohms
636A	2000	600 " "	3⅛" Flange 50.0 ohms
638A	2000	6000 (water cooled)	3⅛" Flange 50.0 ohms



CALORIMETRIC TYPE Primary Standard of RF Power

Model No.	Frequency Range (mcs.)	Power Range (watts)	RF Connectors and Impedance
641N	0 - 3000	0 - 3; 10; 30; 100; 300	Type N 52 ohms

*Also available with UHF, C, and HN Connectors.
**Coupler Unit Only for use with 262 Indicator.



Please write for our 50-page catalog describing the complete M. C. Jones line.

M.C.Jones

M. C. JONES ELECTRONICS CO., Inc.
BRISTOL, CONNECTICUT

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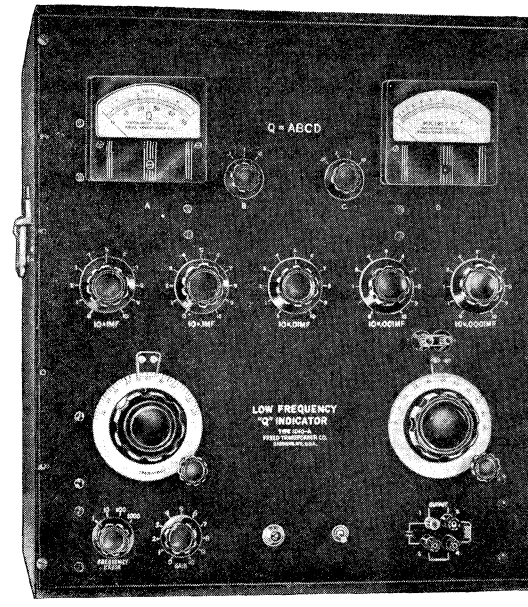
TYPE 1030-A LOW FREQUENCY "Q" INDICATOR

USES

The Type 1030-A Low Frequency "Q" Indicator measures directly the "Q" factor of coils. The instrument can also be used to measure the inductance of coils, distributed capacity, impedances, and dielectric losses. The "Q" Indicator can be used to study the magnetic properties of iron, such as stability of iron cores in function of applied voltages, and iron losses as a function of the frequency.

FEATURES

The main and essential feature of the instrument is that the "Q" factor is read directly without any complicated computations. The possibility of measuring "Q" through the whole audio and supersonic frequency range is provided. The setting up and the measuring of the "Q" of coils is practically instantaneous. The instrument is unaffected by line voltage variations, is entirely self-contained and A.C. operated. Both meters ("multiply-by" and "Q") are protected against overloads and cannot be burned out. The frequency range for "Q" measurements is 20 to 200,000 cycles. The terminals of the variable decade condensers are available directly on the front panel of the instrument. The condensers, therefore, can be used as high quality precision variable condensers. To reduce the residual capacitance a link is provided on the front panel of the instrument which disconnects all but the 100 mmfd variable air condenser. When the link is closed five decade capacitors and the air variable are connected across the condenser terminals. The total capacitance range is from 26 mmfd to 11.11 mfd so that an extremely wide range of inductors may be tested at any



desired frequency without adding external capacitors which introduces large errors. The R. C. Oscillator and variable impedance amplifier can be used as a separate low frequency generator with an output power of five watts into a 50 ohm load. The "Q" scale is calibrated from 0 to 100. A high accuracy of measurement is obtained, since "Q" variations from 0 to 100 are read on a 4 inch meter. "Q" factors of coils can be measured with up to 100 volts across the coil, and therefore makes it possible to determine the stability and the variations of the "Q" factor of coils as a function of the applied voltage. The voltage fed into the series circuit is variable from 10 volts to .01 volt.

SPECIFICATIONS

Range of "Q" Measurements: The range of "Q" factors is from 0.1 to 1000 over the frequency range from 20 to 50,000 cycles with an accuracy of 5%, from 50,000 cycles to 200,000 cycles the accuracy of "Q" measurements is limited by the residual capacity of the measuring circuit; (for iron core coils measurements in this frequency range will approach the 5%).

Oscillator Frequency Range: Continuously variable from 20 to 200,000 cycles in four ranges.

Frequency Accuracy: 1% under normal conditions. The frequency stability is better than 2% over a long period of time.

Output Impedance and Voltage: Four output impedances are available.

(a) 10 ohms impedance — 25 V Output Voltage
(b) 1 ohm impedance — 2.5 V Output Voltage
(c) .2 ohm impedance — .25 V Output Voltage
(d) .1 ohm impedance — .02 V Output Voltage

These Impedances are measured at 50,000 cy.

Variable Condenser: The variable condenser is composed of a 10 x 1 mfd., 10 x 0.1 mfd., 10 x 0.01 mfd., 10 x 0.001 mfd. and 10 x 0.0001 mfd. decade condenser and a 100 mmfd. variable air condenser.

Power Supply: The instrument is entirely self-contained and A.C. operated. Total consumption 200 watts.

Dimension: Width 19½" x Depth 14½" x Height 23"

Weight: 120 lbs.

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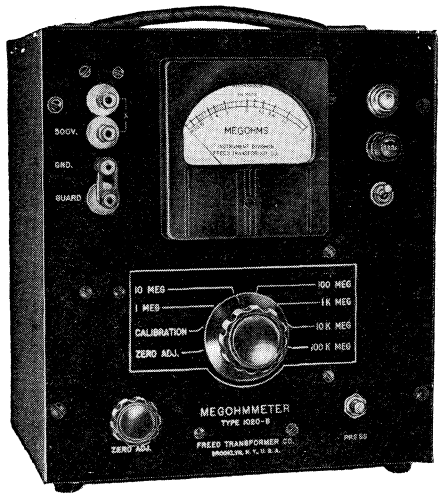


TYPE 1020-B MEGOHMMETER

USES

The Freed Type 1020-B Megohmmeter is a self contained and A.C. operated instrument equally useful in the laboratory or for production testing of the leakage resistance of insulation materials, condensers, cables, motors and transformer windings.

FEATURES

Resistance values indicated directly on a four inch meter protected against over-load. Rapid and safe to use, test voltage removed from terminals and capacitive component discharged to ground in all positions of multiplier switch. Maximum short circuit current limited to 6 milliamperes for optimum safety of operating personnel. Low resistance in series with component under test provides very short charging time for even the very largest capacitors. Calibration position provided to check accuracy of 500 volts D.C. potential.

500 volt test supply electronically regulated.

SPECIFICATIONS

Range: 1 megohm to 2,000,000 megohms in six overlapping ranges selected by a multiplier switch.

Accuracy: Plus or minus 3% on resistance values up to 100,000 megohms; plus or minus 5% from 100,000 to 2,000,000 megohms.

Voltage on Unknown: The voltage applied to the unknown terminals is 500 volts D.C. and is independent (less than 1%) of the value of the unknown.

Stability: Line voltage variations from 105-125 volts will cause less than 2% variation in the meter reading.

Power Supply: 105-125 volts A.C. 50-60 cycles 30 watts.

Dimensions: 9½ x 10½ x 8 inches.

Net Weight: 18 pounds.

2040 MEGA-MEGA METER

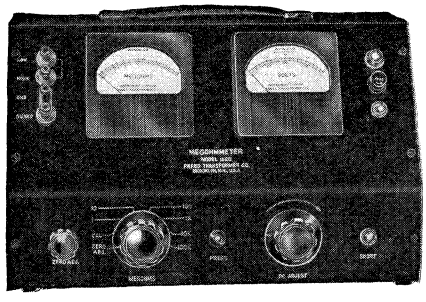
For measuring materials with extremely high insulation resistance such as the new type of plastics a type 2040 should be used. The resistance range of this instrument is 20 million megohms (20 megamegaohms for absolute readings and 100 million megohms for relative readings).

SPECIFICATIONS

Range: 1 megohm to 100,000,000 megohms (10^8).

Accuracy: Plus or minus 3% on resistance values up to 100,000 megohms, plus or minus 5% to 20,000,000 megohms, relative readings to 100,000,000 megohms.

Voltage on Unknown: Regulated 500 Volts D.C.
Power Supply: 105-125 Volts, 50-60 cycles.
Size: 9½ x 10½ x 8 inches.
Weight: 18 lbs.



TYPE 1620 MEGOHMMETER

DESCRIPTION

The instrument is a direct-reading, precision-balanced electronic ohmmeter with a variable D.C. test potential included as part of the unit. The D.C. test potential is variable from 50 to 1000 volts and is indicated by a four inch meter.

The insulation resistance is measured in six overlapping ranges and is indicated by a four inch meter, protected against overload. A relay, operated from the front panel, disconnects the high voltage from the test terminals and eliminates all danger of shock due to exposed high potential. In the standby position (when push button is released) a resistance is connected between the chassis and the high voltage terminal, so that the danger of shock is eliminated when disconnecting the component under test.

CONTROLS

1. Range selector and calibrating switch.
2. Zero adjust control for setting meter scale to infinity.
3. Push button switch for activating the relay which applies test voltage to terminals — when released, discharges capacitive component across the unknown terminals.
4. Variable D.C. adjust — for setting the D.C. test voltage at desired level.
5. A.C. on-off switch.

SPECIFICATIONS

Range: .5 megohms to 4,000,000 megohms in six overlapping ranges selected by a multiplier switch.

Accuracy: Plus or minus 5%.

Voltages on Unknown: The voltage applied to the unknown terminals is continuously variable from 50 volts to 1000 volts. A 4" meter indicates the voltage applied to the unknown.

Terminals: Four terminals are provided, two for connecting the unknown, one guard and one ground.

Power Supply: 105-125 volts A.C. — 50-60 cycles.
Cabinet: 15" x 9" x 7½".

TYPE 1620-C MEGOHMMETER

All features same as type 1620 with additional circuitry for measuring capacitor leakage with test voltages from 50-1000 volts D. C.

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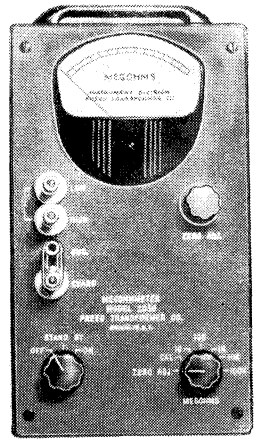
TYPE 2030 PORTABLE MEGOHMMETER



USES

The Freed Type 2030 Megohmmeter is a battery operated instrument especially suited for measuring leakage of transformers, motors, cables, condensers and insulating materials wherever the power line is inaccessible or where battery operation is more desirable.

FEATURES

Resistance values are indicated on a 3" expanded scale meter protected against overload. Low resistance in series with component under test provides very short charging time for even the largest condensers. Calibration positioned provided to check accuracy of 500 volt test potential. The 500 volt test supply is regulated.

SPECIFICATIONS

Range: 5 megohms to 10,000,000 megohms in 5 overlapping ranges.

Accuracy: Plus or minus 3% on resistance values up to 100,000 megohms: plus or minus 5% from 100,000 megohms to 10,000,000 megohms.

Voltages on Unknown: The voltage applied to the Unknown terminals is 500 volts D.C. and is independent (less than 1%) of the value of The Unknown.

Terminals: Four terminals are provided, two for connecting the Unknown, one guard and one ground.

Dimensions: 5 x 6 x 10.

Power Supply: Standard replaceable long life batteries.

Dimensions: 5¾" x 8" x 3¾".

Weight: 8 lbs.

TYPE 1010-A COMPARISON AND LIMIT BRIDGE

USES

This instrument is a comparison and limit bridge for use in both laboratory and production testing of resistors, condensers and inductors. The manufacturer of these components can use it for production tests, the user for incoming inspection and acceptance tests. The instrument is particularly useful for laboratory work (bridge or filters) where very accurate components are required.

FEATURES

For precision and production testing, the bridge has many advantages. Power line operation and the visual null indicator make the instrument completely self-contained. It can be used in noisy locations. Its small size and light weight permit the instrument to be moved easily and to be set up wherever necessary.

DESCRIPTION

The instrument is composed of an oscillator, a bridge and a selective amplifier. The oscillator output is coupled into the bridge through a shielded isolation transformer. A switch is provided which connects either a high or low impedance winding across the bridge, consisting of two fixed resistors, the unknown impedance and the standard. A variable resistor between the two fixed resistors makes it possible to read the percentage difference between the unknown and the standard on a specially calibrated dial. A high gain selective amplifier indicates the balance of the bridge. The general method of testing is the comparison of an unknown component with a standard component of the same type. Accurate percentage measurements are obtained by the use of precision components in the arms of the bridge. The use of a high gain amplifier and adequate internal shielding assures a very sharp and distinct balance.

A visual null indicator, consisting of a meter used in connection with the high gain amplifier makes it possible to use the No. 1010-A Bridge as a precision limit bridge in production testing.

SPECIFICATIONS

Frequency: Three test frequencies are available: 50 or 60 cycles, 1000 cycles and 10,000 cycles.

The 50 or 60 cycles are taken from the line. The 1000 and 10,000 cycles are generated by an oscillator and are accurate to within ±2%.

Range: Two comparison ranges are provided. 5% and 20%. The percentage difference is read directly on a calibrated dial.

Resistor Measurements: Resistors from 1 ohm to 20 megohms may be compared at 60 cycles to an accuracy of ±0.1%.

Condenser Measurements: Condensers from 50 mmfd to 10 mfd are measured at 1000 cycles. Condensers above 10 mfd are measured at 60 cycles. Condensers below 50 mmfd may be measured if the ground-unground switch is in the unground position.

Inductor Measurements: Inductors may be measured at 60, 1000 or 10,000 cycles depending on their value. Range: 10 microhenries to 1000 henries.

Accuracy: On the 5% position the components can be adjusted to within an accuracy of ±0.1%.

Voltage Applied to the Unknown: Two controls are provided to vary the voltage across the unknown. A special low impedance winding is used when measuring small impedances and the voltage across these may be varied from .1 to 1 volts. For higher values of impedance the voltage may be varied from .5 to 15 volts.

Power Supply: 105-125 volts; 50-60 cycles.

Portable: Carrying cabinet of all metal construction.

Dimensions: 10½" x 12" x 12".

Net Weight: 17 lbs.

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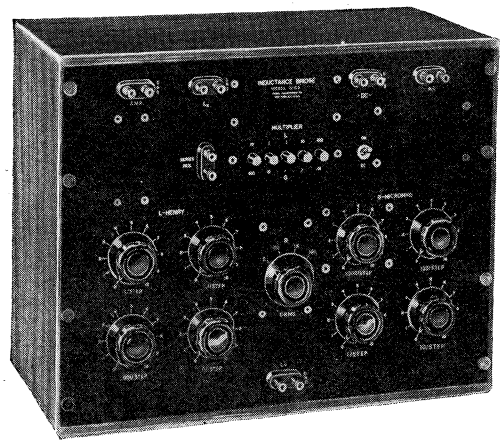
TYPE 1110-AB INCREMENTAL INDUCTANCE BRIDGE



USES

The Incremental Inductance Bridge is designed for measuring the inductance of Iron Core components at any frequency up to 10,000 cycles. Inductors can be measured with a superimposed direct current, therefore, the bridge will measure the incremental inductance of coils. The bridge can be used for determination of storage factor, "Q", either at a given frequency in function of the applied voltage or at a given voltage in function of the applied frequency. The bridge can be used by the manufacturers of iron core components, such as filter chokes, high Q coils, and iron core audio and supersonic frequency components. Due to its very wide inductance range the instrument can be used as a general purpose laboratory inductance bridge.

SPECIFICATIONS

Inductance Ranges: One millihenry to one thousand henries in five ranges. Inductance values are read directly from a four dial decade and a multiplier switch. The last range may be extended to 10,000 henries through the use of an external resistance.

Conductance Range: One micromho to one mho in five ranges, read directly from a four dial decade and a multiplier switch. This conductance represents the reciprocal of the A.C. resistance of the coil.

"Q" Range: "Q" is measured as the product of Inductance (L), Frequency (W) and Conductance (G). The range of "Q" measured on the bridge is 0.5 to 100. Measurement of inductance is independent of the values of "Q."

Frequency Range: The bridge is calibrated and adjusted at both 60 and 1000 cycles, but can be used at any frequency up to 10,000 cycles. Errors resulting from stray capacity increase with frequency.

Range of Superimposed D.C.: On multiplier switch position L X 100 the D.C. is limited to 10 ma.
On the position L X 10, the D.C. is limited to 250 ma.

Accuracy: 1% through the frequency range from 60-1000 cycles 2% for frequencies from 1000 to 10,000 cycles. This accuracy is decreased for extreme positions of the multiplier. Conductance measurements 5% from 60-1000 cycles.

Inductors up to 11 Henries may be measured with 1. Amp DC through them.

Mounting: The bridge is supplied in a walnut cabinet or on special order for standard rack mounting.

Dimensions: Rack: 19" Wide x 8" Deep x 14" High.
Cabinet: 21" Wide x 8" Deep x 16⅝" High.

Net Weight: Rack: 37 lbs. Cabinet: 48 lbs.

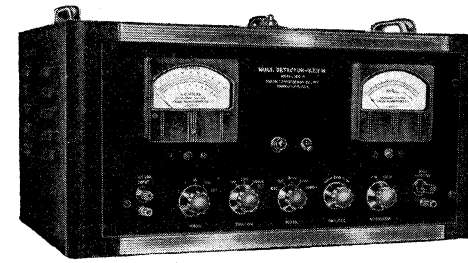
TYPE 1210-A NULL DETECTOR AND VACUUM TUBE VOLTMETER

USES

The Type 1210-A Null Detector and Vacuum Tube Voltmeter is primarily designed for bridge measurements. The Null Detector indicates the balance of the bridge, and the Vacuum Tube Voltmeter indicates the voltage across the unknown two terminal or four terminal network. The three selective circuits provide means for sharply tuning the instrument to audio frequencies commonly used for measurements. The Vacuum Tube Voltmeter can be used as a general purpose audio Vacuum Tube Voltmeter.

DESCRIPTION

The Type 1210-A Null Detector and Vacuum Tube Voltmeter is a combination of the Model 1140 Null Detector Amplifier, and a high input impedance Vacuum Tube Voltmeter. Both instruments are independent and feed two separate 4" meters.



SPECIFICATIONS

NULL DETECTOR

Input Impedance: 1 megohm in parallel with 25 mmf.

Frequency Response: 2 db from 20 to 20,000 cycles — 5 db at 50,000 cycles with filter switch in "out" position.

Null Detector Sensitivity: At 1000 cycles, 100 microvolts will give a 15% meter deflection. **Hum and Noise Level:** With the selective filters out, less than 60 microvolts referred to the input, with 1 kc filter less than 5 microvolts.

Selective Amplifier: 26 db second harmonic attenuation at 60, 400 and 1000 cycles. Selectivity at any other frequency between 20 cycles and 20 kc. may be obtained by connecting Freed Model 1940 to the external filter jack.

VACUUM TUBE VOLTMETER

Voltage Range: .01 volts to 100 volts in four ranges — (0.1, 1, 10, 100 volts at full scale).

Waveform Error: The instrument is a full wave average meter and is free of turnover effects. For small amounts of distortion the accuracy of the instrument is independent of the waveform.

Frequency Range: 20 cycles to 20,000 cycles (1 db).

Input Impedance: Equivalent to 50 megohms resistance in parallel with a 25 mmf condenser.

Meter Scale: Logarithmic Voltage Scale calibrated from 1 to 10 plus a linear db scale calibrated from 0 to 20 db.

Dimensions: Rack Mounting 19" x 9" x 11½" — 25 lbs. In cabinet 21" x 15" x 13" — 37 lbs.

Power Supply: 105-125 volts A.C. — 50-60 cycles.

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TYPE NO. 1170 D.C. SUPPLY

USES

The Type 1170 Power Supply is intended to be used as a dependable source of direct current for the Incremental Inductance Bridge Type No. 1110-A. The supply can also be used as a general laboratory substitute for a high voltage storage battery.

DESCRIPTION

The Type 1170 D.C. supply consists of an electronically regulated high voltage supply. Four independent control circuits provide four current ranges, namely 5 milliamperes, 25 milliamperes, 100 milliamperes, and 500 milliamperes. The output current is indicated by a multirange 4" meter.

SPECIFICATIONS

Current Ranges: Four current ranges — 5, 25, 100 and 500 milliamperes.

Voltage Ranges: The maximum no load voltages corresponding to the four current ranges are the following: 500 MA — 270 volts, 100MA — 270 volts, 25 MA — 55 volts, 5 MA — 25 volts. On both 500 MA and 100 MA range with the control set to zero, the output voltage is independent of the load.

Voltage Regulation: The unit operates from a 115 volts, 50-60 cycle line. For a line variation of plus or minus 10%, the output voltage shall not vary more than ±1½%.

Power Consumption: Under 500 MA full load the power consumption is 360 watts. Under no load conditions the consumption is 150 watts.

Hum Level: On the 270 volt, 500 milliampere range the hum level under full load condition is 6 millivolts which corresponds to -93 Db.

Mounting: The instrument is supplied for mounting on a 19-inch relay rack or for cabinet mounting.

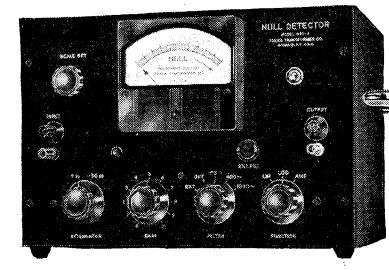
Dimensions: Rack: 19" Wide x 12⅜" Deep x 12¼" High. Cabinet: 21½" Wide x 15" Deep x 14" High.

Net Weight: Rack Mounted 68 lbs. In Cabinet 89 lbs.

TYPE 1140-A NULL DETECTOR-AMPLIFIER

USES

The Freed Model 1140-A Null Detector Amplifier is a sensitive null indicator for bridge measurements, providing visual null indications or aural when used in conjunction with headphones. The unit may also be used as a high gain amplifier for general laboratory work.



DESCRIPTION

Functionally the instrument consists of a high gain linear amplifier with a 30 db. input attenuator in addition to the variable gain control. A four-inch panel meter provides visual null indications, the response of the meter circuit is approximately logarithmic over a 40 db. voltage range. Resonant circuits tuned to 60, 400 and 1000 cycles limit the amplifier transmission characteristics to the three audio frequencies commonly used for bridge measurements or it may be used as a non-selective amplifier with filter "off."

SPECIFICATIONS

Input Impedance: 1 megohm in parallel with 25 mmf. GAIN: 98 db with 1 megohm load (6 mmf. shunt capacity), down 1.5 db. at 25,000 cycles, down 5 db. at 50,000 cycles, down 2 db. at 20 cycles.

Null Detector Sensitivity: At 1 kc. 100 microvolts will give a 15% meter deflection. **Hum and Noise Level:** With the selective filters out, less than 60 microvolts referred to the input, with 1 kc filter less than 5 microvolts.

Selective Amplifier: 26 db. second harmonic attenuation at 60, 400 and 1000 cycles. Selectivity at any other frequency between 20 cycles and 20 kc. may be obtained by connecting Freed Model 1940 to the external filter jack.

Output Impedance: Approximately 50,000 ohms.

Output Voltage: 40 volts undistorted into 1 megohm load, 10 volts into 20,000 ohms.

Power Supply: 105-125 volts, 50-60 cycles, 35 watts consumption.

Mounting: This instrument can be supplied in cabinet model (Type No. 1140-A) or in a standard relay rack mount with dust cover (Type No. 1140-AR).

Dimensions: (Type No. 1140-A) 13½" x 8½" x 10" overall (Type No. 1140-AR) 19" L. x 8¾" W. x 9" D.

Weight: 24 lbs.

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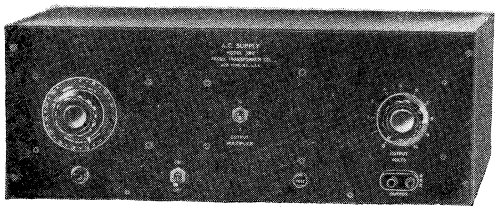
TYPE 1180 A.C. SUPPLY



USES

The type 1180 A.C. Supply is designed for both laboratory and production applications where a power line isolated source of A.C. test voltage is required. It will have particular application to bridge measurements where a source of voltage in small increments is needed.

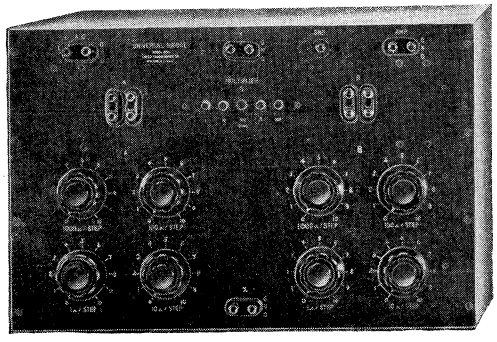
DESCRIPTION

The Type 1180 A.C. Supply consists of a variable auto transformer, an isolation transformer, a 10-1 ratio transformer and a precision tapped voltage adjustment transformer.

SPECIFICATIONS

Voltage Range: .01 — 130 volts A.C. — 50-60 cycles.
Dimensions: 19″ Wide x 5″ Deep x 7″ High.
Weight: 13½ lbs.

TYPE 1150 UNIVERSAL BRIDGE



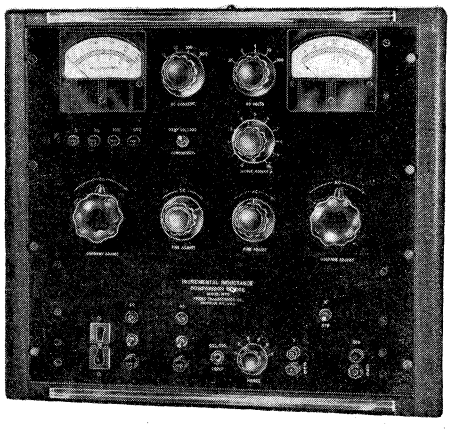
FEATURES

The Universal Bridge offers a variety of five possible bridge circuits. A wide range of capacitance, inductance, impedance, and phase angle measurement can be made throughout the frequency spectrum from 20 cycles to 20,000 cycles.
Decade resistors in the variable arms allow the unknown to be measured to four significant figures.
Operation is simple and both terminals and controls are arranged for convenience and ease of measurements.

SPECIFICATIONS

Frequency Range: The bridge can be used at frequencies from 20 cycles to 20,000 cycles.
Accuracy: All resistors of the bridge arms are adjusted to 0.1%. The absolute accuracy of measurement will depend upon the accuracy of standards used.
Inductance Range: The bridge will measure inductance of coils from 0.1 mh to 1000 henries with an accuracy of 0.5% at 1000 cycles.
Capacitance Range: Condensers from .001 mf to 1 mf can be measured to within 0.5% at 1000 cycles. Condensers below .001 mf should be measured by the substitution method.
Mounting: The bridge is supplied in a walnut cabinet or on special order for standard rack mounting.
Dimensions: Rack: 19″ Wide x 8″ Deep x 14″ High.
Cabinet: 21″ Wide x 8″ Deep x 16⅝″ High.
Weight: Rack: 32 lbs. Cabinet: 43 lbs.

TYPE 1870 INCREMENTAL INDUCTANCE COMPARISON BRIDGE



USES

The Freed Type 1870 Incremental inductance comparison bridge is designed for rapid testing of transformers and chokes under actual operating conditions. It is extremely useful on the production line or in incoming inspection departments where the combination of speed and accuracy is desirable.

DESCRIPTION

The unit is completely self contained, consisting of a metered 500 ma D.C. supply, a metered 135 volt, 60 cycle supply and a direct reading % deviation indicator. An external oscillator jack is provided so that test frequencies from 60 cycles to 10 kc may be used.

SPECIFICATIONS

Inductance Range: 25 mh to 100 h.
Deviation Range: ±20% with an accuracy of 1%. ±50% with an accuracy of 5%.
Frequency: The line frequency is used for most measurements. If another frequency is desired a jack is provided for connecting an external oscillator.
Voltage Applied to Unknown: Variable from 0 to 135 volts.
D.C. Current Range: 0 to 500 ma in four overlapping ranges, 0-5 ma, 0-25 ma, 0-100 ma, 0-500 ma.
Vacuum Tube Voltmeter: .01, .1, 1, 10, and 100 volts full scale.
Power Supply: The instrument is entirely self contained and operates on 100-125 volts, 50-60 cycles.
Dimensions: 19½″ high x 22″ wide x 15″ deep.

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TYPE 1940 INTERSTAGE FILTER

USES

This filter may be used with the Freed Type 1140-A Null Detector and Type 1210-A Null Detector VTVM or similar amplifiers. It can be set to any one of 7 fixed frequencies to reduce noise and harmonics when making bridge measurements.

DESCRIPTION

The filters are parallel resonant circuits, and are designed to be used in the plate circuit of the amplifier. D.C. current through the inductor is limited to 3 ma. Terminals are provided for connecting an external capacitor to tune to any frequency between 50 cps and 20 kc.

FEATURES

1. Each of 7 tuned frequencies is quickly available.
2. Any resonant frequency between 50 cps and 20 kc can be obtained with external capacitors.
3. Sharp anti resonant tuning.
4. Can be used directly in plate circuit.

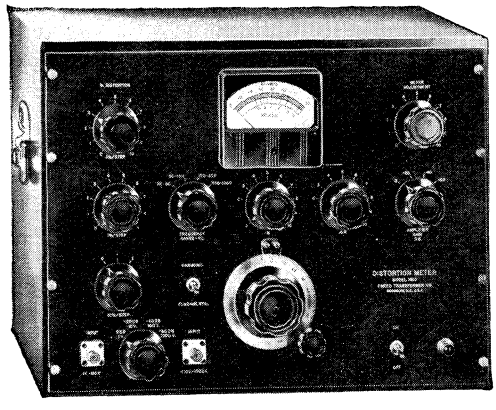
SPECIFICATIONS

Frequencies: 100 cps, 200 cps, 500 cps, 800 cps, 1200 cps, 2000 cps and 10 kc adjusted to an accuracy of ±2%.

Discrimination of 2nd harmonic approximately 23 db.

Terminals: Shielded cord and plug for connection to null detector. Binding posts for connecting external capacitors.

Dimensions: 6" x 6" x 6".



TYPE 1410 DISTORTION METER

USES

The Type 1410 Distortion Meter may be used in the laboratory or in production testing of receivers, amplifiers and oscillators.

DESCRIPTION

The instrument consists of a capacitive input attenuator, a low impedance output preamplifier, a null T network and a high gain vacuum tube voltmeter.

The signal to be measured is applied to the capacitive input attenuator, which reduces it sufficiently so that it may be fed into a three stage distortionless amplifier. The output impedance of this amplifier is 1 ohm due to the high amount of inverse feed back applied. In order to prevent the amplifier from being driven into non-linearity, a monitoring circuit is included in the instrument.

The attenuated signal is fed into a null T network which completely eliminates the fundamental. The residual signal consists wholly of harmonics and noise, and this is measured by the vacuum tube voltmeter.

The null T network is switched out of the circuit and the signal level is attenuated by a calibrated resistive divider. When the voltmeter indicates the same level as the level of harmonics, the divider reads the percentage distortion directly.

FEATURES

The high sensitivity of the instrument permits measurements to be made on signals as low as 0.2 volts to an accuracy of 0.1%. Signals as high as 1000 volts may be applied to the input terminals directly.

The frequency range of the instrument is 20 kc to 1 mc. in 10 overlapping ranges. Frequencies up to 3 mc. are passed without attenuation by the amplifier circuits, so that distortion measurements can be made on fundamental frequencies up to 1 mc.

An isolation transformer and line filter provided with the instrument prevent any feedback through the power line.

SPECIFICATIONS

Frequency Range: 20 kc to 1 mc.

Input Impedance: 500,000 ohms shunted by 70 mmfd. (plus capacity of input cable) on all ranges but the 0.1 volt range. The shunt capacity on this range is 800 mmfd.

Accuracy: Harmonic Distortion can be measured accurately to 0.1%.

Sensitivity: Distortion levels of 0.1% can be read accurately for a signal input as low as 0.2 volts. Maximum input signal is 1000 volts rms.

Elimination Characteristics: Eliminates fundamental completely while attenuating second harmonic approximately 3%.

Power Supply: 105:125 volts, 50-60 cycles.

Dimensions: 19¾" x 16¾" x 15¾".

Net Weight: 60 pounds.

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FREED Test Instruments

TYPE 1560 DIFFERENTIAL VOLTMETER

USES

The Freed Type 1560 Differential Voltmeter measures difference in voltage levels as low as 0.1% regardless of their phase relation. It is extremely useful when checking response and attenuation of filters, transformers, amplifiers and other applications where a small difference in two voltages is to be measured. Because of its excellent stability and high sensitivity the differential voltmeter may also be used to observe drift in amplifiers, meters, and filters.

DESCRIPTION

The A.C. input signals are amplified then rectified and compared so that accurate comparison may be obtained regardless of the phase of the input signals. Voltage differences as low as .01% can be observed through the use of a high gain amplifier and are indicated on a four inch zero center meter.

SPECIFICATIONS

Difference Voltage Range: — 10% to plus 5% in .01% increments.
Input Voltage Levels: From .1 volts to 100 volts.
Frequency Range: 30 cps to 20 kc.
Input Impedance: 500 k ohms.
Power Supply: The instrument is entirely self contained and operates from a 115 volt, 50/60 cycle line.

TYPE 1660 PHASE SENSITIVE NULL INDICATOR

USES

This instrument is useful as a visual null indicator in equal arms bridge measurements. Through the use of a zero center meter this null indicator simplifies bridge balancing procedures since the direction of null is indicated. If any bridge is to be used as a production instrument this null detector may be set up as a go, no go indicator and the bridge set up as a limit bridge.

DESCRIPTION

The instrument consists of a high gain stable amplifier, a phase sensitive detection circuit and a phase reference network. Three filter frequencies are available, 60, 400, 1000 cycle selected by a front panel switch. By use of external capacitors the filter can be adjusted to other selective frequencies.

SPECIFICATIONS

Sensitivity: 100 micro-volts per division of deflection.
Reference Voltage: 1-6 volts.
Input Impedance: 250 k ohms.
Maximum Input Voltage: 100 volts.
Power Supply: 115 volts, 50/60 cycles.

TYPE 1670 DC NULL DETECTOR

USES

This instrument is designed to give rugged performance while still maintaining the excellent sensitivity of a galvanometer. It is extremely useful as a null indicator giving instantaneous polarity indication in any type of D.C. bridge measurements. It will find particular application in strain measurements, pyrometry, conductivity and insulation testing, flow measurement and null detection.

DESCRIPTION

The instrument consists of a filter in the input circuit, a chopper and a high gain A.C. amplifier.

The sensitivity of the instrument when not using the filter is greater than 10 microvolts per division with an input impedance of 1 megohm. The filter when used suppresses any 60 cycle pickup by more than 50 db. The sensitivity when using the filter is reduced to 100 microvolts per division.

SPECIFICATIONS

Input Impedance: 1 megohm.
Null Detector Sensitivity: 10 microvolts per division without filter
100 microvolts through filter.
Scale: 4" zero center.
Power Supply: 115 volts, 50-60 cycles.
Dimensions: 8½" x 10" x 11".

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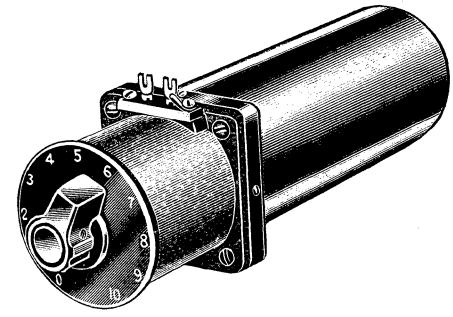
FREED DECADE CAPACITORS

Freed decade capacitors are high quality capacitors designed for use in wave filters, tuned circuits and equalizers for audio and supersonic frequencies where a rather large variable capacitance is desired. Their stability, accuracy and low dissipation factor make them especially useful during the preliminary design period when capacitance values are determined experimentally.

Each decade is variable from 0 to 10 by use of 11 position selector switch. The losses in the switches and mountings are kept low by the use of special low loss, impregnated switch wafers. A positive detent mechanism allows the switch to be set accurately. The accuracy is ±1% at frequency of 1 kc.



No. 1415 **No. 1416** **No. 1417**
No. 1418 **No. 1419**

No. 1415 is a 1 mfd/step mylar capacitor. Total capacitance 10 mfd.

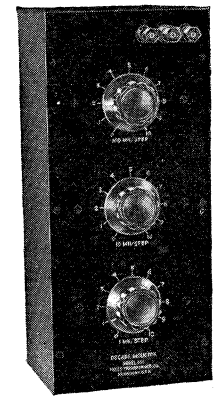
No. 1416 is a 0.1 mfd/step polystyrene capacitor. Total capacitance is 1 mfd.

No. 1417 is a .01 mfd/step polystyrene capacitor. Total capacitance is 0.1 mfd.

No. 1418 is a .001 mfd/step polystyrene capacitor. Total capacitance is .01 mfd.

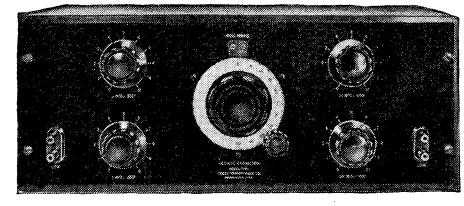
No. 1419 is a 100 mmfd/step capacitor. Total capacitance is .001 mfd.

*Tapped holes are provided in front of casting for mounting to a panel.



No. 1250

No. 1250 is a three section decade capacitor. The type 1416, 1417 and 1418 are asembled together in a single wooden cabinet to give a total capacity of 1.110 mfd in .001 mfd steps.



No. 1350 **No. 1351**

No. 1350 is a five section decade capacitor. The type 1415, 1416, 1417 and 1418 are mounted on one panel with a 1000 mmfd precision air variable condenser.

No. 1351 is a six section decade capacitor. The type 1415, 1416, 1417, 1418 and 1419 are mounted on one panel with a 100 mmfd precision variable condenser. The 100 mmfd may be used singly in which case the stray capacity is less than 10 mmfd or it may be used in conjunction with the other decades by simply closing a shorting link.

The capacity is continuously variable from 10 mmfd to 11.1111 mfd in 100 mmfd steps with ±1% accuracy.

The maximum voltage that may be applied to these decades is 500 D.C. working volts.

The dissipation factor of the polystyrene units when measured at 1 kc. is less than .0002. The dissipation factor of the 1 mfd/step decade (mylar) is less than .005.

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FREED Test Instruments

FREED DECADE INDUCTORS

Primarily designed for use in wave filters, tuned circuits and equalizers for audio and supersonic frequencies. The stability, accuracy and high value of "Q" makes these Decade Inductors invaluable laboratory instruments.

FREQUENCY RANGE 30 TO 2000 CYCLES
Q=50 @ 200 CYCLES

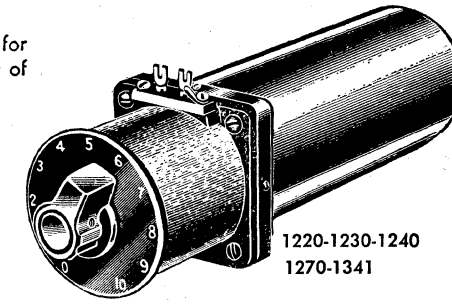
‡*Type 1164 Decade Inductor — 111 Henry total in steps of .1 Henry.

FREQUENCY RANGE 100 TO 2000 CYCLES
Q=80 @ 500 CYCLES

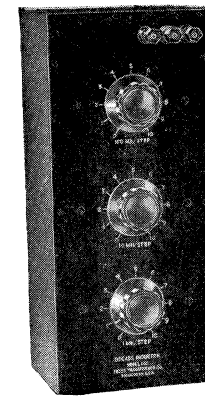
†Type 1341 Decade Inductor — 100 Henry total in steps of 10 Henry.

FREQUENCY RANGE 500 TO 20,000 CYCLES
Q=160 @ 1000 CYCLES

** †Type 1220 Decade Inductor — 0.01 Henry total in steps of 0.001 Henry.
** †Type 1230 Decade Inductor — 0.1 Henry total in steps of 0.01 Henry.
** †Type 1240 Decade Inductor — 1 Henry total in steps of 0.1 Henry.
** †Type 1270 Decade Inductor — 10 Henry total in steps of 1 Henry.
‡Type 1280 Decade Inductor — 1.11 Henry total in steps of 0.001 Henry.
‡‡Type 1290 Decade Inductor — 11.11 Henry total in steps of 0.001 Henry.
‡Type 1310 Decade Inductor — 11.1 Henry total in step of 0.01 Henry.
** ‡Type 1341 Decade Inductor — 100 Henry total in step of 10 Henry.



1220-1230-1240
1270-1341



ACCURACY OF INDUCTANCE

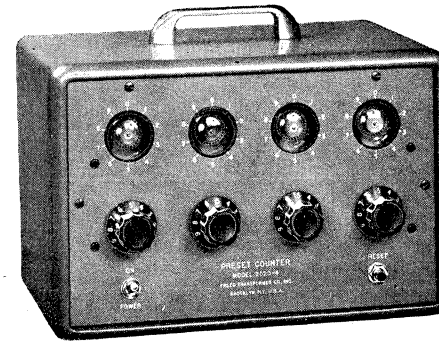
Inductance per Step	1 mh	10 mh	100 mh	1 h
Accuracy	±2%	±1%	±0.5%	±0.25%

*Type 1164 Decade Inductor is wound on a special nickel alloy core.
†Single Decade Unit. ‡Three Decade Unit. ‡‡Four Decade Unit.

**Tapped holes are provided on front of casting for mounting to a panel.

TYPE 2020 ELECTRONIC COUNTER

Freed Model 2020 Preset Counters were designed for accurate and reliable counting and control of manual or automatic machine operations. Any predetermined number from 1 to 9,999 may be preset for controlling production processes. When the preset total is reached a built-in D.P.D.T. relay will stop a machine, operate solenoids and other control devices.
The use of cold cathode counting tubes, simplified circuits and quality components assure years of reliable low cost counting service.



SPECIFICATIONS

Maximum Count: 4 digit — 9,999 counts.

Maximum Counting Rate: Up to 5000 counts per second, for control applications up to 500.

Input: Pulses from photo-cells, switch closure, magnetic pick-up, etc.

Output Relay: D.P.D.T. 5 ampere contacts.

Size: 4 digit 8 x 6 x 12 inches.

Weight: 11 lbs.

Power: 105-125 Volts A.C. 50-60 cycles, 25 watts.

Note: Model 2020 Preset Counters can be supplied with from 1 to 6 preset digits.

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ADDITIONAL COUNTER INFORMATION

In addition to the Freed Model 2020 Counters a wide choice of other models is available for Straight Counting, measuring, Control of process, Frequency Indicator, Time Counters and batching control.

PRESET COUNTERS—available in twenty-four models. Two, three, four, five or six digit Counters each with any number of presets from 1 to 6. Using these Counters as many as six operations may be controlled with a single instrument. For example one preset Counter with 3 preset may be used to wind three windings on a transformer, each winding having a different number of turns.

BATCHING COUNTERS—All Preset Counters are available with an additional circuit for batch counting. This enables the preset of the desired operation as well as determine the number of times this operation is to be repeated.

TOTALIZING COUNTERS—cold cathode counters are available to 99,999 counts and electromechanical counters with one or two stages of electronic counting provides count capacities up to 10 million counts.

FREQUENCY INDICATOR—time counters for precision measurement of frequency, time, RPM of rotating machinery, flow of liquids and high speed counting.

Type No.	Description	Net Price
1010-A	Comparison and Limit Bridge	$ 325.00
1020-B	Megohmmeter	225.00
1030-A	Low Frequency "Q" Indicator	1100.00
1110-AB	Incremental Inductance Bridge	375.00
1140-A	Null Detector — Amplifier	234.00
1150	Universal Bridge	300.00
1164	Decade Inductor	230.00
1170	DC Supply	325.00
1180	AC Supply	115.00
1210-A	Null Detector-Vacuum Tube Voltmeter	350.00
1220	Decade Inductor	65.00
1230	Decade Inductor	61.00
1240	Decade Inductor	65.00
1250	Decade Condenser	170.00
1260	Decade Inductor	225.00
1270	Decade Inductor	75.00
1280	Decade Inductor	250.00
1290	Decade Inductor	325.00
1310	Decade Inductor	195.00
1341	Decade Inductor	85.00
1350	Decade Condenser	250.00
1351	Decade Condenser	295.00
1410	Distortion Meter	850.00
1415	Decade Condenser	32.00
1416	Decade Condenser	45.00
1417	Decade Condenser	32.00
1418	Decade Condenser	26.00
1419	Decade Condenser	40.00
1560	Differential Voltmeter	425.00
1620	Megohmmeter	325.00
1620-C	Megohmmeter	350.00
1660	Phase Sensitive Null Indicator	325.00
1670	DC Null Detector	325.00
1870	Incremental Inductance Comparison Bridge	550.00
1940	Interstage Filter	100.00
1950	Null "T" Filters	Write for price
1980	D. C. Power Supply	425.00
2030	Megohmmeter	185.00

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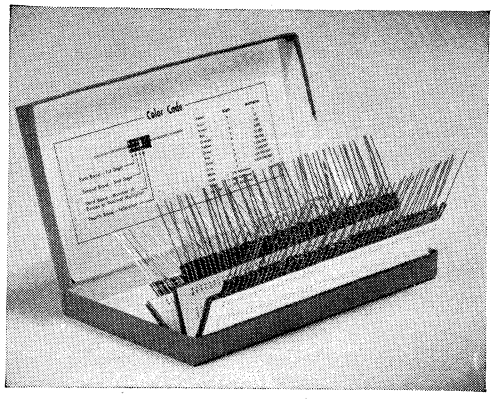
Net

BERKSHIRE LABORATORIES

GREENVILLE
NEW HAMPSHIRE

BERKSHIRE LABOHM



BERKSHIRE LABOHM RESISTOR KIT RK-1/2-5

Compact and convenient, containing 153 ½ watt, 5% tolerance, insulated resistors, meeting MIL specifications. Every RETMA 5% value, 10 ohms to 22 megohms inclusive. Resistance, maximum current, maximum voltage, and color code printed adjacent to each resistor.

Handy for engineers, technicians, development laboratories, service personnel.

Check circuit performance with various resistance values without the added stray capacitance and inductance of a decade box.

Pocket size.

Price.....$17.95

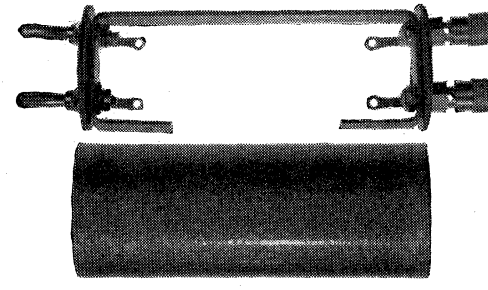
BERKSHIRE LABMARKER

This compact, self-contained unit converts the sinusoidal output of an oscillator into sharp pulses which may be used as vertical markers on a crt display, or as blanking or intensifying pulses. Pulse frequency is the same as that of the primary oscillator, with a lower limit of 25 cycles per second and an upper limit of one megacycle per second. Input terminals are banana plugs, for quick insertion into standard oscillator jacks. Output binding posts accept banana plugs, spade lugs, or plain wire leads. Overall length is 5½" dia. 1½" (1¾" for Models 1-U and 1-U1).

Labmarker Mod. No.	1-U	1-N	1-P	1-U1	1-N1	1-P1
Max. rms input volts..	34	34	34	36	36	36
Pulse polarity	Both	Neg.	Pos.	Both	Neg.	Pos.
Pulse length/osc. cycle	0.3	0.3	0.3	0.1	0.1	0.1
Pulse amp./input amp.	0.5	0.5	0.5	0.05	0.05	0.05
Price f.o.b. Greenville, N. H. ..	18.50	15.00	15.00	24.00	17.50	17.50

Special LABMARKERS having other characteristics can be supplied to order. If you have special requirements, please write for a quotation.

BERKSHIRE LABCASES



Your own three- or four-terminal networks can be made into convenient plug-in units by using Berkshire LABCASES. Useful for housing wave filters, wave-shaping circuits, and other standard or special circuits, the resulting plug-in units can easily be added to or removed from experimental set-ups for comparison purposes. The input terminals of one unit may be plugged into the output terminals of another, for cascade or tandem circuit arrangements. The cylindrical aluminum housing is 5½ inches long including terminals, and 1½ inches in diameter. Input terminals are banana-type, with standard ¾ inch spacing. Output binding posts accept banana plugs, spade lugs, or plain wire leads.

Model 19-S for four-terminal networks $4.00
Model 19-G for three-terminal networks $3.50

Order all Berkshire products from your distributor, who has them in stock, or can get them.

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BERKSHIRE LABORATORIES

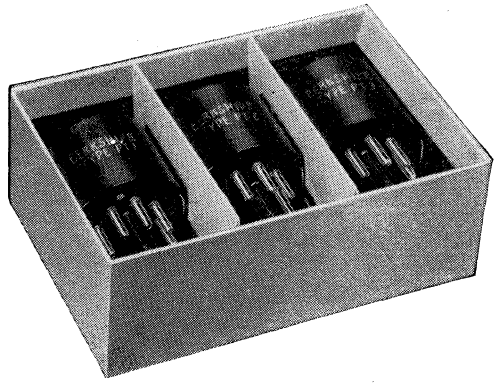
GREENVILLE
NEW HAMPSHIRE

BERKSHIRE LABTRANS PULSE TRANSFORMERS

These miniature pulse transformers combine compactness, convenience, and versatility. Designed for use in the microsecond and fractional-microsecond range, in equipment where space must be saved at no sacrifice in quality, they are provided with standard octal bases, for quick interchangeability in electronic assemblies. Height is only 1.1 inch above chassis, diameter 1.37 inch.

Type	Ohms Imp.	Rise Time	Percent droop at: 1 μs	2 μs	5 μs	10 μs	Price
PT-1*	100	.04 ps	20	50	60	80	$8.95
PT-2	100	.04 ps	20	30	50	70	8.95
PT-3	120	.03 ps	20	40	55	75	5.95

*PT-1E an encapsulated, Type PT-1 — $10.90



These transformers are available at considerable savings in a sample package containing one each of types PT-1, 2, and 3, at only $18.75 f.o.b. Greenville, N. H. Postage prepaid if remittance accompanies order. Additional details and specifications on request.

The Type PT-100 is a miniature encapsulated unit, with four windings, designed to plug into a miniature Noval socket; it may be shielded and held in place by a standard miniature tube shield. It is light weight, small size, and convenient to use. The four windings, insulated from each other, may be connected in various ways for impedance matching. The PT-100 may be used in blocking oscillator circuits; diagrams and data are available from the manufacturer. The transformer is embedded in plastic material and is encased in an aluminum outer shell. It is resistant to humidity, shock and vibration and other environmental conditions. PT-100 is moderately priced, and is immediately available from stock.

SPECIFICATIONS

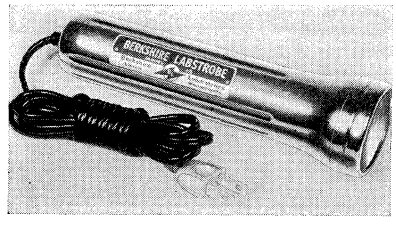
Length: 1½" (not including pins)
Diameter: ¾"
Weight: 0.6 ounces
Base: 9-pin Noval
Windings: Four, 100 turns each

PIN CONNECTIONS

1-9 Inner winding, 3½ ohms d-c res.
2-8 Second winding, 4 ohms d-c res.
3-7 Third winding, 4½ ohms d-c res.
4-6 Outer winding, 5 ohms d-c res.
5 Ground, connected to shell

Price $10.00

BERKSHIRE LABSTROBE



The Model 18A LABSTROBE gives you a convenient means for stroboscopic observation of moving objects, such as motors, cyclic machinery, or phonograph turntables. The instrument plugs into any 60-cycle 115-volt outlet, and delivers 100-microsecond flashes at a repetition rate of 60 per second. The aluminized reflector produces maximum light output from a standard long-life neon bulb. Six-foot cord and chromed metal case the size of an ordinary flashlight. Price $9.95 f.o.b. Greenville, N.H. Phonostrobe disks, for use with the LABSTROBE in checking speed of turntables at 78, 45, and 33-1/3 RPM, are also available at 75c each.

Order all Berkshire products from your distributor, who has them in stock, or can get them.

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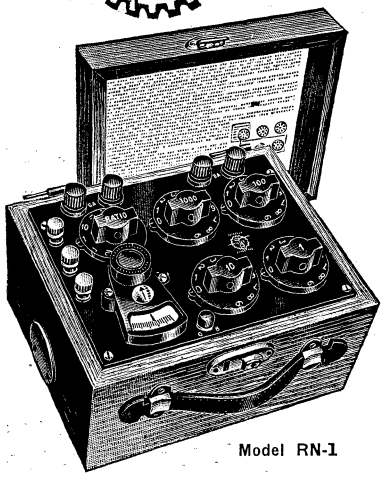
Net

Industrial Instruments

Electrical Test Equipment



Model RN-1

WHEATSTONE BRIDGE

● A carefully engineered bridge made for all around use in lab., plant, or field. All models contain own 4½-volt battery power supply and galvanometer. Provision for external batteries and galvanometer if desired. All models have ratio dial settings of .001, .01, .1, 1, 10, 100, and 1000 as well as built-in resistance standards of 1, 10, 100, and 1000-ohm decades. Ratios are guaranteed to .05% tolerance. Resistance dial resistors to .1%. Self-cleaning, four-leaf phosphor bronze wiper switches with detent mechanism mounted below panel. Galvanometer of well-known moving-coil type. Separate binding posts for use of external galvanometer if desired, and for use of bridge as resistance decade. Hardwood case with removable cover. 9¼" x 7½" x 6¼" h. Wt. 9¼ lbs. net; 12¼ lbs. shipping.

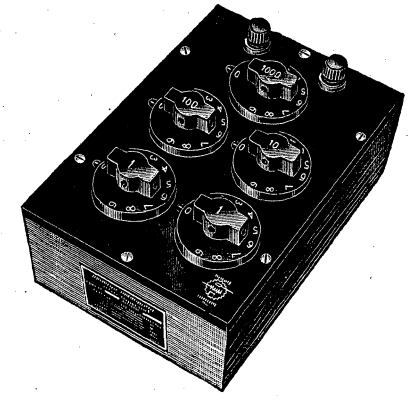
MODEL RN-1. Standard Portable Wheatstone Bridge, complete with batteries ..... **Net Price $150.00**

MODEL RN-2. Standard Portable Wheatstone Bridge with Murray & Varley Loops ..... **Net Price $169.00**

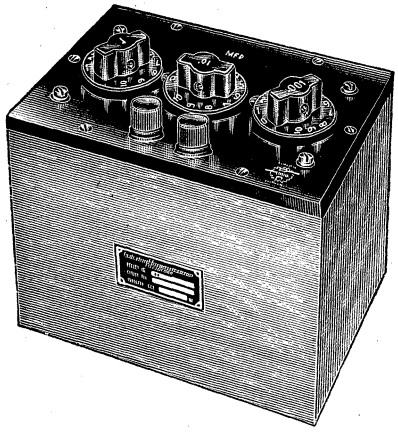
MODEL RN-3. Same as RN-2 but with additional ratio settings of 1/9, ¼ and varying galvanometer sensitivity control.... **Net Price $218.00**

RESISTANCE DECADES

● Available in a wide variety of standard models. Accuracy at 1.0 and 0.1 ohm steps is ±0.25%. Accuracy of all other resistors is ±0.1% of indicated value. Self-cleaning, molded nylon and silver plated brass switch mounted below panel. Zero resistance is less than .003 ohms per dial. Hardwood case. Models DR-1D to DR-4D, 6" x 4½" x 4½" h. Weight 4 lbs. net, 6 lbs. shipping. Models DR-50D to DR-52D, 9" x 6" x 4½" h. Weight 5 lbs. net, 7 lbs. shipping. Models DR-70D and DR-71D, 17¼" x 5" x 4½" h. Weight 6 lbs. net, 7 lbs. shipping.



Model No.	Total Resistance Ohms	Decade Steps	Accuracy	Price
DR-1D	1,110,000	10x(1,000+10,000+100,000)	±0.1%	$ 84.00
DR-2D	111,000	10x(100+1,000+10,000)	±0.1%	68.00
DR-3D	11,100	10x(10+100+1,000)	±0.1%	65.00
DR-4D	1,110	10x(1.+10+100)	±0.25 & ±0.1%	60.00
DR-50D	11,111	10x(.1+1+10+100+1,000)	±0.25 & ±0.1%	98.00
DR-51D	111,110	10x(1+10+100+1,000+10,000)	±0.25 & ±0.1%	105.00
DR-52D	1,111,100	10x(10+100+1,000+10,000 +100,000)	±0.1%	125.00
DR-70D	1,111,111	10x(.1+1+10+100+1,000	±0.25 & ±0.1%	150.00
DR-71D	11,111,110	+10,000+100,000) 10x(1+10+100+1,000+10,000 +100,000+1,000,000)	±0.25 & ±0.1%	195.00



CAPACITANCE DECADES

● Instrument calibrated directly in capacitance so that reading from left to right, the dial settings will give the exact value in microfarads. Progressive adjustment in .01, .001, or .0001 mfd. steps depending on model. .001 to 11.1 mfd. can be obtained by group assembly. All units employ paper or mica capacitors of highest quality and stability. Enclosed in hardwood case. DK-4, DK-10 and DK-2A, 8" x 5½" x 7½" H.; wt. 8 lbs.; 10 lbs. shipping. DK-5A, DK-11A, 10¾" x 7¾" x 7½" H.; wt. 10 lbs. net; 12 lbs. shipping.

Model	Capacitance Mfd. Steps	Accuracy	Dielectric Section	P.F.	Peak Volts	Price
DK-5A	11.1 in .01	1%	.01 Mica	.2%	700 DC	$ 94.00
		3%	.1 paper	1%	400 DC	
		3%	1.0 paper	1%	400 DC	
DK-4	1.11 in .001	1%	.001 mica	.2%	700 DC	77.00
		1%	.01 mica	.2%	700 DC	
		3%	.1 paper	1%	400 DC	
DK-2A	1.11 in .001	1%	Mica throughout	.2%	700 DC 500 AC 60 cycle	165.00
DK-10	.111 in .0001	.5% or 10 mmfd.	Mica throughout	.2%	700 DC 500 AC 60 cycle	110.00
DK-11A	11.1 in .01	.5%	.01 Mica	.2%	700 DC	182.00
		.5%	.1 mica	.2%	500 AC 60 cycle	
		2%	1.0 paper	1%	400 DC	

INDUSTRIAL INSTRUMENTS, INC. • CEDAR GROVE, N. J.

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Radion INSTRUMENTS

PORTABLE FIELD STRENGTH METERS

UHF-VHF . . . gives direct reading in microvolts

Model 510 **Dealer Net $124.50**

Lets one man do the work of two — in less time, with greater accuracy. He can take the meter on the roof, locate and orient the antenna by himself — even before running lead-in. On master antenna systems he checks each outlet, quickly, without guesswork. This efficiency reduces call-backs, builds confidence, makes larger profits.

Continuous tuning through VHF and UHF TV channels 2 to 83, FM Broadcast bands and VHF aviation communications bands (50-220 Mc and 260-940 Mc). Vernier type scale for accurate logging. Direct reading in microvolts.

High sensitivity assures better installations particularly in fringe UHF areas; 5 to 50,000 microvolt graduations on VHF, 50 to 100,000 on UHF. 3 i.f. stages; i.f. 20 Mc. High selectivity — 5 Mc bandwidth at 6 DB down. Permits separate measurements of audio and video portions of carrier. 300 ohms input. Phone-jack. Operates from self-contained batteries. Standard dry cells — 3 45-volt B and 2 1½-volt A. Rugged case of non-corrosive aluminum. Size 11 x 8½ x 6 in. Weight 9 lbs. less batteries. Sold less batteries.

Pocket Size VHF . . . completely transistorized

Model 520 **Dealer Net $49.50**

A low cost field strength meter that performs all the functions of the larger Model 510 except that it gives you relative readings — not direct. For VHF only. Smaller, lighter, fits pocket of work jacket.

Simplified switch tuning (channels 2-13). Sensitivity control regulates panel meter and audio. 300-ohm input. Phone-jack. Operates from self contained batteries. Durable case of black hi-impact phenolic, with brushed aluminum shell. Size 8 x 4 x 2 in. Weight 2 lbs. with batteries.

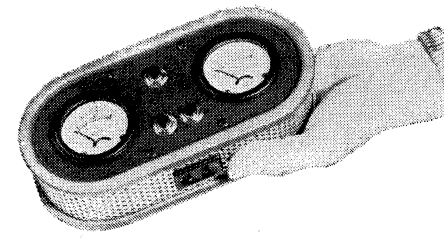
AC POWER "VAMP" METER

Model 530 **Dealer Net $37.50**

Nothing like it on the market. Does the work of two ordinary meters. Specially designed for contractors, installation personnel, utility servicemen who work with major appliances, air conditioners, etc. Indicates fuse requirements. Tests capacity of any outlet before use. Gives you voltage and amperage of any appliance in use.

Tests AC volts 0-130, AC amps 0-30, watts 500-1000-1500, or horsepower ½ 1-1½. Can pre-test an outlet for capacity to supply up to 1500 watts or to start and run a motor up to 1½ H.P. Can give voltage and current consumption of appliance under load — even while additional dummy load is applied to circuit to test its effect. Has built in overheat control.

Fine appearance — hi-impact phenolic and perforated aluminum, recessed meter faces and knobs. Cord set wraps around side of instrument in space provided. Small size — only 8 x 4 x 2 in. Lightweight — no transformers. Completely self-contained — no outside probes or accessories required.



EXPORT AGENT — Scheel International Inc., 4237 N. Lincoln Ave., Chicago, Illinois.

IN CANADA — Atlas Radio Corporation, 50 Wingold Avenue, Toronto 10, Canada

THE RADION CORPORATION CHICAGO 14, ILL.

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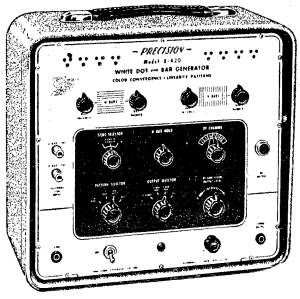


Model E-420 DOT AND BAR GENERATOR

Compatible for Color and Monochrome TV

- **It's a WHITE DOT generator** for color convergence
- **It's a VERTICAL BAR generator** for horizontal linearity
- **It's a HORIZONTAL BAR generator** for vertical linearity
- **It's a CROSS HATCH PATTERN generator** for checking overall linearity
- **It has VARIABLE DOT SIZE and NUMBER** It has Variable 'V' and 'H' Bar Width It has Variable 'V' and 'H' Bar Number
- **It provides DIRECT VIDEO OUTPUT** for checking video amplifiers
- **It provides MODULATED TV CHANNEL OUTPUT** for overall TV set performance checking

Model E-420 Deluxe (illustrated): In custom-styled, blue-grey, hooded steel cabinet and four-color, satin-brushed aluminum panel with contrasting dark-blue control knobs. Dimensions 13 x 11½ x 6½ inches. Complete with tubes, output cables and comprehensive instruction manual.
Code: Newsy **Net Price: $150.00**

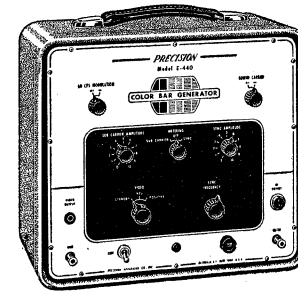
Model E-420 Standard: Electrically identical to above, but in standard black ripple finished cabinet with black anodized aluminum panel. Case dimensions 10½ x 12 x 6 inches. Complete with tubes, cables and manual as above.
Code: Natty **Net Price: $145.00**

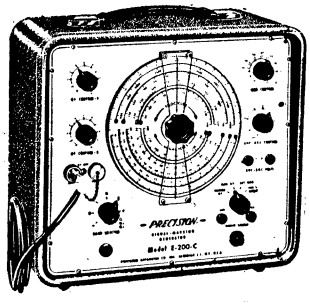
Model E-440 COLOR BAR GENERATOR

- **A MUST for Color TV Servicing** essential to adjust color phasing and matrix networks
- **Provides ALL Required Test Signals** RF carrier (channel 3), color sub-carrier, sound carrier, horizontal sync pulses, luminance, brightness
- **Produces 10 Simultaneous Color Bars** includes signals for R — Y, B — Y, I, Q, etc.
- **All Crystal Controlled Signals** assures maximum stability and reliability
- **Video and RF Outputs INDEPENDENTLY Available** for separate testing of video amplifiers and front ends
- **Simple Operation . . . Easy Application** individual panel-controls permit regulation of each element of the composite signal

Model E-440 Deluxe: (Illustrated) In custom-styled blue-grey, hooded steel cabinet and four-color, satin-brushed aluminum panel with contrasting dark-blue control knobs. Dimensions 13 x 11½ x 6 inches. Complete with tubes, output cables and comprehensive instruction manual.
Code: Noble **Net Price: $235.00**

Model E-440 Standard: Electrically identical to above but in standard black ripple finished cabinet with black anodized aluminum panel. Case dimensions 10½ x 12 x 6 inches. Complete with tubes. Cables and manual as above.
Code: North **Net Price: $230.00**





Model E-200C The Modern, Multi-band SIGNAL-MARKING GENERATOR

- **Direct Frequency Reading** continuous dial calibrations from 88KC to 240 MC.
- **Accuracy — 1% on All Bands** exceptional frequency stability
- **0-100% Variable Internal Modulation** provides up to 300% greater signal audibility
- **AVC-AGC Substitution Voltage (built-in)** continuously variable from 0-50 volts DC
- **Extra-Large Tuning Dial with Vernier Drive** 9 easy-reading bands
- **Used in Every Other Service Lab in the Country** for reliable TV, FM, AM alignment

Model E-200-C DeLuxe: (Illustrated) in custom-styled, blue-grey, hooded, steel cabinet; two-color satin-brushed aluminum panel and contrasting dark blue control knobs. Case dimensions 11½ x 13 x 6⅝ inches. Complete with tubes, coaxial output cable and illustrated manual 'Servicing by Signal Substitution.'
Code: Truth **Net Price: $95.00**

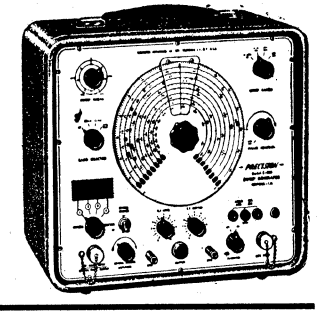
Model E-200-C Standard: Electrically identical to above, but in standard black ripple finished cabinet with black anodized aluminum panel. Case dimensions 10½ x 12 x 6 inches. Complete with tubes, cable and manual as above.
Code: Trade **Net Price: $90.00**

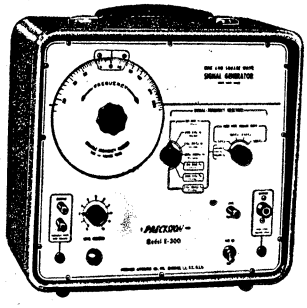
Model E-400 SWEEP SIGNAL GENERATOR

- **Direct Frequency Reading — 8 Bands** Dial calibrated from 3 to 900 Mc.
- **Saves Time on Front-End Alignment** channel numbers 2 thru 13 directly calibrated on dial
- **Internal Retrace Blanking Circuit** simplifies alignment—eliminates return traces
- **Wide-Band Sweep . . . 0-15 Megacycles** for best TV front-end and I.F. alignment
- **Narrow-Band Sweep . . . 0-1 Megacycle** for best FM and TV sound I.F. alignment
- **Crystal Marker-Calibrator (Built-in)** 2.0 and 4.5 Mc. crystals furnished

Model E-400 Deluxe: (Illustrated) in custom-styled, blue-grey, hooded, steel cabinet; two-color satin-brushed aluminum panel and contrasting dark blue control knobs. Case dimensions 11½ x 13 x 6⅝ inches. Complete with tubes, test cables, 2 crystals and comprehensive instruction manual.
Code: Nelda **Net Price: $160.00**

Model E-400 Standard: Electrically identical to above, but in standard black ripple finished cabinet with black anodized aluminum panel. Case dimensions 10½ x 12 x 6 inches. Complete with all accessories, as above.
Code: Nancy **Net Price: $155.00**





Model E-300 Sine and Square Wave SIGNAL GENERATOR

- **A MUST for Testing Hi-Fi Audio Equipment** don't trust your ear
- **A MUST for Testing Video Amplifiers** don't trust your eye
- **Ideal for Testing Industrial Wide-Band Amplifiers** versatile, accurate, rugged
- **Eliminate Guesswork with the Model E-300** build customer confidence . . . cut call backs
- **There's No Substitute for Sine-Square Wave Analysis** to test frequency response, phase-shift and amplifier distortion
- **Wide Range Sine-Wave Output** from 20 cycles to 200 KC: flat within ±1 db
- **Wide Range Square-Wave Output** 20 cycles through 20,000 cycles; within ±1 db
- **Special Video Square Wave Output** 50 KC, 100 KC, 250 KC, 500 KC steps (.05 microsecond rise-time)

Model E-300 Deluxe (Illustrated): In custom-styled, blue-grey, hooded steel cabinet and two color brushed aluminum panel with contrasting dark blue control knobs. Dimensions 11½ x 13 x 6⅝". Complete with tubes, coaxial output cable and comprehensive instruction manual.
Code: While **Net Price: $195.00**

Model E-300 Standard: Electrically identical to above, but in standard black ripple finished cabinet with black anodized aluminum panel. Dimensions 10½ x 12 x 6". Complete with all accessories, as above.
Code: Whose **Net Price: $190.00**

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PRECISION TEST EQUIPMENT

Industrial • Laboratory • Communications
Radio-TV (Monochrome and Color)

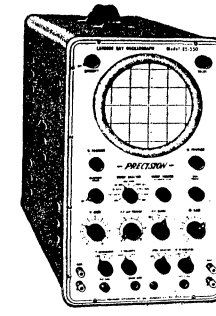
Model ES-550 HIGH SENSITIVITY, WIDE BAND 5" SCOPE

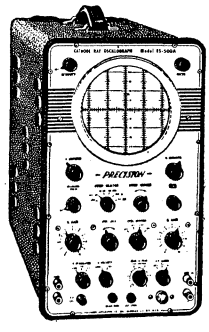
The Scope for COLOR TV!

- **5 Megacycles Bandwidth** with 10 Millivolts per inch Vertical Sensitivity
- **10 Millivolts per inch Vertical Sensitivity** with 5 Megacycles Bandwidth
- **Does Not Sacrifice Sensitivity for Bandwidth** does not sacrifice Bandwidth for Sensitivity!
- **Push-Pull Vertical and Horizontal Amplifiers** with input step attenuators and cathode followers
- **Vertical Response:** within 1 db from 10 cps to 3.5 Mc — 3 db at 5 Mc
- **Horizontal Response:** within 1 db from 10 cps to 1.0 Mc— 3 db at 2 Mc
- **Peak-to-Peak Voltage Calibrator (built-in)** direct reading to 500 volts, peak-to-peak
- **Amplified Auto-Sync Circuit** simplifies "lock-in" of test patterns
- **3000 Volt Power Supply** for higher visibility of pulsed wave forms

Model ES-550 Deluxe: (Illustrated) In custom-styled, blue-grey ripple finished steel cabinet; 2 color satin-brushed aluminum panel and contrasting dark blue control knobs. 8¼ x 14½ x 18½". Complete with all tubes and comprehensive Manual.
Code: Queen **Net Price: $235.00**

Model ES-550 Standard: Electrically identical to above but in standard cabinet with black anodized aluminum panel. 8¼ x 14½ x 18½ inches.
Code: Quill **Net Price: $230.00**





Model ES-500A HIGH SENSITIVITY, WIDE RANGE 5" SCOPE

- **Exceptional Stability and Flexibility** at an unusually moderate price
- **Push-Pull Vertical and Horizontal Amplifiers with** 10 cps to 1 Mc response at full gain
- **High Sensitivity** 20 millivolts per inch Vertical 150 millivolts per inch Horizontal
- **Compensated Vertical Input Step Attenuator** calibrated by factors of 1, 10 and 100
- **Built-In Peak-to-Peak Voltage Calibrator direct** reading to 500 volts peak-to-peak
- **Vertical Phase Reversing Switch for inversion** of all patterns at will

Model ES-500A Deluxe: (Illustrated) in custom-styled, blue-grey ripple finished steel cabinet; 2 color satin-brushed aluminum panel and contrasting dark blue control knobs. Case Dimensions 8¼ x 14½ x 18½ inches. Complete with all tubes, including 5CP1/A CR tube. Comprehensive Instruction Manual.
Code: Queen **Net Price: $195.00**

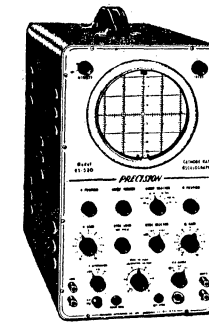
Model ES-500A Standard: Electrically identical to above but in standard black cabinet with black anodized aluminum panel. Case Dimensions 8¼ x 14½ x 18½ inches. Complete as above.
Code: Quill **Net Price: $190.00**

Model ES-520 RELIABLE, GENERAL-PURPOSE 5" SCOPE

- **Ideal for Industrial Electronics and** Audio, Radio and TV Maintenance
- **Push-Pull Vertical and Horizontal Amplifiers** for better deflection linearity
- **Excellent Bandwidth:** within 2 db from 20 cps to 500 KC Vertical within 3 db from 20 cps to 200 KC Horizontal
- **High Sensitivity** 20 millivolts per inch Vertical 50 millivolts per inch Horizontal
- **Peak-to-Peak Voltage Calibrator, (built-in)** direct reading to 500 volts, peak-to-peak
- **Excellent Vertical Square-Wave Response** from 20 cycles to 50 kilocycles
- **All this and modestly priced—** Factory Engineered, Wired and Calibrated

Model ES-520 Deluxe: (Illustrated) in custom-styled, blue-grey ripple finished steel cabinet; 2 color satin-brushed aluminum panel and contrasting dark blue control knobs. Case Dimensions 8¼ x 14½ x 16½ inches. Complete with all tubes, including 5UP1 CR tube. Comprehensive Instruction Manual.
Code: Quire **Net Price: $145.00**

Model ES-520 Standard: Electrically identical to above but in standard black cabinet with black anodized aluminum panel. 8¼ x 14½ x 16½ inches. Complete as above.
Code: Quest **Net Price: $140.00**



Model SP-5 OSCILLOSCOPE TEST PROBE SET

for TV Signal Tracing, Alignment, Trouble-Shooting and Waveform Analysis

Engineered for use with all **PRECISION** Cathode Ray Oscillographs, Models ES-500, ES-500A, ES-520 and ES-550.

- Set consists of Shielded Master Cable and 4 Different, Detachable Probe Heads in custom-made vinyl carrying case.

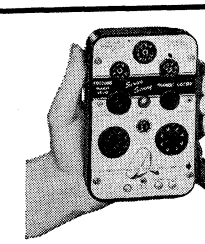
1. **HIGH IMPEDANCE—LOW CAPACITY PROBE**
2. **CRYSTAL—DEMODULATING PROBE**
3. **RESISTIVE—ISOLATING PROBE**
4. **SHIELDED—DIRECT PROBE**

Model SP-5: Complete as above with detailed operating instructions. **Code: Quoit....Net Price: $26.50**

Time-Saver Model SS-10 SERIES STRING FILAMENT CHECKER

IT QUICK CHECKS Receiver Tubes for Filament Continuity . . . TV, Radio and Battery Set Types Octal, Loctal, Miniature 7-pin and Noval 9-pin types.
IT QUICK CHECKS TV Picture Tubes for Filament Continuity . . .
IT QUICK CHECKS TV and Radio Set Fuse Continuity . . .
IT QUICK CHECKS TV Sets for AC Circuit Continuity . . .
IT QUICK CHECKS Pilot Lamps, bayonet and screw-base types.

Model SS-10: handsomely styled, custom-molded case with striking gold and black anodized, aluminum panel; complete with batteries —ready to operate.
Size: 1" deep x 3½" wide x 5⅜" long.
Code: Saver **Net Price: $6.50**



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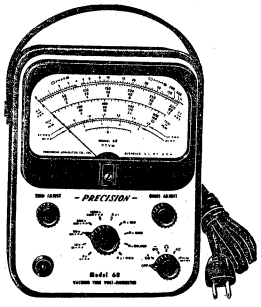
PRECISION TEST EQUIPMENT

Industrial • Laboratory • Communications
Radio-TV (Monochrome and Color)



Model 68 MODESTLY PRICED, METAL-CASED VTVM

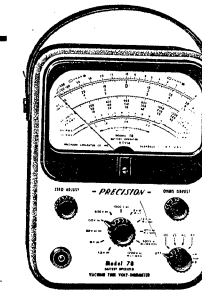
- **Peak-to-Peak Voltage Ranges**
  up to 3200 volts, peak-to-peak
- **Extra-Large, 5¼" Wide-Angle Meter**
- **High Impedance Voltage Ranges (AC and DC)**
  up to 1200 volts
- **Measures Resistance Up to 1000 Megs**
  in 5 overlapping ranges
- **Zero-Center Reference Ranges**
  simplifes FM discriminator balancing
- **Factory-Engineered, Factory-Wired and Calibrated**
  ruggedly built — modestly priced

Model 68: in rugged, blue-grey ripple-finished steel cabinet, size: 5⅞" x 7¾" x 3½". Complete with tubes, internal ohmmeter battery and detailed instruction manual.
Code: Pinto **Net Price: $54.50**

ACCESSORIES AVAILABLE

RF-12: High Frequency Probe.....**$10.95 net price**
TV-4: High Voltage Probe.....**$14.75 net price**

Model 78 BATTERY-OPERATED, METAL-CASED VTVM

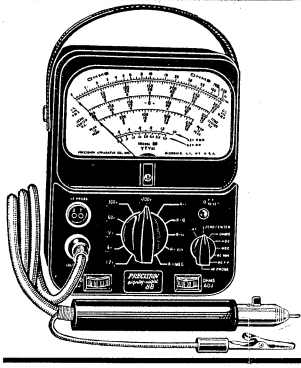


- **A MUST Where Power Line is Unavailable as in**
  mobile communications, mining, oil, gas operations, etc.
- **A MUST Where Power Line Connection is Undesirable**
  eliminates cross-ground connections, high frequency feedback thru power lines, etc.
- **Provides EVERY Modern VTVM Function**
  6 true-zero-center DC voltage ranges to 1500 volts
  5 electronic-ohmmeter ranges to 1000 megohms
  5 high-impedance AC voltage ranges to 1200 volts
- **Extra-Large, 5¼" Wide-Angle Meter**
  easy reading . . . large scales
- **Self-Contained, Extra-Long-Life Battery Performance** in a VTVM of exceptional stability and ruggedness

Model 78: In rugged, blue-grey ripple-finished steel cabinet. Dimensions: 5⅞" x 7¾" x 3½". Complete with tubes, one set of batteries and detailed instruction manual.
Code: Piano **Net Price: $62.50**

ACCESSORIES AVAILABLE

RF-12: High Frequency Probe.....**$10.95 net price**
TV-4: High Voltage Probe.....**$14.75 net price**



Model 88 LAB-TYPE VTVM

- **The VTVM that was Designed for the Laboratory**
  and priced for the technician!
- **More Functions—More Ranges—More Sensitivity**
  7 functions . . . 40 ranges
  26⅔ megohms DC input resistance
- **Peak-to-Peak Voltage Ranges—Specially Engineered**
  for maximum accuracy on pulsed and TV wave forms
- **Has True-Zero-Center DC Voltage Ranges**
  and minus and plus left-hand-zero DC voltage ranges
- **Extra-Large, 5¼" Wide-Angle Meter**
  3-colors . . . easier-reading . . . longer scales
- **Custom-Molded, Phenolic Case and Panel**
  rugged . . . compact

Model 88: Complete with detachable AC line cord, internal ohmmeter battery, 3-way coaxial VTVM probe and detailed operating manual. Size 5⅜ x 7 x 3⅛".
Code: Plant **Net Price: $74.50**

ACCESSORIES AVAILABLE FOR MODEL 88

Model TV-8: Super-High Voltage Safety Test Probe With Cartridge for DC voltage ranges to 60 KV.
Code: Extra **Net Price: $14.75**

Model RF-10A: High Frequency Vacuum Tube Probe. For measurements up to 300 volts and 300 MC.
Code: Probe **Net Price: $14.40**

Part No. ST-1: Retractable snap-on stand permits convenient 45 degree table mount.
Code: Stand **Net Price: $1.00**

Model 98 LABORATORY VTVM with 7" Meter

- **PRECISION's Finest VTVM**
  the ultimate in performance, versatility and ease of operation
- **Better P-to-P Voltage Ranges —**
  Specially Engineered for maximum accuracy on pulsed and TV wave forms
- **More Ranges . . . 55** including 8 DC current ranges up to 12 amperes
- **More Functions . . . 9** true-zero-center and left-hand-zero DC voltage ranges
- **Higher Sensitivity**
  22.2 megohms per volt on 1.2 volt DC range
- **Bigger Meter . . . 7"** easy viewing at long range

Model 98-MCP Deluxe: (illustrated) in custom-styled, hooded cabinet and two-color satin-brushed aluminum panel. Dimensions 11½ x 13 x 6⅝ inches. Complete with 3-way VTVM probe and manual.
Code: Print **Net Price: $119.50**

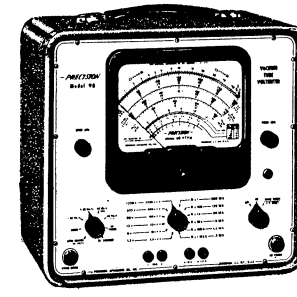
Model 98-MCP Standard: Complete, with black anodized panel in standard black ripple finished cabinet. Dimensions 10½ x 12½ x 6".
Code: Plank **Net Price: $114.50**

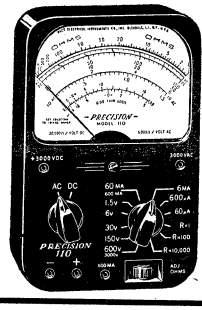
Model 98-P Deluxe: Same instrument as 98 MCP Deluxe except in rubbed, natural finish, hardwood cabinet, 12 x 13 x 6".
Code: Prime **Net Price: $122.25**

Model 98-P Standard: same instrument as 98 MCP Standard except in hardwood portable case, 12 x 13 x 6".
Code: Plumb **Net Price: $117.25**

ACCESSORIES AVAILABLE

RF-10A: High Frequency Probe.....**$14.40 net price**
TV-8: High Voltage Probe.....**$14.75 net price**





Model 110 POCKET SIZE V-O-M 20,000 OHMS PER VOLT

- **Full Range Instrument Performance**
  Small-Sized instrument convenience
- **Fits Your Pocket . . . Fits Your Tube-Caddy**
  the ideal Extra V.O.M. for field and service
- **Extra-High Sensitivity**
  20,000 ohms per volt DC
  5000 ohms per volt AC
- **Extra-Low . . . Extra-High Voltage Ranges**
  1.5 volts full-scale Extra Low-AC and DC
  3000 volts full-scale Extra-High—AC and DC
- **Extra-Wide Resistance Ranges**
  self-contained up to 20 megohms
- **Complete Current Ranges Up To 600 MA**
- **Complete Decibel Ranges from —20 to +70 db**
- **3½" Full-View Meter—Long, Easy-Reading Scales**

Model 110: Complete with vinyl case. Ohmmeter batteries. Heavy duty banana-plug test leads and manual. Dimensions: 1 11/16 x 3½ x 5⅜".
Code: Valet **Net Price: $32.50**

ALSO AVAILABLE

Model 100: Similar to Model 110 above, except 1000 ohms per volt AC and DC. Complete with vinyl case. Ohmmeter batteries. Heavy duty banana-plug test leads and manual. Dimensions: 1-11/16 x 3½ x 5⅝".
Code: Value **Net Price: $26.95**

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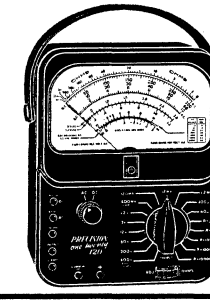
PRECISION TEST EQUIPMENT

Industrial • Laboratory • Communications
Radio-TV (Monochrome and Color)

Model 120 20,000 OHMS-PER-VOLT V-O-M

- **Larger Meter . . . Longer Scales** easy to read — 5¼" wide
- **Extra-Low Ohms Range . . . R x $\frac{1}{10}$** 2 ohms center scale
- **Extra-Low Voltage Ranges (AC and DC)** 1.2 volts full scale
- **Transit Safety Position** protects sensitive meter movement
- **High AC Sensitivity** — 5000 ohms per volt
- **More Ranges — 44** outranges any other professional VOM of similar size and type



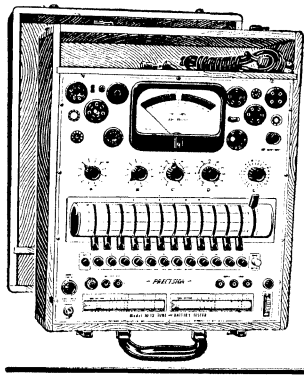
Model 120: complete with batteries, test leads and manual. Over-all case dimensions 5⅜ x 7 x 3⅛". **Code: Wheel** **Net Price $39.95**

ACCESSORIES AVAILABLE FOR MODEL 120

Model TV-2B: Super-High Voltage Safety Test Probe. Complete with multiplier cartridge for direct reading to 30KV.
Code: Earth **Net Price: $14.75**

Model LC-3: Top-grain Leather Instrument Case.
Code: Cased **Net Price: $9.50**

Part No. ST-1: Retractable, snap-on stand, permits convenient 45 degree table mount.
Code: Stand **Net Price: $1.00**



Model 10-12 *Electronamic* TUBE TESTER

- **Positive, All-Inclusive Tube Performance Testing** not limited to mutual conductance alone
- **Tests Tubes Over a COMPLETE PATH of Operations** . . . not at just One Arbitrary Point
- **ACTIVELY Tests All Tube Elements** . . . not for just One Inconclusive Characteristic individual plate, grid, screen, filament, etc., test voltages
- **Tests All Modern Tube Types . . . incl. subminiatures** fully wired to handle future tubes up to 12 pins . . . built-in stainless-steel pin straighteners
- **Dual Short-Check Sensitivity** provides critical leakage testing facility. Special low voltage short-check circuit guards against damage to tubes under test
- **Complete Battery Testing Facilities** tests all popular radio dry batteries under load

Model 10-12P Deluxe (Illustrated): 2-color, brushed aluminum panel; rubbed, hardwood cabinet. Dimensions: 17¼ x 13¾ x 6¾".
Code: Fancy **Net Price: $129.00**

Model 10-12P Standard: Electrically identical to above, but with black and white anodized panel. Same dimensions as above.
Code: Facil **Net Price: $124.00**

Model 10-54

***Electronamic* TUBE TESTER**

Has same tube and battery testing features as model 10-12 (above), PLUS complete wide-range circuit testing facilities.

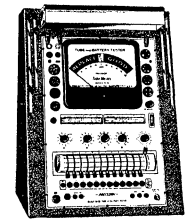
- **6 DC Voltage Ranges:** 20,000 ohms/v.
- **6 AC Output and Voltage Ranges:** 1000 ohms per volt
- **7 DC Current Ranges:**
- **4 Self-Contained Resistance Ranges:**
- **6 DB Ranges from —10 to +77DB;** 0 DB=1 MW., 600 ohms.

Model 10-54P Deluxe
Code: Habit **Net Price $160.00**

Model 10-54P Standard
Code: Henry **Net Price: $155.00**

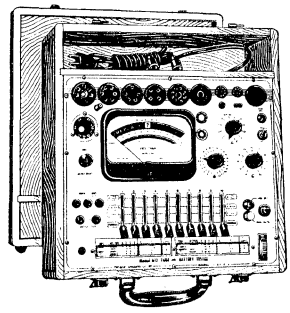
Model 10-15 *Electronamic* TUBE MASTER with Extra-Large 9" Meter

- Designed for equipment-conscious, radio service-sales organizations and tube-selling sections of department stores. Also excellent for classroom demonstrations.
- Incorporates the Electronamic Tube Performance and Battery Testing Circuit as described for the Model 10-12 above.



Model 10-15 Deluxe (Illustrated): Heavy gauge, blue-grey, ripple-finish steel cabinet with chrome trim and polished reflector. 24" high, 17½" wide, base—10" tapering to 4" at top.
Code: Graze **Net Price: $179.00**

Model 10-15 Standard: . . . Code: Gable **Net Price: $174.00**



Model 612 Cathode Conductance TUBE TESTER

- **Tests All Modern Tube Types . . . including Subminiatures**
- **Fully Wired to Handle Future Tubes Up to 10 Pins**
- **Built-in, Stainless-Steel Pin Straighteners**
- **Dual Short-Check Sensitivity** provides critical leakage test facility
- **Complete Battery Testing Facilities** tests all popular radio types
- **Noise and Condenser Test Pin Jacks (built-in)**
- **Large, Easy-Reading 5¼" Wide-Angle Meter**
- **Uses RETMA CLASS I Emission-Type Testing Circuit**

Model 612-P DeLuxe (Illustrated) Custom chassis with 2-color panel in rubbed, hardwood cabinet with hinged, removable cover. Dimensions: 12 x 13 x 6".
Code: Banjo **Net Price: $97.50**

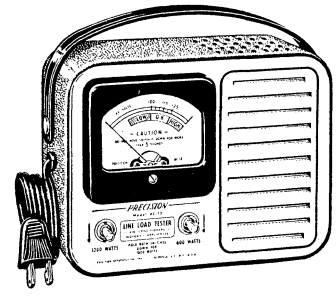
Model 612-P Standard: Black and white anodized panel . . . hardwood case. Dimensions: 12 x 13 x 6".
Code: Begin **Net Price: $92.50**

Model 612MCP Deluxe: In custom, hooded steel cabinet with brushed aluminum panel. 10½ x 12 x 6".
Code: Bacon **Net Price: $94.75**

Model 612-MCP Standard: Black case with black and white anodized panel. 10½ x 12 x 6".
Code: Brine **Net Price: $89.75**

Model AC-12 LINE LOAD SURVEY METER

- Quick-Checks Power Capacity of 110 Volt AC Lines to accommodate air-conditioners, freezers, etc.
- Shows Line Load Conditions in Simple Terms: Low . . . O.K. . . . High
- Also Reads Actual Line Voltage
- Easy-to-Read, Wide-Vision Meter . . . 3-color Scaleplate
- Three Test Leads—(Not Just One or Two) to handle widest range of appliance needs.
- Lightweight, Portable, Rugged, Convenient . . . perfect for salesmen, electricians, servicemen.



Model AC-12 (Illustrated): in ventilated, ripple-finished case with brushed aluminum panel.
Dimensions: 5⅞ x 7¾ x 3½". Complete, ready to operate.
Code: Liner **Net Price: $29.50**

Model 654

TUBE, BATTERY AND SET TESTER

Incorporates same tube and battery testing features as Model 612 PLUS complete, high-sensitivity, wide-range AC/DC circuit testing facilities.

Model 654P Deluxe: Same physical appearance and size as Model 612P Deluxe.
Code: Hardy **Net Price: $129.00**

Model 654P Standard: Same physical specifications and dimensions as Model 612P Standard described above.
Code: Hotel **Net Price: $124.00**

Model PTA

Picture Tube Adapter Cable for use with Precision Tube Testers

Checks picture tubes within limitations inherent in all devices of this type. Ruggedly constructed . . . long lasting.
Complete with instructions for use with all present PRECISION tube checkers in the '600' and '10-00' series. Also for use with previous PRECISION tube checkers, Models 910, 914, 915, 920, 922 and 954. **Code: Cable** **Net Price: $7.75**

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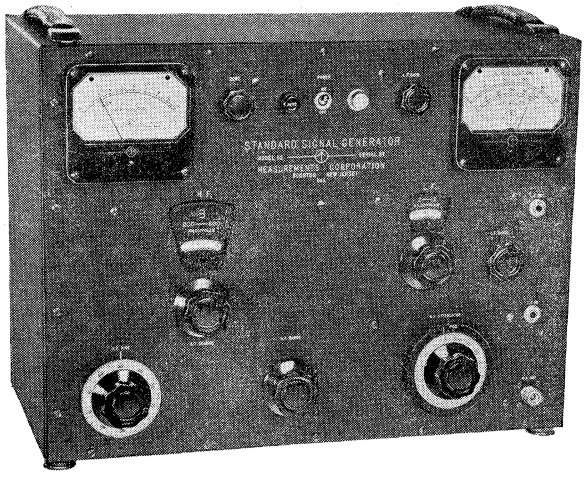


STANDARD SIGNAL GENERATOR
Model 82 — 20 Cycles - 50 Mc.

SPECIFICATIONS

FREQUENCY RANGE: 20 cycles to 200 kilocycles in four ranges. 80 kilocycles to 50 megacycles in seven ranges, plus one blank range.

FREQUENCY ACCURACY: Each range is individually calibrated. 20 cycles to 200 kilocycles, accurate to ±5%. 80 kilocycles to 50 megacycles, accurate to ±1%.

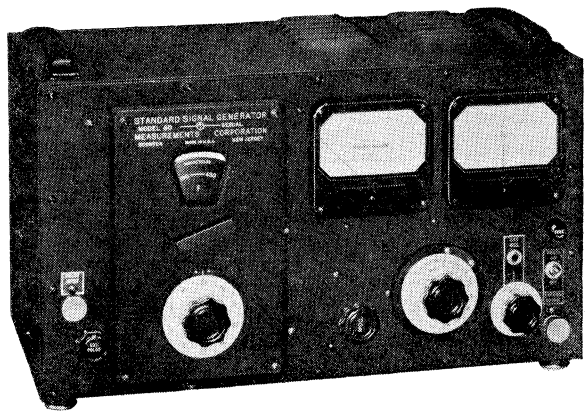
OUTPUT VOLTAGE AND IMPEDANCE: 0-50 volts across 7500 ohms from 20 cycles to 200 kilocycles. (The output voltage and impedance in this range can be reduced by an external attenuator). 0.1 microvolt to 1 volt across 50 ohms over most of the range from 80 kilocycles to 50 megacycles.

MODULATION: Continuously variable 0-50% from 20 cycles to 20 kilocycles from internal variable oscillator or external source.

HARMONIC OUTPUT: Less than 1% from 20 cycles to 20 kilocycles; 3% or less from 20 kilocycles to 50 megacycles.

LEAKAGE AND STRAY FIELD: Less than 1 microvolt from 80 kilocycles to 50 megacycles.

POWER SUPPLY: 117 volts, 60 cycles. 75 watts.
DIMENSIONS: 15" high x 19" wide x 12" deep overall.
WEIGHT: 50 pounds.



STANDARD SIGNAL GENERATORS
Model 80 — 2 Mc. - 400 Mc.
Model 80-R — 5 Mc. - 475 Mc.

SPECIFICATIONS

FREQUENCY RANGE: (Model 80) 2 to 400 megacycles in 6 bands. (Model 80-R) 5 to 475 megacycles in 6 bands.

FREQUENCY ACCURACY: ± 0.5%.

OUTPUT ACCURACY: At 0.1 volt, ±10% from 2 Mc to 200 Mc. From 200 Mc to 400 Mc (200 to 475 Mc for Model 80-R) at 0.1 volt, ±15%.

OUTPUT VOLTAGE: Continuously variable from 0.1 to 100,000 microvolts.

OUTPUT IMPEDANCE: Designed for 50 ohms termination.

MODULATION: Amplitude modulation is continuously variable from 0 to 30%. Modulation depth is indicated by a meter on the panel. Internal modulation of 400 or 1000 cycles is available. Modulation may also be applied from an external source. Pulse modulation may be applied to the oscillator from an external source through a special connector.

LEAKAGE: Attenuator leakage less than 0.1 microvolt.

POWER SUPPLY: 117 volts, 50 to 60 cycles. 70 watts.
DIMENSIONS: 11½" high x 19⅝" wide x 11⅜" deep, overall.
WEIGHT: 45 pounds.

PULSE GENERATOR • Model 79B

SPECIFICATIONS

FREQUENCY RANGE: 60 to 100,000 pulses per second.

PULSE WIDTH: Continuously variable from 0.5 to 40 microseconds.

OUTPUT VOLTAGE: Approximately 150 to 200 volts peak positive with respect to ground.

"SYNC" OUTPUT: 35 volts positive with respect to ground. Displaced by ½ period from pulse output.

"SYNC" INPUT: May be synchronized with as little as 2 volts peak from an external source.

POWER SUPPLY: 117 volts, 60 cycles. 115 watts.

DIMENSIONS: 10-13/16" high x 14½" wide x 11-9/16" deep, overall.

WEIGHT: Approximately 31 pounds.

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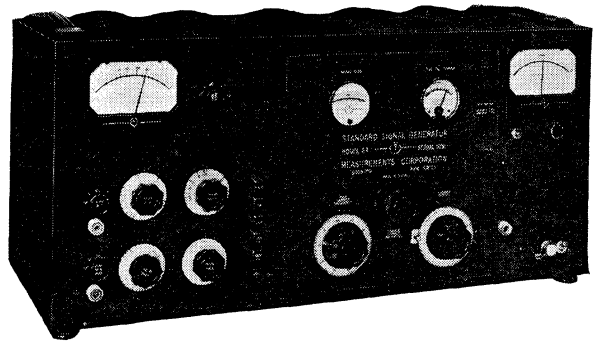
STANDARD SIGNAL GENERATOR • Model 84R • 300 MC. - 1000 Mc.



WEIGHT: Approximately 135 pounds, including external line voltage regulator.

SPECIFICATIONS

FREQUENCY RANGE: 300 to 1000 megacycles in one band; individually calibrated direct reading dial.

FREQUENCY ACCURACY: ±0.5%.

OUTPUT VOLTAGE: Continuously variable from 0.1 to 100,000 microvolts.

OUTPUT IMPEDANCE: 50 ohms.

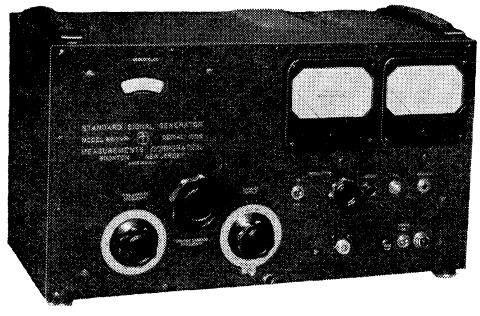
MODULATION: 0 to 30% within ±20% as determined by DC meter. Internal sine-wave oscillator; choice of 400, 1000, or 2500 cycles is provided. External modulation up to 30 kilocycles may be applied.

PULSE FREQUENCY: 60 to 100 Kc in three ranges, 60-1000, 600-10,000 and 6000-100,000 pulses per second.

POWER SUPPLY: 117 volts, 50 to 60 cycles.

DIMENSIONS: 13" high x 26" wide x 12⅛" deep, overall.

STANDARD SIGNAL GENERATOR • Model 84-TVR • 400 Mc. - 1000 Mc.



POWER SUPPLY: 117 volts, 60 cycles, 60 watts.
LEAKAGE: Negligible.
DIMENSIONS: 11⅝" high x 19⅛" wide x 10¾" deep, overall.
WEIGHT: Approximately 40 pounds.

SPECIFICATIONS

FREQUENCY RANGE: 400 to 1000 megacycles in one band.

FREQUENCY ACCURACY: Individually calibrated dial direct reading to an accuracy of ±0.5%. Vernier dial provided for frequency interpolation.

OUTPUT VOLTAGE: Continuously variable from 0.1 microvolt to 0.3 volt with mutual inductance type attenuator. Output from 0.3 volt to over 0.5 volt indicated directly on output meter.

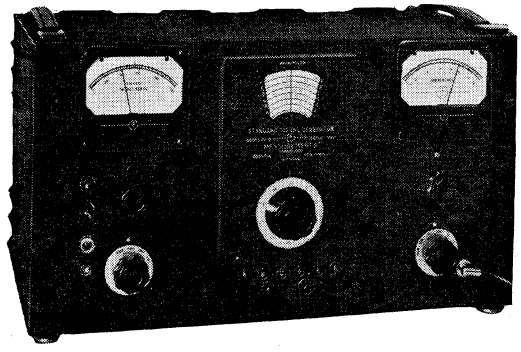
OUTPUT ACCURACY: At 0.3 volt, the output voltage accuracy is ±10% from 400 to 750 megacycles and ±20% from 750 to 1000 megacycles. Mutual-inductance attenuator with negligible relative error provides lower voltage levels.

OUTPUT SYSTEM: The mutual-inductance attenuator has a Thevenin source impedance of 50 ohms with a VSWR of less than 1.2. The voltage induced in the attenuator is measured with a crystal diode voltmeter which may be conveniently checked against an internal regulated 60-cps voltage reference.

MODULATION: Continuously variable from zero to 30% from an internal 1000-cycle oscillator. Provision is made for applying external modulation from 50 to 20,000 cycles. Approximately 5 volts r.m.s. across 100,000 ohms are required for 30% modulation.

RESIDUAL FREQUENCY MODULATION: The spurious frequency modulation due to residual hum and noise is less than 300 c.p.s.

STANDARD SIGNAL GENERATOR • Model 65-B • 75 Kc. - 30 Mc.



SPECIFICATIONS

FREQUENCY RANGE: 75 kilocycles to 30 megacycles in 6 push button ranges.

FREQUENCY CALIBRATION: Individually calibrated direct reading dial, for each range. Accurate to ±0.5%.

OUTPUT VOLTAGE: Continuously variable from 0.1 microvolt to 2.2 volts.

OUTPUT IMPEDANCE: 5 ohms to 0.2 volt, rising to 15 ohms at 2.2 volts.

MODULATION: Continuously variable from 0 to 100%; indicated directly by a meter on the panel. Modulation may be obtained either from an internal source of 400 or 1000 cycles or from an external source.

ENVELOPE DISTORTION: 4% at 100% modulation at 1 megacycle; 8% at 100% modulation at 15 Mc; 1% at 30% modulation.

LEAKAGE: Less than 0.1 microvolt leakage with attenuator set for 0 output.

POWER SUPPLY: 117 volts, 60 cycles. 115 watts.

DIMENSIONS: 11⅞" high x 20-5/16" long x 10½" deep, overall.

WEIGHT: Approximately 55 pounds.

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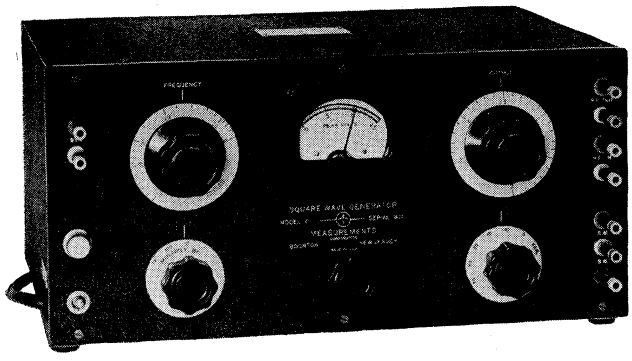
SQUARE WAVE GENERATOR • Model 71



SPECIFICATIONS

FREQUENCY RANGE: Continuously variable from 6 to 100,000 cycles per second.

WAVE SHAPE: Rise time less than 0.2 microseconds with approximately 5% overshoot at 75 peak volts output. At 5 volts or less rise time is less than 0.1 microsecond.

OUTPUT VOLTAGE: Step attenuator giving 75, 50, 25, 15, 10, 5 peak volts fixed and 0 to 2.5 volts continuously variable.

SYNCHRONIZING OUTPUT: 25 volts peak.

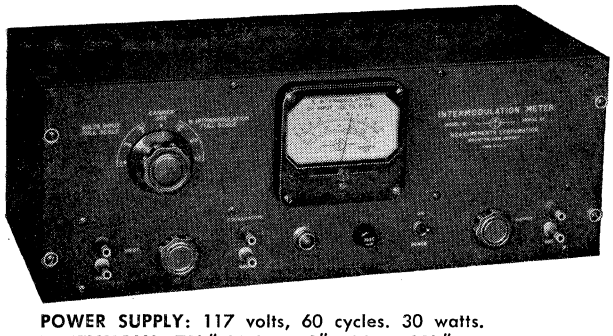
R. F. MODULATOR: 5 volts maximum carrier input. Translation gain is approximately 0.1. Output impedance is 600 ohms.

POWER SUPPLY: 117 volts, 50-60 cycles. 100 watts.

DIMENSIONS: 7⅜" high x 15" wide x 8⅞" deep.

WEIGHT: Approximately 20 pounds.

INTERMODULATION METER • Model 31



POWER SUPPLY: 117 volts, 60 cycles. 30 watts.
DIMENSIONS: 7¼" high x 19" wide x 8½" deep.
WEIGHT: 16 pounds.

SPECIFICATIONS:

GENERATOR:
LOW FREQUENCY: 60 cycles.
HIGH FREQUENCY: 3000 cycles.
LF/HF VOLTAGE RATIO: Fixed 4/1.
OUTPUT VOLTAGE: 10 v. max. into high impedance or +5 DBM matched to 600 ohms.
OUTPUT IMPEDANCE: 2000 ohms.
RESIDUAL INTERMODULATION: 0.2%.

ANALYZER:
INPUT VOLTAGE: Full scale ranges of 3, 10 and 30 volts RMS. Less than one volt of mixed signal is sufficient for operation.
INPUT IMPEDANCE: Greater than 400 K ohms.
INTERMODULATION: Full scale ranges of 3, 10 and 30%.
ACCURACY: ±10% of full scale.

New STANDARD BARRETTER BRIDGE • Model 202-C

The Model 202-C Standard Barretter Bridge is a portable instrument for the precise measurement of radio-frequency voltages. This new model with greatly increased stability and improved VSWR provides the most accurate standardization of high frequency voltage available at the present time.

SPECIFICATIONS

RANGE: Voltage—20 to 70 millivolts r.m.s.
Power—8 to 100 microwatts.
DBM—From —10 to —21 dbm.
(Ranges may be extended upward by use of suitable pads.)

FREQUENCY RANGE: 2 Mc. to 1000 Mc.

INPUT IMPEDANCE: 50-Ohms.

VSWR: Less than 1.2 at 1000 Mc.

ACCURACY: ±5% 2 Mc. to 400 Mc. ±10% 400 Mc. to 1000 Mc.

POWER SUPPLY: 110 to 120 volts, 50 to 60 cycles. a.c.

POWER CONSUMPTION: 45 watts.

FUSE PROTECTION: one ½-ampere, slo-blow.

DIMENSIONS: 10½" high x 14" wide x 7¼" deep overall.

WEIGHT: 18 pounds.

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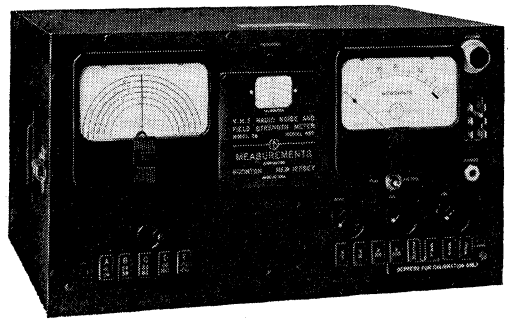
V.H.F. RADIO NOISE & FIELD STRENGTH METER • Model 58-AS



POWER SUPPLY: 117 volts, 50 to 60 cycles, 50 watts. Standard vibrator or rotary inverters may be employed for d-c operation.
DIMENSIONS: 9" H x 16" W x 12⅝" D, overall.
WEIGHT: Approximately 30 pounds.

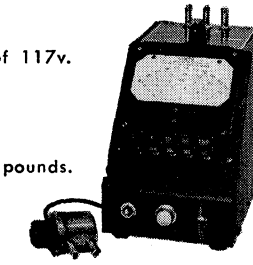
SPECIFICATIONS

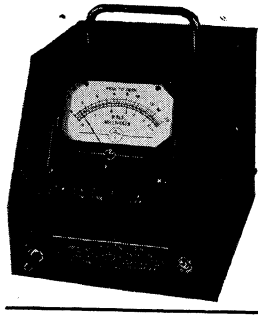
FREQUENCY RANGE: 15 to 150 megacycles in five bands.
FREQUENCY ACCURACY: ±2%.
INPUT VOLTAGE RANGE: Logarithmic—100 μv full-scale to 1 volt full-scale. Linear—10 μv full-scale to 0.1 volt full-scale. Maximum Sensitivity—will give a readable deflection on CW signals of 1 μv.
ATTENUATORS: R-F Input Attenuator—X1, X10, X100, and X1000. I-F Attenuator—X1, and X10.
METER: Logarithmic—From 0 to10 μv midscale and 100 μv full-scale. Decibel—The logharithmic scale is also calibrated from 0DB to 20DB mid-scale and 40DB full-scale. Linear—0 to 10 μv full-scale.
INPUT IMPEDANCE: 72 ohms, balanced to ground.
DETECTOR RESPONSE: Complies with ASA recommendations: Average, Quasi-Peak and Peak 'slide-back''.
BANDWIDTH: For CW signals, bandwidth is 140 Kc at 6 db points.
OUTPUT CIRCUIT: Headphone output Jack also provides oscilloscope response up to full r-f bandwidth. Meter Jack for 1 milliampere recording meter or remote meter.
CIRCUIT: Five-band superheterodyne, with tuned r-f amplifier reduces image response.

VACUUM TUBE VOLTMETER • Model 62

SPECIFICATIONS

RANGE: Push button selection of 5 ranges—1, 3, 10, 30 and 100 volts full scale AC or DC.
ACCURACY: ±2% of full scale on each range, both DC and sine-wave AC at line voltage of 117v.
FREQUENCY ERROR: Less than 10% from 30 cycles to over 150 megacycles.
INPUT IMPEDANCE: Approximately 7 mmf. The input resistance is a function of frequency.
POWER SUPPLY: 117 volts, 60 cycles, 24 watts.
DIMENSIONS: 7-3/16" H x 4-3/4" W x 9-3/16" D, overall. **WEIGHT:** Approximately 8 pounds.



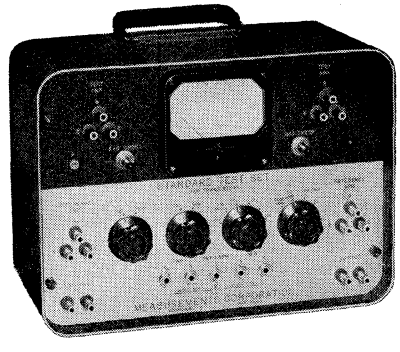


PEAK-TO-PEAK VOLTMETER • Model 67

SPECIFICATIONS

VOLTAGE RANGE: 5 ranges; .0005 to 300 volts peak-to-peak.
SEMI-LOGARITHMIC SCALES: 0 to 30 peak-to-peak and 0 to 10 r.m.s. μv.
FREQUENCY RANGE: 5 to 100,000 sine-wave cps.
INPUT IMPEDANCE: 1 megohm shunted by 30 mmfd.
ACCURACY: For sine-waves ±5% from 5 to 100,000 cps.
STABILITY: Less than 2% error with line variations from 110 volts to 120 volts.
POWER SUPPLY: 117 volts; 50-60 cycles, 35 watts.
DIMENSIONS: 7½" H x 7" W x 9⅜" D, overall. **WEIGHT:** 10 pounds.

New STANDARD TEST SET FOR TRANSISTORS • Model 505



The Model 505 Standard Test Set for Transistors is a portable instrument arranged to test junction transistors on a programed "go-no go" basis. It utilizes a battery supply and suitable switching and metering means for multiple testing of PNP and NPN small-signal, medium-power, and switching transistors.

SPECIFICATIONS

- Tests PNP and NPN small-signal, medium-power and switching transistors.
- Checks for short-circuited emitter-collector junctions.
- Measures collector-to-emitter leakage current.
- Measures collector current and d-c gain.
- Case Dimensions: 10" high x 14" wide x 7¼" deep.
- Power Supply: Two F4BP 6-volt dry batteries (not supplied).
- Weight: Approximately 9 pounds without batteries.

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New FM STANDARD SIGNAL GENERATOR • Model 210-A

Designed for FM receiver measurements in the standard FM band, and for measurements on railroad and automobile FM radio systems. It is an excellent instrument for research on FM, multiplexing and telemetering equipment.

SPECIFICATIONS

CARRIER FREQUENCY RANGE: 86 to 108 megacycles — individually calibrated dial with ±0.5% accuracy.

TUNING: A vernier frequency dial having 100 divisions is geared to the main dial.
Electronic tuning of ±0-30 and ±0-300 Kc. is provided by the calibrated frequency deviation dial.

OUTPUT VOLTAGE: 0.1 to 100,000 microvolts (—7 to —127 DBM) with negligible carrier leakage.

OUTPUT SYSTEM: Mutual inductance attenuator with 50 ohm source impedance with a low VSWR. Continuous monitoring of output level with accurate barretter bridge.

MODULATION: 400 and 1000 cycle internal audio oscillator. Deviation directly calibrated in two ranges: 0 to 30 Kc. and 0 to 300 Kc. Can be modulated from external audio source providing 5 volts across 10,000 Ω.

MODULATION FIDELITY: Frequency deviation response is within ±0.5 db from d.c. to 15,000 cycles and is down approximately 3 db at 70 Kc. Transient response is excellent and distortion is less than 1% at 75 Kc. deviation.

RESIDUAL FM: Spurious residual FM is 60 db below 75 Kc. deviation.

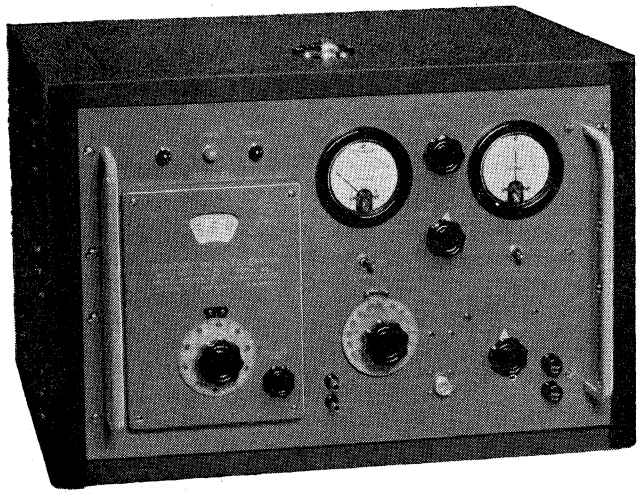
POWER SUPPLY: 117 volts, 50-60 cycles, 45 watts.

DIMENSIONS: 10" x 14" x 7¼".

WEIGHT: Approximately 25 pounds.

New STANDARD SIGNAL GENERATOR • Model 95

- **Broad Frequency Coverage**
- **Extended Modulation Range**
- **Wide FM Deviation**
- **Low Distortion**



RESIDUAL FM: Better than 70 db below full deviation.
POWER SUPPLY: 117 volts 50-60 cycles, 140 watts.
DIMENSIONS: 17¼" wide x 11-3/16" high x 14-7/8" deep overall.
WEIGHT: Approximately 70 pounds.

The Model 95 with its extremely high stability and low distortion makes this instrument indispensable for critical measurements on FM receivers, multiplex and telemetering equipment.

SPECIFICATIONS

CARRIER FREQUENCY RANGE: 50 to 400 Mc. in 3 bands, 50-100 Mc. 100-200 Mc. 200-400 Mc.

FREQUENCY ACCURACY: ±1% Direct reading dial.

FREQUENCY DRIFT: Less than .05% after warm-up.

OUTPUT VOLTAGE: Continuously variable from 0.1 to 100,000 microvolts.

OUTPUT VOLTAGE ACCURACY: At 100,000 microvolts the output voltage accuracy is ±10%.

OUTPUT IMPEDANCE: 50 ohms, VSWR less than 1.4.

LEAKAGE AND STRAY FIELDS: Attenuator leakage less than 0.1 microvolts. Power line leakage and stray fields negligible.

MODULATION: Frequency modulation continuously variable,
0-150 Kc on 50-100 Mc band,
0-300 Kc on 100-200 Mc band,
0-600 Kc on 200-400 Mc band.

MODULATION FREQUENCY: Internal 400 ohms and 1000 ohms, ±5% accuracy. External modulation flat within ±1 db, 50 cps to 70 Kc.

FM DISTORTION: Less than 0.5% for 75 Kc deviation on 50-100 Mc band, 150 Kc deviation on 100-200 Mc band, 300 Kc on 200-400 Mc band.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

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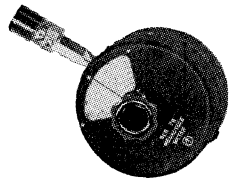
MEASUREMENTS CORPORATION
Laboratory Standards

MEGACYCLE METER

100 Kc to 940,000 Kc

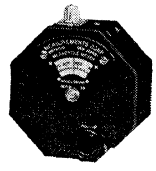
Model 59-LF Oscillator Unit

Frequency Range: 100 Kc to 4.5 Mc. Price - Oscillator Unit (Head) only **$98.50**



Model 59 Oscillator Unit

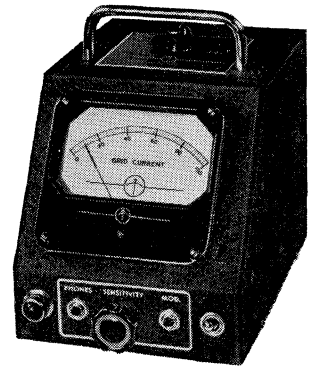
Frequency Range: 2.2 Mc to 420 Mc. Price - Oscillator Unit (Head) only **$98.50**



Model 59-UHF Oscillator Unit

Frequency Range: 420 Mc to 940 Mc. Price - Oscillator Unit (Head) only **$123.00**

PRECISION GRID-DIP METERS



The Power Supply is a compact, lightweight portable unit consisting of a full-wave rectifier with voltage regulator tube —designed for use with any of the oscillator heads illustrated.

PRICES:

Power Supply only **$75.00**

Model 59-LF Head with Power Supply **$168.00**

Model 59 Head with Power Supply **$168.00**

Model 59-UHF Head and Power Supply **$198.00**

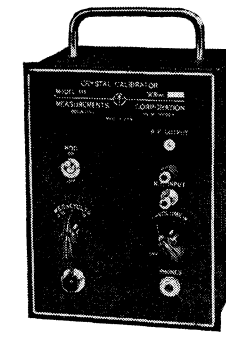
Prices FOB. Boonton, N. J.

Measurements' Megacycle Meter is now available in a choice of three oscillator heads providing frequency range coverage from 100 Kc to 940,000 Kc. Thus, the utility of this versatile instrument has been extended, making it, more than ever, indispensable to anyone engaged in electronic work; engineer, serviceman, amateur or experimenter.

CRYSTAL CALIBRATORS

Model 111 and Model 111-B

.25 to 1000 Mc. **.1 to 1000 Mc.**



These instruments have been designed as dual-purpose calibrators. They not only provide a test signal of crystal-controlled frequency, but also have a self-contained receiver of 2 microwatts sensitivity. A new circuit arrangement with quartz crystal control utilizes the cross-modulation products of three separate oscillators. The fundamental frequencies of Model 111 are .25, 1.0 and 10 megacycles, while those of the Model 111-B are .1, 1 and 10 megacycles.

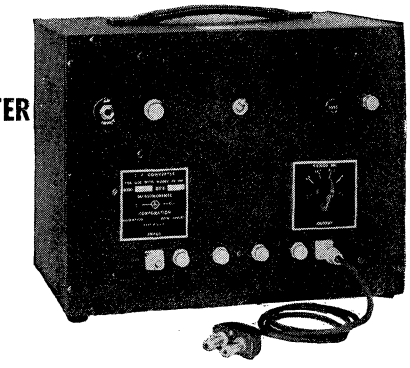
SPECIFICATIONS

FREQUENCY ACCURACY: 0.002%.
POWER SUPPLY: 117 volts, 60 cycles. 18 watts.
DIMENSIONS: 6" wide, 9⅝" high, 5⅜" deep, overall.
WEIGHT: 4 pounds.

I.F. CONVERTER

•

Model M-275



For use with the Model 78-FM and Model 210-A Standard Signal Generators to provide carrier output at the IF frequencies used in FM and Television receivers.

SPECIFICATIONS

FREQUENCIES: 4.5, 10.7, 21.7 Mc. Provisions for one extra frequency.
FREQUENCY ACCURACY: ±0.5%.
OUTPUT VOLTAGE: 10 microvolts to 1.0 v. when used with Model 210 or Model 78-FM.
BAND WIDTH: ±250 Kc. from center frequency.
AMPLITUDE MODULATION: Up to approximately 80%, combined with or exclusive of FM. There is negligible spurious FM due to AM. The envelope distortion is less than 10% at 80% modulation.
POWER SUPPLY: 117 volts, 50 to 60 cycles, 45 watts.
DIMENSIONS: 10" high x 13" wide x 7" deep, overall.
WEIGHT: 15 pounds.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

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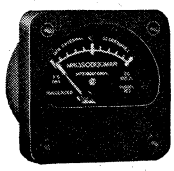
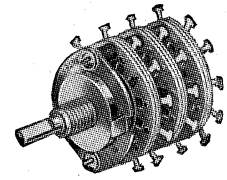


RUGGEDIZED METERS

1½" Square

Meets MIL-M-10304 (SIG.C.) Accurate within ±3% of full scale deflection. Basic d-c ranges 0-100 d-c ua, 0-1 d-c ma, and 0-10 d-c mv. RF and VU meters and other ranges also available.



SUB-MINIATURE ROTARY SWITCH

Wafer size 1" x ⅞". Twelve positions per deck . . . one to three decks. One, two, three or four poles per deck. Shorting or non-shorting contacts. Positive indexing with 30° spacing.

SPECIALISTS in Sub-Miniature Panel Meters

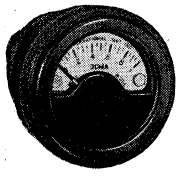
FIRST in U.S. to manufacture 1" diameter meter.

FIRST to produce 1" and 1½" illuminated meters.

FIRST to produce 1½" self-contained DB and VU meters.

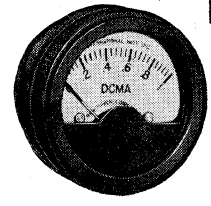
FIRST to produce Miniature Side Indicators.

1" ROUND



MODEL 100

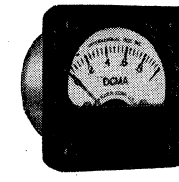
1" barrel diameter. Full 90° scale arc, scale length .770".
VU, DB and Illuminated meters also available with external accessory attached.



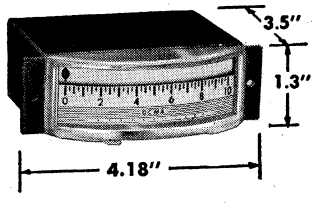
MODEL 150

1½" ROUND and SQUARE

1½" barrel diameter. Full 90° scale arc, scale length 1.322" Model 153 meets MIL-M-3823 requirements.
Also available: self-contained VU and DB meters — illuminated meters with lamp housing attached.



MODEL 153



MODEL 1145
SINGLE HORIZONTAL MOUNTING

SIDE INDICATORS

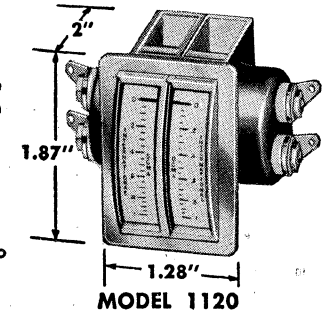
- **Greater readability** • **Smaller Panel Space**
- **Horizontal or vertical mounting, singly or with scales together.**

TWO SIZES AVAILABLE:

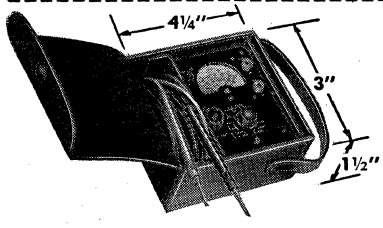
Model 1120 Scale length 1.3"
Anodized aluminum case.

Model 1145 Scale length 2.75"
Plastic case. Front external zero adjuster.

Pat. Pending



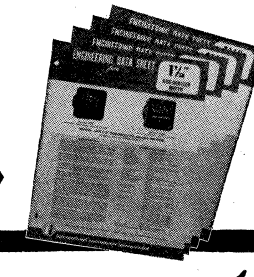
MODEL 1120
DUAL VERTICAL MOUNTING



MINIATURE MULTITESTER

Tests resistances and voltages. Sensitivity: 8000 ohms per volt on a-c ranges; 10,000 ohms per volt on d-c ranges. Accurate to ±2% of full scale deflection on d-c, ±5% on a-c.

ENGINEERING DATA SHEETS
COMPLETELY DESCRIBING THESE INSTRUMENTS ARE AVAILABLE. WRITE FOR YOUR COPIES TODAY.



international instruments

INCORPORATED

NEW HAVEN 15, CONNECTICUT

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Scala DUAL MARKER INJECTOR

— BEST FOR B & W TV LABORATORIES!

— ABSOLUTELY A *MUST* FOR COLOR TV!

The Dual Marker Injector SAVES TIME

. . . in alignment jobs

. . . in adjusting broad-band amplifiers

. . . in critical marking in color and monochrome TV

. . . does not disturb circuits being adjusted

. . . offers more accuracy

SCALA DUAL MARKER INJECTOR (SMI-53X) (patent applied for)—
Nothing else to buy—it works with your present marker generator, sweep generator, and oscilloscope.

Made by Scala, developers of the original bypass marker injector system.

The simplest, most legible, and most economical marker injector—and it requires less than 2,000 microvolts of signal!

THE SECOND MARKER MAKES EVERYTHING SIMPLER—

With two marks on the response curve, you don't have to re-set the marker or the sweep-generator frequency or attenuator.

Now you can realign with accuracy, simplicity, and speed that dual mark techniques make possible on manufacturers' assembly lines.

Receiver characteristics don't affect the marker size, so there is no stage-by-stage reconnecting.

The marker generator can be calibrated against the Scala Dual Marker Injector's crystal oscillator without interrupting alignment procedure.

FOR LABORATORIES, COLOR TV, AND RADAR, TOO—

The extremely critical frequencies used in color TV chassis and radar equipment are no problem for the man with a Dual Marker Injector. You simply replace the easily accessible crystal on the front panel with one of another frequency (1 to 4.5 MC) and you are thoroughly equipped for the job. No worries about accuracy, marker size, or disturbing 6AG5 circuit being tested.

SPECIFICATIONS—

Two 6AG5 high-frequency isolating mixers; selected diode detector; one 6SL7 Xtal osc-amp.; one 6SN7 video and marker mixer; one 5Y3 rectifier; one 4.5 MC crystal (±.02%). Useful to 250 megacycles. Shipping weight: 13 lbs. At leading jobbers, **$79.50.**

SCALA SUPER MARKER INJECTOR (SMI-53) Same as above, less dual mark feature and built-in crystal oscillator. At leading jobbers, **$67.50**

SPARE CABLE (SMI-C) for Super Marker Injector..... **$1.00**

Scala OSCILLOGRAPH PROBES

Your scope sees only what your probe feeds it—so, when you buy probes, look at the construction . . . compare written specifications. Then you will select Scala probes.

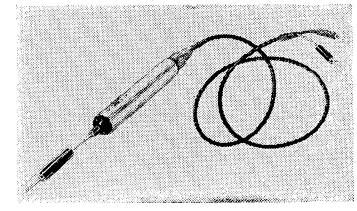
BZ-1: SIGNAL TRACING PROBE for individual check of IF stages, calibrating marker generator, checking output of sweep generator, etc. Low C, Hi-Z demodulator range, non-resonant to 225 mc; useful to 1000 mc. Dealer net, less cable, **$8.75;** with cable, **$9.75.**

BZ-2: LOW CAPACITY PROBE permits tracing waveforms through Hi-Z circuits without excessive distortion from circuit loading. Cuts effective input capacity of scope, attenuation 10 to 1. Dealer net, less cable, **$8.75;** with cable, **$9.75.**

BZ-3: 100:1 VOLTAGE DIVIDER PROBE for checking horizontal sweep waveforms and voltages at plates of horizontal output or damper tubes. Does not distort waveform up to 10,000 volts peak to peak. 100-1 capacitance divider. Dealer net, less cable, **$8.75;** with cable, **$9.75.**

BZ-4: VOLTAGE DOUBLER PROBE provides virtually double deflection on scope screen compared to half-wave probes. Dual low C Hi-Z demodulators useful to 150 mc. Dealer net, less cable, **$9.75;** with cable, **$10.75.**

BZ-5: 2-IN-ONE-PROBE. (ILLUSTRATED) As a direct probe, provides a convenient test facility in general trouble-shooting work. By merely flipping a switch you have an alignment probe that provides the optimum isolation and filter characteristics so essential for visual alignment work. Calibrated removable low-loss coaxial cable; tumbler actions slide switch; non-inductive isolating resistor; removable self-holding Klipzon tip. Dealer net, less cable, **$5.90;** with cable, **$6.90.**



BZ-123: Consists of SCALA BZ-1, BZ-2, and BZ-3 probes complete with one coaxial cable, instructions, and removable Klipzon tip which can be fastened to any Scala probe to make a firm connection to test point. Dealer net, **$27.45.**

BZ-1235: The equivalent of five probes: BZ-1, BZ-2, BZ-3, and BZ-5. This kit includes cable, instructions, and Klipzon tip adaptable to make a firm connection test point for any Scala probe. Dealer net, **$32.85.**

BZ-C: Spare cable for Scala probes. Dealer net, **$1.00.**

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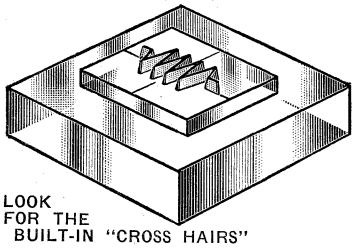
Net

PRECISE MEASUREMENTS COMPANY

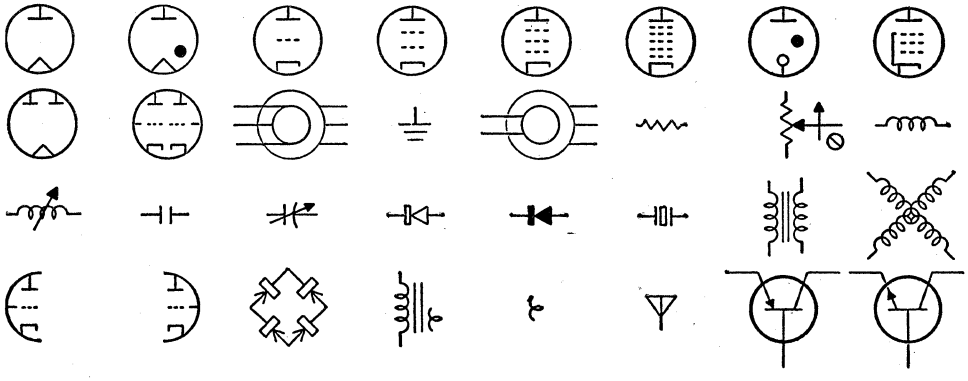
BROOKLYN 23, NEW YORK

TRANSPARENT SYMBOL STAMPS



LOOK FOR THE BUILT-IN "CROSS HAIRS"

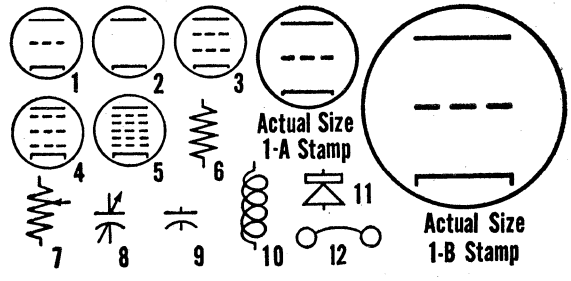
SAVE HOURS OF DRAFTING TIME. Works like a rubber stamp. Simply ink, sight through "cross hairs" and make your impression. Even the most complicated symbol takes only two seconds to stamp. Made of crystal clear, high purity Vinylite. You can see right through the stamp for pin point alignment. Stamps have razor sharp impressions due to an exclusive manufacturing process. Resists gasoline, benzine and many acids. These stamps will pay for themselves the first week used. Lasts a lifetime. The most popular sets is shown below.



GOVERNMENT SERIES SET. Widely used by both government and industry. Consists of 32 selected symbols as shown. All are strictly in accordance with standard specifications.

Price **$25.00**
Set of 32 Symbols

HANDY STAMP SET



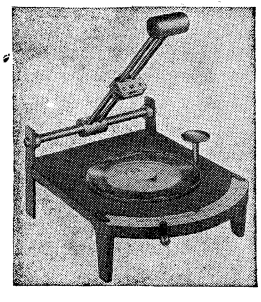
Consists of 12 of the most used symbols. Available in two popular sizes.

SIZE A SET $8.50 (12 Stamps) SIZE B SET $10.00 (12 Stamps)

METAL ELEMENT STAMP PAD

Made of porous bronze. Gives a more uniform impression every time. Use it with any kind of stamp. Ink never dries out in pad, yet dries instantly on most paper surfaces (not intended for highly glazed surfaces). Available in red or black. Price only **$2.50 each.**

Ink Refill Cartridge **$0.50**



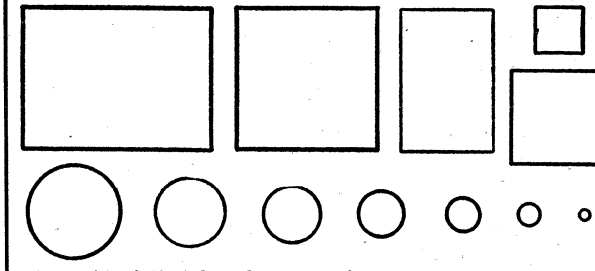
SCALE PRINTING MACHINE

Prints lettering, numbers and divisions on meter scales, metal, paper, plastics. Perfect lettering is assured by use of standard printers type. Many leading instrument manufacturers and laboratories are using our machines.

NEW Model 1500
Standard Scale Printing Machine
$200.00

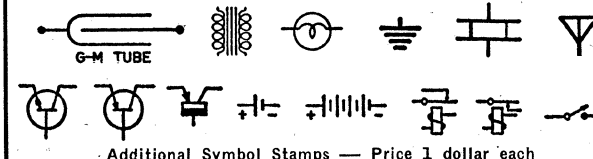
Prices do not include printers type.

CIRCLES AND SQUARES



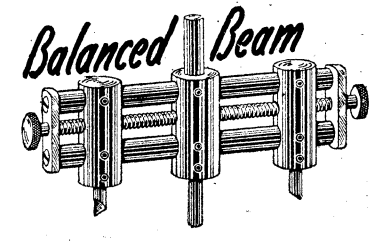
Set consists of 12 circles and squares as shown.
Ideal for drawing of block diagrams. Small circles eliminate tedious drawing of the smaller diameters with drafting tools.

Price $10.00



Additional Symbol Stamps — Price 1 dollar each

SPECIAL SYMBOL STAMPS. Send us a drawing of any symbol or wording that you use on your prints or for marking parts. We will send you back a beautiful mounted stamp that will pay for itself the first few times you use it.



MICRO CIRCLE CUTTER

Cuts Metals
•
Woods
•
Plastics

For quickly cutting those extra large hole sizes. Perfect for making washers.

Model	Shank	Size	Price
9	Round	10″	$12.50
10	Round	15″	15.00

Extra Cutting Bits 50¢ Each

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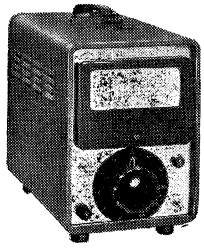
FROM MILLIWATTS TO KILOWATTS

HIGH VOLTAGE POWER SUPPLIES AND EQUIPMENT

We have sold quantities of these power supplies to laboratories, industrial concerns, the government and universities. Only the best available selected material goes into these units, so that you will have many years of dependable service. Only a few of our standard models are shown below. Quotations on special supplies cheerfully given.

PRECISE MEASUREMENTS COMPANY

HIGH VOLTAGE POWER SUPPLIES



One of the most popular power supplies on the market. Completely redesigned for greater ruggedness and convenience of operation. Widely used for powering electronic equipment and for routine breakdown and insulation testing. Output voltage is well filtered D.C. which is adjustable with convenient front panel control. Input is 115 Volt, 60 cycle A.C. Equipment is available without meter, with one meter (4½"), with two meters or with larger 6" precision 1% mirror scale movement. Regulated models offer closely stabilized output voltage regardless of line or load changes.

Model		Maximum Voltage	Price	Price Regulated Model
6000-1	With Kilovolt Meter	1,000	$75.00	
6000		2,500	60.00	
6000-A	With Kilovolt Meter	2,500	80.00	120.00
6005		5,000	75.00	
6005-A	With Kilovolt Meter	5,000	95.00	135.00
6010		10,000	85.00	
6010-A	With Kilovolt Meter	10,000	105.00	145.00
6015		15,000	95.00	
6015-A	With Kilovolt Meter	15,000	115.00	155.00
6025		25,000	115.00	
6025-A	With Kilovolt Meter	25,000	155.00	205.00

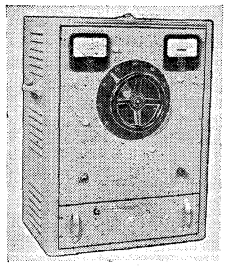
For additional built in current meter (both meters are 3 inch size), including automatic meter protector circuit, add $35.00 to any power supply.

For 6 inch precision 1% mirror scale kilovoltmeter, add $20.00 to any meter equipped power supply price.

HIGHER VOLTAGE SUPPLIES

Model	Maximum Voltage	Price Unregulated	Price Regulated
6030-AIR	30,000	$200.00	$300.00
6040-AIR	40,000	400.00	450.00
6050-AIR	50,000	500.00	600.00
6100-AIR	100,000	Price on request	

INDUSTRIAL POWER SUPPLIES



Regulated Types Available

Standard hum level 5% or less. .01% to 1% ripple available. All power supplies have automatic overload cutout control circuits. Regulated models available. They stabilize by means of a rugged saturable reactor control system.

These industrial type power supplies are built for service and efficiency. All are of the transformer type and employ husky components that have been selected for their power handling capacity. Controls are arranged so that operation is greatly simplified and a number of safety features are built in for maximum protection of personnel and equipment. Output is continuously variable from zero to full rated value. Polarity reversing models (as illustrated) can be had at additional cost.

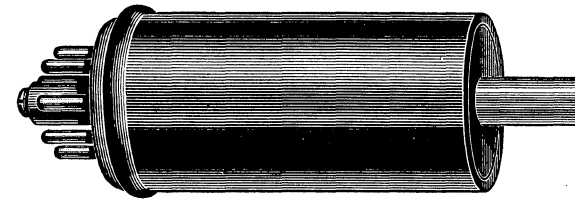
Model	Voltage	Current	Price
F-6001	0-1000	2 Amp	$975.00
F-6002	0-2000	1 Amp	985.00
F-6005-A1-H	0-5000	100 MA	550.00
F-6005-A1-5H	0-5000	500 MA	650.00
F-6005-A1-1K	0-5000	1 Amp	800.00
F-6010-A1	0-10,000	100 MA	800.00
F-6020-A05	0-20,000	50 MA	975.00
F-6050-T	0-50,000	½ MA	600.00
F-6100-T	0-100,000	½ MA	1100.00

AC INSULATION AND BREAKDOWN TESTERS

Used in testing insulation where AC voltages are desired. Dual instruments are also available which provide choice of AC or DC output with simple toggle switch selection. Units include kilovoltmeter, current meter and automatic overload cutout circuits.

Model	Voltage	VA	AC	Price AC and DC
3000	0 to 3,000	75	$150.00	$ 250.00
3010	0 to 3,000	300	250.00	400.00
3050	0 to 3,000	1,500	500.00	650.00
3100	0 to 6,000	3,000	700.00	1,100.00

HGH VOLTAGE CONVERTERS



Solves your High Voltage problem in the simplest possible way. Simply connect input to 1½ or 3 V. battery (or low voltage A.C.) and obtain your high voltage output. Output voltage adjustable from zero to 6,000 Volts A.C. (or D.C. when rectified). Typical output is 1 Ma. at 130 Volts D.C., 200 Microamperes at 500 Volts and 100 Microamperes at 1,000 Volts, with 3 Volts input. Model 7 MVT as illustrated, plugs in like a radio tube. The Model 10 MVT is not encased.

Model	Primary	Secondary	Price
7 MVT	1 to 4 Volts	0 to 6,000 Volts A.C. Max.	$12.50
10 MVT	1 to 4 Volts	0 to 6,000 Volts A.C. Max.	$10.00

TRANSFORMERS, HIGH VOLTAGE

For those who build their own power supplies. These units are small and compact and rated for constant service. Primary designed for 115 Volts 60 Cycle. A filament tap on the high end of the secondary eliminates the need for separate filament transformers in many applications. Only standard models are listed, other voltages and currents available on order.

Model	Voltage	Current	Filament	Construction
1 KVT	1 KV	1 MA	1¼ V @ ¼ amp	Open Frame
2 KVT	2 KV	1 MA	1¼ V @ ¼ amp	Open Frame
3 KVT	3 KV	1 MA	1¼ V @ ¼ amp	Open Frame
5 KVT	5 KV	1 MA	1¼ V @ ¼ amp	Open Frame
10 KVT	10 KV	1 MA	5 V @ 5 amp	Oil Filled
15 KVT	15 KV	1 MA	5 V @ 5 amp	Oil Filled
25 KVT	25 KV	1 MA	5 V @ 5 amp	Oil Filled

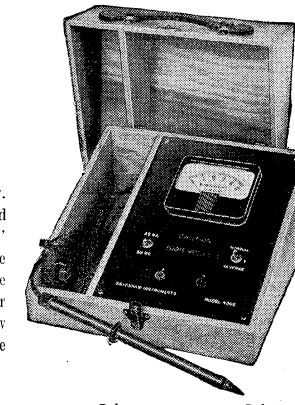
KILOVOLTMETER

ONE HUNDRED THOUSAND VOLTS!

FEATURES

- AC or DC Measurements
- High Input Impedance

Measure high voltages quickly - easily. All voltage is dissipated in the shielded polysterene probe. "Normal-Reverse" key is provided so that probe may be used regardless of polarity of voltage under test. Indicator has large clear scale for easy reading. Additional low leakage path, Special insulated probe is supplied on all 100 KV models.



Model	Range Kilovolts	Price D.C. Model	Price A.C./D.C. Model
4000	0-25/50	$67.50	$100.00
4000-A	0-100	80.00	125.00
4000-B	0-50/100	85.00	130.00
4000-C	0-10/50/100	95.00	160.00

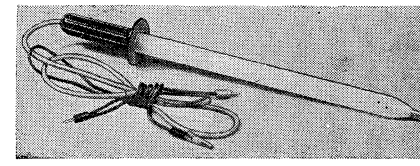


PHOTO SHOWS THE SPECIAL 100 K.V. PROBE SUPPLIED WITH THE HIGHER RANGE INSTRUMENTS.

Copyright by U. C. P., Inc.

Net

SECO TEST INSTRUMENTS

PRE-WIRED Model GCT-5 Grid Circuit TUBE TESTER OR KIT

A compact portable Tube Tester that quickly detects faults in practically all TV and industrial types subject to "Control Grid" error. An electron ray tube is used to indicate control grid emission, grid-to-cathode shorts, cathode-to-heater shorts and gaseous conditions.

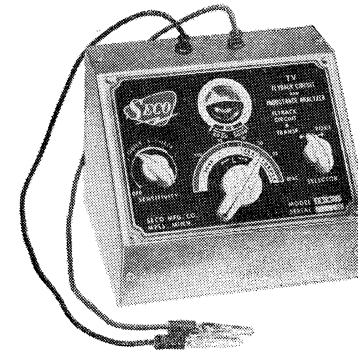
SPECIFICATIONS: MODEL GCT-5

- 7 prewired sockets and one spare
- 3—12V Filament volt. Selector
- Sensitivity:
  - Grid emission .35 micro watts
  - Grid to cathode leakage 125 megs
  - Grid to plate or screen 125—250 megs
  - Cathode to heater leakage one meg
  - Plate or screen to suppress .1 meg
  - Capacitor leakage check—250 megs
- Adequate sensitivity and simultaneous checking for presence of above errors without need of circuit selector switch
- Replaceable etched tube listing panel
- A.C. Receptacle
- Recessed cord compartment
- Heavy duty continuous operation power transformer (power 117V, 60 cycle)
- Selenium rectifier power supply
- Tubes: 6AF6G indicator
  12AU7 DC amplifier
- Dimensions: 6½"x6½"x2½"
- Shipping weight: Four lbs.

MODEL GCT-5—Wired and tested $29.95, slightly higher in West
MODEL GCT-5 Kit—Unassembled $19.95

Model FB-4 FLYBACK CIRCUIT & INDUCTANCE ANALYZER

Without disconnecting or charting, quick check the TV fly-back circuit or the individual components. The SECO-Eye Indicator detects single shorted turn and isolates troubles causing lack of high voltage or sweep, pictures that are too wide or too narrow and horizontal foldover. Substitution checking is eliminated by this reliable analyzer that does the work of 2 instruments and greatly speeds up service time.



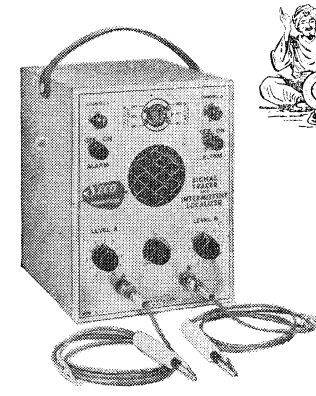
SPECIFICATIONS: MODEL FB-4

- Narrow band signal generator calibrated 20KC-100KC
- Plate detector peak rectifier
- Calibrated sensitivity control for making relative Q measurements
- All metal case
- Attractive etched panel
- Recessed power cord compartment
- Transformer and selenium rectifier power supply
- Tubes: 12AU7 amplifier oscillator
  6C4 cathode follower and R.F. output compensator
  6E5 plate detector and eye indicator
- Dimensions: 7" wide, 5½" deep, 5½" high, slanted panel
- Weight: Approx. five lbs.
- Supplied with pair of matched leads
- 117 A.C. operation

MODEL FB-4—$38.95—Slightly higher in West

MODEL SL-10 MONITRON Signal Tracer & Intermittent Localizer

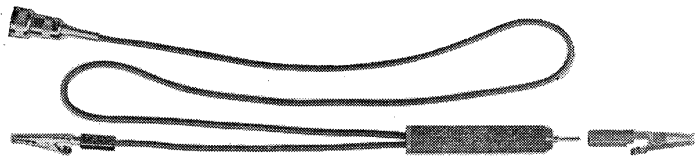
Troublesome intermittent problems in television and industrial electronic equipment are now revealed, audibly and visibly, with the SECO Monitron, that can monitor circuits without the full time attention of a technician. In addition the instrument can monitor 2 circuits at once, make point to point gain measurements and can be used as a signal tracer.



SPECIFICATIONS: MODEL SL-10

- Complete dual channel tracer circuits
- Three indicators per channel
  - Electronic ray tube level indicator in each channel
  - Neon lamp in alarm circuit in each channel
  - Speaker—common to both channels
- Calibrated linear level control
- Dependable electronic switching using thyratrons—no moving parts
- Regulated DC power supply
- High gain cascode DC amplifier
- Sensitivity: .3V (required to suppress alarm circuits)
- Tubes: 1—6X4 Rectifier
  1—0B2 DC Voltage Regulator
  2—6BK7A DC Amplifiers
  2—2D21 Thyratrons
  1—12AX7 Audio Oscillator
  1—6AK6 Audio Output
  1—6AF6G Dual "Electron Ray" Indicator
- Supplied with 2 Broadband Detector Probes
- Alarm Response Time: 1/200 to 1/2000 second—depending on the level setting
- Probe input impedance: .1 meg at 50KC
- Grey Hammerloid finish steel cabinet
- Etched aluminum front panel
- Equipped with leather carrying handle
- 117V AC 60-cycle Transformer operated
- Dimensions: width 8½", height 10¼", depth 7⅝"
- Weight: 9½ lbs.
- Shipping Weight: 11½ lbs.

SECO MONITRON MODEL SL-10—$119.50



MODEL P-10 Broadband Demodulator Probe

SPECIFICATIONS: MODEL P-10

- Ideal for application—to:
  VTVM for measuring RF voltage
  Scope pattern and gain measurements
  Audio signal tracer
- Smallest most compact probe built
- Incorporates IN294 crystal diode
- Input impedance: .1 MEG (at 50KC)
- Maximum input voltage 500V (sine wave)
- Supplied with insulated clip
- 36 inch lead supplied with mike connector

MODEL P-10 PROBE—$7.95

SOLD EXCLUSIVELY THROUGH JOBBERS

Manufactured by THE SECO MANUFACTURING CO. Minneapolis, Minn.

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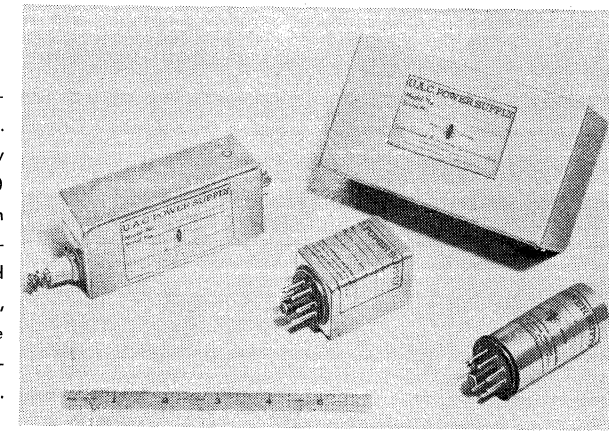
Completely Electronic Power Supplies

SAVE SPACE • SAVE WEIGHT
SAVE OPERATING COST

Complete range electronic power supplies, any practical combination of voltage and current to meet your requirements. Over 50,000 standard units to 20,000 volts (from 1½-6 v input) . . . to 100 Watts (6-12 v input). Custom units to 100,000 volts . . . to 500 Watts on special quote. Plug-in units with filtered DC voltage. Up to 85% efficiency. For Tubes, battery-operated Oscilloscopes, picture tubes of TV sets, Infra-Red applications, Communications Systems, Radiosonde, Computers, Telemeters, Emergency Power Systems, or wherever portable power is required. Save weight, space, operating cost. Completely encapsulated for moisture and temperature proofing. A few of our standards listed here.



UAC TRANSISTORIZED POWER SUPPLIES — STANDARD DC to DC MODELS

Model No.	Input Voltage	Output Voltage	Output Microamps	Approx. Size	List Price
1000/ /	1.5	50 to 1080	.1 to 50	4 cu. in.	$ 35
1000/ /	3.0	120 to 1250	.1 to 120	4 cu. in.	$ 35
1000/ /	4.5	150 to 1100	.1 to 150	4 cu. in.	$ 35
1000/ /	6.0	150 to 990	.1 to 150	4 cu. in.	$ 35
1500/ /	1.5	130 to 1620	.16 to 26	4 cu. in.	$ 40
1500/ /	3.0	145 to 1720	.17 to 29	4 cu. in.	$ 40
1500/ /	4.5	150 to 1600	.16 to 30	4 cu. in.	$ 40
1500/ /	6.0	145 to 1520	.15 to 29	4 cu. in.	$ 40
1600/ /	1.5	220 to 1700	.17 to 110	4 cu. in.	$ 40
1600/ /	3.0	240 to 1560	.15 to 240	4 cu. in.	$ 40
1600/ /	4.5	260 to 1420	.15 to 260	4 cu. in.	$ 40
1600/ /	6.0	740 to 1420	.14 to 260	4 cu. in.	$ 40
1400/ /	1.5	44 to 1420	.14 to 220	4½ cu. in.	$ 45
1400/ /	3.0	1 to 1780	.17 to 490	4½ cu. in.	$ 45
1400/ /	4.5	156 to 1920	.18 to 780	4½ cu. in.	$ 45
1400/ /	6.0	184 to 1960	.19 to 920	4½ cu. in.	$ 45
2300/ /	1.5	160 to 2400	.24 to 32	4½ cu. in.	$ 45
2300/ /	3.0	255 to 2550	.25 to 51	4½ cu. in.	$ 45
2300/ /	4.5	255 to 2400	.24 to 51	4½ cu. in.	$ 45
2300/ /	6.0	245 to 2250	.22 to 49	4½ cu. in.	$ 45
2400/ /	1.5	10 to 2850	.28 to 49	5 cu. in.	$ 50
2400/ /	3.0	17 to 3325	.33 to 94	5 cu. in.	$ 50
2400/ /	4.5	23 to 3420	.34 to 115	5 cu. in.	$ 50
2400/ /	6.0	28 to 3450	.34 to 140	5 cu. in.	$ 50
4000/ /	1.5	16 to 4300	.43 to 80	5½ cu. in.	$ 55
4000/ /	3.0	28 to 4650	.46 to 180	5½ cu. in.	$ 55
4000/ /	4.5	260 to 4925	.48 to 270	5½ cu. in.	$ 55
4000/ /	6.0	625 to 5200	.51 to 333	5½ cu. in.	$ 55
4400/ /	1.5	50 to 5300	.53 to 55	6 cu. in.	$ 65
4400/ /	3.0	390 to 6450	.64 to 104	6 cu. in.	$ 65
4400/ /	4.5	720 to 7000	.70 to 184	6 cu. in.	$ 65
4400/ /	6.0	900 to 7425	.74 to 236	6 cu. in.	$ 65

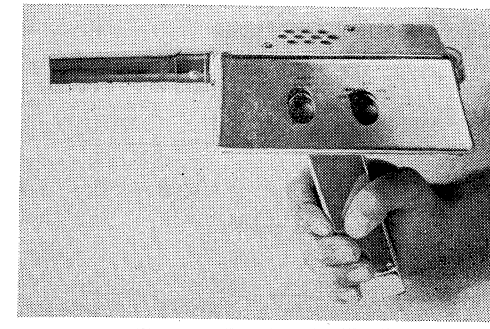
Model No.	Input Voltage	Output Voltage	Output Microamps	Approx. Size	List Price
6000/ /	1½ to 6 v	6000	1 to 5	1½x1½x4"	$100.
6000/ /	6 to 28 v	6000	10 to 200	1½x1½x4"	$200.
10KV/ /	1.5 to 3 v	10KV	1 to 5	5x4x1½"	$250.
10KV/6/10	6	10KV	10	5x4x1½"	$500.
10KV/12/50	12	10KV	50	5x4x1½"	$500.
10KV/12-28/	12-28	10KV	100 to 200	5x4x1½"	$500.
16KV/ /	1.5 to 3	16KV	1 to 5	3x6x1½"	$350.
16KV/6/10	6	16KV	10	3x6x1½"	$500.
16KV/12/50	12	16KV	50	3x6x1½"	$500.
16KV/12-28/	12-28	16KV	100 to 200	3x6x1½"	$500.
20KV/ /	1.5 to 3	20KV	1 to 5	3x6x1½"	$350.
20KV/6/10	6.0	20KV	10	3x6x1½"	$500.
20KV/12/50	12.0	20KV	50	3x6x1½"	$500.
20KV/12-28/	12-28	20KV	100 to 200	3x6x1½"	$750.
125/12/4MA	12	125	4K	2x2x3½"	$175.
250/12/2MA	12	250	2K	2x2x3½"	$175.
500/12/1MA	12	500	1K	2x2x3½"	$175.
1000/12/½MA	12	1000	500	2x2x3½"	$175.
125/12/8MA	12	125	8K	2x2x3½"	$175.
250/12/4MA	12	250	4K	2x2x3½"	$175.
500/12/2MA	12	500	2K	2x2x3½"	$175.
1000/12/1MA	12	1000	1K	2x2x3½"	$175.
125/12-15/40MA	15	125	40K	2½x2½x6"	$175.
250/12-15/20MA	15	250	20K	2½x2½x6"	$175.
500/12-15/10MA	15	500	10K	2½x2½x6"	$175.
1000/12-15/5MA	15	1000	5K	2½x2½x6"	$175.
125/12-15/80MA	15	125	80K	2½x2½x6"	$175.
250/12-15/40MA	15	250	40K	2½x2½x6"	$175.
500/12-15/20MA	15	500	20K	2½x2½x6"	$175.
1000/12-15/10MA	15	1000	10K	2½x2½x6"	$175.

NOTE: Model # consists of (1) output voltage (2) input (3) output current. **EXAMPLE: Model #1000/1.5/1**

TRANSISTORIZED GUN-TYPE GEIGER COUNTER

UAC #411 — Geiger Gun

Completely self-contained professional Geiger counter that operates from two standard 1½-volt flashlight cells . . . contains built-in audio amplifier that eliminates need for bulky and irritating earphones. Seven transistors (equivalent to seven vacuum tubes) give the Geiger Gun sensitivity never before achieved in comparably priced instruments. Operates while standing on new square handle or from hip holster, leaving both hands free for other use. One-piece shockproof steel case finished with heat-deflecting chrome. Lightweight — only 3½ pounds. Complete with carrying holster, operating instructions, radioactive sample, $149.50.



Universal Atomics Corp.

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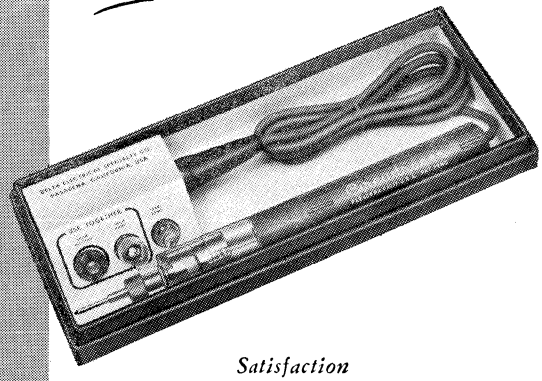
Tracks 'em Down Dead or Alive

ONLY THE VERSATILE DESCO* Circuitracer*

GIVES YOU A 3-IN-1 ELECTRICAL TEST LABORATORY

Pocket Size!



Satisfaction Unconditionally Guaranteed

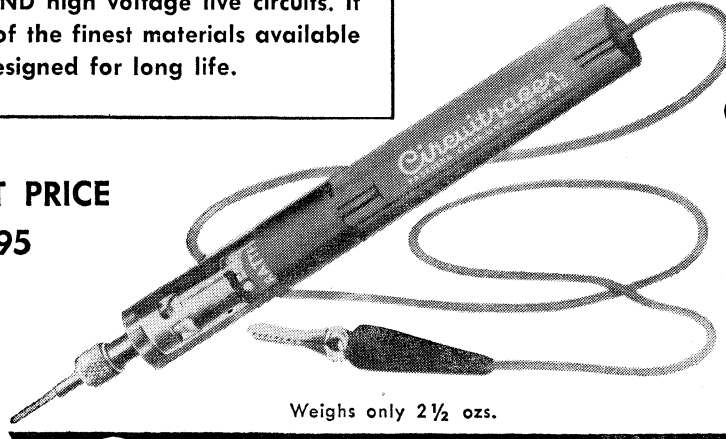
DON'T SEND A MAN TO DO A BOY'S JOB!

Are the technicians in your laboratories and shops using expensive meters and instruments for simple continuity and voltage checks? Speed up production through the use of the tool specifically designed for this application. A meter should be used only when the value of voltage, resistance or current must be known. Under any other conditions a Circuitracer will provide the required information faster and easier than expensive, bulky meters.

CIRCUIT TESTING WITH A CIRCUITRACER IS FASTER because the signal light is in the tip at the point of contact. This makes it possible to determine the existence of a circuit or voltage without removing the eyes from the test point to read a meter.

SAVE METER REPAIR MONEY BY USING DESCO CIRCUITRACERS. An overvoltage across a meter usually results in extensive damage which takes the meter out of service until repaired or replaced. The worst that can happen to your Circuitracer is a burned out lamp that can be replaced by the operator in less than a minute. Total cost, ten or fifteen cents for the lamp!

The CIRCUITRACER is the only electrical tester (other than expensive meters) that can test dead circuits, low voltage live circuits AND high voltage live circuits. It is made of the finest materials available and is designed for long life.



Weighs only 2½ ozs.

LIST PRICE
$4.95

Circuitracer*
POINTERS

1. As a continuity tracer for dead circuits
2. As a low voltage live circuit tester
3. As a high voltage live circuit tester

*T.M.

DESCO Circuitracer*
DESCO MFG. CO., PASADENA, CALIF.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

TELETEST INSTRUMENTS

Model DM-456 Dynamic Conductance Tube Tester, Net $125.00

DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER

MODEL DM-456

The first AUTOMATIC Gm Tester on the Market!!!

Now, Automation has come to TV servicing with this revolutionary, new dynamic mutual conductance tube tester. Speeds up tube testing to meet today's requirements and tomorrow's demands — complete test of more than 400 different tubes in less than 10 seconds apiece!!

The TeleTest DynaMatic is also the smallest, lightest, most compact portable Gm tester available. Roll charts and multiple-socket panels are completely eliminated. Socket and voltage connections are set up AUTOMATICALLY by a simple, perforated card system.

- **Tests ALL new types of TV circuit tubes, under load, as fast as they appear in new sets, even the new 600 ma heater-string types.**
- **Tests for mutual conductance, gas content, grid emission, life expectancy, shorts and leakage, including even the slightest heater cathode leakage.**
- **Additional perforated plastic cards issued as soon as new tubes are announced; no waiting for replacement roll charts or overlay panels.**
- **Supplied in black leatherette carrying case, with duplicate cards for the most widely used tube types.**

Line Voltage—117 v, 60 cycle AC; self-adjusting line compensation.
Meter—4½" rectangular; 2 Gm ranges: 0-6000 & 0-18,000 micromhos; "Good-Bad" scale calibrated in % of rated mutual conductance.
Dimensions—11½" long x 8¾" wide x 5½" deep.
Weight—approx. 9 lbs.

REJUVATESTER

MODEL RT-203

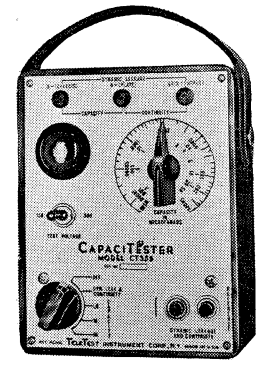
An unbeatable combination . . . a CRT tester and rejuvenator in one, compact, featherweight unit, Unmatched simplicity of operation with one-knob control, large easy-to-read meter and neon short indicator. Restores normal performance on 90% of all magnetically-deflected TV and industrial CRT's even those using electrostatic focusing!

- **Checks cathode emission, gas content, loss of brightness; locates open elements, hot and cold inter-element shorts and leakage as high as 5 megohms.**
- **Removes cathode surface contamination.**
- **Restores and improves emission quality.**
- **Clears inter-element shorts.**
- **Cathode activity metered during revitalization to prevent permanent tube damage.**

Line Voltage—117 v, 60 cycle AC.
Short Indicator—#51 neon lamp.
Meter—4½" rectangular.
Dimensions—7" high x 5½" wide x 2½" deep.
Weight—3¼ lbs.

Model RT-203 Rejuvatester, Net.....**$44.95**

Model RT-203B mounted in black, leatherette-covered all wood carrying case with detachable cover....**$49.95**



CAPACITESTER

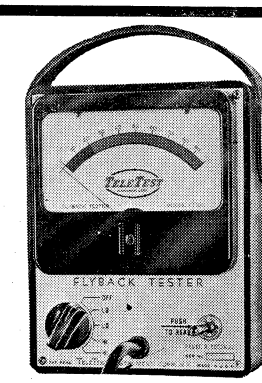
MODEL CT-355

The first and foremost condenser tester designed to check coupling condensers, under load, without removal from the circuit. The elimination of grid current effects makes it superior to any voltmeter, and dynamic testing procedures make it surpass an ohmmeter for "hot" leakage detection.

- **Dynamic in-circuit test for coupling condenser leakage.**
- **Checks electrolytic, paper, mica and ceramic capacitors; variable tuning and trimmer condensers, for leakage and breakdown.**
- **Also tests open, shorted, intermittent capacitors; unstable resistors, transformer windings, switches, sockets, contacts or between any points where leakage may occur.**
- **Positive indication of relative leakage present, without damage to condensers.**
- **High accuracy Wien-bridge capacitance measurement, as added feature.**

Line Voltage—117 v, 60 cycle AC.
Polarizing Voltages—150 and 300 v DC (Nominal).
Capacitance Measurement—3 ranges: 10 mmfd — .005 mfd, .001 — 0.5 mfd, 0.1 — 50 mfd.
Leakage Resistance Measurement — over 40 megohms, under load.
Tubes—one 6AF6, one 6AV6.
Dimensions—7" high x 4¼" wide x 2½" deep.
Weight—3¼ lbs.

Model CT-355 CapaciTester, Net.....**$44.95**
Model CT-355B mounted in black, leatherette-covered all wood carrying case with detachable cover..... **49.95**



FLYBACK TESTER

MODEL FT-100

Engineered for the cost-conscious technician, here is the first and only flyback tester that doesn't require a reference transformer for comparison! Indicates true flyback condition under full operating voltage, 100% of the time!

- **Tests fixed and variable-core monochrome and color flybacks, air core HV transformers and auto-transformers.**
- **Also deflection yoke windings, width and linearity coils.**
- **Dynamic test, under full operating voltage, with no danger of shock.**
- **Accessory unit available to simplify yoke testing even further.**

Line Voltage—117 v, 60 cycle AC.
Meter—4½" rectangular, 50 ua sensitivity.
Tubes—one 6AL5.
Test Current Output—2000-ampere, 10 usec pulse.
Dimensions—7" high x 5¼" wide x 2½" deep.
Weight—3¼ lbs.

Model FT-100 Flyback Tester, Net.....**$44.95**

Model FT-100B mounted in black, leatherette-covered all wood carrying case with detachable cover..... **49.95**

Model YT-101 Yoke Accessory..... **6.95**

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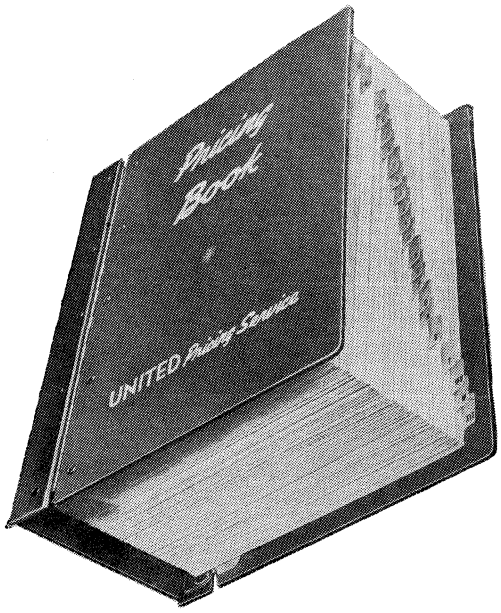

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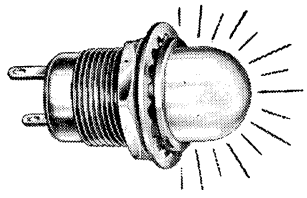
Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

Sub-Miniature PILOT LIGHTS

Two Terminal • Fully Insulated

The Ultimate in Compactness

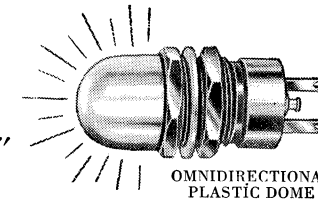
(Illustrations are approx. actual size)



THESE PILOT LIGHTS CONFORM TO ALL APPLICABLE MILITARY SPECIFICATIONS.

For FRONT of Panel Insertion: Requires single 17/32" clearance hole.

For BACK of Panel Insertion: Requires single 15/32" clearance hole.

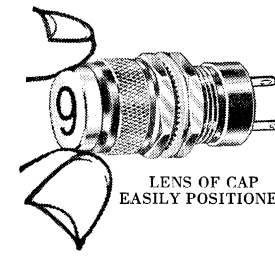


OMNIDIRECTIONAL PLASTIC DOME

EASY LAMP REPLACEMENT: All assemblies (whether for front or rear insertion) have this important feature: The plastic domes or metal caps are easily removed from front of panel — thus making the lamps accessible for easy lamp replacement. Please refer to our Form L-156A which describes these units in detail.

PLASTIC DOME — OMNIDIRECTIONAL: The unique "stovepipe" lens, moulded of high heat plastic, radiates light in all directions. Heavy plastic walls are reinforced by threaded brass insert. This fitting receives lamp well up into plastic dome for maximum light dispersion.

LENS WITH MESSAGE — easily positioned. A DIALCO exclusive is the specially designed cap-and-lens (as shown at right). By pressing on spring-mounted lens and rotating in either direction the legends may be positioned *after* installation of the assembly.



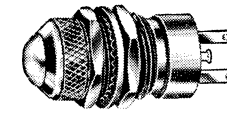
LENS OF CAP EASILY POSITIONED

INSULATED: Lamp, socket, and all connections are completely insulated from the bushing and panel to which it is attached.

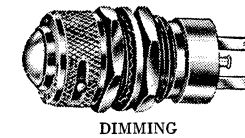
FINISH: Black nickel.

LIGHT SOURCE: T-1¾ midget flanged incandescent lamps. Available in the following voltages.

Lamp No.	Volts	Amps	Life (Hours)
331	1.3	.06	500
338	2.7	.06	500
328	6.0	.2	500
330	14.0	.08	750
327	28.0	.04	1000



NON-DIMMING



DIMMING

TERMINALS: Rugged soldering terminals.

Also TAPER-TAB SOLDERLESS TERMINALS: All Dialco 2-terminal units may be so ordered. Taper-tabs reduce assembly time, cut costs, and enable use of smaller and lighter parts. Self-locking action and high contact pressure assure reliability.

CATALOGUE NUMBERS

PLASTIC DOME TYPES

All caps are available in transparent or completely diffusing plastic. Two colors only are made in light diffusing material.

Non-diffusing (transparent) colors

Color	Catalogue No. (Back insertion)	Catalogue No. (Front insertion)
Red	101-3830-931	101-5030-931
Green	101-3830-932	101-5030-932
Amber	101-3830-933	101-5030-933
Blue	101-3830-934	101-5030-934
White (Opal)	101-3830-935	101-5030-935
Yellow	101-3830-936	101-5030-936
Clear (Colorless)	101-3830-937	101-5030-937

Completely diffusing colors

Red	101-3830-971	101-5030-971
Green	101-3830-972	101-5030-972
Amber	101-3830-973	101-5030-973
Blue	101-3830-974	101-5030-974
White (Opal)	101-3830-975	101-5030-975
Yellow	101-3830-976	101-5030-976

Light diffusing colors

Red	101-3830-951	101-5030-951
Green	101-3830-952	101-5030-952

INDICATOR LIGHT (Non-dimming)

Lens, frosted back	Lens, frosted all over	Lens, unfrosted
111-3830-111	111-3830-121	111-3830-131

DIMMER TYPES (Mechanical or Polaroid)

	Lens, frosted back	Lens, frosted all over	Lens, unfrosted
Semi-blackout	109-3830-111	109-3830-121	109-3830-131
Blackout	108-3830-111	108-3830-121	108-3830-131
Polaroid	112-3830-111	112-3830-121	112-3830-131

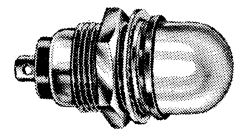
LIGHTS WITH MESSAGES

Translucent Colors	(Back insertion)	(Front insertion)
Red	134-3830-351	134-5030-351
Green	134-3830-352	134-5030-352
Amber	134-3830-373	134-5030-373
White	134-3830-375	134-5030-375
Yellow	134-3830-376	134-5030-376

LENS COLOR: The *final figure* in the catalogue number indicates that the lens has *RED* color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Trans.—5 Yellow—6 Clear (Colorless)—7

Also ONE terminal units



For use on grounded circuits

DIALCO also makes a complete line of *single terminal sub-miniature pilot lights* intended for use where it is desired to ground one side of circuit. Available in the styles similar to the above. Instead of the single soldering terminal, a binding screw terminal may be specified. Brochure L-157 describes these units in detail.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

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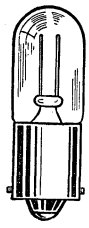
DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

BROOKLYN 37, N. Y.

PILOT LIGHT ASSEMBLIES

for T-3¼ NEON LAMP • NE-51



NE-51

For 11/16"* and 1"** MOUNTING HOLES

BUILT-IN RESISTORS

(Patent No. 2,421,321)

For operation on 105-125V. or 210-250V. . . . The required resistor is an integral part of the unit — BUILT IN. (See below.) Also, simple external resistors for all higher voltages.

All of these assemblies are listed by Underwriters' Laboratories, Inc.

Equipped with
BINDING SCREWS

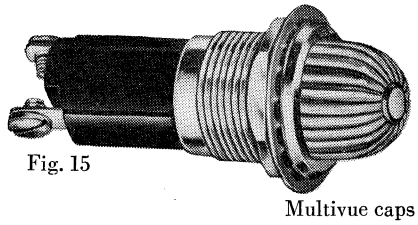


Fig. 15

Multivue caps

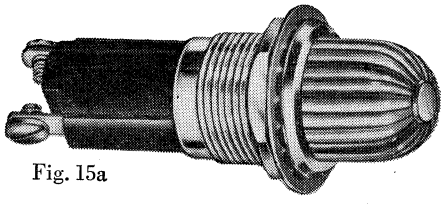


Fig. 15a

Equipped with
SOLDERING TERMINALS

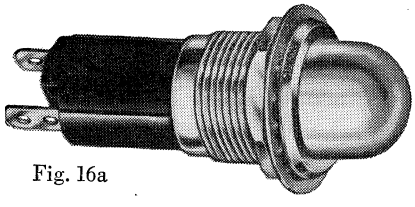


Fig. 16a

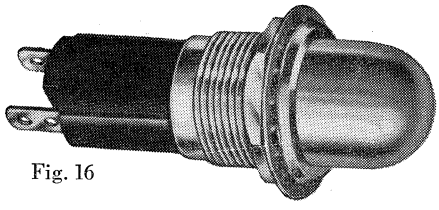


Fig. 16

The new NE-51 lamp is especially useful for pilot lights to be operated on commercial voltages. It has a distinctive orange-red glow and consumes very little current.

MULTI-VUE or CLEAR CAPS

In addition to the advantages given by the provision of the built-in resistor, these assemblies offer another feature that is especially important in obtaining effective indication with the NE-51 lamp. The "Multi-vue" cap shown at the left gives a high degree of visibility by directing an increased amount of light toward the eye when the indicator is viewed from any angle. When it is desirable to view the electrodes directly, the CLEAR CAPS shown below are very effective. For concentrating the light into a beam the metal lens holders are equipped with convex lenses as shown.

CATALOGUE NUMBERS

*For 11/16" Mounting Hole

521308-991	Short multivue cap, Screw terminals (Fig. 15)
531308-991	Long multivue cap, Screw terminals (Fig. 15a)
91408-931	Long clear cap, Soldering terminals (Fig. 16)
95408-931	Short clear cap, Soldering terminals (Fig. 16a)
81408-111	Screw-in cap, Convex lens, Soldering terminals (Fig. 17)

Units for 9/16" Mounting Hole are also available

**For 1" Mounting Hole

80408-831	Screw cap, Dome plastic lens, Soldering terminals (Fig. 18)
801308-831	Screw cap, Dome plastic lens (Fig. 18). Screw terminals similar to those in Fig. 15
51408-111	Screw cap, Convex lens, Soldering terminals (Fig. 19)
511308-111	Screw cap, Convex lens (Fig. 19). Screw terminals similar to those in Fig. 15

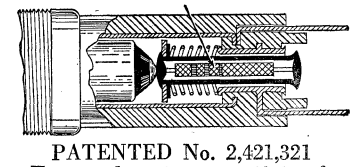
LENS COLOR: The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note: white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2* Amber—3 Blue—4*
White Translucent—5 Yellow—6 Clear (Colorless)—7

*** Not recommended with neon lamps.**

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

BUILT-IN RESISTOR



PATENTED No. 2,421,321

External resistors will be furnished which will permit use of these pilot lights on voltages higher than 250 volts.

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DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

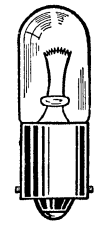
BROOKLYN 37, N. Y.

PILOT LIGHT ASSEMBLIES

DIALCO

FOR T-3¼ BULB WITH MINIATURE BAYONET BASE

LISTED UNDER REEXAMINATION SERVICE UL UNDERWRITERS' LABORATORIES, INC. OF



CATALOGUE NUMBERS

*For 11/16″ Mounting Hole

521310-991 Short multivue cap, Screw terminals (Fig. 15)
531310-991 Long multivue cap, Screw terminals (Fig. 15a)
91410-931 Long clear cap, Soldering terminals (Fig. 16)
95410-931 Short clear cap, Soldering terminals (Fig. 16a)
81410-111 Screw-in, Convex lens, Soldering terminals (Fig. 17)
211310 Light shield, Screw terminals (Fig. 20)
93410-111 Polaroid dimmer cap, Convex lens, Soldering terminals (Fig. 21a)
98B410-111 Dimmer cap, Convex lens, Soldering terminals (Fig. 21) or 98SB410-111

**For 1″ Mounting Hole

80410-831 Screw cap, Dome plastic lens, Soldering terminals (Fig. 18)
801310-831 Screw cap, Dome plastic lens, (Fig. 18). Screw terminals similar to those in Fig. 20
51410-111 Screw cap, Convex lens, Soldering terminals (Fig. 19)
511310-111 Screw cap, Convex lens, (Fig. 19). Screw terminals similar to those in Fig. 20

LENS COLOR: The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

for low voltages

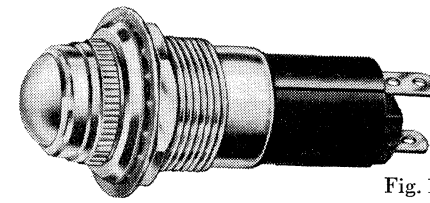


Fig. 17

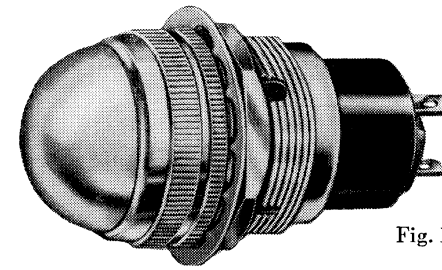


Fig. 18

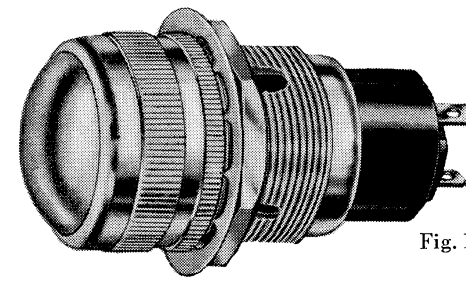


Fig. 19

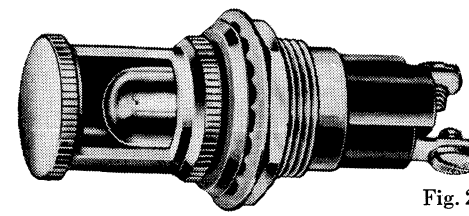
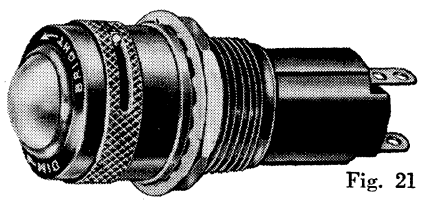


Fig. 20

MECHANICAL and POLAROID DIMMERS



mechanical

Fig. 21

polaroid

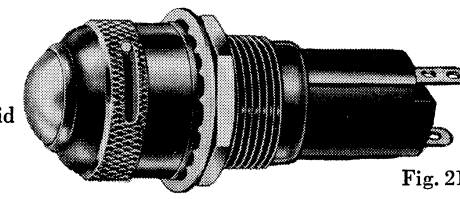


Fig. 21a

Any of the mechanical dimmers can be supplied either for "Complete Blackout" or for "Semi-Blackout". Typical Catalogue Numbers are as follows:
98*B*410-111 ("Complete Blackout" . . . **98*SB*410-111** ("Semi-Blackout")

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All illustrations are approximately actual size

LENS CAPS

FRICTION

Convex

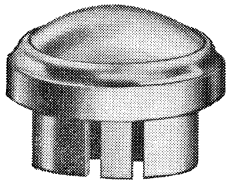


Fig. 34

BAYONET

Convex

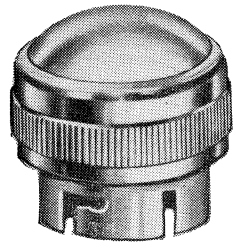


Fig. 6

SCREW

Torpedo

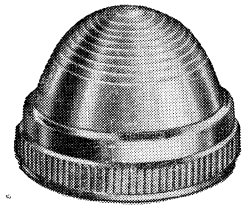


Fig. 3

Large Convex

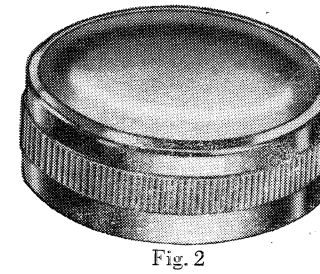


Fig. 2

Dome

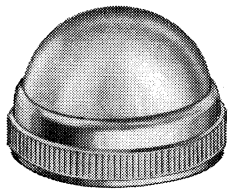


Fig. 35

SCREW

Faceted

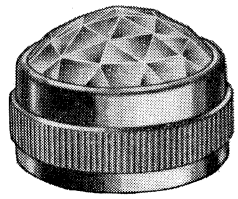


Fig. 5

Small Convex

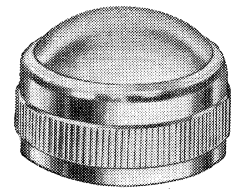


Fig. 1

Large Torpedo

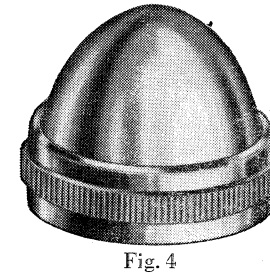
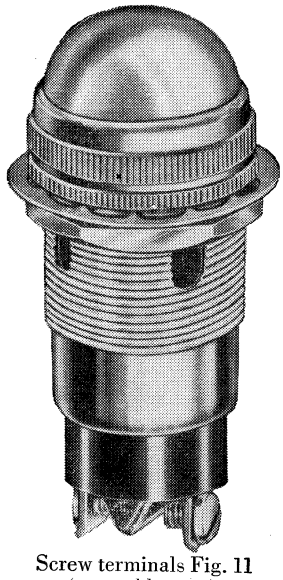


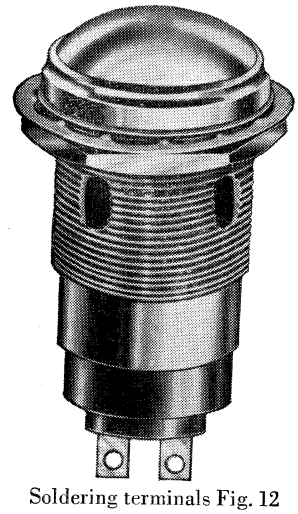
Fig. 4

ASSEMBLIES FOR 1 INCH MOUNTING HOLE

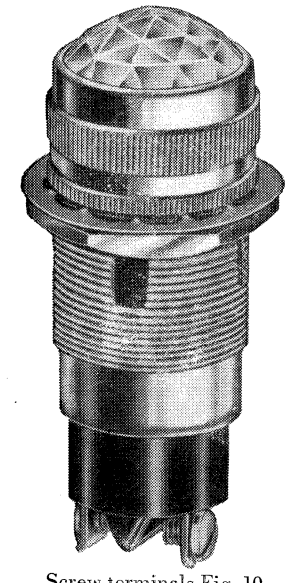
DOUBLE CONTACT BAYONET



Screw terminals Fig. 11
(moveable type)

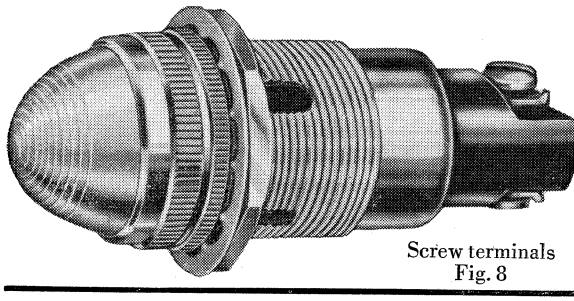


Soldering terminals Fig. 12

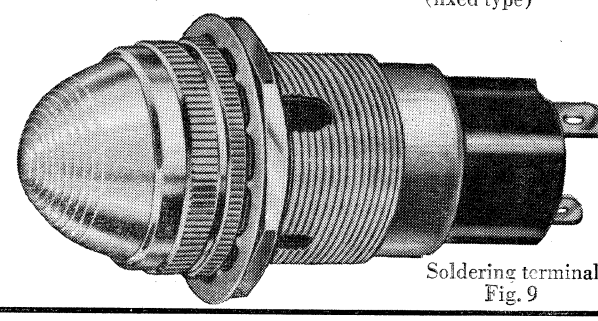


Screw terminals Fig. 10
(fixed type)

CANDELABRA SCREW



Screw terminals
Fig. 8



Soldering terminals
Fig. 9

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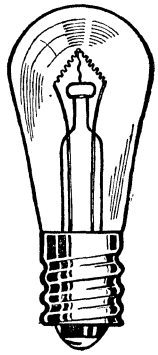

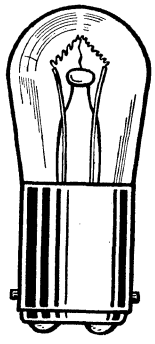

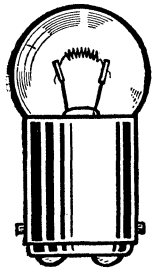

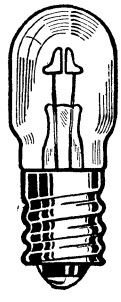

CATALOG NUMBERS FOR ENCLOSED ASSEMBLIES

Mount in ONE INCH clearance hole

UNDERWRITERS' LISTED

For S-6 Lamp with Candelabra Screw Base

51901-111 Screw cap, Convex lens, frosted back (Fig. 1). Screw terminals (Fig. 8)
61901-211 Screw cap, Large convex lens, frosted back (Fig. 2). Screw terminals (Fig. 8)
51901-431 Screw cap, Faceted lens (Fig. 5). Screw terminals (Fig. 8)
19901-531 Screw cap, Large torpedo lens (Fig. 4). Screw terminals (Fig. 8)
514001-111 Screw cap, Convex lens, frosted back (Fig. 1). Soldering terminals (Fig. 9)
41901-111 Bayonet cap, Convex lens, frosted back (Fig. 6). Screw terminals (Fig. 8)
31901-111 Friction cap, Convex lens, frosted back (Fig. 34). Screw terminals (Fig. 8)
47901 Light Shield cap (Fig. 13). Binding Screw terminals (Fig. 8)
71B4001-111 Mechanical dimmer, Screw cap, Convex lens, frosted back (Fig. 14)
784001-111 Polaroid dimmer, Screw cap, Convex lens, frosted back (Fig. 14)

For S-6 Lamp with Double Contact Bayonet Base

513202-111 Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 10)
613202-211 Screw cap, Large convex lens, frosted back (Fig. 2) Screw terminals (Fig. 10)
513202-111 Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 10)
803202-531 Screw cap, Torpedo lens (Fig. 3) Screw terminals (Fig. 10)
413202-111 Bayonet cap, Convex lens, frosted back (Fig. 6) Screw terminals (Fig. 10)
313202-111 Friction cap, Convex lens, frosted back (Fig. 34) Screw terminals (Fig. 10)

For G-6 Lamp with Double Contact Bayonet Base

513504-111 Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 11)
513504-431 Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 11)
803504-531 Screw cap, Torpedo lens (Fig. 3) Screw terminals (Fig. 11)
803504-1211 Screw cap, Dome glass lens, frosted back (Fig. 35) Screw terminals (Fig. 11)
51204-111 Screw cap, Convex lens, frosted back (Fig. 1) Soldering terminals (Fig. 12)
41204-111 Bayonet cap, Convex lens, frosted back (Fig. 6) Soldering terminals (Fig. 12)
31204-111 Friction cap, Convex lens, frosted back (Fig. 34) Soldering terminals (Fig. 12)

For NE-45 Neon Glow Lamp, Candelabra Screw Base

51914-131 Screw cap, Convex lens, unfrosted (Fig. 1) Screw terminals (Fig. 8)
80914-841 Screw cap, Dome lens, matted back (Fig. 35) Screw terminals (Fig. 8)
41914-131 Bayonet cap, Convex lens, unfrosted (Fig. 6) Screw terminals (Fig. 8)
31914-131 Friction cap, Convex lens, unfrosted (Fig. 34) Screw terminals (Fig. 8)
514014-131 Screw cap, Convex lens, unfrosted (Fig. 1) Soldering terminals (Fig. 9)
804014-531 Screw cap, Torpedo lens, unfrosted (Fig. 3) Soldering terminals (Fig. 9)

LENS COLOR: The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 *Green—2 Amber—3 *Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

Green and blue lenses are not recommended with neon glow lamps.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

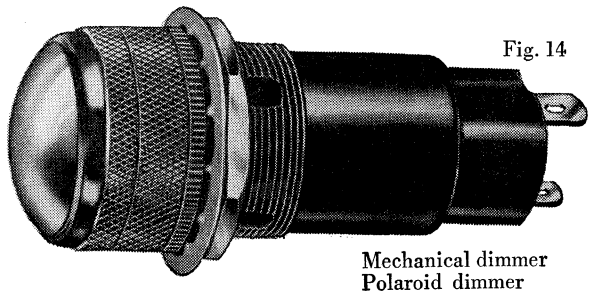

Fig. 14

Mechanical dimmer
Polaroid dimmer

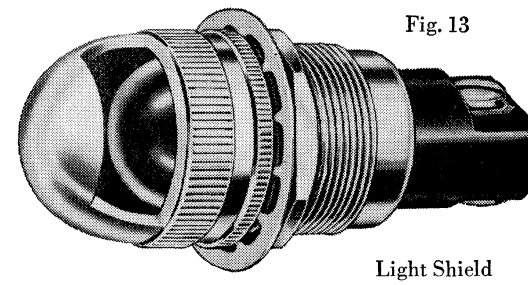

Fig. 13

Light Shield

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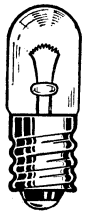
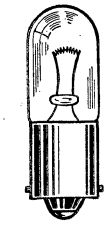
PILOT LIGHT ASSEMBLIES

A SELECTION OF OPEN TYPES

For T-3¼ Low voltage Incandescent Lamps



Miniature Screw Base



Miniature Bayonet Base

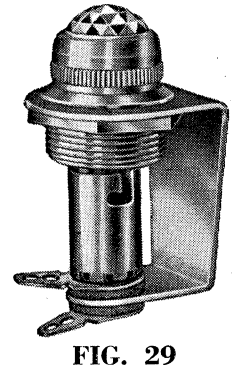


FIG. 29

Typical assemblies for bayonet base lamp. Available also for screw type, see listing below.

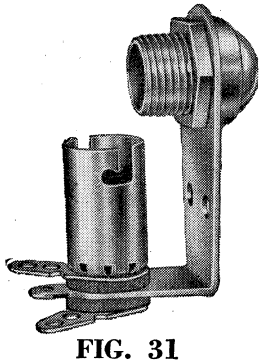


FIG. 31

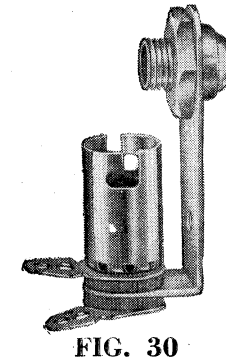


FIG. 30

DIALCO

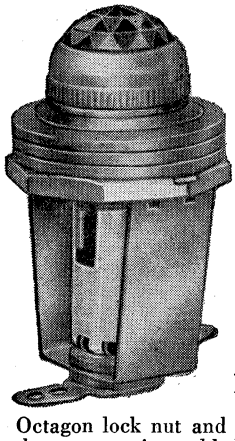


FIG. 32

Octagon lock nut and bracket on these two units welded into one-piece construction.

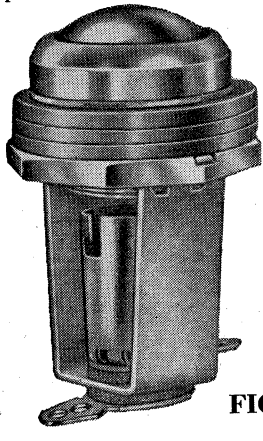


FIG. 33

CATALOGUE NUMBERS

Assemblies for T-3¼ miniature bayonet base lamps

No. 810B-431	Faceted ½″ lens.	For 11/16″ mounting hole.	Fig. 29
No. 710-121	Convex ½″ lens.	For 7/16″ mounting hole.	Fig. 31
No. 755-621	Convex 11/32″ lens.	For 9/32″ mounting hole.	Fig. 30
No. 857B-431	Faceted ½″ lens.	For 11/16″ mounting hole.	Fig. 32
No. 67B-111	Convex ¾″ lens.	For 13/16″ mounting hole.	Fig. 33

Assemblies for T-3¼ miniature screw base lamps

No. 810M-431	Faceted ½″ lens.	For 11/16″ mounting hole.	Similar to Fig. 29
No. 510-121	Convex ½″ lens.	For 7/16″ mounting hole.	Similar to Fig. 31
No. 555-621	Convex 11/32″ lens.	For 9/32″ mounting hole.	Similar to Fig. 30
No. 855-431	Faceted ½″ lens.	For 11/16″ mounting hole.	Similar to Fig. 32
No. 66M-111	Convex ¾″ lens.	For 13/16″ mounting hole.	Similar to Fig. 33

LENS COLOR: The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

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PILOT LIGHT ASSEMBLIES

A SELECTION OF OPEN TYPES

For Candelabra Screw Base Lamps

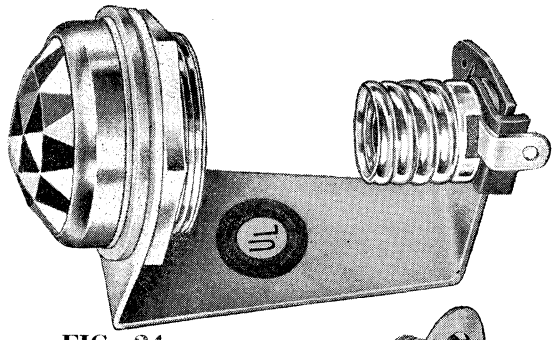


FIG. 24

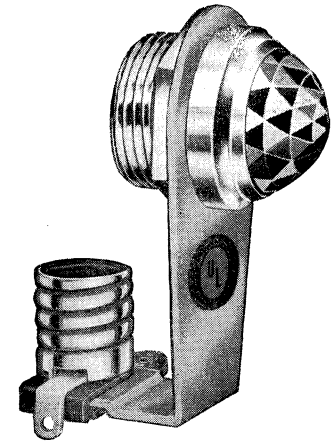
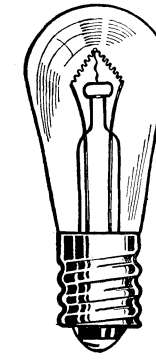


FIG. 23



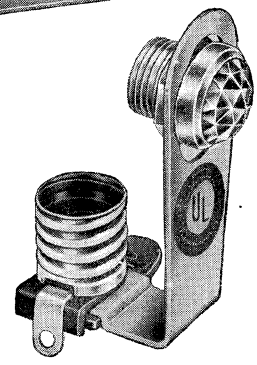


FIG. 22

For S-6 Incandescent Lamps, candelabra screw base

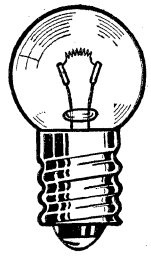
No. 10-18-14-431 Faceted ½″ Lens (for 7/16″ mounting hole) (Fig. 22)
No. 25-18-15-431 Faceted ⅝″ Lens (for 11/16″ mounting hole) (Fig. 23)
No. 31-18-16-431 Faceted 1″ Lens (for 1″ mounting hole) (Fig. 24)

All of the above assemblies are listed by Underwriters' Laboratories, Inc.

LENS COLOR: The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.



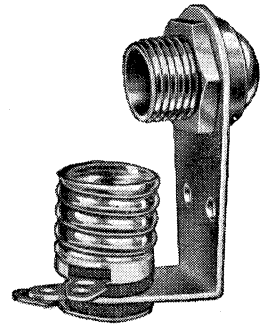


FIG. 25

For G-6 Low voltage lamps, candelabra screw base

No. 610-121 Convex ½″ lens
Fig. 25 (for 7/16″ mounting hole)

Octagon lock nut and bracket on these two units welded into one-piece construction.

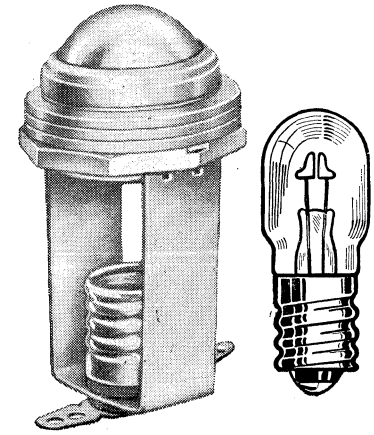


FIG. 26

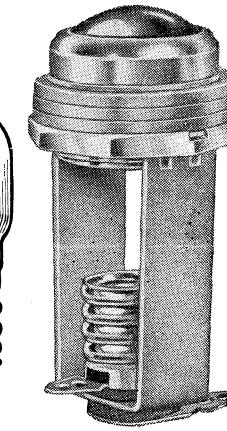


FIG. 27

For NE-45 Neon Glow Lamps, candelabra screw base

No. 67BN-831 Dome Plastic Lens (¾″ diam.) Fig. 26
No. 66N-131 Convex Glass Lens (¾″ diam.) Fig. 27
(Both mount in 13/16″ hole. Cap removable)

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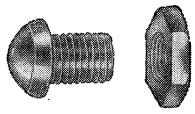
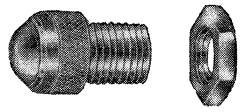
Lens Holders with Lenses for Panel Mounting

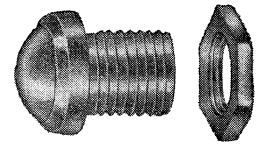
Screw Types Are Complete With Nut for Shank



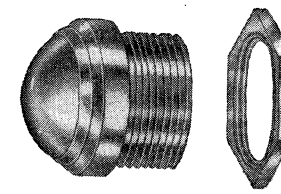
5006-631
9/32"-32 thread



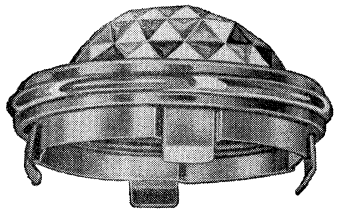
7005-631
3/8"-24 thread



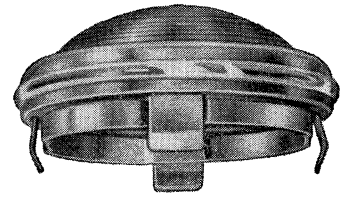
10006-111
7/16"-27 thread



25006-111
11/16"-27 thread



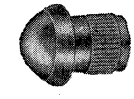
34-431
GLASS LENS



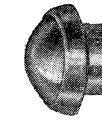
34-841
PLASTIC LENS

These holders snap into 1½" hole

PUSH-IN TYPES



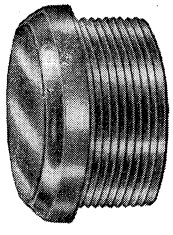
6004-631
9/32" hole



38003-631
⅜" hole

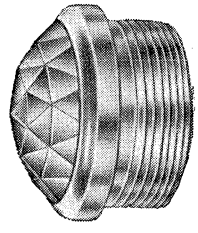
Shank, 3/16" long

FLAT



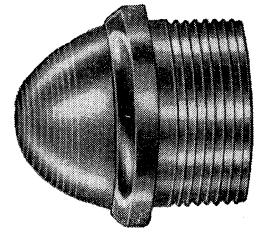
76006-231

FACETED



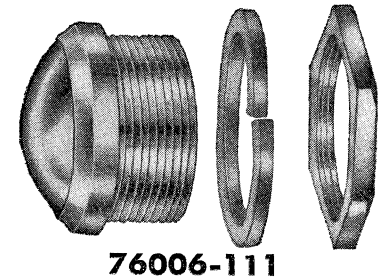
76006-431

TORPEDO



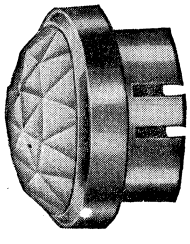
76006-531

CONVEX



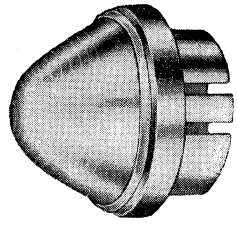
76006-111

FACETED



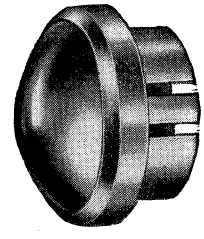
31-431

TORPEDO



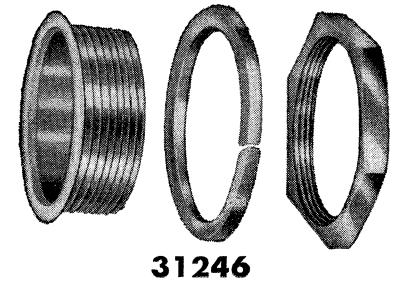
31-531

CONVEX



31-111

BUSHING



31246

The above two groups mount in 1" clearance hole. The upper series lock to the panel and are tamper proof. The lower series permit lamp replacement from the front of the panel.

LENS COLOR: The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

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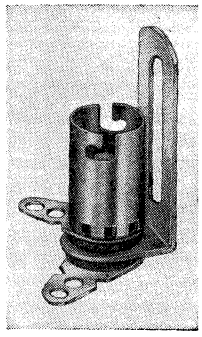
SOCKETS

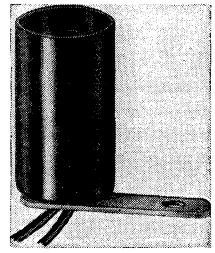
75 Watts, 125 Volts

BRACKET MOUNTED

MINIATURE BAYONET

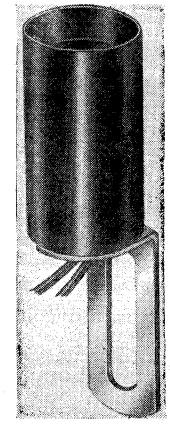


700 Series

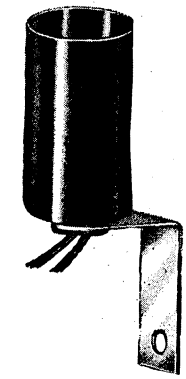


200 Series
Insulating Sleeve

Wire Leads



300 Series
MOLDED BAKELITE

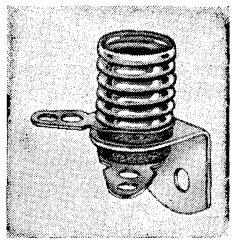


Listed and approved by Underwriters' Laboratories and Canadian Standards Association.

400 Series
Wire Leads

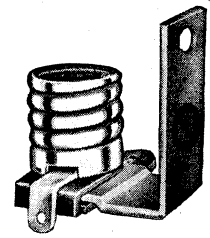
Insulated with heavy molded Bakelite. Square shoulder locks into square hole in bracket — all securely held by large tubular rivet.

MINIATURE SCREW



500 Series

IDEAL FOR S-6 and C-7 LAMPS
1800 Series



Soldering Terminals (locked in position)

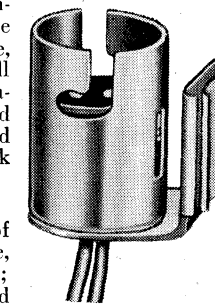
12-200 Series
Spring Loaded—Wire Leads

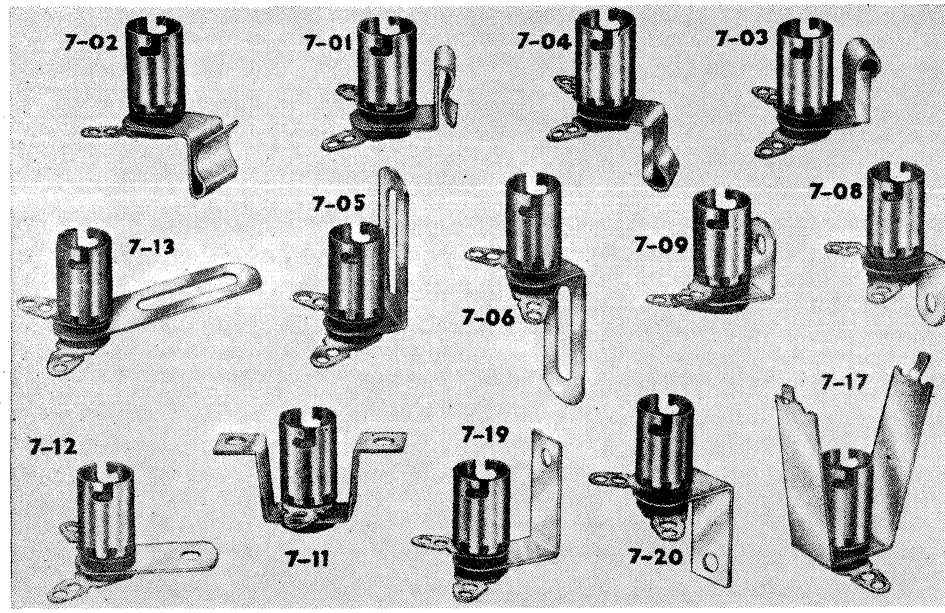
Double Contact Candelabra Bayonet

The contacts, mounted in an insulating disk of molded bakelite in which the wire leads terminate, are separately sprung by small coils. Under conditions of vibration this feature assures good contact. For extreme heat and humidity, a solid ceramic disk can be substituted.

Wire Leads

Standard flexible leads are of plastic insulated approved wire, 18 gauge. Usual length is 6″; longer leads will be supplied when specified.





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DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

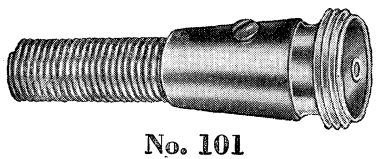
BROOKLYN 37, N. Y.

CONNECTORS FOR SINGLE CONDUCTOR CABLE FOR MICROPHONES - SPEAKERS - PICK-UPS - JACKS

(using cable shield for second conductor)

The fittings shown here are designed for use with standard metal shielded single conductor cable up to ¼" diameter. These connectors are heavily constructed from solid brass and all exposed parts are chrome plated and highly polished.

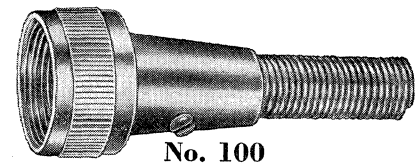
The cable end connectors are provided with rugged wire spring protectors which prevent sharp bends at the connection. The protector is soldered to the cable sheath and secured in the connector by a set screw so that all strain is relieved from the conductor.



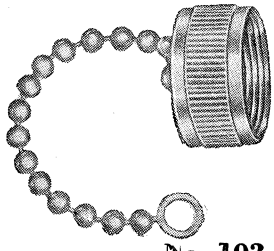
No. 101

No. 101 MALE CONNECTOR FOR CABLE — With spring protector to prevent sharp bending of cable. Solders to cable sheath — secured by set screw.

No. 100 FEMALE CONNECTOR FOR CABLE — With spring protector to prevent sharp bending of cable. Solders to cable sheath — secured by set screw.



No. 100



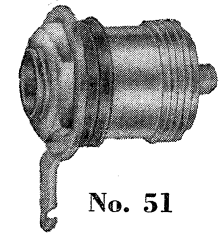
No. 103

No. 51 MALE CONNECTOR FOR CHASSIS — Has sprung center contact which grounds before cable connection is broken preventing open circuit howls.

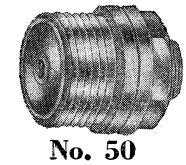
No. 103 CAP AND CHAIN — To protect unused male connectors. Chain secured by screw prevents loss when removed to make connection.

No. 50 MALE CONNECTOR FOR CHASSIS — Shell grounds to panel — or may be insulated by washers. Fit ⅜"-24 threaded hole or may be secured by nut.

No. 50P MALE CONNECTOR FOR CHASSIS ***(Similar to No. 50 above)*** — Designed for force fit in hole in panel. Requires no nut to secure in place.

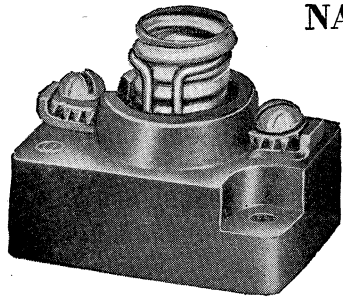


No. 51

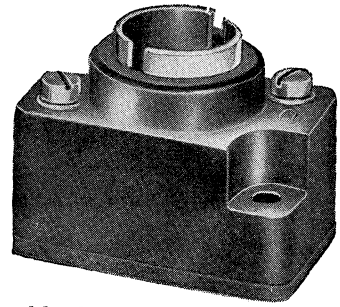


No. 50

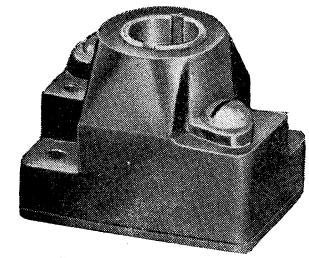
NAVY SPECIFICATION SOCKETS



Candelabra screw 9S2036-L
Candelabra screw 9S5038-L
(not illustrated)



Double Contact bayonet 9S4634-L



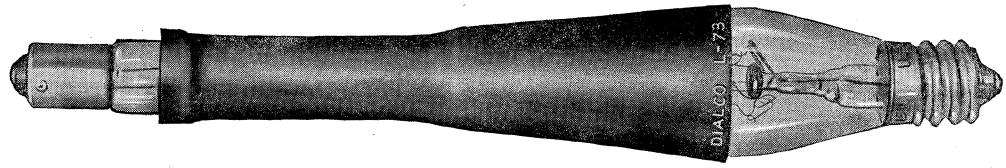
Miniature bayonet
9S4931-L

LAMP INSTALLER

The DIALCO lamp installer shown below is a useful tool in installing lamps and in servicing pilot lights.

No. L-73

No. L-45
For NE-45 Neon



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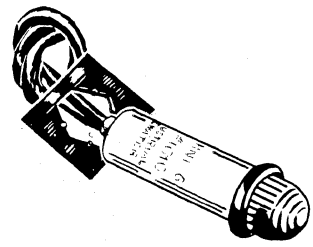
PILOT LIGHTS

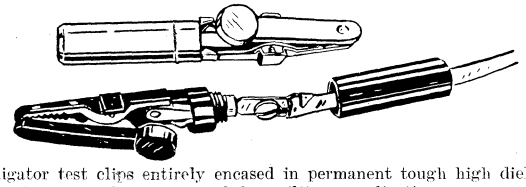
JIFFY MOUNTING



Tamper proof pilot light assembly requires no accessories. ½" round hole in panel of any thickness is only preparation required. Instant mounting with supplied speed nut. NE51 neon lamp and built-in resistor in nylon housing suitable for temperature applications withstands vibration, shock and overloads for indefinite life over wide range of voltages. 4½" leads stripped and tinned ½". Available in red, clear, amber and white translucent as standard colors.

#1010A1—Red
#1010A2—Clear
#1010A3—Amber
#1010A4—White translucent

SAFE-T-KLIP



Alligator test clips entirely encased in permanent tough high dielectric strength nylon. Approved for military applications.

Type 1410A—Assembles to test lead. Provides mechanical and/or solder joint with strain relief. Threaded sleeve completely insulated joint.

Model #1410A1—Black
Model #1410A2—Red
Model #1410A—Pair (Red & Black)

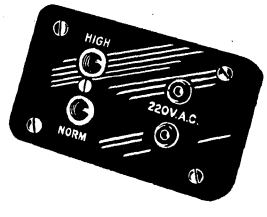
Type 1410B—Receives standard phone tip or .080 test prod. Entrance hole is tapped to mate with threaded prod.

Model #1410B1—Black
Model #1410B2—Red
Model #1410B—Pair (Red & Black)

Type 1410C—Receives standard banana plug as push-on accessory.
Model #1410C1—Black
Model #1410C2—Red
Model #1410C—Pair (Red & Black)

Type 1410D—Similar to #1410B but special entrance hole for Signal Corps test prod.

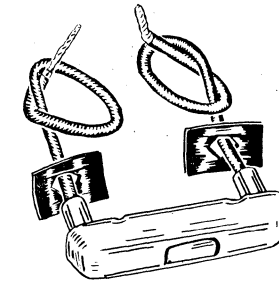
HI-LO INDICATOR



Compact, rugged voltage indicator with pilot-light assembly for instant indicating of normal and abnormal voltages. Bakelite panel also provides standard test jack receptors for voltage measurement at any time. Panel may be mounted on Type FS junction box for conduit installations. Will withstand mechanical vibration and shock.

Model 961—Indicates low of 95 to 105 volts; high of 130 to 140 volts.
Model 960—Indicates low of 190 to 210 volts; high of 235 to 255 volts.

SPACE ECONOMY



A neon pilot light assembly which requires minimum back-of-panel space. Model #300 provides chrome finished all metal housing for NE2 lamp with 100K resistor. Instant mounting with furnished speed nuts thru two 13/64" holes on 1⅜" centers. 4½" leads stripped and tinned ½". Operates over wide range of voltages and withstands temperatures, vibration, shock and overloads for indefinite life.

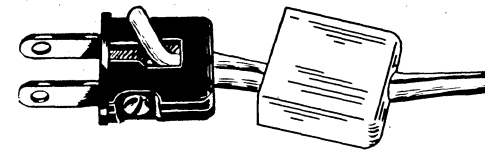
CONTROL KNOBS

Series #1430 knobs are nylon equivalents of Signal Corps metal die cast knobs of GRC series.

Series #1431 knobs are 1¼" bar knobs for shafts up to ¼" dia. Set screw utilizes resilience of nylon as positive lock against thread. Completely free from brittleness without metal insert.

Model #1431-1—Black
Model #1431-2—Red

NYLON LINE CORD PLUG



A line cord plug for use where the finest is desired. Smallest replacement plug meets military requirements for U-160/U connector. Strain relief built-in. Available in special colors.

Model #1420-33—S C Gray

For further information on these, or other Industrial Devices products, ask your distributor, or write . . .

industrial devices, inc.

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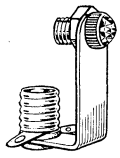
Dial and Jewel PILOT LIGHT ASSEMBLIES

JEWEL LIGHT ASSEMBLIES

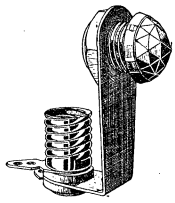


No. 5 Type

11/32" JEWEL . . VERTICAL MOUNTING

Mounts in 9/32" diameter hole on panels up to 1/8" thick. Tested at 125 volts. Panel Hardware cadmium and iridite — other parts cadmium. Standard colors. Available with faceted plastic jewels as standard.

No. 5.....Min. Screw (globular lamp)....List $0.40
No. 5B ..Min. Bayonet (globular lamp)..List .40
No. 5T ..Min. Bayonet (tubular lamp)..List .42

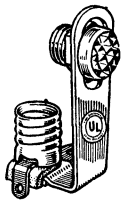


No. 10 Type

1/2" JEWEL . . VERTICAL MOUNTING

Mounts in 7/16" hole on panels up to 1/4" thick. Tested at 125 volts. Standard colors. Panel Hardware, bright nickel — other parts cadmium. No. 10B has bracket with oblong hole permitting adjustment to obtain best position for lamp filament back of Jewel. (Frosted jewels, 7c extra).

No. 10.....Min. Screw .....List $0.42
No. 10G.....Min. Bayonet .....List .42
No. 10B.....Min. Bayonet .....List .42

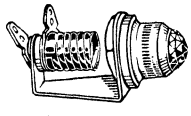


No. 10C Type

1/2" JEWEL . . VERTICAL MOUNTING *UNDERWRITERS APPROVED*

Candelabra screw base Jewel light which is Underwriters Approved for 75 watt — 125 volt service. Takes minimum depth behind panel. Oblong hole permits adjustment for placing lamp filament behind Jewel for maximum illumination. Mounts in 7/16" hole on panel up to 1/4" thick. Standard colors. (Frosted, 7c extra).

No. 10C.....Candelabra Screw.....List $0.48



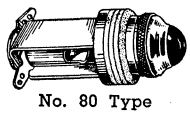
No. 20S Type

1/2" JEWEL HORIZONTAL MOUNTING

Lamp removable from front of panel. Mounts in 11/16" hole. Tested at 125 volts. Standard colors. Faceted glass. Min. order 100, bulk pack.

TYPE NUMBER	STYLE SOCKET	DEPTH BACK OF PANEL	PANEL THICKNESS	LIST PRICE
20	Min. Bay	1-13/32"	0" to 7/64"	$0.55
30	Min. Bay	1-7/32"	1/4"	.55
40	Min. Bay	1-11/32"	1/8" to 15/64"	.55
20S	Min. Screw	1-1/16"	0" to 15/64"	.55
30S	Min. Screw	15/16"	1/4"	.55

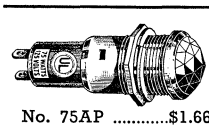
1/2" POLARIZED VARIABLE INTENSITY



No. 80 Type

Incorporates use of polarized discs to regulate light intensity. A partial turn of the Jewel dims the light. Supplied with three fibre washers to compensate for different panel thicknesses. Mounts in 11/16" hole. Finish bright nickel. Standard Colors. Regularly supplied with smooth glass frosted on back only. Other glass types optional.

TYPE NUMBER	STYLE SOCKET	LIST PRICE
80	Miniature Bayonet	$1.62

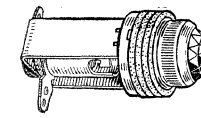


No. 75AP $1.66

1" JEWEL . . . *Underwriters App.*

A heavy-duty Candelabra screw base assembly designed to be used on rugged equipment. UL for 125 volt 75 watt service. The socket assembly and mounting tube are one piece. Solder terminals. Mounts in 1" hole on panels up to 1/2" thick. Panel Hardware, highly polished chrome. All other parts cadmium plated. Standard colors in FAC, SP or SFB glass. Depth back of panel 2 1/4".

1/2" JEWEL . . . HORIZ. MOUNTING



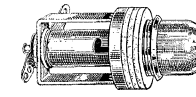
No. 50 Type

Specially designed for use on more than one thickness of panel. Three fibre washers compensate for panel thicknesses. Mounts in 11/16" hole. Lamp removable from front of panel. Tested at 125 volts. Faceted glass in standard colors.

TYPE NUMBER	STYLE SOCKET	DEPTH BACK OF PANEL	PANEL THICKNESS	LIST PRICES
50	Min. Bayonet	1-5/16"*	0" to 1/4"	$0.88
50S	Min. Screw	1-1/4"*	0" to 1/4"	.87

*Subtract panel thickness.

5/8" PLASTIC CAP HORIZONTAL MOUNTING



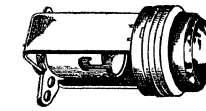
No. 51 Type

Gives wide angle vision . . . easily seen from sides. Lamp removable from front of panel. Supplied with three 1/16" thick fibre washers for adjustment of thickness of panel. Mounts in 11/16" hole. Tested at 125 volts. Standard colors.

TYPE NUMBER	STYLE SOCKET	DEPTH BACK OF PANEL	PANEL THICKNESS	LIST PRICE
51	Min. Bayonet	1-1/4"*	0" to 1/4"	$0.81

*Subtract panel thickness.

3/4" JEWEL . . . HORIZ. MOUNTING

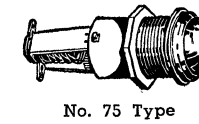


No. 60 Type

Polished chrome "slip-fit" bezel. Mounts in 13/16" hole. Supplied with fibre washers to compensate for panel thickness. Miniature types tested at 125 volts. Candelabra type stands 1000 volts breakdown. Standard colors. No. 60 Types are regularly supplied with colorless smooth glass frosted on back, and bag of 6 colored discs with retaining ring; or with colored jewel.

TYPE NUMBER	STYLE SOCKET	LIST PRICES With 6 Discs	LIST PRICES Colored Jewel
60	Miniature Bayonet	$1.41	$1.28
60N	Cand. Screw for NE45 Lamp	not avail.	1.42
60S	Miniature Screw	1.40	1.27
60T	Cand. Screw for 115V, 6W, T4 1/2 Lamp	1.54	1.43

1" JEWEL . . . HORIZ. MOUNTING



No. 75 Type

Easy to install. Has "slip-fit" bezel. Mounts in 1" diameter hole on panels up to 1/2" thick. UL listed. No. 75 will take any candelabra screw base lamp up to 2 1/8" long and 7/8" diameter. Nos. 175 and 275 take any miniature lamp up to 1-3/16" long and 7/8" diameter. The bezel has a highly polished chrome finish. Standard colors. No. 75 Types are regularly supplied with colorless smooth glass frosted on back, and bag of 6 colored discs with retaining ring; or with colored jewel. Comes in FAC, SP, or SFB. *We recommend smooth plain glass for use with Neon Glow Lamps.*

TYPE NUMBER	STYLE SOCKET	LIST PRICES With 6 Discs	LIST PRICES Colored Jewel
75	Candelabra Screw	$1.55	$1.40
175	Miniature Screw	1.58	1.44
275	Miniature Bayonet	1.59	1.45

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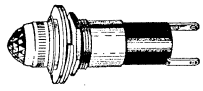
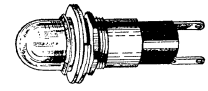
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Dial and Jewel
PILOT LIGHT ASSEMBLIES

TOTALLY ENCLOSED MINIATURE BAYONET ASSEMBLIES



UNDERWRITERS LISTED



No. 100 Type—½" JEWEL No. 101 Type—PLASTIC DOME

(ALSO Types 100N, 101N for Use with NE51 NEON GLOW LAMPS)

The 100 and 100N have glass Jewels. The 101 and 101N have transparent plastic domes. The fluted-on-inside type plastic dome has three times the visibility of the plain cap. All types mount in 11/16" diameter hole on panels up to ⅜" thick. Breakdown 2000 volts. 101 and 101N come in amber, colorless, red and milky white in the transparent; and standard colors in the translucent.

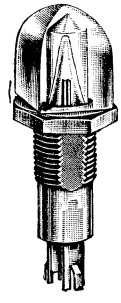
With proper current limiting resistors 100N and 101N can be operated on any voltage over 65 volts AC and 90 volts DC. Resistor is built into the housing. Units carried in stock have 100,000 ohm resistors for 115 volt operation.

LIST PRICES

No. 100....$1.03 No. 100N....$1.24 No. 101....$0.96 No. 101N....$1.16

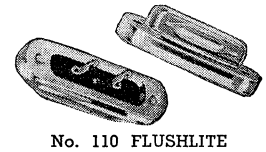
With screw terminals, 13c extra (prefix BS to part no.)

NEON INDICATOR LIGHTS



No. 105 POSTLITE

for maximum visibility



No. 110 FLUSHLITE

No. 110 FLUSHLITE comes equipped with NE-2 neon lamp with built-in 100,000 ohm resistor. Can be mounted by two screws or on studs on either front or back of panel. Body is milky white polystyrene. Rated at 125 volts, 1/10 watt.

No. 105 POSTLITE comes equipped with NE-2 neon lamp with built-in 100,000 ohm resistor. Body and head molded in one piece from clear, colorless polystyrene. Mounts in ½" diameter hole. Rated at 125 volts, 1/10 watt. Other colors available on special order on both items.

LIST PRICES

No. 105 POSTLITE.....$0.96 No. 110 FLUSHLITE.....$0.71

DIAMOND-CUT JEWELS IN STANDARD COLORS

THREADED TYPE — WITH NUTS

TYPE NO.	SHANK	O.D.	LIST PRICE
*14-15	1/4" long	5/16"	$0.17
*16-17	3/8" long	7/16"	.17
*16L-17	1/2" long	7/16"	.22
*16S-17	9/32" long	7/16"	.18
60A3-27	3/8" long	11/16"	.64
(Frosted Jewels, 7c extra)*			
75A3-C	3/8" long	11/16"	.84

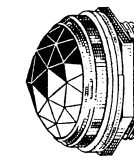
TYPES 16-17 11/32" Jewels

No. 60A3-27 ¾" Jewels

No. 60A3-27 and 75A3-C POLISHED CHROME FINISH. OTHER NOS., NICKEL FINISH.

SLOTTED TYPES

TYPE No.	SHANK	O.D.	LIST PRICES
23	3/16" long	3/8"	$0.15
24	1/4" long	9/32"	.15
(Frosted, 7c extra)			



No. 75A3-C 1" Jewels

No. 24 11/32" JEWEL

OTHER JEWEL FINISHES

SP.....Smooth Plain
SFB.....Smooth Frosted Back
SFA.....Smooth Frosted All Over

No. 23 ½" JEWEL

LOOK FOR THIS

DRAKE DISPLAY BOARD

AT YOUR DEALER'S

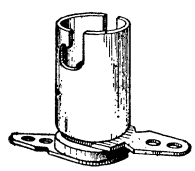
It shows a representative assortment of DRAKE units . . . will help you in selecting exactly the right Jewel or Pilot Lights for your requirements.

DIAL LIGHT ASSEMBLIES

Code numbers for Types:
MIN. SCREW — 100 SERIES MIN. BAYONET — 200 SERIES
CAND. SCREW — 400 SERIES

BASIC TYPES

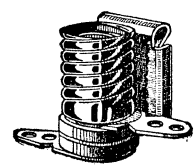
117H MINIATURE SCREW



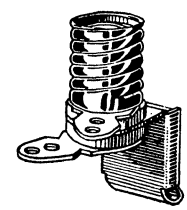
217H MINIATURE BAYONET

417H CANDELABRA SCREW

CLIP BRACKET TYPES



103AH - 203AH 403AH
WITH FLANGE BRACKETS



103CE 203CE - 403CE

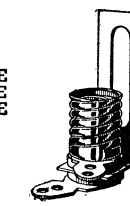
104AH - 204AH 404AH
WITH FLAT BRACKETS

LIST PRICES

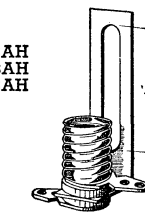
103	$.14	117H	$.14	206	$.15	403	$.16	409	$.16
104	.14	156B	.14	208	.15	404	.16	417H	.16
106	.14	203	.15	209	.15	406	.16	456B	.16
108	.14	204	.15	217H	.15	408	.16	617H	.16
109	.14	256B	.15						

MISCELLANEOUS TYPES

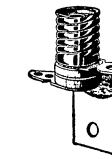
106AE 206AE 406AE



108AH 208AH 408AH



109CH 209CH 409CH



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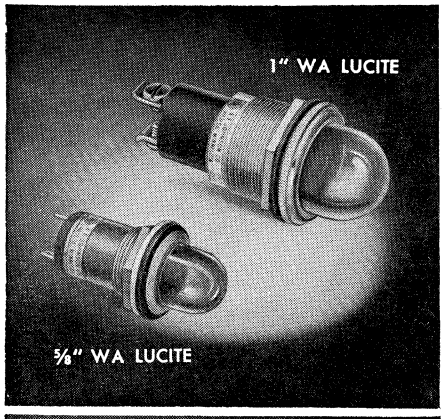
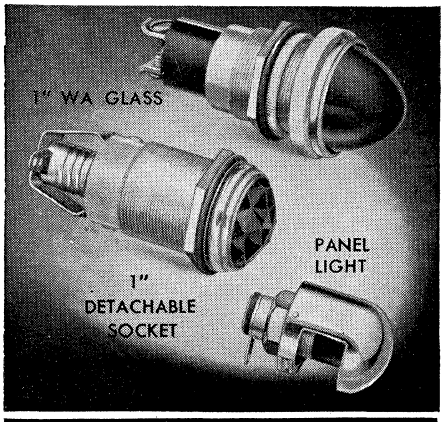
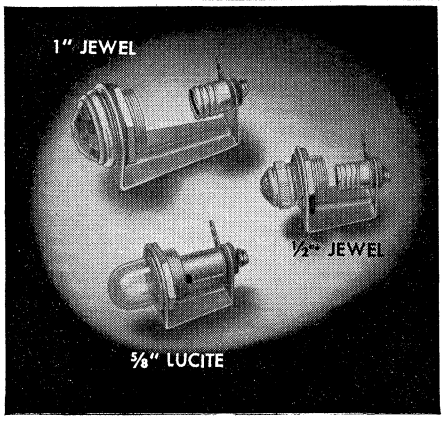
E. F. Johnson Company

WASECA, MINNESOTA







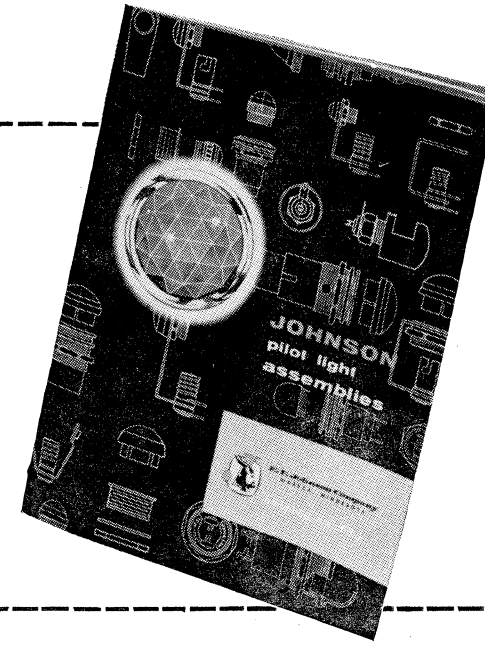
Quick and Easy... Pilot Light Selection!

Now you can save valuable replacement or specification time with Johnson Panel Indicators. Available in a wide variety of types, Johnson "preferred" units are immediately available at parts distributors throughout the country. Careful standardization, with an eye to replacement as well as interchangeability, makes Johnson Pilot Lights the first choice of leading manufacturers.

Available types include: continuous indication neon types; models for high and low voltage incandescent bulbs; standard or wide angle glass and lucite jewels in clear, red, green, amber, blue or opal. Specials, including those meeting military specifications are also available in production quantities. For full information, write today!

NEW PILOT LIGHT CATALOG!

Write for your copy today. Complete specifications, prices and technical data . . . everything you need to pick a unit for original equipment manufacture or "in the field" replacement.



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(See pages J-33 and J-34 for complete listing)

BUSS Fuses

FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of Radios, Instruments and Electronic Equipment

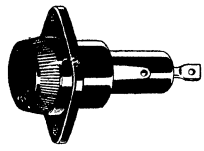
BUSS "QUICK-BLOWING" FUSES

600 Volt. $^{13}/_{32}$ x $1\frac{3}{8}$ inch. Fibre tube. For protection of control circuits or fluorescent lighting circuits or wherever a fuse with "quick-blowing" characteristics is desirable. Listed as approved by Underwriters' Laboratories for voltages up to 600, 0 to 5 ampere.

Voltage	Symbol	Amperes	List Price
600 or less	**BBS**	1, 2, 3 or 5	$0.18

Fuseholder for BBS fuses. Use HPC-L fuseholder or No. 3845 single pole, side barrier porcelain fuse block. Only BBS fuses (or others with exact same dimensions) will fit these holders. This assures replacement of proper size fuse.

PANEL MOUNTED HOLDERS for $^{13}/_{32}$ x 1½ inch Fuses



Screw type knob. Molded phenolic body. Holder attached to panel by screws or rivets. Strong coil spring provides contact pressure on ends of fuse. Normal current carrying capacity 22 amperes. Listed as approved by Underwriters' Laboratories for 15 ampere rating for any voltage up to 250.

HPC (for FNM and KLM fuses) List Price $0.60

HPC-L Holder for $^{13}/_{32}$ x $1\frac{3}{8}$ inch Fuses. Like HPC Holder. Has Underwriters' Laboratories approved listing for 5 ampere rating and any voltage up to 600.

HPC-L (for BBS fuses) Prices on request.

PANEL MOUNTED HOLDERS for ¼ inch Fuses

Can be used on panels up to $^{5}/_{16}$ inch thick.

Bayonet type knob. No screw driver is needed.

Side terminal is held mechanically as well as by solder. Heat of soldering wire to it will not cause it to loosen.

Vibration will not cause failure of terminals as they are designed to stand severe service.

Neoprene washer and steel locking nut furnished with each holder.

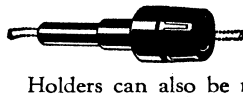
Wire hole in terminals; .115 inch.

Normal current carrying capacity; 15 amperes.

Listed as approved by Underwriters' Laboratories.

	List Price
HJM for ¼ x 1inch fuses (AGX, SFE 14)	$0.46
HKP for ¼ x 1¼ inch fuses (ABC, AGC, SFE20, MDL, MDX, MTH)	.46

IN-THE-LINE HOLDERS for ¼ inch fuses



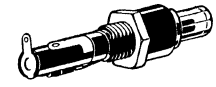
For mounting fuse in wire. Holders consist of body and bayonet type knob — two contacts ready to be staked on ends of wire — and a contact pressure spring.

Holders can also be mounted in panel up to $^{5}/_{16}$ inch thick by means of a No. 9969 Spring nut (Nut not furnished). Flat area on holder permits locking against rotation.

Normal current carrying capacity: 15 amperes.

Symbol		List Price
HDI	for ¼ x 1 inch fuses (AGX, SFE 14) Takes No. 18 or smaller wires.	$0.20
HDJ-A	for ¼ x 1¼ inch fuses (ABC, AGC, MDL, MDX, MTH, SFE 20) Takes No. 18 or smaller wires.	.20
HDJ-B	for ¼ x 1¼ inch fuses (as above) Takes No. 14 or 16 wires.	.20
No. 9969	Spring nut for panel mounting above holders:	.04

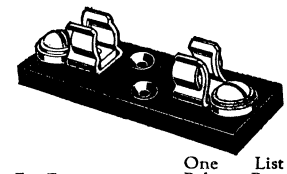
LAMP INDICATING FUSEHOLDERS



For panel mounting ¼ x 1 and ¼ x 1¼ inch fuses. Bayonet type knob. Molded phenotic body. Strong coil spring provides contact pressure at ends of fuse. Transparent knob permits indicating light to be readily seen.

Type	Fuse Size Inches	Circuit Voltage	Max. Amp. Rating	Type Lamp	List Price
HKL	¼ x 1¼	100 to 250	20	Neon	$1.45
HKL-X	¼ x 1¼	100 to 250	20	Neon	1.45
HKR	¼ x 1¼	24 to 32	20	Incand.	2.35
HKX	¼ x 1¼	24 to 32	20	Incand.	2.35
HKT	¼ x 1¼	10 to 14	20	Incand.	2.35
HJL	¼ x 1	100 to 250	20	Neon	1.45

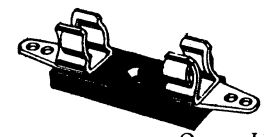
BUSS FUSE BLOCKS



Bakelite base blocks $^{3}/_{16}$ inch thick. Countersunk mounting holes for No. 6 flat head screws. Brass No. 6 terminal screws and spring bronze clips.

Full base, Screw terminal Blocks

For Fuses	One Pole	List Price	Two Pole	List Price	Three Pole	List Price
SFE4	4511	$0.40	4521	$0.80	4531	$1.20
SFE6	4516	.40	4526	.80	4536	1.20
SFE7½, 9	4517	.40	4527	.80	4537	1.20
SFE14, AGX	4514	.40	4524	.80	4534	1.20
SFE20, ABC, AGC, MDL, MDX, MTH	4512	.40	4522	.80	4532	1.20



Small base, Solder Terminal Blocks

For Fuses	One Pole	List Price	Two Pole	List Price	Three Pole	List Price
SFE14, AGX	4520	$0.17	4485	$0.37	4403	$0.58
SFE20, ABC, AGC, MDL, MDX, MTH	4405	.18	4408	.36	4411	.54

BUSS TWIN-CLIPS for ¼" FUSES

Make it easy to replace blown pigtail fuses without cutting or unsoldering pigtails.

Just snap Twin-Clips on blown fuse and insert ordinary or Fusetron fuse of same amperage as blown fuse.

Strong spring clip pressure assures good contact.

	List Price
No. 4121 BUSS Twin Clips One pair	$0.15

Other standard and special fuses, fuse blocks and fuse holders

If the fuses, blocks and holders shown do not fit your requirements ask for information on other types.

Fuses and fuse mountings to meet JAN and Military specifications also are available.

If you have a special problem in protection send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

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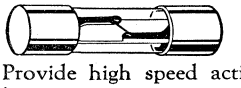
BUSS Fuses

FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of Radios, Instruments and Electronic Equipment

FAST ACTING FUSES for PROTECTION OF INSTRUMENTS, Etc.



Formerly called 8AG.
Dimension ¼ x 1 inch, Glass tube.

Provide high speed action necessary to protect sensitive instruments.

Test specification—carry 100%, open at 200% in 5 seconds.

Voltage	Symbol	Amperes	List Price
250 or less	AGX	1/500	$1.20
"	AGX	1/200	.46
"	AGX	1/100	.40
"	AGX	1/32	.38
250 or less	AGX	1/16	.25
"	AGX	1/8	.16
"	AGX	¼, ⅜ or ½	.15
125 or less	AGX	¾	.15
"	AGX	1, 1½ or 2	.08

Formerly called 8AG
Dimension ¼ x 1 inch, Glass tube.

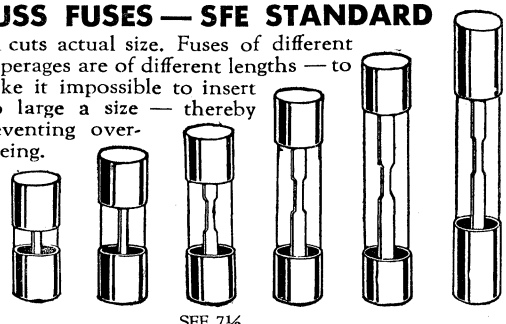
Test specification—carry 110%, open at 135% within 1 hour.

AGX are listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price
125 or less	AGX	3, or 4	$0.08
"	AGX	5	.05
32 or less	AGX	8, 10, 15 or 20	.05
"	AGX	25 or 30	.06

BUSS FUSES — SFE STANDARD

All cuts actual size. Fuses of different amperages are of different lengths — to make it impossible to insert too large a size — thereby preventing over-fuseing.



SFE 4 SFE 6 SFE 7½ & SFE 9 SFE 14 SFE 20 SFE 30

Glass tube — diameter ¼ inch. Length as per table below.

Test specification—carry 100%, open at 125% in ½ hour.

Listed as approved by Underwriters' Laboratories.

Made according to specifications of Society of Automotive Engineers.

Voltage	Symbol & Amperes	Length Inches	Pounds per 100	List Price
32 or less	SFE4	5/8	.73	$0.05
"	SFE6	¾	.75	.05
"	SFE7½	7/8	.80	.05
"	SFE9	7/8	.80	.05
"	SFE14	1 1/16	.82	.04
"	SFE20	1¼	.87	.04
"	SFE30	1 7/16	1.60	.06

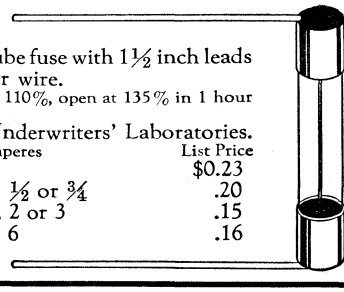
BUSS PIG-TAIL FUSES

¼ x 1¼ inch Glass tube fuse with 1½ inch leads of No. 20 tinned copper wire.

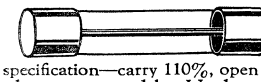
Test specifications — carry 110%, open at 135% in 1 hour or less.

Listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price
250 or less	GJV	1/8	$0.23
"	GJV	¼, ⅜, ½ or ¾	.20
"	GJV	1, 1½, 2 or 3	.15
"	GJV	4, 5 or 6	.16



BUSS GLASS TUBE FUSES, ¼ x 1¼ inch

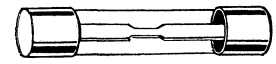


Formerly called 3AG

Test specification—carry 110%, open at 135% in 1 hour.

Listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price	Voltage	Symbol	Amperes	List Price
250 or less	AGC	1/500	$1.20	250 or less	AGC	1/8	$0.16
"	AGC	1/200	.46	"	AGC	¼, ⅜, ½, ¾	.15
"	AGC	1/100	.40	"	AGC	1, 1½, or 2	.08
"	AGC	1/32	.38	"	AGC	3	.07
"	AGC	1/16	.25	"	MTH	4, 5 or 6	.10



Formerly called 3AG

Test specification—carry 110%, open at 135% in 1 hour.

Voltage	Symbol	Amperes	List Price
32 or less	AGC	4	$0.07
"	AGC	5, 6, 7½, 10 or 15	.05
"	AGC	25 or 30	.06

20 ampere size is an SFE 20 fuse.

Sizes larger than 30 ampere are not recommended as clips or fuse holders would not permit fuse to carry such high currents. If surges or starting currents make heavier fuse necessary, use MDL Fusetron dual-element fuses.

FUSETRON FUSES, ¼ x 1¼ inch

DUAL-ELEMENT SLOW BLOWING TYPE

Stop needless blows from starting currents or surges. Fuse link operates only on very high overloads or short-circuits. Thermal cutout functions on low overloads — cannot operate quickly at any load, so long time-lag is obtained. Yet protection is afforded against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% in 1 hour.

Approximate blowing time: at 200% load **MDL** 25 sec. **MDX** 12 sec.
at 300% " " 8 " " 3 "
at 500% " " 3 " " ½ "

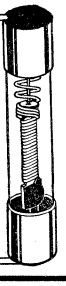
125 and 250 volt sizes listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price
250 or less	MDL	1/100 or 1/32	$0.33
250 or less	MDL	1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, ¾, 8/10 or 1	.27
"	MDX	1¼, 1½, 1 6/10 or 2	.30
125 or less	MDL	1¼, 1½, 1 6/10 or 2	.25
"	MDL	2½ or 2 8/10	.20
"	MDX	3, 3 2/10, 4, 5, 6¼ or 7	.20
32 or less	MDL	3, 3 2/10, 4, 5, 6¼, 8, 10, 15, 20, 25 or 30	.20

FUSETRON PIG-TAIL FUSES

Leads are No. 20 tinned wire 1½ inch long. Listed as approved by Underwriters' Laboratories. Test specifications and performance, MDV 1/100 to 2 8/10 amps. same as MDL fuses. 3 to 7 amps. same as MDX fuses.

Voltage	Symbol	Amperes	List Price
250 or less	MDV	1/100 or 1/32	$0.45
"	MDV	1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, ¾, 8/10 or 1	.34
125 or less	MDV	1¼, 1½, 1 6/10 or 2	.32
"	MDV	2½, 2 8/10, 3, 3 2/10, 4, 5, 6¼ or 7	.30



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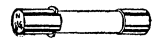
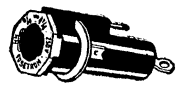
BUSS Fuses

FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of Radios, Instruments and Electronic Equipment

FUSETRON and BUSS MATCHED FUSES and FUSEHOLDERS





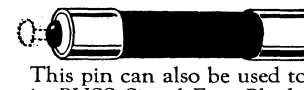
Safeguard against use of wrong size and type of fuse. FUSETRON Type N are "slow-blowing" fuses for use where harmless surges or starting currents might cause ordinary fuses to open needlessly. Use in Type HN fuseholder.

BUSS Type C are "quick-blowing" fuses for fast interruption of fault current. Use in Type HC fuseholder.

FUSETRON FUSE		FUSEHOLDER	
Symbol & Amperes	List Price	Symbol & Range	List Price
N 1/100	$0.35		
N 1/32	.35		
N 1/16	.28		
N 1/10	.28	HN	
N 15/100	.28	0 to 3/10	$0.20
N 2/10	.28		
N 1/4	.28		
N 3/10	.28		
N 4/10	.28	HN	
N 1/2	.28	3/10 to 1/2	.20
N 6/10	.28	HN	
N 3/4	.28	1/2 to 3/4	.20
N 8/10	.28		
N 1	.28	HN	
N 1 1/4	.26	3/4 to 1 1/4	.20
N 1 6/10	.26	HN	
N 1 3/4	.26	1 3/10 to 1 3/4	.20
N 2	.26	HN	
N 2 1/2	.24	1 3/4 to 2 1/2	.20
N 2 8/10	.24		
N 3 2/10	.24	HN	
N 3 1/2	.24	2 1/2 to 3 1/2	.20
N 4	.24	HN	
N 5	.24	3 1/2 to 5	.20
N 6 1/4	.24	HN	
N 7	.24	5 to 7	.20

BUSS FUSE		FUSEHOLDER	
Symbol & Amperes	List Price	Symbol & Range	List Price
C 1/32	$0.39		
C 1/16	.26		
C 1/8	.20	HC	
C 3/16	.20	0 to 3/10	$0.20
C 1/4	.20		
C 3/10	.16		
C 3/8	.16	HC	
C 1/2	.16	3/10 to 1/2	.20
C 3/4	.16	HC 1/2 to 3/4	.20
C 1	.09	HC	
C 1 1/4	.09	3/4 to 1 1/4	.20
C 1 1/2	.09	HC	
C 1 3/4	.09	1 1/4 to 1 3/4	.20
C 2	.09	HC	
C 2 1/2	.09	1 3/4 to 2 1/2	.20
C 3	.09	HC	
C 3 1/2	.12	2 1/2 to 3 1/2	.20
C 4	.12	HC	
C 5	.12	3 6/10 to 5	.20
C 6	.12	HC	
C 7	.12	5 to 7	.20
C 8	.17	HC	
C 10	.18	7 to 10	.20

BUSS INDICATING FUSES, 1/4 x 1 1/4 inch



Fibre Tube. Silverplated indicating pin extends from end of fuse when fuse is blown. This pin can also be used to actuate a signal by using fuses in BUSS Signal Fuse Blocks.

Test specifications—carry 110%, open at 135% in one hour or less.

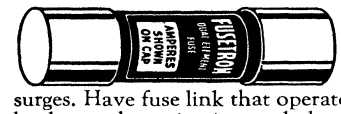
Voltage	Symbol	Amperes	List Price
125 or less	IBM	3/4	$0.37
"	IBM	1, 2, 3, or 5	.33

13/32 x 1 1/2 inch

250 or less	MIC	1, 2, 3, 5, 10 or 15	.33
125 or less	MIC	20, 25 or 30	.33

FUSETRON FIBRE TUBE FUSES

13/32 x 1 1/2 inch



Dual-Element — Slow Blowing Type. Avoid needless blows from starting currents or surges. Have fuse link that operates only on very high overloads or short-circuits, and thermal cutout on low overloads. Thermal cutout cannot operate quickly at any load, hence long time-lag is obtained. Yet protection is provided against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% within 1 hour.

Approximate blowing time: at 200% load 25 seconds.
at 300% load 8 seconds.
at 500% load 5 seconds.

125 and 250 volt sizes listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price
250 or less	FNM	1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1 1/4, 1 6/10, 2, 2 1/2, 3 2/10, 4, 5, 6 1/4, 8 or 10	$0.33
125 or less	FNM	12 or 15	.33
32 or less	FNM	20, 25 or 30	.33

SIGNAL OR VISUAL INDICATING TYPE

FNA are FNM Fusetron fuses with silverplated indicating pin that extends from fuse when fuse blows. Pin can also be to actuate a signal by using fuse in BUSS Signal Fuse Block.

Voltage	Symbol	Amperes	List Price
125 or less	FNA	1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1 1/4, 1 6/10, 2, 2 1/2, 3 2/10, 4, 5, 6 1/4, 8 or 10	$0.625

HIGH INTERRUPTING CAPACITY FUSES

13/32 x 1 1/2 inch

Glass fibre melamine tube with sand filler surrounding a silver fuse element. For use on circuits capable of delivering currents as high as 68,000 amperes at voltages of 500 or less AC or DC.

Test specification—carry 110%, open at 135% in 1 hour or less.

Voltage	Symbol	Amperes	
500 or less	KLM	1, 3, 6, 10, 15, 20, 25 or 30	Prices on request.

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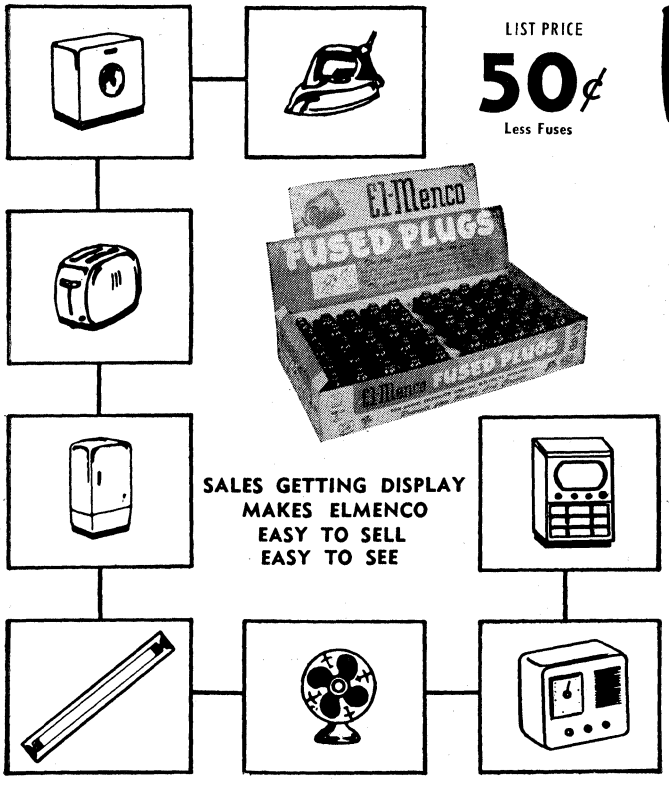
PROTECT against Fire hazards!



LIST PRICE
50¢
Less Fuses

SALES GETTING DISPLAY
MAKES ELMENCO
EASY TO SELL
EASY TO SEE

ELMENCO

FUSED PLUGS

NOW AVAILABLE IN A NEW IMPACT RESISTANT SHELL

COMPLETE PROTECTION!

The Elmenco Fused Plug is like any standard plug, is light in weight, but easier to handle because of finger grips. However, it contains 2 small fuses which provides complete protection against damage to the appliance and to the main line. The blown fuse is easy to remove and simple to replace. Fits any standard wall outlet.

NEW MARKETS! GREATER VALUE!

Approved by Underwriters Laboratories and used by many of the largest manufacturers of radio and electronic equipment, battery chargers, washing machines, curling irons, lighting equipment, automatic relay equipment, motors of every description, and practically every other type of product that consumes electricity.
Every wired home, office and store is a prospect.

MANUFACTURED BY

ELMENCO PRODUCTS CO.

NEW YORK 13, NEW YORK

We list a few of the larger consumers of the ELMENCO FUSED PLUG

- Auto-Lite
- Bell Telephone Labs.
- Bulldog Electric
- Cambridge Instrument
- Canaday Cooler
- Dictaphone
- Dila-Therm
- Eagle Electric
- Eastman Kodak
- Electro-Physical Labs.
- General Electric
- Gerlat Lighting
- I. B. M.
- Buick Motors
- Philco
- R. C. A.
- Sylvania
- Thomas Edison
- Webster-Chicago
- Western Electric
- Westinghouse

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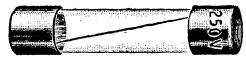
LITTELFUSE "Quicker than a Short Circuit"

3 AG "LITTELFUSES"



¼" x 1¼"

Standard Package—100

Blow Time

Percentage of rating	Blow Time
110%	Life
135%	0–1 hour
200%	0–2 minutes

311000 Series Littelfuses—Quick to medium-blowing fuses—for use in radios, auto-radios, amplifiers, etc. Straight-type fuse element—positioned to center of fuse—makes open link always in the visible portion of fuse.

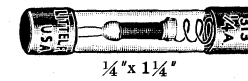
Catalog No.	Amp. rating	Max. volt	List Price, each
311005.	5	32	$0.05
31107.5	7½	32	.05
311010.	10	32	.05
311015.	15	32	.05
311020.	20	32	.04
311025.	25	32	.06
311030.	30	32	.06

312000 Series Littelfuses—Quick-acting fuses—for low time-lag applications similar to the 311000 fuse series above. Protective-coated elements, on fuses to 3 amperes, prevent oxidation and promote clean break on fusion. Diagonal element alignment of this fuse assures accurate alignment and calibration, even when the fuse element is expanded by heat.

Catalog No.	Amp. rating	Max. volt.	List Price each
312.062	1/16	250	$0.17
312.125	⅛	250	.16
312.150	15/100	250	.16
312.175	.175	250	.16
312.187	3/16	250	.15
312.250	¼	250	.15
312.300	3/10	250	.15
312.375	⅜	250	.15
312.500	½	250	.15
312.750	¾	250	.15
312001.	1	250	.08
31201.5	1½	250	.08
312002.	2	250	.08
312003.	3	250	.07
312004.	4	250	.10
312005.	5	250	.10
312006.	6	250	.10
312008.	8	125	.15

Approved by Underwriters' Laboratories.

3 AG "SLO-BLO" "LITTELFUSES"



¼"x 1¼"

Standard package—100

Blow time

Percentage of rating	Blow Time
110%	Life
135%	0–1 hour
200	60 seconds max. 5 seconds min.

313000 Series Littelfuses—Slo-Blo fuses with high time-lag to withstand heavy surges—quick on shorts. Designed for circuits with equipment having high inductive or capacitative surges, such as magnets, solenoids, etc., and for circuits with heavy starting currents, such as motors and lamp circuits. Anti-fatigue construction (compound element. with spring and resistor) makes these fuses ideal for intermittent-duty circuits on vibrators, control circuits, hi-tension electric fences, small magnets, coils, etc. **"Pioneered by Littelfuse."**

Catalog No.	Former No.	Amp. rating	Max. volt.	List Price, each
313.010	1259	1/100	125	$0.33
313.032	1261	1/32	125	.33
313.062	1262	1/16	125	.27
313.100	.....	1/10	125	.27
313.125	1263	1/8	125	.27
313.150	.....	15/100	125	.27
313.175	.....	.175	125	.27
313.187	1263-A	3/16	125	.27
313.200	.....	2/10	125	.27
313.250	1264	1/4	125	.27
313.300	.....	3/10	125	.27
313.375	1265	3/8	125	.27
313.400	.....	4/10	125	.27
313.500	1266	1/2	125	.27
313.600	.....	6/10	125	.27
313.700	.....	7/10	125	.27
313.750	1267	3/4	125	.27
313.800	.....	8/10	125	.27
313001.	1268	1	125	.27
3131.25	.....	1¼	125	.25
31301.5	1041-C	1½	125	.25
31301.6	.....	1-6/10	125	.25
313002.	1042-C	2	125	.25
31302.5	.....	2½	125	.20
313003.	1043-C	3	125	.20
31303.2	.....	3-2/10	125	.20
313004.	.....	4	125	.20
313005.	1080-C	5	125	.20
3136.25	.....	6¼	32	.20
313008.	.....	8	32	.20
313010.	1081-C	10	32	.20
313015.	1082-C	15	32	.20
313020.	1083-C	20	32	.20
313025	.....	25	32	.20
313030	.....	30	32	.20

Approved by Underwriters' Laboratories through 5 amps.

3 AB "TINY MIGHTY" "LITTELFUSES"

¼" x 1¼"

Standard package—100.

Blow Time

Percentage of rating	Blow Time
110%	Life
135%	0–1 hour
200%	0–2 minutes

314000 Series Littelfuses—The smallest Underwriters' Laboratory approved fuses in ratings this high. Steatite enclosed, arc-quenching, powder filled fuses. Shatter-proofed against quick shorts. Medium time lag. Recommended for use with amplifiers, rectifiers, battery charging equipment, small generators, control panels, amusement devices, communication and electronic equipment, radios, signal apparatus, small motor circuits, etc. Take less space than N.E.C. fuses—**"Pioneered by Littelfuse."**

Catalog No.	Amp. rating	Max. volt.	List Price, each
314001.	1	250	$0.15
314002.	2	250	.15
314003.	3	250	.15
314005.	5	250	.15
314008.	8	250	.15
314010.	10	250	.15
314012.	12	250	.15
314015.	15	250	.15
314020.	20	250	.15
314030.	30	125	.15

Approved by Underwriters' Laboratories 8 amps through 15 amps.

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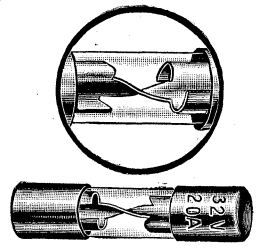
LITTELFUSE "Quicker than a Short Circuit"



4 AG Aircraft Fuse showing reinforced twisted element

Bakelite-enclosed 4 AB Fuse

AIRCRAFT LITTELFUSES—ANTI-VIBRATION TYPE

Especially designed for Aircraft Service. Characteristics: High Mechanical Strength—Resistance to Fatigue—Long Vibration Life

CONSTRUCTION: Glass-enclosed. Littelfuse Locked Cap Assembly (no cements) prevents loosening of caps. High visibility transparent label for amperage. Elements mechanically depolarized by twisting at 90° (see illustrations) are braced against extreme vibration. "Gooseneck" non-crystallizing fuse element takes up expansion and contraction. Ratings 5 amps. or less use Spring and Link. Service life six times simple wire. The 4 AG and 5 AG sizes are supplied for Aircraft services for their strength and greater carrying capacity han 3 AG fuses.

BAKELITE-ENCLOSED: 4 AB and 5 AB fuses recommended where severe overloads might shatter glass.

CURRENT RATING: Rated to NEC specifications to carry 10% overload indefinitely, to blow on 35% overload within 1 hr., and 100% overload within 2 min.

VOLTAGE RATING: Voltage at which fuses will break without arcing over, or bursting under short circuit conditions.

VIBRATION FACTOR: Minimum hours these fuses endure our Magnetic Vibrator operating 120 cycles a second, while carrying the rated current. Acceleration is 10 times the worst field conditions.

4AG "LITTELFUSES" 1¼" x 9/32" Dia. Unit Wt.—3.5 Gms.

Cat. No.	Former No.	Amp. Rating	Max. Volt.	Price Each
"Slo-Blo"				
413.100	—	1;10	250	.30
413.150	—	15;100	250	.30
413.200	—	2;10	250	.30
413.250	1452C1;4	1;4	250	.30
413.300	—	3;10	250	.30
413.400	—	4;10	250	.30
413.500	1452C1;2	1;2	250	.30
413.600	—	6;10	250	.30
413.750	—	3;4	250	.30
413.800	—	8;10	250	.30
413001	1091C	1	250	.30
4131.25	—	1-1;4	250	.30
41301.6	—	1-6;10	250	.30
413002	1092C	2	250	.25
41302.5	—	2-1"2	250	.25
413003	109 C	3	250	.25

4AG "LITTELFUSES" (Con.) 1¼" x 9/32" Dia. Unit Wt.—3.5 Gms.

Cat. No.	Former No.	Amp. Rating	Max. Volt.	Price Each
41303.2	—	3-2;10	250	.25
413004	—	4	32	.25
413005	1094C	5	32	.25
4136.25	—	6-1;4	32	.25
413008	—	8	32	.25
413010	1095C	10	32	.25
413015	1096C	15	32	.25
413020	1097C	20	32	.25
413025	1098C	25	32	.25
413030	1099C	30	32	.25
413035	—	35	32	.25
413040	1100C	40	32	.25
Aircraft				
411010.	1095	10	32	.14
411015.	1096	15	32	.14
411020.	1097	20	32	.14
411025.	1098	25	32	.14
411030.	1099	30	32	.14
411035.	—	35	32	.15

4AB "LITTELFUSES" 1¼" x 9/32" Dia. Unit Wt.—3.75 Gms.

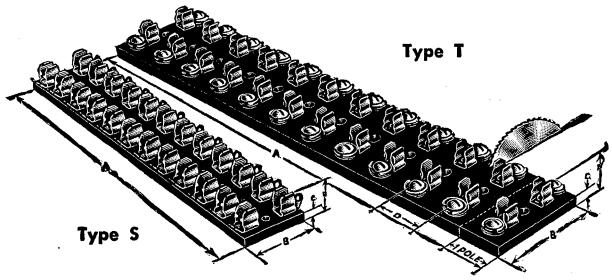
Cat. No.	Former No.	Amp. Rating	Max. Volt.	Price Each
414001.	1091B	1	250	.25
414002.	1092B	2	250	.25
414003.	1093B	3	250	.25
414005.	1094B	5	125*	.25
414008.	—	8	125*	.25
414010.	1095B	10	125*	.25
414015.	1096B	15	125*	.25
414020.	1097B	20	125*	.25
414025.	1098B	25	32	.25
414030.	1099B	30	32	.25
414035.	—	35	32	.25
414040.	1100B	40	32	.25

*Good for power supplies up to 25 KVA at 115V—400 cycles.

5AG "LITTELFUSES" 1 13/32" x 13/32" Dia. Unit Wt.—8.5 Gms.

Cat. No.	Former No.	Amp. Rating	Max. Volt.	Price Each
"Slo-Blo"				
513001.	1160C	1	250	$0.40
513002.	1161C	2	250	.40
513003	1162C	3	250	.30
513005.	1163C	5	32	.30
513010.	1164C	10	32	.30
513015	1165C	15	32	.30
513020	1166C	20	32	.30
513025	—	25	32	.37
513030.	1167C	30	32	.37
513040	1168C	40	32	.37
513050.	1169C	50	32	.37
513060.	1222C	60*	32	.37
Aircraft				
511005.	—	5	32	.16
511010.	1164	10	32	.16
511015.	1165	15	32	.16
511020.	1166	20	32	.16
511025.	1442	25	32	.16
511030.	1167	30	32	.16
511035.	1472	35	32	.17
511040.	1168	40	32	.17
511050.	1169	50	32	.17
511060.	1222	60*	32	.17

*Carries only 100% rating on life test.



NEW FUSE MOUNTING PANELS

Open type fuse panels, stocked in 12-pole units as shown—we cut them to 1, 2, 3, 4 or more poles as ordered, or you may cut them in your plant (1/8" allowance for saw cut).

Fuse Type	Mtg. Type	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"
8AG	S	1 3/4	3/16	5/8	21/32
3AG	S	1 5/8	3/16	5/8	21/32
3AG	T	2 3/8	7/32	29/32	11/16
4AG	T	2 3/8	7/32	29/32	13/16
5AG	T	2 3/4	9/32	31/32	1 1/32

Mountings with Solder Terminals—Type "S". Phosphor-Bronze, bright-dipped finish "Lug-Clips" are firmly anchored to black Bakelite base—have non-turning anchors. For 8AG and 3AG size fuses.

Mountings with Screw Terminals—Type "T". Spaced to U/L requirements for equipment circuit protection. Nickel plated brass screw terminals, nickel plated fuse clips. Type 356 (3AG) and type 556 (5AG or Midget) have cupped wire-retaining washers under terminal screws as required by U/L. Type 456 (4AG) has lock washers or terminals.

FOR 4AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price Each
456001	1	25/32	$0.50
456002	2	1 11/16	1.00
456003	3	2 19/32	1.50

Prices 456004 to 456012, 4 to 12 poles, on special quotation only.

FOR 3AG FUSES—TYPE "S"

Catalog No.	No. Poles	Dim. "A"	List Price Each
357001	1	1/2	$0.17
357002	2	1 1/8	.34
357003	3	1 3/4	.51

Prices 357004 to 357012, 4 to 12 poles, on special quotation only.

FOR 3AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price Each
356001	1	25/32	$0.40
356002	2	1 11/16	.80
356003	3	2 19/32	1.20

Prices 356004 to 356012, 4 to 12 poles, on special quotation only.

FOR 5AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price Each
556001	1	27/32	$0.60
556002	2	1 13/16	.95
556003	3	2 25/32	1.80

Prices 556004 to 556012, 4 poles, on special quotation only.

FOR 8AG FUSES—TYPE "S"

Catalog No.	No. Poles	Dim. "A"	List Price Each
387001	1	1/2	$0.17
387002	2	1 1/8	.34
387003	3	1 3/4	.51

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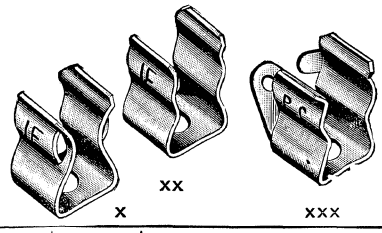
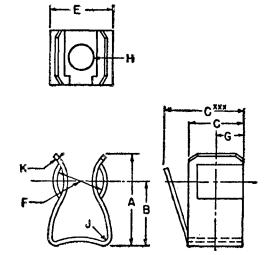
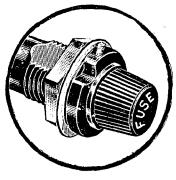
LITTELFUSE BERYLLIUM COPPER AND PHOSPHOR BRONZE FUSE CLIPS



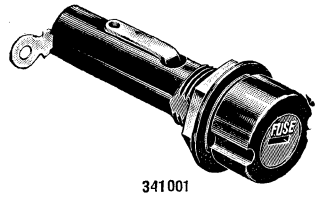
Littelfuse fuse clips are available in three standard styles: "X," with "ears" or fuse stops; "XX," earless; and "XXX," "Lug-Clips," a new **Littelfuse** clip having a lug or solder terminal made as an integral part of the clip. All styles are furnished in either Phosphor-Bronze or Beryllium Copper.



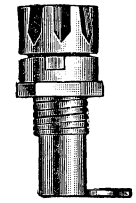
Catalog Number	Former Number	Fuse Adaptation	Type	DIMENSIONS A	B	C	E	F	G	H	Unit Wt. grams	Std. Pkg. 100 Wt.—lbs.	List Price Each
BERYLLIUM COPPER CLIPS													
SILVER PLATED—WITH FUSE STOP "EARS"													
121001	1216B	SFE, 3AG & 8AG Fuses	X	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	$0.06
123001	1217B	4AG & 4AB Fuses	X	9/16	3/8	13/32	.385	9/32	3/16	.171	1.6	1	.08
125001	1218B	5AG, Hi-Voltage-Midget	X	3/4	1/2	7/16	1/2	13/32	7/32	.196	3	2	.15
127001	1219	N.E.C.-30 Fuses	X	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.5	2	.18
129001	1221	Standard Hi-Voltage	X	17/32	13/16	.750	7/8	13/16	5/16	.265	14.5	4	.40
SILVER PLATED—EARLESS TYPE													
121002	1417	SFE, 3AG & AB, & 8AG	XX	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.06
123002	1437	4AG & 4AB	XX	9/16	3/8	13/32	.385	9/32	3/16	.171	1.6	1	.08
125002		5AG, Hi-Voltage-Midget	XX	3/4	1/2	7/16	1/2	13/32	7/32	.196	3	2	.15
127002	1475	N.E.C.-30 Fuses	XX	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.5	2	.18
129002	1476	Standard Hi-Voltage	XX	17/32	13/16	.750	7/8	13/16	5/16	.265	14.5	4	.40
SILVER PLATED—"LUG-CLIP"—SOLDER TERMINAL ATTACHED													
121004	New	SFE, 3AG, AB, & 8AG	XXX	29/64	1/4	37/64	11/32	1/4	5/32	.131	1.2	1	.08
123004	New	4AG & 4AB Fuses	XXX	9/16	3/8	3/4	.385	9/32	3/16	.171	1.7	1	.12
125004	New	5AG & Midget Fuse	XXX	3/4	1/2	.820	15/32	13/32	7/32	.196	3.5	2	.20
PHOSPHOR BRONZE CLIPS													
BURNISHED NICKEL PLATE—WITH FUSE STOP "EARS"													
101001	1011B	SFE, 3AG & AB, & 8AG	X	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.02
103001	1319	4AG & 4AB	X	9/16	3/8	13/32	.385	9/32	3/16	.173	1.7	1	.05
105001	2049	5AG, Hi-Voltage-Midget	X	3/4	1/2	7/16	1/2	13/32	7/32	.196	3.2	2	.05
107001	5048	N.E.C.-30 Fuses	X	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.8	2	.06
109001	1463	Standard Hi-Voltage	X	17/32	13/16	.750	7/8	13/16	5/16	.265	15.6	4	.16
BURNISHED NICKEL PLATE—EARLESS TYPE													
101002	125-2	SFE, 3AG & AB, 7AG & 8 AG	XX	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.02
104002		4AG & 4AB	XX	9/16	3/8	13/32	.385	9/32	3/16	.173	1.7	1	.04
105002	2049B	5AG, Hi-Voltage-Midget	XX	3/4	1/2	7/16	1/2	13/32	7/32	.196	3.2	2	.05
107002	SP-178	N.E.C. 30 Fuses	XX	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.8	2	.06
109002		Standard Hi-Voltage	XX	17/32	13/16	.750	7/8	13/16	5/16	.265	14.5	4	.16
BRIGHT-DIP PHOSPHOR BRONZE—"LUG CLIP" SOLDER TERMINAL ATTACHED													
101003		SFE, 3AG & AB & 8AG	XXX	29/64	1/4	37/64	11/32	1/4	5/32	.131	1.2	1	.04
103003		4AG & 4AB	XXX	9/16	3/8	3/4	.385	9/32	3/16	.171	1.7	1	06
105003		SFE, 3AG & AB & 8AG	XXX	3/4	1/2	.820	15/32	13/32	7/32	.196	3.5	2	.08



Finger Operated Knob



341001



342003

"LITTELFUSE" FUSE EXTRACTOR POSTS

Quicker, safer method for mounting and changing fuses. Held in end of removable knob, fuse is easily replaced by unscrewing knob. Available with finger-operated knob or with screw driver slot knob.

Catalog No.	Former No.	Descr.—Knob, How Operated	Mtg. Hole	Length Under Panel	List Price Each
341001	1075S	3AG—Screw Driver	.500-.505"	2 3/32	$0.46
342001	1075F	3AG—Finger	.500-.505"	2 7/32	.46
342003	.....	3AG—Miniature	.500-.505"	1.035	.46
342007	.....	3AG—(elongated hole)	.535/.540 x .685"/.690"	1.171	2.20
342008	.....	3AG—Miniature—Dustproof	.500-.505"	1.035	.54
442001	.....	4AG	.625-.630"	2.156	1.25
371001	1087S	8AG—Screw Driver	.500-.505"	2 3/32	.46
372001	1087F	8AG—Finger	.500-.505"	2 7/32	.46

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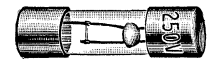
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

LITTELFUSE *"Quicker than a Short Circuit"*

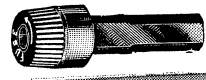
8AG INSTRUMENT *high speed* LITTELFUSES

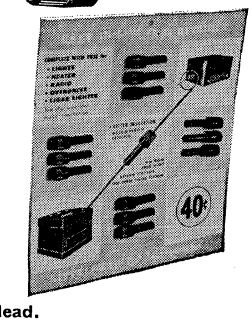
Locked Cap Assembly and other exclusive Littelfuse features for protection of delicate test equipment, galvanometers, micro-ammeters, milliammeters, voltmeters, etc. Glass-enclosed: 1 x ¼" dia., accurately rated, high speed action, short time lag. Voltage ratings up to 250 V., AC or DC. For higher voltages use fuses in series.



Catalog No.	Former No.	Amp. Rating	Max. Volt.	APPLICATIONS			List Price Ea.
				Volt-meters Ohms P.V.	All Magnetic Movement Milliammeters	Thermo-couples	
361.002	.....	1/500	250	Over 1000	Galvanometers	0–0.1 to 0–0.5	$1.20
361.005	1000	1/200	250	Over 1000	Galvanometers	Up to 0.1	.46
361.010	1001	1/100	250	1000	Up to 0–1	0–5 to 0–10	.40
361.031	1002	1/32	250	500–1000	0–1 to 0–10	0–10 to 0–25	.38
361.062	1003	1/16	250	100–500	0–10 to 0–25	0–25 to 0–60	.25
361.125	1004	1/8	250	20–100	0–25 to 0–75	0–75 to 0–150	.18
361.250	1005	¼	250	10–20	0–75 to 0–150	0–115 to 0–200	.15
361.375	1006	⅜	250	5–10	0–150 to 0–250	0–200 to 0–300	.15
361.500	1007	½	250	3–5	0–250 to 0–350	0–300 to 0–400	.15
361.750	1007-A	¾	250		0–350 to 0–500	0–400 to 0–600	.15
361001.	1008	1	250		0–500 to 0–750	0–600 to 0–1000	.10
36101.5	1008-A	1½	250		0–750 to 0–1000	0–1000 to 0–1500	.10
361002.	1009	2	250		0–1000 to 0–1500	0–1500 to 0–2000	.10
361003.		3	250		0–1500 to 0–2000	0–2000 to 0–3000	.10
361005.		5	32		0–2000 to 0–4000	0–3000 to 0–5000	.10

BAKELITE IN-LINE FUSE RETAINER





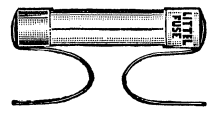
Designed to hang in the cable or mount in the chassis, the inline fuse retainer molded of high impact bakelite is primarily for low-voltage applications: car radios, heaters, spot lights, clocks, etc.

The disassembled unit consists of the bakelite body receptacle, bakelite knob with metal insert, one spring, two knife-edge rivet contacts.

155000 Series—Assembled with a 19" loop of wire lead:
155004A For 4-amp SFE and 1AG fuses
155006A For 6-amp SFE fuses
155009A For 9-amp SFE and 7AG fuses
155014A For 14-amp SFE and 8AG fuses
155020A For 20-amp SFE and 3AG fuses

List Prices **.45 ea.**

In-line fuse retainer now assembled with 19" loop of wire lead.
094020 FUSE RETAINER ASSORTMENT—$4.80 EACH CARD



Catalog Number	Description	List Price Each
3AG SLO-BLO PIGTAIL FUSES		
315.010	1/100 amp. (125 volt).....	$.45
315.032	1/32 amp. (125 volt).....	.45
315.062	1/16 amp. (125 volt).....	.34
315.100	1/10 amp. (125 volt).....	.34
315.150	15/100 amp. (125 volt).....	.34
315.187	3/16 amp. (125 volt).....	.34
315.200	2/10 amp. (125 volt).....	.34
315.250*	¼ amp. (125 volt).....	.34
315.300	3/10 amp. (125 volt).....	.34
315.400	4/10 amp. (125 volt).....	.34
315.500*	½ amp. (125 volt).....	.34
315.600	6/10 amp. (125 volt).....	.34
315.750	¾ amp. (125 volt).....	.34
315.800	8/10 amp. (125 volt).....	.34
315001.	1 amp. (125 volt).....	.34
3151.25	1¼ amp. (125 volt).....	.32
31501.5	1½ amp. (125 volt).....	.32
31501.6	1-6/10 amp. (125 volt).....	.32
315002.	2 amp. (125 volt).....	.32
31502.5	2½ amp. (125 volt).....	.32
315003.	3 amp. (125 volt).....	.30
31503.2	3-2/10 amp. (125 volt).....	.30
315004.	4 amp. (125 volt).....	.30
315005.	5 amp. (125 volt).....	.30

Catalog Number	Description	List Price Each
3AG PIGTAIL FUSES		
318.062	1/16 amp. (250 volt).....	$.25
318.125	⅛ amp. (250 volt).....	.23
318.250*	¼ amp. (250 volt).....	.23
318.375	⅜ amp. (250 volt).....	.23
318.500*	½ amp. (250 volt).....	.23
318.750	¾ amp. (250 volt).....	.23
318001.	1 amp. (250 volt).....	.15
31801.5	1½ amp. (250 volt).....	.15
318002.	2 amp. (250 volt).....	.15
318003.	3 amp. (250 volt).....	.15
318004.	4 amp. (250 volt).....	.16
318005.	5 amp. (250 volt).....	.16
318006.	6 amp. (250 volt).....	.16
8AG T.V. FUSES (No Pigtail)		
362.125	⅛ amp. (250 volt).....	.16
362.250*	¼ amp. (250 volt).....	.16
362.375*	⅜ amp. (250 volt).....	.16
362.500	½ amp. (250 volt).....	.16
362.750	¾ amp. (250 volt).....	.16
362001.	1 amp. (250 volt).....	.08
36201.5	1½ amp. (125 volt).....	.08
362002.	2 amp. (125 volt).....	.08
362003.	3 amp. (125 volt).....	.08
362005.	5 amp. (125 volt).....	.05

*Most commonly used by large volume set manufacturers.

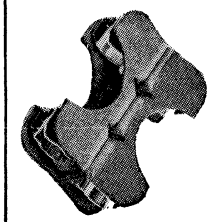
All above fuses approved by Underwriters' Laboratories except 315004 and 315005.

METER BACK MOUNTING

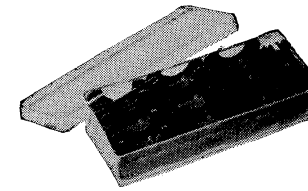
Cat. No. 383002 (1059)—Mounts directly on meter binding post. Will not touch other posts on smallest standard meter. Linen bakelite base, 1" x 1⅛". Length over screw terminal, 1½". Standard Package 20. Weight ½ lb.

List Price Each.....$0.35

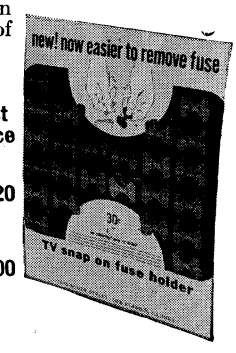
NEW TV SNAP-ON MOUNTINGS



Time saver for pigtail replacement. Snap on blown pigtail, then use regular fuse in other side. No soldering.



This Snap-On Mounting has a cut out on both sides which makes the fuse accessible for replacement from both sides. These are available in bulk, on cards and in plastic boxes of ten.



List Price

No. 094024
Card of 24 .$7.20

No. 094025
Box of 10.. 3.00

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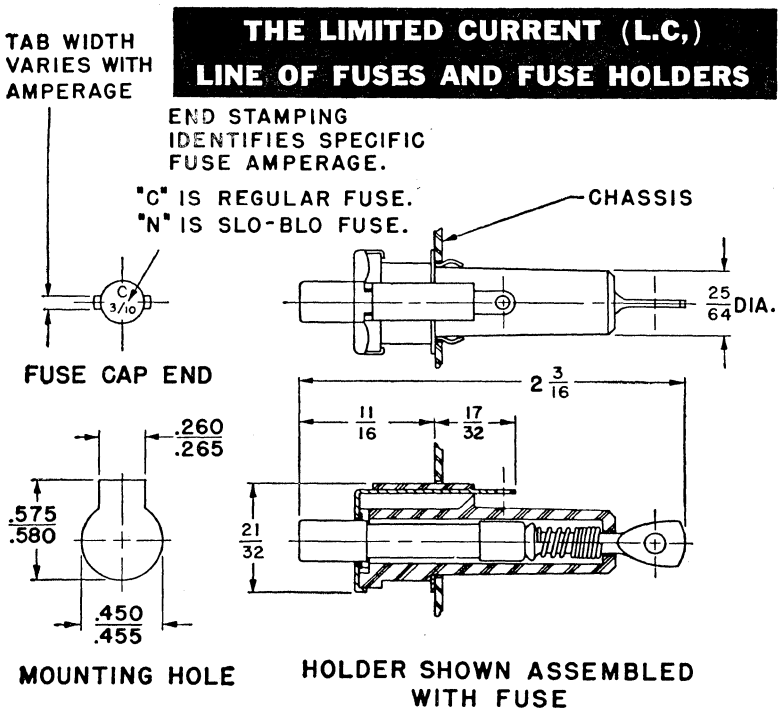
LITTELFUSE *"Quicker than a Short Circuit"*

THE LIMITED CURRENT (L.C,) LINE OF FUSES AND FUSE HOLDERS



Here is a completely new approach to circuit protection to completely eliminate the possibility of over-fusing circuits.

This has been accomplished by a combination of three different fuse lengths and seven different widths of bayonet locking tabs on the fuse caps.

The fuse post is made to accept only the size amperage range and type (regular or slo blo) in its range. For example: a 1 amp. slo blo fuse is 1¼" long with .115 to .120 width tabs. The holder used with this will only accept a slo blo fuse (N type) above ¾ to 1¼ amps.

The holder is a ruggedly designed unit, molded from high strength bakelite.

It snaps into a predetermined chassis mounting hole and locks into place by means of a quick snap-in type lock washer. It can be pressed into place by hand or simple tools.

The fuse locks into the holder by means of a bayonet lock which permits easy and quick insertion and removal of fuses.

Both solder connections are behind panel making the installation of the unit simple and inexpensive.

REGULAR FUSES — FUSE HOLDERS

Cat. No.	Type	Amps.	(Max.) Volts	Cat. No.	Range (Amps.)
332.032	C	1/32	250	346001	
332.062	C	1/16	250		
332.125	C	1/8	250		0
332.187	C	3/16	250		to
332.250	C	1/4	250		3/10
332.300	C	3/10	250		
332.375	C	3/8	250	346002	Over 3/10
332.500	C	1/2	250		to ½
332.750	C	3/4	250	346003	Over ½ to ¾
332001	C	1	250	346004	Over ¾
3321.25	C	1-1/4	250		to 1¼
33201.5	C	1-1/2	250	346005	Over 1¼
3321.75	C	1-3/4	250		to 1¾
332002	C	2	250	346006	Over 1¾
33202.5	C	2-1/2	250		to 2½
332003	C	3	250	346007	Over 2½
33203.5	C	3-1/2	250		to 3½
332004	C	4	250	346012	Over 3½
332005	C	5	250		to 5
332006	C	6	250	346013	Over 5
332007	C	7	125		to 7
332008	C	8	125	346014	Over 7
332010	C	10	125		to 10

SLO BLO FUSES — FUSE HOLDERS

Cat. No.	Type	Amps.	(Max.) Volts	Cat. No.	Range (Amps.
333.010	N	1/100	125	346008	
333.032	N	1/32	125		
333.062	N	1/16	125		
333.100	N	1/10	125		0
333.150	N	15/100	125		to
333.200	N	2/10	125		3/10
333.250	N	1/4	125		
333.300	N	3/10	125		
333.400	N	4/10	125	346009	Over 3/10
333.500	N	1/2	125		to ½
333.600	N	6/10	125	346010	Over ½
333.750	N	3/4	125		to ¾
333.800	N	8/10	125	346011	Over ¾
333001	N	1	125		to 1¼
3331.25	N	1-1/4	125		
33301.6	N	1-6/10	125	346016	Over 1¼
3331.75	N	1-3/4	125		to 1¾
333002	N	2	125	346017	Over 1¾
33302.5	N	2-1/2	125		to 2½
33302.8	N	2-8/10	125	346018	Over 2½
33303.2	N	3-2/10	125		to 3½
33303.5	N	3-1/2	125		
333004	N	4	125	346019	Over 3½
333005	N	5	125		to 5
3336.25	N	6-1/4	32	346020	Over 5
333007	N	7	32		to 7

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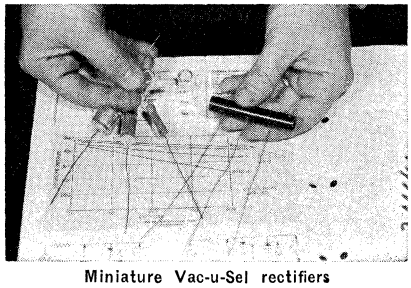
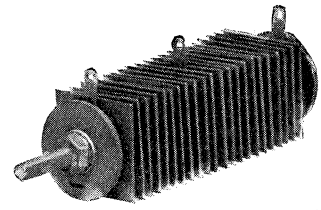
COMPONENT RECTIFIERS

Vac-u-Sel*, COPPER-OXIDE, AND GERMANIUM

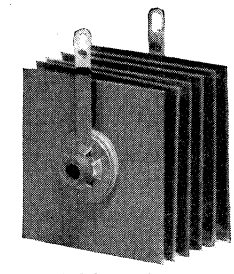
Rectifiers for practically any d-c power requirement are available from General Electric. Vac-u-Sel rectifiers are a new, high-quality type of selenium rectifier produced by an exclusive G-E sphere-type, vacuum-evaporation process. In addition, General Electric also makes a full line of copper-oxide and germanium rectifiers.



Miniature Vac-u-Sel rectifiers



Standard Vac-u-Sel rectifier stack construction



Tube-mounted Vac-u-Sel rectifier stack construction

GENERAL ELECTRIC Vac-u-Sel RECTIFIERS

- 63 VOLT PEAK INVERSE
- 130 C AMBIENT OPERATION
- 80,000 HOURS LIFE EXPECTANCY

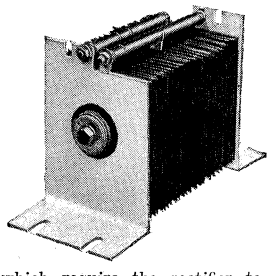
The special vacuum-evaporation process employed in making Vac-u-Sel rectifiers makes possible the outstanding performance characteristic of this selenium rectifier. With G-E Vac-u-Sel rectifiers, you can now match performance requirements for life expectancy, ambient operating temperature, and atmospheric protection, as well as electrical characteristics. Two (2) new rectifier cells make up the new line of Vac-u-Sel rectifiers: a 26-volt and a 45-volt cell. Both are high-temperature cells.

The 26-volt cell is a long-life, standard industrial cell with a life expectancy of 80,000 hours at normal current rating at 35 C ambient. The 26-volt cell can meet operating requirements up to 130 C at full voltage. Current need not be derated where shorter life is acceptable. Life expectancy at 130 C is 1000 hours.

The 45-volt cell has a 63-volt peak inverse voltage. Unlike most 45-volt rectifiers, this is a true, long-life industrial cell. Frequently, this rectifier may be substituted for those employing 26-volt cells. Since fewer cells are required, savings of up to 30 per cent in cost, and up to 35 per cent in the size of the stacks are possible. Life expectancy of the 45-volt cells at normal current rating at 35 C ambient is 60,000 hours, and they can be used at ambient temperatures up to 110 C.

All Vac-u-Sel rectifiers operate with exceptionally low forward-voltage drop and low reverse leakage, and their margin of superiority in these characteristics increases with service. All Vac-u-Sel rectifiers undergo extensive testing and grading, and matched cells are used in assembling stacks. A variety of finishes and mounting arrangements are available to meet virtually any requirements. Write for Bulletins GEA-5935 (miniatures); GEA-6273 (standard).

COPPER-OXIDE RECTIFIER STACKS



G-E copper-oxide rectifier stacks offer these outstanding features:

- No unforming
- Ability to withstand momentary current overloads
- Ability to withstand momentary voltage overloads
- Long life with little aging
- Highest efficiency at low voltages

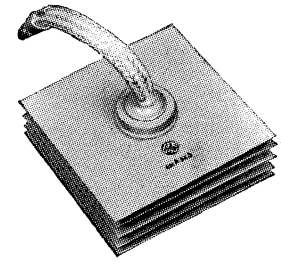
These features of G-E copper-oxide rectifiers make them especially suited for certain types of magnetizing circuits, which require the rectifier to withstand high current inrush and momentary voltage overload.

Perhaps the most widespread use of copper-oxide rectifiers is in the field of circuit-breaker operation. Here, the unique characteristics of copper-oxide rectifiers are especially important.

The above features also make G-E copper-oxide rectifiers ideal for the following applications: Blocking • Metering • Polarizing relays • High-speed relays • Electroplating • Electrolytic reduction • Telephone and telegraph equipment • Control contactors • Low-voltage, high-current power supplies • Testing equipment • High-voltage surge protectors • D-c welders. Write for Bulletin GEA-5699.

*Trade-mark of General Electric Co.

INDUSTRIAL GERMANIUM RECTIFIERS



G-E industrial rectifiers offer these outstanding features:

- Lowest forward drop per ampere pere square inch
- Best current output, smallest size, and lightest weight per watt output of existing metallic rectifiers
- High efficiency
- No unforming
- Negligible aging

These new G-E germanium metallic rectifiers are of the broad-area type. Their very low forward-voltage drop gives excellent regulation. The high output voltage per cell permits the use of fewer cells, and rectifying properties are instantaneous since they do not require artificial forming. G-E germanium rectifiers can be operated at extremely high current densities, and a large d-c output is obtainable from a very small germanium rectifier.

The regulation is less than 6 per cent when operated at the high current densities permissible with germanium rectifiers. With most metallic rectifiers, regulation is usually between 15 and 20 per cent at their normal current densities. Germanium rectifiers have a broad application in power conversion where size and weight requirements are at a premium. Write for Bulletins GEA-5773 (industrial rectifiers); GEA-6224 (power supplies); GEA-6297 (anodizing and electroplating).

Complete information on Vac-u-Sel, copper-oxide, and germanium rectifiers is available from your nearest G-E Apparatus Sales Office, or by writing to Section 640-443, General Electric Company, Schenectady 5, N. Y.

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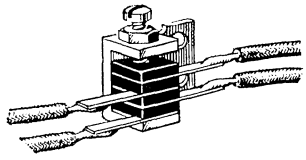
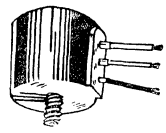
SCHAUER INSTRUMENT RECTIFIERS



TYPE A-4M



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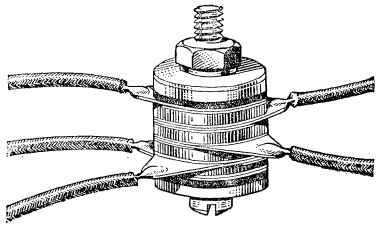


TYPE C-4

Schauer copper oxide rectifiers for instrument and other uses are processed and individually tested to meet the requirements of the user. Versatile processing techniques make possible variations in characteristics for special or unusual applications. Each rectifier is rated conservatively for long life and dependable operation.

Size "B" Rectifiers are encapsulated —fully sealed in special formula polyester plastic in attractive red color. Cells are specially processed with vacuum evaporated gold contact areas to give maximum efficiency, stable operation and low aging characteristics. All rectifiers are supplied with 3" leads, color-coded. (Red, positive; black, negative; yellow, A.C.) Plastic encapsulated rectifiers have lead insulation imbedded in the plastic for better sealing, eliminating short circuits at the rectifier. Lead lengths of other than 3" can be supplied on special order.

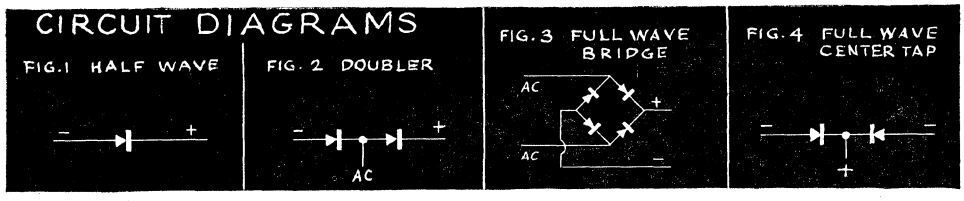
"A" SIZE CELLS have good frequency response above the audio range and can be used at higher frequencies. Recommended for meter applications needing 1MA or less for operation. Can be used for other applications requiring up to 5 MA.

"B" SIZE CELLS are for meter, relay and other applications requiring 1MA up to their maximum rating. Recommended for commercial and low audio frequency operation.

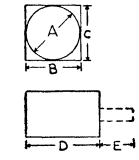
"C" SIZE CELLS are for general applications requiring larger output currents and operation of meters, relays and other apparatus. Special process cells for varistor applications.

Write, wire or telephone for complete information. We welcome your inquiries concerning any special rectification problem.

Max. Cont. Rating			Circuit Diagram Fig.	Cell Dia. Inches	No. of Cells	Leads	Mounting Screw Size	DIMENSIONS*				Type
D.C. M.A.	D.C. Volts	Max. RMS Volts						(Dia.) A	B	C	D	E	
5	1.5	2.5	2	3/16 sq.	2	3	Hole for 2–56		3/8	1/4	9/16		A2M
5	3.0	5.0	3	3/16 sq.	4	4	Hole for 2–56		3/8	1/4	9/16		A4M
13	1.5	2.5	1	7/16	1	2	6–32	9/16			7/16	9/32	B1
13	1.5	2.5	2	7/16	2	3	6–32	9/16			1/2	5/16	B2
26	1.5	2.5	4	7/16	2	3	6–32	9/16			1/2	5/16	B2
26	3.0	5.0	3	7/16	4	5	6–32	9/16			23/32	5/16	B4
32	1.5	2.5	1	3/4	1	2	10–32	3/4			11/16	5/16	C1
32	1.5	2.5	2	3/4	2	3	10–32	3/4			3/4	5/16	C2
64	1.5	2.5	4	3/4	2	3	10–32	3/4			3/4	5/16	C3
64	3.0	5.0	3	3/4	4	5	10–32	3/4			31/32	5/16	C4



*Dimensions



SCHAUER MANUFACTURING CORP. • Cincinnati 36, Ohio

Manufacturers of high-quality, dry-disc rectifiers since 1930.

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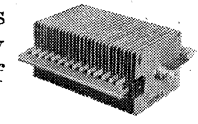
SELENIUM Sarkes Tarzian SILICON RECTIFIERS

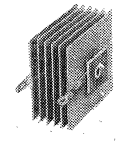
Selenium Power Rectifiers

A full range of ratings is available. Cell sizes range from 1/16 inch diameter to 4¼ inch by 12 inches to provide extreme flexibility of design.



HIGH TEMPERATURE—Made by a special process Sarkes Tarzian High Temperature Selenium Rectifiers provide the same range of ratings as standard types, with no derating to cell temperatures as high as 150° C.

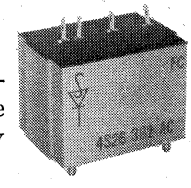
Radio-Television Types



Produced under mass production techniques but with very close quality control, Sarkes Tarzian Radio-Television type Selenium Rectifiers are the low cost answer on many medium power applications in all types of electronic equipment.

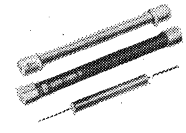
HIGH DENSITY—A new development in artificial barrier layers allows operation of rectifiers at high current density at no sacrifice of performance. Another Value-plus feature offered by Sarkes Tarzian.

Embedments



Sarkes Tarzian embedments offer the advantages of hermetic sealing at a fraction of the size, weight and cost. Ideal for use in military equipments.

High Voltage Rectifiers



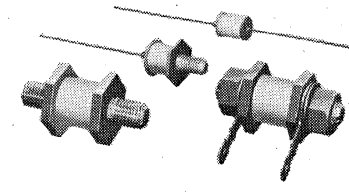
Five basic sizes of Sarkes Tarzian High Voltage Rectifiers offer the design engineer a wide range of voltage and current ratings. All types are available either sealed or unsealed.

Write for your copy of the Selenium Rectifier Handbook—72 pages of engineering information on power conversion.

SILICON Area Rectifiers

New design concepts offer the ruggedest package available. Check these features:

1. Built-in heat sink on stud types for optimum heat transfer.
2. Special cell process produces low forward and high reverse resistances.
3. Ceramic case provides extremely long path for minimum corona and leakage effects.



4. "O" ring seals for positive sealing.
5. Flexible connections eliminate shock problems.
6. Special pressure contact assures positive pressure under all conditions.
7. Pure silver contacts to avoid migration and contamination of the cell.
8. Three case sizes and seven terminal arrangements provide the widest range of ratings available.

Write for your copy of the Silicon Rectifier Handbook.

Sarkes Tarzian, Inc.
RECTIFIER DIVISION
BLOOMINGTON, INDIANA

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Thank You!

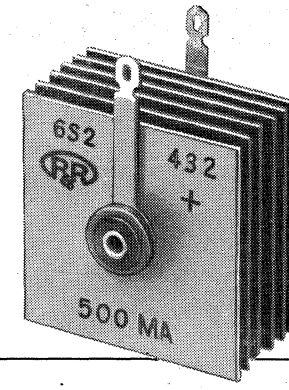
When ordering products shown in this book or writing for additional information, please be sure to mention the 1957 MASTER and the respective pages and catalog numbers. This will avoid confusion and expedite delivery.

The *Radio-Electronic* **MASTER**

RADIO RECEPTOR

SELENIUM RECTIFIERS

with SAFE CENTERS



...For complete protection in Radio and Television circuits

Radio Receptor Selenium Rectifiers are built and tested to eliminate arc-over danger, short circuits and heating at the center contact point. This "Safe Center" feature is an added safety factor that gives protection during mounting and in use.

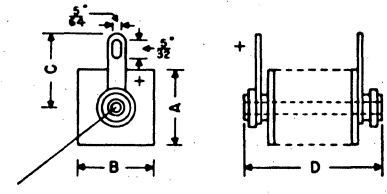
Because of their consistent dependability under all conditions – including high humidity – these bright green units are demanded by an ever increasing number of engineers and servicemen in the U.S. and throughout the world. The rectifiers listed to the right are normally stocked by distributors. Many other types available for special applications.

See your local distributor for your requirements.

RADIO AND TV SELENIUM RECTIFIERS – RATINGS AND DIMENSIONS

MAX. D. C. OUTPUT MA.	TYPE NO.	MAX. A. C. INPUT VOLTS	MIN. SERIES RESISTOR (OHMS)	MAX. PEAK INVERSE VOLTAGE	A (INCHES)	B (INCHES)	C +0–1/32 (INCHES)	D ± 1/32 (INCHES)
STANDARD REPLACEMENT LINE								
65	8J1	130	33	380	1 1/16	1 1/16	19/32	1/2
75	5M4	130	22	380	1	1	15/16	1 1/16
100	5M1	130	22	380	1	1	15/16	7/8
150	5P1	130	15	380	1 3/16	1 3/16	15/16	7/8
200	5R1	130	5	380	1 1/2	1 1/4	1 3/16	7/8
250	5Q1	130	5	380	1 1/2	1 1/2	1 3/16	1 1/8
300	6QA1	130	5	380	1 1/2	1 1/2	1 3/16	1 3/8
350	6QA2*	130	5	380	1 1/2	1 1/2	1 3/16	1 3/4
400	6S4	156	5	456	2	2	1 5/8	1 1/8
500	6S2	156	5	456	2	2	1 5/8	1 3/8
SPECIAL REPLACEMENT LINE								
100	1M1	25	None	75	1	1	15/16	3/4
30	8Y1	130	47	380	1/2	1/2	19/32	1/2
25	16Y1	260	47	760	1/2	1/2	19/32	7/8
75	6M1	156	22	456	1	1	15/16	7/8
100	6M2	156	22	456	1	1	15/16	1 1/8
150	6P2	156	15	456	1 3/16	1 3/16	15/16	1 3/8
250	6R4*	130	5	380	1 1/2	1 1/4	1 3/16	1 3/4
250	6Q1	156	5	456	1 1/2	1 1/2	1 3/16	1 1/8
250	6Q2	156	5	456	1 1/2	1 1/2	1 3/16	1 3/8
300	6Q4*	130	5	380	1 1/2	1 1/2	1 3/16	1 3/4
350	5QS1	130	5	380	1 1/2	2	1 3/16	1 1/8
350	6QS2	156	5	456	1 1/2	2	1 3/16	1 3/8
350	6QS4*	156	5	456	1 1/2	2	1 3/16	1 3/4
350	6SQ1	156	5	456	2	1 1/2	1 3/16	1 3/8
400	5S2	130	5	380	2	2	1 5/8	1 1/8
500	5S3	130	5	380	2	2	1 5/8	1 3/8

*Stud mounted–8-32 x 2" overall.
Current ratings are for a maximum plate temperature of 75° C when the rectifiers are new, in a maximum ambient temperature of 45° C. Recommended plate temperature for new rectifiers is 70° C.
Output current ratings are based on R.M.S. rectifier current not in excess of 2.5 times rated output current.



CLEARANCE FOR NO. 6 MACHINE SCREW (RETMA STANDARD).

Semiconductor Division

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In Radio and Electronics Since 1922

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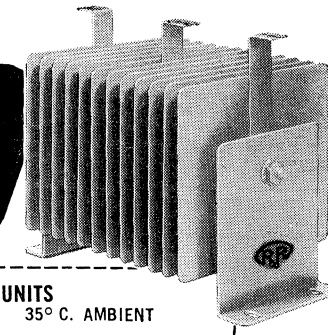
RADIO RECEPTOR

SELENIUM POWER RECTIFIERS



SELECTED RRco. INDUSTRIAL TYPE POWER UNITS

SINGLE PHASE FULL WAVE RESISTIVE – INDUCTIVE LOAD 35° C. AMBIENT

DC. OUTPUT VOLTS		MAX. DC AMPS	MAX. AC VOLTS INPUT	CIRCUIT	RRco. CODE NO:	RECTIFIER DIMENSIONS IN INCHES See Figure 3				
NEW	AGED					A	B	C	D	E
0-10	0-9.5	.9	26†	C.T. Fig. 1	Q1C1S1G	1 5/16*	1 1/8	1 1/2	1 1/2	1/2
		1.4			S1C1S1G	1 5/8*	1 1/8	2	2	1/2
		3.2			U1C1S1G	3 1/16	1 13/16	3	3	5/8
		6.0			W1C1S1G	3 1/16	1 13/16	4	4	5/8
		10.0			H1C1S1G	3 1/4	2	6	5	1 3/8
		15.0			L1C1S1G	3 1/4	2	7 1/4	6	1 1/2
0-20	0-19	.9	26	Br. Fig. 2	Q1B1S1G	1 7/8*	1 1/2	1 1/2	1 1/2	1/2
		1.4			S1B1S1G	2 7/16	1 11/16	2	2	1/2
		3.2			U1B1S1G	3 1/16	2 1/16	3	3	5/8
		6.0			W1B1S1G	3 1/16	2 1/16	4	4	5/8
		10.0			H1B1S1G	4 3/16	2 15/16	6	5	1 3/8
		15.0			L1B1S1G	4 3/16	2 15/16	7 1/4	6	1 1/2
0-40	0-38	.9	52	Br. Fig. 2	Q2B1S1G	3	2 1/4	1 1/2	1 1/2	1/2
		1.4			S2B1S1G	3 5/16	2 3/16	2	2	1/2
		3.2			U2B1S1G	5	3 3/4	3	3	5/8
		6.0			W2B1S1G	5	3 3/4	4	4	5/8
		10.0			H2B1S1G	5 7/8	4 5/8	6	5	1 3/8
		15.0			L2B1S1G	5 15/16	4 11/16	7 1/4	6	1 1/2
0-100	0-95	.45	130	Br. Fig. 2	WP5B1S1G	6 9/16	5 13/16	1 3/16	1 3/16	3/8
		.9			WQ5B1S1G	6 9/16	5 13/16	1 1/2	1 1/2	1/2
		1.4			WS5B1S1G	7 3/8	6 5/8	2	2	1/2
		3.2			WU5B1S1G	11	9 3/4	3	3	5/8
		6.0			WW5B1S1G	11	9 3/4	4	4	5/8
		10.0			WH5B1S1G	13 7/16	12 3/16	6	5	1 3/8
		15.0			WL5B1S1G	13 5/8	12 3/8	7 1/4	6	1 1/2
0-120	0-114	.45	156	Br. Fig. 2	WP6B1S1G	7 9/16	6 13/16	1 3/16	1 3/16	3/8
		.9			WQ6B1S1G	7 9/16	6 13/16	1 1/2	1 1/2	1/2
		1.4			WS6B1S1G	8 1/2	7 3/4	2	2	1/2
		3.2			WU6B1S1G	12 3/4	11 1/2	3	3	5/8
		6.0			WW6B1S1G	12 3/4	11 1/2	4	4	5/8
		10.0			WH6B1S1G	15 11/16	14 1/16	6	5	1 3/8
		15.0			WL6B1S1G	15 15/16	14 11/16	7 1/4	6	1 1/2

*Screw mounted; only one mounting bracket used—10/32 stud extends to one side only.

† Across outer legs of center tap connection.

The values in the table above are those for the conditions of a resistive or inductive load, an ambient temperature of 35° C (95° F), and normal convection cooling with the rectifiers installed with the plates in a vertical position. For operating conditions of higher ambient temperatures and other type loads refer to the derating table at the right.

More and more engineers choose Radio Receptor Selenium Rectifiers for their power applications. Rugged, dependable and highly efficient, these flexible units are giving long and satisfactory service in such diversified installations as the toll gates of N. Y.'s Triborough Bridge, elevators in more than 150 skyscrapers in New York and Chicago and mag-amp regulators used aboard many U.S.N. submarines.

The stacks shown above are those which are normally in stock at your distributor and are adaptable for a wide range of applications. Many other types available for special applications.

RECTIFIER CIRCUITS, CONNECTIONS AND DIMENSIONS

Figure 1
Center Tap

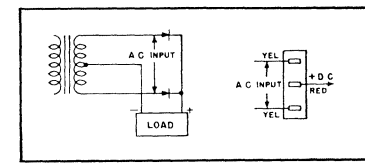


Figure 2
Bridge Circuit

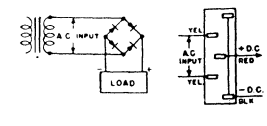
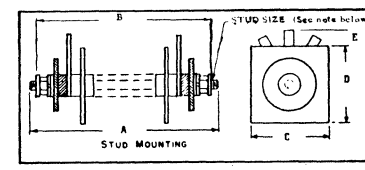


Figure 3



NOTE: #10/32 for all stacks with code numbers starting Q, S, WP, WQ, WS. #5/16-18 for all others.

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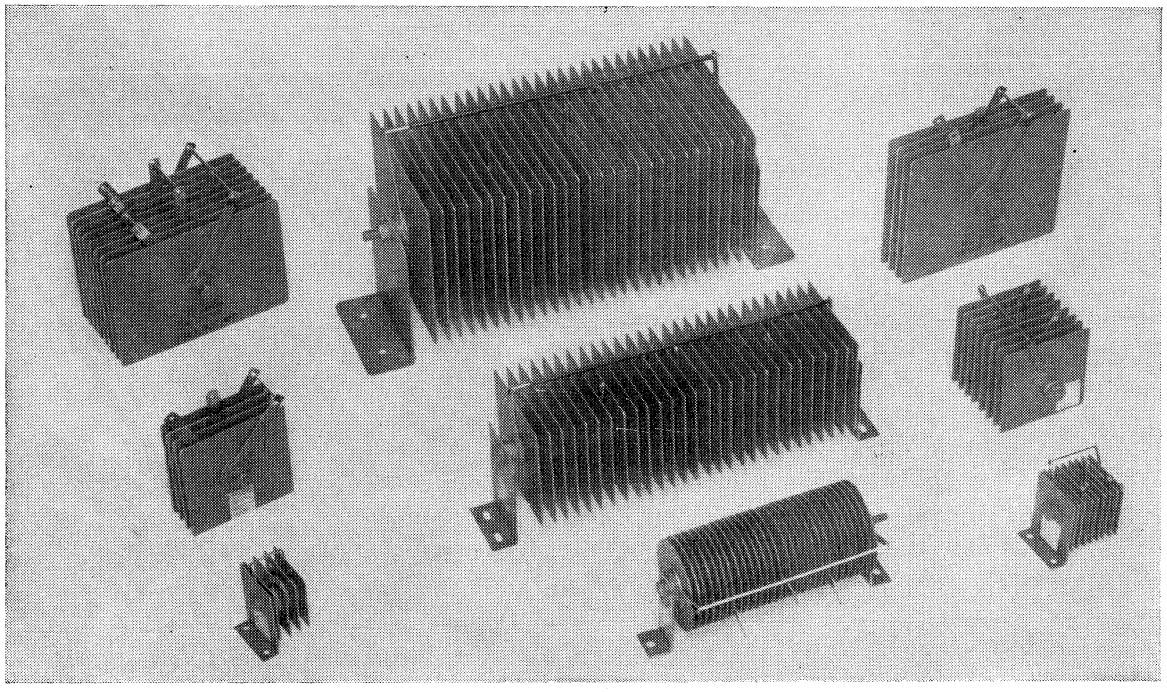
DIRECTRON

Industrial Selenium Rectifiers, Transformers, Chokes and Power Supplies



FULL WAVE BRIDGE RECTIFIERS, SINGLE PHASE, RESISTIVE-INDUCTIVE LOADS

ALL PRICES SHOWN ARE USER NET PRICES

Max. Amps	18v. in-14v. out	36v. in-28v. out	54v. in-42v. out	130v. in-100v. out
1	$ 1.40	$ 2.40	$ 3.80	$ 8.50
2	2.10	3.00	5.40	10.50
2½	3.00	4.20	6.00	13.00
4	3.75	7.50	11.50	25.25
6	4.50	9.00	13.00	33.00
10	6.60	12.75	20.00	42.50
12	8.20	16.25	22.50	46.00
20	13.25	25.50	38.00	79.50
24	16.25	32.50	45.00	86.50
30	20.00	38.00	.....	.....
36	25.00	48.50	.....	.....

For Half-Wave, Center-Tap, Doubler, Tripler or 3-Phase, Quotations on Request
Custom Built Stacks — 24 Hour Service

SELENIUM RECTIFIER TRANSFORMERS

Now with 2 — 18 volt center-tapped windings. Connected in series delivers 36 volts as rated. Connected in parallel — delivers 18 volts at twice rated current. (Taps 9, 18, 27, 36 V.)

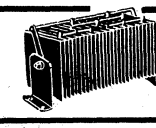
	User's Net Price
4 Amps	$ 8.75
12 Amps	16.75
24 Amps	35.75
30 Amps	45.00
50 Amps ... 9, 12, 18, 24 and 36 V. Out	59.75

Primary taps at 100, 105, 110 and 115 volts now available on 12 amp, 24 amp, 30 amp and 50 amp transformers. No extra charge. Custom built transformers — 48 hour service.

HIGH CURRENT CHOKES

			User's Net Price
2.5 Amps	.01 hy	.1 ohm	$ 3.60
4 Amps	.07 hy	.6 ohm	7.95
12 Amps	.01 hy	.1 ohm	14.95
20 Amps	.004 hy	.05 ohm	15.00
24 Amps	.004 hy	.025 ohm	29.95

Mfd. by SANFORD MILLER COMPANY
BROOKLYN 6, N. Y.



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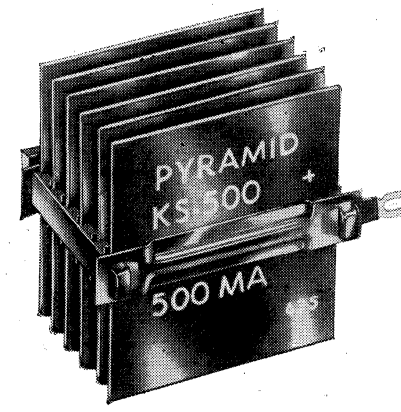
PYRAMID Kool-Sel SELENIUM RECTIFIER



TECHNICAL CHARACTERISTICS

Power supply requirements for every radio, television and instrument use—ranging from small AC-DC receivers to large-screen TV—can be met with available Kool-Sel rectifiers. A summary of the important engineering characteristics of each Kool-Sel type is given on this page. You should consider the use of Kol-Sel components for the following applications:

RADIOS and RADIO-PHONOGRAPHS — Low-cost, efficient rectifiers for radios and radio-phonograph combinations are Kool-Sel KS-65, KS-75 and KS-150. The needs of most 5-tube chassis are met by the KS-65, while the KS-75 and KS-150 are used in sets with larger current requirements.

RADIO ACCESSORIES — TV boosters, UHF converters, phonograph oscillators, intercoms and the like gain compactness and dependability when you use small, cool-running Kool-Sel. Type KS-65 is suitable for most of these uses.

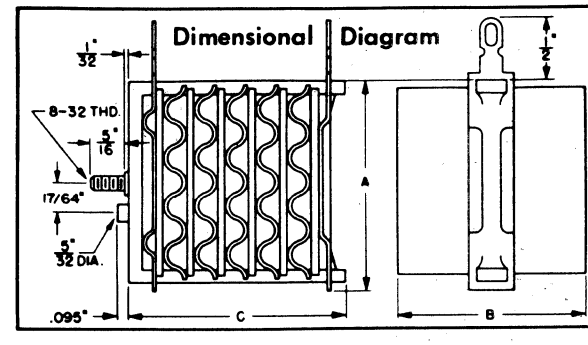
TELEVISION — High-voltage power supplies in television receivers — including color sets — use Kool-Sel rectifiers, Catalog Nos. KS-200, KS-250, KS-300, KS-350, KS-400 and KS-500. These rectifiers, used in voltage doubler or voltage tripler circuits, provide proper B-plus voltage, eliminating the size, cost, weight and hum problems of power transformers.

LABORATORY INSTRUMENTS, POWER SUPPLIES, AMPLIFIERS — Rectified high voltage through the use of voltage doubler and tripler circuits, for equipment where current requirements run as high as 500ma, may be provided with Kool-Sel rectifiers. Catalog Nos. KS-200, KS-250, KS-300, KS-350, KS-400 and KS-500 will be found useful for laboratory power supplies, DC filament supplies, motion picture projectors, amplifiers, test equipment and other specialized uses.

DIMENSIONS

IN INCHES

Catalog No.	A	B	C
KS-65	29/32	13/16	11/16
KS-75	29/32	13/16	29/32
KS-100	29/32	1	29/32
KS-150	1 5/16	1	1 5/16
KS-200	1 5/16	1 11/32	1 5/16
KS-250	1 5/16	1 1/2	1 5/16
KS-300	1 5/16	1 23/32	1 5/16
KS-350	1 13/16	1 1/2	1 1/2
KS-400	1 29/32	1 23/32	1 17/32
KS-400N	1 29/32	2	1 1/4
KS-500	1 13/16	2	1 1/2



For more detailed information and specific data on any type, write directly to the PYRAMID ELECTRIC COMPANY.

CHARACTERISTICS

CATALOG NUMBER	KS65	KS75	KS100	KS150	KS200	KS250	KS300	KS350	KS400	KS400N	KS500
Maximum RMS Input Voltage	130	130	130	130	130	130	130	130	130	130	130
Maximum Inverse Peak Voltage	380	380	380	380	380	380	380	380	380	380	380
Maximum Peak Current (MA)	650	750	1000	1500	2000	2500	3000	3500	4000	4000	5000
Maximum RMS Current (MA)	162	187	250	375	500	625	750	875	1050	1050	1250
Maximum DC Current (MA)	65	75	100	150	200	250	300	350	400	400	500
Approximate Rectifier Voltage Drop	5	5	5	5	5	5	5	5	7	7	5
Minimum Series Resistance	22	22	22	15	5	5	5	5	5	5	5
Maximum Operating Plate Temperature	85° C.	85° C.	85° C.	85° C.	85° C.	85° C.	85° C.	85° C.	85° C.	85° C.	85° C.

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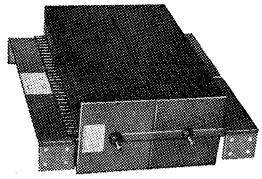
International Rectifier
CORPORATION

• INDUSTRIAL POWER RECTIFIERS



Manufactured by the World's Largest Supplier of Industrial Rectifiers. Ratings: to 250 KW, 50 ma to 2,300 amperes and up. 6 volts to 30,000 volts and up. Efficiency to 87%. Power factor to 95%.

FIG. 1

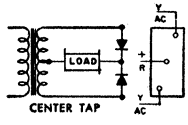


FIG. A

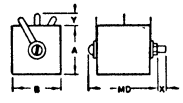


FIG. 1 A

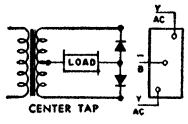


FIG. B

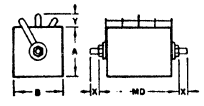
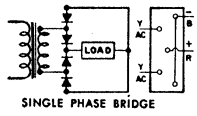


FIG. 2

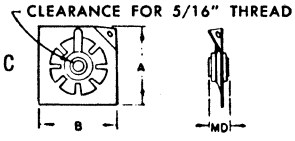


Type No.	Output DC Volts	Output DC Amp.	Max. Input AC Volts	Circuit & Connecting Diag. Fig.	Dimensions (Inches) Fig.	A	B	MD *	X	Y	Stud	Type No.
JD-500G		0.4	13/26	1	A	1¼	1¼	1⅛	⅜	⅜	8-32	JD-500G
JD-501G		0.7	13/26	1	A	1½	1½	1⅛	⅜	5/16	8-32	JD-501G
JD-3011		1.5	13/26	1	A	2	2	1⅜	⅜	⅝	¼-20	JD-3011
JD-503G	0-10	3.0	13/26	1	A	3	3	2	½	⅝	⅜-16	JD-503G
JD-504G		6.5	13/26	1	A	4⅜	4⅜	2	½	⅝	⅜-16	JD-504G
JD-505G		9.5	13/26	1	A	6	5	2⅛	¾	1¼	⅜-16	JD-505G
JD-506G		15.0	13/26	1	A	7¼	6¼	2⅛	¾	1⅛	⅜-16	JD-506G
JD-4346A		30.0†	13/26	1A	B	6	5	4⅛	¾	1⅛	⅜-16	JD-4346A
JD-4346B	0-13	30.0†	16.5/33	1A	B	6	5	4⅛	¾	1⅛	⅜-16	JD-4346B
JD-507G		0.4	26	2	A	1¼	1¼	1½	⅜	⅜	8-32	JD-507G
JD-508G		0.7	26	2	A	1½	1½	1½	⅜	5/16	8-32	JD-508G
JD-3022		1.5	26	2	A	2	2	1⅞	⅜	⅝	¼-20	JD-3022
JD-510G	0-20	3.0	26	2	A	3	3	2⅝	½	⅝	⅜-16	JD-510G
JD-511G		6.5	26	2	A	4⅜	4⅜	2⅝	½	⅝	⅜-16	JD-511G
JD-512G		9.5	26	2	A	6	5	3¼	¾	1⅛	⅜-16	JD-512G
JD-513G		15.0	26	2	A	7¼	6¼	3¼	¾	1⅛	⅜-16	JD-513G
JD-514G		0.4	52	2	B	1¼	1¼	2 5/16	⅜	⅜	8-32	JD-514G
JD-515G		0.7	52	2	B	1½	1½	2 5/16	⅜	5/16	8-32	JD-515G
JD-3023		1.5	52	2	B	2	2	3	⅜	⅝	¼-20	JD-3023
JD-517G	0-40	3.0	52	2	B	3	3	4 1/16	½	⅝	⅜-16	JD-517G
JD-518G		6.5	52	2	B	4⅜	4⅜	4 1/16	½	⅝	⅜-16	JD-518G
JD-519G		9.5	52	2	B	6	5	5⅝	¾	1⅛	⅜-16	JD-519G
JD-520G		15.0	52	2	B	7¼	6¼	5⅝	¾	1⅛	⅜-16	JD-520G
JD-9317		2.4	78	2	B	3	3	5 11/16	¾	⅝	⅜-16	JD-9317
JD-9318	0-60	5.3	78	2	B	4⅜	4⅜	5 11/16	¾	1	⅜-16	JD-9318
JD-9319		8.5	78	2	B	6	5	7 15/16	¾	1¼	⅜-16	JD-9319
JD-9320		2.4	104	2	B	3	3	7 3/16	¾	⅝	⅜-16	JD-9320
JD-9321	0-80	5.3	104	2	B	4⅜	4⅜	7 3/16	¾	1	⅜-16	JD-9321
JD-9322		8.5	104	2	B	6	5	10¼	¾	1¼	⅜-16	JD-9322
JD-3012		0.3	130	2	B	1¼	1¼	4 3/16	⅜	⅜	8-32	JD-3012
JD-3007		0.6	130	2	B	1½	1½	4 3/16	⅜	5/16	8-32	JD-3007
JD-3008		1.2	130	2	B	2	2	6¼	⅜	⅝	¼-20	JD-3008
JD-3009	0-100	2.4	130	2	B	3	3	8 1/16	½	⅝	⅜-16	JD-3009
JD-3010		5.25	130	2	B	4⅜	4⅜	8 1/16	½	⅝	⅜-16	JD-3010
JD-3013		8.5	130	2	B	6	5	12⅝	¾	1⅛	⅜-16	JD-3013
JD-3014		13.0	130	2	B	7¼	6¼	12⅝	¾	1⅛	⅜-16	JD-3014
JD-3015		0.3	156	2	B	1¼	1¼	5⅜	⅜	⅜	8-32	JD-3015
JD-3016		0.6	156	2	B	1½	1½	5⅜	⅜	5/16	8-32	JD-3016
JD-3017		1.2	156	2	B	2	2	7 5/16	⅜	⅝	¼-20	JD-3017
JD-3018	0-120	2.4	156	2	B	3	3	10¼	½	⅝	⅜-16	JD-3018
JD-3019		5.25	156	2	B	4⅜	4⅜	10¼	½	⅝	⅜-16	JD-3019
JD-3020		8.5	156	2	B	6	5	15	¾	1⅛	⅜-16	JD-3020
JD-3021		13.0	156	2	B	7¼	6¼	15	¾	1⅛	⅜-16	JD-3021

† Rated 100 amp DC for fast battery charging when fan cooled at 800 linear feet/min.
All ratings for Ambient Temperature of 35° C * Tolerance: ±3/32"

• BATTERY CHARGING TYPES

FIG. C



JD-116G		2	26	3	C	3	3	½	Eyelet type	JD-116G
JD-116G**		4	13/26	1	C	3	3	½	Eyelet type	JD-116G**
JD-117G		4	26	3	C	4⅜	4⅜	½	Eyelet type	JD-117G
JD-117G**	0-10	8	13/26	1	C	4⅜	4⅜	½	Eyelet type	JD-117G**
JD-241G		6	26	3	C	6	5	½	Eyelet type	JD-241G
JD-241G**		12	13/26	1	C	6	5	½	Eyelet type	JD-241G**
JD-240G		9	26	3	C	7¼	6¼	½	Eyelet type	JD-240G
JD-240G**		18	13/26	1	C	7¼	6¼	½	Eyelet type	JD-240G**

** Two stacks of this type number required.

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International Rectifier
CORPORATION

El Segundo, California • In Canada: Atlas Radio Corp., Ltd., Toronto, Ontario

Descriptive literature available on request. Write Product Information Department on your letterhead.

THE WORLD'S LARGEST SUPPLIER OF INDUSTRIAL METALLIC RECTIFIERS

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International Rectifier
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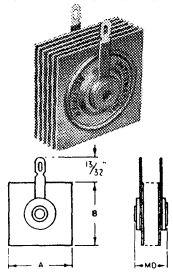
• TV AND RADIO RECTIFIERS

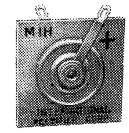


The basic replacement rectifier line offering the widest range in the industry. Input ratings from 25 to 195 volts AC and up. DC output current 10 to 1,200 MA. Also useful for amateur and experimental applications.

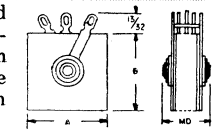
Catalog Number	Max. DC MA	Max. RMS Volts	Min. Series Resistor Ohms	Max. Dimensions A	B	MD	Catalog Number
RS065Q	65	130	22	.67"	.67"	¾"	RS065Q
RS065	65	130	22	1"	1"	¾"	RS065
RS075	75	130	22	1"	1"	¾"	RS075
RS100A	100	130	22	1"	1"	1⅛"	RS100A
RS100	100	130	22	1.2"	1.2"	¾"	RS100
RS150	150	130	15	1.2"	1.2"	1"	RS150
6RS150	150	156	15	1.2"	1.2"	1"	6RS150
RS200	200	130	5	1.5"	1.5"	1"	RS200
RS250	250	130	5	1.5"	1.5"	1¼"	RS250
6RS250	250	156	5	1.5"	1.5"	1¼"	6RS250
MR300	300	130	5	1.5"	1.5"	1¼"	MR300
RS300SL	300	130	5	1.5"	1.5"	2¼"	RS300SL
RS350	350	130	5	2"	2"	1¼"	RS350
RS350SL	350	130	5	2"	2"	1⅝"	RS350SL
6RS350SL	350	156	5	2"	2"	1⅝"	6RS350SL
RS400	400	130	5	2"	2"	1¼"	RS400
RS400SL	400	130	5	2"	2"	1⅝"	RS400SL
RS450SL	450	130	5	2"	2"	2¼"	RS450SL
MR500	500	130	5	2"	2"	1¼"	MR500
RS500SL	500	130	5	2"	2"	2¼"	RS500SL
6RS500SL	500	156	5	2"	2"	2¼"	6RS500SL
RS1000S	1000	130	2	3"	3"	3"	RS1000S

Catalog numbers ending with letter S are stud construction;
Catalog numbers ending with letters SL are stud, locking lug construction;
All other types are eyelet, locking lug construction.

• SINGLE PLATE HALF WAVE RECTIFIERS

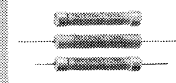


These rectifiers are used for small power applications. Voltage regulation of 15% to 20% may be realized. Ratings shown are for resistive load.



Catalog Number	Max. DC MA	Max. RMS Volts	Min. Series Resistor Ohms	Max. Dimensions A	B	MD	Catalog Number
Q1H	65	25	47	.67"	.67"	⅜"	Q1H
A1H	100	25	22	1"	1"	⅜"	A1H
B1H	150	25	15	1.2"	1.2"	⅜"	B1H
C1H	250	25	5	1.5"	1.5"	⅜"	C1H
M1H	500	25	5	2"	2"	⅜"	M1H
FULL WAVE BRIDGE RECTIFIERS							
Q1B	100	25		.67"	.67"	¾"	Q1B
Q4B	100	130		.67"	.67"	1¼"	Q4B
A1B	180	25		1"	1"	¾"	A1B
B1B	300	25		1.2"	1.2"	¾"	B1B
C1B	600	25		1.5"	1.5"	¾"	C1B
M1B	1200	25		2"	2"	¾"	M1B

• HIGH VOLTAGE CARTRIDGE RECTIFIERS



These rectifiers are designed with ferrule terminals for quick insertion into, and withdrawal from, standard fuse clips. Recommended for high voltage power supplies where long life and extreme reliability are of prime importance.

Type	DC Output* Volts	MA	Max. Volt Input RMS	Peak Inverse Voltage	Case	Dimensions Dia.	Length	Type
V50HF	1000	5	1650	2400	A	5/16"	2½"	V50HF
V75HF	1500	5	2475	3600	A	5/16"	3"	V75HF
V100HF	2000	5	3300	4800	A	5/16"	4"	V100HF
V125HF	2500	5	4125	6000	A	5/16"	4¾"	V125HF
V150HF	3000	5	4950	7200	A	5/16"	5½"	V150HF
V175HF	3500	5	5775	8400	A	5/16"	6"	V175HF
U45HP	900	1.5	1485	2160	B	¼"	2"	U45HP
U50HFP	1000	1.5	1650	2400	C	¼"	2"	U50HFP

* Into Capacitive load.

• PHOTOELECTRIC CELLS

International's self-generating selenium photo-cells are supplied mounted or unmounted and are available in custom and standard sizes. Optimum-load resistance range 10 to 10,000 ohms. Output in average sunlight from .2 MA to 60 MA.

Type		Cell Size	Average Output *(μa)	Type
A-2M	Mounted	5/32" diam.	13	A-2M
B-2M	**Mounted**	**23/32" x 7/16"**	**55**	B-2M
A-15	Unmounted	2" diam.	750	A-15
A-10	Unmounted	1¾" diam.	500	A-10
A-5	Unmounted	1⅛" diam.	250	A-5
B-15	Unmounted	1 1/16" x 1 1/16"	750	B-15
B-10	Unmounted	1 1/16" x ⅞"	350	B-10
B-5	Unmounted	1 7/16" x 41/64"	220	B-5
B-2	Unmounted	23/32" x 7/16"	75	B-2
B-10M	Mounted	1 1/16" x ⅞"	350	B-10M
**DP-2	Mounted	15/32" x 3/16"	24	DP-2
**DP-3	Mounted	9/16" x ⅜"	60	DP-3
**DP-5	Mounted	1 1/16" x 1 1/16"	600	DP-5

* At 100 ft. candles illumination & 100 ohm external resistance.
** Hermetically sealed.

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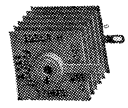
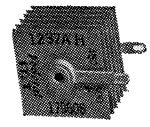
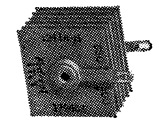
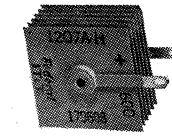
RADIO - TELEVISION
SELENIUM RECTIFIERS
FOR USE IN RADIO — TV — ELECTRONICS

FTR Catalog No.	Max. D-C Ma.	Max. RMS Volts	Plate Size	Mtg. "H" Dim. (Max.)	Application
FEDERAL'S HI-DENSITY SELENIUM RECTIFIER LINE					
1236 A-H	250 300	130 130	1-1/4"	1-3/8"	B+ Television
1241 A-H	350 400	130 130	1-1/2"	1-1/4"	B+ Television
1237 A-H	450 500	130 130	1-1/2"	1-3/8"	B+ Television
1207 A-H	600	130	1-3/4"	1-3/8"	B+ Television
FEDERAL'S UNIVERSAL SELENIUM RECTIFIER LINE					
1263 A	65	130	11/16" sq.	21/32"±1/32"	B+ AC-DC (5 Tube)
1236 A	300	130	1-5/8" sq.	1-3/8"±1/32"	B+ Television
1238 A	350	130	1-3/4" sq.	1-3/8"±1/32"	B+ Television
1241 A	400	130	2" sq.	1-1/4"±1/32"	B+ Television
1237 A	500	130	2" sq.	1-3/8"±1/32"	B+ Television
FEDERAL'S STANDARD SELENIUM RECTIFIER LINE					
1159	20	130	3/8" dia.		B+ Booster-Bias
1002 A	65	130	1" sq.	9/16"	B+ AC-DC (5 Tube)
1003 A	75	130	1" sq.	3/4"	B+ 3 Way Radio
1101 A	100	130	1" sq.	1-1/8"	B+ Radio-TV
1004 A	100	130	1-13/64"x1-9/32"	3/4"	B+ Radio-TV
1005 A	150	130	1-13/64"x1-9/32"	1"	B+ Radio-TV
1006 A	200	130	1-17/32" sq.	1"	B+ Television
*1028 (1010)	250	130	1-17/32" sq.	1-1/4"	B+ Booster-Bias
1090 A	300	130	1-17/32" sq.	2-7/32"	B+ Television
1023 A (1206)	350	130	1-3/4" sq.	2-7/32"	B+ Television
1130 (1056)	400	130	2" sq.	1-1/4"	B+ Television
1179 (1021)	500	130	2" sq.	2-13/16"	B+ Television
FEDERAL'S SPECIAL PURPOSE RECTIFIERS					
1015	150	25	1" sq.	1" sq.	Low Voltage Power Supply
1512(1018)	1600	18	15/16"	2-1/2" sq.	Battery Charger
1014	100	172	1"	1-9/32" max.	Power Supply
1007	75	172	2-1/16"	1" sq.	High Voltage Power Supply
1008	100	172	2-1/16"	1-13/64" sq.	High Voltage Power Supply
1009	200	172	2-21/32"	1-11/32" sq.	High Voltage Power Supply
1022	450	160	2" sq.	2-13/16"	B+ Television
1016	300	25	1-13/64"x1-9/32"	3/4"	Bridge-Rectifier
1017	600	25	1-17/32" sq.	3/4"	Bridge-Rectifier
1013	360	9†	1-17/32" sq.	1/4"	Battery Charger
1001	75	20	1" sq.	3/8"	Bias-Rectifier
1265	65	130	5/16"x1/16"	1" sq.	AC-DC (Radio)
1090 AP	300	130	1-5/5±1/16"	1-17/32" sq.	Plug-in Type
1356 AP	350	130	1-13/16"±1/16"	1-5/8" sq.	Printed Circuit Type
1319 A	600	195	3-1/2"	2" sq.	Color Television

Letter "A" after catalog number indicates locking lug.
† The input voltage shown is the maximum which may be applied in a half-wave rectifier circuit for battery charging.
‡ The input voltage shown is the maximum which may be applied to the outside terminals in a center-tap rectifier circuit.
* Eyelet construction — Replaces Catalog No. 1010.

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"PACKAGED-POWER"

SELENIUM RECTIFIERS

by Federal — A DIVISION OF ITT

Federal has America's largest stock of Rectifiers for all popular applications . . . available for prompt shipment. Special design data and prices for the asking.

Catalog Number	Old Catalog Number	Rectifier Stack Code Number	Max. D.C. Output Volts	Max. D.C. Output Amps.	Max. A.C. Input Volts	Rectifier Stack Dimensions 'A'	'B'±1/16"	'C'
010	2100S	106C1SAX1	10	3	13	3"	1-1/2"	3"
011	—	*107C1SAX1	10	5	13	4"	1-1/2"	4"
012	2101S	133C1SAX1	10	6	13	4"	1-3/4"	4"
013	—	*135C1AX1	10	8	13	6"	1-9/16"	5"
014	2102	136C1AX1	10	12	13	6"	1-3/4"	5"
015	—	*169C1AX1	10	16	13	10"	2-3/16"	6"
016	—	*170C1AX1	10	24	13	10"	2-3/8"	6"
210	—	*142B1AX1	20	1.5	26	2"	1-7/8"	2"
211	2103S	106B1SAX1	20	3	26	3"	2-1/16"	3"
212	—	*107B1SAX1	20	5	26	4"	2-1/16"	4"
213	2104S	133B1SAX1	20	6	26	4"	2-11/16"	4"
214	—	*135B1AX1	20	8	26	6"	2-1/8"	5"
215	2105	136B1AX1	20	12	26	6"	2-3/4"	5"
216	—	*169B1AX1	20	16	26	10"	2-7/8"	6"
217	—	*170B1AX1	20	24	26	10"	3-1/2"	6"
310	2026S	106B2SAX1	40	3	52	3"	3-9/16"	3"
311	—	*107B2SAX1	40	5	52	4"	3-9/16"	4"
312	2107S	133B2SAX1	40	6	52	4"	5"	4"
313	—	*135B2AX1	40	8	52	6"	3-13/16"	5"
314	2108	136B2AX1	40	12	52	6"	5-1/4"	5"
315	—	*169B2AX1	40	16	52	10"	4-1/2"	6"
316	—	*170B2AX1	40	24	52	10"	5-15/16"	6"
410	2118S	106B3SAX1	60	2.6	78	3"	4-1/2"	3"
411	—	*107B3SAX1	60	4.5	78	4"	4-1/2"	4"
412	2033S	133B3SAX1	60	6	78	4"	6-3/4"	4"
413	—	*135B3AX1	60	8	78	6"	5"	5"
414	2085	136B3AX1	60	12	78	6"	7-5/16"	5"
415	—	*169B3AX1	60	16	78	10"	6-1/16"	6"
416	—	*170B3AX1	60	24	78	10"	8-5/16"	6"
510	2109S	106B4SAX1	80	2.6	104	3"	5-1/2"	3"
511	—	*107B4SAX1	80	4.5	104	4"	5-1/2"	4"
512	2110S	133B4SAX1	80	6	104	4"	8-9/16"	4"
513	—	*135B4AX1	80	8	104	6"	6-3/16"	5"
514	2111	136B4AX1	80	12	104	6"	9-5/16"	5"
515	—	*169B4AX1	80	16	104	10"	7-5/8"	6"
516	—	*170B4AX1	80	24	104	10"	10-11/16"	6"
710	—	*104B5AX1	100	.6	130	1-1/2"	4-3/16"	1-1/2"
711	2112	139B5AX1	100	1	130	2"	5-3/8"	2"
712	2113S	106B5SAX1	100	2.4	130	3"	6-5/8"	3"
713	—	*107B5SAX1	100	4	130	4"	6-5/8"	4"
714	2114S	133B5SAX1	100	6	130	4"	10-9/16"	4"
715	—	*135B5SAX1	100	8	130	6"	7-9/16"	5"
716	—	*136B5AX1	100	12	130	6"	11-1/2"	5"
810	2115	103B6AX1	120	.3	156	1-1/4"	4-3/4"	1-1/4"
811	2036	104B6AX1	120	.6	156	1-1/2"	4-7/8"	1-1/2"
812	2116	139B6AX1	120	1	156	2"	6-7/16"	2"
813	2038S	106B6SAX1	120	2.4	156	3"	7-5/8"	3"
814	—	*107B6SAX1	120	4	156	4"	7-5/8"	4"
815	2117S	133B6SAX1	120	6	156	4"	12-5/16"	4"
816	—	135B6AX1	120	8	156	6"	8-3/4"	5"
817	—	*136B6AX1	120	12	156	6"	13-1/2"	5"

* Asterisks indicate new Type Rectifiers.
Bold face type indicates Rectifiers recommended for stocking.
Note: Ratings for 35° C Ambient; Resistive or Inductive loads.

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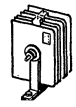
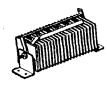
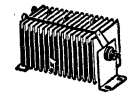
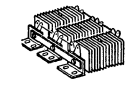
"TABTRON" SELENIUM RECTIFIERS

Engineered for Automation and Industry

"TECHNICAL APPARATUS BUILDERS" manufacture power rectifiers to specifications. From one amp up to and above 1000 amps, convection or fan cooled, magamp, half wave 6 & 12 phase to commercial "NEMA" and Gov't. JAN specs. Quick delivery on replacement rectifiers for Fast, Float & Battery Chargers, Plating, Telephone, Fire Alarms and Power Takeoffs. "TABTRON" SELENIUM RECTIFIERS are dated and each carry a ONE YEAR GUARANTEE.

SINGLE PHASE — FULL WAVE BRIDGE * † O △

Max. DC Amps	18VAC 14VDC Type No.	18VAC 14VDC Net Price	36VAC 28VDC Type No.	36VAC 28VDC Net Price	54VAC 42VDC Type No.	54VAC 42VDC Net Price	72VAC 56VDC Type No.	72VAC 56VDC Net Price	130VAC 100VDC Type No.	130VAC 100VDC Net Price	144VAC 118VDC Type No.	144VAC 118VDC Net Price	266VAC 217VDC Type No.	266VAC 217VDC Net Price
1	BA18	$ 1.40	BA36	$ 2.80	BA54	$ 3.70	BA72	$ 4.45	BA130	$ 7.40	BA144	$13.00	BA266	$25.00
2	BE18	2.00	BE36	3.40	BE54	5.30	BE72	5.85	BE130	10.25	BE144	16.00	BE266	29.00
3	BF18	2.90	BF36	4.10	BF54	5.75	BF72	7.80	BF130	12.70	BF144	19.00	BF266	37.00
4	BG18	3.50	BG36	6.40	BG54	11.25	BG72	14.30	BG130	25.00	BG144	30.00	BG266	45.00
6	BJ18	3.95	BJ36	7.70	BJ54	12.75	BJ72	17.25	BJ130	29.65	BJ144	35.00	BJ266	59.00
10	BK18	5.85	BK36	11.35	BK54	19.40	BK72	24.75	BK130	41.25	BK144	49.00	BK266	85.00
12	BL18	7.20	BL36	14.25	BL54	22.00	BL72	29.50	BL130	43.85	BL144	57.35	BL266	100.00
20	BM18	13.00	BM36	25.00	BM54	37.00	BM72	48.00	BM130	78.00	BM144	90.00	BM266	161.00
24	BN18	15.00	BN36	28.50	BN54	44.25	BN72	57.50	BN130	80.65	BN144	114.00	BN266	191.00
30	BQ18	17.85	BQ36	34.25	BQ54	56.25	BQ72	70.50	BQ130	108.00	BQ144	139.00	BQ266	236.00
36	BR18	22.35	BR36	42.00	BR54	64.75	BR72	86.50	BR130	133.65	BR144	166.00	BR266	296.00
50	BS18	29.40	BS36	54.00	BS54	105.00	BS72	115.00	BS130	173.00	BS144	216.00	BS266	405.00
100	BT18	59.00	BT36	118.00	BT54	218.00	BT72	242.00	BT130	325.00	BT144	391.00	BT266	796.00

THREE PHASE — FULL WAVE BRIDGE * † O △

Center Tapped * † O △

Max. DC Amps	16VAC 20VDC Type No.	16VAC 20VDC Net Price	30VAC 36VDC Type No.	30VAC 36VDC Net Price	120VAC 150VDC Type No.	120VAC 150VDC Net Price	208VAC 256VDC Type No.	208VAC 256VDC Net Price	240VAC 300VDC Type No.	240VAC 300VDC Net Price	420VAC 460VDC Type No.	420VAC 460VDC Net Price	30VAC 12VDC Type No.	30VAC 12VDC Net Price
1	PA16 •	$ 4.85	PA30	$ 5.50	PA120	$17.10	PA208	$32.10	PA240	$33.25	PA420	$63.20	CA30	$2.40
2	PE16 •	6.95	PE30	7.50	PE120	18.25	PE208	34.20	PE240	45.00	PE420	66.95	CE30	2.70
3	PF16 •	8.90	PF30	9.50	PF120	20.00	PF208	37.05	PF240	49.50	PF420	77.60	CF30	3.05
4	PG16 •	11.80	PG30	12.50	PG120	21.70	PG208	41.10	PG240	55.75	PG420	81.90	CG30	3.40
6	PJ16 •	14.00	PJ30	14.50	PJ120	24.00	PJ208	44.55	PJ240	59.90	PJ420	90.80	CJ30	3.70
10	PK16 •	15.75	PK30	16.50	PK120	42.40	PK208	81.35	PK240	94.25	PK420	163.00	CK30	5.45
12	PL16 •	17.70	PL30	18.50	PL120	48.15	PL208	92.85	PL240	113.50	PL420	186.00	CL30	6.80
20	PM16 •	22.25	PM30	22.50	PM120	58.50	PM208	111.00	PM240	164.75	PM420	222.00	CM30	9.15
24	PN16 •	25.00	PN30	24.50	PN120	103.00	PN208	204.00	PN240	241.00	PN420	362.00	CN30	11.45
30	PQ16 •	40.00	PQ30	30.50	PQ120	136.00	PQ208	270.00	PQ240	289.00	PQ420	517.00	CQ30	14.90
36	PR16 •	100.00	PR30	36.50	PR120	155.00	PR208	308.00	PR240	368.00	PR420	611.00	CR30 ‡	17.20
50	PS16 •	150.00	PS30	50.00	PS120	207.00	PS208	411.00	PS240	496.00	PS420	822.00	CS30	27.50
100	PT16 •	200.00	PT30	96.00	PT120	374.00	PT208	776.00	PT240	888.00	PT420	Q	CT30	Q

* Battery charging derate 20% amps. Example: BA18 (1 amp)=0.8 amps. † For capacitor filtering use, choose next higher voltage. Ex.: 36VAC input use 54VAC. O Fan: Forced air cooling 500 L.F.M. Increase amps 2.5 times rating. Ex.: 4 amps x 2.5=10 amps. ‡ Fan cooled 100 amp fast battery charger replacement, CR36 for 6 & 12V fast charger $20.00 △ For maximum air flow-mount stacks with plates in vertical position. • Special high density low resistance cells & rectifier stacks designed for plating equipment, battery chargers using forced air cooling, PR16=100 amp, PS16=125 amp, PT16=250 amp.

"TABTRAN" RECTIFIER TRANSFORMERS

Type No.	Sec'd Current	Primary Volts	Mounting Centers W	Mounting Centers D	Approximate Size H	Approximate Size W	Approximate Size D	Shipping Weight	Net Price
TR5007	1	115	3 3/8	2 1/8	2 5/8	4 1/8	2 1/2	3	$ 5.25
TR5008	2	115	3 1/8	2 1/8	3 3/8	3 3/4	2 5/8	4	6.35
TR5001	5	115	3 3/8	2 1/2	3 1/2	4 1/8	3 1/8	8	8.65
TR5002	12	115	4 3/4	3 1/4	4 1/4	5 3/8	4 1/8	16	16.65
TR5003 *	24	115/220	5 1/4	4 1/4	4 1/2	6 1/4	5 1/4	23	35.65
TR5004 *	50	115/220	6 3/8	6	6 1/16	7 1/4	6 7/8	49	59.95
TR5005 *	100	115/220	8 3/8	7 1/2	7 1/16	9 1/2	8 3/4	135	108.65

Transformers have dual secondaries, each winding 0-9-15-18 volts. Secondary series connected taps at 0-3-6-9-15-18-21-24-27-30-33-36 volts. Sec'd parallel 0-9-15-18 volts at twice the current. * Dual primary 115 & 220V 60 cycle.

"TABTRAN" RECTIFIER CHOKES

Type No.	Hys. Ind	DC Amps	Ohms	IR Drop Volts	Mounting Ctrs W	Mounting Ctrs D	Approximate Size H	Approximate Size W	Approximate Size D	Shipping Weight	Net Price
CR6001	0.10	1	1.40	1.40	2 1/2	2 1/16	2 1/2	3	3 1/16	4	$ 3.95
CR6002	0.10	2	0.67	1.34	2 1/2	2 1/16	2 1/2	3	2 3/4	5	5.95
CR6003	0.07	5	0.60	3.00	3 3/4	3 3/4	4 7/8		3 1/8	12	7.95
CR6004	0.01	12	0.10	1.20	4 3/4	3 1/4	4 1/4	5 3/8	4 1/16	18	14.95
CR6005	0.001	24	0.025	0.60	5 1/8	3	4 5/8	5 3/4	4 1/2	29	29.95
CR6006	0.001	50	0.001	0.05	—	—	—	—	—	58	—
CR6007	0.0035	70	0.0096	0.672	—	—	—	—	—	70	—
TR0208	0.02	8	0.53	4.24	4	4 1/8	6 3/8	5 1/8	6 1/2	29	33.60
TR0310	0.03	10	0.44	4.40	4	5 1/8	6 3/8	5 1/8	7 1/2	36	35.65
TR0115	0.01	15	0.067	0.10	3 3/8	3	4 7/8	4 1/4	4 1/8	13	14.70
TR0135	0.017	35	0.110	3.85	4 5/8	4	6 3/8	6 1/2	7 5/8	42	51.00

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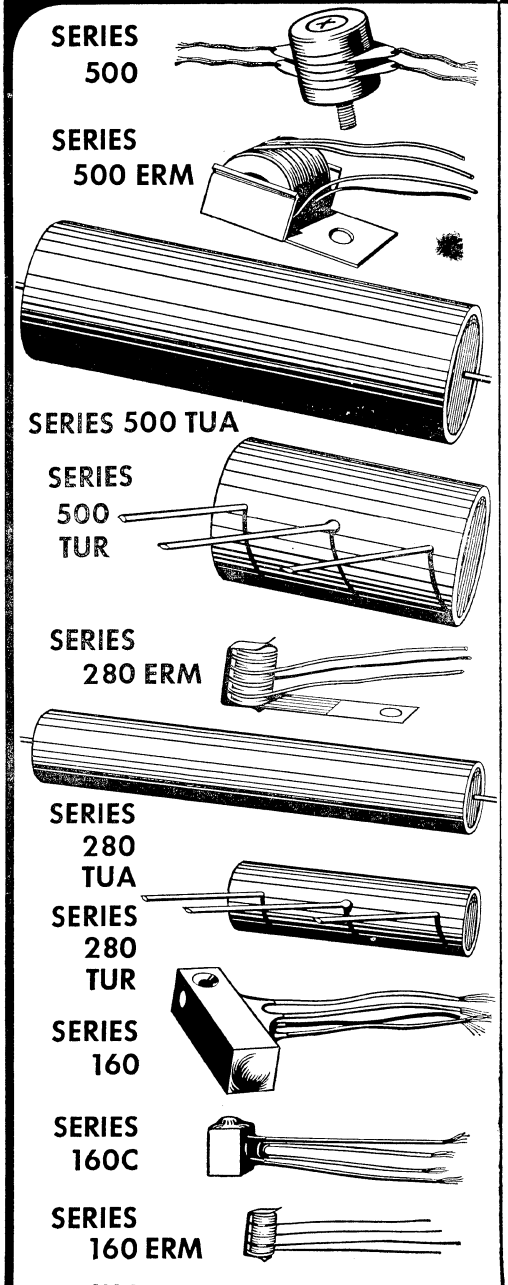
CONANT

Miniature Metallic Rectifiers

S T A N D A R D S I N C E 1 9 3 3



ALL RECTIFIERS SHOWN ACTUAL SIZE

INTERNAL CIRCUITS

Standard rectifiers are connected internally according to one of the five circuit diagrams shown.

SERIES 500 Copper oxide only. Color coded. Welded lead wires 3" long. Synthetic lacquer-enamel finish. Single 6-32 stud mounting. Available in special types. Cell diameter .500". Cell rating 5 r.m.s. volts, 30 average mils.

SERIES 500-ERM Copper oxide or selenium. Color coded. Solid lead wires 3" long. Lacquer finish. Single hole mounting. Available in special types. Cell diameter .500". Cell ratings, copper oxide 5 r.m.s. volts, 30 average mils; selenium, 25 r.m.s. volts, 30 average mils.

SERIES 500-TUA Selenium only. Color coded. Solid axial leads 3" long. Lacquer finish. Mounts by lead wires only. Fully enclosed and sealed in phenolic tube. Half wave types only for high voltage. Cell diameter .500". Cell rating 25 r.m.s. volts, 30 average mils. Per cell ratings subject to derating according to rectifier design.

SERIES 500-TUR Selenium only. Color coded. Solid radial leads 3" long. Lacquer finish. Mounts by lead wires only. Fully enclosed and sealed in phenolic tube. Cell diameter, .500". Cell rating 25 r.m.s. volts, 30 average mils. Per cell ratings subject to derating according to rectifier design.

SERIES 280-ERM Copper oxide or selenium. Color coded. Solid lead wires 3" long. Lacquer finish. Mounts by "Bracketerminal" combining cathode (plus) terminal and mounting bracket. Available in standard types only. Cell diameter .280". Cell rating, copper oxide, 5 r.m.s. volts, 10 average mils; selenium, 25 r.m.s. volts, 10 average mils.

SERIES 280-TUA Selenium only. Color coded. Solid axial leads 3" long. Lacquer finish. Mounts by lead wires only. Fully enclosed and sealed in phenolic tube. Half wave types only, for high voltage. Cell diameter .280". Cell rating 25 r.m.s. volts, 10 average mils. Per cell rating subject to derating according to rectifier design.

SERIES 280-TUR Selenium only. Color coded. Solid radial leads 3" long. Lacquer finish. Mounts by lead wires only. Fully enclosed and sealed in phenolic tube. Cell diameter .280". Cell rating 25 r.m.s. volts, 10 average mils. Per cell rating subject to derating according to rectifier design.

SERIES 160 Copper oxide or selenium. Color coded. Welded lead wires 3" long. Fully enclosed and sealed in molded phenolic case. Mounts by #2 screw. Cell diameter .160". Cell rating, copper oxide, 5 r.m.s. volts, 5 average mils; selenium, 25 r.m.s. volts, 5 average mils.

SERIES 160-C Copper oxide or selenium. Color coded. Welded lead wires 3" long. Fully enclosed and sealed in welded brass case. Mounts in midget fuse clip. Cell diameter .160". Cell rating, copper oxide, 5 r.m.s. volts, 5 average mils; selenium, 25 r.m.s. volts, 5 average mils.

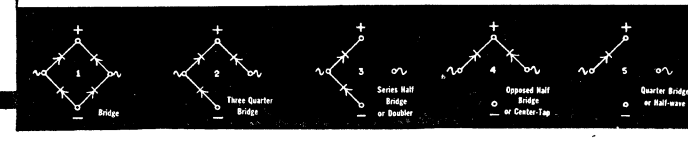
SERIES 160-ERM Copper oxide or selenium. Color coded. Solid leads 1" long. Lacquer finish. Mounts by lead wires only. Cell diameter .160". Cell rating, copper oxide, 5 r.m.s. volts, 5 average mils; selenium, 25 r.m.s. volts, 5 average mils.

Standard rectifiers are connected internally according to one of the five circuit diagrams shown.

Series 500, 160 and 160-C are the well known standard line of instrument rectifiers and are constructed to the highest standards of quality. Construction is conventional.

TUA (tubular, axial leads) and TUR (tubular, radial leads) construction is desirable especially in rectifiers designed for high voltage operation. Total enclosure of the stack however limits heat radiation necessitating derating of cells.

ERM (external resilient member) construction insures maintenance of optimum stack pressures regardless of ambient or operating temperatures. Rectifiers in ERM construction are smaller, lighter and cheaper.



STANDARD SINCE 1933

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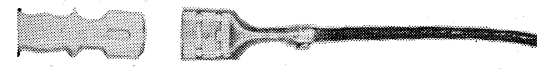
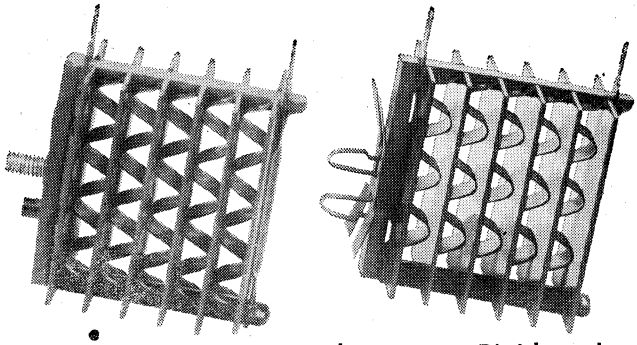
Vacuum Process Selenium Cells





VENTISEL®

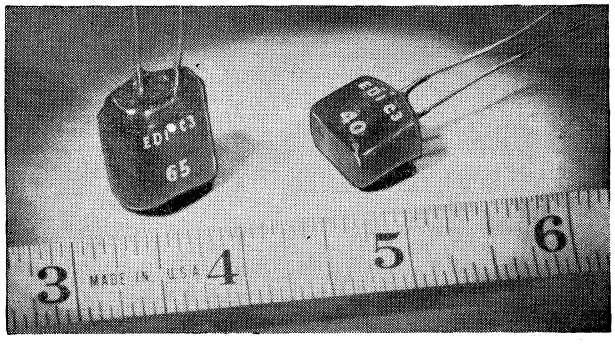
Now available with SNAP-IN mounting

The new VENTISEL® construction in Selenium Rectifiers will revolutionize this field. EDI manufactures a complete VENTISEL® line from 50 MA to 750 MA.

No center mounting therefore full air ventilation • Low contact and constant assembly pressure • No center hot spots • Rigid mechanical construction • Plates cannot loosen and turn • Smaller overall size for each rating • Can replace all existing standard rectifiers.

NEW PLASTISEL®

Miniature Selenium Rectifiers



In all ratings through 200 Ma. NEW-PLASTISEL® rectifiers are molded into plastic, which gives them the appearance of small molded condensers. These sealed in units have the following advantages.

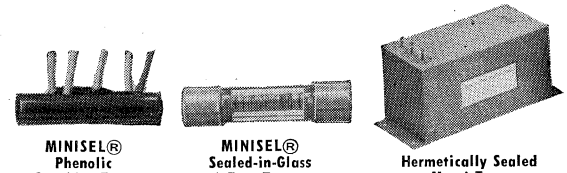
They fit ideally into miniaturization programs and printed circuit applications because they can be mounted against chassis or in contact with other complements.

Shock hazard in small contact chassis is completely eliminated when NEW-PLASTISEL® units are used.

No wiring need be run to rigid terminals as every NEW-PLASTISEL® unit has pig tail leads.

Aids in heat dissipation.

COMPLETELY INSULATED AVOIDING ACCIDENTAL SHORTS. NOTHING TO MELT OR SOFTEN. NON-INFLAMMABLE.



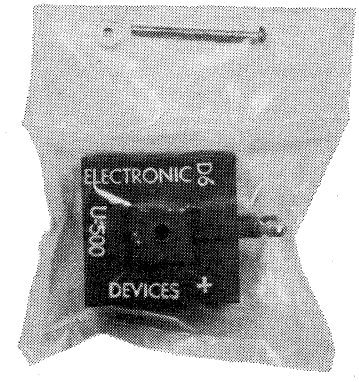
MINISEL® Phenolic Cartridge Type

MINISEL® Sealed-in-Glass Fuse Type

Hermetically Sealed Metal Type

HIGH VOLTAGE—LOW CURRENT RECTIFIERS

NEW UNIVERSAL RADIO & TV REPLACEMENT LINE



All eyelet construction

EDI merchandising awareness brings you all of these rectifiers individually factory sealed in transparent poly bags with mounting hardware included in each bag. Individually boxed units also available.

The entire facilities of the E.D.I. Engineering Department are available to assist you with your problem. There is no obligation for this service.

ELECTRONIC DEVICES, Inc.

PRECISION RECTIFIER DIVISION

BROOKLYN 15, NEW YORK

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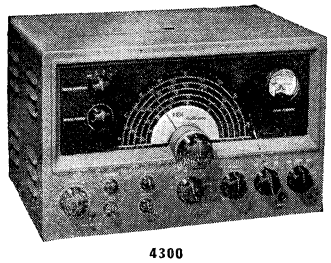
RME COMMUNICATIONS EQUIPMENT



4300

MODEL 4300 RECEIVER

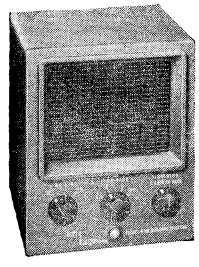
The RME 4300 is a completely new amateur receiver of professional quality incorporating many deluxe features usually found only in higher priced models. Designed specifically for communications on amateur frequencies, the Model 4300 has a large, evenly graduated, illuminated dial covering the following six bands: 1.76 to 2.2 mc; 3.48 to 4.26 mc; 6.98 to 7.32 mc; 13.98 to 14.43 mc; 20.8 to 21.52 mc; 26.95 to 29.8 mc. Smooth, even tuning without backlash is provided by the unique differential, ball planetary type tuning knob with choice of 75-to-1 or 1-to-1 ratios by selection of coaxially mounted rims; triple spaced plates in tuning condenser greatly reduce microphonic susceptibility.

Selectivity control offers four positions; nose of curve is 3 kc wide without crystal filter with attenuation 60 db down seven kc above or below desired frequency. Crystal filter has phasing control for variable rejection of unwanted adjacent signals. High sensitivity of 2 microvolts for 10 db signal-to-noise ratio; excellent image rejection; extremely low noise figure. Temperature-compensated components with heavy steel chassis, sturdy steel cabinet and pressure-cast control panel hold drift to ± .01% for first 20 minutes with zero drift after warm-up. Extreme stability permits single sideband reception with or without adapters. BFO injection control for accurate carrier frequency insertion for SSB operation.

Other features include "S" meter calibrated in steps of 6 db from S1 to S9, plus 10 db units over S9; automatic noise limiter of the peaked type set for 85% modulation, may be switched in and out of circuit; front panel frequency correction control to set frequency exactly at any scale point. Antenna trimmer on front panel permits peak adjustment for different antennas. Smooth acting RF gain control with 6 db attenuation for each 5 degrees rotation; function switch selects receiver operation—MGC-BFO, AGC-AM phone, AGC-SSB, MGC-SSB. Two coaxial jacks provided for addition of Model 4301 single sideband adapter or other adapters; 4-ohm speaker terminals; antenna connections for doublet and Marconi-type; transmitter relay control.

Controls: Dual-speed tuning, AF gain, BFO pitch, BFO injection, antenna trimmer, calibration adjust, band selector, RF gain—on-off, function switch, stand-by—receive—transmit switch, crystal filter selectivity selector, crystal filter phasing-rejector control, ANL on-off. Tubes: 6CB6 RF, 6U8 Det.-Osc., 6CB6 1st IF, 6U8 2nd IF-BFO, 6T8 2nd Det.-ANL-1st AF, 6AQ5 AF output, 5Y3 Rect., OA2 voltage regulator. 117 v. 50-60 cycle AC.

Sturdy steel console-type case with rounded corners finished in attractive instrument gray anti-glare finish. Size: 10″ h. x 16½″ w. x 10″ d. Shipping Weight, 36 lbs.
Net Each.....**$194.00**



4301

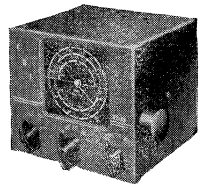
MODEL 4301 SIDEBAND DETECTOR-SELECTOR

The Model 4301 is a new sideband detector-selector which provides outstanding, easy-to-tune SSB reception of both carrier present and carrier suppressed types. Using the cables supplied, the Model 4301 plugs directly into the Model 4300 receiver, forming an attractive, functional addition. Easily connects between the IF and audio stages to any other communications receiver.

Complete with built-in power supply, the Model 4301 has an extremely stable BFO, balanced detector circuit, and accurate phase shift network. Included are adder and subtracter circuits to provide single side reception of either upper or lower sideband separately, double sideband exalted carrier reception or normal receiver operation. Selection is made with panel-mounted rotary switch which provides instantaneous switching between upper and lower sideband with 40 db attenuation of unwanted sideband; this feature improves system selectivity and SNR for standard AM and CW reception as well as SSB.

Controls: Sideband selector, vernier frequency control, on-off switch. Tubes: 2-12AT7, 12AX7, 6AL5, plus selenium rectifier.

Sturdy steel case and cast aluminum control panel in attractive instrument gray finish. Size: 10″ h. x 8½″ w. x 10″ d. Shipping Weight, 16 lbs. Net Each.....**$75.00**



MC 55

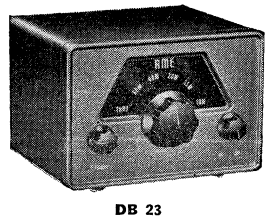
MODEL 4302 SPEAKER

Housed in a sturdy steel case with cast aluminum front panel, the Model 4302 speaker is styled and finished to complement perfectly the Model 4300 and other quality receivers. For operation with any receiver having 4-ohm speaker output terminals. The acoustic properties of the unit are tailored for optimum readability in communications operation. Finished in anti-glare instrument gray. Size: 10″ h. x 8½″ w. x 5½″ d. Shipping Weight, 6 lbs. Net Each.....**$17.50**

MODEL MC55 MOBILE CONVERTER

For 10, 15, 20, 40 and 80 meters. 1.25 micro-volt sensitivity on all bands. Large, attractive edge-lighted dial. 25-to-1 worm gear tuning. Efficient automatic noise limiter built-in. Integral transmit-receive switch. Three-gang tuning capacitor. Individual coils for each band and each circuit controlled by single band switch. Aperiodic IF stage aids in providing high-gain characteristic. Input impedance 50-72 ohms. Output frequency 1550 kc. Separate input for car antenna is automatically switched to car radio when converter is switched out.

Requires 150-180 v. at 18 ma. Provisions for either 6 or 12-volt operation. Tube lineup: 6BJ6 RF Amp.; 12AT7 Osc.-Det.; 6BJ6 IF Amp.; 6AL5 noise limiter. Attractive cabinet finished in dark gray enamel. Complete with tubes, cables and instruction sheets. Size: 4⅞″ h., 5¾″ w., 5¼″ d. Shipping Weight, 6 lbs. Net Each.....**$69.50**

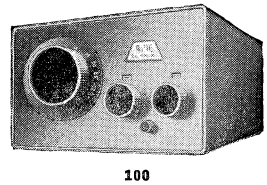


DB 23

MODEL DB23 PRESELECTOR

Substantially improves the performance of any receiver. Employs three 6J6 twin triodes as neutralized push-pull stages in a unique combination of selective and wide band RF amplifiers. Provides minimum gain of 20 db throughout all ham bands from 3.5 to 30 mc with substantial image rejection. Signal-to-noise ratio improvement is better than 7.5 db over that of the receiver alone. Permits optimum use of mechanical, crystal or audio filters. Input circuits accurately match any standard type antenna. Operation is simple; merely set band selector and adjust peaking control for maximum signal.

Entirely self-contained with built-in power supply. Handsome cabinet is small, compact and finished in blue-gray. Complete with all tubes and instruction sheet. Size: 5″ h., 7⅞″ w., 6″ d. Shipping Weight, 6½ lbs. Net Each.....**$49.50**



100

MODEL 100 SPEECH CLIPPER

Specially designed peak limiting preamplifier that provides higher articulation and intelligibility to combat QRM and QRN in phone bands. Ideal for use with Johnson Viking, Collins 32V and all ham-built phone equipment. Clipping level adjustable from 3-20 db. Pi low-pass filter provides high suppression of generated harmonics above 3000 cps, concentrating voice power to most effective band of frequencies. Frequency response 200-3000 cps.

If set to provide 100% modulation, louder speech will not over-modulate. Front panel input for high-impedance microphone takes PC2 connector. Tube lineup: 6SC7, 6H6 and 6X5GT rectifier. Entirely self-contained in handsome blue-gray steel cabinet. Complete with tubes, shielded output cable and instruction sheet. Size: 5″ h., 7⅞″ w., 6″ d. Shipping Weight, 6½ lbs. Net Each.....**$39.50**

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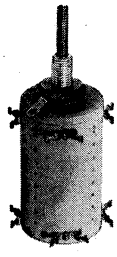
tuned to tomorrow NATIONAL COMPONENTS

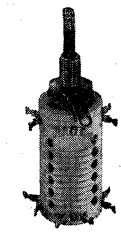
COIL FORMS

XR-50

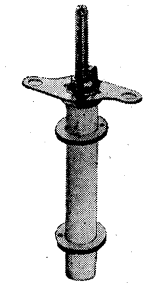


XR-60

SERIES	USE	GROOVED	WIRE	CORE	DIMEN.	MATERIAL
XR-50	amateur, comm'l; wind as desired	—	—	Iron	2 3/16" x 5/8"	Mica-filled bakelite, permeability tuned, JAN. specs.
XR-51	" " "	—	—	Brass	" " "	" " "
XR-60	" " "	YES	# 26	Iron	1 3/16" x 1"	Grade L4 ceram., gov't specs., (JAN 1-10), silver-plated brass base
XR-61	" " "	YES	# 26	Brass	" " "	" " "
XR-62	" " "	NO	—	Iron	" " "	" " "
XR-63	" " "	NO	—	Brass	" " "	" " "
XR-70	" " "	YES	# 19	Iron	1 9/16" x 3/4"	" " "
XR-71	" " "	YES	# 19	Brass	" " "	" " "
XR-72	" " "	NO	—	Iron	" " "	" " "
XR-73	" " "	NO	—	Brass	" " "	" " "
XR-80	" " "	—	—	Brass	1 1/4" x 17/64"	" " "
XR-81	" " "	—	—	Iron	" " "	" " "
XR-82	" " "	—	—	Brass	1 3/4" x 17/64"	" " "
XR-83	" " "	—	—	Iron	" " "	" " "
XR-90	" " "	—	—	Brass	1 1/4" x 3/8"	" " "
XR-91	" " "	—	—	Iron	" " "	" " "
XR-92	" " "	—	—	Brass	1 3/4" x 3/8"	" " "
XR-93	" " "	—	—	Iron	" " "	" " "



XR-70



XR-80

QUALITY COUPLINGS

TX-8: very compact, non-flexible unit, fully insulated with silicone-treated Grade L-3 ceramic for long life. 1 1/16" diam., fits 1/4" shaft.

TX-8

TX-9: very small, for use in isolating circuits, high electrical efficiency, steatite insulation (Grade L-3 ceramic, Jan. 1-10). 1 5/8" diam., fits 1/4" shaft.

TX-10: fully-insulated, extremely compact coupling, entirely free from backlash. Rigid factory inspection insures long life. 1 1/16" diam., fits 1/4" shaft.

TX-10

TX-19: is steatite-insulated flexible coupling for 1/4" shafts rated 5000 volts peak. 1 3/8" diam., 1 1/16" length.

TX-22: is identical to TX-10 except that it is not insulated, uses metal disc in lieu of linen bakelite.

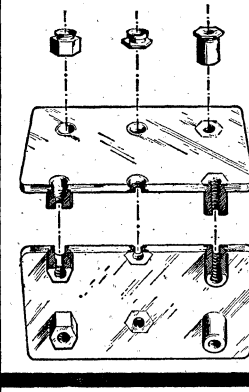
TX-23: a deluxe insulated, flexible unit designed for coupling 1/4" shafts. Handles maximum radial misalignment of 1/16", 2° max. radial misalignment, low-voltage insulated. 1" diam., fits .252" shaft.

TX-19

TX-24: Same as TX-23 but fits 5/32" shaft.

TX-25: Same as TX-23 but not insulated.

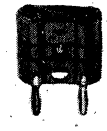
TX-23



VERSATILE CAPTIVE NUTS

National captive nuts of stainless steel may be pressed into aluminum and certain types of brass sheet metal to provide integral flush-mounted tapped holes in a wide variety of sizes. 4 basic types are available for metal thicknesses of: 1/16", 3/32", 1/8", 3/16" and 1/4".

PLUGS: BUSHINGS: INSULATORS



FWT

FWT moulded mica-filled bakelite banana plug is designed for stacking. Nickel-plate brass locking screw may be removed to disassemble unit to rotate plugs to permit easier internal connection to wire holes (up to 10 gage wire). Case width, 19/32"; length, 1 11/32"; overall height, 1 59/64".

SB

SB solid-brass bushing, nickel-plated. Fits 1/4" shafts.

GS insulators molded of Class L-4 ceramic conforming JAN-1-10 specs. In a range of shapes and sizes.

GS-3

GS-5

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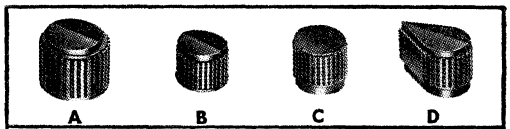
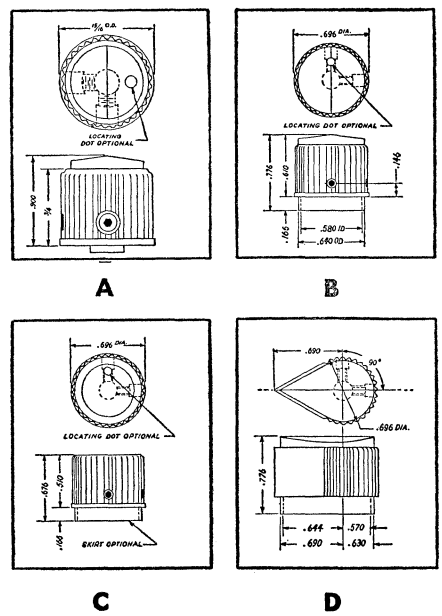
tuned to tomorrow **NATIONAL**

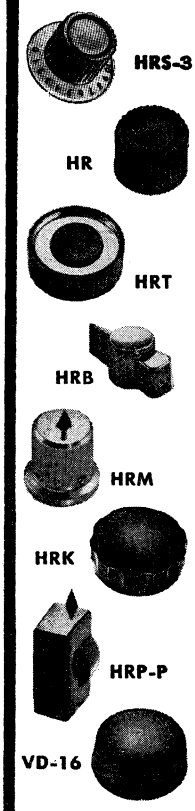
Announcing A NEW LINE OF KNOBS

IMPORTANT! National's popular HR series of knobs has been augmented with a new line of versatile, attractive low-priced knobs. All are molded of top-quality Tenite II, (Fed. spec. LP349 type 2, class MS) with anodized aluminum insert (material 17ST4 finished ANOQA696) 2 cadmium-plated, fluted, Bristo head set screws. Are available in black matte finish (can be supplied with differently colored caps and cap shapes to your specs. or military standards).



TYPE	FIG.	COLOR	NATIONAL CO. NUMBER
WITH SKIRT WITH DOT	C	BLACK MATTE	A 15577
WITHOUT SKIRT WITH DOT	B	BLACK MATTE	A 15741
WITHOUT SKIRT WITHOUT DOT	B	BLACK MATTE	A 15390
WITH SKIRT WITHOUT DOT	C	BLACK MATTE	A 15755
WITHOUT SKIRT WITHOUT DOT	B	BLACK MATTE	A 15754
WITH SKIRT WITH DOT	C	BLACK MATTE	A 15579
WITHOUT SKIRT WITH DOT	B	BLACK MATTE	A 15578
WITH SKIRT WITHOUT DOT	C	BLACK MATTE	A 15753
WITH DOT	A	BLACK MATTE	A 15740
WITHOUT DOT	A	BLACK MATTE	A 15739
AS SHOWN	D	BLACK MATTE	A 15471

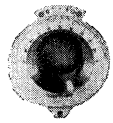




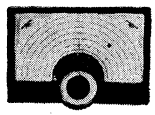
MODERN DIALS & MECHANISMS

AM

AM dial includes National's famous "Velvet Vernier" mechanism. 3" diam. metal skirt, ratio 5 to 1. 2, 3, 4, 5, or 6 scale, fits ¼" shaft. (Mechanisms available separately.)


N

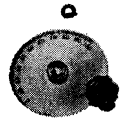
N and AD: each is 4", engine-divided and die-stamped scales. N has decimal vernier, AD has pointer. 5 to 1 planetary drive ratio. 2, 3, 4, 5 or blank scale. Fits ¼" shaft. *Specify scale.*


ACN

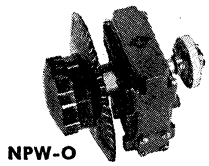
ACN is the original individually-calibrated dial. Features: high legibility, great tuning precision, distinctive appearance. Has "Velvet Vernier", 5 to 1 ratio, 3 blank scales, 0–100 logging scale.

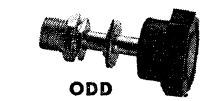
O

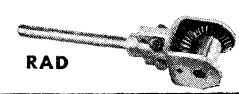
O has knurled black bakelite knob, #2 scale divided from 0–100 in arc of 180° with counter-clockwise condenser rotation.


K

K dial is 3½" diam., 1⅜" from face to back. Faced in gleaming, highly-polished metal, scaled 0–100, 180° arc. (Special scales to order). Shipped ready to mount.


NPW-O


ODD


RAD

DEPENDABLE DRIVES

NPW-O precision gear drive is famous for high re-set accuracy, precision control, single output shaft perpendicular to panel. Micrometer dial reads direct to 1 part in 500, division lines are about ¼" apart. TX-9 coupling supplied as standard equipment.

PW-O same as NPW-O except two output shafts parallel to panel.

ODD pinch drive is particularly well-suited for use with plain dials because of its great smoothness, ease of operation, very precise selectivity. Compact and low-cost.

RAD right angle drive has die-cast housing and gears. Ideal for ganging condensers or potentiometers or other parts located in hard-to-get-to chassis location.

SAFETY GRID & PLATE CAPS

National safety grid and plate caps have a ceramic body which offers protection against accidental contact with high voltage caps on tubes.

SPP-3

SPP-3 has ceramic insulation, fits ⅜" diam.

SPP-9

SPP-9 has ceramic insulation, fits 9/16" diam.

GRID & PLATE GRIPS

National grid and plate grips give secure, positive contact with tube cap, release instantly by slight ear pressure.

TYPE 8: ¼" caps

TYPE 12: 9/16" caps

TYPE 24: ⅜" caps

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NC COMPONENTS

NATIONAL'S POPULAR LINE OF KNOBS

HRS knobs have easy-grip knurling, molded of grey or black Tenite (other colors on special order). Chrome-plated skirt adds beauty, black-enameled numerals are easy to read 1 7/16" dia., fits ¼" shaft.

HRS-3 0–10 300°

HRS-4 single etched line

HRS-5 0–10 180°

HR—no chrome-plated skirts, but with optional white dot or other markings per your order.

HRT now available for your set. Chrome-plated inlay, 2⅛" diam., fits ¼" shaft.

HRT-M smaller version of HRT. 1½" diam. fits ¼" shaft.

HRB lever knob has perfect feel, crisp appearance, is die-cast in bright zinc alloy, can be anodized in many colors. Also available in other set-screw sizes. Fits ¼" shaft, uses 8–32 set screw.

HRM knob is fully knurled, brass, satin chromed and burnished. Black-enameled arrowhead. Fits ¼" shaft.

HRK is fluted for firm grip, made of gleaming black bakelite. Extra sturdy, it fits ¼" shaft.

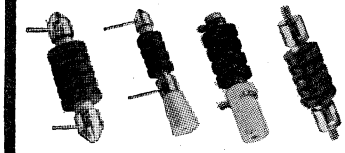
HRP-P has nickel-plated brass pointer, is especially suited for use on wafer switches and other rotary switches. Fits ¼" shaft.

HRP same as HRP-P but without pointer.

VD-16 is rugged and crack-resistant, has full knurling for maximum selection sensitivity. In black or your color choice. ¼" shaft.

VD-16A same as VD-16 but fits 3/16" shaft.

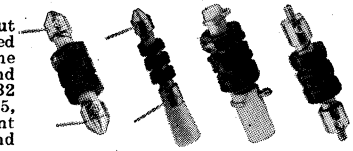
PRECISION-WOUND R.F. CHOKES



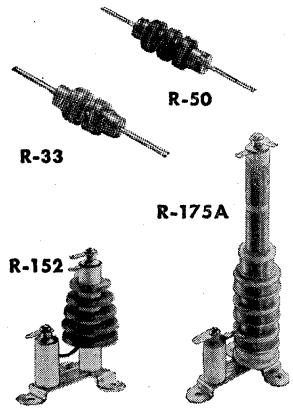
R-100 R-100U R-100S R-100ST

These RF chokes are identical electrically, but differ in mounting provisions. The R-100 employs pigtail leads; the R-100U has pigtail leads and a removable stand-off insulator; the R-100S has cotter-pin lug terminals and a non-removable stand-off insulator; the R-100ST has a 6-32 threaded stud at each end. These chokes are available in 2.5, 5 and 10 millihenry sizes and are rated at 125 milliamperes.

These RF chokes are similar in size to R-100 series but have higher current capacity. The R-300U is provided with a removable stand-off insulator at one end. The R-300S has a non-removable stand-off insulator and cotter-pin lug terminals. The R-300ST has a 6-32 threaded stud at each end. Inductance values of 0.5, 1.0, 2.5 and 5.0 millihenries are available with a current rating of 300 milliamperes. R-300, R-300U, R-300S and R-300ST are identical electrically.



R-300 R-300U R-300S R-300ST



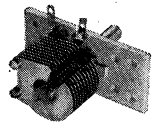
R-33. The R-33 series chokes are 2-section RF chokes available in 10, 50, 100 and 750 microhenry sizes. Also available in this series is a single layer solenoid choke of 1 microhenry inductance. All are rated at 100 milliamperes. The chokes are wound on a ⅝" long form and range in diameter up to 5/16" maximum.

R-50, R-50-1. The R-50 series chokes are 3- and 4-section RF chokes and available in 0.5, 1, 2.5, and 10 millihenry sizes. They are rated at 100 milliamperes. The chokes are wound on a 1" long form and have a maximum diameter of 15/32". The 10 millihenry R-50-1 choke is wound on an iron core.

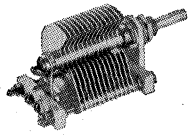
R-152. For use in the range between 2 and 4 Mc. Ideal for high power transmitter stages operated in the 80 meter amateur band. Inductance 4 m.h., DC resistance 10 ohms, DC current 600 ma. Coils honeycomb wound on steatite core.

R-175A. The R-175A choke is a revised version of the R-175 choke. This revision has made the reactance of the choke high throughout the 6 meter band as well as the 10, 15, 20, 40 and 80 meter bands. The R-175A choke is suitable for parallel-feed as well as series-feed in transmitters with plate supply up to 3000 volts modulated or 4000 volts unmodulated. Inductance 145 uh., distributed capacity 0.6 mmf., d-c resistance 5 ohms, d-c current 800 ma., voltage breakdown to base 12,500 volts.

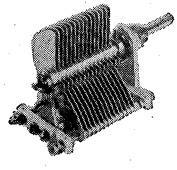
CONDENSERS



Type UM condensers are low-loss miniature variables with aluminum-plate-staked construction, designed for UHF converters, VFO's, etc. Minimum capacity is extremely low.



Types ST & STH have straight-line-wavelength plates.



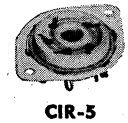
Types SE, SEU, SEH are straight-line frequency types (270° rotation) with frequency ranges of 2.1:1 for 260°. All have 2 rotor bearings.

LONG-LIFE SOCKETS

CS-5

CS-6

XLA-7



CIR-5

CRYSTAL

CS. The CS-5, CS-6, CS-7 and CS-8 are crystal mounting sockets for crystal holders. Socket bases ceramic conforming to JAN-HO body glazed. Unglazed surface DC 200 treated.

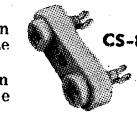
CS-5. contacts spaced .500"; pin diameter .125". Phosphor bronze contacts silver plated.

CS-6. contacts spaced .486"; pin diameter .095". Phosphor bronze contacts silver plated.

CS-7 contacts spaced .486"; pin diameter .050". Phosphor bronze contacts silver plated.

CS-8 contacts spaced .750"; pin diameter .125". Phosphor bronze contacts silver plated.

CS-7



CS-8

TUBE SOCKETS

XLA-7 low-loss units fit 6F4 and 950 acorn tubes for frequencies up to 600 meg. Features low contact resistance, short, direct leads, low constant inductance. Silver-plate, heat-treated beryllium copper contacts.

CIR series are made of GradeL-5 ceramic, conform to JAN-1-10 unglazed surfaces DC-200 treated.

CIR-5 nickel-plated brass mounting plate, silver-plated phosphor bronze contacts, solder-dipped tips, ears available for stand-off mounting. Contact grips tube prong for entire length, ring for 6-position mounting. Mounting centers 1 27/32".

CIR-4 same as CIR-5 but for 4-pronged tubes.

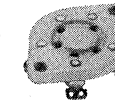
CIR-6 same as CIR-5 but for 6-pronged tubes.

CIR-8 for 8-pronged tubes has 1½" mounting centers, nickel-plated brass mounting plate.

XC-5 features excellent contacts, high current capacity, low-loss ceramic insulation. Has 1 27/32" mounting center and is designed for 5-pronged tubes.

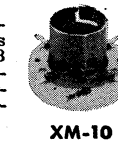
XC-4 same as XC-5, but designed for 4-pronged tubes.

XC-6 same as XC-5, but designed for 6-pronged tubes.



XC-5

XM-10 is heavy-duty metal-shell socket designed for tubes with XU 4-pin base. Grade L-3 ceramic (steatite) body conforms to JAN-1-10 specs. Silver-plated phosphor bronze contacts.



XM-10

XM-50 for tubes with jumbo 4-pin base (50 watters).

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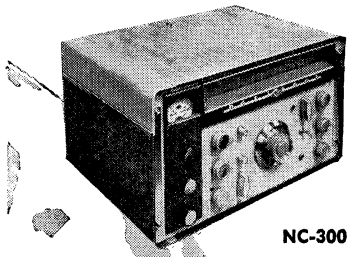
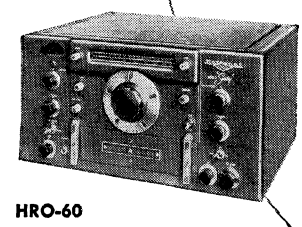
world famous *for quality dependability and value*

. . . National Receivers set the standard for the industry—
with a complete line for novice, SWL or old timer



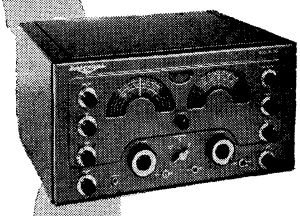
NC-300

The NC-300 incorporates all the features most hams want . . . at a price most hams are willing to pay! It features a sensitivity of 3-6 db noise figure on all amateur bands. Warm-up drift less than .01%. It has the longest slide rule dial ever . . . with 10 dial scales for coverage of 160 to 1¼ meters with National's exclusive new converter provision for 6, 2, 1¼ meters. These are only a few of the highlights!



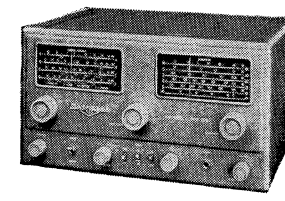
HRO-60

Latest and greatest of a great series! Frequency range: 1.7 to 30 mcs., additional coils available from 50 kc to 35 mcs. Gives you dual conversion on all frequencies above 7 mcs plus 12 permeability-tuned circuits in the three 456-kcs IF stages! Has current-regulated heaters in the high-frequency oscillator and the 6BE6 mixer. High-frequency oscillator and S-meter amplifier are voltage regulated.



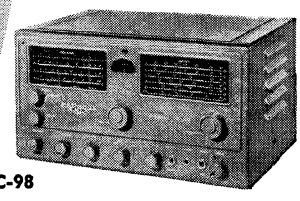
NC-183D

Has dual conversion above 4.4 mcs . . . steep-sided skirt selectivity with 3 IF stages (16 tuned circuits on the 3 high bands—12 on all other bands) plus a new crystal filter. Approximately 1 microvolt sensitivity on 6 meters for a 10db signal-to-noise ratio! Frequency range: .54 mcs to 31 mcs plus 47–55 mcs.



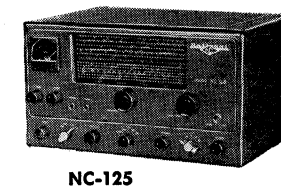
NC-88

Compare these features! Calibrated bandspread for 80, 40, 20, 15, 11 and 10 meter bands . . . advanced A. C. superhet circuit uses 8 high gain miniature tubes plus rectifier . . . covers 540 kcs to 40 mcs in 4 bands . . .tuned RF stage . . . two IF stages . . . 2 audio stages with phono input and two position tone control . . . built-in speaker . . . antenna trimmer . . . separate high frequency oscillator . . . sensitivity control . . . series valve noise limiter . . . delayed A. V. C. . . . headphone jack . . . standby-receive switch.



NC-98

The lowest priced receiver with a crystal filter, the NC-98 has calibrated bandspread for 80, 40, 20, 15, 11 and 10 meter bands . . . advanced A. C. superhet circuit uses 8 high gain miniature tubes plus rectifier . . . covers 540 kcs to 40 mcs in 4 bands . . . tuned RF stage . . . two IF stages and 2 audio stages with phono input and two position tone control. ALSO, antenna trimmer, separate high frequency oscillator, sensitivity control, series valve noise limiter, delayed A. V. C., headphone jack, standby-receive switch. Available with a calibrated bandspread scale for the SWL bands.

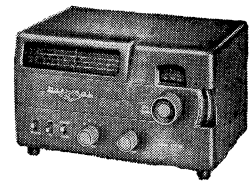


NC-125

Frequency range: .56 to 35 mcs. Has built-in SELECT-O-JECT audio filter. Average sensitivity 3 microvolts for 10 db signal to noise ratio. Has AVC, noise limiter, voltage regulated stabilized oscillator. Audio system essentially flat to 10,000 cps. Provision for NFM Adaptor.

SW-54

The most astonishing little receiver on the market today! Covers broadcast and 3 shortwave bands—540 kcs to 30 mcs. Receives voice or code. Police, ship, amateur, foreign stations clearly marked. Uses new miniature tubes for improved sensitivity. Easy-to-read indirectly lighted scale. Accurate "logging scale" also provided. Provision for headphones. Send-Receive switch for "ham" use with transmitter. Measures only 11" x 7". AC-DC operation.



Write for National's New Receiver Catalog.

tuned to tomorrow **National** NC

NATIONAL COMPANY, INC.
Malden 48, Massachusetts

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Harvey—WELLS ELECTRONICS, INC.

T-90 BANDMASTER TRANSMITTER

The T-90 is the result of our long study concerning the operating requirements of most amateurs. Sufficient power to "get out" on all bands, either fixed or mobile, under today's QRM conditions, plus space limitations of the average home, has been the prime objective in its design. The many refinements contributing to smooth and efficient operation which have been incorporated in the T-90, have up to this time been found only in transmitters selling at a much higher price. A close study of the following features will provide convincing evidence that the T-90 is the transmitter YOU WANT for your shack or car.
DIMENSIONS (overall): Cabinet 12⅜" wide, 10½" deep, 6¾" high; weight 17¾ lbs. Factory built and tested complete with tubes, less power supply.

$179.50* Amateur Net

R-9 BANDMASTER RECEIVER

In our further studies of amateur requirements, we found that the ultimate desire of all was to have equipment which "went together." The difficulty of installing odd sizes of cabinets has always been a source of irritation to the neat and efficient operator. The R-9 is physically an identical twin to the T-90. Now at last, without any reservation, you can have fixed station performance either in your shack or in your car. This highly stable all-band double conversion receiver has a versatility and a number of refinements which have never before been offered in such small space. Price is complete with tubes. Dimensions same as transmitter.

$149.50* Amateur Net

FEATURES — T-90 TRANSMITTER

1—TVI Suppressed; 2—Complete band-switching; no plug-in coils; 3—Complete Break-in Keying — or keying of multiplier stages only; 4—VFO Tuning without carrier on; 5—Cathode biased Exciter tubes and clamp tube control of Final Amplifier Screen Voltage; 6—Initial tuning at reduced power; 7—Three position excitation control; 8—Antenna loading flexibility; 9—Selector switch allows metering of PA Grid, PA Cathode and Modulator currents; 10—Remote Break-in and Receiver muting provided by relay control; 11—VFO voltage regulated and temperature compensated; 12—Illuminated dial and meter; 13—Crystal door on front panel; 14—Filament Operation 6 or 12 volts AC/DC; 15—Low average Modulator current; 16—Built-in provision for either Carbon, Crystal or Dynamic microphone and push-to-talk.
*PRICE SUBJECT TO CHANGE WITHOUT NOTICE.

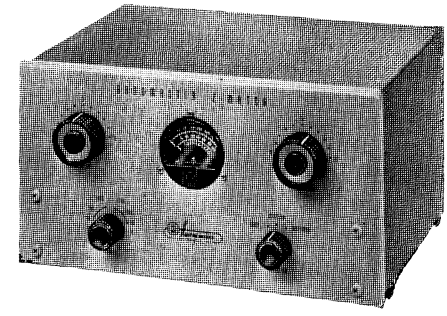
FEATURES — R9 RECEIVER

1—Double conversion on all bands; 2—Three tuned circuits on each band, in R.F. section; 3—All coils slug tuned, providing high "Q" circuits; 4—Separate oscillator coils for each band (no spurious response); 5—Bandwidth: Four kilocycles wide at the 6 db point; 6—Complete with tubes and built-in AC power supply. 6/12 volt DC power supply available; 7—Crystal filter and crystal calibrator available as accessories; 8—Approximately 6" of dial spread on all bands. Accurately calibrated; 9—Rigid Steel construction (Vibration-Proof); 10—6¾" height enables easy under dash mounting for mobile installation.

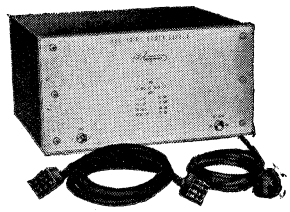
THE NEW BANDMASTER Z-MATCH
NOW COVERS 6 METERS

1—The tuning arrangement covers from 3.5 mc. to 54.0 mc. continuous tuning with no switching of R.F. circuits, thereby eliminating losses in R.F. band switches.
2—No reversing of R.F. cables for forward and reflected power readings.
3—R.F. wattmeter is in the circuit at all times.
4—Dummy load may be used to tune your transmitter before going on the air, in accordance with F.C.C. regulations.
**SPECIAL: Now includes the 6 meter band in anticipation of predicted LONG RANGE openings. Again Harvey-Wells is first.
Featuring the famous M. C. Jones micro-match circuit.

NOW ONLY **$89.00**



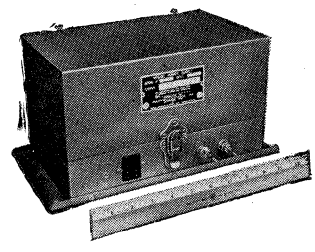
POWER SUPPLIES AND ACCESSORIES



APS-90 POWER SUPPLY
(115 V. A.C.)

Cabinet same size as transmitter. Supplied complete with cables.

$79.50*



VPS-T90
MOBILE POWER SUPPLY

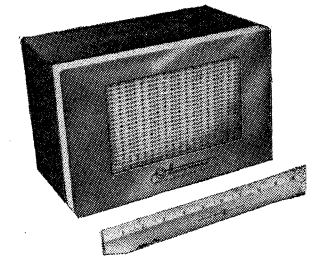
For 6/12 volt D.C. operation. Designed for easy operation and service.

$89.50*

SPEAKER FOR MOBILE OPERATION

$7.50*

*All prices subject to change without notice.



SPEAKER FOR FIXED STATION OPERATION

High quality oval—6" x 9". Cabinet matches other units.

$10.50*

JAMES MILLEN

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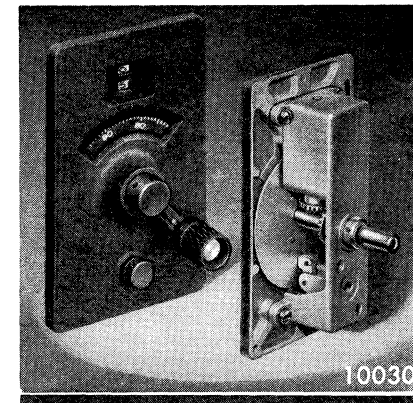
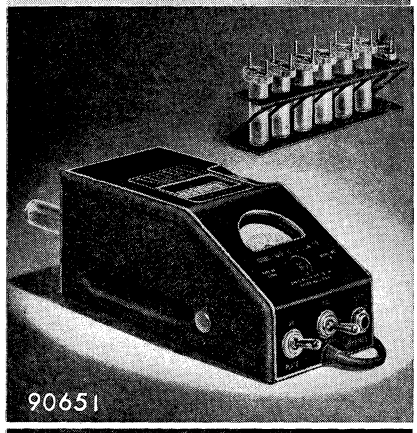
ONE INCH INSTRUMENTATION OSCILLOSCOPE

Miniaturized, packaged panel mounting cathode ray oscilloscope designed for use in instrumentation in place of the conventional "pointer type" moving coil meters uses the 1" 1CP1 tube. Panel bezel matches in size and type the standard 2" square meters. Magnitude, phase displacement, wave shape, etc. are constantly visible on scope screen.
No. 90901, less tube..... $



INSTRUMENT DIAL

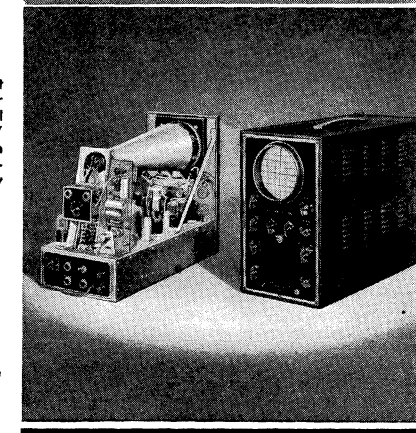
The No. 10030 is an extremely sturdy instrument type indicator. Control shaft has 1 to 1 ratio. Veeder type counter is direct reading in 99 revolutions and vernier scale permits readings to 1 part in 100 of a single revolution. Has built-in dial lock and ¼" drive shaft coupling. May be used with multi-revolution transmitter controls, etc., or through gear reduction mechanism for control of fractional revolution capacitors, etc., in receivers or laboratory instruments.
No. 10030..... $



GRID DIP METER

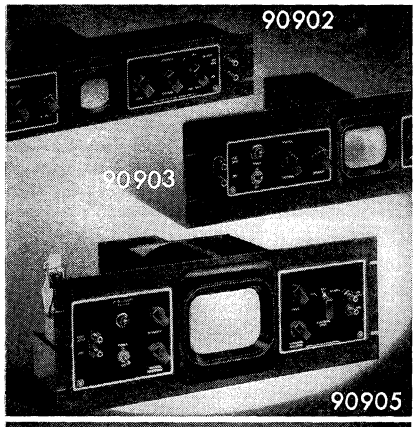
The No. 90651 MILLEN GRID DIP METER is compact and completely self contained. The AC power supply is of the "transformer" type. The drum dial has seven calibrated uniform length scales from 1.7 MC to 300 MC with generous over laps plus an arbitrary scale for use with special application inductors. Internal terminal strip permits battery operation for antenna measurement.
No. 90651, with tube..... $

Additional Inductors for Lower Frequencies
No. 46702—925 to 2000 KC..... $
No. 46703—500 to 1050 KC.....
No. 46704—325 to 600 KC.....
No. 46705—220 to 350 KC.....



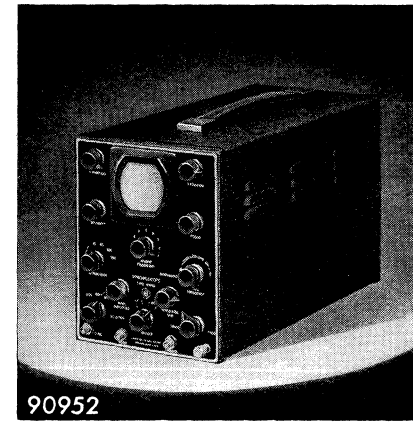
LABORATORY SYNCHROSCOPES

The 5" laboratory synchroscopes are available with and without detector-video strips.
Model P-4-2, with tubes..... $
Model P-4E-2, with tubes.....



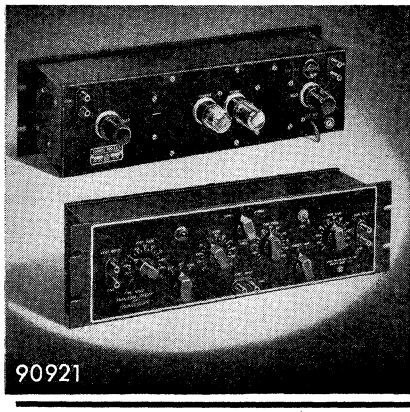
MINIATURE SYNCHROSCOPE

The compact design of the No. 90952, measuring only 7½" x 5⅜" x 13", and weighing only 17 lbs., makes available for the first time a truly DESIGNED FOR APPLICATION "field service" Synchroscope.
No. 90952, with tubes..... $



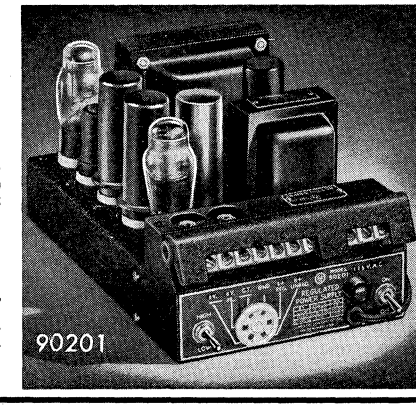
CATHODE RAY OSCILLOSCOPES

The No. 90902, No. 90903 and No. 90905 Rack Panel Oscilloscopes, for two, three and five inch tubes, respectively, are inexpensive *basic units* comprising power supply, brilliancy and centering controls, safety features, magnetic shielding, switches, etc. As a transmitter monitor, no additional equipment or accessories are required. The well-known trapezoidal monitoring patterns are secured by feeding modulated carrier voltage from a pickup loop directly to vertical plates of the cathode ray tube and audio modulating voltage to horizontal plates. By the addition of such units as sweeps, pulse generators, amplifiers, servo sweeps, etc., all of which can be conveniently and neatly constructed on companion rack panels, the original basic 'scope unit may be expanded to serve any conceivable industrial or laboratory application.
No. 90902, less tubes..... $
No. 90903, less tubes.....
No. 90905, less tubes.....



'SCOPE AMPLIFIER—SWEEP UNIT

Vertical and horizontal amplifiers along with hard-tube, saw tooth sweep generator. Complete with power supply mounted on a standard 5¼" rack panel.
No. 90921, with tubes..... $



REGULATED POWER SUPPLIES

A compact, uncased, regulated power supply, either for table use in the laboratory or for incorporation as an integral part of larger equipments. Regulated, unregulated, bias and filament voltages provided.
Model 90201, less tubes..... $.

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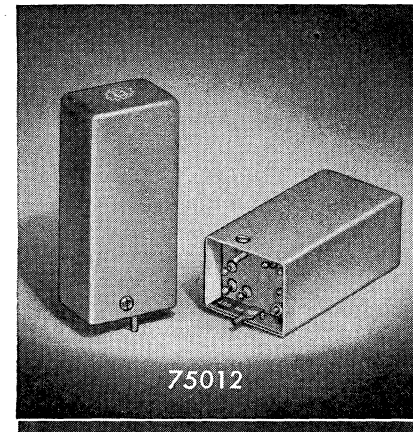
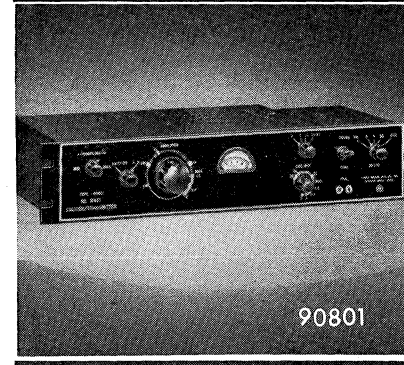
MALDEN · MASSACHUSETTS

STANDING WAVE RATIO BRIDGE
The Millen S.W.R. bridge provides easy and inexpensive measurement of standing wave ratio on antennas using co-ax cable. As assembled the bridge is set up for 52 ohm line. A calibrated 75 ohm resistor is mounted inside the case for substitution in the circuit when 75 ohm line is used.
No. 90671 ..... $

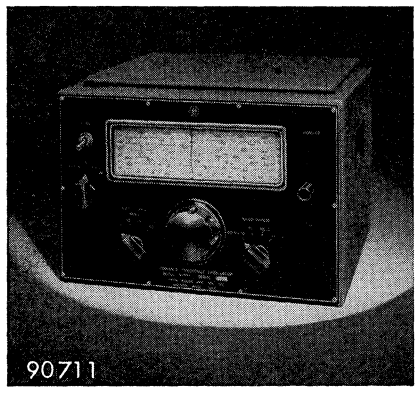


PHASE-SHIFT NETWORK
A complete and laboratory aligned pair of phase-shift networks in a single compact 2" x 1 7/16" x 4" case with characteristics so as to provide a phase shift between the two networks of 90° ± 1.3° over a frequency range of 225 cycles to 2750 cycles. Well adapted for use in either single sideband transmitter or receiver. Possible to obtain a 40 db suppression of the unwanted sideband. The No. 75012 precision adjusted phase-shift network eliminates the necessity of complicated laboratory equipment for network adjustment.
No. 75012 ..... $

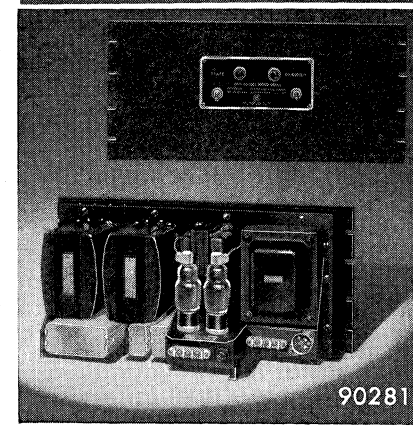
ANTENNA BRIDGE
The Millen 90672 Antenna Bridge is an accurate and sensitive bridge for measuring impedances in the range of 5 to 500 ohms at radio frequencies up to 200 mc. The variable element is an especially designed differential variable capacitor capable of high accuracy and permanency of calibration. Readily driven by No. 90651 Grid Dipper.
No. 90672 ..... $



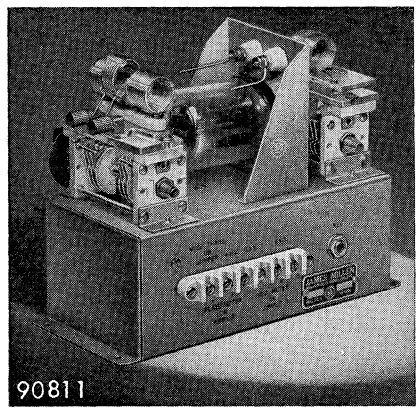
50 WATT EXCITER-TRANSMITTER
Modern design includes features and shielding for TVI reduction, bandswitching for 4–7–14–21–28 megacycle bands, circuit metering. Conservatively rated for use either as a transmitter or exciter for high power PA stages. 5763 oscillator-buffer-multiplier and 6146 power amplifier. Rack mounted.
No. 90801, less tubes ..... $



VARIABLE FREQUENCY OSCILLATOR
The No. 90711 is a complete transmitter control unit with 6SK7 temperature-compensated, electron coupled oscillator of exceptional stability and low drift, a 6SK7 broad-band buffer or frequency doubler, a 6A67 tuned amplifier which tracks with the oscillator tuning, and a regulated power supply. Output sufficient to drive an 807 is available on 160, 80 and 40 meters and reduced output is available on 20 meters. Since the output is isolated from the oscillator by two stages, zero frequency shift occurs when the output load is varied from open circuit to short circuit. The entire unit is unusually solidly built so that no frequency shift occurs due to vibration. The keying is clean and free from all annoying chirp, quick drift, jump, and similar difficulties often encountered in keying variable frequency oscillators.
No. 90711, with tubes ..... $



HIGH VOLTAGE POWER SUPPLY
The No. 90281 high voltage power supply has a d.c. output of 700 volts, with maximum current of 235 ma. In addition, a.c. filament power of 6.3 volts at 4 amperes is also available so that this power supply is an ideal unit for use with transmitters, such as the Millen No. 90801, as well as general laboratory purposes. The power supply uses two No. 816 rectifiers. The panel is standard 8¾" x 19" rack mounting.
No. 90281, less tubes ..... $



HIGH FREQUENCY RF AMPLIFIER
A physically small unit capable of a power output of 70 to 85 watts on 'phone or 87 to 110 watts on C-W on 20, 15, 11, 10, 6 or 2 meter amateur bands. Provision is made for quick band shift by means of the new No. 48000 series VHF plug-in coils. The No. 90811 unit uses either an 829-B or 3E29.
No. 90811 with 10 meter band coils, less tube ..... $

RF POWER AMPLIFIER
This 500 watt amplifier may be used as the basis of a high power amateur transmitter. The No. 90881 RF power amplifier is wired for use with the popular "812A" type tubes. Other popular tubes may be used. The amplifier is of unusually sturdy mechanical construction, on a 10½" relay rack panel. Plug-in inductors are furnished for operation on 10, 20, 40 or 80 meter amateur bands. The standard Millen No. 90801 exciter unit is an ideal driver for the new No. 90881 RF power amplifier.
No. 90881, with one set of coils, but less tubes ..... $

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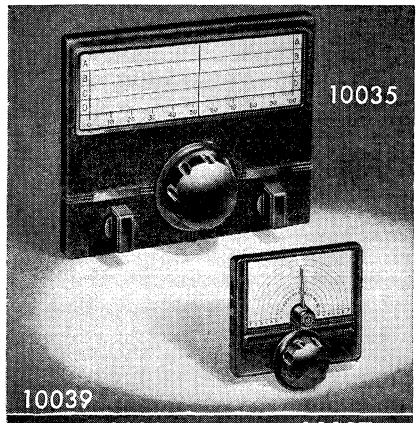
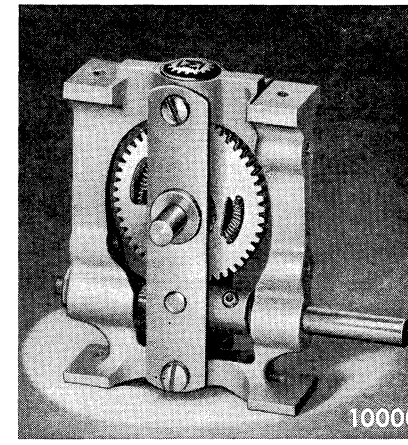


PANEL DIALS

The No. 10035 illuminated panel dial has 12 to 1 ratio; size, 8½" x 6½". Small No. 10039 has 8 to 1 ratio; size, 4" x 3¼". Both are of compact mechanical design, easy to mount and have totally self-contained mechanism, thus eliminating back of panel interference. Provision for mounting and marking auxiliary controls, such as switches, potentiometers, etc., provided on the No. 10035. Standard finish, either size, flat black art metal.

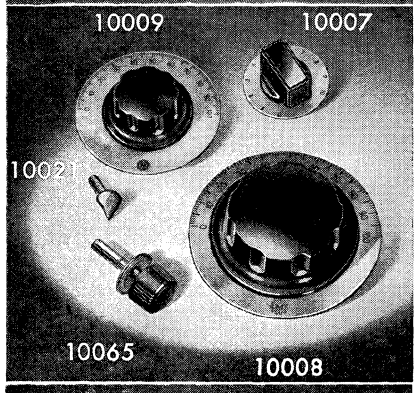
No. 10039..... $
No. 10035.....



WORM DRIVE UNIT

Cast aluminum frame may be panel or base mounted. Spring loaded split gears to minimize back lash.
Standard ratio 16/1. Also in 48/1 on request.

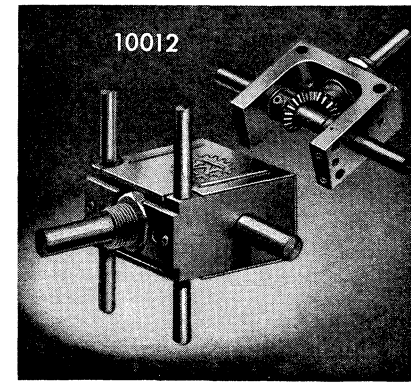
No. 10000—(state ratio)..... $



DIALS AND KNOBS

Just a few of the many stock types of small dials and knobs are illustrated herewith. 10007 is 1⅝" diameter, 10009 is 2½" and 10008 is 3½".

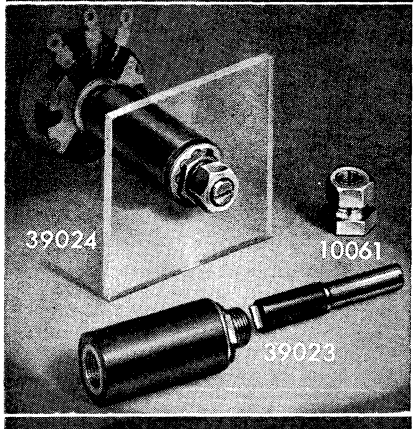
No. 10002..... $
No. 10007.....
No. 10008.....
No. 10009.....
No. 10015.....
No. 10018.....
No. 10021.....
No. 10065.....



RIGHT ANGLE DRIVE

Extremely compact, with provisions for many methods of mounting. Ideal for operating potentiometers, switches, etc., that must be located, for short leads, in remote parts of chassis.

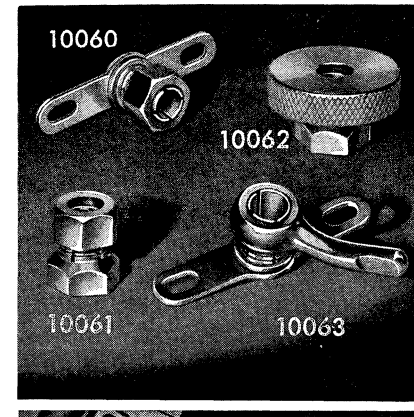
No. 10012..... $



HIGH VOLTAGE INSULATED SHAFT EXTENSION

No. 10061 shaft locks and the No. 39023 insulated high voltage potentiometer extension mountings are available as a single integrated unit—the No. 39024. The proper shaft length is independent of the panel thickness. The standard shaft has provision for screw driver adjustment. Special shaft arrangements are available for industrial applications. Extension shaft and insulated coupling are molded as a single unit to provide accuracy of alignment and ease of installation.

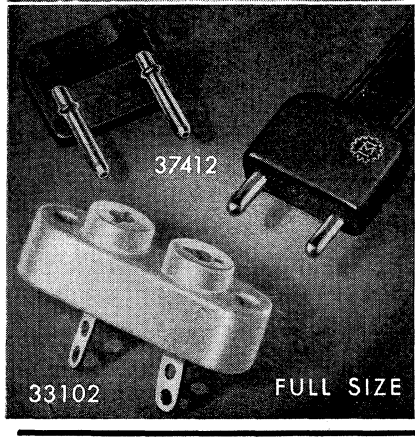
No. 39023, non locking type..... $
No. 39024, locking type.....



SHAFT LOCKS

In addition to the original No. 10060 and No. 10061 "DESIGNED FOR APPLICATION" shaft locks, we can also furnish such variations as the No. 10062 and No. 10063 for easy thumb operation as illustrated above. The No. 10061 instantly converts any plain "¼ shaft" volume control, condenser, etc. from "plain" to "shaft locked" type. Easy to mount in place of regular mounting nut.

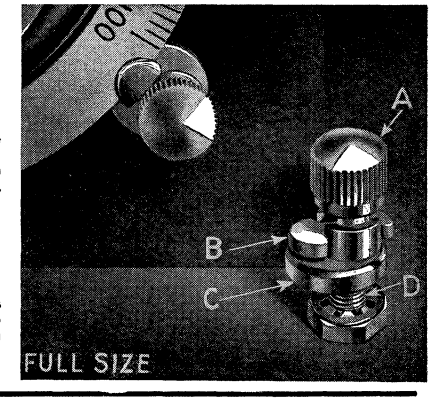
No. 10060..... $
No. 10061.....
No. 10062.....
No. 10063.....



TRANSMISSION LINE PLUG

An inexpensive, compact, and efficient polystyrene unit for use with the 300 ohm ribbon type polyethylene transmission lines. Fits into standard Millen No. 33102 (crystal) socket. Pin spacing ½", diameter .095".

No. 37412..... $



DIAL LOCK

Compact, easy to mount, positive in action, does not alter dial setting in operation! Rotation of knob "A" depresses finger "B" and "C" without imparting any rotary motion to Dial. Single hole mounted.

No. 10050..... $

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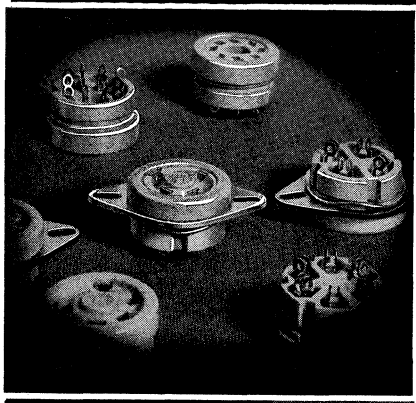


TUBE SOCKETS DESIGNED FOR APPLICATION

MODERN SOCKETS for MODERN TUBES! Long Flashover path to chassis permits use with transmitting tubes, 866 rectifiers, etc. Long leakage path between contacts. Contacts are type proven by hundreds of millions already in government, commercial and broadcast service, to be extremely dependable. Sockets may be mounted either with or without metal flange. Mounts in standard size chassis hole. All types have barrier between contacts and chassis. All but octal and crystal sockets also have barriers between individual contacts in addition.

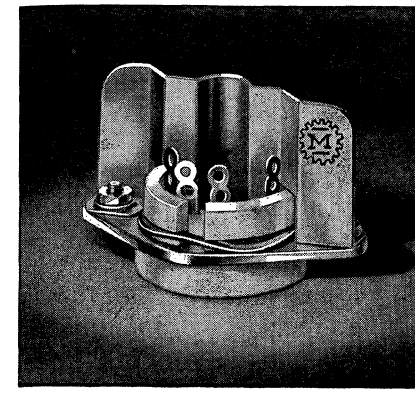
The No. 33888 shield is for use with the 33008 octal socket. By its use, the electrostatic isolation of the grid and plate circuits of single-ended metal tubes can be increased to secure greater stability and gain.

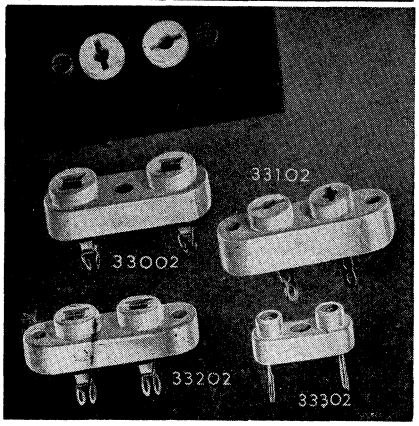
The 33087 tube clamp is easy to use, easy to install, effective in function. Available in special sizes for all types of tubes. Single hole mounting. Spring steel, cadmium plated.

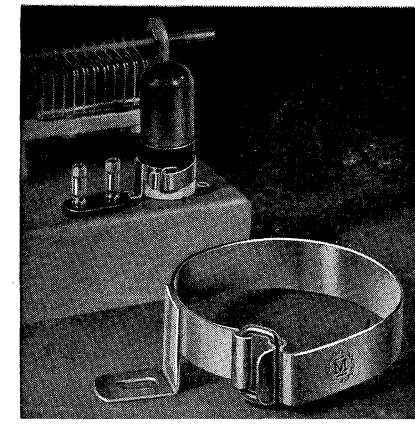
Cavity Socket Contact Discs, 33446 are for use with the "Lighthouse" ultra high frequency tube. This set consists of three different size unhardened beryllium copper multifinger contact discs. Heat treating instructions forwarded with each kit for hardening after spinning or forming to frequency requirements.

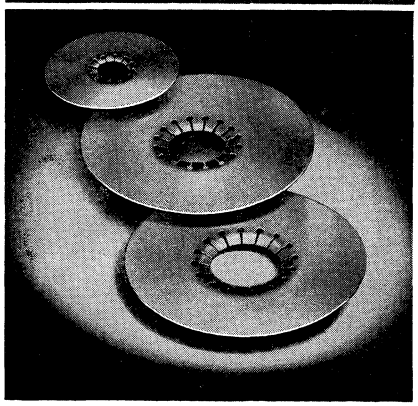
Voltage regulator dual contact bayonet socket, 33991 black phenolic insulation and 33992 with low loss high leakage mica filled phenolic insulation.

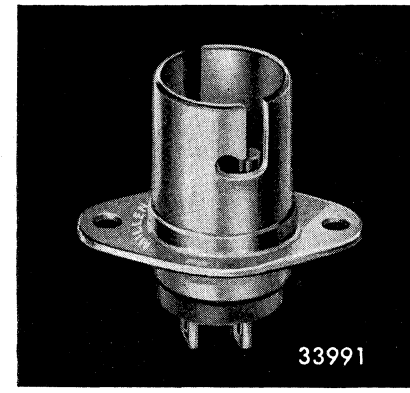
No. 33004..... $
No. 33005.....
No. 33006.....
No. 33008.....
No. 33888.....
No. 33087.....
No. 33002.....
No. 33102.....
No. 33202.....
No. 33302.....
No. 33446.....
No. 33991.....
No. 33992.....











FLEXIBLE COUPLINGS

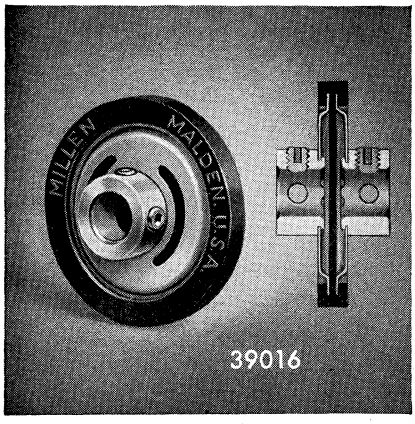
The No. 39000 series of Millen "Designed for Application" flexible coupling units include, in addition to improved versions of the conventional types, also such exclusive original designs as the No. 39001 insulated universal joint and the No. 39006 "slide-action" coupling (in both steatite and bakelite insulation).

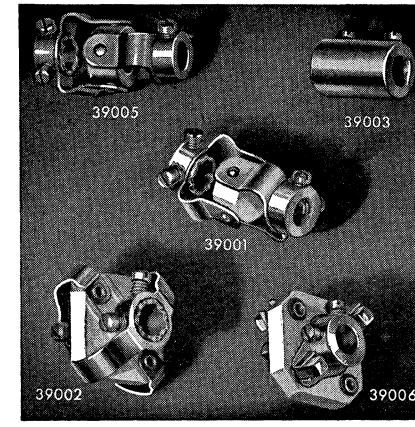
The No. 39006 "slide-action" coupling permits longitudinal shaft motion, eccentric shaft motion and out-of-line operation, as well as angular drive without backlash.

The No. 39005 is similar to the No. 39001, but is not insulated and is designed for applications where relatively high torque is required. The steatite insulated No. 39001 has a special anti-backlash pivot and socket grip feature. All of the above illustrated units are for ¼" shaft and are standard production type units. The No. 39016 and 39017 incorporate features which have long been desired in a flexible coupling. No Back Lash—Higher Flexibility—Higher Breakdown Voltage—Small Diameter—Shorter Length—Higher Alignment Accuracy—Higher Resistance to Mechanical Shock—Solid Insulating Barrier Diaphragm—Molded as a Single Unit.

The No. 39017, for 3/16" shafts has smaller over oil diameter.

No. 39001..... $
No. 39002.....
No. 39003.....
No. 39005.....
No. 39006.....
No. 39016.....
No. 39017.....





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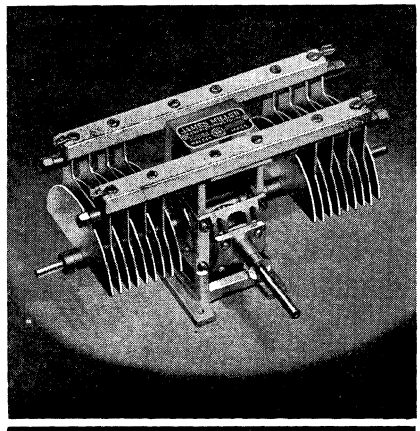
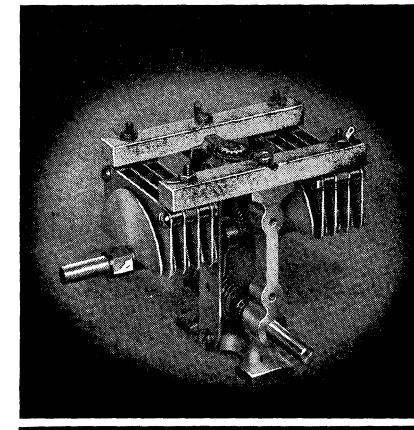


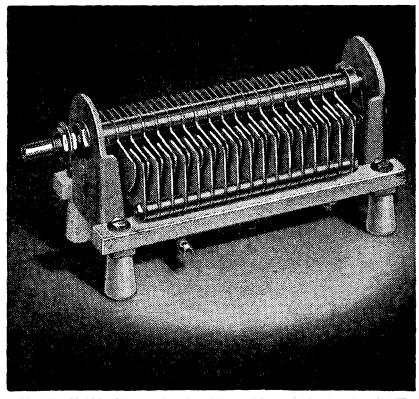
04000 and 11000 SERIES TRANSMITTING CONDENSERS

A new member of the "Designed for Application" series of transmitting variable air capacitors is the 04000 series with peak voltage ratings of 3000, 6000, and 9000 volts. Right angle drive, 1–1 ratio. Adjustable drive shaft angle for either vertical or sloping panels. Sturdy construction, thick, round-edged, polished aluminum plates with 1¾" radius. Constant impedance, heavy current, multiple finger rotor contactor of new design. Available in all normal capacities.

The 11000 series has 16/1 ratio center drive and fixed angle drive shaft.

Code	Volts	Capacity	Price
11035	3000	35	$
11050	3000	50	
11070	3000	70	
04050	6000	50	
04060	9000	60	
04100	6000	90	
04200	3000	205	

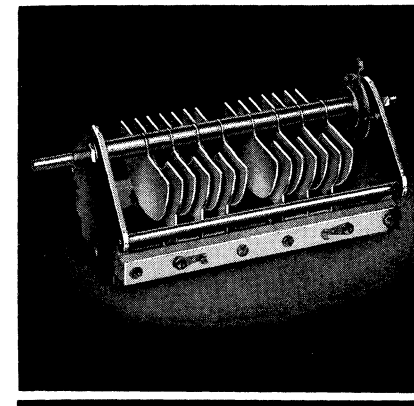


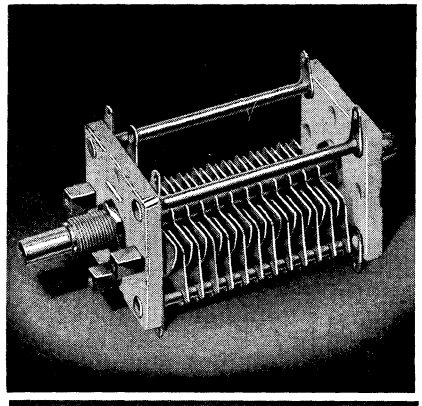


12000 and 16000 SERIES TRANSMITTING CONDENSERS

Rigid heavy channeled aluminum end plates. Isolantite insulation, polished or plain edges. One piece rotor contact spring and connection lug. Compact, easy to mount with connector lugs in convenient locations. Same plate sizes as 11000 series above.

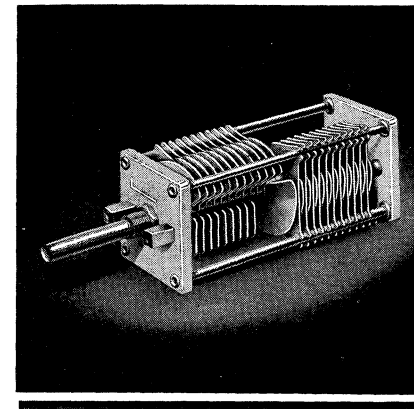
The 16000 series has same plate sizes as 04000 series. Also has constant impedance, heavy current, multiple finger rotor contactor of new design. Both 12000 and 16000 series available in single and double sections and many capacities and plate spacing.

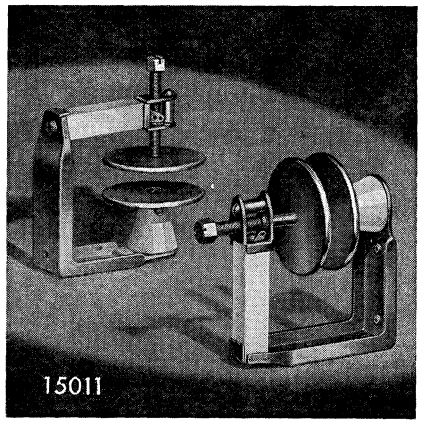




THE 28000–29000 SERIES VARIABLE AIR CAPACITORS

"Designed for Application," double bearings, steatite end plates, cadmium or silver plated brass plates. Single or double section .022" or .066" air gap. End plate size: 19/16" x 11/16". Rotor plate radius: ¾". Shaft lock, rear shaft extension, special mounting brackets, etc., to meet your requirements. The 28000 series has semi-circular rotor plate shape. The 29000 series has approximately straight frequency line rotor plate shape. Prices quoted on request. Many stock sizes.





NEUTRALIZING CAPACITOR

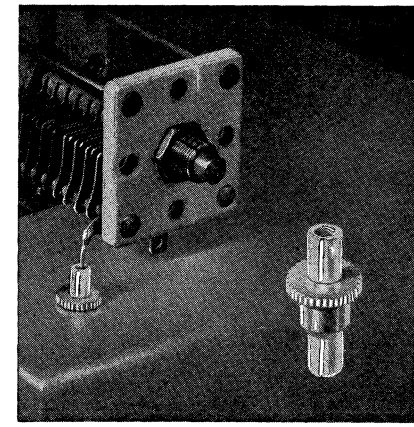
Designed originally for use in our own No. 90881 Power Amplifier, the No. 15011 disc neutralizing capacitor has such unique features as rigid channel frame, horizontal or vertical mounting, fine thread over-size lead screw with stop to prevent shorting and rotor lock. Heavy rounded-edged polished aluminum plates are 2" diameter. Glazed Steatite insulation.

No. 15011..... $

THRU-BUSHING

Efficient, compact, easy to use and neat appearing. Fits ¼" hole in chassis. Held in place with a drop of solder or a "nick" from a crimping tool.

No. 32150..... $



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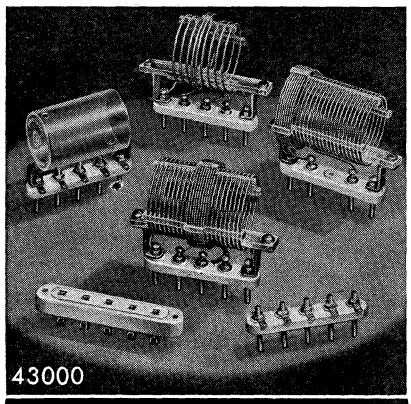


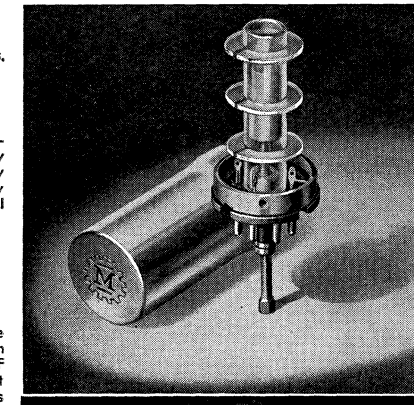
TRANSMITTING TANK COILS

A full line—all popular wattages for all bands. Send for special catalog sheet.

TUNABLE COIL FORM

Standard octal base of low loss mica-filled bakelite, polystyrene ½" diameter coil form, heavy aluminum shield, iron tuning slug of high frequency type, suitable for use up to 35 mc. Adjusting screw protrudes through center hole of standard octal socket.

No. 74001, with iron core..... $
No. 74002, less iron core.....



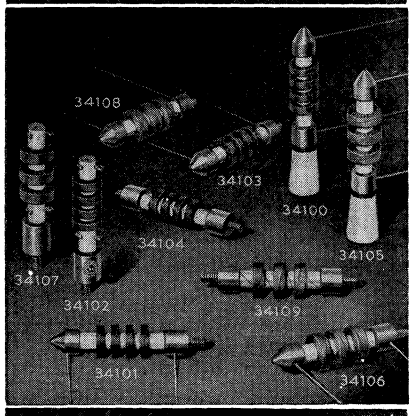
RF CHOKES

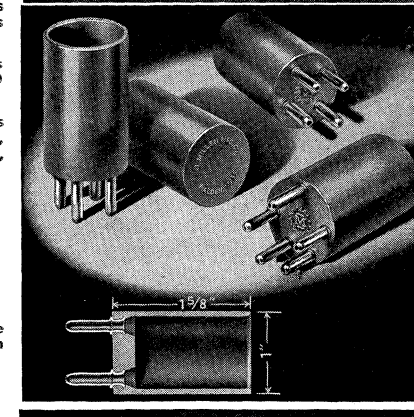
Many have copied, few have equalled, and none have surpassed the genuine original design Millen Designed for Application series of midget RF Chokes. The more popular styles now in constant production are illustrated herewith. Special styles and variations to meet unusual requirements quickly furnished.

Figures 1 and 4 illustrate special types of RF chokes available on order. The popular 34300 and 34200 series are shown in figures 2 and 3 respectively.

General Specifications: 2.5 mH, 250 mA for types 34100, 34101, 34102, 34103, 34104 and 1 mH, 300 mA for types 34105, 34106, 34107, 34108, 34109.

No. 34100..... $
No. 34101.....
No. 34102.....
No. 34103.....
No. 34104.....

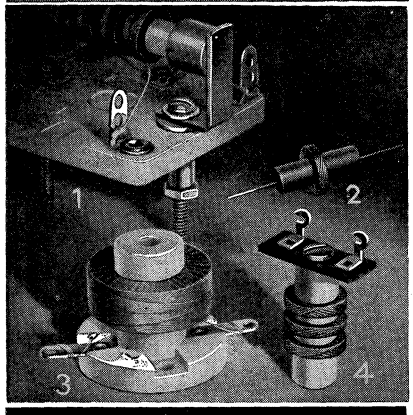




MIDGET COIL FORMS

Made of low loss mica filled brown bakelite. Guide funnel makes for easy threading of leads through pins.

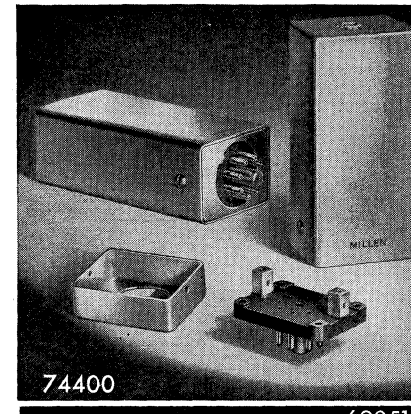
No. 45000..... $
No. 45004.....
No. 45005.....



OCTAL BASE AND SHIELD

Low loss phenolic base with octal socket plug and aluminum shield can 1 7/16 x 1 7/8 x 3 15/16.

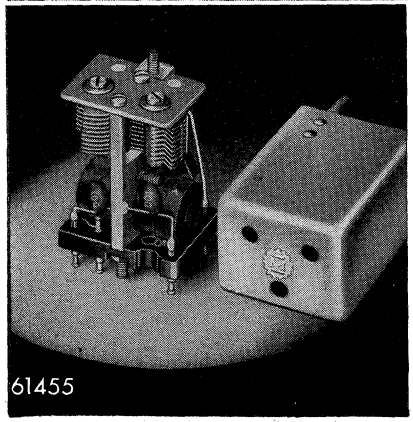
No. 74400..... $



PERMEABILITY TUNED CERAMIC FORMS

In addition to the popular shielded plug-in permeability tuned forms, 74000 series, the 69040 series of ceramic permeability tuned unshielded forms are available as standard stock items. Winding diameters available from 3/16" to ½" and winding space from 1 1/32" to 1½".

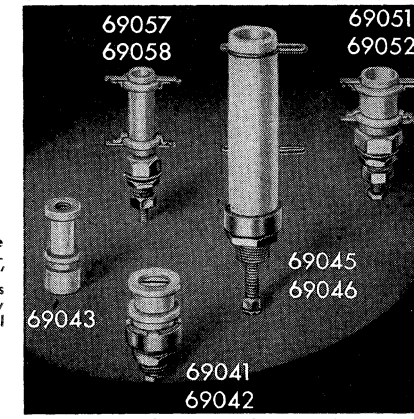
No. 69041—(Copper Slug)..... $
No. 69042—(Iron Core).....
No. 69043—(Copper Slug).....
No. 69044—(Iron Core).....
No. 69045—(Copper Slug).....
No. 69046—(Iron Core).....
No. 69047—(Copper Slug).....
No. 69048—(Iron Core).....
No. 69051—(Copper Slug).....
No. 69052—(Iron Core).....
No. 69054—(Iron Core).....
No. 69055—(Copper Slug).....
No. 69056—(Iron Core).....
No. 69057—(Copper Slug).....
No. 69058—(Iron Core).....
No. 69061—(Copper Slug).....
No. 69062—(Iron Core).....



MINIATURE IF TRANSFORMERS

Extremely high Q—approximately 200—Variable Coupling—(under, critical, and over) with all adjustments on top. Small size 1 1/16" x 1 1/16" x 1 7/8" Molded terminal base. Air capacitor tuned. Coils completely enclosed in cup cores. Tapped primary and secondary. Rugged construction. High electrical stability.

No. 61455, 455 kc. Universal Trans.....$
No. 61453, 455 kc. BFO.....
No. 61160, 1600 kc. Universal Trans.....
No. 61163, 1600 kc. BFO.....



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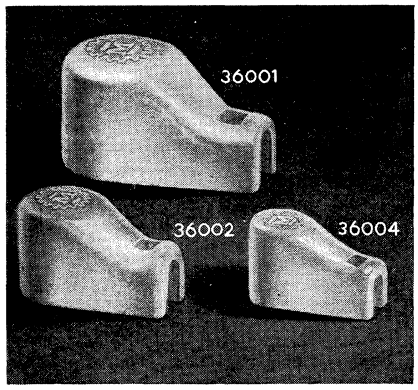
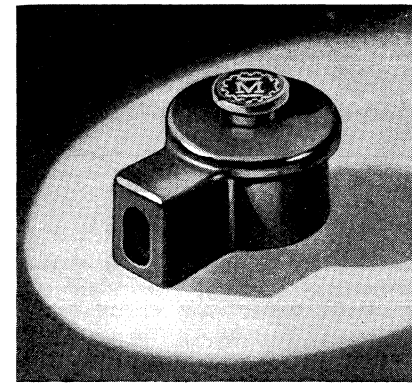


CERAMIC PLATE OR GRID CAPS

Soldering lug and contact one-piece. Lug ears annealed and solder dipped to facilitate easy combination "mechanical plus soldered" connection of cable.

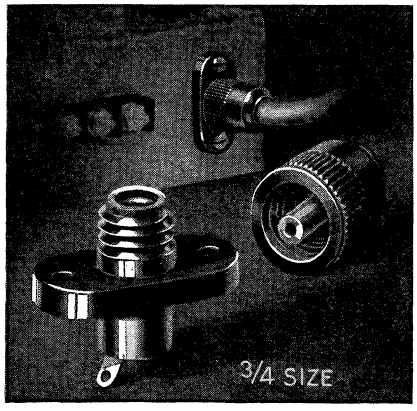
No. 36001—9/16"..... $
No. 36002—⅜"..... .....
No. 36004—¼"..... .....



SNAP LOCK PLATE CAP

For Mobile, Industrial and other applications where tighter than normal grip with multiple finger 360° low resistance contact is required. Contact self-locking when cap is pressed into position. Insulated snap button at top releases contact grip for easy removal without damage to tube.

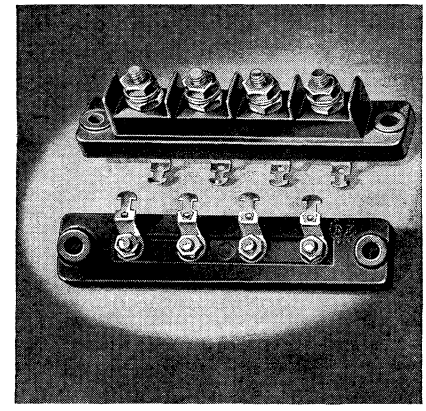
No. 36011—9/16"..... $
No. 36012—⅜"..... .....



SAFETY TERMINAL

Combination high voltage terminal and thru-bushing Tapered contact pin fits firmly into conical socket providing large area, low resistance connection. Pin is swivel mounted in cap to prevent twisting of lead wire.

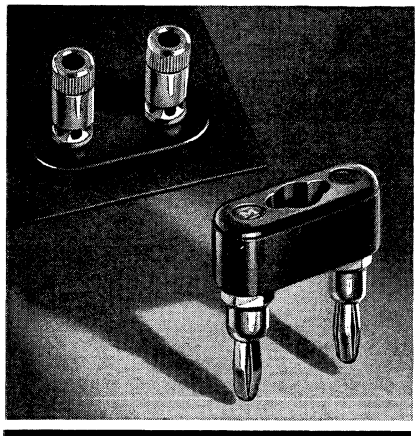
No. 37001, Black or Red..... $
No. 37501, Low loss..... .....



TERMINAL STRIP

A sturdy four-terminal strip of molded black Textolite. Barriers between contacts. "Non turning" studs, threaded 8/32 each end.

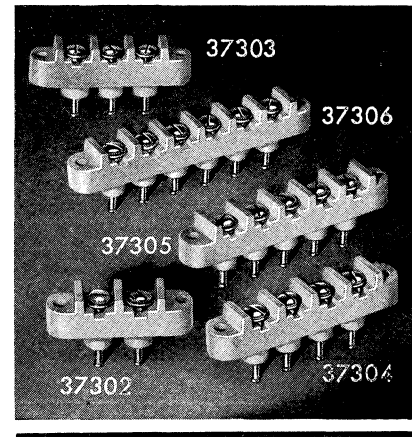
No. 37104..... $



POSTS, PLATES and PLUGS

Designed for Application! Compact, easy to use. Made in black and red regular bakelite as well as low loss brown mica filled bakelite or steatite for R.F. uses. Posts have captive head.

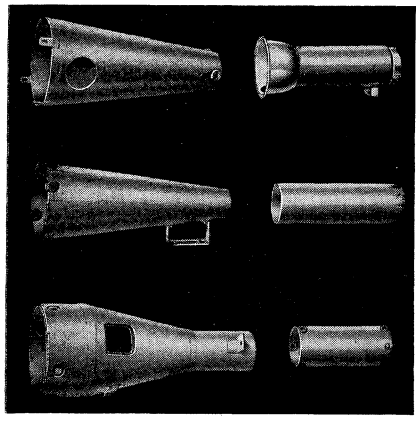
No. 37202 Plates (pr.)..... $
No. 37212 Plugs..... .....
No. 37222 Posts (pr.)..... .....



STEATITE TERMINAL STRIPS

Terminal and lug are one piece. Lugs are Navy turret type and are free floating so as not to strain steatite during wide temperature variations. Easy to mount with series of round holes for integral chassis bushings.

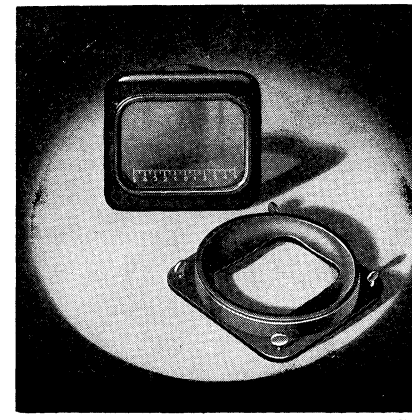
No. 37302..... $
No. 37303..... .....
No. 37304..... .....
No. 37305..... .....
No. 37306..... .....



CATHODE RAY TUBE SHIELDS

For many years we have specialized in the design and manufacture of magnetic metal shields of nicoloi and mumetal for cathode ray tubes in our own complete equipment, as well as for applications of all other principal complete equipment manufacturers. Stock types as well as special designs to customers' specifications promptly available.

No. 80045—Nicoloi for 5BP1 ..... $
No. 80055—Nicoloi for 5CP1..... .....
No. 80043—Nicoloi for 3" tube..... .....
No. 80042—Nicoloi for 2" tube..... .....



BEZELS FOR CATHODE RAY TUBES

Standard types are of satin finish black plastic. 5" size has neoprene support cushion and green lucite filter. 3" and 2" sizes have integral cushioning.

No. 80075—5"..... $
No. 80073—3"..... .....
No. 80072—2"..... .....
No. 80071—1"..... .....

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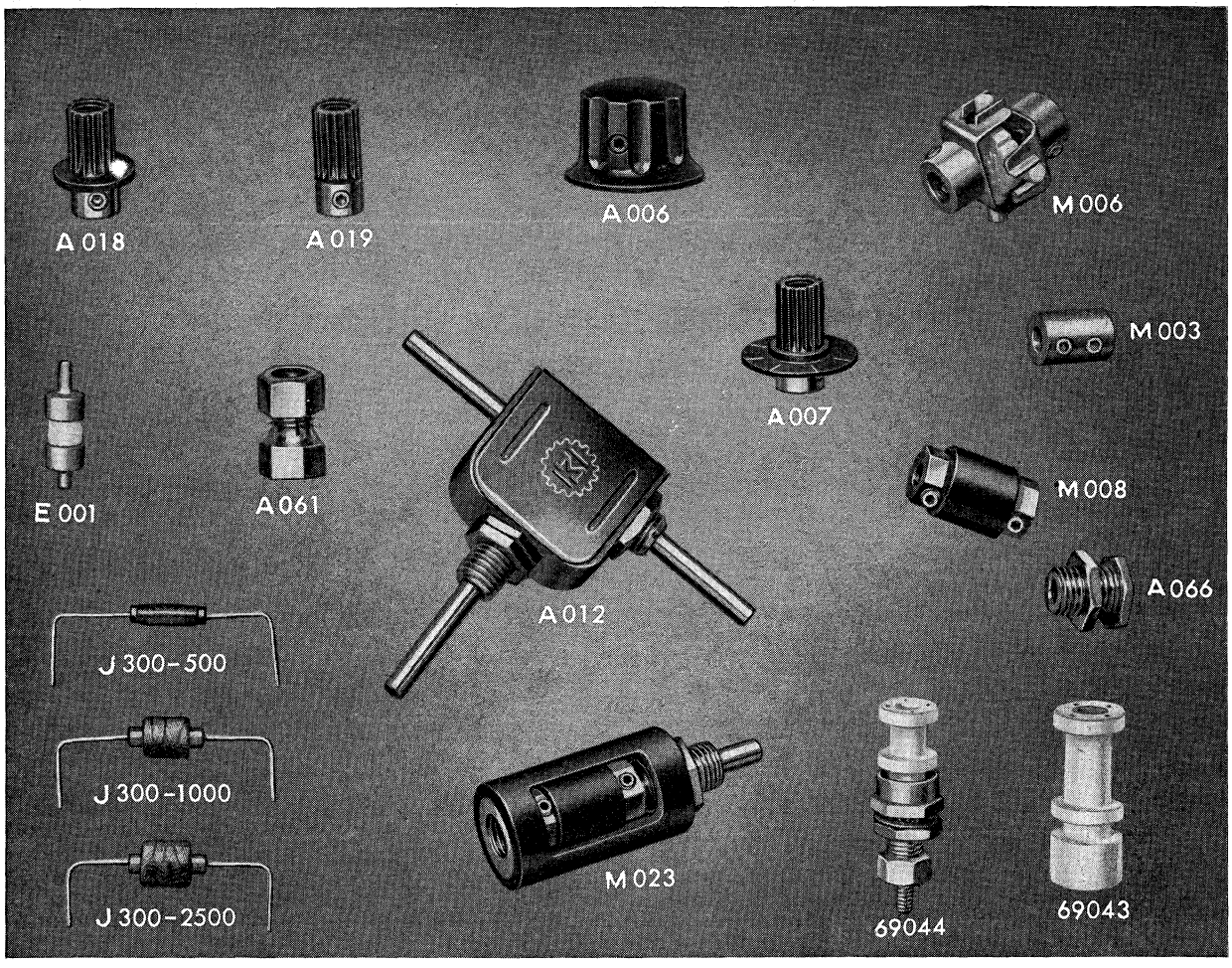

MINIATURIZED COMPONENTS

DESIGNED for APPLICATION miniaturized components developed for use in our own equipment such as the 90901 Oscilloscope, are now available for separate sale. Many of these parts are similar in most details except size with their equivalents in our standard component parts group and in certain devices where complete miniaturization is not paramount, a combination of standard and miniature components may possibly be used to advantage. For convenience, we have also listed on this page the extremely small sized coil forms from our standard catalogue. Additional miniature and subminiature components are in process of design and will be announced shortly.

CODE	DESCRIPTION	NET PRICE
A006	Matches standard knobs in style. Black plastic with brass insert. For 1/8" shaft. Overall height 1/2". Diameter 3/4".	$
A007	Same as A018 except for 5/8" diameter plastic dial with 5 index lines.	
A012	Right angle drive. 1/8" diameter shafts. Single hole mounting bushing 1/4"–32 diameter.	
A018	1/4" diameter black plastic knob with brass insert for 1/8" shaft. Skirt diameter 3/8". Overall height 5/8". Unique design has screwdriver slot in top.	
A019	Similar to A018, but without flange.	$
A061	Shaft lock for 1/8" diameter shaft. 1/4"–32 bushing. Nickle plated brass.	
A066	Shaft bearing for 1/8" diameter shafts. Nickle plated brass. Fits 17/64" diameter hole.	
E001	Steatite standoff or tie-point integral mounting eyelet .205 overall diameter. Box of five.	
J300–500	Iron core RF choke 500 uh.	
J300–1000	Iron core RF choke 1000 uh.	
J300–2500	Iron core RF choke 2 1/2 mh.	
M003	Solid coupling for 1/8" diameter shaft. Nickle plated brass.	
M006	Universal joint style flexible coupling. Spring finger. Steatite insulation. Nickle plated brass for 1/8" diameter shafts.	
M008	Insulated coupling, with nickle plated brass inserts or 1/8" diameter shafts.	
M023	Insulated shaft extension for mounting sub miniature potentiometer with 1/8" diameter shafts and 1/4"–32 bushing.	
69043	Steatite coil form. Adjustable core. Top tuned. Tapped 4–40 hole in case for mounting. Winding space 1/4" diameter x 13/32" length.	
69044	Steatite coil form. Adjustable brass core. Bottom tuned. Mounting by No. 1D-32 brass base. Winding space .187 diameter by 3/16" length	

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Exciters, Modulators and Power Supplies

EXCITER-TRANSMITTER

The 90801 Exciter-Transmitter is of the most modern design including features and shielding for TVI reduction, band-switching for the 4–7–14–21 and 28 megacycle bands, circuit metering. Conservatively rated for use either as a transmitter or exciter. 5763 oscillator-buffer-multiplier and 6146 power amplifier. 90 watts input for CW. Can be keyed in the oscillator and/or amplifier or by means of keyed external V.F.O. such as the 90711. 67 watts input phone. Rack mounted. 3½" panel height.

No. 90801, less tubes.....$00.00

HIGH VOLTAGE POWER SUPPLY

The 90281 high voltage power supply has a d.c. output of 550 to 700 volts, with maximum current of 235 ma. In addition, a.c. filament power of 6.3 volts at 4 amperes is also available. This power supply is an ideal unit for use with transmitters as well as general laboratory purposes. A single power supply will provide high voltage for both the 90801 Transmitter and the 90831 Modulator. Uses 2 — 816 mercury vapor rectifiers and incorporates a two section filter which results in excellent regulation and very low ripple. Rack mounted. 8¾" panel height.

No. 90281, less tubes.....$00.00

MODULATOR

The 90831 40 watt modulator designed especially for use with 90801 transmitter. 12AX7 speech amplifier-6C4 voltage amplifier-class AB1 6146's. Suitable for modulating transmitters with power input up to 80 watts. Gain is ample for the use of low level, high impedance crystal or dynamic microphones. Frequency response is adjusted for good communication intelligibility with limited side bands. Modulator incorporates a switch for complete change-over of modulator and transmitter from CW to 'phone. Rack mounted. 5¼" panel height.

No. 90831, less tubes.....$00.00

LOW VOLTAGE POWER SUPPLY
(not illustrated)

The 90201 is a compact uncased regulated and general purpose power supply either for table use, in the laboratory or for incorporation as an integral part of larger equipments. It will provide modulator and exciter low voltage as well as bias and heater voltages when used with the 90801 and 90831. Its multiple outputs include 250 volt 125 ma. unregulated — 105 volt 35 ma. regulated-bias voltage to minus 100 volts — 6.3 volt filament power at 4.2 amperes.

Model 90201, with tubes.....$00.00

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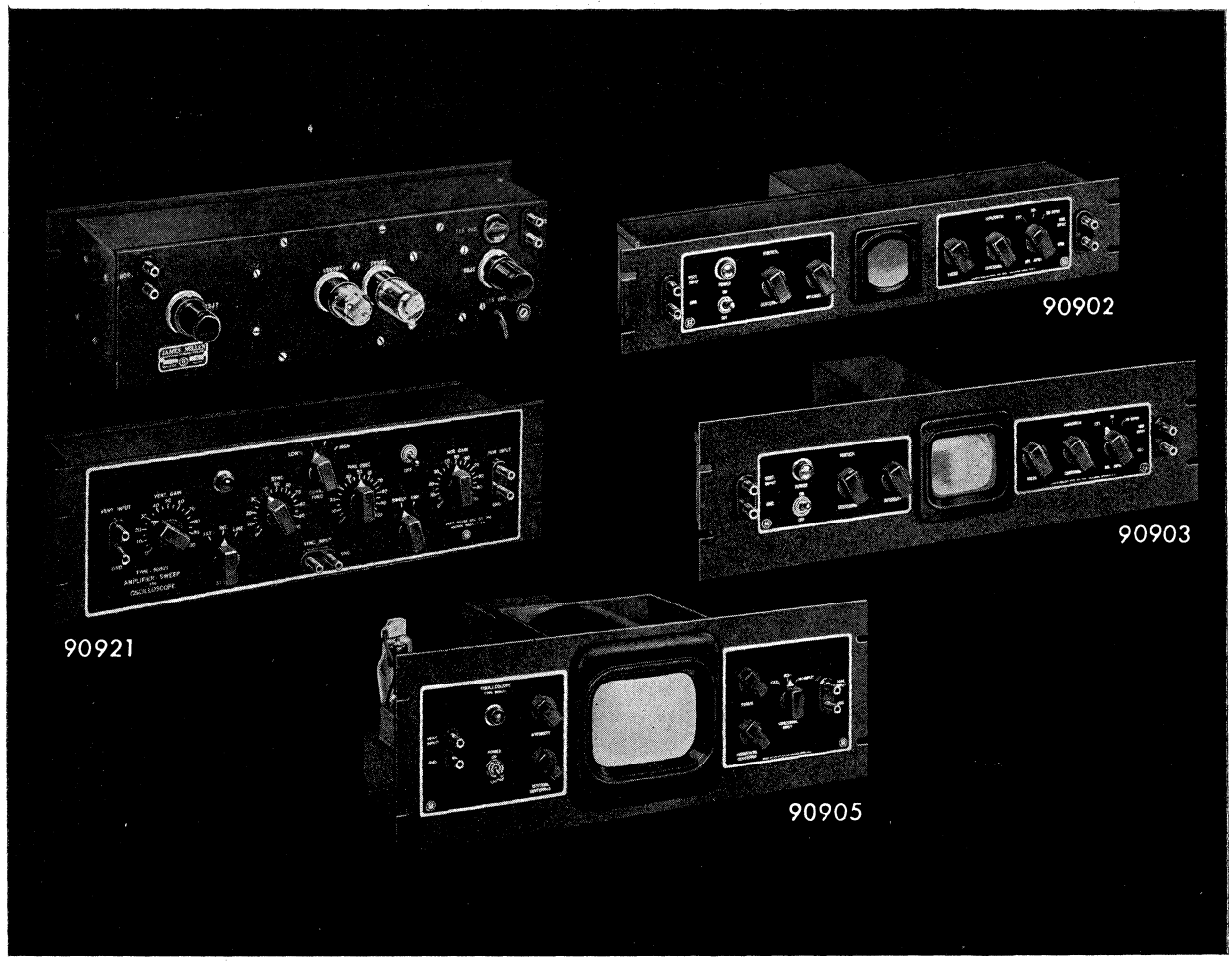

The Oscilloscopes and the Amplifier Sweep

The oscilloscopes in their packaged form are entirely adequate for many laboratory as well as industrial and communication uses. As a transmitter modulation monitor, no additional equipment or accessories are required. By the addition of such units as sweeps, pulse generators, amplifiers, servo sweeps, etc., all of which can be conveniently and neatly constructed on companion rack panels, the original basic scope unit can be expanded to serve any conceivable application.

Here again the research engineer is freed of the drudgery of time consuming mechanical construction and other such details of the basic scope before being able to proceed with his specialized work.

The oscilloscopes are designed for standard rack mounting and incorporate mumetal shielding and power supply as well as functional controls.

NO. 90902 TWO INCH OSCILLOSCOPE

Power Supply: 105–125 volts — 60 cycles. Power consumption — 19 watts
Physical Dimensions: Height — 3¼ Inches, Width — 19 Inches, Depth — 9¼ Inches, Weight — 12 Pounds
Tube Complement: 1 — 2BP1 — Cathode Ray Tube, 1 — 2X2-A High Voltage Rectifier
Deflection Sensitivity: Vertical — 100 volts d.c. per inch. Horizontal — 120 volts d.c. per inch

No. 90902: Two Inch Oscilloscope less tubes.....$00.00

NO. 90903 THREE INCH OSCILLOSCOPE

Power Supply: 105–125 volts — 60 cycles. Power consumption — 19 watts
Physical Dimensions: Height — 5¼ Inches, Width — 19 Inches, Depth — 13½ Inches, Weight — 14 Pounds
Tube Complement: 1 — 3KP1 Cathode Ray Tube, 1 — 2X2-A High Voltage Rectifier
Deflection Sensitivity: Vertical — 40 volts d.c. per inch. Horizontal — 46 volts d.c. per inch

No. 90903: Three Inch Oscilloscope less tubes.....$00.00

NO. 90905 FIVE INCH OSCILLOSCOPE

Power Supply: 105–125 volts — 60 cycles. Power consumption — 32 watts
Physical Dimensions: Height — 6$^{15}/_{16}$ Inches, Width — 19 Inches, Depth (Overall) — 16½ Inches, Weight — 24 Pounds
Tube Complement: 1 — 5UP1 — Cathode Ray Tube, 1 — 2X2-A — Negative High Voltage Rectifier, 1 — 5Y3-GT-Positive High Voltage Rectifier
Deflection Sensitivity: Vertical — 50 volts d.c. per inch. Horizontal — 60 volts d.c. per inch

No. 90905: Five Inch Oscilloscope less tubes.....$00.00

The Millen 90921 Amplifier-Sweep may be used with any basic oscilloscope even though designed especially for use with the Millen 90902, 90903 and 90905 basic oscilloscopes. It contains both horizontal and vertical amplifiers together with a sawtooth sweep generator using a "hard" tube oscillator. The sweep amplifier is designed for standard rack mounting and matches the MILLEN basic oscilloscopes in appearance.

NO. 90921 AMPLIFIER SWEEP

Power Supply: 105–125 volts — 60 cycles. Power consumption — 32 watts
Physical Dimensions: Height — 5¼ Inches, Width — 19 Inches, Depth (Overall) — 8⅜ Inches, Weight — 13 Pounds
Tube Complement: 2 — 6SJ7s Vertical and Horizontal Amplifiers, 1 — 6SN7-GT-Sweep Generator, 1 — 5Y3-GT-Rectifier
Gain of each amplifier — Approximately 25 db.
Frequency Response — 15 cycles to 125 kilocycles. Flat within 2 db.
Sweep Frequencies — 15 cycles to 40 kilocycles. 4 overlapping ranges
Maximum D.C. to amplifier input — 400 volts
Maximum undistorted amplifier output — Approximately 70 volts peak to peak both vertical and horizontal amplifiers

No. 90921 Amplifier-Sweep with tubes.....$00.00

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LABORATORY DELAY LINE STANDARDS

The Millen delay line kit effectively provides a means for the development and design engineer to check the affect of various delays in their actual developmental setups without the time loss and expense of producing separate lines for each trial. Increased requirement for time delay circuits in radar, color television and other modern electronic applications has presented a problem to the design and development engineer as it has been both time consuming and expensive to obtain delay lines for developmental work as each line was necessarily cut to the estimated delay and any change in requirements necessitated the fabrication of a new delay line. The Millen delay line kit is designed to provide a ready means of obtaining various delays from .10 microseconds through 2 microseconds in increments of .05 microseconds except at the extreme ends of this range. The lines may be used repeatedly without deterioration as they are hermetically sealed, the smaller lines in glass tubes, the 1 microsecond line in a metal container.

Each set consists of:

NOMINAL DELAY	TOL.	CALIBRATION TOLERANCE
2—0.10 μs.	± 0.01 μs.	± 0.002 μs.
2—0.25 μs.	± 0.025 μs.	± 0.002 μs.
1—0.30 μs.	± 0.03 μs.	± 0.002 μs.
1—1.00 μs.	± 0.05 μs.	± 0.01 μs.

Actual delay as measured by phase shift method are marked on each delay line. The laboratory calibration of each delay line is accurate to ± 0.002 microseconds on all of the .10 microsecond, .25 microsecond and .03 microsecond lines and ± 0.01 microsecond on the 1 microsecond line. Combination of delay lines supplied makes possible the following delays:

0.10 μs.	0.55 μs.	1.10 μs.	1.55 μs.
0.20	0.60	1.20	1.60
0.25	0.65	1.25	1.65
0.30	0.70	1.30	1.70
0.35	0.75	1.35	1.75
0.40	0.80	1.40	1.80
0.45	0.90	1.45	1.90
0.50	1.00	1.50	2.00

Characteristic impedance — 1350 ohms ± 20%.

PHYSICAL DIMENSIONS:

0.1 μs.—$\frac{15}{32}$" dia. x 4⅛"l ong
0.25 μs.—$\frac{13}{32}$" dia. x 7⅝" long
0.30 μs.—$\frac{13}{32}$" dia. x 7⅝" long
1.00 μs.—4¾" x 4¾" x 1"

All seven lines are mounted in a metal case 9½" x 5" x 1¾" for convenience in storing and safety in handling.

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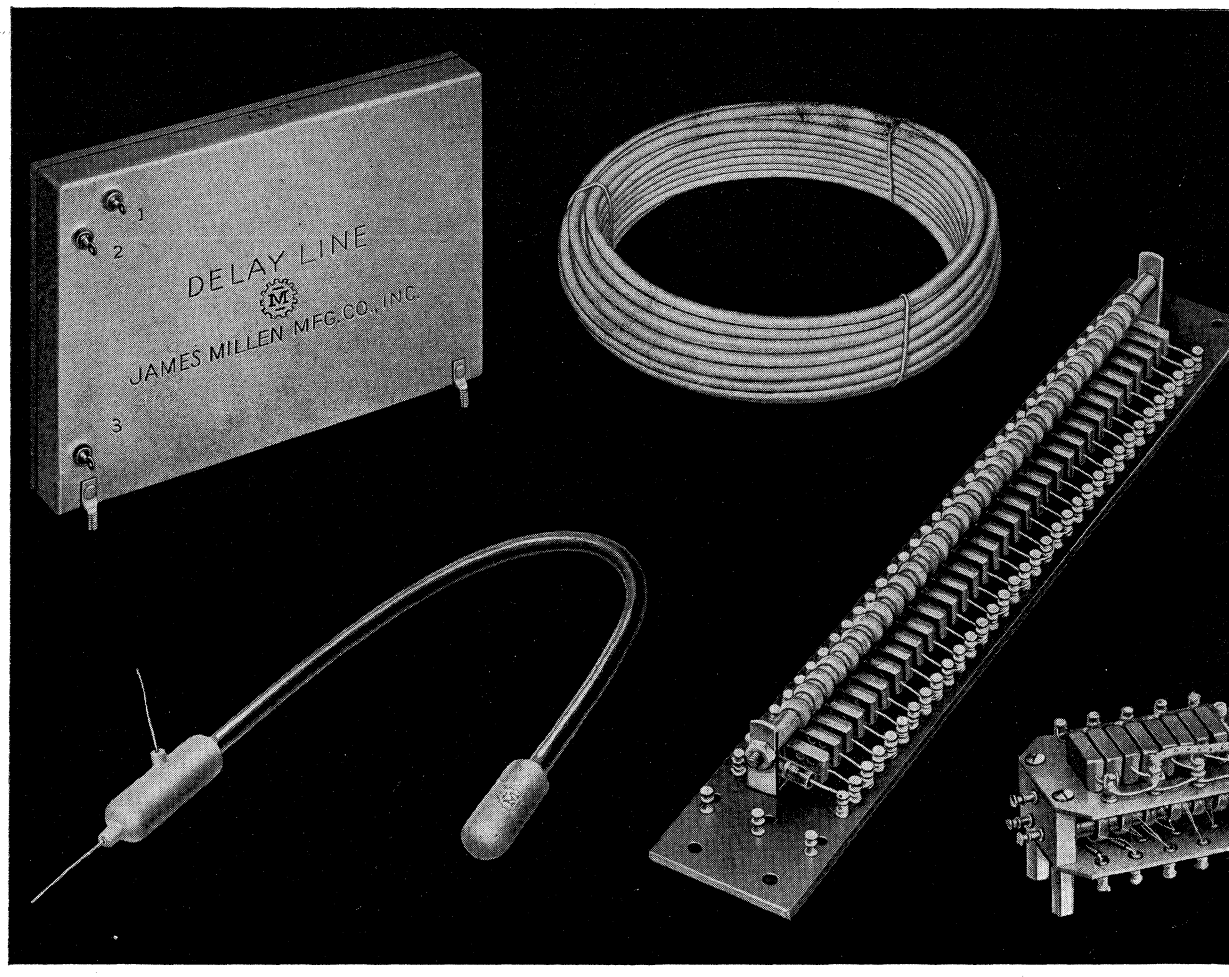

"Designed for Application"

Delay Lines and Networks

The James Millen Mfg. Co., Inc. has been producing continuous delay lines and lump constant delay networks since the origination of the demand for these components in pulse formation and other circuits requiring time delay. The most modern of these is the distributed constant delay line designed to comply with the most stringent electrical and mechanical requirements for military, commercial and laboratory equipment.

Millen distributed constant line is available as bulk line for laboratory use and in either flexible or metallic hermetically sealed units adjusted to exact time delay for use in production equipment. Lump constant delay networks may be preferred for some specialized applications and can be furnished in open or hermetically sealed construction. The above illustrates several typical lines of both types. Our engineers are available to assist you in your delay line problems.

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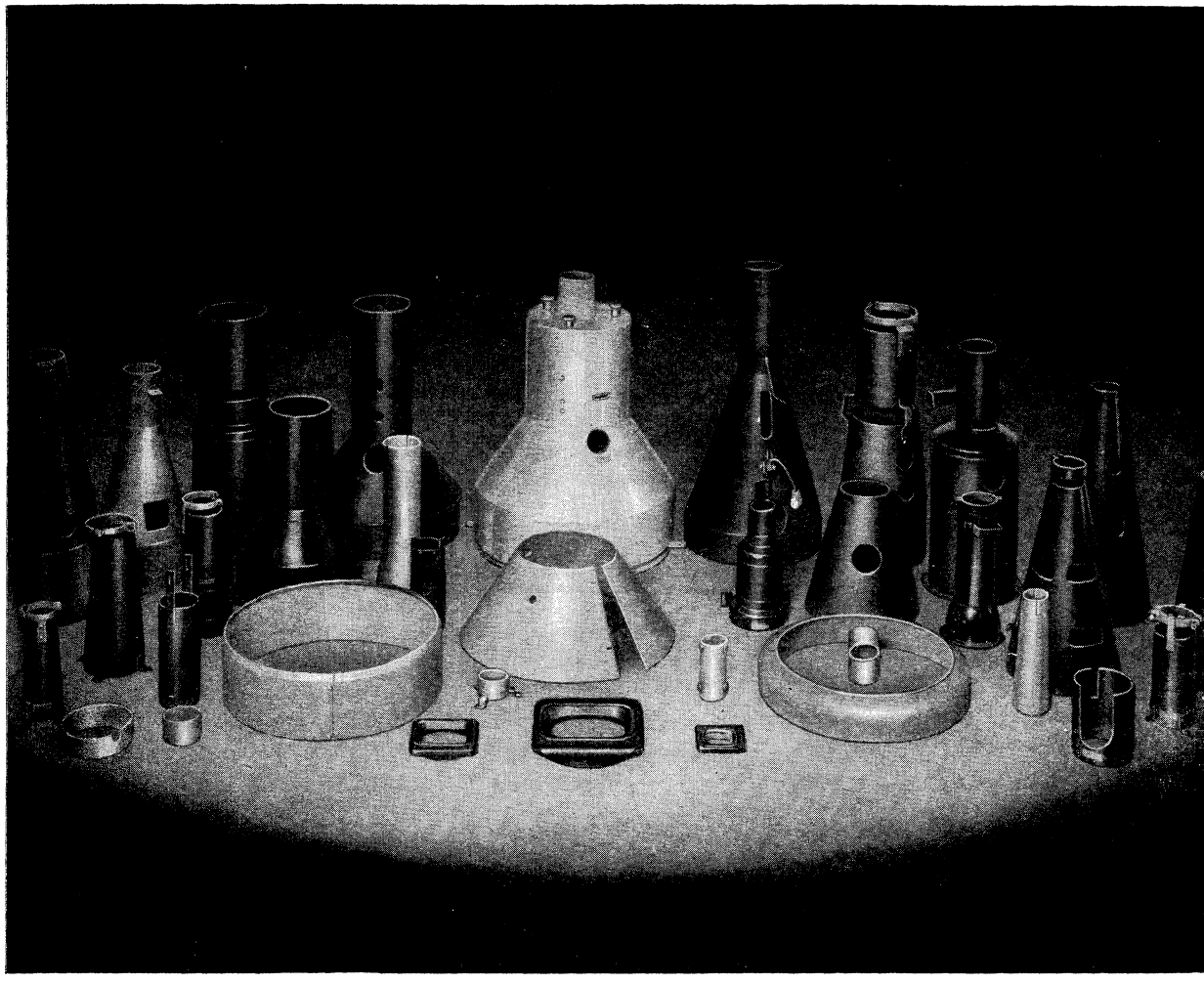

Designed for Application

Mu Metal Shields

The James Millen Mfg. Co. Inc. has for many years specialized in the production of magnetic metal cathode ray tube shields for the entire electronics industry, supplying magnetic metal shields to manufacturing companies, laboratories and research organizations. Stock shields are immediately available for all of the more popular sizes and types of cathode ray tubes as well as bezels for 2″, 3″ and 5″ size tubes.

Many production problems, however, make desirable special shields designed in conjunction with the specialized requirement of the basic apparatus. Herewith, are illustrated a number of such custom built shields. Our custom design and fabrication department is at the service of our customers for the development and manufacture of magnetic metal shields of either nicoloi or mumetal for such specialized applications.

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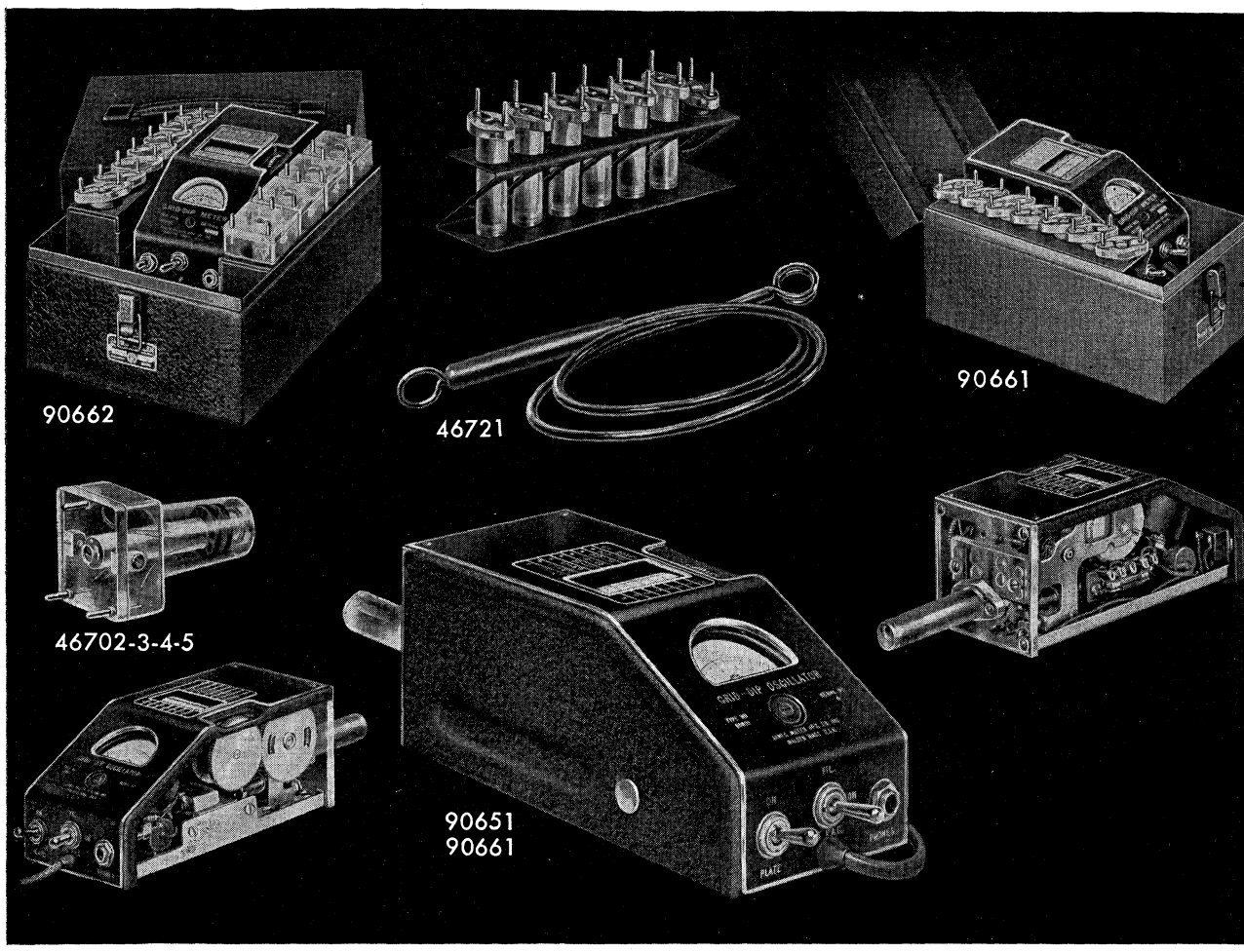

Grid Dip Meters

Millen Grid Dip Meters are available to meet all various laboratory and servicing requirements.

The 90662 Industrial Grid Dip Meter completely calibrated for laboratory use with a range from 225 kc. to 300 mc. incorporates features desired for both industrial and laboratory application, including three wire grounding type power cord and suitable carrying case.

The 90661 Industrial Grid Dip Meter is similar to the 90662 except for a reduced range of 1.7 to 300 mc. It likewise incorporates the three wire grounding type cord and metal carrying case.

The 90651 Standard Grid Dip Meter is a somewhat less expensive version of the grid dip meter. The calibration while adequate for general usage is not as complete as in the case of the industrial model. It is supplied without grounding lead and without carrying case. The range is 1.7 to 300 mc. Extra inductors available extends range to 220 kc.

The Millen Grid Dip Meter is a calibrated stable RF oscillator unit with a meter to read grid current. The frequency determining coil is plugged into the unit so that it may be used as a probe.

These instruments are complete with a built-in transformer type A.C. power supply and interminal terminal board to provide connections for battery operation where it is desirable to use the unit on antenna measurements and other usages where A.C. power is not available. Compactness has been achieved without loss of performance or convenience of usage. The incorporation of the power supply, oscillator and probe into a single unit provides a convenient device for checking all types of circuits. The indicating instrument is a standard 2 inch General Electric instrument with an easy to read scale. The calibrated dial is a large 205° drum dial which provides seven direct reading scales, plus an additional universal scale, all with the same length and readability. Each range has its individual plug-in probe completely enclosed in a contour fitting polystyrene case for assurance of permanence of calibration as well as to prevent any possibility of mechanical damage or of unintentional contact with the components of the circuit being tested.

The Grid Dip Meters may be used as:

1. A Grid Dip Oscillator
2. An Oscillating Detector
3. A Signal Generator
4. An Indicating Absorption Wavemeter

The most common usage of the Grid Dip Meter is as an oscillating frequency meter to determine the resonant frequencies of de-energized tuned circuits.

Size of Grid Dip Meter only (less probe): 7 in. x 3 5/16 in. x 3 3/8 in.

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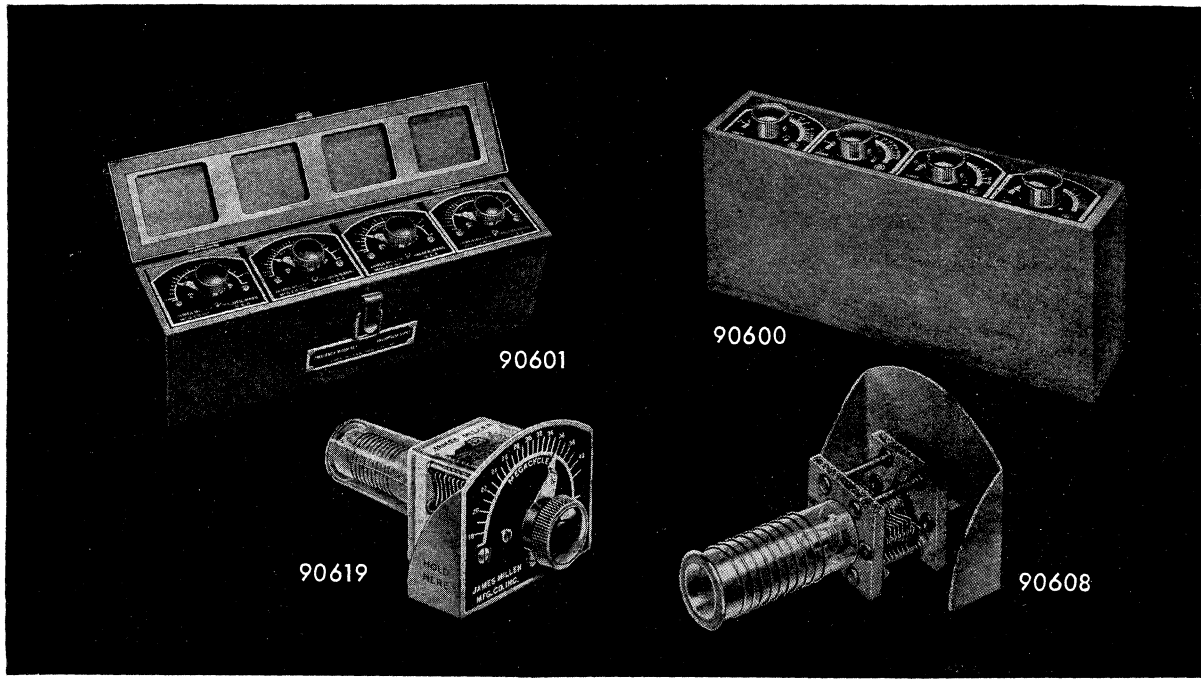

Midget Absorption Frequency Meters

Many amateurs and experimenters do not realize that one of the most useful "tools" of the commercial transmitter designer is a series of very small absorption type frequency meters. These handy instruments can be poked into small shield compartments, coil cans, corners of chassis, etc., to check harmonics; parasitics; oscillator-doubler, etc., tank tuning; and a host of other such applications. Quickly enables the design engineer to find out what is really "going on" in a circuit.

Types 90605 thru 90609 are extremely small and designed primarily for engineering laboratory use where they will be handled with reasonable care. The most useful combination being the group of four under code No. 90600 and covering the total range of from 3.0 to 140 megacycles. When purchased in sets of four under code No. 90600 a convenient carrying and storage case is included. Series 90601 are slightly larger and very much more rugged. They are further protected by a contour fitting transparent polystyrene case to protect against damage and dirt. This latter series is designed primarily for field use and are not quite as convenient for laboratory use as the 90605 thru 90608 types. All types have dials directly calibrated in frequency.

Code	Description	Net Price
90604	Range 160 to 210 mc.	$
90605	Range 3.0 to 10 mc.	
90606	Range 9.0 to 23 mc.	
90607	Range 23 to 60 mc.	
90608	Range 50 to 140 mc.	
90609	Range 130 to 170 mc.	
90610	Range 105 to 150 mc.	
90619	Range 350 to 1000 kc.—Neon Indicator	
90620	Range 150 to 350 kc.—Neon Indicator	
90625	Range 2 to 6 mc.—Neon Indicator	
90626	Range 5.5 to 15 mc.—Neon Indicator	
90600	Complete set of 90605 thru 90608, in case	
90601	Complete set Field type Frequency Meters in metal carrying case 1.5 to 40 mc.	

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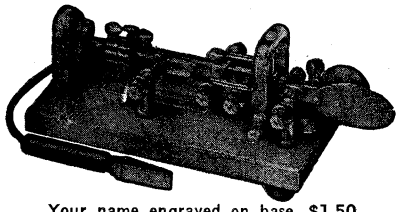
The Vibroplex

THE VIBROPLEX COMPANY INC — TRADE MARK

Telegraph & Wireless Transmitting Machines



Your name engraved on base, $1.50
Additional engraving, 15c per letter

New SUPER DE LUXE "PRESENTATION" VIBROPLEX

The Finest Bug Ever Built! 24K Gold-Plated Base Top, Patented Jewel Movement and Super-Speed Control!

New **patented** adjustable main spring affords wider range of speed than ever obtained before in semi-automatic transmitting key. Beautifully-designed with polished chromium precisioned machined parts mounted on a 24K gold-plated base top with colorful red switch knob, finger and thumb piece. This new Super-DeLuxe "Presentation" Vibroplex key at $29.95 affords a life-time of sending enjoyment. Harder than metal, the jewels in this key reduce friction, maintain smoother, easier operation and prolong life.

Amateur Net Price.....**$29.95**

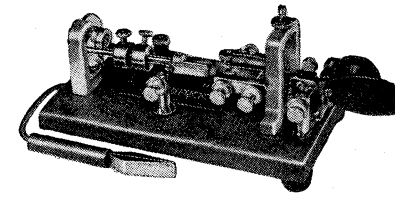
THE *Improved "ORIGINAL"* VIBROPLEX

Suitable for All Classes of Transmitting work Where Speed and Perfect Morse Are Prime Essentials

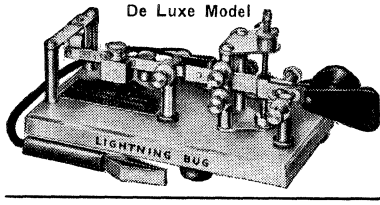
This great new Vibroplex is a smooth and easy working BUG. It has won fame on land and sea for its clarity, precision and ease of manipulation. Can be slowed down to 10 words per minute or less or geared to as high rate of speed as desired. Maintains the same high quality signal at whatever speed, insuring easy reception under all conditions.
Weight, 3 lbs. 8 oz. Complete with cord and wedge.

Standard—Chromium top parts, grey base. Amateur Net Price.....**$19.95**

DeLuxe—Chromium base and top parts, with jeweled movement. Amateur Net Price **23.95**



De Luxe Model



THE "LIGHTNING BUG" VIBROPLEX

High Quality Signals at All Speeds

Flat pendulum model. Complete with cord and wedge. Weight 3 lbs. 8 oz.

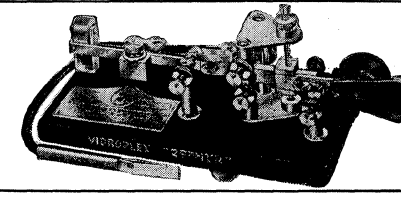
Standard—Polished Chromium top parts, grey base.
Amateur Net Price.....**$18.95**

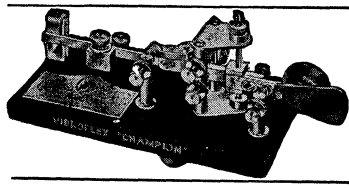
DeLuxe—Polished Chromium base and top parts, with jeweled movement.
Amateur Net Price.....**22.95**

THE "ZEPHYR" VIBROPLEX

⅛" size contact points. Slightly smaller base. Weight 3 lbs. 2 oz. Cord and wedge. Standard finish only. Chromium finished top parts, with grey crystal base.

Amateur Net Price.....**$16.95**





THE "CHAMPION" VIBROPLEX

Weight 3 lbs. 8 oz. Without circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with grey crystal base.

Amateur Net Price.....**$15.95**

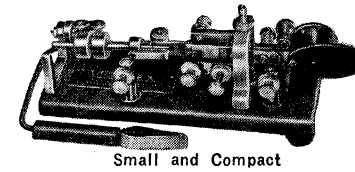
THE "BLUE RACER" VIBROPLEX

Weight, 2 lbs. 8 ozs. Complete with cord and wedge.

Standard—Finish Chromium top parts, grey base . . . Amateur Net Price.....**$19.95**

DeLuxe—Polished Chromium base and top parts, with jeweled movement.
Amateur Net Price.....**$23.95**

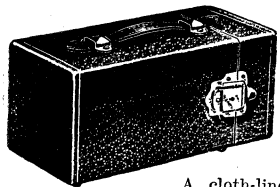
NOTE: All Machines Above Available in Left Hand Models $1.00 Extra.



Small and Compact

VIBROPLEX CARRYING CASE

Keeps the Machine Free From



Dust, Dirt & Moisture — Insures Safe-keeping when Not in Use.

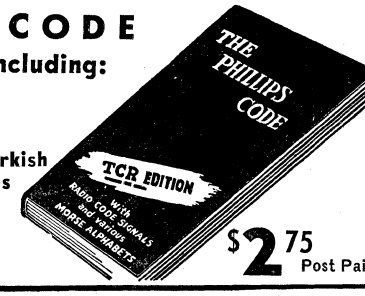
A cloth-lined case, finished in handsome simulated black morocco. Has lock and key.

PRICE.....**$6.95**

Announcing the new edition of the PHILLIPS CODE

SPECIAL EDITION Including:

- Radio Code Signals
- International Morse
- American Morse
- Russian, Greek, Arabic, Turkish
- and Japanese Morse Codes
- World Time Chart
- United States Time Chart
- Commercial "Z" Code
- Aeronautical "Q" Code



$2.75 Post Paid

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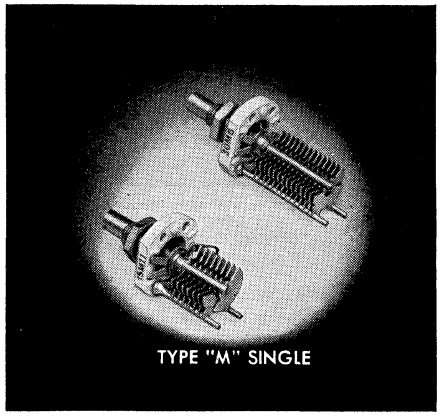
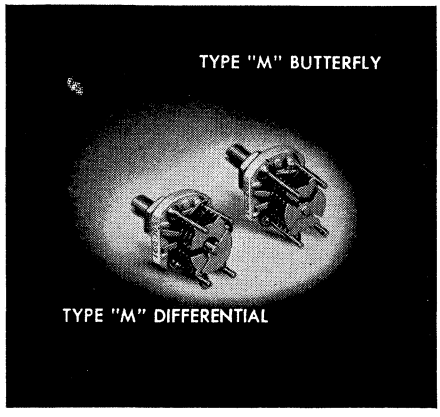
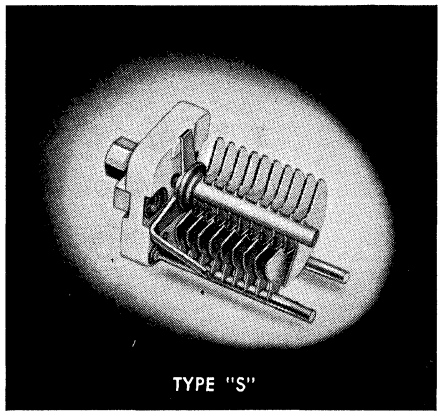
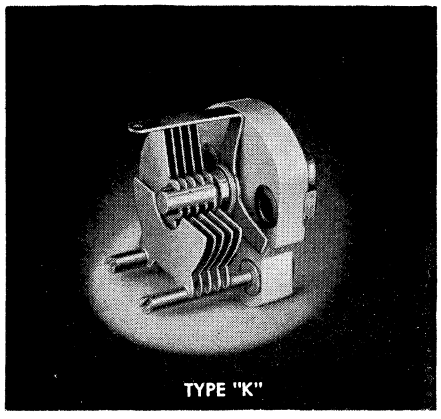

TYPE "M" SINGLE


TYPE "M" BUTTERFLY

TYPE "M" DIFFERENTIAL


TYPE "S"


TYPE "K"

EXPLANATION OF TYPE NUMBERS

The first portion of the type number indicates the capacity per section in mmfd. The following letter indicates the frame size or type. A second letter "D" indicates a two-section type—"A" differential, "B" butterfly. The final number multiplied by 100 is the approximate peak breakdown voltage.

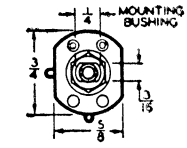
TYPE "M" CAPACITORS

Requiring a panel area just 5/8" wide by 3/4" high, these diminutive capacitors provide the perfect answer to problems encountered in the design of compact radio frequency equipment. Bridge type stator terminal provides extremely low inductance path to both stator supports. Soldered plate construction, oversize bearing, and heavily anchored stator supports insure extreme rigidity. Relatively large beryllium copper compression spring rotor contact provides steady torque—rotor stays "put" where set. Rotor contact nickel plated—all other metal parts nickel plated. Steatite end frames DC-200 treated. Mounting bushing threaded 1/4"-32 with flats to prevent turning—mounting nut furnished. Peak voltage 1250 volts on .017" spaced units—850 volts on 160-130 which is spaced .013"—3/16" diameter shaft* slotted for screwdriver adjustment. JOHNSON Miniature Air Variables are available in production quantities with the following features: 1. Locking bearing. 2. 180° stop. 3. Various shaft extensions. 4. High torque. 5. Silver or other platings.

*Instrument type tuning knob to fit 3/16" shaft available. (See knob and dial section of this catalog.)

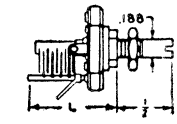
SINGLE SECTION

Cat. No.	Type No.	Cap./Sec. Max.	Cap./Sec. Min.	Plates per Sec.	L	Net Price
160-102	5M11	5	1.5	5	45/64"	$1.00
160-104	9M11	8.7	1.8	9	13/16"	1.05
160-107	15M11	14.2	2.3	15	1"	1.20
160-110	20M11	19.6	2.7	21	1 11/64"	1.35
160-130	30M8	32	3	28	1 17/64"	1.40



BUTTERFLY

160-203	3MB11	3.1	1.5	5	45/64"	$1.40
160-205	5MB11	5.1	1.8	9	13/16"	1.60
160-208	9MB11	8	2.2	15	1"	1.80
160-211	11MB11	10.8	2.7	21	1 11/64"	2.00

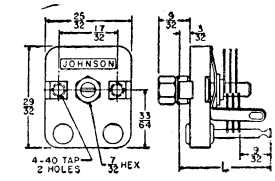


DIFFERENTIAL

160-303	6MA11	5.0	1.5	5	22/32"	$1.45
160-305	9MA11	8.7	1.8	9	13/16"	1.65
160-308	15MA11	14.2	2.3	15	1"	1.85
160-311	19MA11	19.6	2.7	21	1 11/64"	2.10

TYPE "S" CAPACITORS

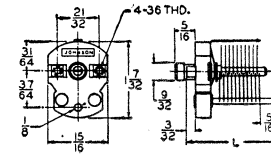
The JOHNSON type "S" capacitor falls midway between the type "M" and "K" capacitors in physical size. Design is compact—construction rugged. Equipped with DC-200 treated steatite end frame and nickel plated brass plates. Available only as a "single" type, the "S" capacitor has a plate spacing of .013" with a peak voltage rating of 850 volts. Other spacings available on special order. Square mounting studs tapped 4-40 on 17/32" centers. Available with straight shaft, screwdriver shaft, or locking type screwdriver shaft. Single hole mounting types available on special order.



Cat. No.	Type No.	Cap. per Sec. Max.	Cap. per Sec. Min.	Plates per Sec.	L	Net Price
148-1	15S8	15	2.3	6	53/64"	$1.10
148-2	25S8	25	2.6	10	15/16"	1.15
148-3	35S8	35	2.9	14	1 1/32"	1.20
148-4	50S8	50	3.2	19	1 9/64"	1.30
148-5	75S8	75	3.9	29	1 13/32"	1.45
148-6	100S8	100	4.5	38	1 45/64"	1.65

TYPE "K" CAPACITORS

Widely used for military and many commercial applications, the JOHNSON type "K" features DC-200 impregnated steatite end frames, slotted stator contacts and extra rigid soldered plate construction. Square mounting studs tapped 4-40 on 21/32" centers. Plates are brass, nickel plated.



Cat. No.	Type No.	Cap. per Sec. Max.	Cap. per Sec. Min.	Plates per Sec.	L	Net Price
158-1	10K10	10	2.9	3	7/8"	$1.10
158-2	25K10	25	3.7	7	1"	1.20
158-3	50K10	50	4.6	14	1 3/16"	1.40
158-4	75K10	75	5.5	20	1 3/8"	1.55
158-5	100K10	100	6.4	27	1 5/8"	1.75

Other capacities and variations for special military and commercial specifications available in production quantities.

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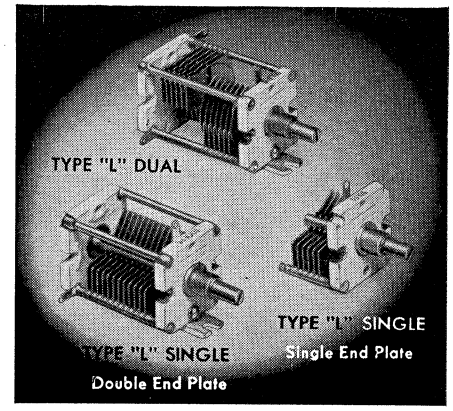
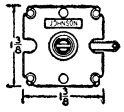
Net

TYPE "L" CAPACITORS

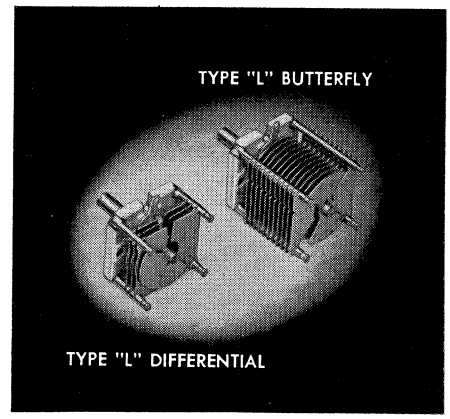
A superior quality general purpose capacitor by JOHNSON embodying important advances in design and construction. The rotor bearing and stator support rods are actually soldered directly to the ceramic (steatite) end frames making the capacitor virtually vibration proof. A special split sleeve tension bearing and silver plated beryllium copper contact provide constant torque and smooth, silent capacity variation. Heavy brass soldered plates and large diameter tie rods provide great rigidity. Plating is heavy nickel. Bearings threaded ⅜"-32, mounting nut provided. Removable chassis mounting brackets can be used to mount auxiliary equipment. Plate spacing .030". Available with .020", .060" and .080" spacing as well as special platings, shaft lengths and stator terminal locations in production quantities. Models with 6-32 tapped mounting posts soldered to end frame are also available on special order.

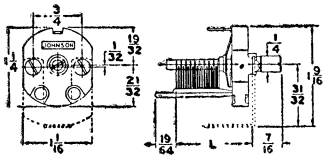


SINGLE SECTION



Cat. No.	Type No.	Cap./Sec. Max.	Cap./Sec. Min.	Plates per Sec.	L	Net Price
		Single End Plate				
167-1	10L15	11	2.8	3	15/16"	$1.55
167-2	25L15	27	3.5	7	1 9/64"	1.65
167-3	50L15	51	4.6	13	1 1/16"	1.85
167-4	75L15	75	5.7	19	1 3/4"	2.05
		Double End Plate				
167-11	100L15	99	6.8	25	2 7/32"	3.15
167-12	200L15	202	11.6	51	3 33/64"	4.05
		BUTTERFLY				
167-21	10LB15	10.5	2.8	5	1 3/64"	1.70
167-22	25LB15	26	4.3	12	1 7/16"	2.00
167-23	50LB15	51	6.8	23	1 15/16"	2.50
		DIFFERENTIAL				
167-31	10LA15	11	2.8	3	15/16"	1.75
167-32	25LA15	27	3.5	7	1 9/64"	1.95
167-33	50LA15	51	4.6	13	1 1/16"	2.25
		DUAL SECTION				
167-51	25LD15	27	5.0	7	1 13/16"	3.50
167-52	50LD15	51	6.5	13	2 27/64"	3.90
167-53	100LD15	99	9.8	25	3 5/8"	4.65

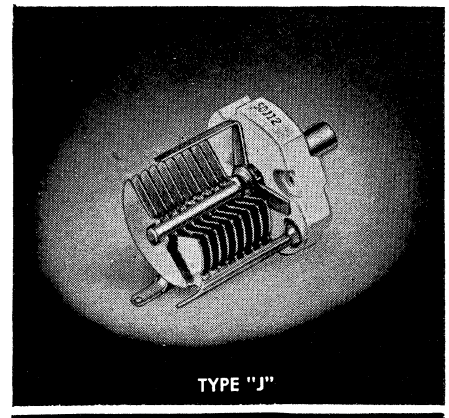




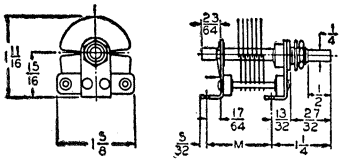
TYPE "J" CAPACITORS

A heavy duty miniature type, has wider spacing (.025") than most small air variables, yet occupies little more space. Useful for small space plate tank circuits in low power stages where standard miniatures have insufficient plate spacing. Soldered plate construction. 6-32 tapped mounting studs on ¾" centers. Mounting brackets and 6-32 screws provided.

Cat. No.	Type No.	Cap. per Sec. Max.	Cap. per Sec. Min.	Plates per Sec.	L	Net Price
157-1	7J12	8	2.6	3	19/32"	$1.85
157-2	15J12	17	3.3	6	23/32"	1.95
157-3	25J12	29	3.6	10	7/8"	2.10
157-4	50J12	52	4.9	19	1 1/4"	2.35
157-5	75J12	73	6	26	1 17/32"	2.65
157-6	100J12	102	7	36	1 31/32"	3.00



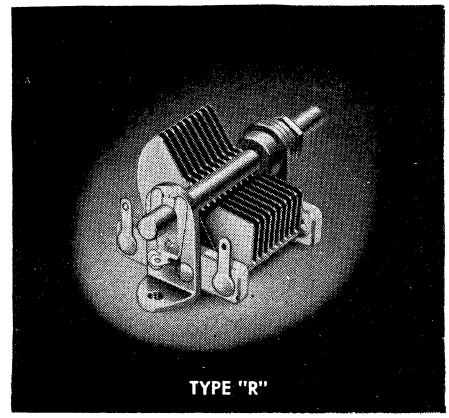
TYPE "R" CAPACITORS



The rugged JOHNSON version of a popular standardized capacitor. Featuring extra heavy steatite stator support insulators and soldered .023" thick brass plates, all metal parts are heavily nickel plated for corrosion resistance. Heavy brass end frames provide superior rigidity. Double bearing construction and silver plated beryllium copper wiping contacts provide smooth, reliable performance in a wide variety of electronics applications. Plate spacing .024", bearing threaded ⅜"-32.

Cat. No.	Type No.	Cap. per Sec. Max.	Cap. per Sec. Min.	Plates per Sec.	M	Net Price
149-1	20R12	20	5	3	1 7/32"	$2.05
149-2	35R12	35	6	5	1 7/32"	2.10
149-3	50R12	50	6.5	7	1 7/32"	2.15
149-4	75R12	80	8	11	1 7/32"	2.30
149-5	100R12	102	8.5	14	1 13/32"	2.45
149-6	140R12	140	13.5	19	1 19/32"	2.65

Johnson type "R" capacitors are available with .036", .050", .071" or .095" plate spacings as well as special platings and shaft lengths in production quantities. Also available without mounting feet for panel mounting applications.



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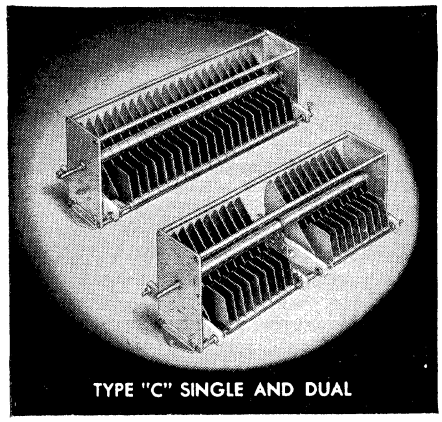
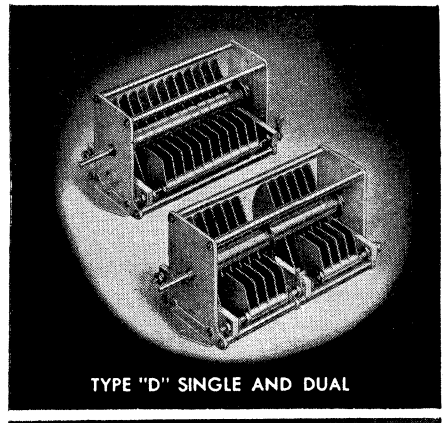
E. F. Johnson Company

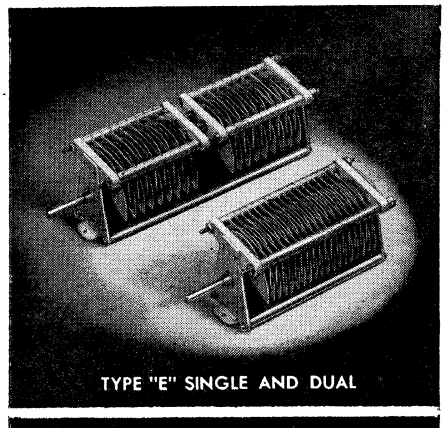
WASECA, MINNESOTA



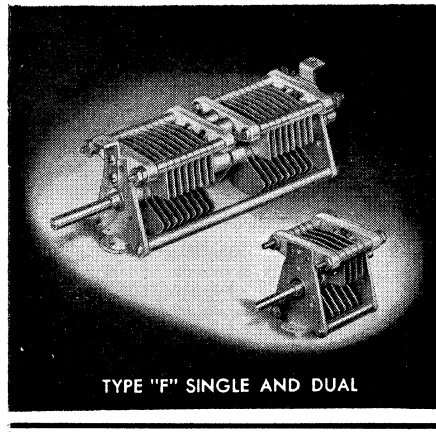
TYPE "C" SINGLE AND DUAL



TYPE "D" SINGLE AND DUAL



TYPE "E" SINGLE AND DUAL

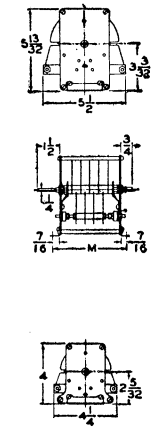


TYPE "F" SINGLE AND DUAL

TYPE "C" AND "D" CAPACITORS

Functional favorites built to exacting standards for medium power RF equipment. Heavy .051" aluminum plates and 3/16" tie rods. Laminated phosphor bronze contacts. Dual types have center rotor connection for balance. End frames tapped for panel mounting. Brackets furnished for chassis mounting.

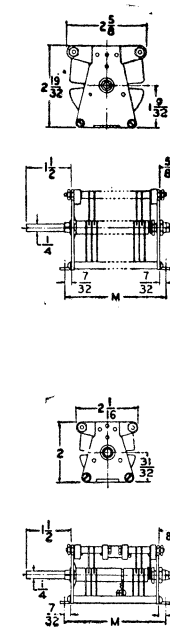
Cat. No.	Type No.	Cap./Sec. Max.	Cap./Sec. Min.	Air Gap	Plates per Sec.	M	Net Price
TYPE C SINGLE SECTION							
152-1	250C70	252	34	.175"	24	7 11/16"	$15.95
152-2	500C70	496	56	.175"	47	13 1/16"	19.50
152-6	100C110	103	30	.350"	17	9 15/32"	11.85
152-8	50C130	51	24	.500"	10	8 3/16"	10.95
152-9	100C130	102	42	.500"	21	14 7/32"	13.65
TYPE C DUAL SECTION							
152-501	200CD45	204	21	.125"	15	9 15/32"	16.70
152-502	300CD45	290	26	.125"	21	11 3/16"	19.90
152-503	200CD70	198	27	.175"	19	13 1/16"	19.25
152-504	300CD70	305	37	.175"	29	17 21/32"	25.55
152-505	150CD90	147	30	.250"	19	15 23/32"	20.15
152-507	50CD110	50	18	.350"	8	11 3/16"	13.85
152-509	100CD110	103	32	.350"	17	17 21/32"	20.60
TYPE D SINGLE SECTION							
153-6	500D35	496	36	.080"	39	7 11/16"	15.10
153-8	150D45	146	23	.125"	17	5 21/32"	9.35
153-11	100D70	98	23	.175"	15	5 21/32"	9.10
153-12	150D70	151	31	.175"	23	7 11/16"	10.80
153-13	250D70	244	45	.175"	37	11 3/16"	13.45
153-15	50D90	53	20	.250"	10	5 21/32"	8.30
153-16	70D90	73	25	.250"	14	6 11/16"	9.20
153-17	100D90	99	30	.250"	19	8 9/16"	10.25
153-18	150D90	149	43	.250"	29	11 3/16"	12.30
TYPE D DUAL SECTION							
153-501	100DD35	95	13	.080"	8	5 21/32"	10.40
153-502	150DD35	147	15	.080"	12	6 11/16"	12.00
153-503	200DD35	202	19	.080"	16	8 9/16"	14.55
153-504	300DD35	291	24	.080"	23	10 11/32"	16.70
153-505	500DD35	496	38	.080"	39	14 7/32"	23.20
153-506	150DD45	155	24	.125"	17	10 11/32"	14.90
153-507	200DD45	198	27	.125"	23	13 1/16"	16.80
153-508	50DD70	52	15	.175"	8	6 11/16"	10.65
153-509	70DD70	72	17	.175"	11	8 9/16"	12.30
153-510	100DD70	97	22	.175"	15	10 11/32"	13.90
153-511	150DD70	151	31	.175"	23	14 7/32"	17.90
153-513	50DD90	52	19	.250"	10	10 11/32"	12.30
153-514	100DD90	97	30	.250"	19	15 23/32"	16.30



TYPE "E" AND "F" CAPACITORS

Rugged units providing a large amount of capacity per cubic inch and extremely low capacity to chassis. Panel or chassis mounting. Aluminum plates .032" thick with rounded edges—stainless steel shafts—heavy, phosphor bronze contact springs—center contact on duals—large 1/4" tie rods. Extra mounting brackets furnished.

Cat. No.	Type No.	Cap./Sec. Max.	Cap./Sec. Min.	Air Gap	Plates per Sec.	M	Net Price
TYPE E SINGLE SECTION							
154-1	250E20	244	12	.045"	23	3 7/32"	$5.90
154-2	350E20	353	15	.045"	33	3 31/32"	6.70
154-3	500E20	488	19	.045"	45	4 29/32"	7.75
154-7	100E30	100	11	.075"	15	3"	5.45
154-8	150E30	154	14	.075"	23	3 7/8"	6.10
154-9	250E30	251	20	.075"	37	5 3/8"	7.20
154-10	350E30	347	25	.075"	51	6 7/8"	8.40
154-11	35E45	38	9	.125"	9	2 3/4"	4.95
154-12	50E45	53	11	.125"	12	3 13/32"	5.25
154-13	70E45	74	13	.125"	17	4 1/32"	5.55
154-14	100E45	101	16	.125"	23	4 31/32"	6.00
154-15	150E45	145	20	.125"	33	6 17/32"	6.95
154-16	250E45	241	32	.125"	55	10"	8.85
TYPE E DUAL SECTION							
154-502	300ED20	312	13	.045"	29	7 3/32"	10.90
154-503	50ED30	52	8	.075"	8	4 17/32"	7.50
154-504	70ED30	72	8	.075"	11	4 31/32"	7.85
154-505	100ED30	99	10	.075"	15	5 13/16"	8.65
154-506	150ED30	153	13	.075"	23	7 1/2"	10.10
154-507	200ED30	196	15	.075"	29	8 13/16"	11.90
154-508	50ED45	52	10	.125"	12	6 19/32"	7.90
154-509	70ED45	74	12	.125"	17	7 7/8"	8.85
154-510	100ED45	100	15	.125"	23	9 23/32"	10.40
TYPE F SINGLE SECTION							
155-1	35F20	35	7	.045"	6	1 29/32"	4.95
155-2	50F20	54	8	.045"	9	2 1/16"	5.20
155-3	70F20	66	8	.045"	11	2 7/32"	5.35
155-4	100F20	106	10	.045"	17	2 11/16"	5.85
155-5	150F20	154	12	.045"	25	3 5/16"	6.50
155-6	250F20	252	17	.045"	41	4 17/32"	7.65
155-8	50F30	52	9	.075"	13	2 3/4"	5.50
155-9	70F30	67	11	.075"	17	3 5/32"	5.90
155-10	100F30	99	14	.075"	25	4 1/32"	6.50
155-11	150F30	148	18	.075"	37	5 5/16"	7.45
TYPE F DUAL SECTION							
155-501	50FD20	53	7	.045"	9	3 15/16"	7.05
155-502	70FD20	66	7	.045"	11	4 1/4"	7.50
155-503	100FD20	104	9	.045"	17	5 5/32"	8.35
155-504	150FD20	153	11	.045"	25	6 13/32"	9.70
155-505	200FD20	202	14	.045"	33	7 5/8"	10.85
155-506	50FD30	51	8	.075"	13	5 1/4"	7.60
155-507	70FD30	66	10	.075"	17	6 1/8"	8.50
155-508	100FD30	99	13	.075"	25	7 7/8"	9.80



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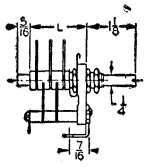
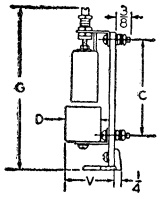
TYPE "G" CAPACITORS



Neutrali"ing capacitor for medium and low power stages. .032" rounded aluminum plates, steatite insulation. Universal mounting bracket and locking nut. Mounting space required: 2 1/16" wide, 2 17/64" high.

Cat. No.	Type No.	Cap. per Sec. Max.	Min.	Spacing	Plates per Sec.	L	Net Price
165-2	50G20	52	5	.045"	9	1 5/32"	$3.30
165-4	13G45	13	4.7	.125"	5	1 5/32"	3.00
165-5	23G45	23	6.4	.125"	9	1 13/16"	3.30
165-6	6G70	5.7	3.5	.225"	3	1 1/16"	3.30
165-7	12G70	12	6	.225"	7	2 5/8"	3.85

TYPE "N" CAPACITORS



Extremely high voltage rating in proportion to size requiring a small mounting area. Constant voltage rating throughout full capacity range. Plates are aluminum cups supported by steatite frame with cast aluminum mounting bracket. Peak RF breakdown ratings at 2 MC.; N125-8,500, N250-11,500, N375-14,500.

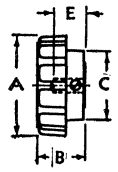
Cat. No.	Type No.	Cap. per Sec. Max.	Min.	D	C	G	V	Spacing	Net Price
159-125	N125	11.0	1.1	1 3/8	3 1/8	6 13/32	1 15/16	.125"	$6.30
159-250	N250	10.6	1.4	1 47/64	3 3/4	7 17/32	2 9/32	.250"	7.45
159-375	N375	10.7	1.7	2 3/8	5 19/32	8 23/32	2 15/16	.375"	9.45

JOHNSON KNOBS AND DIALS

A distinctive line of matching knobs and dials, derived from a new basic knob design. Knobs have twelve well defined flutes and present an essentially round appearance.

Tough, scratch resistant black phenolic is used for all molded parts (meets MIL-P-14). Metal dial scales have an etched satin chrome finish. This contrasts greatly with deeply etched and filled engraving, provides maximum legibility under poor lighting conditions. All types have accurately centered metal inserts for 1/4" shafts except 116-214-2.

Variations available, such as special shaft sizes, scales or indicators in production quantities.



Cat. No.	Illus.	A	B	C	E	Net Price
KNOBS						
116-220	1	1 1/8"	5/8"	13/16"	1/2"	$0.29
116-260	1	1 5/8"	3/4"	1 1/8"	17/32"	.39
116-280	1	2 3/8"	15/16"	1 3/4"	11/16"	.59
SPINNER KNOBS						
116-226	2	1 1/8"	5/8"	13/16"	1/2"	$0.56
116-266	2	1 5/8"	3/4"	1 1/8"	17/32"	.67
116-286	2	2 3/8"	15/16"	1 3/4"	11/16"	.82
INSTRUMENT KNOBS						
116-214-1	3	1/2"	7/8"	3/4"	5/8"	$0.33
116-214-2	3	1/2"	7/8"	3/4"	5/8"	.33
SKIRTED KNOBS						
116-221	4	1 1/8"	49/64"	1 1/2"	21/32"	$0.59
116-261	4	1 5/8"	57/64"	2 1/16"	41/64"	.73
116-281	4	2 3/8"	1 5/64"	3"	51/64"	.87

DIALS

Beveled satin chrome skirts, markings clearly visible even in dim light.

Cat. No.	Illus.	Calibration	A	B	C	E	Net Price
116-222-1	5	100-0 over 180°	1 1/8"	49/64"	1 1/2"	43/64"	$0.56
116-222-2	5	10-0 over 270°	1 1/8"	49/64"	1 1/2"	43/64"	.56
116-222-3	5	7-1 over 180°	1 1/8"	49/64"	1 1/2"	43/64"	.56
116-222-4	5	ON-OFF over 60°	1 1/8"	49/64"	1 1/2"	43/64"	.56
116-222-5	5	Line indicator	1 1/8"	49/64"	1 1/2"	43/64"	.56

Knobs have black phenolic skirts and flat satin chrome calibrated dial scales. Indicator button furnished.

116-262	6	0-100 over 180°	1 5/8"	59/64"	2 3/4"	45/64"	$1.60
116-282	6	0-100 over 180°	2 3/8"	1 7/64"	4"	53/64"	2.40

VERNIER DIALS

Friction vernier dials with calibrated satin chrome dial scales. Vernier knobs same as 116-220 above except have friction driving wheel and bearing to mount on panels up to 1/4" thick. The 116-265 has 3 to 1 vernier; 116-285 has 5 to 1 ratio.

Cat. No.	Calibration	A	B	C	E	Net Price
116-265	0-100 over 180°	1 5/8"	1 5/64"	2 3/4"	45/64"	$3.00
116-285	0-100 over 180°	2 3/8"	1 15/64"	4"	53/64"	3.80

COUNTER DIAL

A positively calibrated drive for rotary variable inductors and other multi-turn devices. Counter records up to 99 turns. Vernier dial calibrated 100-0 over 360 degrees, making possible accurate return to any pre-determined setting. Built-in dial lock, "spinner knob" and attractive black phenolic escutcheon. Furnished with mounting template for easy installation.

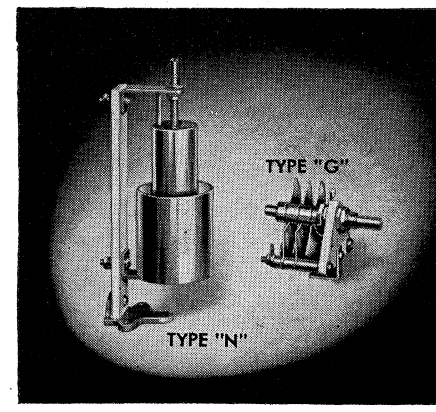
116-208-1 Counter dial with dial lock, escutcheon and 2 3/8" spinner knob **$11.10**

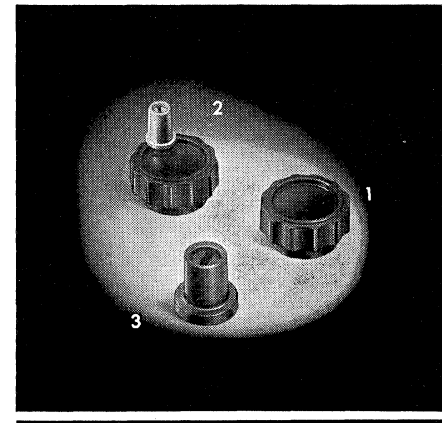
116-208-4 Same as above without dial lock **9.80**

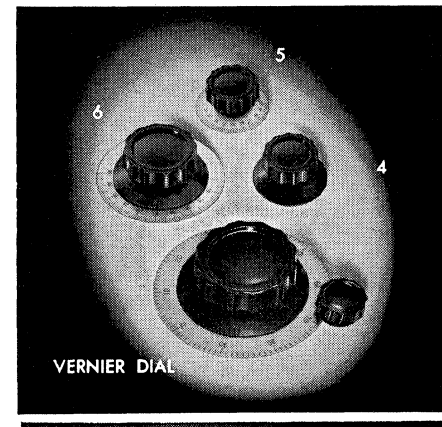
ESCUTCHEON PLATE

Attractive black phenolic escutcheon shown on 116-208-1 counter dial. Provides neat "window" for back-of-panel dial plate mounting. One edge of escutcheon suitable for attaching standard 3/8" wide etched name plate. Opening 1 1/4" wide x 7/8" high. Overall size 2 1/4" x 1 11/16". Furnished with No. 2 screws.

116-201 Escutcheon plate **$0.65**







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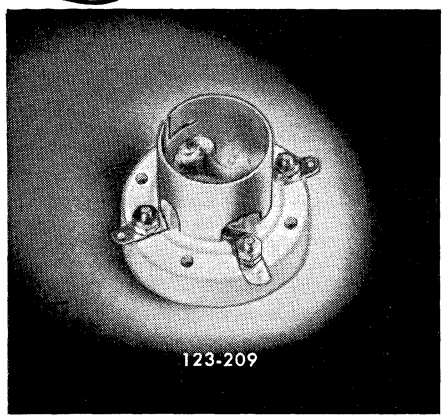
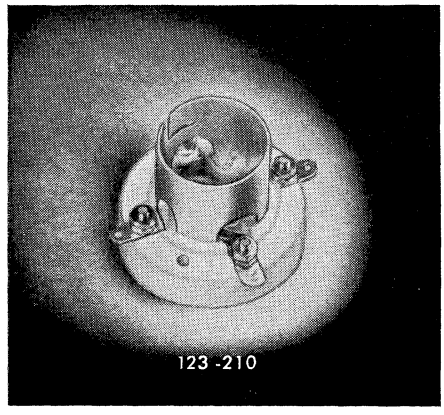
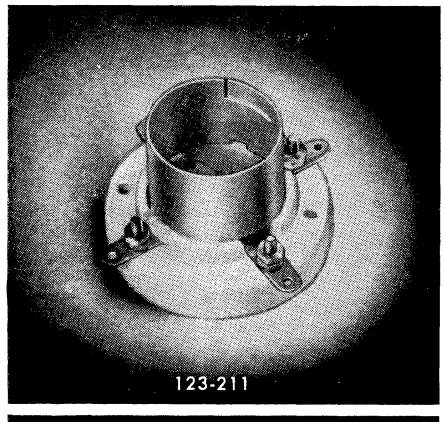
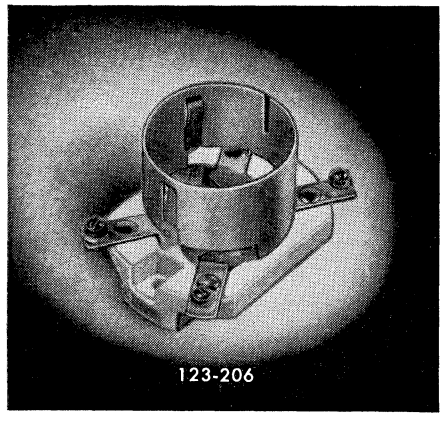
WASECA, MINNESOTA









TUBE SOCKETS

A new standardization program calculated to simplify the selection of sockets and to provide complete specifications for standard, industrial and military requirements has been instituted recently. By reducing the number of variations in special socket types, it will permit the maintenance of stocks of military and industrial types as well as standard sockets and provide shorter delivery cycles on quantity orders. Specifications for the three variations of each socket type are as follows:

BAYONET SOCKETS—GENERAL SPECIFICATIONS

Standard (designated -1) A commercial grade socket suitable for general requirements. Porcelain bases, glazed top and sides—phosphor bronze contacts, cadmium plated .0002. Nickel plated hardware. Bayonet shells are etched aluminum.

Industrial (designated -100) Superior in quality to Standard types, Industrial types have glazed steatite bases, DC200 treated. Phosphor bronze or beryllium copper contacts, .0005 silver plated. Aluminum bayonet shells, iridite No. 14 treated. Fungus resistant cushion washers under contacts.

Military (designated -200) Top quality for military requirements. Glazed L4 steatite bases, DC200 treated. Beryllium copper contacts .0005 silver plated. Hot tin-dipped terminals—brass bayonet shells, .0003 nickel plated. Threaded hardware .0002 nickel plated, unthreaded hardware .0003. Fungus resistant cushion washers under contacts.

WAFER SOCKETS—GENERAL SPECIFICATIONS

Standard (designated -1) A commercial grade socket suitable for general requirements. Glazed steatite base is DC200 treated—contacts are of plated brass with steel springs. Etched aluminum shields on shielded types.

Industrial (designated -100) Superior in quality to Standard types, Industrial types have glazed steatite bases, DC200 treated. Contacts are phosphor bronze with beryllium copper springs .0005 silver plated. Shields on shield types are iridite No. 14 treated aluminum. Fungus resistant cushion washers under contacts.

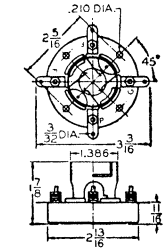
Military (designated -200) Top quality for all military requirements. Glazed steatite bases, DC200 impregnated. Phosphor bronze contacts and beryllium copper springs silver plated .001—hot tin-dipped solder terminals. Fungus resistant glass base melamine cushion washers iridite No. 14 treated aluminum shields on shielded types. Entire socket protected for 200 hour salt spray test.

Write for your copy of Standardization Booklet 536, containing complete information on Johnson tube sockets for commercial, industrial and military applications.

HEAVY DUTY MEDIUM 4 PIN BAYONET

A rugged bayonet socket for medium 4 pin bayonet based tubes such as the 866A or 811A with RETMA Base No. A4-10. Designed with extra heavy, side wiping contacts and extended creepage paths to resist high voltage breakdown. Four mounting holes in base.

Cat. No.	Type	Net Price
123-209-1	Standard	$1.25
123-209-100	Industrial	2.90
123-209-200	Military	3.35

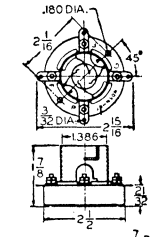


MEDIUM 4 PIN BAYONET

A compact, economical socket for medium 4 pin bayonet based tubes (RETMA Base No. A4-10). Two mounting holes. Available with porcelain base only; for new military equipment the 123-209-200 (above) is recommended.

Cat. No.	Type	Net Price
123-210-1	Standard	$1.20
123-210-100*	Industrial	1.55
123-210-200*	Military	2.00

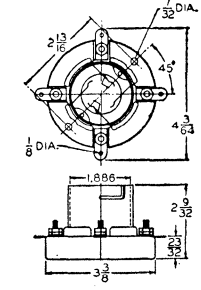
*Available with porcelain base only.



JUMBO 4 PIN BAYONET

A popular "50 watt" socket for medium power bayonet based tubes such as the 872A, 211 and others with RETMA Base No. A4-29. Double wiping filament contacts will handle heavy current. Terminals are designed for solder or screw connections. Two mounting holes.

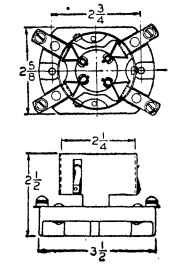
Cat. No.	Type	Net Price
123-211-1	Standard	$1.60
123-211-100	Industrial	3.10
123-211-200	Military	3.55



SUPER JUMBO 4 PIN SOCKET

A heavy duty industrial type socket designed for high voltages and/or heavy current. Accommodates tubes such as the 8008, 5C22, FG104, GL146, and others with RETMA Base No. A4-18. Special high current, insertion type spring contacts. Two mounting holes are recessed to prevent flashover. Three heavy retaining springs in shell hold tube securely. Furnished with screw terminals.

Cat. No.	Type	Net Price
123-206-1	Standard or Industrial	$2.45
123-206-200	Military	2.80



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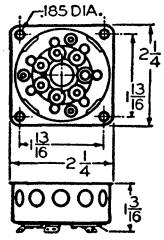
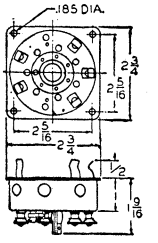
WASECA, MINNESOTA



VHF SEPTAR SOCKETS

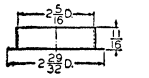
This 7-pin VHF septar socket takes 1/8 less space than previously available types—permits compact design when using septar base tubes such as the 5894, 6524, and 6252. Base is grade L4 steatite, glazed on top and sides—underside DC200 impregnated. Molded recesses in base for each contact prevent turning. Contact cushion washers of fungus-resistant glass base melamine. Aluminum shell submounts tube for optimum input and output shielding; 5/8" holes provide adequate ventilation.

Cat. No.	Type	Net Price
122-105-1	Standard	$1.10
122-105-100	Industrial	1.30
122-105-200	Military	1.50



A 7 pin wafer socket designed for tubes with medium molded flare Septar base, RETMA Base No. E7-2. Equipped with a ventilated shield, five tube retainer springs. Provision for mounting button mica capacitors directly to socket. Designed for VHF use with tubes such as the 826, 832, 4D32, 4D22, PL6549, and PL6569, etc. Special terminals permit direct mounting of grid coils. Two holes provided for mounting of bus bar neutralizing leads. Standard model has silver plated phosphor bronze contacts for maximum VHF efficiency.

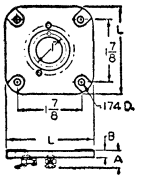
Cat. No.	Type	Net Price
122-101-1	Standard	$2.20
122-101-100	Industrial	2.40
122-101-200	Military	2.65



SEPTAR SOCKETS

Sockets 122-247 and 122-248 are designed for 7 pin tubes, RETMA Base No. E7-2. Each socket is furnished with a separate aluminum shield ring.

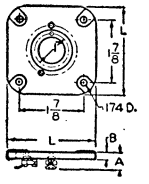
Cat. No.	Type	A	B	L	Net Price
122-247-1	Standard	17/32"	1/4"	2 5/8"	$0.95
122-247-100	Industrial	17/32"	1/4"	2 5/8"	1.10
122-247-200	Military	17/32"	1/4"	2 5/8"	1.25
122-248-1	Standard	17/32"	1/4"	2 3/8"	.90
122-248-100	Industrial	17/32"	1/4"	2 3/8"	1.05
122-248-200	Military	17/32"	1/4"	2 3/8"	1.20



SUPER JUMBO 4 PIN SOCKETS

A heavy duty, steatite insulated, 4 pin wafer. Accommodates super jumbo base tubes such as the 8008 and many rectifier and thyratron types, RETMA Base No. A4-15, 16, and 18. Long, parallel contacts are designed to withstand high current.

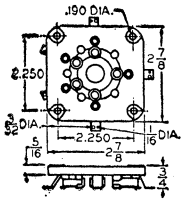
Cat. No.	Type	A	B	L	Net Price
122-244-1	Standard	11/16"	9/32"	2 5/8"	$1.43
122-244-100	Industrial	11/16"	9/32"	2 5/8"	1.54
122-244-200	Military	11/16"	9/32"	2 3/8"	1.75



GIANT 7 PIN SOCKET

A rugged wafer socket for tubes with a Giant 7 pin base, RETMA Base No. A7-17 such as the 4E27, HK257 and 813. Contacts are designed with maximum surface area against tube prongs. Ventilating hole in base 3/4" diameter provides tube seal cooling.

Cat. No.	Type	A	B	L	Net Price
122-237-1	Standard	9/16"	1/4"	2 5/8"	$0.79
122-237-100	Industrial	9/16"	1/4"	2 5/8"	.92
122-237-200	Military	9/16"	1/4"	2 3/8"	1.11



GIANT 5 PIN SOCKET

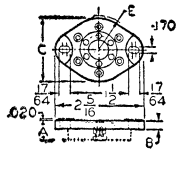
A large steatite wafer socket for tubes with a Giant 5 pin base, RETMA Base No. A5-19, such as the 4-125A, 4-250A, and RK-48. Tube seal ventilation is provided by one central and five ventilating holes located between contacts. Contacts are designed to withstand heavy current.

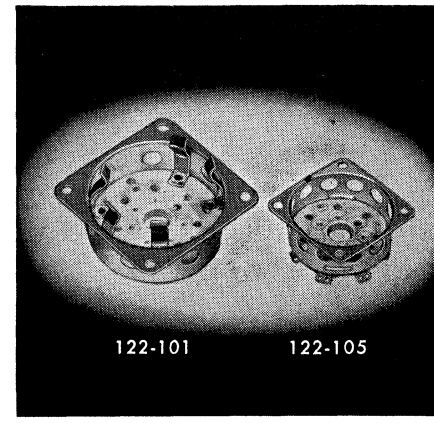
Cat. No.	Type	Net Price
122-275-1	Standard	$1.45
122-275-100	Industrial	1.70
122-275-200	Military	2.05

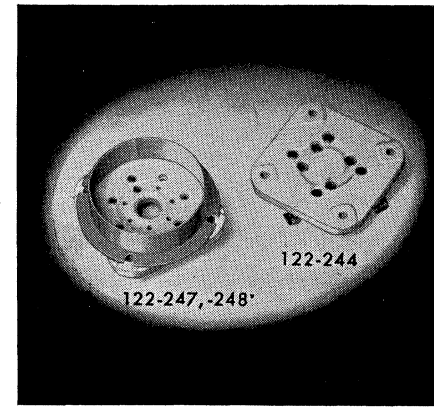
STANDARD WAFER SOCKETS

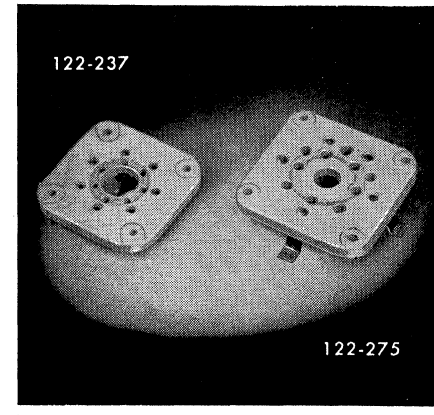
Steatite sockets for receiving and low power transmitting tubes.

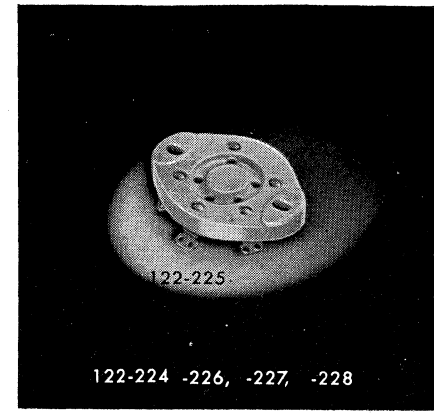
Cat. No.	Type	A	B	C	E	For Tube	Net Price
122-224-1	Standard	9/16"	1/4"	1 11/16"	7/8"	4 Pin	$0.41
122-224-100	Industrial	9/16"	1/4"	1 11/16"	7/8"	4 Pin	.49
122-224-200	Military	9/16"	1/4"	1 11/16"	7/8"	4 Pin	.60
122-225-1	Standard	9/16"	1/4"	1 11/16"	59/64"	5 Pin	.44
122-225-100	Industrial	9/16"	1/4"	1 11/16"	59/64"	5 Pin	.55
122-225-200	Military	9/16"	1/4"	1 11/16"	59/64"	5 Pin	.63
122-226-1	Standard	9/16"	1/4"	1 11/16"	59/64"	6 Pin	.48
122-226-100	Industrial	9/16"	1/4"	1 11/16"	59/64"	6 Pin	.60
122-226-200	Military	9/16"	1/4"	1 11/16"	59/64"	6 Pin	.76
122-227-1	Standard	9/16"	1/4"	1 13/16"	31/32"	7 Pin	.52
122-227-100	Industrial	9/16"	1/4"	1 13/16"	31/32"	7 Pin	.67
122-227-200	Military	9/16"	1/4"	1 13/16"	31/32"	7 Pin	.85
122-228-1	Standard	15/32"	3/16"	1 11/16"	57/64"	Octal	.55
122-228-100	Industrial	15/32"	3/16"	1 11/16"	57/64"	Octal	.74
122-228-200	Military	15/32"	3/16"	1 11/16"	57/64"	Octal	.94











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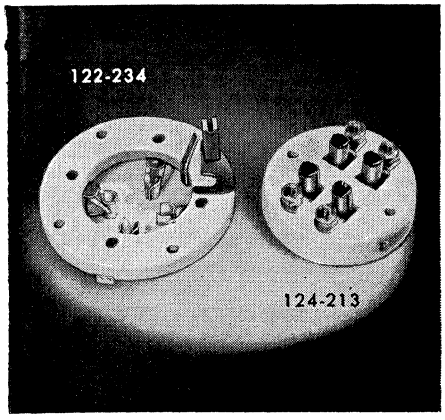


SOCKET FOR 5D21, 705A AND 715A & B

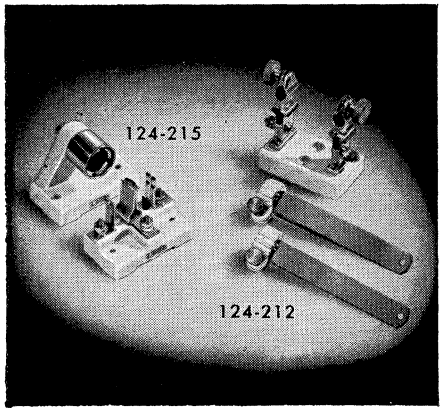
Designed for Western Electric tubes 5D21, 705A and 715A & B. Heavy, top and sides glazed, grade L4 steatite base and special locking device for retaining tube in socket. Contacts .0003 silver plated on Standard, .001 on Military. Long post single lock .0003 nickel plated on both types.

Cat. No.	Type	Net Price
122-234-1	Standard or Industrial	**$2.20**
122-234-200	Military	**2.65**

SOCKET FOR EIMAC 152TL AND 304TL

Base is glazed porcelain—contacts, nickel plated. Standard has .0001 nickel plating, Military has .0005 silver. Note: Not subject to military inspection due to porcelain base.

Cat. No.	Type	Net Price
124-213-1	Standard or Industrial	**$1.60**
124-213-200	Military	**1.90**



250 WATT SOCKET

A two unit socket for "250 watt" tubes such as the 204A and 849. Anode cap RETMA Nos. C1-8, C1-9, and C1-10, cathode mounting RETMA Base Nos. A3-20, A3-21, A3-23. Bases are of glazed porcelain—contacts are phosphor bronze, nickel plated.

Cat. No.	Net Price
124-215	**$4.50**

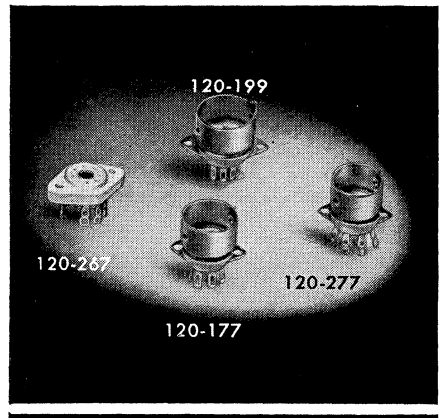
SOCKET FOR 833 AND 833A

A special socket assembly for the 833 and 833A consisting of a steatite base which supports the tube and a pair of 119-843 tube cap connectors. Kurnled thumb nuts permit easy tube installation. Base is designed to minimize strain on the tube envelope and prevent breakage. Heat radiating aluminum plate terminals have 4⅜" flexible laminated leads.

Cat. No.	Net Price
124-212	**$7.20**

Heat radiating plate connector only as used on 124-212 above.

Cat. No.	Net Price
119-843	**$1.15**



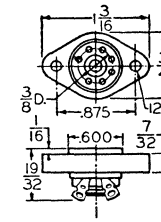
MINIATURE SOCKETS

Wafer type, all steatite socket for miniature 7 pin tubes RETMA Base No. E7-1. Silver plated phosphor bronze contacts. Shield base for mounting TS102 shields available, see 133-277 below.

Cat. No.	Net Price
120-267	**$0.33**

Standard shield base type 7 pin miniature, RETMA Base No. E7-1, of two piece steatite construction with silver plated phosphor bronze contacts, hot tin-dipped. Shield base is brass, nickel plated.

Cat. No.	Pins	L	M	C	A	B	Net Price
120-277	7	1 7/64"	⅜"	.375"	.625"	.770"	**$0.49**

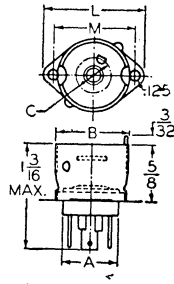


120-267

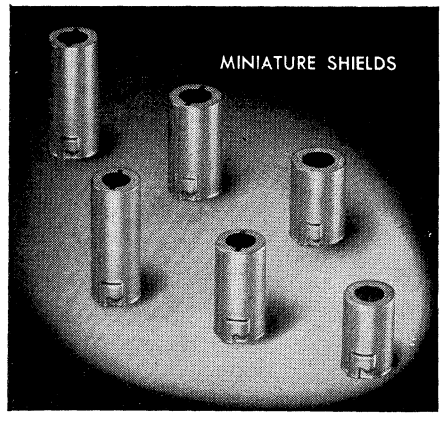
MILITARY TYPE MINIATURE SOCKETS

Top mounting, saddle type sockets per JAN spec. S-28A1. One piece ceramic insulator, grade L-4B or better, top glazed, DC200 impregnated. Brass shell and center shield nickel plated to withstand salt spray test. Contacts beryllium copper, silver plated. Terminals hot tin-dipped. Mounting centers ⅞" on 7 pin type, 1⅛" on 9 pin type. -177 is for tubes with 7 pin bases RETMA Base No. E7-1, -199 for tubes with 9 pin RETMA Base No. E9-1.

Cat. No.	Military Des.	Pins	L	M	C	A	B	Net Price
120-177	TS102C01	7	1⅛"	⅞"	.375"	.625"	.800"	**$0.59**
120-199	TS103C01	9	1⅜"	1⅛"	.468"	.734"	.940"	**.79**



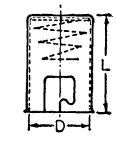
120-277, -177, -199



MINIATURE TUBE SHIELDS

Brass, nickel plated to meet JAN specifications. Twist to lock type construction with internal tube retaining spring. Both spring and shield are non-ferrous, non-magnetic material.

Cat. No.	Military Des.	Fits Socket	L	D	Net Price
133-278-6	TS102U01	177, 277	1⅜"	.930"	**$0.15**
133-278-7	TS102U02	177, 277	1¾"	.930"	**.19**
133-278-8	TS102U03	177, 277	2¼"	.930"	**.22**
133-278-9	TS103U01	199	1½"	1.065"	**.22**
133-278-10	TS103U02	199	1 15/16"	1.065"	**.24**
133-278-11	TS103U03	199	2⅜"	1.065"	**.29**
133-277	Miniature shield base only for use with 120-267 socket.				**.14**



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E. F. Johnson Company

WASECA, MINNESOTA

SHAFT COUPLINGS

Flexible and rigid models for coupling shafts, ¼" to ¼", ¼" to ⅜" and ⅜" to ⅜".

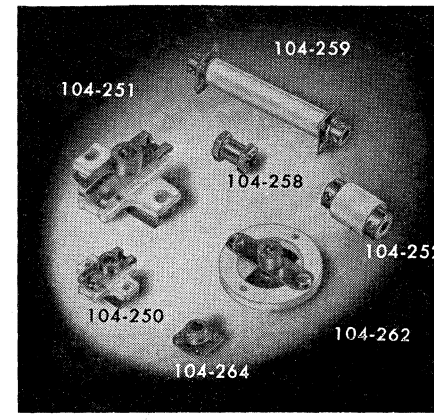
104-250 and -251 series steatite insulated couplings will adjust to both axial and angular shaft misalignment. Spring material is plated phosphor bronze.

104-252 is a rigid coupling with glazed porcelain insulation.

104-258 is an all-metal, rigid coupling with locking nuts for friction fit to shafts.

104-259, -262 and -264 will adjust to minor angular shaft misalignment; -259 and -262 have steatite insulation, the -264 has bakelite.

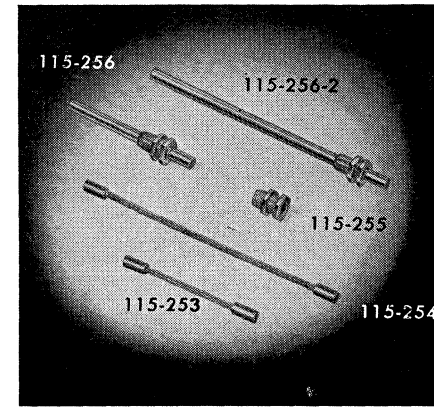
Cat. No.	DC Breakdown	Type	Overall Length	Maximum Diameter	Couples Shafts	Net Price
104-250	4000	Flexible	1⅛"	1 11/32"	¼" to ¼"	**$0.74**
104-250-3	4000	Flexible	1 3/16"	1 11/32"	¼" to ⅜"	**.90**
104-251	8000	Flexible	1½"	2 7/32"	⅜" to ⅜"	**1.10**
104-251-2	8000	Flexible	1½"	2 7/32"	¼" to ¼"	**1.10**
104-251-3	8000	Flexible	1¼"	2 7/32"	¼" to ⅜"	**1.10**
104-252	7000	Rigid	1¼"	11/16"	¼" to ¼"	**.72**
104-258	....	Rigid	¾"	9/16"	¼" to ¼"	**.31**
104-259	8000	Semi-Flex.	3⅜"	1 1/32"	¼" to ¼"	**1.43**
104-262	5000	Semi-Flex.	⅞"	2"	¼" to ¼"	**.90**
104-264	750	Semi-Flex.	¾"	1 1/32"	¼" to ¼"	**.55**



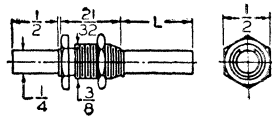
FLEXIBLE SHAFTS

Phosphor bronze, non-rusting flexible shafts with ¼" nickel plated brass hubs. Permit out of line or up to 90 degrees angular control. Will withstand torque in either direction with minimum backlash.

Cat. No.		Net Price
115-253	3" Flexible Shaft	**$0.40**
115-254	6" Flexible Shaft	**.55**

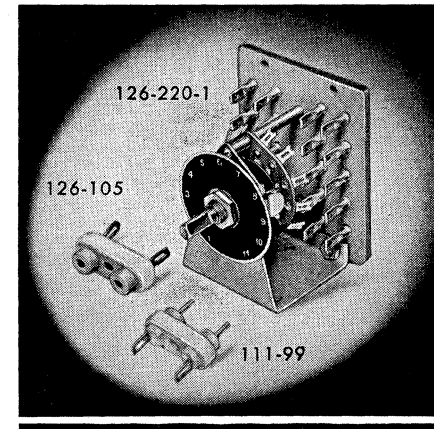


PANEL BEARINGS



Number 115-255 is nickel plated brass for ¼" shaft and up to ⅜" panels. The 115-256 and 115-256-2 have 3" and 6" nickel plated brass shafts. Standard ⅜"-24 nut furnished. Models with locking nut and special shaft lengths available on production quantity orders.

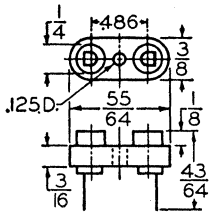
Cat. No.		L	Net Price
115-255	Panel Bearing Only		**$0.19**
115-256	Bearing and Shaft	1 25/32"	**.33**
115-256-2	Bearing and Shaft	4 25/32"	**.44**



MULTIPLE CRYSTAL SELECTOR

Designed to accommodate up to ten FT-243 crystals (.093" diameter pins spaced .486"). Base is mica filled phenolic, 2⅝" x 3⅛"; switch has 11 positions and includes index plate and universal bracket.

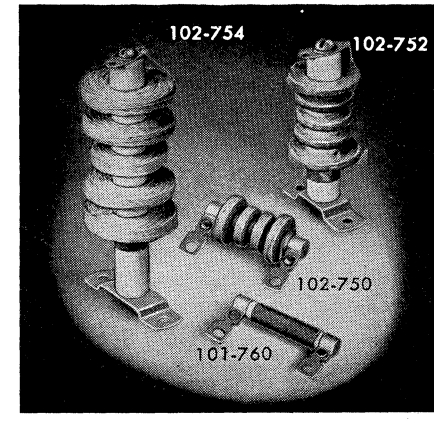
Cat. No.		Net Price
126-220-1	Crystal Selector Assembly	**$4.62**
126-120-1	Crystal Board Only (no switch or bracket).	**2.53**



CERAMIC CONNECTORS — CRYSTAL SOCKETS

Steatite connectors for low capacity, high voltage, and high temperature operation. May be used as crystal sockets, antenna relay connectors, VFO input connectors, antenna plugs, or AC line connectors. Glazed steatite L4 or better, DC-200 impregnated. Contacts spaced .486", for pins .051" diameter, ¼" long. Capacity between terminals with socket engaged is less than 1.5 mmf. ⅛" mounting hole also provides for attachment of strain relief cord. 5000 volts breakdown, 10 ampere current carrying capacity. Female connector will accept a type HC-6/U crystal holder.

Cat. No.		Net Price
126-105	Ceramic connector, female, phosphor bronze contacts	**$0.13**
126-105-2	Ceramic connector, female, beryllium copper contacts	**.17**
111-99	Ceramic connector, male, silver plated brass pins	**.18**



RADIO FREQUENCY CHOKES

Have high reactance over the range for which they are designed. Coils are of enamelled silk-covered wire impregnated with high grade RF lacquer and wound on steatite cores. Current ratings may be increased for intermittent use.

Cat. No.	Frequency	Current	Induct. (1 mc.)	Ohms DC	Length	Net Price
102-750	1.7 to 30 mc	150 ma	.83 mh	15	1½"	**$1.21**
102-752	1.7 to 30 mc	500 ma	1.0 mh	5.2	2⅞"	**1.95**
102-754	1.7 to 30 mc	750 ma	1.9 mh	4	4 5/16"	**2.70**
101-760	VHF	250 ma	6.8 uh	.33	1½"	**.52**

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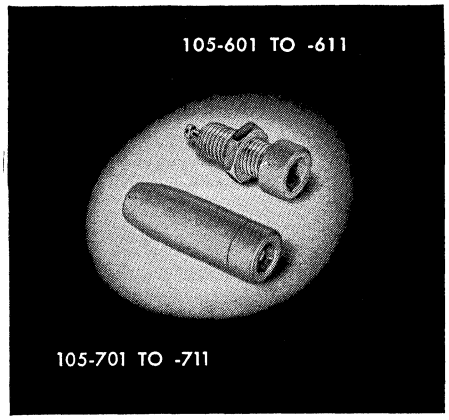
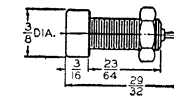


NYLON TIP JACKS
U.S. PAT. NO. 2,704,357

Deluxe, completely insulated jack, body molded from tough, low loss nylon. Retains low loss characteristics through extremely wide temperature range and high relative humidity conditions. Voltage breakdown 11000 volts, capacity to 1/8" metal panel only 2.0 mmf. Machined beryllium copper contact, silver plated, is recessed in head for safety. Integral solder terminal hot tin dipped. Single 1/4"-32 nut for mounting, no auxiliary mounting hardware needed. Mounts in 17/64" hole.

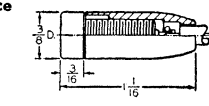
Cat. No.	Color	Net Price	Cat. No.	Color	Net Price
105-601	White	$0.25	105-606	Orange	$0.25
105-602	Red	.25	105-607	Yellow	.25
105-603	Black	.25	105-608	Brown	.25
105-604	Dark Green	.25	105-609	Light Green	.25
105-605	Light Blue	.25	105-610	Dark Blue	.25
			105-611	Ivory	.25

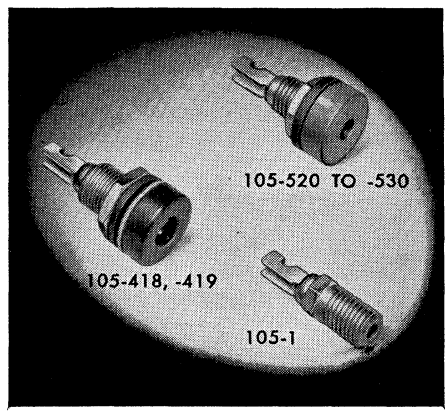


NYLON JACK AND SLEEVE ASSEMBLY

Nylon tip jack as described above without mounting nut, equipped with an inside threaded molded nylon insulating sleeve. Ideal for patch cords or where rear connection of panel mounted jack must be insulated.

Cat. No.	Color	Net Price	Cat. No.	Color	Net Price
105-701	White	$0.30	105-706	Orange	$0.30
105-702	Red	.30	105-707	Yellow	.30
105-703	Black	.30	105-708	Brown	.30
105-704	Dark Green	.30	105-709	Light Green	.30
105-705	Light Blue	.30	105-710	Dark Blue	.30
			105-711	Ivory	.30

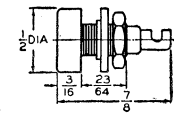




PLASTIC HEAD TIP JACKS

Popular general purpose jack for a wide variety of applications. Specially formed beryllium copper contact, cadmium plated, grips tip plug along almost entire length—has large, easy wiring terminal with solder barrier and ample room for several wires. Body nickel plated, threaded 1/4"-32. Supplied with extruded shoulder bushing and nickel plated hex nut. Mounts in 3/8" hole. Maximum panel thickness, 5/32" where insulating washers are used, 1/4" where omitted.

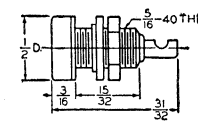
Cat. No.	Color	Net Price	Cat. No.	Color	Net Price
105-520	Red	$0.16	105-526	Orange	$0.16
105-521	Black	.16	105-527	Yellow	.16
105-522	Dark Green	.16	105-528	Light Green	.16
105-524	Brown	.16	105-529	Dark Blue	.16
105-525	Light Blue	.16	105-530	Ivory	.16

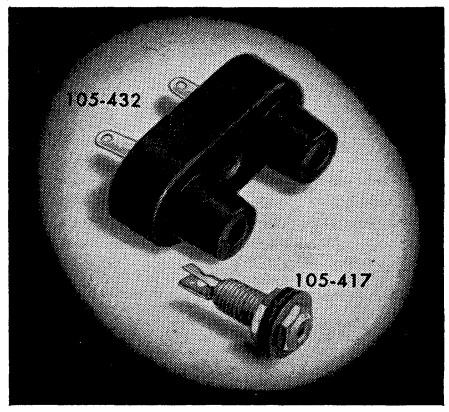


HEAVY DUTY TIP JACKS

Plastic head molded integral with rugged nickel plated brass body. Popular for military and heavy duty industrial applications. Contacts, beryllium copper, cadmium plated. Furnished with extruded shoulder washer, extra phenolic washer and nickel plated hex nut. 5/16"-40 thread. Red and Black only.

Cat. No.		Net Price
105-418	Red	$0.24
105-419	Black	.24

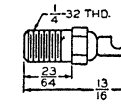




HEADLESS TIP JACK

Economical headless jack for molded plastic instrument cases or insulated jack strip panels where jack body can be screwed into tapped panel. Body has hex shoulder for tightening—is threaded 1/4"-32. Contact, beryllium copper, cadmium plated.

Cat. No.		Net Price
105-1		$0.11



HEX HEAD TIP JACK

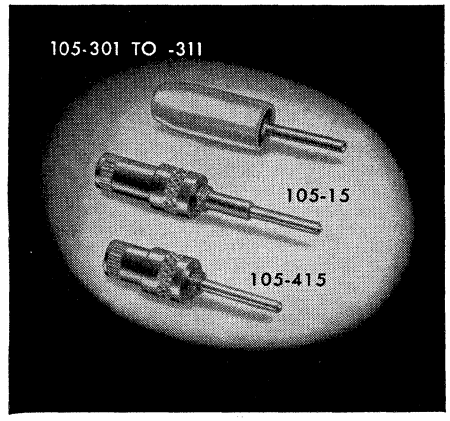
All metal construction, brass nickel plated body with beryllium copper contact, cadmium plated. Threaded 1/4"-32, supplied with one extruded washer, one flat washer, and nickel plated nut. Mounts in 3/8" hole.

Cat. No.	Net Price
105-417	$0.16

SHORTING TYPE TWIN TIP JACK

Circuit closes automatically when tips are removed. Jacks spaced 1/8". Single hole mounting. Molded black body.

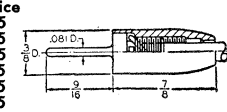
Cat. No.	Net Price
105-432	$0.43



NYLON INSULATED SOLDERLESS TIP PLUG

Companion unit for the famous JOHNSON nylon tip jack. Durable molded nylon insulating sleeve designed so no metal surfaces are exposed when plug is inserted in jack. Quick, sure, solderless connection of up to 16 gauge stranded wire. Withstands high voltages and a wide temperature range. Standard .081" diameter pin fits all standard tip jacks.

Cat. No.	Color	Net Price	Cat. No.	Color	Net Price
105-301	White	$0.15	105-306	Orange	$0.15
105-302	Red	.15	105-307	Yellow	.15
105-303	Black	.15	105-308	Brown	.15
105-304	Dark Green	.15	105-309	Light Green	.15
105-305	Light Blue	.15	105-310	Dark Blue	.15
			105-311	Ivory	.15



SOLDERLESS PHONE TIP PLUGS

105-15 has a 13/16" pin with the last 1/2" of tip .081" diameter. Knurled body and sleeve permit leads to be firmly secured without soldering. Body and sleeve brass, nickel plated. May be used with all standard tip jacks.

104-415 is the same as 105-15 above except tip is 9/16" long and .081" diameter throughout its length. For all standard tip jacks.

Cat. No.	Net Price
105-15	$0.18
105-415	.17

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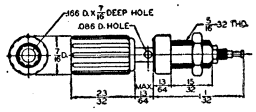
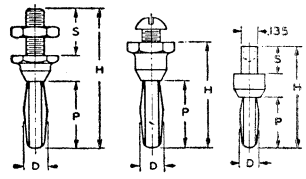
NYLON "SIX-WAY" BINDING POST
PATENT PENDING

Compact, completely insulated, pre-assembled 6-way binding post. Body molded of tough, durable, low-loss nylon. Retains low loss characteristics through extremely wide temperature range and high relative humidity conditions. Insulation resistance greater than 200 meg. after MIL-T-5422B humidity test. Voltage breakdown 8000 volts; capacity to 1/8" panel, 3.3 mmf.; current carrying capacity, 15 amperes. Shank is silver-plated brass—thumb nut is self-captivated and cannot be removed. Connection is made at the solder stud, or a lug may be slipped over the threaded portion and secured with a nut. Single 5/16"—32 nut for mounting; no auxiliary mounting hardware needed. Mounts in 21/64" hole, "D" hole or double flat hole.



Cat. No.	Color	Net Price	Cat. No.	Color	Net Price
111-101	White	$0.30	111-107	Yellow	$0.30
111-102	Red	.30	111-108	Brown	.30
111-103	Black	.30	111-109	Light Green	.30
111-104	Dark Green	.30	111-110	Dark Blue	.30
111-105	Light Blue	.30	111-111	Ivory	.30
111-106	Orange	.30			



STANDARD BANANA PLUGS

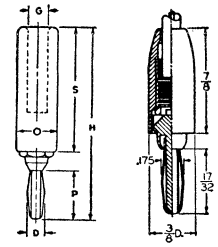
Banana plugs of advanced design. Accurately machined brass studs extend full length of pins for extra strength. Springs are nickel silver—highly resistant to corrosion. Bodys and hardware .0001 nickel plated. Solder terminals furnished. 108-770 and 108-771 are jumbo types. 108-754 designed for riveting, has beryllium copper springs and is cadmium plated.

Cat. No.	Old No.	Dwg.	S	P	D	H	Thread	Net Price
108-750	108-75	A	3/8"	17/32"	.175"	1 1/8"	6-32	$0.12
108-750-2	108-75A	A	3/4"	17/32"	.175"	1 1/2"	6-32	.13
108-753	108-75C	B	...	17/32"	.175"	15/16"	6-32	.12
108-754	108-75D	C	1/32"	13/32"	.155"	13/16"	....	.09
108-770	108-77	A	5/8"	3/4"	.300"	1 25/32"	1/4"-28	.27
108-771	108-77A	B	...	5/4"	.300"	1 1/8"	10-32	.30

JOHNSON banana plugs can be furnished with beryllium copper springs and are available plated nickel, cadmium or silver when required. A selection of miniature solder type plugs is available also. Orders for special plugs should be of sufficient quantity for economical runs.

INSULATED BANANA PLUGS
Nylon Insulated Solderless Plug

Compact high voltage insulated plug for a wide variety of applications. Easy solderless connection of up to 16 gauge stranded wire. Nylon insulating sleeve retains strength and low loss characteristics over a wide range of temperatures and withstands high voltages. Body and pin one piece nickel plated brass with high grade nickel silver springs.



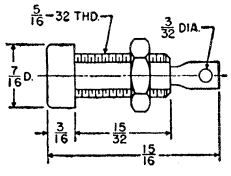
Cat. No.	Color	Net Price
108-301	White	$0.19
108-302	Red	.19
108-303	Black	.19
108-304	Dark Green	.19
108-307	Yellow	.19

Standard and Jumbo Insulated Plugs

The 108-752-1 is a standard size insulated plug with a black plastic handle; 108-752-2 same as above with red plastic handle. Both have brass, nickel plated bodies with nickel silver springs.

The 108-772-1 is a jumbo size insulated plug with a black plastic handle; 108-772-2 is the same but equipped with a red plastic handle. Both have brass, nickel plated bodies with nickel silver springs.

Cat. No.	Old No.	S	P	D	H	G	O	Net Price
108-752-1	108-75BB	1 3/4"	17/32"	.175"	2 1/8"	7/32"	7/16"	$0.31
108-752-2	108-75BR	1 3/4"	17/32"	.175"	2 1/8"	7/32"	7/16"	.31
108-772-1	108-77BB	1 3/4"	3/4"	.300"	2 25/32"	3/8"	5/8"	.43
108-772-2	108-77BR	1 3/4"	3/4"	.300"	2 25/32"	3/8"	5/8"	.43



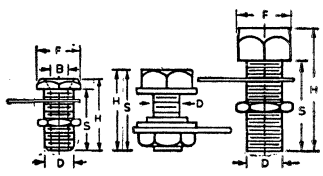
BANANA JACKS
Nylon Insulated Banana Jacks

Completely insulated banana jack; body molded of tough, low-loss nylon. Retains low-loss characteristics through extremely wide temperature range and high relative humidity conditions. Voltage breakdown 11,000 volts, capacity to 1/16" panel only 1.5 mmf. Insert is cadmium-plated. Accommodates banana plugs of a nominal diameter of .175". Single 5/16"—32 nut for mounting, no auxiliary mounting hardware needed. Mounts in 21/64" hole.

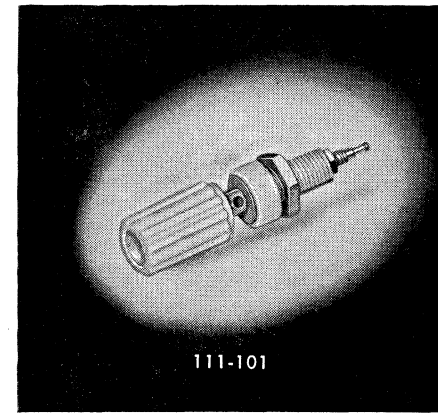
Cat. No.	Color	Net Price
108-901	White	$0.14
108-902	Red	.14
180-903	Black	.14
108-904	Dark Green	.14
108-907	Yellow	.14

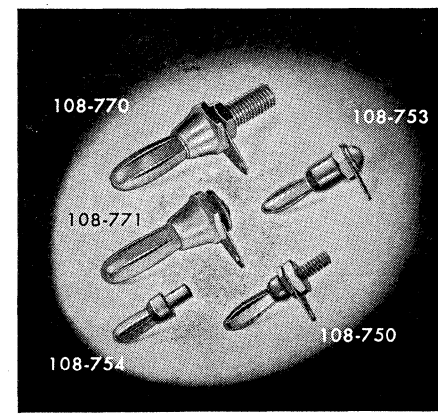
Standard Banana Jacks

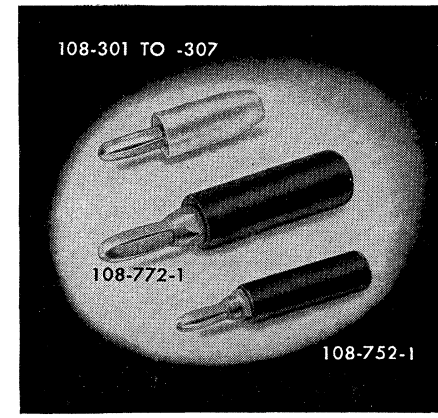
108-740 (74) is a quality nickel plated jack of machined brass. Solder terminal and nut furnished. 108-745-1(7451) similar to the 108-740 with a red plastic head molded integral with body. Supplied with fibre insulating washers, terminal and nut. 108-745-2 (7452) same as 108-745-1 but black. 108-760 (76) for jumbo plugs. Supplied with solder terminal and nickel plated hex nut.

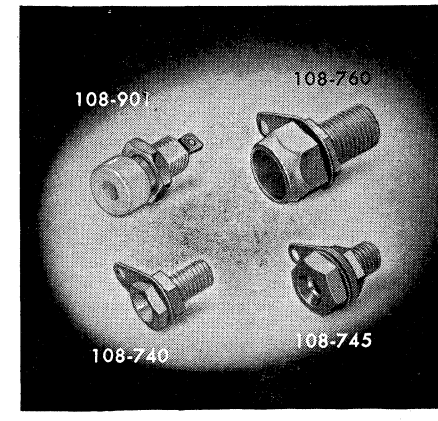


Cat. No.	Old No.	Dwg.	F	D	S	H	Hole Dia.	Thread	Net Price
108-740	108-74	D	3/8"	1/4"	17/32"	5/8"	.166"	1/4"-28	$0.11
108-745-1	108-7451	E	7/16"	1/4"	1/2"	21/32"	.166"	1/4"-28	.22
108-745-2	108-7452	E	7/16"	1/4"	1/2"	21/32"	.166"	1/4"-28	.22
108-760	108-76	F	9/16"	3/8"	21/32"	1"	.277"	3/8"-24	.29









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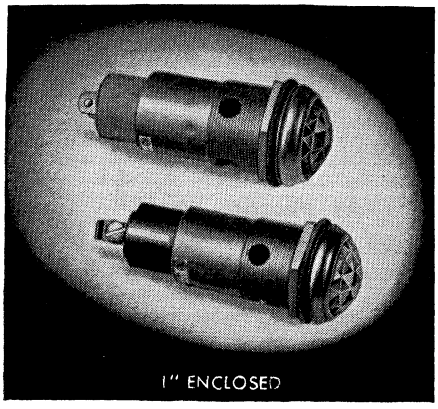
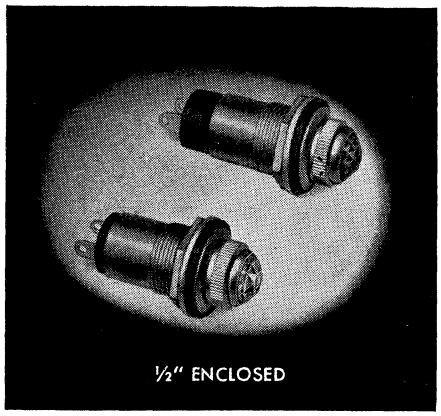
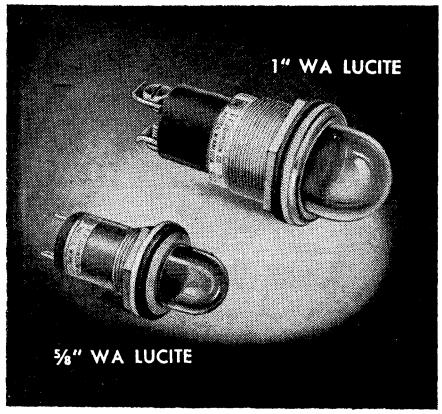
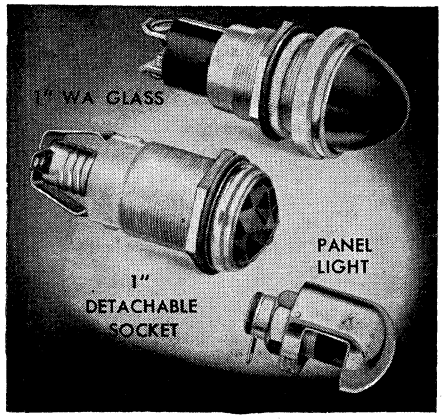
E. F. Johnson Company

WASECA, MINNESOTA









PILOT LIGHTS—GENERAL SPECIFICATIONS

As a result of a comprehensive survey recently conducted among Design and Development Engineers, the following listing of Pilot and Indicator lights are classified by the E. F. Johnson Company as "PREFERRED." Pilot lights selected from this group may be quickly obtained from the factory or are immediately available at parts distributors throughout the country. Specials, including those meeting military specifications are available in production quantities.

Standard jewel colors are clear, red, green, amber, blue, and opal; green and blue not recommended for use with neon lamps. When ordering -1 indicates clear; -2, red; -3, green; 4 amber; -5, blue; -6, opal.

For a complete listing of all available Johnson pilot lights and jewels, write for your copy of Johnson Pilot Light Catalog No. 750.

1" ENCLOSED—GLASS JEWELS

U. L. approved. Friction type jewel holder, bright chrome plated brass. Nickel plated, brass body—porcelain insulation. Bulb replaceable from front panel. Solder terminals. Available in two lengths for either 110 volt, S6 candelabra screw lamp or for shorter T 4½ lamps such as the NE 45. 147-1000 has faceted jewel, 147-1004 has smooth jewel for maximum visability with neon lamps. 1" mounting hole required. Mounting nut and fibre washer furnished. Jewels available in clear, amber, red, green, blue, and opal.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1000	2 1/2"	S6	Candelabra Screw	**$1.02**
147-1004	2 5/16"	T4½	Candelabra Screw	**.99**

Identical to 147-1000 listed above, except socket housing is phenolic and assembly has screw terminals to meet MIL-P14-CFG.

147-1032	2 3/4"	S6	Candelabra Screw	**1.25**

U. L. approved. Threaded jewel holder, knurled brass, bright chrome plated. Nickel plated brass body—porcelain insulation. 147-1200 has solder terminals, 147-1209 has screw terminals. 1" mounting hole required. Mounting nut and fibre washer furnished. Faceted jewels available in clear, red, green, amber, blue and opal.

147-1200	2 1/2"	S6	Candelabra Screw	**1.26**
147-1209	2 3/4"	S6	Candelabra Screw	**1.37**

½" ENCLOSED—FACETED GLASS JEWELS

U. L. approved. Threaded jewel holder, knurled brass, nickel plated. Assembly is available in two different lengths to accommodate the long, T3¼ miniature bayonet bulbs or the short, round G3½ miniature bayonet types. Threaded jewel holders are removable and assemblies are designed so bulbs may be replaced from front panel without using a special tool. Equipped with solder terminals. Mounting nut, fibre washer, and lock washer furnished. May be used in panels up to ⅜" thick. 11/16" mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opal.

Cat. No	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1110	1 9/16"	T3¼	Miniature Bayonet	**$0.76**
147-1112	1 3/8"	G3½	Miniature Bayonet	**.76**

ENCLOSED TYPES—WIDE ANGLE LUCITE LENS

U. L. approved. Designed for economical continuous operation utilizing neon or low power incandescent bulbs. Sockets are located so bulbs extend far forward in assemblies for maximum wide angle visibility. Tiny hemispheres on interior of lucite lens diffuse light for maximum visibility with uniform light intensity from front or sides. One inch types have chrome plated, threaded lens holders which may be removed to replace bulbs. On ⅝" types, lucite lens cap is threaded and screws out of bezel on housing for bulb replacement. Mounting nut and fibre washer furnished with both types. Recommended lens colors: clear, amber, red, or opal.

1" ENCLOSED—LUCITE LENS

1" mounting hole required; screw terminals.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1217	1 15/16"	T4½	Candelabra Screw	**$1.43**
147-1218	1½"	T3¼	Miniature Bayonet	**1.10**

⅝" ENCLOSED—LUCITE LENS

11/16" mounting hole required; solder terminals, lock washer.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1142	1 7/16"	T3¼	Miniature Bayonet	**$0.68**
147-1143*	1 7/16"	T3¼	Miniature Bayonet	**.89**
147-1144**	1 7/16"	T3¼	Miniature Bayonet	**.89**

*Built in 180,000 ohm resistor **Built in 100,000 ohm resistor

1" ENCLOSED—WIDE ANGLE "BULLSEYE" LENS

U. L. approved. Threaded jewel holder, knurled brass, chrome plated. An extremely attractive assembly designed to provide excellent visibility from any angle. Jewel has large inside diameter permitting bulb to set well forward for maximum illumination. Hundreds of tiny hemispheres on interior surface of glass jewel provide diffusion of light in all directions. Lens exterior surface is smooth preventing the accumulation of dirt and dust. Bulb is replaceable from front panel. Phenolic insulation—screw terminals. May be used on panels up to ⅜" thick. 1" mounting hole required. Mounting nut and fibre washer furnished. Jewels available in clear, red, green, amber, blue, or opal.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1600	2 1/16"	S6	Candelabra Screw	**$1.54**

1" DETACHABLE SOCKET TYPE

Economical semi-enclosed assembly with chrome plated jewel bezel. Friction fit jewel holder easily removable for bulb replacement from front panel. Socket portion detaches from panel bushing allowing panel removal without disconnection of wiring. Body and bracket nickel plated. Fibre washer and nut furnished. 1" mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opal.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-800	1 11/16"	G3½, T3¼	Miniature Screw	**$0.69**
147-802	2 5/16"	T4½	Candelabra Screw	**.71**
147-804	1 11/16"	G3½, T3¼	Miniature Bayonet	**.70**

PANEL LIGHT

For front panel illumination. Polished nickel plated hood, easily removable for lamp replacement; rotates to any position. ½" mounting hole required.

Cat. No.	Bulb Shape	Lamp Base	Net Price
147-330	T3¼, G3½	Miniature Screw	**$0.75**
147-329	T3¼, G3½	Miniature Bayonet	**.90**

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OPEN PILOT LIGHTS—HORIZONTAL MOUNTING

Designed to permit bulb replacement from the panel. Heavy gauge brackets are nickel plated—jewel holders are finished same as enclosed assemblies of comparable size. A special bushing and mounting nut serves as a jewel receptacle and as a mounting for the bracket.

1" HORIZONTAL OPEN—FACETED GLASS JEWELS

Friction type jewel holder, chrome plated. 1" mounting hole required. May be used on panels up to 3/8" thick. Faceted jewels available in clear, red, green, amber, blue, and opal.

Cat. No.	Length Behind Panel	Bulb Shape	Base	Net Price
147-100	1 1/2"	G3 1/2, T3 1/4	Miniature Screw	$ .60
147-103	2 1/16"	S6	Candelabra Screw	.61
147-106	1 1/2"	G3 1/2, T3 1/4	Miniature Bayonet	.63

1/2" HORIZONTAL OPEN—FACETED GLASS JEWELS

Threaded jewel holder, bright nickel plated. 11/16" mounting hole required. May be used on panels up to 7/32" thick. Faceted jewels available in clear, red, green, amber, blue, and opal.

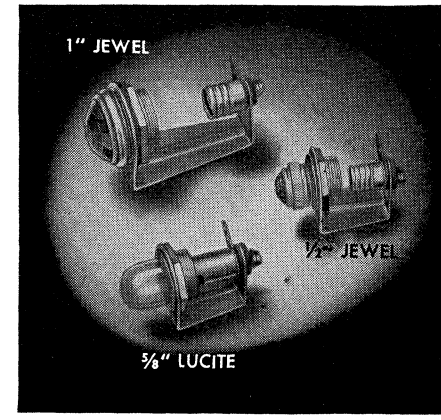
Cat. No.	Length Behind Panel	Bulb Shape	Base	Net Price
147-400	1 1/4"	G3 1/2, T3 1/4	Miniature Screw	$0.47
147-403	1 1/2"	G3 1/2, T3 1/4	Miniature Bayonet	.50

5/8" HORIZONTAL OPEN—LUCITE LENS

For efficient utilization of low powered light sources. Wide angle visibility; low cost. Use with neon or incandescent lamps with 3 watts or less dissipation. 11/16" mounting hole required. Recommended lens colors: clear, amber, red, or opal.

Cat. No.	Length Behind Panel	Bulb Shape	Base	Net Price
147-406	1 1/4"	T3 1/4	Miniature Bayonet	$0.42
147-407	1 1/4"	NE51	Miniature Bayonet*	.66

*180,000 resistor built in



OPEN PILOT LIGHTS—VERTICAL MOUNTING

Sturdy, heavily plated units for application where bulb is accessible from behind panel. Jewel holders are polished, nickel plated, and fasten with nut on rear of panel so assembly is tamper proof from front. All have solder terminals.

5/8" VERTICAL OPEN—FACETED JEWELS—ALL COLORS

11/16" Mounting Hole Required—Bright Chrome Plated Jewel Holder.

Cat. No.	Length Behind Panel	Bulb Shape	Base	Net Price
147-200	1 1/8"	G3 1/2	Miniature Screw	$0.49
147-203	1 3/16"	S6	Candelabra Screw	.50
147-206	1"	G3 1/2	Miniature Bayonet	.53

1/2" VERTICAL OPEN—FACETED JEWELS—ALL COLORS

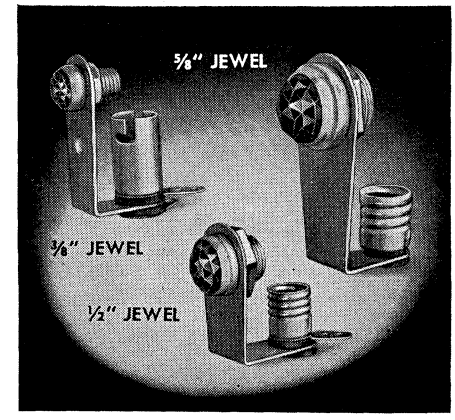
7/16" Mounting Hole Required.

Cat. No.	Length Behind Panel	Bulb Shape	Base	Net Price
147-300	1 3/16"	G3 1/2	Miniature Screw	$0.30
147-303	1 1/4"	S6	Candelabra Screw	.31
147-306	1"	G3 1/2	Miniature Bayonet	.33

3/8" VERTICAL OPEN—FACETED JEWELS—ALL COLORS

9/32" Mounting Hole Required

Cat. No.	Length Behind Panel	Bulb Shape	Base	Net Price
147-500	1 1/8"	G3 1/2	Miniature Screw	$0.25
147-503	1"	G3 1/2	Miniature Bayonet	.28



JEWEL-BUSHING AND JEWEL ASSEMBLIES

(For use with brackets listed below)

1" JEWEL AND BUSHING ASSEMBLY

Friction fit jewel holders. Chrome plated bezel fits into threaded brass, nickel plated bushing. Furnished with fibre compression washer and nut. 1" mounting hole required. Faceted jewels available in clear, red, green, amber, blue and opal.

Cat. No.	Net Price
147-110	$0.43

1/2" JEWEL AND BUSHING ASSEMBLY

Threaded jewel holder, knurled brass, nickel plated. Includes jewel assembly and threaded bushing with mounting nut. 11/16" mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opal.

147-410 . . . . . $0.34

1/2" JEWEL

Threaded jewel assembly. Bright nickel plated bezel. Mounting nut furnished. 7/16" mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opal.

147-310 . . . . . $0.18

3/8" MINIATURE JEWEL

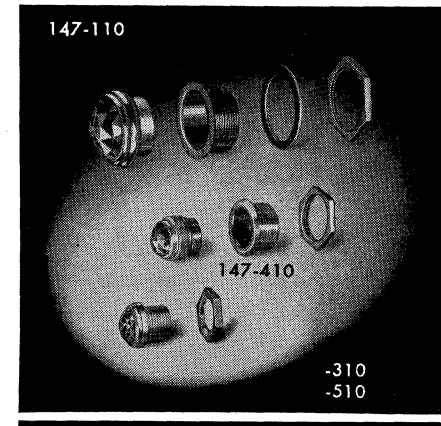
Miniature threaded jewel assembly with nut. Bright nickel plated bezel. 9/32" mounting hole required. Faceted jewels available in clear, red, green, amber, and opal.

147-510 . . . . . $0.13

5/8" LUCITE LENS

Lucite lens threaded 9/16"-27 as shown on 147-406 and -407 above. Recommended colors, clear, amber, red, or opal.

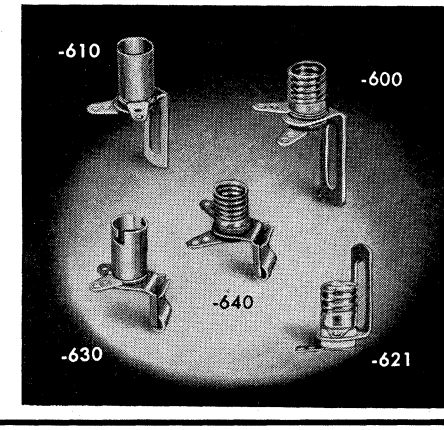
147-10 . . . . . $0.08

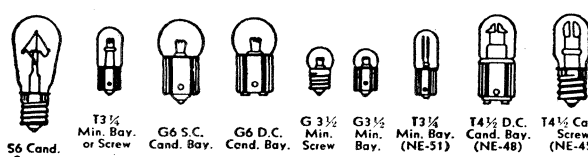


DIAL LIGHT BRACKETS

Designed with exclusive features for long life and dependability. Socket shells are of extra heavy material and feature seamless construction. Terminals are tin plated for easy solder connection—all other parts are heavily nickel plated. Heavy gauge contact springs on bayonet types retain tension indefinitely.

Cat. No.	Socket	Net Price	Cat. No.	Socket	Net Price
147-600	Min. Screw (Bracket down)	$0.10	147-621	Cand. Screw (Bracket up)	.11
147-601	Min. Screw (Bracket up)	.10	147-630	Min. Bay. (Clip down)	.14
147-610	Min. Bay. (Bracket down)	.12	147-631	Min. Bay. (Clip up)	.14
147-611	Min. Bay. (Bracket up)	.12	147-640	Min. Screw (Clip down)	.12
147-620	Cand. Screw (Bracket down)	.11	147-641	Min. Screw (Clip up)	.12





Bulbs used on all pilot lights may be identified from these illustrations. (Not included in prices.)

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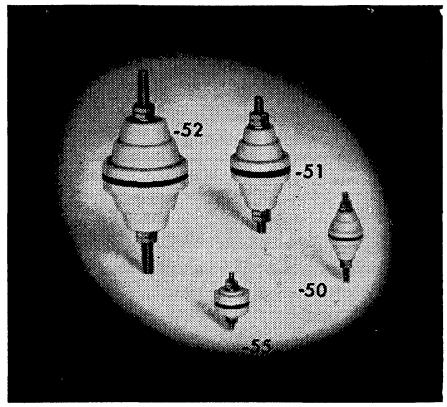
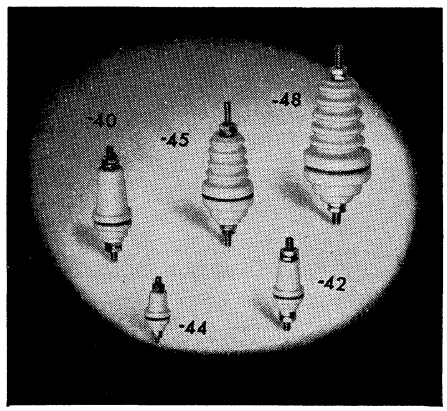
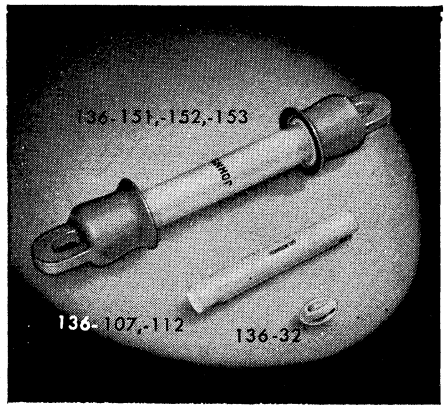
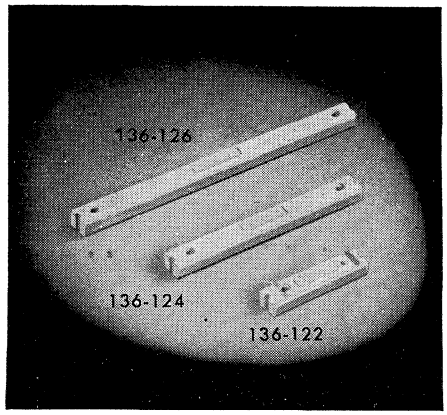
WASECA, MINNESOTA



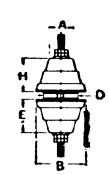


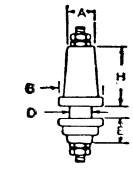


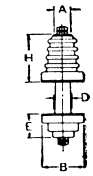


INSULATORS

Superior quality steatite and porcelain insulators. Heavily glazed surfaces and heavy nickel plated brass hardware suitable for exposed applications. Types designated -2 have jack to accommodate JOHNSON or other standard banana plugs.







INSULATED THRU-PANEL BUSHINGS

Assemblies consist of a pair of identical steatite insulators, hardware, and cushion washers. The 135-55 assembly has interlocking insulators which are self-centering in mounting hole and may be used on very thin panels.

Cat. No.	H	B	D	A	Hardware	Net Price
135-50	1/2"	3/4"	15/32"	3/8"	6-32	$0.27
135-51	13/16"	1 1/4"	27/32"	5/8"	10-32	.44
135-52	1 1/8"	1 3/4"	1 7/32"	7/8"	1/4"-20	.65
135-55	1/4"	3/4"	15/32"	1/2"	6-32	.25

THRU-PANEL INSULATORS

High voltage insulators compression mounted by means of a stud throughout length. Extrusion of insulator base extends thru mounting hole increasing breakdown rating. Flat mounting surfaces with cushion washer. Types with jacks have terminal permitting connection above as well as below panel.

STEATITE

Cat. No.	H	B	D	E	A	Hardware	Net Price
135-40	1 1/4"	15/16"	7/16"	1/2"	19/32"	10-32	$0.28
135-40-2	1 1/4"	15/16"	7/16"	1/2"	19/32"	108-740 Jack	.36
135-42	7/8"	3/4"	13/32"	5/8"	1/2"	10-32	.27
135-42-2	7/8"	3/4"	13/32"	5/8"	1/2"	108-740 Jack	.35
135-44	5/8"	5/8"	5/16"	5/16"	3/8"	6-32	.20

PORCELAIN

Cat. No.	H	B	D	E	A	Hardware	Net Price
135-45	1 3/8"	1 1/4"	1/2"	11/16"	5/8"	10-32	$0.35
135-45-2	1 3/8"	1 1/4"	1/2"	11/16"	5/8"	108-740 Jack	.43
135-46	2 3/4"	1 5/8"	11/16"	1"	15/16"	1/4"-20	.95
135-46-2	2 3/4"	1 5/8"	11/16"	1"	15/16"	108-760 Jack	1.17
135-47	4 1/2"	2 1/8"	31/32"	1 1/2"	1 1/16"	1/4"-20	1.35
135-47-2	4 1/2"	2 1/8"	31/32"	1 1/2"	1 1/16"	108-760 Jack	1.51
135-48	2"	1 5/8"	11/16"	7/8"	3/4"	10-32	.53
135-48-2	2"	1 5/8"	11/16"	7/8"	3/4"	108-740 Jack	.66

ANTENNA STRAIN INSULATORS

The 136-151, 136-152, and 136-153 are heavy duty 1 1/2" diameter wet process porcelain with specially sealed end bells of non-corrosive aluminum alloy. Porcelain glazed to prevent moisture absorption.

Numbers 136-107 and 136-112 are wet process, glazed porcelain 1" diameter round. Number 136-104 is dry process, glazed 5/8" square.

The 136-32 is a compression type strain insulator for aircraft or guy wire applications. Dry process, glazed porcelain.

Cat. No.	Breaking Strength	Length Net	Length Overall	Net Price
136-151	5000 lbs.	8"	15 1/2"	$7.70
136-152	5000 lbs.	12"	19 1/2"	8.25
136-153	5000 lbs.	20"	25 1/2"	13.25
136-104	400 lbs.	..	4"	.17
136-107	800 lbs.	..	7"	.83
136-112	800 lbs.	..	12"	1.05
136-32	.....	..	1 1/2"	.10

FEEDER INSULATORS

Numbers 136-122, 136-124, and 136-126 are conventional feeder spreaders for constructing open-wire antenna feeders and transmission lines. Made of high grade, low absorption porcelain, they are silicone impregnated for moisture resistance. Number 136-122 has extra notches for 1 1/2" line spacing. All have 3/8" x 1/2" cross section.

Cat. No.	Length	Net Price
136-122	2"	$0.13
136-124	4"	.19
136-126	6"	.24

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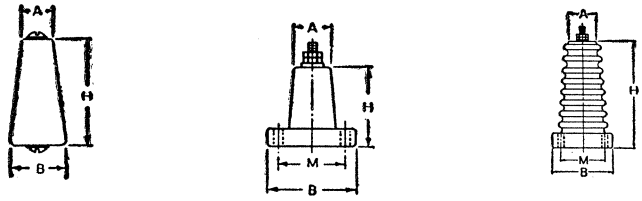
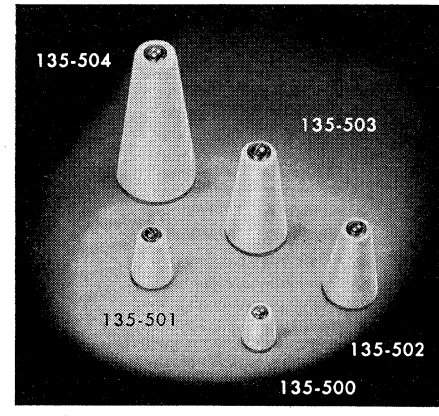
INSULATORS

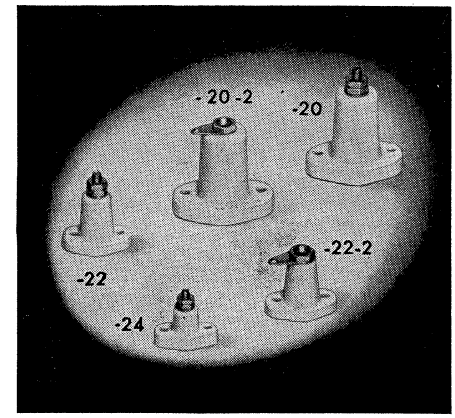




STEATITE CONE INSULATORS

Material, grade L-4 or better, steatite. Deep, clean threads are tapped directly into the ceramic. Furnished complete with two nickel plated machine screws, nickel plated brass washers, and a cork cushion washer.

Cat. No.	H	B	A	Hardware	Net Price
135-500	5/8"	5/8"	7/16"	6-32	$0.22
135-501	1"	3/4"	1/2"	8-32	.27
135-502	1 1/2"	1"	1/2"	8-32	.47
135-503	2"	1 1/8"	5/8"	10-32	.54
135-504	3"	1 1/2"	3/4"	10-32	.94



STEATITE STAND-OFF INSULATORS

Glazed steatite insulators combining excellent strength with economy. Relatively large mounting surface combined with two hole mounting permit substantial lateral loads. Hardware includes screw, flat washer, and two nuts.

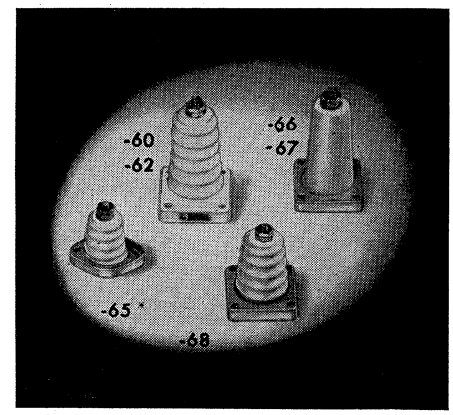
Parts designated -2 have a standard banana jack and a solder lug mounted on the top of the insulator. Jacks, .166" inside diameter, fit standard banana plugs.

Cat. No.	H	B	M	A	Hardware	Net Price
135-20	1 9/16"	1 3/4"	1 5/16"	3/4"	10-32	$0.17
135-20-2	1 9/16"	1 3/4"	1 5/16"	3/4"	108-740 Jack	.22
135-22	1"	1 5/32"	13/16"	15/32"	8-32	.14
135-22-2	1"	1 5/32"	13/16"	15/32"	108-740 Jack	.18
135-24	5/8"	1"	11/16"	3/8"	6-32	.11

PORCELAIN STAND-OFF INSULATORS

Ribbed porcelain insulators with square mounting bases and four mounting holes. Porcelain dense molded and glazed except on mounting surfaces.

Cat No.	H	B	M	A	Hardware	Net Price
135-60	4 1/2"	2 1/2"	1 7/8"	1 3/16"	1/4"-20	$0.75
135-62	2 3/4"	1 7/8"	1 3/8"	7/8"	1/4"-20	.40



Surface mounting porcelain insulators with drawn and etched aluminum bases. Numbers 135-65, 135-65-2, 135-68 and 135-68-2 are ribbed, 135-66, 135-66-2 and 135-67 and 135-67-2 are smooth surfaced. Types 135-65-2 and 135-68-2 have standard, .166" inside diameter banana jacks; types 135-66-2 and 135-67-2 have .277" inside diameter jacks to fit jumbo banana plugs.

Cat. No.	H	B	M	A	Hardware	Net Price
135-65	1 3/8"	1 7/8"	1 1/2"	5/8"	10-32	$0.23
135-65-2	1 3/8"	1 7/8"	1 1/2"	5/8"	108-740 Jack	.32
135-66	2 3/4"	1 3/4"	1 3/8"	15/16"	1/4"-20	.60
135-66-2	2 3/4"	1 3/4"	1 3/8"	15/16"	108-760 Jack	.82
135-67	4 1/2"	2 1/4"	1 3/4"	1 1/16"	1/4"-20	.78
135-67-2	4 1/2"	2 1/4"	1 3/4"	1 1/16"	108-760 Jack	1.00
135-68	2"	1 3/4"	1 3/8"	23/32"	10-32	.38
135-68-2	2"	1 3/4"	1 3/8"	23/32"	108-740 Jack	.46

LEAD-IN BUSHINGS

Single porcelain insulators less all hardware except cushion washer. Mounting flanges and threaded lead-in rods listed below.

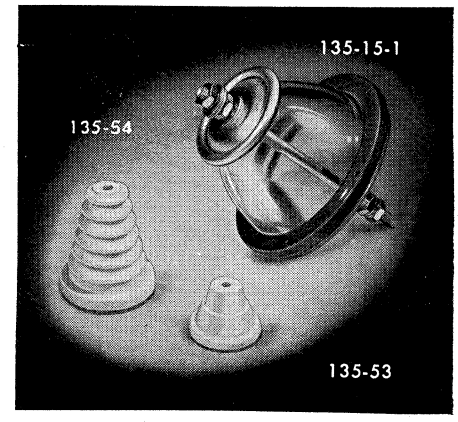
Cat. No.	H	B	A	Net Price
135-53	1 3/4"	2 1/2"	1 1/16"	$0.29
135-54	4"	3 1/2"	1"	.68

Threaded rod for use with lead-in bushings 135-53 and 135-54. Rod threaded overall 1/4"-20. Complete assembly includes rod, 4 brass washers and 4 nuts, all parts heavily nickel plated.

Cat. No.	Length	Net Price
115-240	8"	$0.44
115-241	10"	.55
115-242	15"	.77

Stamped aluminum mounting flanges for lead-in bushings 135-53 and 135-54. Three mounting holes spaced 120 degrees apart.

Cat. No.	For Bushing No.	Net Price
135-90	135-53	$0.28
135-91	135-54	.61



FEED-THRU BOWL ASSEMBLIES

Bowls, electrical glass, 6 15/16" maximum diameter, 4 3/4" high. Steel mounting flange 7 3/4" dia. Stud threaded 1/2"-13. Cork gaskets and spun aluminum corona shields included in fittings. 135-15-1 consists of single bowl with fittings, 10 1/4" stud. 135-15-3 two bowls and fittings with 16" stud for walls up to 4". 135-15-7 with 24" stud for walls up to 12". Can also be furnished with special hollow studs.

Cat. No.		Net Price
135-15-1	One bowl and fittings	$13.55
135-15-3	Two bowls and fittings	23.65
135-15-7	Two bowls and fittings	24.20
135-15-11	Glass bowl only, less fittings	7.35

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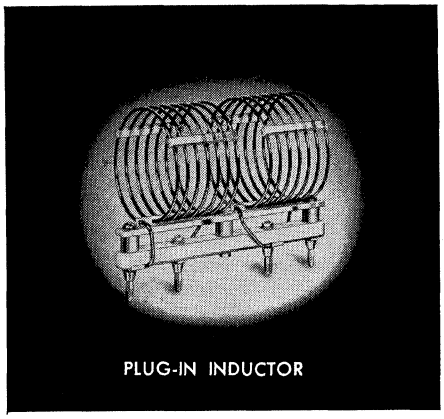
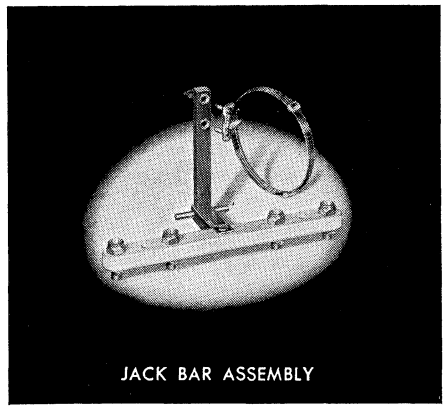
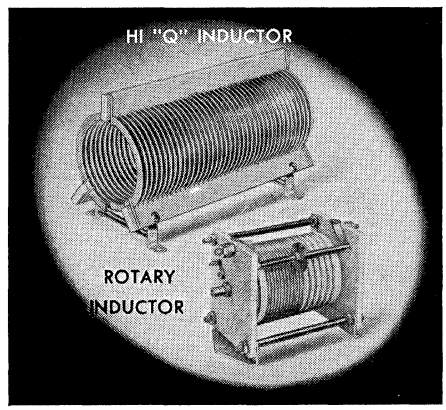
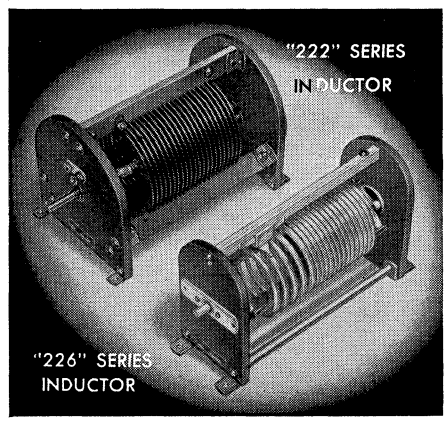
WASECA, MINNESOTA


PLUG-IN INDUCTOR


JACK BAR ASSEMBLY


HI "Q" INDUCTOR

ROTARY INDUCTOR


"222" SERIES INDUCTOR

"226" SERIES INDUCTOR

SWINGING LINK INDUCTORS

Swinging link inductors for amateur bands 160 thru 6 meters; 150, 500 and 1000 watt sizes. Polystyrene insulation, steatite bases and heavy wire sizes. HCS-Inductors match high voltage, low current tubes. LCS-Inductors match low voltage, high current tubes. Complete assembly includes Inductors for bands desired, Jack Bar, Link Arm Assembly and Plug-in Links required for matching to line or antenna coupler.

Cat. No.	Type No.	Wire Size	Cap.*mmf.	Height	Width	Net Price
		1,000 watts				
238-106	1000HCS160	10	99	5 11/16"	4 13/32"	$8.25
238-107	1000LCS160	10	140	5 11/16"	4 13/32"	8.25
238-101	1000HCS80	10	46	5"	3 23/32"	7.35
238-102	1000LCS80	10	73	5"	3 23/32"	7.35
238-103	1000HCS40	10	24	5"	3 23/32"	6.65
238-104	1000LCS40	8	55	5"	3 3/4"	6.65
238-105	1000HCS20	8	19	4 7/8"	3 3/4"	6.10
238-111	1000LCS20	.250"	26	5 1/8"	4"	6.10
238-112	1000H/LCS14	.250"	19	4 1/8"	3 1/2"	5.70
238-113	1000H/LCS10	.250"	18	4 1/8"	3 1/2"	5.40
		500 watts				
238-125	500HCS160	14	100	4 7/32"	3 1/8"	4.25
238-126	500LCS160	14	148	4 7/32"	3 1/8"	4.25
238-121	500HCS80	14	45	3 23/32"	2 5/8"	3.80
238-122	500LCS80	12	76	3 3/4"	2 21/32"	3.80
238-123	500HCS40	12	27	3 3/4"	2 21/32"	3.45
238-124	500LCS40	10	50	3 25/32"	2 23/32"	3.45
238-131	500HCS20	6	25	3 13/16"	2 13/16"	2.95
238-132	500LCS20	6	37	3 13/16"	2 13/16"	2.95
238-133	500H/LCS14	6	19	3 11/16"	2 9/16"	2.50
238-134	500H/LCS10	6	19	3 9/16"	2 5/16"	2.30
238-135	500H/LCS6	6	18	3 9/16"	2 5/16"	2.30
		150 watts				
238-147	150HCS160	18	102	4 3/16"	3 1/16"	3.65
238-148	150LCS160	16	151	4 7/32"	3 3/32"	3.65
238-141	150HCS80	16	51	4 7/32"	2 19/32"	3.30
238-142	150LCS80	16	68	4 7/32"	2 19/32"	3.30
238-143	150HCS40	14	28	3 23/32"	2 5/8"	2.95
238-144	150LCS40	12	57	3 3/4"	2 21/32"	2.95
238-145	150HCS20	12	21	3 1/2"	2 13/32"	2.65
238-146	150LCS20	12	32	3 1/2"	2 13/32"	2.65
238-151	150H/LCS14	8	19	3 21/32"	2 1/8"	2.30
238-152	150H/LCS10	8	19	3 21/32"	2 1/2"	2.15
238-153	150H/LCS6	8	16	3 13/32"	2"	2.15

*Total circuit capacity to effect resonance at low frequency end of band.
To determine split-stator capacitor, subtract tube output and wiring capacity (usually 5 to 20 mmf.) from total capacity in chart; then double result for capacity per section needed.

PLUG-IN SWINGING LINKS

Select the link to match your line, coupler or output filter for optimum power transfer.

Cat. No.	Type No.	No. Turns	Net Price	Cat. No.	Type No.	No. Turns	Net Price
238-181	150/500SL12	12	$1.80	238-191	1000SL10	10	$2.00
238-182	150/500SL5	5	1.15	238-192	1000SL5	5	1.25
238-183	150/500SL2	2	1.00	238-193	1000SL2	2	1.10

SWINGING LINK ARM ASSEMBLIES

238-179	150/500SLA—for 150/500 watt inductors	$1.25
238-180	1000SLA—for 1000 watt inductors	1.55

JACK BAR ASSEMBLIES

238-171	150JBS—150 watt, 3 3/4" x 9/16" x 3/8"	$1.00
238-172	500JBS—500 watt, 5 3/4" x 5/8" x 3/8"	1.30
238-173	1000JBS—1000 watt, 7 1/2" x 7/8" x 1/2"	2.00

INDUCTORS

"229" SERIES WIRE WOUND VARIABLE INDUCTORS—3 AMPS.

Efficient, all steatite insulated variable inductors for amateur transmitters or low power commercial equipment. Variable pitch, tinned copper wire windings on grooved steatite forms. 1/4" shafts extend 1/2" on both ends. Length dimension is over mounting feet.

Cat. No.	Inductance	Mounting	Overall Dimensions L	W	H	Wire Size	Net Price
229-201	10 uh	3 15/16"	4 3/8"	2 1/2"	2 31/32"	No. 14	$8.85
229-202	15 uh	5 15/32"	5 29/32"	2 1/2"	2 31/32"	No. 12	9.75
229-203	25 uh	6 23/32"	7 5/32"	2 1/2"	2 31/32"	No. 12	11.50

"232" SERIES "HI-Q" COILS—1/4" x .054" RIBBON—5 AMPS.

Fixed coils wound with 1/4" copper strip, cadmium plated. Glass bonded mica support bars.

232-610	31 uh	3 1/4" x 6"	7 31/32"	3 5/8"	4 5/8"	$9.80
232-620	84 uh	3 3/4" x 7 1/8"	9 3/32"	4 1/2"	6"	12.65
232-622	41 uh	3 1/4" x 4 5/8"	6 19/32"	3 3/4"	5 3/8"	9.80
232-624	20 uh	3 1/4" x 4 1/4"	6 7/32"	3 3/4"	5 3/8"	6.95
232-626	10 uh	3 1/4" x 3"	4 31/32"	3 5/8"	4 5/8"	6.40

"222" SERIES VARIABLE INDUCTORS—1/2" x .090" RIBBON—15 AMPS.

Excellent for medium power RF equipment where high current operation is required in minimum space. Heavy nickel plated copper ribbon windings and silver plated beryllium copper contacts with solid silver buttons. Glass bonded mica end frames and support bars. 3/8" shafts extend 1 3/4" front and rear. Length dimension is over mounting feet—does not include shaft extensions.

Cat. No.	Type No.	Inductance	Mounting	Overall Dimensions L	W	H	Net Price
222-1	4224MS4	27 uh	5 3/4" x 10 3/8"	11 1/8"	6 1/2"	6 5/8"	$46.20
222-2	4275MS4	50 uh	6 3/4" x 11 5/8"	12 3/8"	7 1/2"	7 5/8"	56.10
222-3	4084MS6	5 uh	5 3/4" x 7 7/8"	8 5/8"	6 1/2"	6 5/8"	39.60
222-5	4134MS6	10 uh	5 3/4" x 9 3/4"	10 1/2"	6 1/2"	6 5/8"	42.90
222-7	4325MS4	62.5 uh	6 3/4" x 12 1/8"	13 5/8"	7 1/2"	7 5/8"	56.65

"226" SERIES VARIABLE INDUCTORS—1/4" x 1/8" RIBBON—10AMPS.

Popular for commercial and amateur use, these moving coil type inductors easily handle well over a kilowatt of plate modulated RF energy to 30 mc. Heavy silver plated conductors and silver plated contact bars and contacts. Glass bonded mica end frames and support bars. 3/8" shafts extend 3/4" front and rear. Length dimension is over mounting feet, does not include shaft extensions.

226-1	22.5 uh	3" x 12 3/4"	13 1/2"	4"	6 1/2"	$62.70
226-3	13.5 uh	3" x 10 3/4"	11 1/2"	4"	6 1/2"	58.30
226-5	8 uh	3" x 9 1/4"	10"	4"	6 1/2"	49.20

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Net

E. F. Johnson Company

WASECA, MINNESOTA

"200" SERIES FIXED COILS

Economical—compact—edgewise copper windings. Airwound with slotted, glass bonded mica supports. Construction provides exceptional current carrying capacity for size.

"200" FIXED COILS—¼" x .054" RIBBON—10 AMPERES

Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
200-101	2224N4	26 uh	2" x 8 1/8"	8 3/4"	5 9/16"	5 3/8"	$11.55
200-107	2105N4	10 uh	2" x 5 1/8"	5 3/4"	6 5/8"	6 1/2"	9.35
200-114	2284N3	45 uh	2" x 7 7/8"	8 1/2"	5 9/16"	5 3/8"	14.85
200-401	2455N5	70 uh	2" x 11 1/64"	11 41/64"	5 9/16"	5 9/16"	25.30
200-407	2497N4	200 uh	3" x 14 13/16"	15 7/16"	7 1/2"	7 1/2"	32.45

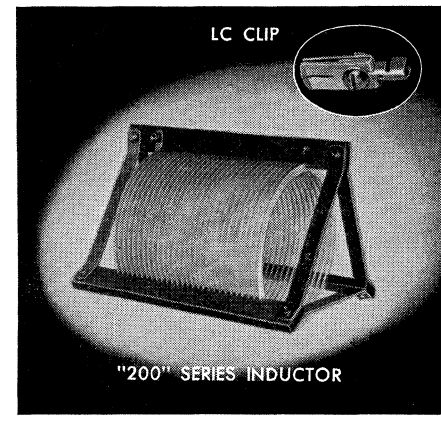
"200" FIXED COILS—⅜" x .072" RIBBON—15 AMPERES

200-205	3164N5	15 uh	2" x 7 5/8"	8 1/4"	5 11/16"	5 9/16"	$11.55
200-206	3275N4	50 uh	2" x 9 3/8"	10"	6 7/8"	6 11/16"	18.70
200-211	3336N5	73 uh	2 1/4" x 12 15/16"	13 9/16"	7 11/16"	7 11/16"	23.40
200-213	3376N4	102 uh	2 1/2" x 11 7/8"	12 1/2"	7 11/16"	7 11/16"	25.30

"200" FIXED COILS—½" x .090" RIBBON—20 AMPERES

200-301	4205N6	25 uh	2" x 10 5/8"	11 3/8"	7 1/8"	7"	$21.45
200-302	4346N5	78 uh	2 1/2" x 13 3/4"	14 1/2"	8"	8"	33.00
200-303	4275N4	50 uh	2" x 9 7/8"	10 5/8"	7 1/8"	7"	26.15
200-306	4164N5	15 uh	2" x 8 1/8"	8 7/8"	6 5/16"	6"	20.35
200-308	4366N4	100 uh	2 1/2" x 12 1/8"	12 7/8"	8"	8"	33.55

Other standard inductance values available on special order.



"202" SERIES FIXED COILS

Large surface area ¼", ⅜" and ½" copper tubing wound coils provide low resistance and working temperatures for continuous high current applications. Simple, rugged "airwound" design with glass bonded mica support bars.

"202" FIXED COILS—¼" TUBING—20 AMPERES

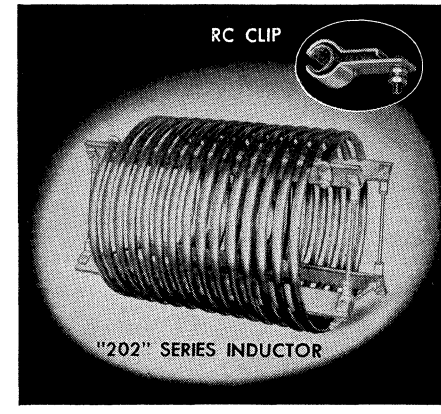
Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
202-101	2166NT8	21 uh	2 1/2" x 14 3/8"	15 1/8"	6 1/2"	6 3/4"	$27.25
202-401	2308NT8	76 uh	2 1/4" x 21 1/8"	21 7/8"	8 1/2"	8 1/2"	58.30
202-402	2328NT6	102 uh	2 1/4" x 18 5/32"	18 29/32"	8 1/2"	8 1/2"	53.35

"202" FIXED COILS—⅜" TUBING—30 AMPERES

202-201	3106NT12	10 uh	2 1/2" x 13 7/8"	14 5/8"	6 3/4"	7 1/2"	$31.35
202-502	32410NT12	64 uh	2 1/2" x 24 1/16"	24 13/16"	10 3/4"	10 3/4"	53.35
202-507	3148NT12	24 uh	2 1/4" x 16 9/16"	17 5/16"	8 3/4"	8 3/4"	46.20

"202" FIXED COILS—½" TUBING—40 AMPERES

202-601	4127NT14	12 uh	1 1/2" x 16 17/32"	17 9/32"	8"	8"	$36.05
202-602	41410NT14	30 uh	2 1/2" x 18 9/32"	19 1/32"	11"	11"	48.95
202-604	4147NT14	18 uh	1 1/2" x 18 9/32"	19 1/32"	8"	8"	42.35



CLIPS FOR TAPPING "200" AND "202" SERIES INDUCTORS

Cat. No.	Type No.	Fits Winding	Net Price
235-804	LC4	¼" x .054"	$0.24
235-807	LC7	⅜" x .072"	.45
235-808	LC8	½" x .090"	.65
235-824	RC4	¼" tubing	1.50
235-826	RC6	⅜" tubing	1.65
235-828	RC8	½" tubing	1.75
235-860	....	No. 14 Wire	.12

"224" SERIES VARIABLE INDUCTORS

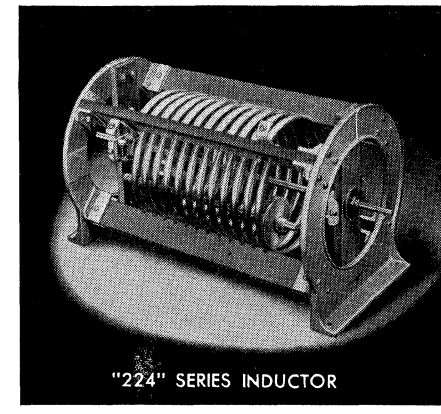
For high power RF applications, the 224 series copper tubing inductors are especially designed to handle heavy current in continuous duty. Contact wheel is heavily silver plated for optimum electrical efficiency. Inductors have cast aluminum end frames and glass bonded mica support bars. ⅜" shafts extended 2¼" from end frames at each end. Overall length dimension includes mounting feet.

"224" VARIABLE INDUCTORS—⅜" TUBING—30 AMPERES

Cat. No.	Type No.	Inductance	Mounting	L	W	H	Net Price
224-3	3168MST10	30 uh	8 1/2" x 19 1/8"	20 5/8"	12"	12 1/8"	$134.75
224-4	3108MST12	14.5 uh	8 1/2" x 16 5/8"	18 1/8"	12"	12 1/8"	129.25
224-6	32111MST12	75 uh	8 1/2" x 24 7/8"	26 3/8"	12"	12 1/8"	154.00

"224" VARIABLE INDUCTORS—½" TUBING—40 AMPERES

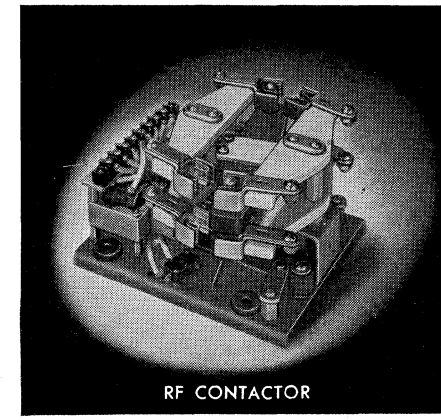
224-1	41410MST14	30 uh	8 1/2" x 21 3/8"	22 1/8"	12"	12 1/8"	$159.50
224-2	4128MST14	16.5 uh	8 1/2" x 19 5/8"	21 1/8"	12"	12 1/8"	137.50
224-5	41711MST14	50 uh	8 1/2" x 24"	25 1/2"	12"	12 1/8"	165.00



R. F. CONTACTORS

Contactors for switching high voltage, high current RF or DC. Operated by momentarily energized 220 VAC solenoids (may also be connected for 110 VAC), toggle action contacts snap into position; no holding current is required. Extremely compact for voltage ratings; overall dimensions of 145-100 series 7⅜" long, 6½" wide, 5½" high; of 145-200 series, 10½" long, 8¼" wide, 6 3/16" high. Four auxiliary micro snap switches (10 amp. at 220 VAC), actuated by contact armature. Two control solenoid voltage, two may be used to operate signaling devices or for other related functions.

Cat. No.	Type	Peak Voltage	Current	Net Price
145-101-13	SPDT	17000	25 amp.	$89.75
145-102-13	DPDT	17000	25 amp.	98.25
145-201-13	SPDT	22000	25 amp.	107.00
145-202-13	DPDT	22000	25 amp.	115.50



EXPLANATION OF TYPE NUMBERS

4 20 5 N 5

- 4 — Strip width or dia. of tubing in ⅛ inches
- 20 — No. of turns
- 5 — Inside dia. of winding in inches
- N — E. F. Johnson Co. type designation
- 5 — Pitch of winding in 1/16 inches

Write for your copy of Industrial and Broadcast R.F. Component Catalog 535.

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E. F. Johnson Company

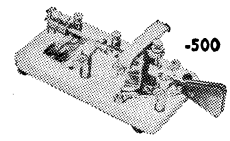
WASECA, MINNESOTA

Keys and Practice Sets

DELUXE SEMI-AUTOMATIC KEYS

Adjustable from lowest to highest speeds, this handsomely finished semi-automatic key has a smooth, easy action. Vibrator, posts, circuit closing switch, and all machine parts heavily chrome plated. Five adjustments with lock nuts — black fibre paddles adjust separately to best height. Heavy steel base 6¼"x3½"x½" — complete with adjustable weight and rubber feet.

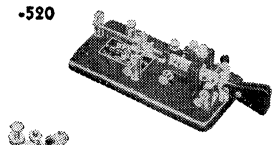
Cat. No.		Net Price
114-500	⅛" contacts, black wrinkle base	$15.50
114-501	¼" contacts, polished chrome base	20.65



SPECIAL SEMI-AUTOMATIC KEY

Many operating features — attractively finished, black wrinkle enamel base. All hardware and vibrator heavily chrome plated. Same vibrator as on deluxe key. Easy action, adjustable from lowest to highest speeds. ⅛" coin silver contacts — circuit closing switch — rubber mounting feet.

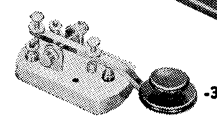
114-520	Special Model, Semi-Automatic	$13.25



HEAVY DUTY KEYS

Heavy die cast base, chrome plated key arm. Well insulated for heavy duty service. Large ¼" coin silver contacts. Improved Navy-type knob. Adjustable steel bearings and spring design give light keying touch.

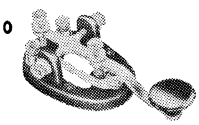
114-320	Black wrinkle enamel base	$4.70
114-321	Polished chrome plated base	5.85



STANDARD KEYS

Heavy die cast base. Smooth adjustable bearings. Provision for plugging in semi-automatic keys. ⅛" coin silver contacts. A high quality key at a low cost.

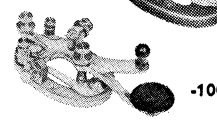
114-310	Black wrinkle, no switch	$3.00
114-310-3	Black wrinkle with switch	3.45
114-311	Chrome plated, no switch	4.60
114-311-3	Chrome plated with switch	5.45
114-316	Brass wrinkle, no switch	3.05



HIGH SPEED STANDARD KEYS

Fully adjustable spring tension, contact spacing and bearings. Brass base and binding posts — instrument lacquer finish. .072" platinor contacts.

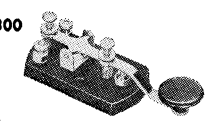
114-100	R48 Key, polished brass, no switch	$5.65
114-100-3	M100 Key, polished brass with switch	6.40



PRACTICE KEY

An inexpensive practice key — perfect in design for the average beginner. All the metal parts except the base are nickel plated. Furnished with an adjustable key arm, spring and smooth action bearings. Contacts are of ⅛" coin silver.

114-300	Molded phenolic base	$2.00



PHENOLIC BASE KEYS

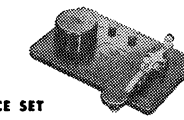
High quality key with adjustable bearings. Improved spring-pigtail connection. ⅛" coin silver contacts — nickel plated metal parts.

114-301	Molded phenolic base, no switch	$2.25

CORD AND WEDGE

Cord and wedge for easy attachment of semi-automatic key across circuit-closing switch of a standard hand key. Used almost universally by railroad telegraphers — ideal for amateur service where both hand key and semi-automatic are used.

114-380	Cord and wedge	$1.15



PRACTICE SET

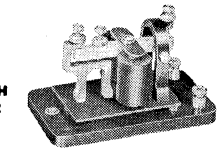
Constant frequency buzzer and key on a 4" x 6" molded bakelite base. Buzzer tone is fully adjustable. Coin silver contacts. Uses two dry cells or "C" battery. Connect singly or in pairs for code practice.

Cat. No.		Net Price
114-450	Practice Set	$4.90

BUZZER

Buzzer only as used on set above.

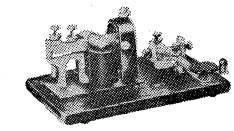
114-400	Buzzer	$1.85



TELEGRAPH SOUNDER

Designed for instant response, brass sounder provides clear, resonant tone. Steel bar frame, black enamel finish. Brass bridge and adjustment screws, instrument lacquer finish. Sounder plate is black lacquered steel. Mahogany finished wood base, brass binding posts and rubber mounting feet.

114-112	Sounder (4 ohms)	$7.70
114-113	Sounder (20 ohms)	8.00



LEARNER SET

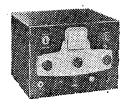
Telegraph practice set. Bar frame steel, brass bridge and adjustment screws. Brass lacquer finish. Brass sounding bar — black lacquered steel sounder plate. Adjustable, brass finished key arm. Mahogany finished wood base, brass binding posts, rubber feet.

114-110	(4 ohms)	$10.95
114-111	(20 ohms)	11.20

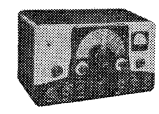
Viking Amateur Radio Equipment

The products briefly described below are from JOHNSON'S complete line of transmitting equipment and accessories for amateur and commercial use. For detailed information on these and other popular JOHNSON products, write for your copy of Catalog 956 . . . yours on request.

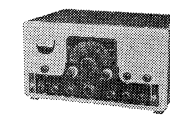
"Adventurer" 50 watt CW transmitter used to earn first novice WAC!



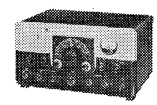
"Ranger" 75 watts CW input, 65 watts phone — a flexible, TVI suppressed transmitter!



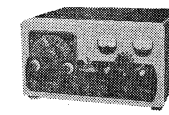
"Valiant" 270 watts CW input, 200 watts phone—built-in VFO —a transmitter with power and flexibility.



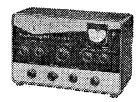
"Pacemaker" For Single Sideband — more than just an exciter — 90 watts P.E.P. input — rugged, stable VFO!



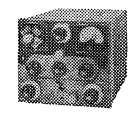
"Five Hundred" 600 watts CW input, 500 watts phone—VFO and all exciter stages gang-tuned—may be used for SSB with an auxiliary exciter!



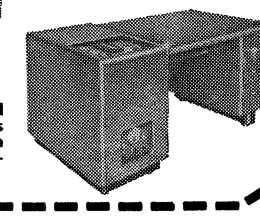
"6N2" 150 watts CW input, 100 watts phone — rugged construction, thorough engineering — the same Johnson quality, for 6 and 2 meters!



"Mobile" Rugged 60 watt mobile transmitter with an enviable DX record — under-dash mounting — convenient to operate!



"Kilowatt" Power Amplifier Maximum legal input in all modes — the ultimate in styling and operating convenience!



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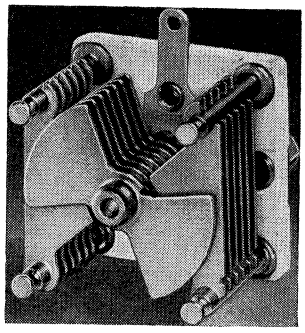
HAMMARLUND

STANDARD VARIABLE CAPACITORS



"BFC" CAPACITORS

FEATURES—The "BFC" "butterfly" type capacitor has very low minimum capacity, low inductance and isolated rotor for use in VHF applications as a series capacitor with no rotor connection. For dual split-stator capacitor use, it has a low-loss positive rotor contact. Mechanical and electrical symmetry and stator terminal locations minimize circuit inductance.

	CAPACITY SECTION*		SERIES CAPACITY*		PLATES	
CODE	Max.	Min.	Max.	Min.	Ro-tor	Ea. Sta-tor
BFC-12	14.5	3.4	7.6	2.2	4	3
BFC-25	27.3	4.8	14.1	2.9	7	6
BFC-38	40.1	6.2	20.6	3.6	10	9

*Nominal Values.

CONSTRUCTION—Brass rotors and stators are soldered and nickel-plated. The contact wiper is heavily silver plated beryllium copper. Tapped studs on the silicone treated steatite front panel permit mounting the capacitor without grounding the rotor. The sleeve type bearing is nickel-plated brass.

SPECIFICATIONS—Straight line capacity. 90° rotation from minimum to maximum capacity position. Air gap is 0.030″ nominal. Tested at 1200 V. R.M.S., 60 cycles between rotor and each stator.

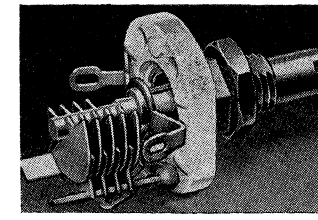
High Speed Ball-Bearing Models Also Are Available.

"MAC" CAPACITORS

FEATURES—The "MAC" provides the low minimum capacity essential for use as a trimmer in the VHF range. It was engineered to achieve the smallest dimensions practical to meet the requirements of a miniaturized component.

	CAPACITY*		
CODE	Max.	Min.	PLATES
MAC-5	5.0	1.4	5
MAC-10	8.7	1.7	9
MAC-15	14.2	2.2	15
MAC-20	19.6	2.7	21

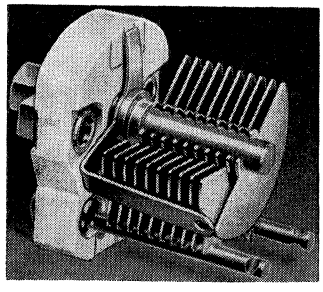
*Nominal Values.



CONSTRUCTION—Its silicone treated steatite base is only ¾″ x ⅝″. Rotor and stator are soldered assemblies and are of brass, nickel-plated. Rotor and stator terminals are positioned to permit short leads. The threaded bearing is provided with flat sides to permit single hole mounting.

SPECIFICATIONS—Straight line capacity. Screwdriver adjustment. Air gap is 0.017″ nominal. Tested at 750 V. R.M.S., 60 cycles.

"APC" CAPACITORS



FEATURES—The "APC" trimmer capacitor originated by Hammarlund over twenty years ago is still widely recognized as the standard capacitor of its type. Its use is indicated in all classes of equipment where a compact, high quality air dielectric trimmer is required. It was designed to resist effects of temperature, moisture and vibration. Silicone treated steatite insulation is used to insure high leakage resistance.

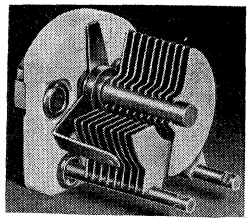
	CAPACITY*		
CODE	Max.	Min.	PLATES
APC-25	25.	3.0	7
APC-50	50.	3.9	14
APC-75	75.	4.6	20
APC-100	100.	5.5	27
APC-140	140.	6.7	37

*Nominal Values.

CONSTRUCTION—Brass rotor and stator plates are soldered to brass supports. Nickel-plated phosphor bronze wiper assures positive rotor contact. All metal parts are nickel-plated. Terminals are hot-tin dipped. Tapped brass mounting studs fastened to silicone treated steatite base permit mounting capacitor without grounding the rotor.

SPECIFICATIONS—Straight line capacity characteristic. Available either with hexagonal collar on slotted shaft to permit rotor adjustments to be made with wrench or screwdriver or with ½″ extended shaft for knob control or shaft coupling. "APC-C" Lock Type now also available through distributors. Air Gap is 0.015″ nominal. Tested at 600 V. R.M.S., 60 cycles.

"MAPC" CAPACITORS



FEATURES—The "MAPC" capacitor is representative of Hammarlund's efforts to meet the demand for smaller dependable components. It is a scaled-down version of the popular "APC" with everything reduced except the quality and performance characteristics. For example, an "MAPC" is about half the size and weight of an "APC." Lower minimum capacities and low inductance make the "MAPC" suitable for VHF use.

	CAPACITY*		
CODE	Max.	Min.	PLATES
MAPC-15	15.	2.3	6
MAPC-25	25.	2.6	10
MAPC-35	35.	2.9	14
MAPC-50	50.	3.2	19
MAPC-75	75.	3.9	29
MAPC-100	100.	4.5	38

*Nominal Values.

CONSTRUCTION—The standard "APC" construction is used in this capacitor. Rotors and stators are fabricated by soldering brass plates to supporting members and nickel-plating the assemblies. Nickel-plated Beryl. Copper wiper assures positive rotor contact. Tapped brass mounting studs fastened to silicone treated steatite base permit mounting capacitor without grounding rotor.

SPECIFICATIONS—Straight line capacity. Available either with screwdriver or socket wrench adjustment or with 1/16″ extended shaft for knob control or shaft coupling. "MAPC-C" Lock Type now also available through distributors. Air Gap is 0.0135″ nominal. Tested at 600 V. R.M.S., 60 cycles.

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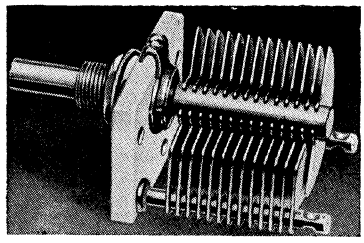
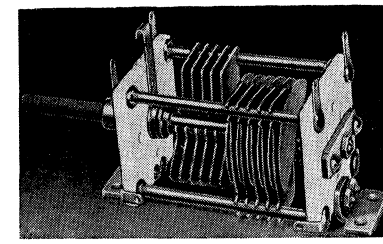
STANDARD VARIABLE CAPACITORS



"HFA" and "HFBD" CAPACITORS

SINGLE SECTION CAPACITOR—The "HFA" is a single section tuning capacitor similar to the "HF" except that larger plates permit wider air-gaps for the same capacitance values. Resultant higher break-down ratings extend the use of the capacitor into the high frequency low-power transmitter field. A threaded sleeve bearing permits single hole mounting and the bracket supplied may be used for base mounting. A lug type terminal mounted with the bearing provides an efficient rotor connection.

DOUBLE SECTION CAPACITOR—The "HFBD" is a dual, balanced rotor transmitting capacitor employing front and rear panels plus a ball-thrust rear bearing, but other incorporating constructional features identical to the smaller "HFA." An insulated shaft extension safeguards operating personnel from the high voltages which may be applied to the rotor. The small size, rugged construction, balanced rotor and range of capacitance values and breakdown voltages make this capacitor ideally suited to many applications.

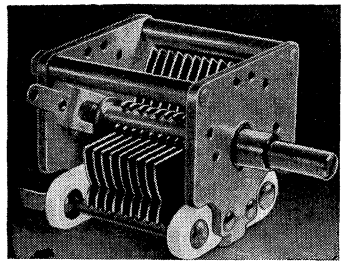


CODE	CAPACITY** Max.	CAPACITY** Min.	SPACING	PLATES/SECTION
HFA-100-A	102.	4.5	0.020	19
HFA-140-A	145.	6.0	0.020	27
HFA-10-B	9.	2.3	0.030	3
HFA-15-B	16.	2.8	0.030	5
HFA-25-B	25.	3.0	0.030	7
HFA-50-B	50.	4.3	0.030	14
HFA-100-B†	100.	7.5	0.030	27
HFA-15-E	16.	4.0	0.070	9
HFBD-50-C	50.	9.0	0.050	11
HFBD-100-C	105.	14.0	0.050	23
HFBD-35-E*	37.	9.5	0.070	11
HFBD-65-E*	63.	12.5	0.070	19

60 cycle test voltage: "HFA"—"A" 800 V. R.M.S. "B" 1200 V. R.M.S. "E" 1750 V. R.M.S. "HFBD"—"C" 1500 V. R.M.S. "E*" 3000 V. R.M.S.; plates have rounded edges.
†Has front and rear supporting panels. **Nominal Values.

SPECIFICATIONS—Straight line capacity. Air gaps and test voltages are as indicated in table. However, "HFBD" breakdown voltages are doubled and capacitance values approximately halved when stator sections are connected in series.

"RMC" CAPACITORS



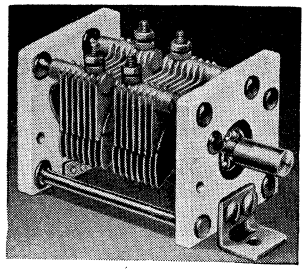
FEATURES—The "RMC" was designed specifically for applications requiring an "MC" type tuning capacitor with very rigid construction. Its sturdy frame consists of heavy gauge aluminum end panels held together by three aluminum tie rods. It has a brass sleeve front bearing and a single ball thrust rear bearing for smooth tuning and a high degree of resetability. The rotor contact is a forked silver plated beryllium copper spring wiping against a wide disc on the rotor. The plate shape and other constructional features are the same as on the "MC." Tapped holes in front panel and in mounting feet, as well as additional brackets for inverted mounting permit a wide variety of assembly methods.

CODE	CAPACITY* Max.	CAPACITY* Min.	PLATES
RMC-50-S	50.	7.3	7
RMC-100-S	105.	9.5	14
RMC-140-S	143.5	11.0	19
RMC-325-S	327.	17.5	43

*Nominal Values.

SPECIFICATIONS—Straight line capacity. Air gap is 0.0245″ nominal. Tested at 1000 V. R.M.S., 60 cycles.

"VU" CAPACITORS



FEATURES—The "VU" is a uniquely designed UHF tuning capacitor using completely original concepts. With it, conventional "lumped constant" circuits, rather than tuned cavity techniques, can be efficiently used up to 500 megacycles. In addition to employing the capacitor sections in series to eliminate the rotor wiper, the design also utilizes Pyrex balls to form precision bearings and to completely isolate the rotor. Thus, noise generated by rubbing metal-to-metal contacts and variable resistance paths in the bearings have been totally eliminated. Circuit connections are made to threaded studs on each stator. This permits vacuum tube and inductor to minimize circuit inductance. The symmetrical design is ideal for tuned circuits operating up to 500 megacycles.

CONSTRUCTION—Rotors and stators are of brass with plates soldered in precisely located grooves and then silver plated to increase the "Q" of the capacitor. The insulation is silicone treated steatite. All lengthwise frame members are of brass to minimize temperature effects. Base mounting brackets are provided.

SPECIFICATIONS—The capacity characteristic approache sa straight line frequency curve as indicated by nominal values in table. Air gap is .0168″ nominal. Tested at 700 V. R.M.S., 60 cycles, between rotor and each stator.

CODE	SERIES CAPACITY* Eff.	SERIES CAPACITY* Min.	PLATES/SECTION
VU-20	22.5	3.35	11
VU-30	31.5	3.5	15
VU-45	45.0	3.8	21

*Nominal Values.

DIAL % ROTATION	EFFECTIVE SERIES CAPACITY VU-20	VU-30	VU-45
0	0.	0.	0.
10	.55	.8	1.15
20	1.55	2.2	3.15
30	2.75	3.85	5.45
40	4.2	5.85	8.35
50	6.0	8.4	12.0
60	8.35	11.65	16.65
70	11.2	15.7	22.4
80	14.65	20.55	29.35
90	18.6	26.05	37.2
100	22.5	31.5	45.0

Cap. Tol.: +.15MMFD. or 1¼% whichever is greater.

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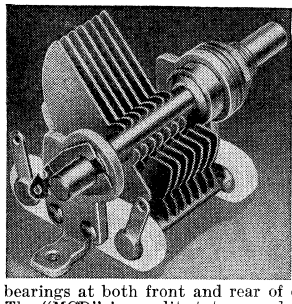
STANDARD VARIABLE CAPACITORS

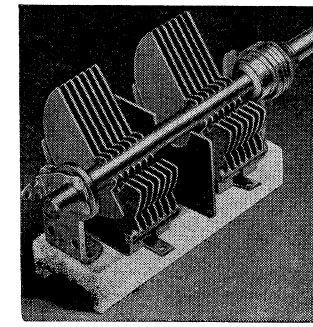


"MC" and "MCD" CAPACITORS

FEATURES—The "MC" is a versatile single section tuning capacitor designed to give the equipment engineer a choice of mountings, connections and capacity characteristics. The threaded brass front bearing and tapped aluminum end brackets permit panel or base monuting. A rotor stop permits 180° clockwise rotation for increasing capacity. "MC-S" capacitors have a straight line capacity characteristic. "MC-M" units have offset plates resulting in a "Midline" characteristic which more equally spaces frequencies. "MC-X" units are wide-spaced for high voltages. For optimum performance all Hammarlund "MC" capacitors have silver plated beryllium copper wiping contact, silicone-treated steatite insulation, soldered nickel-plated brass rotors and stators, rotor shaft supported on bearings at both front and rear of capacitor.

The "MCD" is a split-stator panel-mounted capacitor with all the "MC" features. Stators have terminals on both sides. Stators on single-spaced capacitors are separated by a shield. Wide-spaced units have no shield.

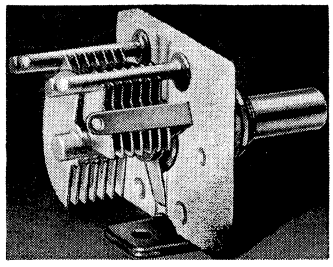
SPECIFICATIONS—Straight line or "Midline" capacity characteristic. Single-spaced types have 0.0245" nominal air gap and are tested at 1000 V. R.M.S., 60 cycles. Wide-spaced ("X") types have 0.0715" nominal air gap and are tested at 1750 V. R.M.S., 60 cycles.



CODE	CAPACITY* Max.	Min.	PLATES/ SECTION
MC-20-S	20.	5.5	3
MC-35-S	35.	6.0	5
MC-50-M	50.	6.3	7
MC-50-S	50.	6.5	7
MC-75-M	80.	7.3	11
MC-75-S	80.	8.0	11
MC-100-M	100.	7.7	14
MC-100-S	100.	8.3	14
MC-140-M	140.	9.0	19
MC-140-S	140.	10.0	19
MC-200-M	200.	10.3	27
MC-250-M	250.	12.0	34
MC-325-M	320.	13.5	43

CODE	CAPACITY* Max.	Min.	PLATES/ SECTION
MC-20-SX	20.	6.8	7
MC-35-MX	32.	7.8	11
MC-35-SX	32.	8.5	11
MC-50-MX	53.	10.5	19
MC-50-SX	53.	11.5	19
MC-100-SX	100.	16.5	35
MCD-50-M	50.	5.5	7
MCD-100-M	100.	6.3	14
MCD-100-S	100.	7.0	14
MCD-140-M	140.	7.8	19
MCD-35-MX	31.	6.0	11
MCD-35-SX	31.	6.8	11

M-Midline plates. **S**-Straightline plates. **X**-Wide-Spaced. *Nominal Values.

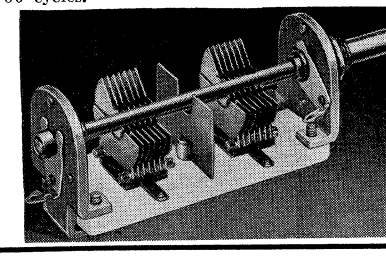


"HF" and "HFD" CAPACITORS

SINGLE SECTION CAPACITOR—The "HF" is a single section tuning capacitor employing "APC" rotor and stator design. Extra long sleeve bearing and positive contact nickel-plated phosphor bronze wiper make this unit ideally suited to high frequency applications. Silicone treated steatite insulation. Single hole or base mounting. Special spacing, capacity values, finishes and other modifications are available to manufacturers on special order.

DOUBLE SECTION CAPACITOR—The "HFD" dual capacitors, like the "HF" singles, incorporate advanced features providing for maximum efficiency at high frequency. Soldered brass plates are nickel-plated. Aluminum front and rear end panels are mounted on a heavy silicone treated steatite base. Wide front and rear bearings with individual silver plated beryllium copper wipers for each section assure long life and maximum contact efficiency. Single hole panel mount or base mounting. Electrostatic shield between sections. Terminals are provided on both sides of each stator to permit mounting tube and inductor on opposite sides.

SPECIFICATIONS—Straight line capacity. Single spaced types (HF and HFD) have 0.015" air gap and are tested at 600 V. R.M.S., 60 cycles. Wide spaced types (HF-X and HFD-X) have 0.045" air gap and are tested at 1400 V. R.M.S., 60 cycles.



CODE	CAPACITY* Max.	Min.	PLATES/ SECTION
HF-15	17.5	2.8	5
HF-35	36.	3.2	10
HF-50	52.	3.7	14
HF-100	102.	5.3	27
HF-140	142.	6.3	37
HF-15-X	15.	3.6	10

CODE	CAPACITY* Max.	Min.	PLATES/ SECTION
HF-30-X	30.	5.2	20
HFD-50	52.	3.6	14
HFD-100	102.	5.0	27
HFD-140	142.	6.0	37
HFD-15-X	16.	3.8	11
HFD-30-X	28.5	5.0	19

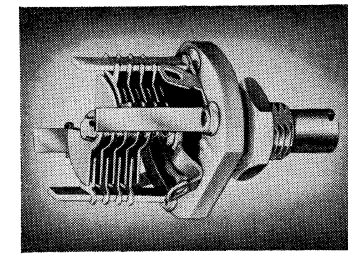
D-Split stator. **X**-Wide-Spaced. *Nominal Values.

MACBF CAPACITORS

FEATURES—The "MACBF" is a miniaturized butterfly capacitor providing extremely low capacity for the VHF range. It is of the straight-line capacity type.

CONSTRUCTION—Rotor and stator of brass, solder assembled, and nickel-plated. Base is of silicone-treated steatite. Terminals are hot-tinned dipped. Threaded bushing with flatted sides for panel or chassis mounting.

SPECIFICATIONS—Straight line capacity. Screwdriver adjustment. Air gap is 0.017" nominal. Tested at 750 V. R.M.S., 60 cycles.



CODE	Part No.	CAPACITY (per section) Max. ±10%	Min. ±15%	No. of PLATES Rotor	Stator
MACBF-3	34604-G1	3.1	1.3	3	4
MACBF-5	34604-G2	5.0	1.6	5	8
MACBF-8	34604-G3	7.9	2.0	8	14
MACBF-11	34604-G4	10.8	2.4	11	20

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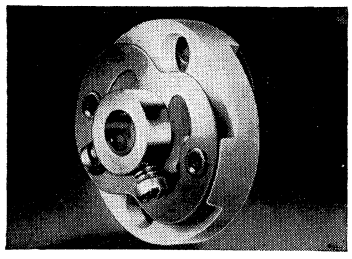
HAMMARLUND

STANDARD VARIABLE CAPACITORS

"FC" and "FNC" COUPLINGS

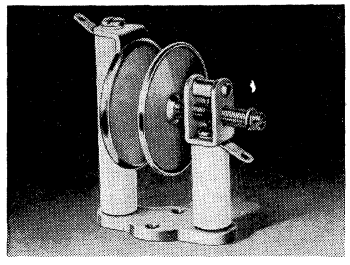


FEATURES—The "FC-46-S" is an insulated flexible coupling designed to provide for mechanical ganging of shafts even though angularly misaligned. The smallest dimensions have been incorporated consistant with the rugged construction necessary for general service. A high degree of electrical isolation is achieved through the use of silicone treated steatite insulation. Flashover voltage is approximately 5000 V. R.M.S. Brass hubs and spring temper phosphor bronze flexible arms are nickel plated. An exclusive and important feature of this coupling is its characteristic of uniform side-thrust through 360° of rotation. This eliminates tendency to vibrate at high speeds, minimizes bearing wear and assures accurate tracking.

The "FNC-46-S" is a non-insulated coupling for use where electrical continuity between shafts is required. The flexible arms are held securely to a nickel plated brass ring instead of an insulator.

STANDARD STOCK TYPES

CODE FC-46-S	Insulated flexible coupling
CODE FNC-46-S	Non-insulated flexible coupling



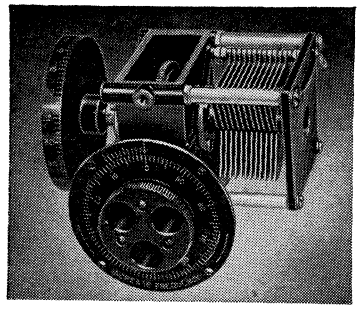
"NZ-10" CAPACITORS

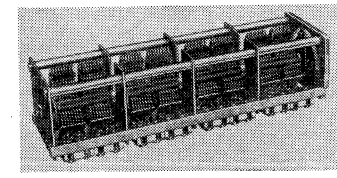
FEATURES—The "NZ-10" is a compact transmitter neutralizing capacitor designed for easy and accurate adjustment. The rotor is attached to a fine-thread lead screw which may be adjusted with smooth and precise action by a screwdriver and locked securely by a readily accessible clamping screw. A stop prevents shorting of plates at maximum capacity. Long leakage paths to ground from both rotor and stator are provided. Glazed steatite insulators and smoothly rounded aluminum plates minimize flashover.

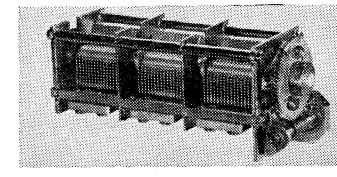
SPECIFICATIONS — Capacity is adjustable from 2.3 to 10 mmf. Peak voltage rating is 3000 V. at maximum capacity (minimum gap) position.

SPECIAL VARIABLE CAPACITORS FOR ALL NEEDS

HAMMARLUND CUSTOM ENGINEERED CAPACITORS







Hammarlund has for many years been considered the foremost designer and producer of variable capacitors for special military, scientific and precision applications. Should you have a special capacitor requirement, your engineers will find the services of our capacitor design group to be of inestimable value.

Illustrated are two communications receiver multiple-section tuning capacitors and a single-section frequency meter capacitor. All of these capacitors feature exceptionally precise calibration accuracy, the highest possible degree of resetability, essentially zero temperature coefficient, close tolerances on starting and running torque, high "Q" under adverse operating conditions and complete freedom from noise. To produce these and similar capacitor designs involve the techniques of metallurgy, gearing, finishing, bearing design, ceramics, vibration and shock—to mention but a few. These techniques are possessed to a high degree here at Hammarlund.

Should you have need for facilities such as ours, we will welcome your inquiry.

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STANWYCK COILS Mfrd. by STANWYCK WINDING CO.

TELEVISION - I.F. - ANT. - R.F. - F.M. - OSCILLATOR COILS

S-949

TELEVISION REPLACEMENT COMPONENTS FOR MOTOROLA, TELEKING, MAGNAVOX, EMERSON, HALLICRAFTER, AND OTHER TELEVISION RECEIVERS

NEW ABOVE CHASSIS TYPE TUNED 455 K.C. I.F. COILS

The latest in IF coils featuring the complete above chassis type tuned IF coils that are permeability tuned resulting in high Q, no drift for stable long life operation, supplied with snap spring clip for mounting through suitable holes in chassis.

S-1601 Miniature size IF high Q high gain for battery filament type tubes Size ¾ x 2″ Shielded **List Price, $1.90**

S-1617 Miniature size IF high Q high gain for AC DC Filament type tubes. Size ¾ x 2″ Shielded **List Price, $1.65**

S-1607 Miniature size IF with exceptionally high Q and gain in many cases this IF will outperform standard IF transformers, Size ¾ x 2″ Shielded **List Price, $1.90**

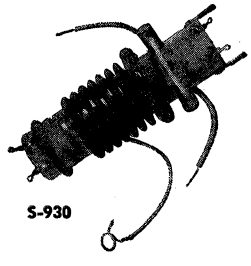
4.5 mc IF COMPONENTS

Featuring the latest all above chassis type tuning using internal type hex wrenching eliminating core breakage. They are of the permeability tuned type using fixed silver mica condensers insuring high Q no drift long life operation supplied with snap spring clip for mounting through suitable holes in chassis.

S-985 4.5 mc Sound ratio detector Size ¾ x 2″ Shielded **List Price, $2.90**
S-986 4.5 mc Sound discriminator transformer ¾ x 2″ Shielded **List Price, 2.90**
S-989 4.5 mc Sound take off coil Size ¾ x 2″ Shielded **List Price, 2.40**
S-974 4.5 mc Sound trap $\frac{5}{16}$ chassis hole mount. Unshielded **List Price, 1.10**

TELEVISION REPLACEMENT COMPONENTS FOR RCA REPLACEMENT

RCA	Stanwyck		List Price	RCA	Stanwyck		List Price
203-L1	S-943	Video peaking 180 uh-39K	$0.50	203-K1	S-954	Sound discriminator	$2.55
203-L2	S-944	Video peaking 250 uh-10 meg.	.50	202-K1	S-955	Converter Trans.	2.65
203-L3	S-945	Video peaking 120 uh-22K	.50	204-L1	S-956	Fil. Choke	.70
203-L4	S-946	Video peaking 93 uh-10 meg.	.50	201-R1	S-957	Hor. width control	.95
202-K2	S-949	1st Pix IF	3.00	201-R3	S-958	Linearity control	.95
202-K3	S-950	2nd Pix IF	2.10	208-T8	S-959	Syncrolock	2.75
202-L1	S-951	3rd & 4th Pix IF	.75	203-R1	S-966	Syncroguide	2.00
202-K4	S-952	Cathode trap	2.55	205-R1	S-977	Hor. Freq. & Phase coil	2.75
201-K1	S-953	Sound IF	2.10				



S-930

HIGH VOLTAGE COILS

S-999 High voltage flyback. This transformer is similar to the GE No. 77J1 and delivers approximately 14KV for ample width and picture brilliancy up to 21″ picture tubes. **List Price, $11.00**

S-980 GE type linearity coil 5 to 36 mh **List Price, $1.75**

S-981 GE type width coil with AGC winding **List Price, $1.75**

S-930 10 KV R. F. power transformer designed for corona-less performance at full rated output. **List Price, $11.55**

S-918 R.F. Filament transformer will deliver 30 KV when used with one S-930 and two S-918 in a voltage tripler circuit. **List Price, $2.20**

NEW ABOVE CHASSIS 10.7 PERMEABILITY TYPE TUNED MIDGET FM COILS

S-626 Midget ratio detector to meet the critical demands for a sensitive and unusually stable FM detector. A peak to peak band width of 325 Kc with linearity exceeding plus or minus 125 Kc results in a high quality audio reproduction. Permeability tuned plus silver mica condensers offers long life low drift for the ultimate in fine FM reproduction. **List Price, $3.30**

S-625 Midget FM IF High performance in gain and band width with symmetrical wave shape is a result of correct L/C ratio, High Q iron cores and low drift silver mica capicators make this a much desired IF for net set or replacement. **List Price, $2.50**

S-627 Midget FM Discriminator. The electrically centered secondary results in perect symmetry between negative and positive peaks. High output and excellent discrimination are obtained. **List Prce, $3.30**

S-609 FM Choke. An excellent parasitic suppressor in the oscillator plate and filament circuits. 200 ma. MF Choke. An excellent parasitic suppressor in the oscillator plate and filament circuits. 200 ma. **List Price, $0.45**

CUSTOM HIGH PERFORMANCE FERRITE LOOPSTICKS

S-537 Adjustable design for small midget sets will outperform standard loop. **List Price, $0.90**

S-538 Adjustable design for average table size set has exceptionally high gain and low drift, has outside ant. connection. **List Price, $1.25**

S-540 This antenna coil has twice the gain of the S-538 with a Q of over 300 over the entire broadcast and eliminating an outside antenna. **List Price, $1.50**

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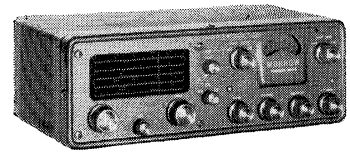
MORROW

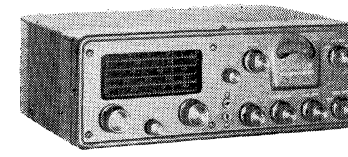
TRANSMITTING EQUIPMENT, CONVERTERS, RECEIVERS, RADIOPHONES & ACCESSORIES

MORROW STANDARDS for engineering and construction are of the highest order, assuring satisfaction.

5BR-2, standard of all Amateur converters. Compact, sturdy and stable. The finest available.



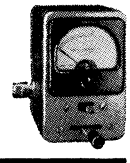
MBR-5, Amateur AM dual conversion receiver for mobile or fixed station. The most talked about receiver today. Packed with extra features found only in Morrow communicating equipment



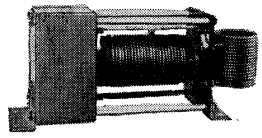
MB-560, compact, sturdy, Amateur AM transmitter. 60 watts phone with LC band-pass speech filter for more "talk power" per watt. Engineered for completeness inside and out it is the companion unit of the MBR-5 receiver.

5BR-2

FIELD STRENGTH meter, coat pocket size. Versatile as larger units.

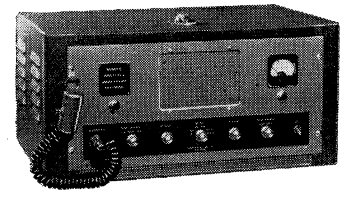


FS-1



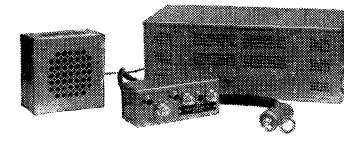
Motor driven var. inductor for transmitter to ant. loading by remote control.

MBR-5



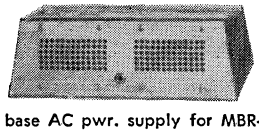
Engineered to requirements of fixed station use where compactness, dependability and simplicity of operation are necessary. For one or two channel operation. Receiver affords maximum signal readability, completely silent at standby. Transmitter output of 25 watts with LC speech filter for more "talk power" without overmodulation. Meets FCC specs. Literature upon request.

MB-560



AM mobile radiophone for 2-54 Mc with maximum flexibility, ease in mounting and operation. Receiver and transmitter sections are engineered for maximum performance under adverse conditions. Optimum signal readability, dependability in operation and minimum operational cost and maintenance. FCC & FCDA approved.

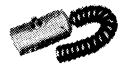
MLV-50

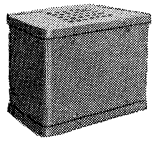


Tilt base AC pwr. supply for MBR-5.

GC 6, 10, 15 and 20 generator noise filters.

MK-N-1, push-to-talk SB carbon microphone.



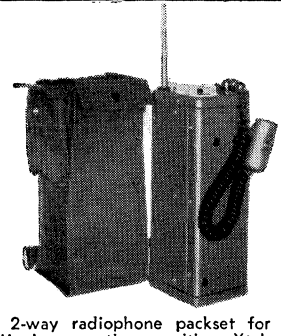


RVP-250 Vibrator pwr. supply.

SH-7, 7" oval spkr. for MBR-5.

Amateur equipment sold by dealers throughout the U. S. and Canada. Commercial equipment, literature and quotations by request.

FC-20-2



AM 2-way radiophone packset for 25-54 Mc incorporating sensitive, Xtal controlled, dual conversion receiver, (has features usually found in larger portable units) and an efficient Xtal controlled transmitter employing high level class B mod. F.C.C. type accepted for licensing. Literature upon request.

MMRT

Battery operated portable or base station, AM radiophone for 2-54 Mc. Single or dual channel reception without suppression of either signal. Transmitter input 2.97 watts, crystal controlled on any 2 channels between 2 and 54 Mc. Light, sturdy-engineered for long service and minimum maintenance. Literature upon request.

WT

FL-2 & FLP-2

All inquiries receive prompt attention.

MORROW

radio manufacturing co.

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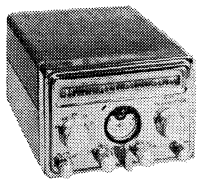
GONSET *Communications Equipment*

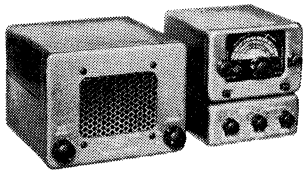


G-66 COMPLETE MOBILE RECEIVER

Now . . . a complete mobile receiver with all the answers . . . with every thing necessary for superior mobile reception. Sensitivity . . . selectivity . . . stability.

6 bands: .54 to 2 mcs. 3.5-4 mcs. 7-7.3 mcs. 14-14.35 mcs. 21-21.45 mcs. 28-29.7 mcs. AM, CW, SSB reception. Highly stable HF and BF oscillators and xtal controlled second conversion oscillator. Steep skirt selectivity by 265 kc 2nd I-F with 8 tuned circuits. Double conversion all bands. AVC and famous Gonset noise limiter, antenna trimmer, "S" meter. Slide rule dial exposes only band in use. 40;1 tuning ratio. Universal power supply is a separate unit, operates on 6V or 12V DC and 115V AC. Loudspeaker is built in to power supply unit. Specify whether operation is to be on 6V or 12V DC.

G-66 less power supply .....**#3046**..... **169.50**
Universal power supply (6V-12V DC—115V AC) .....**#3069**..... **39.95**



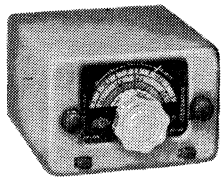
"SUPER-CEIVER"

Used with any good converter, (as Super-Six) provides a complete receiver of outstanding performance on AM-CW.

Unit is xtal controlled for maximum stability and utilizes 8 tuned circuits at 262 kcs for steep-shoulder selectivity. Self-contained vibrator supply furnishes regulated DC to converter and BFO. Latter is very stable and has pitch adjustment. Power pack is designed for quick conversion to 12V DC.

Also available on special order as an excellent xtal controlled, fixed frequency receiver for many commercial applications. Information on request.

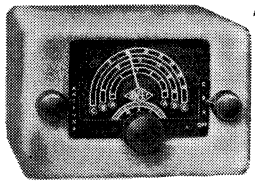
Model #3041 . . . Net 119.50 (less converter)



"SUPER-SIX" SIX BAND CONVERTER

The new six band de luxe converter covering 10-11, 15, 20, 40 and 75 meters. Improved sensitivity and added band spread. Also covers 19 and 49 meter SW broadcast bands. Built-in BC trap. Separate isolated antenna inputs for converter and BC set. Oscillator correction control on rear of chassis. Sturdy, drawn aluminum outer case.

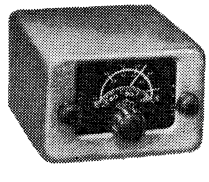
Model #3030....
Net 52.50



"3-30" SW CONVERTER

An excellent general coverage converter where extreme band-spread is not required. Covers 3 to 30 mcs in three ranges. Uses four tubes: 6BH6 RF, 6AV6 mixer, 6C4 oscillator and 6BH6 I.F. stage. Extremely compact and easy to install with any car radio.

Model #3002 .....Net..... 44.75

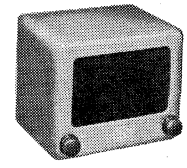


POLICE-MARINE CONVERTER

Overall performance and construction comparable to 3-30 model except covers 1.6 to 6 mcs in two bands and employs 1 mc output. Ideal for police, marine, CAP, Civil Defense, disaster communications as well as amateur 75 and 160 meter mobile work. Compact, efficient, ruggedly constructed.

Model #3003....
Net 46.00

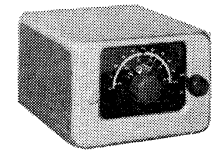
AUDIO AMPLIFIER-POWER SUPPLY



An audio amplifier-power supply specifically designed to supply output audio and power for tuners with low-level audio outputs. Has built-in PM panel speaker, audio gain and tone controls. Ideal for use with Gonset FM-AM tuners, two meter tuners, to provide a complete, independent communications receiver. Size 6⅛" deep, 7" wide, 6¼" high.

Model #3034 (6V input) Model #3036 (115V-AC) Net—44.50

6 METER CONVERTER. . . .

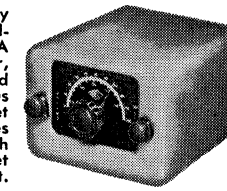


An effective converter which provides excellent 6 meter reception when operated in conjunction with conventional automobile broadcast receivers or with communications or broadcast type home receivers.
Has full-vision calibrated dial. Is compact, simple to install. Has switch for 6 or 12V filaments. Also has Gonset noise clipper built as separate unit for connection to receivers which do not have such provisions.

Net. . . . 47.50

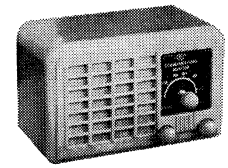
2 METER TUNER WITH CASCODE

The receiver portion of the extremely popular "Communicator" is now available as a separate unit. Has 6BQ7A Cascode RF, 12AT7 Mixer-oscillator, three stages of I.F., second detector and low-level audio. Includes the famous Gonset Noise Clipper with Gonset Squelch an optional feature. Requires power supply and output audio which may be ideally supplied by Gonset Audio-Amplifier Power Supply unit. Size 5¼" x 3½" x 5¼" deep.



Model #3037—Net—89.50
De Luxe Model #3038—with squelch—Net—99.50

COMMUNICATIONS MONITORS, FM-AM TYPES

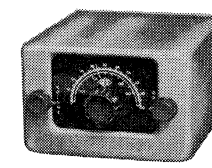


A series of economically priced FM and AM receivers for communications monitoring and emergency applications in the VHF region. All are complete, ready to operate, have built-in speakers, self contained AC/DC power supplies, calibrated full vision dials, plastic housing cases. Each has high sensitivity and SNR, excellent selectivity. Also adjustable squelch.

30 to 50 mcs. FM .....**#3054FM**..... **59.50**
112 to 132 mcs. AM .....**#3055AM**..... **59.50**
132-152 mcs. AM .....**#3085AM**..... **59.50**
152-174 mcs. FM .....**#3056FM**..... **59.50**

COMMERCIAL-TYPE FM-AM TUNERS

Gonset tuners provide an inexpensive yet sensitive and stable receiver when used in conjunction with ordinary auto, home or communication receivers or with the Gonset Audio-Amplifier Power Supply unit. Tuners include squelch and noise clipper, I.F., and low-level audio. Very compact . . . mounts on steering post or under dash for mobile applications. 50 ohm input, simple to connect to Audio-Power supply unit or equivalent sections of L.F. receiver.



30-40 mc. FM—Model #3009
30-40 mc. AM—Model #3009
40-50 mc. FM—Model #3010
40-50 mc. AM—Model #3010
88-108 mc. FM Model #3011*
***(less squelch)**
152-162 mc. FM Model #3012
162-174 mc. FM Model #3013
(all models)—Net—69.50

Net
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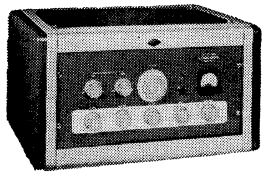
GONSET *Communications Equipment*

LINEAR RF POWER AMPLIFIER

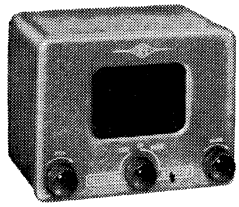


SSB—250-300W P.E.P. OUTPUT
CW—220-240W OUTPUT ....
AM—80-100W CARRIER ....

Model 500W ... Net 339.00

A complete, ready to operate RF linear amplifier with single control bandswitching for 10-11-15-20-40-80 meter amateur bands. Operates in Class AB_2 to provide substantial power output with very low grid drive. Uses 4-807's with pi network output, is completely free from parasitic or self oscillation. Heavy duty AC power supply uses 4-866 JR's in bridge with 80 mfd output filter. Excitation control and complete metering, (cathodes, grid and RF output) simplifies linear amp adjustments. Screen relay circuit prevents underload. Operation may be AM, SSB, C.W.

MONITONE



Monitone is a multi-purpose instrument for use as a code practice oscillator or an effective monitor for phone and C.W. xmtrs. Has audio oscillator controlled by external circuit, provides audible tone on panel speaker or earphones. Separate pitch and volume control. Uses small RF from xmtr to operate as effective C.W. or phone monitor. Operates from 115V AC with isolating circuitry so that neither keying or earphone leads are "Hot" to ground.

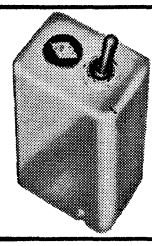
Monitone ..... Net 19.50

TWO METER VFO

Designed for use with Communicator or most any other 2 meter rig. Has output at 24 mcs., and plugs directly into existing xtal socket. Multiple tuned circuits minimize spurious radiations. Also has built-in audio preamplifier to increase mike pickup where desired. Has self-contained 115V AC power supply, panel switch to permit "Zeroing in" on received signals. Attractive cabinet matches Communicator—same height, half as wide. Highly stable, rugged.

Model #3024—Net—84.50

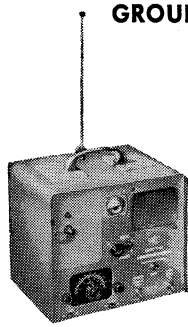
NOISE CLIPPER



A "must" for every mobile installation operating above 2 or 3 mc to reduce ignition interference. Works with all AM receivers using conventional diode detectors, easy to install. Complete instructions furnished.

Model #3001 .. Net 9.25

GROUND-TO-AIR COMMUNICATOR



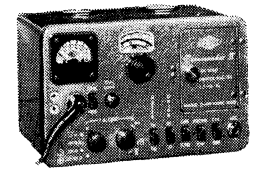
An effective, 2 way VHF station in a convenient, portable package. On de luxe models, dual voltage supply permits operation from 115V AC mains or from 6 V, (12V optional) vehicular battery. Xtal controlled xmtr supplies full 6-7 watts output power with either primary power source. Superhet receiver has "Cascode" RF, 3 stages I.F., noise clipper, "Squelch", is continuously tunable from 108 to 128 mcs. (112-133 mcs on special order.) Operation is simple, non technical. Size and weight same as other Communicator models. Can be used with integral whip or remote antenna and 52 ohm coax.

115V AC only, 60-400 cps .....#3074....Net 299.50
115V AC/6V DC .....#3043....Net 350.00
115V AC/12V DC .....#3073....Net 350.00

Plus Federal Excise Tax

ACCESSORY KIT .....#3019....Net 49.50
Includes 50 feet RG8/U coax cable with fittings, outside ground plane antenna, table model microphone.

"COMMANDER" 50-60W Multi-band Transmitter



Complete with tubes less power supply, xtl and microphone.

Model #3016 .....
Net 124.50

RANGE: 1.7-54 mcs continuous.

TUBES: RF-6AG7, 6146, AF-12AT7, two 7C5's.

POWER REQUIREMENTS: 300V-500V @ 200-225 ma. (phone) and 6.3V, AC or DC @ 3.15A. Up to 60W input, phone or C.W.

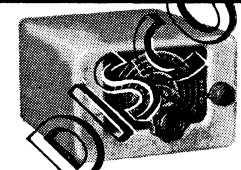
MODULATOR: Class AB2 tetrodes and integral bi-level speech clipping.

ANTENNA FEED: All conventional feed lines, Coax, ribbon or open line or direct to Marconi antenna.

MICROPHONE INPUT: Any standard carbon or PA type hi-impedance dynamic or crystal.

DISCONTINUED

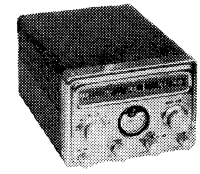
VFO FOR COMMANDER



A companion unit for use with the Commander. Unique circuit employs no tubes therefore affords good stability because of no heat generated in heavy aluminum box. Same size as Super-Six. Covers 10, 15, 20, 40, 75 phone bands. Merely plug into receptacle on Commander panel. Stable, with construction extremely sturdy for mobile use.

Model #3020 .....
Net 29.95

G-77 MOBILE TRANSMITTER...



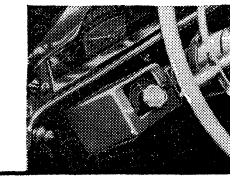
A new mobile transmitter with every desirable feature. A companion unit to the G-66 is same size and appearance. Covers 80-40-20-15-10 meters, has built-in, stable, calibrated VFO with xtl optional. Power input 50-60 watts, modulated. Pi network output. Full press-to-talk with built-in antenna relay. Power supply and modulator are in separate unit. 6 and 12 volt operation. Output voltage is 500-600 volts full load. Selenium rectifiers, (no stand-by drain.)

Exceptionally low drain both on transmit and on standby. High speech gain for dynamic or xtl mikes. Modulator employs integral speech clipping.

STEERING POST MOUNTING BRACKET

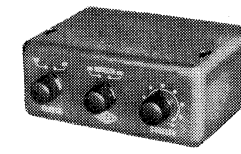
Can be mounted on either right or left hand side of steering post. May be rotated to mount the converter above or below the steering post in the most convenient position in relation to the driver of the automobile. Complete with mounting straps and hardware.

Model #3006—Net—3.90



DE LUXE NOISE CLIPPER-SQUELCHER

The combination is applicable to any amateur mobile or communications receiver. Small size permits easy mounting directly beneath any of the Gonset standard converters. The unit is very simply connected to existing auto receivers. Size: 4⅛" deep x 5⅛" wide x 2⅛" high.

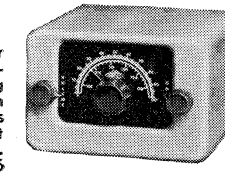


Model #3000—Net—24.50

VHF AIRCRAFT ADAPTER

Used in conjunction with auto radio or LF aircraft receiver etc., to provide inexpensive, sensitive receiver covering 108-128 mcs. For 6 or 12 volt operation with 24 volt special. Includes series gate noise clipper. Installation does not effect operation of existant equipment. Rugged, stable and compact. Specify 6 or 12 volts. (Add $5.00 for 24 volts.)

Model #3014 ...Net... 69.50



Model #3015 (squelch)
Net 79.50

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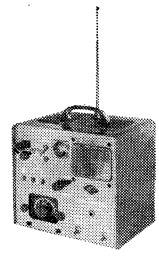
GONSET *Communications Equipment*

STANDARD COMMUNICATORS . . .



The very well known Communicator is now available in several different models to meet fully the varied requirements of Amateur, CAP, Commercial, Industrial and Airport services. Each model is a complete station . . . superhet receiver with "Cascode" RF, xtl controlled transmitter. (VFO is also available separately.) Self-contained power supply for 115V AC and 6V DC. (Also 115V AC and 12V DC) Modulator may also be used as a PA system, mobile or fixed. All models highly compact, 7¾"x10⅜"x9½". All are light in weight and conveniently portable.

2 METER DELUXE COMMUNICATOR

Tunable receiver, xtl controlled transmitter, (AM). Covers 144-148.3 mcs. 2E26 final delivers 6-7 watts output. Has adjustable squelch, (silent standby), famous Gonset noise clipper, phone jack and speaker muting, dial light switch.

2 METER STANDARD COMMUNICATOR

Same as above except less squelch, earphone jack, dial light switch, etc.

6 METER DE LUXE COMMUNICATOR

General size and appearance is identical to 2 meter Communicators. Operates on amateur 6 meter band. Has Cascode front end, double conversion for increased selectivity usable on 6 meters. Transmitter delivers 6 to 8 watts output with either 6, (or 12) volt DC or 115V universal supply. De Luxe models only. (Squelch, earphone jack, etc.).

ZIPPER CARRYING BAG FOR COMMUNICATORS

Convenient carrying bag for all models. Holds unit plus mike, antenna, coax and other accessories. Made of heavy canvas, padded. Attractive green color.

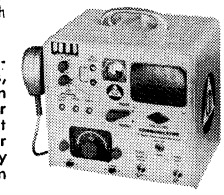
2 METER DE LUXE COMMUNICATOR
115V AC/6V DC .....#3025....Net 229.50
115V AC/12V DC .....#3057....Net 229.50

2 METER STANDARD COMMUNICATOR.....#3026
115V AC/6V DC (less squelch, etc.) .....Net 209.50

6 METER DE LUXE COMMUNICATOR
115V AC/6V DC .....#3049....Net 229.50
115V AC/12V DC .....#3058....Net 229.50

ZIPPER CARRYING BAG FOR COMMUNICATORS Net 14.95

C-D COMMUNICATORS . . .



Now available . . . special Communicator and Linear amplifier models which meet applicable FCDA specifications.

These new units are similar to their commercial-type 2 and 6 meter counterparts, are the same size but are finished in an attractive yellow color. Because of their extreme compactness and the fact that they will operate from car battery or AC mains, these units have great utility as mobile, portable or fixed stations in Civil Defense applications.

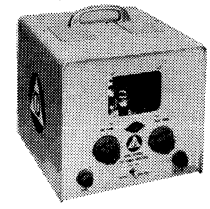
Receiver is a sensitive superheterodyne with "Cascode" RF and three stages of I-F. Six meter models incorporate double conversion for added selectivity desirable in this lower frequency range. Receivers of both models are tunable, the two meter model covering 144-148.3 mcs, the 6 meter model, 49-54 mcs. Noise clipper, adjustable squelch, pilot light on-off switch, earphone jack with speaker muting, are all desirable features. Transmitter utilizes 2E26 output tube delivering about 6 watts of carrier with AM modulation. Four crystal controlled frequencies are provided by means of a selector switch on the front panel.

2 METER (FCDA ITEM No. U-16)
6V DC/115V AC .....#3087..... 299.50
12V DC/115V AC .....#3077..... 299.50

6 METER (FCDA ITEM No. U-14)
6V DC/115V AC .....#3088..... 299.50
12V DC/115V AC .....#3079..... 299.50

Prices include tubes, microphone, one crystal, canvas carrying case and portable antenna.

C-D, 2 AND 6 METER RF LINEAR AMPLIFIERS

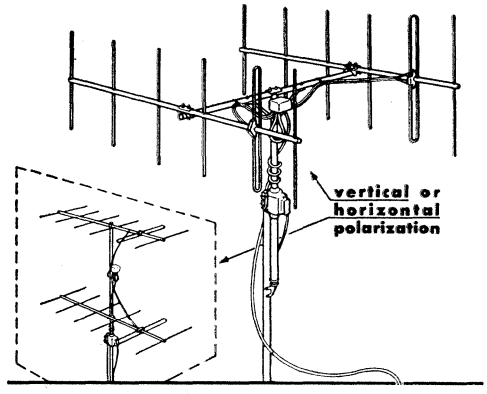


A new linear RF amplifier to match the new Gonset C-D Communicators. These new linears have the same front panel size and are finished in the same bright yellow color.

They are similar to the Gonset commercial version linear, will increase C-D Communicator carrier power output to 50 watts. They are easy to adjust, foolproof, non-critical. Push pull 826 VHF triodes with forced air cooling are used.

2 METERS .....#3089..... 199.50
6 METERS .....#3090..... 199.50

2 METER "TWIN-SIX" BEAM

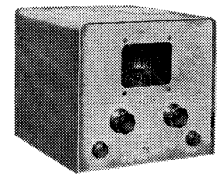


Twin-six, a rugged, quickly assembled dual Yagi, provides well over 10 db gain and FBR throughout the 2 meter band. Special balun and matching networks assure symmetry and low SWR with 52 ohm coax line feed.

Array is largely preassembled and designed for use with standard TV rotator. Antenna may be arranged for horizontal or vertical polarization. De Luxe model includes braced 5' boom and mast section, standard model does not.

STANDARD TWIN SIX BEAM ....#1560.....Net 29.50
DE LUXE TWIN SIX BEAM .....#1560V.....Net 34.50

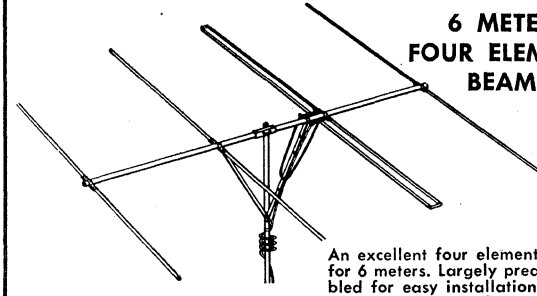
STANDARD, RF LINEAR AMPLIFIERS . . .



RF linear amplifiers for 2 or 6 meter Communicators to increase carrier output to 50-60 watts. No alterations required on Communicator. Tune up is easy, foolproof, with no danger to tubes. Switching the Communicator to transmit automatically activates the amplifier including the internal antenna relay. Amplifier uses 2-826 VHF triodes with forced air cooling. Heavy duty power-supply uses 2-5U4GB rectifiers.

2 METERS ....#3063..... 149.50
6 METERS 149.50

6 METER FOUR ELEMENT BEAM



Includes special balun for ballance and match of folded dipole driven element to 52 ohm coax.

An excellent four element Yagi for 6 meters. Largely preassembled for easy installation. Features high forward gain, low SWR and symmetrical pattern.

#1523 ..... Net 24.50

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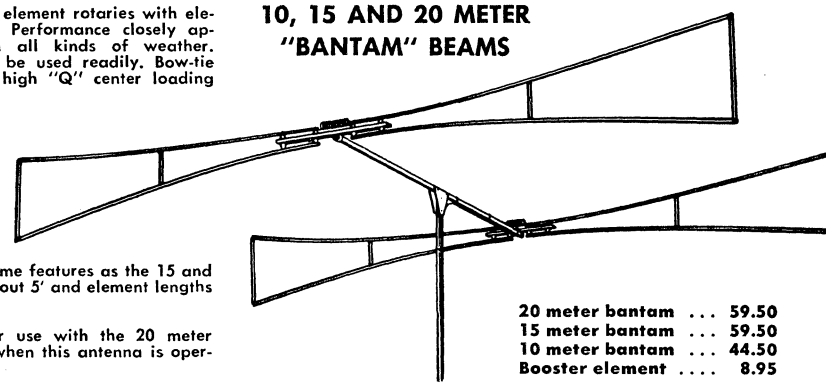
GONSET *Communications Equipment*

10, 15 AND 20 METER "BANTAM" BEAMS

Highly effective 15 and 20 meter, 2 element rotaries with element lengths only 16½' tip-to-tip. Performance closely approaches full length antennas in all kinds of weather. lightweight . . . TV-type rotator can be used readily. Bow-tie elements for broad banding, very high "Q" center loading inductors for lowest possible losses.

Single 52 ohm coax feed with link coupling and "Magic match" termination assures low VSWR, symmetry, balanced pattern. Antennas are factory tuned, require no field adjustments.

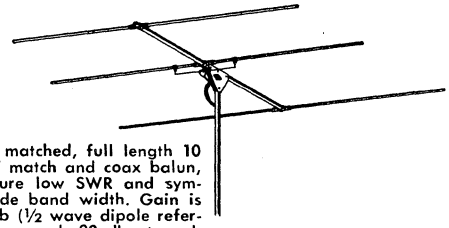


The 10 meter Bantam includes the same features as the 15 and 20 meter types. Its boom length is about 5' and element lengths are approximately 9' long.

A Booster element is available for use with the 20 meter Bantam for improved performance when this antenna is operated on 10 meters.

20 meter bantam ... 59.50
15 meter bantam ... 59.50
10 meter bantam ... 44.50
Booster element 8.95

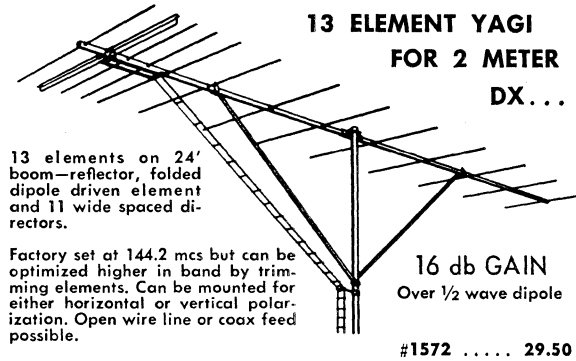
10 METER 3 ELEMENT BEAM...



Pre-tuned and matched, full length 10 meter beam. T match and coax balun, (supplied) assure low SWR and symmetry over wide band width. Gain is more than 8 db (½ wave dipole reference) and FBR exceeds 20 db at peak frequency. Boom is 10', 1½" and stub mast 40", 1¼" galvanized steel tubing. Elements are ¾" aluminum alloy. Strong, lightweight, easy assembled.

With coax balun and stub mast ..... net 34.50

13 ELEMENT YAGI FOR 2 METER DX...



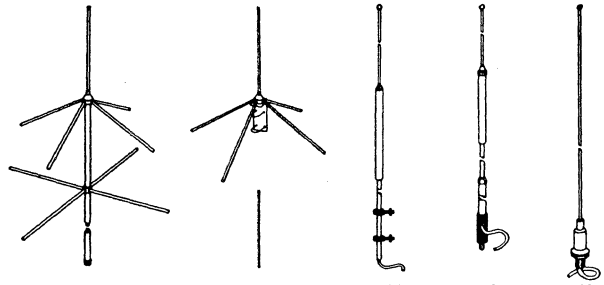
13 elements on 24' boom—reflector, folded dipole driven element and 11 wide spaced directors.

Factory set at 144.2 mcs but can be optimized higher in band by trimming elements. Can be mounted for either horizontal or vertical polarization. Open wire line or coax feed possible.

16 db GAIN
Over ½ wave dipole

#1572 ..... 29.50

STANDARD 2 METER ANTENNAS



#1620 #1621 #1622 #1623 #1624

GROUND PLANE
#1620 .....net 12.95

DROOPING GROUND PLANE
#1621 .....net 5.95

COAX TYPE, ANTENNA
#1622 .....net 15.95*

COAX TYPE, VEHICULAR
#1623 .....net 9.95*

CAR ROOF TYPE
#1624 .....net 4.95*

*Supplied with 10' of cable.

2 METER

COMPLETE GROUND PLANE KIT. Includes: 1-ground plane antenna, 50' coax cable and 2-PL259 fittings, 1-8' mast with clamp, base mounting, guys, etc.
#3091 ..... 29.50

BEAM ANTENNA KIT FOR POINT TO POINT COMMUNICATION. Includes: 1-de luxe Twin-six beam, 50' coax, 2-PL259 fittings. (mast not supplied).
#3092 ..... 52.50

PORTABLE ANTENNA KIT. Includes: Universal window mounting and rain drip mounting, 12' coax, 1-PL259.
#3093 ..... 7.50

AUTO ROOF-TYPE ANTENNA KIT. Includes: Quarter-wave whip for single hole mount, 12' coax cable, 1-PL259 fitting.
#3094 ..... 7.50

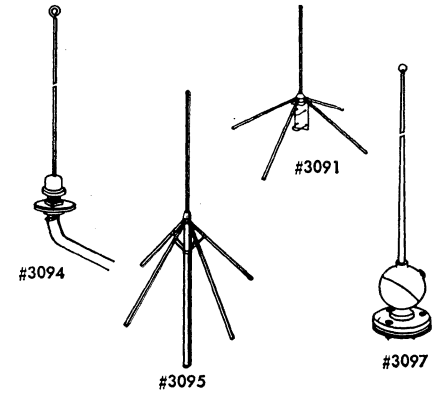
C-D ANTENNA KITS

6 METER

GROUND PLANE ANTENNA. Includes: 50' coax, PL-259 fitting, 8' mast with clamp, base mount, guys, etc.
#3095 ..... 37.50

BEAM ANTENNA KIT FOR POINT-TO-POINT COMMUNICATION. Includes: 1-6 meter, 4 element yagi, 50' coax, 2-PL259's. (Mast not supplied.)
#3096 ..... 44.50

MOBILE ANTENNA KIT. Includes: 1-6 meter stainless steel whip, 1-universal base mounting, 15' coax cable, 2-PL259 fittings.
#3097 ..... 21.50



#3094 #3095 #3091 #3097

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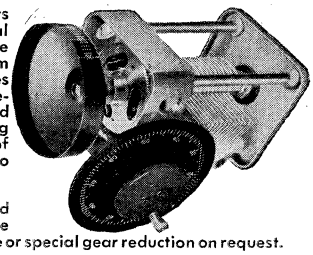
CARDWELL CAPACITORS

MAIN OFFICE:
PLAINVILLE, CONN.

PLANTS: PLAINVILLE, CONN.
STAMFORD, CONN.

PRECISION CAPACITOR Type PL-24.050

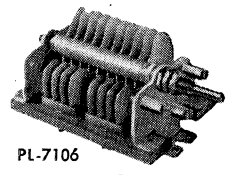


Designed for frequency meters requiring maximum mechanical and electrical precision. Type No. 4.080 gear and worm driven capacitor incorporates special design features representing years of research and usage. Capable of operating in a temperature range of minus 30 degrees C (—86F) to plus 55 degrees C (+131F).

NOTE: This unit can be supplied with intermediate capacitance ranges, straight line capacitance or special gear reduction on request.

CAPACITY RANGE: Maximum capacity 220 mmfd., minimum capacity 21 mmfd.
CAPACITY CHARACTERISTIC: Straight Line Frequency.
INSULATION: Moisture-proofed ceramic or glass-bonded mica.
BACKLASH: Negligible.
RESETTABILITY: To 10 parts in one million.
GEAR DRIVE: Precision split worm gear, equipped with precision ball bearings. Ratio 100:→1 throughout 360°.
DIMENSIONS: 5⅝" long (over drum dial) x 3⅛" deep x 3⅛" high.
WEIGHT: 1¾ lbs. (with cast aluminum frame).
ROTOR CONTACT: Silver plated phosphor bronze spring with 2 silver contacts bearing on silver plated disc.
MOUNTING: 3 point, to bottom of main casting.
PL-24.050 includes capacitor (PL 4.080), drum dial (PL 4.089), fast running dial (PL 3.200) and vernier ring (PL 3.004). Dials are aluminum, black anodized and precision engraved.

"N" TYPE TRANSMITTING CAPACITORS



PL-7106

Designed for medium power high frequency transmitters and short wave therapy apparatus, the Cardwell "N" series maintains the customary high standard of Cardwell construction, yet eliminates closed circuit loops completely.

CAPACITY CHARACTERISTIC: S.L.C.
FRAME: Improved aluminum end plates support heavy lateral ceramic insulating bars which carry the stators.
SHAFT: ¼" diameter cadmium plated steel.
PLATES: Aluminum .040" thick, with rounded edges. PL-7105 has .025" thick plates, buffed and polished edges.
BEARINGS: Cardwell shoulder type front bearing, with ball thrust rear bearings.
MOUNTING: Can be single hole mounted, or by three mounting posts and screws, to front panel. Chassis mounting on feet which form part of end plates, or use Cardwell "M" brackets, Cardwell part No. 301, for inverted mounting, for lowest stator-to-ground capacity.

ULTRA-HIGH FREQUENCY SINGLE CAPACITORS

Parts List No.	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel
PL-7100	50	9	13	.084	3⅜
PL-7101	75	11	19	.084	4⅝₃₂
PL-7102	100	13	25	.084	5⅞₃₂
PL-7103	150	19	39	.084	6¹¹⁄₁₆
PL-7104	35	11	15	.171	5⅞₃₂

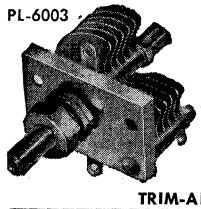
ULTRA-HIGH FREQUENCY DUAL CAPACITORS

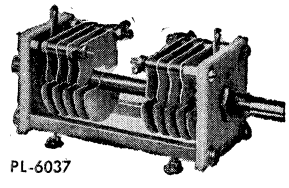
Parts List No.	Per Section Max. Cap.	Per Section Min. Cap.	No. Plates	Air Gap	Length Back of Panel
PL-7105	50	7	11	.070	4⅝₃₂
PL-7116	17	4	5	.084	4⅝₃₂
PL-7106	35	5	9	.084	4⅝₃₂
PL-7108	50	9	13	.084	5⅞₃₂
PL-7109	75	11	19	.084	6¹¹⁄₁₆
PL-7115	13	6	7	.218	5¹⁵⁄₁₆

TRIM-AIR MIDGET CAPACITORS

Combine essential sturdiness with the flexibility obtained only in a spacer-built rotor and stator type assembly. Intermediate capacitance values and special air gaps on all models are available on request. Single section units with double bearing construction also available.

PL-6003





PL-6037

TRIM-AIR (SINGLE) (LONG SHAFT)

Part Number	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length
PL-6016	75	2.7	15	.020	1⅜
PL-6017	100	3	19	.020	1½
PL-6018*	140	5	27	.020	1²³⁄₃₂
PL-6000	10	1.2	3	.030	⅞
PL-6001	15	1.5	5	.030	³¹⁄₃₂
PL-6002	25	2	7	.030	1¹⁄₁₆
PL-6003	35	2.5	11	.030	1⅛₃₂
PL-6004	50	2.8	13	.030	1⅜
PL-6055	108	6.6	29	.030	2⅛₆₄
PL-6024**	5	1.5	3	.060	⅞
PL-6044	5	2	3	.070	³¹⁄₃₂
PL-6010	11	3.6	6	.070	1¹⁄₁₆
PL-6011	15	3	9	.070	1½
PL-6012	30	4	17	.070	2¹⁷⁄₆₄
PL-6022	4	1.5	5	.140	1½
PL-6023	7	4	7	.140	1²⁷⁄₃₂

*Iso. rear end plate—ball and strap rear bearing.
**Supplied with 2 segment stator for UHF circuits.
Extra plate also supplied, making 3 plates as listed.

CAPACITY CHARACTERISTICS: Straight line capacity.
INSULATION: Moisture-proofed, low-loss ceramic.
PLATES: Aluminum, .020 inch thick, rounded edges.
(**Note:** Brass supplied on special order.)
SHAFT: ¼ inch diameter brass, nickel plated.
MOUNTING: Single section units either by ⅜ diameter panel mounting or mounted bracket. Dual section capacitors also supplied with 4 No. 4-36 screws and spacers for post mounting.
NOTE: Dual section units have rear shaft extension for coupling and dual capacitors having air gaps of .020 and .030 inches have a shield between sections which is removable.

TRIM-AIR (DUAL)

Part Number	Max. Cap.	Min. Cap	No. Plates	Air Gap	Length Over End Plates
PL-6041	75	2.7	15	.020	3⅛₃₂
PL-6042	100	3	19	.020	3⅛₃₂
PL-6043	140	5	27	.020	3¹¹⁄₁₆
PL-6028	10	1.2	3	.030	2³⁄₁₆
PL-6029	15	1.5	5	.030	2³⁄₁₆
PL-6030	25	2	7	.030	2³⁄₁₆
PL-6031	35	2.5	11	.030	3⅛₃₂
PL-6032	50	2.8	13	.030	3⅛₃₂
PL-6065	100	6.9	25	.030	3¹¹⁄₁₆
PL-6037	15	3	9	.070	3⅛₃₂
PL-6039	30	4	17	.070	4⅝₃₂
PL-6033	4	1.5	5	.140	3⅛₃₂
PL-6035	7	4	7	.140	3¹¹⁄₁₆

V. H. F. 90 DEGREE TRIM-AIR MIDGETS

Part Number	Max. Cap.	Min. Cap.	No. Plates Rotor	No. Plates Stator	Air Gap	Length Over-all
PL-6076	5	1.5	3	2	.030	1³¹⁄₃₂
PL-6077	7	2.0	4	3	.030	1³¹⁄₃₂
PL-6078	13	3.0	7	6	.030	2⅜
PL-6079	20.4	3.4	8	7	.020	2⅝₃₂
PL-6080	27	4.0	10	9	.020	2⅜
*PL-6081	38	6.0	14	13	.020	2³¹⁄₃₂

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THE ALLEN D. CARDWELL
ELECTRONICS PRODUCTIONS CORP.

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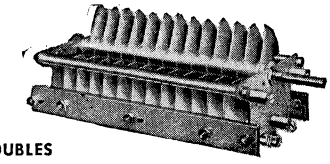
CARDWELL CAPACITORS

MAIN OFFICE: PLAINVILLE, CONN.

PLANTS: PLAINVILLE, CONN. STAMFORD, CONN.

"X" TYPE STANDARD TRANSMITTING CAPACITOR

The Original grounded rotor, metal frame variable air capacitor. Frames, tie rods, bearing bushings, spacers and stator blocks, nickeled brass. Cadmium plated 1/4" steel shaft supports securely locked rotor assembly. Mycalex insulation. Panel spaces 4 1/2" x 3 3/8". Panel mounting. N.P. brass mounting feet provided on special order, for chassis mounting.



"X" TYPE STANDARD SINGLES

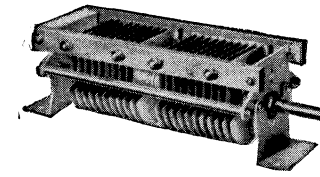
Parts List No.	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates
PL-8004	375	16	17	.030	2 1/16
PL-8005	475	18	21	.030	2 1/16
PL-8007	950	30	41	.030	3 3/16
PL-8013	1500	50	65	.030	5
PL-8048	220	20	21	.070	3 3/16
PL-8050	440	40	43	.070	5
PL-8041	165	22	19	.084	3 3/16
PL-8043	290	35	33	.084	5
PL-8044	330	37	37	.084	5 5/8
PL-8029	120	19	17	.100	3 3/16
PL-8031	240	30	33	.100	5 5/8
PL-8034	110	26	23	.171	5 5/8
PL-8023	100	28	25	.200	6 5/8
PL-8037	55	20	15	.230	5

"X" TYPE STANDARD DOUBLES

Parts List No.	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Over End Plates
PL-8018	475	18	21	.030	3 3/16
PL-8065	95	15	11	.084	3 23/32
PL-8066	165	23	19	.084	5 5/8
PL-8067	325	38	37	.084	10 3/16
PL-8061	120	19	17	.100	5 5/8
PL-8062	240	32	33	.100	10 3/16
PL-8060	160	28	27	.125	10 3/16
PL-8063	50	14	11	.171	5 5/8
PL-8064	110	27	21	.171	10 3/16
PL-8056	40	14	11	.200	6 5/8
PL-8057	75	21	19	.200	10 3/16

MIDWAY TRANSMITTING CAPACITORS

CAPACITY CHARACTERISTICS: S.L.C.
FRAME: All aluminum end plates and tie rods.
SHAFT: 1/4" C.R. steel, cadmium plated.
PLATES: .025" aluminum. On sizes having airgap of .070" or over, plates have rounded edges, buffed to minimize corona loss.
BEARINGS: Brass, nickel plated shoulder type front bearing with ball thrust rear bearing.
INSULATION: Mycalex.
MOUNTING: 3 point front panel mounting by means of 3 screws and hex. posts. Two aluminum mounting feet with screws. Cardwell Part List No. 5052 for regular chassis mounting, provided instead, if so ordered. Type "M" special brackets (Part List No. 5051) permit inverted mounting.



PL-7030 with
PL-5051 Mtg. Brackets

The Midway is ideal for low and medium power transmitters for portable mobile and aircraft equipment, due to its light weight, compact size and extremely sturdy construction. Incorporates original patented features of the larger "X" type standard transmitting capacitor.

MIDWAY SINGLE CAPACITORS

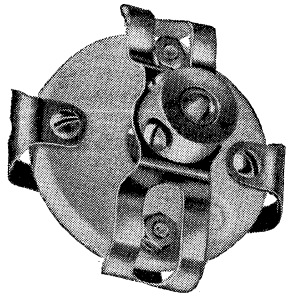
Parts List No.	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates
PL-7000	25	6	3	.030	1 3/4
PL-7001	50	6	5	.030	1 3/4
PL-7002	70	7	7	.030	1 3/4
PL-7003	112	9	11	.030	1 3/4
PL-7004	150	10	15	.030	1 3/4
PL-7005	260	13	25	.030	2 3/4
PL-7006	365	16	35	.030	2 3/4
PL-7015	25	8	5	.070	1 3/4
PL-7016	35	6	7	.070	1 3/4
PL-7017	50	10	11	.070	1 3/4
PL-7018	70	10	15	.070	2 3/4
PL-7019	100	14	21	.070	2 3/4
PL-7020	150	18	31	.070	3 11/16
PL-7021	35	14	15	.171	3 11/16
PL-7024	165	15	25	.050	2 3/4

MIDWAY DUAL CAPACITORS

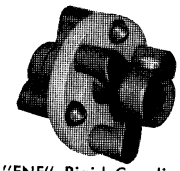
Parts List No.	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Over End Plates
PL-7007	25	5	3	.030	1 3/4
PL-7008	47	7	5	.030	2 3/4
PL-7009	70	8	7	.030	2 3/4
PL-7010	112	9	11	.030	2 3/4
PL-7011	150	10	15	.030	2 3/4
PL-7013	260	13	25	.030	3 11/16
PL-7026	20	6	5	.070	2 3/4
PL-7027	35	8	7	.070	2 3/4
PL-7028	50	9	11	.070	2 15/16
PL-7029	70	11	15	.070	3 11/16
PL-7030	100	13	21	.070	5 11/32
PL-7031	190	15	29	.050	5 11/32

INSULATED COUPLINGS

For isolating R.F. controls. Ceramic insulation (Alsimag No. 196). All flexible types have N.P. phosphor bronze springs, and heavy N.P. brass hubs, permanently swaged or spun riveted into the springs. Two fillister head, cup point, case hardened, steel set screws in each hub insure positive lock to shaft. Flexible types C, D, E and F fit both 1/4" diameter shaft or a 3/8" shaft by removing bushing supplied.

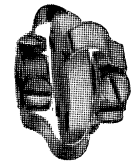


"C"
PL-5004



"ENF" Rigid Coupling
PL-5201

"FNF"
PL-5013



"A"
PL-5000

INSULATED COUPLINGS—Flexible

Parts List No.	Type	DIMENSIONS (Width)	DIMENSIONS (Length)	Peak Flashover	To Fit Shaft Diameter
5000	A	1 3/32"	3/4"	3,700 V.	1/4"
5002	B	1 3/32"	1 3/32"	7,000 V.	1/4"
5202	AB	1 3/32"	2 3/32"	5,000 V.	1/4"
5004	C	2 5/8"	2 3/32"	13,500 V.	1/4 & 3/8"
5006	D	2 5/8"	1 3/8"	9,000 V.	1/4 & 3/8"
5008	E	2 1/16"	1 3/4"	10,000 V.	1/4 & 3/8"
5010	F	2 1/16"	1 1/16"	5,000 V.	1/4 & 3/8"

INSULATED COUPLINGS—Rigid

5014	CNF	2 1/4"	2 1/16"	12,000 V.	3/8"
5201	ENF	1 3/8"	1 13/32"	10,000 V.	1/4"
5013 ..	FNF	1 3/8"	1 5/16"	7,500 V.	1/4"

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THE ALLEN D. CARDWELL

ELECTRONICS PRODUCTIONS CORP.

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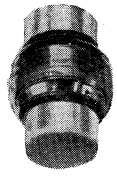
Jennings RADIO
VACUUM ELECTRONIC COMPONENTS

JENNINGS VACUUM

VACUUM FIXED CAPACITORS

The all copper construction of Vacuum Fixed Capacitors give high current ratings, long life and stability of operation.



Type MMC
2000 mmfd
15 kv

Type JCSL
1500 mmfd
5 kv

Type JCSF
150 mmfd
15 kv

	TYPE		CAPACITY	PEAK VOLTAGE	RMS AMPERES①		NOMINAL DIMENSIONS②	
	NICKEL	COPPER	MMFD	KILOVOLTS	NICKEL	COPPER	LENGTH	DIAMETER
2 to 5 KV		JCSL	100, 250	3, 5		35	2⅝	1⅞
		JCSL	500, 750, 1000, 1500	3, 5		42	3⅞	2⅞
		JCSL	2000	2, 3		42	4	2⅞
7.5 to 15 KV		JCSF	25, 40, 80, 120, 150	7.5, 10, 15		30	1⅝	1⅝
		JCS2	10, 20, 25, 50, 75, 100, 150	7.5, 10, 15		20	3⅛	1⅞
		JCS1	25, 50, 75, 100, 150	7.5, 10, 15		50	3¾	2⅛
		JCS	250, 400, 500	7.5, 10, 15		42	4	3⅛
		JCS	900, 1000	7.5, 10, 12		42	4⅝	3⅝
		MC1	500, 750, 1000	10, 15		75	4⅛	4⅛
	M	MC	500, 750, 1000	10, 15, 20	21	120	8⅜	5
	MM	MMC	1500, 2000	10, 15	35	125	9¼	6⅛
		MMC1	2000	10, 15		125	5	6⅛
		MMC	5000	10, 15		125	13	9¼
17 to 30 KV	Y		1, 2, 3, 4, 5	17	7		3¼	¾
	X		5, 10, 15, 20, 25	17	7		3¼	1⅛
	W		6, 12, 25, 50, 100	20, 25	10.5		4⅝	2¼
		VCCA	6, 12, 25, 50, 75, 100, 150	20, 30		60	4½	2⅜
	VC	VCC	6, 12, 25, 50, 75, 100, 150	20, 30, 35	14	60	6½	2⅝
	VC	VCC	200, 250	20, 30	14	60	6½	2⅝
		JC2	25, 50, 75, 100	20, 30		42	4	3¼
	ML	MLC	500, 750, 1000	25, 30	21	125	9¼	5
35 to 60 KV		JHC	75	50, 60		42	4	3½
		JC3	20, 40, 50, 60	35, 45, 55, 60		140	8¼	3½
		JC4	75, 100, 125	35, 45, 55, 60		175	9¼	5
		JC5	200	35, 45, 55, 60		225	11¼	7
	MMH	MMHC	450	35, 45, 55	21	125	9¼	6⅛
		MMHC	1000	35, 40, 45		125	13	9¼

①Current ratings can usually be doubled with forced air cooling. Water cooled units are also available.
②Nominal Dimensions are for the largest unit of each type.
NOTE: Intermediate capacities, feed-thru capacitors, and glass insulators are available.

TYPES R AND RH HIGH VOLTAGE SWITCHES

VACUUM SWITCH RATINGS
For RF and DC Transfer Switching

Jennings Type	R5C	R1	R2	R8	RH6	RH7
Test Voltage (300 kc dry)—peak kv	20, 30	40, 50	50, 60	40, 70, 85	85, 100	85, 100
Operating Voltage—peak kv	15	30	40	30 to 85	85	85
Continuous Current (rms amp)—dc①	50	50, 100	50, 100	100, 200	50, 200	50, 400
—300 kc	30	35	35	100	100	100
— 10 mc	25	25	25	50	50	50
— 30 mc		15	15	25	25	25
RF Interrupting Power—kilowatts	50	250	250	1000		

① DC continuous currents may be increased as shown by using special connectors.

For DC Switching Under Load or Capacitor Discharging

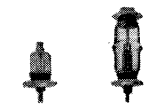
Jennings Type	R5C	R1G	R1J	R2G	R8G	R9G	RH1G	RH7G
Test Voltage (60 cycles dry)—peak kv	20, 30	40, 50	30, 40	50, 60	40, 70, 85	85	85, 100	85, 100
Operating Voltage—peak kv	15	20	20	30	50	60	85	85
Continuous Current—dc amp①	50	50, 100	50, 100	50, 100	100, 200	100, 200	50, 200	50, 400
DC Interruption②—power in kw	5	25	50	25	50	100	200	250
—current in amp	5	25	50	25	50	100	200	250
Capacitor Discharge—initial amp		500	1000	500	1000	1500	2000	2500

① DC continuous currents may be increased as shown by using special connectors.
② For DC interruption in continuous operation, neither power nor current rating should be exceeded.

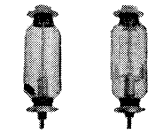
For 60 Cycle Power Switching

Jennings Type	R1J	R2G	R8G	R9G	RH1G
Operating Voltage Class—rms kv line to line / grounded Y capacitor load to 85% lag pf	2.5	8.25	12	15.5	2.5
Withstand Voltage—rms kv (60 cycle, 1 min. dry test)	19	26	36	50	19
Impulse Voltage—peak kv (1½x40 μ sec NEMA test)	60	75	95	110	60
Operating Current—rms amp at 0% lead (capacitor load) to 85% lag pF / Break only	100	60	100	200	100
Operating Current—rms amp at 0% lead (capacitor load) to 85% lag pF / Make & Break	50	30	50	100	50
Interrupting Current (rms amp)—NEMA one time	1500	800	2000	2500	1500
—NEMA ten times	1000	500	1500	1500	1000
Short Time Surge Currents (rms amp)—NEMA 4 second	2000	500	2000	2500	2500
—NEMA 10 cycle mom.	4000	1500	4000	5000	5000
Thermal Current (for 30° C. rise)—rms amperes	100	100	200	200	400

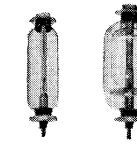
TYPE R VACUUM SWITCHES



R5C R1

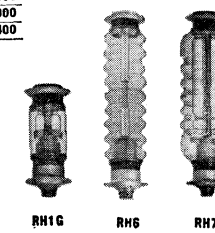


R2 R2G



R8 R9G

TYPE RH VACUUM SWITCHES



RH1G RH6 RH7G

RELAYS USING VACUUM SWITCHES

Type R and RH Vacuum Switches are available from Jennings mounted as relays for indoor use. They may be mounted with contacts normally open or normally closed or two switches may be mounted in a single pole double throw arrangement. Either ac or dc solenoids may be used. Insulation between the switch and its actuating solenoid is provided by a 2 to 8 inch puller rod providing 40 to 100 kv insulation. CE grade phenolic laminate is recommended for dc or 60 cycle use; Grade G7 silicone glass laminate or alumina ceramic is recommended for radio frequency applications.

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CAPACITORS & RELAYS

Jennings RADIO
VACUUM ELECTRONIC COMPONENTS

VACUUM VARIABLE CAPACITORS

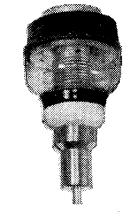
	TYPE		CAPACITY	PEAK VOLTAGE	RMS AMPERES①		NOMINAL DIMENSIONS②	
	NICKEL	COPPER	MMFD	KILOVOLTS	NICKEL	COPPER	LENGTH	DIAMETER
2 to 5 KV		UCSL	4-250	3, 5		30	4 1/8	2 1/4
		UCSL	5-500	3, 5		30	5	2 1/4
		UCSL	5-750, 7-1000	3, 5		42	7 5/8	3 1/8
		UCSL	20-2000	2, 3		42	8 1/4	3 1/8
7.5 to 15 KV		GCS	5-100	7.5, 10, 15		40	4 3/4	2 1/8
		UCSV	8-110, 125-250	7.5, 10, 15		50	5 1/4	2 7/8
		ATCS	10-150, 15-200	7.5, 10, 15		20	7	3 1/8
		UCS	5-200, 10-300	7.5, 10, 15		42	8 3/4	2 5/8
		UCS	10-400, 25-500	7.5, 10, 15		42	9	3 1/8
		UCSF	5-250, 12-500	7.5, 10, 15		45	7 3/4	3 5/8
		UCSX	25-700, 25-1000	7.5, 10, 15		45	9 7/8	3 3/4
		UCSXF	12-1000, 15-1200	7.5, 10, 15		45	10	4 3/8
		UCSXF	20-1500, 50-2000	7.5, 10, 12		45	10	5 1/8
10 to 20 KV		ECS	2-8, 3-30	10, 15		20	4	1 3/8
	T	TC	5-25	20	10.5	20	6 5/8	2 1/4
	AT	ATC	10-50, 15-75	20, 30	10.5	20	6 7/8	3 1/8
	U	UC	50-250	10, 15, 20	21	60	11 1/2	5
	UX	UXC	25-500	10, 15, 20	21	60	14	5
		UXCF	10-250, 20-500	10, 15, 20		60	9 7/8	4 3/8
	VMM	VMMC	50-1000, 100-2000	10, 15	35	125	15 7/8	6 1/8
		VMMC	100-5000	7.5, 10, 15		125	19	9 1/4
35 to 60 KV		UCSVH	8-35	25, 35		60	4 3/4	3
	UH	UHC	10-75, 75-150	35, 45, 55, 60	21	60	12	5
	UXH	UXHC	25-150	35, 45, 55	21	60	14 5/8	5
		UCSXH	10-200	35, 45		60	10	4 1/2
		UCSXHF	25-450	35, 40		60	10 1/2	5 1/8
		VMMHC	10-250, 25-450	35, 45, 55		125	16	8 1/8
		VMMHC	60-1000	35, 40, 45		125	19 3/8	9 1/4

①Current ratings can usually be doubled with forced air cooling. Water cooled units are also available.
②Nominal Dimensions are for the largest unit of each type.
NOTE: A series of adjustable capacitors are available to cover the range of 8 to 1000 mmfd at 10 KV.

Type GCS
5-100 mmfd
15 kv

Type UCSL
7-1000 mmfd
5 kv

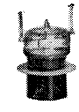
The Vacuum Variable Capacitors combine extreme high ratio of capacitance change with small physical size.



Type UCSXF
50-2000 mmfd
12 kv

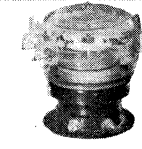
VACUUM TRANSFER RELAYS

- RF AND DC TRANSFER SWITCHING
- DC SWITCHING UNDER LOAD
- 60 CYCLE POWER SWITCHING



RD1

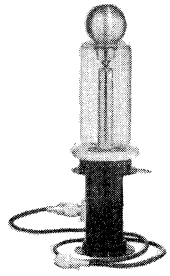
RE2



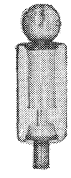
RM2

Jennings Type and contact arrangement	Type RD1—Normally Open Type RD2—Normally Closed	RE2 SPDT	RE3* SPDT	RE4 SPDT	Type RM2—2 pole double throw Type RM4—4 pole double throw
Rated operating voltage	10 kv peak	10 kv	2.5 kv	25 kv	12 kv peak
Test voltage between terminals	15 kv peak	15 kv	3 kv	30 kv	18 kv peak
Test voltage terminals to ground	12 kv peak	15 kv	3 kv	40 kv	18 kv peak
Continuous rf current	10 amperes rms	15 amp	15 amp	12 amp	15 amperes rms
Contact resistance	0.01 ohms	.02 ohms	.02 ohms	.005 ohms	.005 ohms
Contact capacitance	0.09 mmfd	.25 mmfd	.25 mmfd	.25 mmfd	.33 mmfd
Operate times	10 to 30 milliseconds	10 to 30 milliseconds			30 to 60 milliseconds
DC actuating coil — power	RD1—6 watts; RD2—13 watts	10 watts			10 watts
— voltage	26.5 volts dc	26.5 volts dc			26.5 volts dc

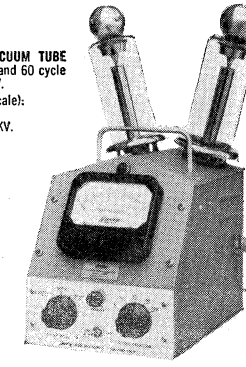
HIGH VOLTAGE MEASURING EQUIPMENT



MODEL JP 325 HIGH VOLTAGE PROBE
VOLTAGE RATINGS: 40, 50, or 60 KV peak.
VOLTAGE DIVISION RATIO: 325 to 1 to termination of 3 ft. of RG-58 A/U cable.
INPUT IMPEDANCE:
Resistance: above 10^{12} ohms.
Capacitance: 4 mmfd.
FREQUENCY RESPONSE: High frequency limited by that of measuring instrument. (Internal resonances are above 200 mc.) Low frequency response is 100 cps if operating into 10 megohm shunt resistance; 10 cps if operating directly to vertical deflection plates of an oscilloscope.



TYPE JCD 5 MMFD SERIES CAPACITOR attaches to HV end of the VDF 2.8 divider in the meter below and the probe at the left doubling the division ratio in each case. Decreases total loading capacity of meter or probe from 4 mmfd to 2 mmfd.
Sold without corona sphere unless ordered.
VOLTAGE RATING: 60 KV peak.



MODEL J-1002 HIGH VOLTAGE VACUUM TUBE VOLTMETER for use in pulse, rf, and 60 cycle circuits at voltages up to 100 KV.
VOLTAGE RANGES (peak volts full scale):
Single Ended: 5, 10, 25, 50 KV.
Double Ended: 5, 10, 25, 50, 100 KV.
(By using Type JCD Series capacitor, these ranges can be more than doubled.)
OSCILLOSCOPE CONNECTION: 300 to 1 division ratio.
FREQUENCY RESPONSE: 20 cycles to 20 megacycles at full rated voltage and up to 50 megacycles for lower voltages with low harmonic content.
INPUT IMPEDANCE: 10^{12} ohms and 4 mmfd.
CALIBRATION ACCURACY: ±3% of full scale.
POWER SUPPLY: 117 volt, 50/60 cy.
DIMENSIONS: 16" x 10" x 10¾"

JENNINGS RADIO MANUFACTURING CORPORATION · SAN JOSE 8, CALIF.

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THORDARSON for MEISSNER

WORLD'S OLDEST and LARGEST TRANSFORMER and COIL MANUFACTURER
Mt. Carmel, Illinois.
Phone 1200

IF TRANSFORMERS

AIR CORE "PLASTIC"

PART NO	LIST PRICE	FIG	USE	PEAK FACTORY SETTING	SELECTIVITY 2X	SELECTIVITY 10X	MTG	DIMENSIONS H	DIMENSIONS W X D
16-6652	$ 2.40	MT	Input	262KC	9.5	24.7	1-1/4	2-1/2	1-1/4 x 1-1/4
16-6653	2.40	MT	Interstage	262KC	10.4	27.6	1-1/4	2-1/2	1-1/4 x 1-1/4
16-6654	2.40	MT	Output	262KC	20.5	57.1	1-1/4	2-1/2	1-1/4 x 1-1/4
16-6658	2.40	MT	Input	456KC	18.8	46.6	1-1/4	2-1/2	1-1/4 x 1-1/4
16-6659	2.40	MT	Interstage	456KC	12.5	33.0	1-1/4	2-1/2	1-1/4 x 1-1/4
16-6660	2.40	MT	Output	456KC	17.5	50.5	1-1/4	2-1/2	1-1/4 x 1-1/4

HIGH Q IRON CORE "PLASTIC"

PART NO	LIST PRICE	FIG	USE	PEAK FACTORY SETTING	SELECTIVITY 2X	SELECTIVITY 10X	MTG	DIMENSIONS H	DIMENSIONS W x D
16-6662	$ 2.50	MT	Input	456KC	11.2	30.0	1-1/4	2-1/2	1-1/4 x 1-1/4
16-6663	2.50	MT	Output	456KC	11.2	30.0	1-1/4	2-1/2	1-1/4 x 1-1/4

HIGH Q IRON CORE "STANDARD"

PART NO	LIST PRICE	FIG	USE	PEAK FACTORY SETTING	SELECTIVITY 2X	SELECTIVITY 10X	MTG	DIMENSIONS H	DIMENSIONS W X D
16-5712	$ 2.50	MT	Input	456KC	11.1	27.7	1-3/8	3	1-3/8 x 1-3/8
16-6133	2.75	MT	Interstage	456KC	14.5	36.5	1-3/8	3	1-3/8 x 1-3/8
16-5714	2.50	MT	Output	456KC	12.3	37.2	1-3/8	3	1-3/8 x 1-3/8
16-6668	3.00	MT	(Battery Input)	456KC	22.5	54.3	3/4	2	3/4 x 3/4
16-6669	3.00	MT	(BatteryOutput)	456KC	22.5	58.0	3/4	2	3/4 x 3/4
16-6678	3.00	MT	ACDCInputor Output	456KC	16.6	41.1	3/4	2	3/4 x 3/4
16-5740	3.50	MT	Input	456KC	8.4	20.0	1-3/8	3-1/2	1-3/8 x 1-3/8
16-6131	3.50	MT	Interstage	456KC	6.9	13.3	1-3/8	3-1/2	1-3/8 x 1-3/8
16-5742	3.00	MT	Output	456KC	13.8	38.0	1-3/8	3-1/2	1-3/8 x 1-3/8

MINIATURE I.F.'S - PERMEABILITY TUNED

PART NO	LIST PRICE	FIG	USE	PEAK FACTORY SETTING	SELECTIVITY 2X	SELECTIVITY 10X	MTG	DIMENSIONS H	DIMENSIONS W x D
16-6800	$ 2.50	KT	Input-Interstage	456KC	16	34	1/2	1-1/2	1/2 x 1/2
16-6801	2.50	KT	Output	456KC	18	38	1/2	1-1/2	1/2 x 1/2
16-6752	2.50	UM	Input	262KC	12	35	3/4 -1-1/2	2	3/4 x 3/4
16-6754	2.60	UM	Output	262KC	18	45	3/4 -1-1/2	2	3/4 x 3/4
16-6756	2.75	PW	Input or Output	262KC	12	35	Snap	1-3/4	3/4 x 3/4
16-6758	2.20	UM	Input or Output	456KC	14	38	3/4-1-1/2	2	3/4 x 3/4
16-6770	2.30	UM	Output	456KC	18	42	3/4-1-1/2	2	3/4 x 3/4
16-6780	2.40	PW	Input or Output	456KC	14	38	Snap	2	3/4 x 3/4

ANTENNA - RF - OSCILLATOR

ADJUSTABLE INDUCTANCE COILS

PART NO	LIST PRICE	FIG	USE	MTG	DIMENSIONS H	DIMENSIONS W x D
14-1075	$2.20	IF	Antenna Coil	5/16 hole	1-5/8	5/8 Dia.
14-1076	2.20	IF	RF Coil	5/16 hole	1-5/8	5/8 Dia.
14-1077	3.00	IF	Oscillator Coil	5/16 hole	1-1/4	5/8 Dia.
14-7413	3.00	AE	Antenna Coil	1-3/4	2-1/2	1-3/4 x 1-3/4
14-7558	3.00	AE	RF Coil	1-3/4	2-1/2	1-3/4 x 1-3/4
14-7560	3.00	AE	Oscillator Coil	1-3/4	2-1/2	1-3/4 x 1-3/4
14-1410	2.00	UM	Antenna Coil	Clip	2	3/4 x 3/4
14-1411	2.00	UM	RF Coil	Clip	2	3/4 x 3/4
14-1412	2.00	UM	Oscillator Coil	Clip	2	3/4 x 3/4
14-4034	2.00	PC	Adj. Oscillator Coil 450KC I. F. 350 UUFDPadder	3-1/6 hole	1-1/8	1 x 1
14-1040	2.50	PT	Adj. Oscillator Coil 456KC I. F.	1/4 hole	1-7/8	5/8" Dia.
14-1060	2.50	PT	Adj. Oscillator Coil 456KC I. F.	1/4 hole	1-3/4	3/4" Dia.
14-1071	1.75	MF	Antenna Coil	Leads	1-1/2	3/8
14-1072	1.75	MF	R. F. Coil	Leads	1-1/2	1/2
14-1073	1.75	MF	Oscillator Coil (Pentagrid Converter 456KC)	Leads	1	3/8
14-1074	1.75	MF	Oscillator Coil (Battery Type 456KC)	Leads	1	3/8

"PENTAGRID" OSCILLATOR COILS

PART NO	LIST PRICE	FIG	USE	MTG	DIMENSIONS H	DIMENSIONS W x D
14-1033	$ 1.75	SM	With 420 UUFD Condenser and Padder	1/8 hole	1	3/4 Dia.
14-1053	1.10	SM	With 162 UUFD "Cut" Section Condenser	1/8 hole	1	3/4 Dia.
14-1055	2.25	PT	"Adjustable"-May be adjusted to track with IF Amplifier between 175 and 500 KC with various Tuning Condensers	1/4 hole	1-1/2	3/4 Dia.

AIR CORE RF CHOKES

PART NO	LIST PRICE	FIG.	INDUCTANCE MH	DC RES OHMS	CURRENT CAPAC	MTG	DIMENSIONS H	DIMENSIONS W x D
19-1994	.90	BC	2.5	40	20	6-32 hole	7/8	1-1/8 Dia.
19-4551	.90	BC	5.5	57.5	20	6-32 hole	7/8	1-1/8 Dia.
19-2078	.90	BC	8	75	20	6-32 hole	7/8	1-1/8 Dia.
19-8770	.90	BC	10	82.5	20	6-32 hole	7/8	1-1/8 Dia.
19-1995	.90	BC	16	108	20	6-32 hole	7/8	1-1/8 Dia.
19-1991	1.00	BC	20	140	20	6-32 hole	7/8	1-1/8 Dia.
19-2330	1.30	BC	30	159	20	6-32 hole	7/8	1-1/8 Dia.
19-3247	1.40	BC	60	258	20	6-32 hole	7/8	1-1/8 Dia.
19-2709	1.40	BC	80	372	16	6-32 hole	7/8	1-1/8 Dia.

AE BC IF KT MF MT PC PT PW SM UM

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Miller

Television Components

24 MC Unshielded Picture I.F. Transformers

For use as replacement units in television receivers where unshielded coils are called for and standard circuitry is employed. Mounting clip to fit $\frac{5}{16}$" hole in chassis.
Shielded I.F. trans. are ¾" sq. x 2" high.
Maximum Dimensions: 2½" long.

Cat. No.	Description	Trap	List Price
6245	25.5 MC First I.F.	27.25 MC	$2.50
6246	22 MC Second I.F.	21.2 MC	2.50
6247	21.25 MC Cathode Trap		2.50
6248	24.5 MC Video Det. I.F.		1.50
6249	21-25 MC Bifilar Wound I.F.		1.50
6250	25-29 MC Bifilar Wound I.F.		1.50
6251	21-25 MC Bifilar I.F. Shielded		2.25
6252	25-29 MC Bifilar I.F. Shielded		2.25
6253	21-25 MC Bifilar I.F.	20-23 MC	2.75
6254	25-29 MC Bifilar I.F.	24-29 MC	2.75

Converter and Picture I.F. Transformers

Dimensions: ⅞" x ⅞" x 2¼" high.

	Description	Trap	List Pr.
6185	21.8 MC Conv. I.F. Trans.	21.25 MC	$2.75
6186	25.3 MC 1st Pix I.F. Trans.	27.25 MC	2.75
6187	22.3 MC 2nd Pix I.F. Trans.	19.75 MC	2.10

Picture I.F. Inductors Unshielded

Dimensions: ½" max. o.d. x 1½" long.

Cat. No.	Description	Freq.	List Pr.
6188	3rd Pix I.F. Trans.	25.2 MC	$1.25
6189	Video Detector I.F. Trans.	23.4 MC	1.25
6193	Cathode Sound Trap	21.25 MC	2.00
6171	Tunable Choke	21-25 MC	1.25
6171A	Tunable Choke	25-29 MC	1.25

21.25 MC Television Sound I.F. Transformers

Dimensions:
6170, 6190 and 6191 ⅞" sq. x 2¼" hi
6184 and 6192 1⅛"x1⅛"x2½" high.
6261 and 6262 ¾" sq. x 2" high clip mtg.

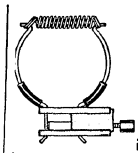
	Item	Freq.	List Pr.
6190	1st Sound I.F. Trans.	21.25 MC	$2.40
6191	2nd Sound I.F. Trans.	21.25 MC	2.40
6192	Sound Disc. Trans.	21.25 MC	2.75
6184	Sound Ratio Det. Trans.	21.25 MC	3.30
6170	Sound Disc. Trans.	21.25 MC	2.50
6261	Sound Disc. Trans.	21.25 MC	3.40
6262	Sound Ratio Det. Trans.	21.25 MC	3.40

4.5 MC Intercarrier Sound I.F. Components

Dimensions 1466-67-68: 1⅛"x1⅛" x2⅛" high.
#1469, 1470 and 1480 Unshielded, Mounting hole $\frac{5}{16}$"
1470-A and 1481 ¾" x ¾" x 2" hi
#1498 1⅜" x 1⅜" x 2½"high

Cat. No.	Item	Freq.	List Pr.
1466	Input or Inter. I.F. Trans.	4.5 MC	$2.40
1467	Sound Discrim. Trans.	4.5 MC	3.00
1468	Sound Ratio Det. Trans.	4.5 MC	3.30
1469	Sound Pick Off Coil	4.5 MC	1.25
1470	Sound Trap Unshielded	4.5 MC	1.25
1470-A	Sound Trap Shielded	4.5 MC	1.65
1480	Quadrature Coil	4.5 MC	1.25
1481	Quadrature Coil Sh'l'd.	4.5 MC	1.65
1498	Sound Ratio Det. Trans.	4.5 MC	3.30

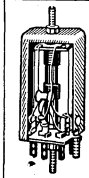
Universal Adjustable Ion Trap



Due to its adjustable feature, which allows the magnetic field to be varied between 32-55 gausses, this trap will, in most instances, replace the older style ion traps having a specific magnetic field.

Cat. No.	Description	List Price
6295	Adjustable Ion Trap	$1.25

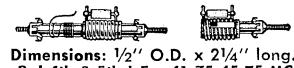
"40 MC" TV Picture I.F. Transformers



Converter transformer and 1st pix I.F. grid transformer have 75-ohm link winding.
Used in R.C.A. current models.
Dimensions: ⅞"x⅞"x2¼" high.

Cat. No.	Description	Trap	List Pr.
6215	Converter I.F. Trans.		$2.50
6216	1st Pix I.F. Grid Trans.	39.25 MC	3.00
6217	1st Pix I.F. Plate Trans.	41.25 MC	3.00
6218	2nd Pix I.F. Grid Trans.	47.25 MC	2.75

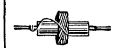
Unshielded



Dimensions: ½" O.D. x 2¼" long.

6219	3rd-4th & 5th I.F.	41.75-45.75 MC	1.25
6220	41-45 MC Converter I.F.		1.25
6221	43.5 MC First I.F.	41.25 MC	2.50
6222	45.5 MC Second I.F.	47.25 MC	2.50
6223	40.0 MC Third I.F.	39.25 MC	2.50
6224	44 MC Fourth I.F.		1.40
6225	41-45 MC I.F., Single Winding		1.55
6226	Hi Q Trap	40-46 MC	1.40

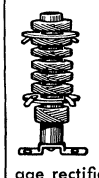
Video Peaking Coils, Filament Choke



No. 6175 Filament Choke—$\frac{9}{32}$" dia. x ⅞" long;
Video Peaking Coils—$\frac{5}{16}$" dia. x ½" long.

Cat. No.	Use	—uhy	Resistor	List Price
6175	Filament	0.8	None	$.50
6152	Peaking	20	None	.50
6176	Peaking	36	None	.50
6110	Peaking	60	None	.50
6172	Peaking	73	None	.60
6177	Peaking	93	None	.60
6112	Peaking	100	None	.60
6178	Peaking	120	22K	.60
6153	Peaking	120	None	.60
6120	Peaking	155	None	.60
6179	Peaking	180	39K	.60
6180	Peaking	180	None	.60
6154	Peaking	200	None	.60
6173	Peaking	250	22K	.60
6181	Peaking	250	None	.60
6130	Peaking	275	None	.60
6155	Peaking	300	None	.60
6132	Peaking	330	None	.60
6134	Peaking	375	None	.60
6136	Peaking	420	None	.60
6138	Peaking	470	None	.60
6174	Peaking	500	None	.60
6144	Peaking	550	None	.60
6146	Peaking	600	None	.60
6148	Peaking	700	None	.60
6156	Peaking	800	None	.60
6157	Peaking	950	None	.60

R.F. Transformer for HV Power Supply



These R.F. power supply transformers make an inexpensive source of high voltage. Two types are available, the 4525 for voltages to 5000 DC, and the 4526 for voltages to 10,000 DC (or 30,000 DC) in a voltage rectifier tripler circuit). Typical circuit diagrams are supplied with each coil.

Cat. No.	Item	List Price
4525	H.V. R.F. Trans. (to 5 KV)	$8.25
	Dimensions: 1¼" dia. x 3¾" high.	(Illus.)
4526	H.V. R.F. Trans. (to 30 KV)	$13.75
	Dimensions: 2¼" dia. x 6" high.	

Horizontal Oscillator & Sync. Control Coils

Dimensions: $1\frac{7}{16}$"x$1\frac{7}{16}$"x2½" high.
6212 Unshielded, Mounting hole $\frac{5}{16}$"
6211 and 6324 Unshielded, Mounting hole $\frac{7}{16}$"—6183 may be reversed in shield for top or bottom mounting. 6183-A coils reversed on form to tune Horiz. Osc. through chassis.

Cat. No.	Item	List Price
6194	Osc. & A.F.C. Discrim. Trans.	$2.75
6182	Osc. and Sync. Control Coil	2.25
6183	Osc. and Sync. Stabilizer Coil	2.75
6210	Sync. Stabilizer Coil 16-42 mh	2.25
6211	Sync. Stabilizer tapped 16-42 mh	2.25
6212	Horiz. Osc. tapped 12-35 mh	2.25
6324	Horiz. Osc. tapped 60-130 mh	2.25
6183-A	Horiz. Osc. coil position reversed	2.75

Linearity & Width Controls

Dimensions: ¾" x 2½" Max.

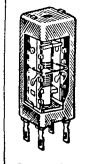
Cat. No.	Inductance Range	List Price
6313	.50- 5.0 Mh	$1.50
6314	2.0 -18. Mh	1.75
6315	4.0 -30 Mh	1.80
6316	4.0 -30 Mh with A.G.C.	2.25
6317	3.2 - 9.0 Mh with A.G.C.	2.25
6318	.20- 3.0 Mh	1.50
6319	15 -60 Mh	2.25
6320	.20- 3.0 Mh tapped	1.50
6321	1.0 - 5.0 Mh tapped	1.50
6322	1.5 -10 Mh	1.75
6323	.50- 5.0 Mh tapped	1.50
6324	60.-130 Mh tapped	2.25
6195	.185-1 Mh	1.25
6196	.054- .245 Mh	1.10
6196-A	.054- .50 Mh tapped	1.25
6197	.55 -2.3 Mh tapped	1.25
6198	.170- .61 Mh	1.10
6199-A	1.3 -4.1 Mh tapped	1.30
6199-B	.50 -1.7 Mh	1.25

Antenna Matching Coil (Balun)

For use in matching a 4:1 impedance ratio, such as 75 to 300 ohms. Two coils required in each network. Frequency range of impedance match 50 Mc to 220 Mc without introducing an appreciable standing wave ratio. Can be used to replace RCA #73591, Philco #32-4432-1, -2, or -3, #76-7071, and Motorola #S-13.

Cat. No.	Item	List Price
6202	Antenna Matching Coil	$2.35

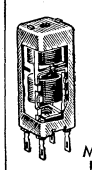
Miniature 44 MC Picture Trans.



Converter and 1st pix I.F. Grid transformer have 75 ohm link winding.
Dimensions: ¾" Square x 2" high.
Manufactured under patents of and by Automatic Manufacturing Corp.

Cat. No.	Description	Trap	List Pr.
6230	Converter I.F.		$2.50
6231	44 MC First I.F.		2.50
6232	42.5 MC Second I.F.	41.25 MC	2.10
6233	45.5 MC Third I.F.	47.25 MC	2.50
6234	44 MC Fourth I.F.		1.85

4.5 MC Miniature Intercarrier Sound I.F. Transformers



Clip Mounting
Dimensions: ¾" square by 2" high.
Shell Core Permeability tuned
Manufactured under patents of and by Automatic Manufacturing Corp.

Cat. No.	Item	List Price
6203	4.5 MC Input or Interstage	$2.85
6204	4.5 MC Discriminator	3.40
6205	4.5 MC Ratio Detector	3.40

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

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Miller

Radio Frequency Coils

Miniature Adjustable R.F. Coils

These high Q adjustable iron core coils are for general replacement use.

Dimensions:
½" dia. x 1½" long (Nos. 70-A and 70-RF).
½" dia. x 1⅛" long (Nos. 69-OSC and 70-OSC).

Cat. No.	Use	Freq. Range	List Price
70-A	Antenna Stage	540-1600 KC	$1.50
70-RF	R.F. Stage	540-1600 KC	1.50
70-OSC	Oscillator Stage	540-1600 KC	1.50
Has pri. and tapped sec. (I.F. 100-550 KC)			
69-OSC	Oscillator Stage	540-1600 KC	1.50
Capacity coupled type (100-550 KC)			

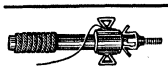
Universal Adjustable Oscillator Coil

These adjustable iron core oscillator coils are for general replacement use.

Dimensions: ⅝" x 1½" high.

Cat. No.	Use	Freq. Range	List Pr.
71-OSC	Oscillator Stage (I.F. 100-550 KC)	R.F. 500-1800 KC	$2.00

High-Q Ferrite Antenna Coil



Supplied with mounting bracket

Dimensions: ⅜" diameter x 2¼" long.

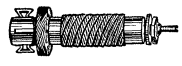
Cat. No.	Use	Freq. Range	List Pr.
6300	Antenna Stage	540-1700 KC	$1.25

Adjustable FM R.F. Coils

Dimensions: ½" O.D. x 1⅝" long.

Cat No.	Item	List Price
1474	88-108 MC Antenna Coil	$1.50
1475	88-108 MC R.F. Coil	1.50
1476	88-108 MC Osc. Coil (10.7 MC I.F.)	1.50

Unshielded High-Q R.F. Coils



A complete line of Unshielded Permeability tuned coils for replacement use or as the front end components in new receiver design. These #5495 series coils can be shielded in our #S-32 shields (1⅛" sq.) with very little loss in Q. Mounting is by means of a single ¼" hole.
Dimensions (form): ⅜" x 2".
Ranges shown are for use with a 365 mmfd. variable tuning condenser.

Long Wave Coils (140-420 KC)

Cat. No.	Use	List Price
X-5495-A	Antenna Stage	$2.00
X-5495-RF	RF Stage	2.00
X-5495-C	Standard Osc. 455 KC	2.00
X-5496-C	Tapped Osc. 455 KC	2.00

Broadcast Band Coils (540-1700 KC)

A-5495-A	Antenna Stage	$2.00
A-5495-RF	RF Stage	2.00
A-5495-C	Standard Osc. 455 KC	2.00
A-5496-C	Tapped Osc. 455 KC	2.00

Medium Wave Coils (1.7-5.5 MC)

B-5495-A	Antenna Stage	$2.00
B-5495-RF	RF Stage	2.00
B-5495-C	Standard Osc. 455 KC	2.00
B-5496-C	Tapped Osc. 455 KC	2.00

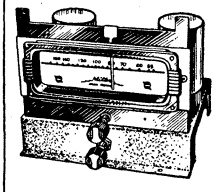
Short Wave Broadcast Coils (5-18 MC)

C-5495-A	Antenna Stage	$2.00
C-5495-RF	RF Stage	2.00
C-5495-C	Standard Osc. 455 KC	2.00
C-5496-C	Tapped Osc. 455 KC	2.00

High Frequency Coils (12-36 MC)

D-5495-A	Antenna Stage	$2.00
D-5495-RF	RF Stage	2.00
D-5495-C	Standard Osc. 455 KC	2.00
D-5496-C	Tapped Osc. 455 KC	2.00

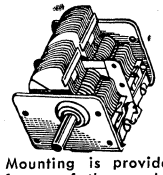
Germanium Crystal Diode Band-Pass TRF Tuner Kit



High fidelity! Uses germanium diode detector! No tubes! No power supply! No hum! A simple 2-tuned circuit negative mutual-coupled band-pass tuner. Easy to assemble and wire. Full 22 kc. pass-band assures all brilliance of treble tones. Yet selective enough to separate local stations. With good antenna, AM stations in 20-25 mile range give output .05V to .5V. Use with your amplifier and speaker system for extra high quality reception. The Miller #585 TRF Tuner Kit contains coupling and TRF coils, 2-gang condenser, slide rule dial, chassis and hardware. (Resistors, condensers, germanium crystal and volume control not included.)

#585 TRF Tuner Kit — List $19.50

Midget Variable Condensers



Split outer plates on the rotors permit accurate alignment. High frequency trimmers are provided on the short side of the condenser. Mounting is provided by tapped holes in the frame of the condenser. Counter-clock rotation for capacity increase. Shaft dia. is ¼"x1" long. Capacity range—10 to 365 mmf.

Cat. No.	Sections	Dimensions	List Price
2111	1	1⅛" x 1 $\frac{3}{16}$" x 1⅝"	$2.50
2112	2	2 $\frac{3}{16}$" x 1 $\frac{13}{16}$" x 1⅝"	3.50
2113	3	3 $\frac{3}{16}$" x 1 $\frac{13}{16}$" x 1⅝"	5.00

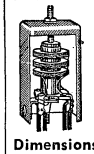
Adjustable Padder Condensers

Used as adjustable oscillator padding condenser in super-het receivers to insure proper three-point tracking. They also find application as the horizontal drive control in television receivers. Single hole mounting by means of a ¼" threaded stud.

Dimensions: ⅞" x 1" x ⅜" thick.

Cat. No.	Capacity Range	List Price
160-A	360-1000 mmfd.	.90
160-B	50-400 mmfd.	.75
160-C	200-600 mmfd.	.85
160-D	10-160 mmfd.	.65
160-E	25-280 mmfd.	.70

Midget R. F. Coils



(Adjustable Inductance)

Particularly recommended for aircraft, marine and mobile equipment and general custom receiver construction. Coils are designed for use with standard 365 mmfd. tuning condenser.

Dimensions: 1⅛" square x 2" high.

Broadcast Band 540-1700 KC

Cat. No.	Use	I.F. Freq.	List Pr.
A-320-A	Antenna		$1.95
A-320-RF	Interstage		1.95
A-320-M	2-coil Osc.	132 KC	1.95
A 320-C	2-coil Osc.	455 KC	1.95
A-321-M	Tapped Osc.	132 KC	1.95
A-321-C	Tapped Osc.	455 KC	1.95

Marine & Aircraft Band 2100-6300 KC

B-320-A	Antenna		$1.95
B-320-RF	Interstage		1.95
B-320-M	2-coil Osc.	132 KC	1.95
B-320-C	2-coil Osc.	455 KC	1.95
B-321-M	Tapped Osc.	132 KC	1.95
B-321-C	Tapped Osc.	455 KC	1.95

Short Wave Band 6.0-18 MC

C-320-A	Antenna		$1.95
C-320-RF	Interstage		1.95
C-320-C	2-coil Osc.	455 KC	1.95
C-321-C	Tapped Osc.	455 KC	1.95

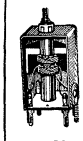
Transistor Oscillator Coil

For use with a transistor to supply the local oscillator energy to the mixer stage. Used with a variable capacitor having a maximum capacity of 365 mmfd. Intermediate frequency 455 kc. Mounting clip fits into a 5/16" diameter hole.

Dimensions: ⅝" x 1⅛" high.

Cat. No.	Description	Padder	List Price
2020	540-1650 kc	.0004 mmfd.	2.00

Miniature Hi-Q R.F. Coils



Cup core construction for high Q. Permeability tuning to adjust inductance. Antenna and oscillator coils have tapped windings, while R.F. coil features impedance coupling.

Dimensions of shield: ¾" sq. x 1⅜" high.

Cat. No.	Use	Freq. Range	List Price
A-123-A	Antenna Stage	535—1700 kc	$2.25
A-123-RF	R.F. Stage	535—1700 kc	2.25
A-123-C	Osc. Stage	455 kc.—.0004 Pad	2.00

Universal Replacement Coils

(Permeability Tuned)

This series of variable inductance iron core coils are well suited for general replacement. Adjusted to cover the standard broadcast band with a tuning condenser having a maximum capacity of between 250 and 450 mmfd. The oscillator coils may be used with any I.F. amplifier operating in the 100 to 550 KC range.

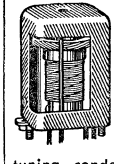
Unshielded Dimensions: ⅞" diameter x 2" hi "L" mtg. bracket.

Cat. No.	Use	Freq. Range	List Pr.
72-A	Antenna Stage	500-1800 KC	$2.20
72-RF	R.F. Stage	500-1800 KC	2.20
72-OSC	Oscillator Stage (see text above)		2.20

Shielded Dimensions: 1⅜" square x 2½" hi

Cat. No.	Use	Freq. Range	List Pr.
73-A	Antenna Stage	500-1800 KC	$2.75
73-RF	R.F. Stage	500-1800 KC	2.75
73-OSC	Oscillator Stage (see text above)		2.75

Standard Bank Wound Coils



High gain general purpose coils featuring high impedance coupled antenna and R.F. units with progressive wound litz wire secondaries (except oscillator coils). For use with standard 365 mmfd tuning condenser. All windings are thoroughly impregnated with tropicalized R.F. lacquer.

Dimensions: 1⅜" square x 2½" high.

Cat. No.	Use	Freq. Range	List Pr.
44-A	Antenna Stage	540-1700 KC	$1.35
44-RF	R.F. Stage	540-1700 KC	1.35
44-BP	Band-Pass Stage	540-1700 KC	1.35

Cat. No.	I.F. Freq.	Series Pad	List Price
44-H	262 KC	.0006 "	1.35
44-C	455 KC	.0004 "	1.35

Tapped osc. coils (for 6SA7 and similar tubes)

Cat. No.	I.F. Freq.	Series Pad	List Price
41-H	262 KC	.0006 "	1.35
41-C	455 KC	.0004 "	1.35

Unshielded

Dimensions: ⅝" diameter (form) x 2⅛" high.

Cat. No.	Use	Freq. Range	List Pr.
43-A	Antenna Stage	540-1700 KC	$1.10
43-RF	R.F. Stage	540-1700 KC	1.10
43-BP	Band-Pass Stage	540-1700 KC	1.10

Cat. No.	I.F. Freq.	Series Pad	List Price
43-H	262 KC	.0006 "	1.10
43-C	455 KC	.0004 "	1.10

Tapped osc. coils (for 6SA7 and similar tubes)

Cat. No.	I.F. Freq.	Series Pad	List Price
45-H	262 KC	.0006 "	1.10
45-C	455 KC	.0004 "	1.10

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Miller

Filters, Chokes, and Traps

TV Antenna Coupling Transformers

Matches antenna impedance to line or line to T.V. receiver. Signal input may be improved as much as four times. Housed in impregnated, weather-tight aluminum shield.

Dimensions: 3/4"x3/4"x1 3/8" high.

Cat. No.	Impedance Ratio	List Price
6161	52/300 or 300/52 ohms	$2.75
6162	72/300 or 300/72 ohms	2.75
6201	450/300 or 300/450 ohms	2.75

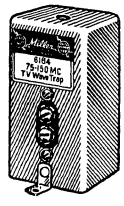
TV High-Pass Filter

Improves picture clarity by rejecting interference from short wave stations, amateur transmitters, X-ray and diathermy equipment, electric appliances, etc. Attenuates all signals from zero to 40 MC. Passes all television channels with minimum loss. Installed easily in antenna lead-in at receiver. No tuning required.

Dimensions: 1 7/16" x 1 7/8" x 3 1/2" high.

Cat. No.	Use	List Pr.
6167	TV High-Pass Filter— 72-ohm line	$5.50
6168	TV High-Pass Filter—300-ohm line	5.50

TV and FM Wave Traps



These new high-Q series- resonant traps may completely eliminate interference and undesirable images in television and FM receivers. Assembled in aluminum shields designed for connection direct to antenna twin-lead. Convenient screwdriver tuning adjustment at top. Four traps will cover frequency ranges from 20 to 250 megacycles.

Dimensions: 1 7/16"x1 7/8"x3 1/2" high.

Cat. No.	Freq. Range	List Price
6163	150-250 mc	$4.40
6164	75-150 mc	4.40
6165	40- 80 mc	4.40
6166	20- 40 mc	4.40

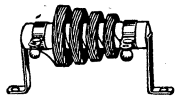
TV Appliance Filter

These filters are designed to eliminate radio interference caused by horizontal oscillators in T.V. receivers and small electrical appliances such as sewing machines, vacuum cleaners, food mixers, and other similar devices requiring less than 550 watts. Inductive capacitive circuit assures maximum attenuation of interference.

Dimensions: 2 1/4" square x 4" long.

Cat. No.	Volts	Watts	List Price
7815	115	550	$7.70

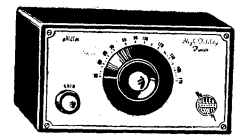
Transmitter Chokes



For use in transmitter circuits of either medium or high power installations. Low distributed capacity.

Dimensions: Form 1/2" x 2 1/2" long.

Cat. No.	MH	Ohms	MA	List Price
4550	2.0	6.5	400	$1.75
4551	4.0	10.0	400	2.00
Dimensions: (form) 1/2" diameter x 3 1/2" long.				
4534	1.0	2.5	1000	2.20
4535	1.5	3.6	1000	2.50
4533	2.5	4.5	750	2.75
4536	4.0	5.5	750	3.05
2881	7.0	7.2	750	4.95



Do It Yourself

No. 565 High Fidelity Germanium Diode AM Tuner Kit

The No. 565 Tuner Kit is the result of masterful engineering and careful planning. Previously sold only as a factory assembled unit the tuner has received overwhelming acceptance by the most critical audophiles, and is far superior to all other such tuner kits. Coils used in our tuner have a "Q" in the order of 600.

Assembly and wiring of this tuner is not difficult. Step by step instructions with exploded views, pictures and circuit diagrams are supplied with each kit.

Cat. No.		List Price
565	Kit	$24.50

No. 595 High Fidelity Germanium Diode Broadcast Band Tuner

The most amazing High Fidelity Broadcast tuner ever offered to music lovers anywhere. The tonal quality, selectivity, and sensitivity are the outstanding features of this marvelous tuner.

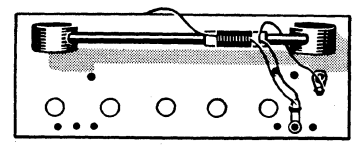
A beautiful ebony black or ivory bakelite cabinet houses the tuner with a Richlow brass etched panel for the escutcheon.

Because of the broad band-pass of the No. 595 tuner and the absence of tube noise and AC hum, it is especially recommended as a companion to an FM tuner for High Fidelity Binaural reception.

The tuner is complete in every detail, ready to be connected to an amplifier. The tuner may be easily unmounted from its cabinet for panel installations.

Cat. No.		List Price
595	TUNER	$32.50

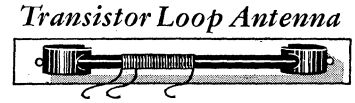
Ferrite Rod Loop Antenna



The electrical characteristics of this newly developed type Ferrite Rod Loop Antenna make possible a general replacement loop that offers outstanding performance. Reception of distant stations will be improved to the extent that no antenna or ground will be required, and on local stations much better reception will be insured. The Loop Rod Antenna has an adjustable inductance which makes it possible to peak the antenna stage by merely sliding the coil along the ferrite rod; this also enables it to be used with a variety of tuning condensers.

Cat. No.	Dimensions	List Price
705-A	3 1/4" x 9 1/2"	$2.75

Transistor Loop Antenna

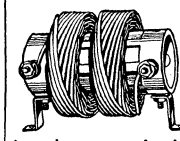


A fixed inductance loop with a large pick up field to insure adequate signal to the first stage. Inductor is tapped to match an input impedance of 600 ohms. Frequency range 540-1650 kc when used with a variable capacitor having a maximum capacity of 365 mmfd.

Dimensions: 1 1/4" x 9 1/2"

Cat. No.	Description	List Price
2000	Loop Antenna	2.75

Heavy Duty Line Filter Chokes



For installation in noise producing equipment such as flasher signs, farm lighting plants, motor generators, etc. Also used with radio transmitters to prevent R.F. energy feeding back into the power circuits. Typical circuit diagrams are supplied with each choke. Chokes are duo-lateral wound on ceramic forms.

Single Line Filter Chokes

For filtering individual and branch circuits. **Can be wound on order to carry 150 amperes.**

Dimensions: 2 1/2" x 4"

Cat. No.	Amps.	Ohms	Mh	List Price
7826	5	.28	.57	$4.85
7827	10	.15	.37	5.45
7828	20	.08	.20	6.00
7829	30	.05	.13	6.60

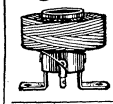
Dual Line Filter Chokes

For filtering both sides of single phase circuits.

Dimensions: 4 1/2" x 4"

Cat. No.	Amps.	Ohms	Mh	List Price
D-7826	5	.28	.57	$7.25
D-7827	10	.15	.37	8.50
D-7828	20	.08	.20	9.70
D-7829	30	.05	.13	10.80

Light Duty Line Filter Chokes



For use in the same applications as our Heavy Duty Line Filter Chokes where the load is of a lighter nature. Chokes are wound on bakelite forms.

Single Line Filter Chokes

For filtering individual and branch circuits.

Dimensions: 1 7/8" x 1 3/4"

Cat. No.	Amps.	Ohms	Mh	List Price
7825	2	.7	.600	$2.00
7825-3	3	.25	.250	2.00
7825-5	5	.1	.100	2.00
7825-8	8	.05	.050	2.00

Dual Line Filter Chokes

For filtering both sides of single phase circuits.

Dimensions: 3 1/4" x 2 1/8"

Cat. No.	Amps.	Ohms	Mh	List Price
D-7825	2	.7	.600	$4.00
D-7825-3	3	.25	.250	4.00
D-7825-5	5	.1	.100	4.00
D-7825-8	8	.05	.050	4.00

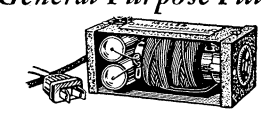
Filament Choke

Enclosed solenoid wound chokes for use in the filament and vibrator circuits of battery operated receiver, transmitters, etc.

Dimensions: 3/4" dia.x1 7/8" long, plus 3" leads.

Cat. No.	uH	Ohms	Amps	List Price
5221	4	.02	6	$ .75

General Purpose Filter



This filter is recommended for use with marine and D.C. appliances and radios. It is also for use with extremely noisy A.C. appliances. A good, permanent connection to ground should be used with this filter.

Dimensions: 2 1/4" square x 5" long.

Cat. No.	Volts	Watts	List Price
7813	115	200	$8.25

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Miller

Intermediate Frequency Transformers

Permeability Tuned Transformers

Miller permeability tuned intermediate frequency transformers are recommended for all applications where a high degree of frequency stability and operation under humid conditions will be encountered.

Dimensions: 1⅜" square x 3¼" high. #6/32 spade bolt mounting.

Cat. No.	Freq.	KC Range	Use	List Price
912-H1	262	250-275	Input	$4.00
912-H2	262	250-275	Interstage	4.00
912-H3	262	250-275	Full-Wave	4.00
912-H4	262	250-275	Half-Wave	4.00
912-C1	455	450-475	Input	4.00
912-C2	455	450-475	Interstage	4.00
912-C3	455	450-475	Full-Wave	4.00
912-C4	455	450-475	Half-Wave	4.00
912-W1	1500	1400-1600	Input	4.00
912-W2	1500	1400-1600	Interstage	4.00
912-W3	1500	1400-1600	Full-Wave	4.00
912-W4	1500	1400-1600	Half-Wave	4.00

Perm. Tuned I.F. and Disc. Trans.

For use in communications receivers designed for A.M. or Narrow Band F.M. These transformers feature high gain along with a high degree of frequency stability.

Dimensions: 1⅜" sq. x 2½" high. #6-32 spade bolt mounting.

Cat No.	Freq.	Kc Range	Use	List Price
913-C1	455	450-475	Input or Interstage	$2.75
913-C4	455	450-475	Output	2.75
913-CD	455	450-475	Discriminator	3.30
913-W1	1500	1400-1600	Input or Interstage	2.75
913-W4	1500	1400-1600	Output	2.75
913-WD	1500	1400-1600	Discriminator	3.30

Replacement I.F. Transformers

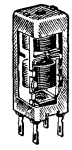
These transformers are an essential part of the stock of every serviceman and dealer. In many cases they will give better performance than the original transformer. These transformers may be used as replacements in most makes of receivers using transformers of the same physical size. **Dimensions:** 1⅜" square x 2⅝" high. #6/32 spade bolt mounting.

Cat. No.	Freq.	KC Range	Use	List Price
512-H1	262	250-275	Input	$2.40
512-H2	262	250-275	Interstage	2.40
512-H3	262	250-275	Full-Wave	2.40
512-H4	262	250-275	Half-Wave	2.40
512-C1	455	450-475	Input	2.40
512-C2	455	450-475	Interstage	2.40
512-C3	455	450-475	Full-Wave	2.40
512-C4	455	450-475	Half-Wave	2.40
512-W1	1500	1400-1600	Input	2.40
512-W2	1500	1400-1600	Interstage	2.40
512-W3	1500	1400-1600	Full-Wave	2.40
512-W4	1500	1400-1600	Half-Wave	2.40

Iron Core Transformers

Dimensions: 1⅜" square x 3¼" high. #6/32 spade bolt mounting.

Cat. No.	Freq.	KC Range	Use	List Price
612-K1	175	165-185	Input	3.50
612-K2	175	165-185	Interstage	3.50
612-K3	175	165-185	Full-Wave	3.50
612-K4	175	165-185	Half-Wave	3.50
612-H1	262	250-275	Input	2.90
612-H2	262	250-275	Interstage	2.90
612-H3	262	250-275	Full-Wave	2.90
612-H4	262	250-275	Half-Wave	2.90
612-C1	455	450-475	Input	2.90
612-C2	455	450-475	Interstage	2.90
612-C3	455	450-475	Full-Wave	2.90
612-C4	455	450-475	Half-Wave	2.90



Miniature I.F. Transformers

Supplied with a snap spring mounting clip which may be installed through suitable holes in the chassis. Also furnished is an adapter plate for use over a standard tube socket hole. **Dimensions:** only ¾" square x 2"high. Manufactured under patents of and by Automatic Manufacturing Corp.

Cat. No.	Item	List Price
12-H1	262 KC Input I.F. Trans	$2.60
12-H2	262 KC Output I.F. Trans.	2.60
12-H6	262 KC Output I.F. Trans. with diode filter capacitors	2.75
12-C1	455 KC Input I.F. Trans.	2.30
12-C2	455 KC Output I.F. Trans.	2.30
12-C6	455 KC Output I.F. Trans. with diode filter capacitors	2.45
12-C7	455 KC Input I.F. Trans. For Battery Radios	2.30
12-C8	455 KC Output I.F. Trans. For Battery Radios	2.30
12-C9	455 KC Input I.F. Trans. For AC-DC Radios	2.30
12-C10	455 KC Output I.F. Trans. For AC-DC Radios	2.30
13-W1	1500 kc Input or Interstage Trans.	2.50
13-W2	1500 kc Output Trans.	2.50
1463	10.7 MC Input or Interstage	2.85
1464	10.7 MC Discriminator	3.40
1465	10.7 MC Ratio Detector	3.40

Midget I.F. Transformers

Dimensions:
1⅛" square x 2" high.
#6/32 spade bolt mounting.

Air Core Transformers

Cat. No.	Freq.	KC Range	Use	List Price
112-H1	262	250-275	Input	$2.40
112-H2	262	250-275	Interstage	2.40
112-H3	262	250-275	Full-Wave	2.40
112-H4	262	250-275	Half-Wave	2.40
112-H6	262	250-275	Output Stage & Filter	2.65
112-C1	455	450-475	Input	2.40
112-C2	455	450-475	Interstage	2.40
112-C3	455	450-475	Full-Wave	2.40
112-C4	455	450-475	Half-Wave	2.40
112-W1	1500	1400-1600	Input	2.40
112-W2	1500	1400-1600	Interstage	2.40
112-W3	1500	1400-1600	Full-Wave	2.40
112-W4	1500	1400-1600	Half-Wave	2.40

Iron Core Transformers

Cat. No.	Freq.	KC Range	Use	List Price
012-K1	175	165-185	Input	$2.75
012-K2	175	165-185	Interstage	2.75
012-K3	175	165-185	Full-Wave	2.75
012-K4	175	165-185	Half-Wave	2.75
012-H1	262	250-275	Input	2.65
012-H2	262	250-275	Interstage	2.65
012-H3	262	250-275	Full-Wave	2.65
012-H4	262	250-275	Half-Wave	2.65
012-C1	455	450-475	Input	2.65
012-C2	455	450-475	Interstage	2.65
012-C3	455	450-475	Full-Wave	2.65
012-C4	455	450-475	Half-Wave	2.65

FM I.F. Trans. (10.7 MC)

These permeability tuned 10.7 MC intermediate frequency transformers are assembled in aluminum shields 1⅛" square x 2⅛" high. Mounting is by two #6-32 spade bolts on 1-1/16" centers. Three interstage transformers Cat. No. 1451 are usually required when followed by a discriminator transformer Cat. No. 1452, while two may be sufficient in conjunction with a ratio detector transformer

Cat. No.	Item	List Price
1451	10-7 MC Interstage Trans.	$2.40
1452	10.7 MC Discriminator Trans.	3.30
1453	10.7 MC Ratio Detector Trans.	3.30

Miller Mite Transistor I.F. Transformers

We believe these transistor I.F. transformers to be the smallest available. Designed for the Raytheon types CK760 and CK761 transistors.
(Manufactured under patents of and by Automatic Manufacturing Corp.)
Dimensions: ⅜" sq. x ⅝" high.

Cat. No.	Freq.	Impedance	List Price
9-C1	Input	455 kc Pri. 25 K Sec. 600	$3.50
9-C2	Output	455 kc Pri. 25 K Sec. 1000	3.50

Transistor I.F. Transformers

These transformers have been designed for use with the Raytheon Transistor type CK760. These transformers are equivalent to the Automatic EXO3015 specified on the data sheet supplied by Raytheon describing their transistors type CK-760 and CK761.
(Manufactured under patents of and by Automatic Manufacturing Corp.)
Dimensions: ½" sq. x ¾" high.

Cat. No.	Item	Impedance	List Price
2041	455 kc	Pri. 25 K Sec. 600	$2.85

Sub-Miniature I.F. Transformers

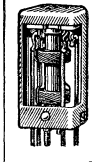
Through the use of a Ferrite shell core material these Sub-Miniature I.F. Transformers offer the gain and bandwidth characteristics previously obtained in only larger I.F. assemblies. **(For Battery or AC-DC Radios.)**
Manufactured under patents of and by Automatic Manufacturing Corp.
Dimensions: ½" sq. x 1½" high.

Cat. No.	Item	List Price
10-C1	455 KC Input I.F. Trans.	$2.60
10-C2	455 KC Output I.F. Trans.	2.60

Miniature I.F. Transformers for Printed Circuits

These transformers are electrically the same as our regular 12-C1 and 12-C2 K-Tran line. They differ physically in the type of mounting and terminal lugs.
Manufactured under patents of and by Automatic Manufacturing Corp.

Cat. No.	Item	List Price
13-PC1	455 kc Input I.F. Transformer	$2.50
13-PC2	455 kc Output I.F. Transformer	2.50



Universal I.F. Transformers

For general replacement purposes in auto receivers and many types of household and portable receivers.
Dimensions: 1¼" square x 2½" high.

Cat. No.	Freq.	KC Range	Use	List Price
312-H1	262	250-275	Input	$1.75
312-H2	262	250-275	Interstage	1.75
312-H4	262	250-275	Output	1.75
312-H6	262	250-275	Output & Filter	2.65
312-C1	455	440-470	Input	1.75
312-C2	455	440-470	Interstage	1.75
312-C4	455	440-470	Output	1.75
312-C6	455	440-470	Output & Filter	2.65

Type No. 412 Iron Core Transformers

Dimensions: 1¼" square x 2½" high.

Cat. No.	Freq.	KC Range	Use	List Price
412-H1	262	250-275	Input	$2.40
412-H2	262	250-275	Interstage	2.40
412-H4	262	250-275	Output	2.40
412-C1	455	440-470	Input	2.40
412-C2	455	440-470	Interstage	2.40
412-C4	455	440-470	Output	2.40

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Miller

Radio Frequency Chokes

R.F. Chokes with Axial Leads

Dimensions: Phenolic form $\frac{3}{16}$" dia. x $\frac{3}{4}$" long. Iron core form $\frac{7}{32}$" dia. x $\frac{7}{8}$" long.

Leads are 1½" long. Inductance tolerance: ±5%.

Phenolic Form
Single Layer Windings

Cat. No.	uH.	Ohms	MA	List Price
4602	1	0.05	300	$ .50
4604	1.5	0.08	300	.50
4606	2.4	0.16	300	.55
4608	3.9	0.5	300	.55
4610	6.2	0.75	300	.60
4612	10	1.5	200	.60

Iron Core Form
Single Layer Windings

Cat. No.	uH.	Ohms	MA	List Price
4622	10	0.06	300	$ .65
4624	15	0.12	300	.65
4626	24	0.28	300	.70
4628	39	0.65	300	.70
4630	62	1.0	300	.75
4632	100	2.0	200	.75

Phenolic Form
3-Section Windings

Cat. No.	Mh.	Ohms	MA	List Price
4642	0.1	4.1	125	$ .75
4644	0.15	5	125	.75
4646	0.24	6.6	125	.75
4648	0.39	8.7	125	.80
4650	0.62	11	125	.80
4651	0.75	13	125	.80
4652	1.0	15	125	.80

Iron Core Form
3-Section Windings

Cat. No.	Mh.	Ohms	MA	List Price
4662	1	7	125	$ .85
4664	1.5	9	125	.90
4666	2.4	12	125	1.00
4668	3.9	17	125	1.10
4670	6.2	33	75	1.25
4672	10	47	50	1.50

Ferrite Core R.F. Chokes

A new series of R.F. Chokes taking advantage of the high permeability of ferrite cores. These chokes combine high inductance and low D.C. resistance with a small physical size.

Dimensions of core: ¼" diameter x ⅞" long. 1½" long axial leads.

Cat. No.	mh.	Ohms	ma	List Price
6302	2.5	5.5	200	$1.00
6304	5	12	200	1.25
6306	10	26	125	1.50
6308	25	70	75	1.75
6310	50	110	75	2.00

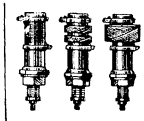
Multiple Pi Chokes

These Multiple Pi duo-lateral chokes have a low distributed capacity of 1.2-1.3 mmf. The current carrying capacity is comparatively high for this type of choke.

Cat. No.	Mh.	Ohms	MA	List Price
4531-0	.25	8	200	$.90
4531	.5	12	200	.90
4531-1	1	17	200	.90
4532	1.5	21	200	.90
4537	2.5	28	200	.90
4538	5	42	125	1.10
4539	7.5	82	125	1.40
4540	10	95	125	1.65
4541	25	160	125	1.95

#4537 Bulk packed per 100 — List Price $75.00

R.F. Chokes wound to closer tolerances if required in lots of 100 pieces or more at slightly higher prices.



Adjustable Ceramic Forms and R.F. Coils

Permeability tuned coils wound on silicone impregnated ceramic forms. Hardware necessary for assembly is supplied.

Standard Adjustable Ceramic Form and R.F. Coils

Dimensions (form): ⅜" diameter x 1$\frac{1}{16}$" long.

Cat. No.	Microhenries	List Price
4400	Form only	$1.65
4403	0.9- 1.6	2.20
4404	1.5- 3.2	2.25
4405	3.1- 6.8	2.30
4406	6.7- 15	2.40
4407	14.8- 31	2.50
4408	30 - 69	2.55
4409	68 - 130	2.65
4410	126 - 250	2.65
4411	245 - 475	2.70
4412	450 - 800	2.70
4413	750 -1400	2.75
4414	1300 -2100	2.75

#4400 comes complete with hardware and core*

#4400 Bulk packed per 100 List Price $140.00

Miniature Adjustable Ceramic Form and R.F. Coils

Dimensions (form): ¼" diameter x ⅞" long.

Cat No.	Microhenries	List Price
4500	Form only	$1.50
4501	.4- .8	2.00
4502	1.0- 1.6	2.00
4503	1.6- 2.8	2.10
4504	2.8- 5	2.20
4505	5 - 9	2.30
4506	9 - 16	2.40
4507	16 - 24	2.50
4508	24 - 35	2.50
4509	35 - 60	2.50
4511	60 -120	2.50
4512	110 -200	2.60
4513	190 -330	2.60
4514	320 -500	2.60
4514-1	480 -800	2.75

#4500 comes complete with hardware and core*

#4500 Bulk packed per 100 List Price $115.00

Sub-Miniature Ceramic Form and R.F. Coils

Dimensions (form): $\frac{3}{16}$" diameter x ⅝" long.

Cat No.	Microhenries	List Price
4300	Form only	$1.50
4301	0.17- 0.27	2.00
4302	0.27- 0.41	2.00
4303	0.40- 0.65	2.10
4304	0.64- 0.95	2.20
4305	0.94- 1.55	2.25
4306	1.5 - 2.57	2.30
4307	2.5 - 4.40	2.40
4308	4.3 - 7.15	2.40
4309	7.1 - 12.5	2.50
4310	12.4 - 20.3	2.50
4311	20.1 - 32.8	2.50
4312	32.5 - 51.5	2.50
4313	51. -102.	2.60
4314	101. -180.	2.60
4315	178. -300.	2.60

#4300 comes complete with hardware and core*

#4300 Bulk packed per 100 List price $115.00

Quantity orders can be wound to your specific requirements with extended inductances and Q values other than those shown. Your inquiries invited.

*When ordering forms alone, the type of core should be specified by the addition of a suffix taken from the following.

Suffix	Frequency Range of Core Material
Y	50-1000 kc.
R	1- 30 Mc.
W	30- 300 Mc.

Unshielded Chokes

These single section R.F. Chokes are ideally suited for general purpose applications in receiver and filter circuit. Solder lug terminals and single hole mounting. Inductance tol. ±5%.

Air Core Type

Dimensions: 1⅛" diameter x ⅝".

Cat. No.	MH	Ohms	MA	List Price
610	.25	8	125	$ .60
620	.75	17	125	.65
630	1.50	21	125	.65
640	2.50	28	125	.75
650	5.0	41	125	.75
660	7.5	53	125	.80
670	10.0	64	125	.85
680	12.5	74	125	.85
690	15.0	83	125	.90
691	20.0	97	125	1.00
692	30.0	120	100	1.05
693	60.0	175	100	1.20
694	80.0	230	100	1.45

Iron Core Type

These chokes are similar in construction to the No. 600 series except that they are wound on powdered iron cores.

Cat. No.	MH	Ohms	MA	List Price
951	.5	6.8	125	$1.00
952	1.0	10.9	125	1.10
953	2.5	19.5	125	1.15
954	5.0	23.0	125	1.30
955	7.5	37.0	125	1.40
956	10.0	45.0	125	1.45
957	25.0	78.0	100	1.75
958	50.0	130.0	100	1.95
959	75.0	200.0	100	2.20
960	100.0	210.0	100	2.50
961	150.0	268.0	100	2.75

Shielded Chokes

Single section wound R.F. Chokes assembled in round aluminum shield with two spade bolts for mounting. Solder lug terminals.

Iron Core Type

Dimensions: 1¼" dia. x 1" high.

Cat. No.	MH	Ohms	MA	List Price
851	.5	8.6	125	$1.40
852	1.0	11.5	125	1.50
853	2.5	22.0	125	1.55
854	5.0	31.0	125	1.70
855	7.5	42.0	125	1.75
856	10.0	47.0	125	1.80
857	25.0	100.0	125	2.15
Dimensions: 1⅝" dia. x 1" high.				
858	50.0	160.0	100	2.30
859	75.0	222.0	100	2.60
860	100.0	348.0	100	2.85
861	150.0	520.0	100	3.15

Ceramic Core R.F. Chokes

Dimensions: (form) ¼" diameter x 1½" long.

All chokes are impregnated with a moisture- and fungus resistant varnish. Inductance tolerance: ±5%.

Single Layer Chokes

The following R.F. chokes are solenoid wound. They have a distributed capacity of 0.7 mmf and may be used in ultra-high-frequency receivers and low-power transmitters.

Cat. No.	uH.	Ohms	MA	List Price
4528-1	1	.03	300	$ .70
4528	2.5	.09	300	.70
4529	5	.25	300	.70
4529-10	10	.95	300	.70

Progressive Wound Chokes

These chokes, with a distributed capacity of 1 mmf., fill the gap between layer and pi-wound coils. The distributed capacity is lower than that obtainable in sectional wound coils.

Cat. No.	uH.	Ohms	MA	List Price
4515	25	1.6	300	$ .80
4517	50	2.1	300	.80
4519	100	3	300	.80

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

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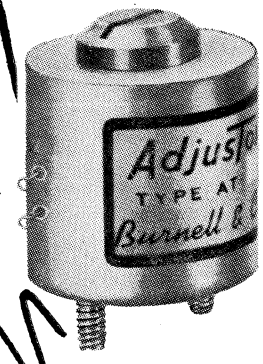
BURNELL *AdjusToroiD*®

VARIABLE TOROIDAL INDUCTORS

Now the advantages of the Rotoroid principle of inductance variation — simplicity, stability, linearity, and high "Q" — can be realized economically in the numerous applications where toroid with a limited variation of inductance is desired. Using similar construction to the Rotoroid, the Adjustoroid allows a total inductance variation of approx. 10%.

TRULY HERMETICALLY SEALED



TYPE AT-4
ACTUAL SIZE

PRICE LIST

WILL MEET MIL-E-15305A SPECIFICATIONS

AT-6
Height: 1" • Diameter: 1-1/16"

IND. MHY	NET PRICE
1	$ 9.00
2.5	9.00
5.0	9.00
10.00	9.00
15	9.25
20	9.50
25	9.75
30	10.00
40	10.50
50	10.75
100	11.00
250	12.50
500	13.50

AT-0
Height: 1" • Diameter: 1-1/16"
SEE TC-0 CURVE

IND. MHY	NET PRICE
1	$ 7.00
10	7.00
20	7.10
30	7.40
50	7.75
100	8.10
250	8.60
500	8.85
750	9.00
1000	9.25
1500	10.35
2000	10.45
3000	12.50

AT-10
Height: 1¼" • Diameter: 1¼"

IND. MHY	NET PRICE
1	$ 8.10
10	8.10
20	8.30
30	8.50
50	8.85
100	9.85
250	10.10
500	10.55
750	10.80

AT-4
Height: 1¼" • Diameter: 1¼"
SEE TC-4 CURVE

IND. MHY	NET PRICE
1	$ 9.10
10	9.10
20	9.30
30	9.60
50	9.85
100	10.65
250	11.10
500	11.55
750	11.80
1000	12.00
1500	12.45
2000	13.25
3000	13.95
4000	15.45
5000	16.95
6000	19.25
7000	21.45
10 HYS	23.70

AT-11
45/64" Square • Height ¾"

IND. MHY	NET PRICE
1	$ 8.00
5	8.00
10	8.00
20	8.25
30	8.55
50	9.00
100	10.00
250	11.00
500	11.75
750	12.00
1000	12.50
1500	13.50
2000	14.00

AT-12
45/64" Square • Height ¾"

IND. MHY	NET PRICE
1	$ 8.00
5	8.00
10	8.00
20	8.25
30	8.50
50	9.00
100	10.00
250	11.00
500	11.75

Special Taps available at percentage of turns or inductance at $.75 additional

Other values are readily available. Write for Adjustoroid Technical Brochure which gives detailed information.

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YONKERS 2, NEW YORK
PACIFIC DIVISION: South Pasadena, Calif.
First in Toroids, Filters and Related Networks

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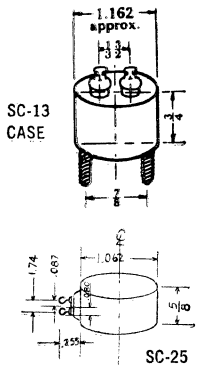
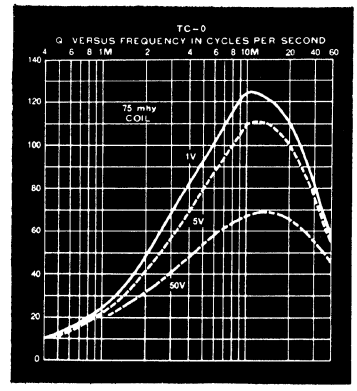
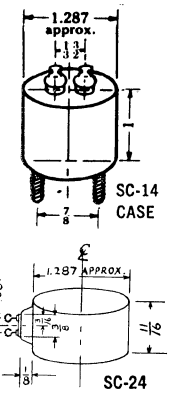
BURNELL TOROIDAL INDUCTORS

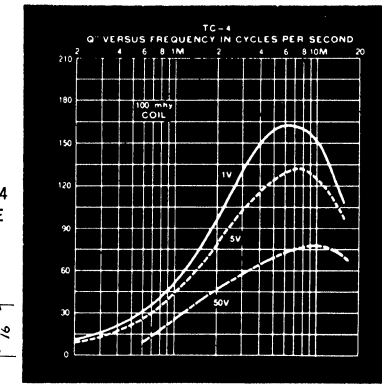
TC-0—Frequency Range 1 KC to 20 KC. Inductance Range .001 to 3 HYS. Nominal coil size $\frac{3}{8}$ x $\frac{15}{16}$.



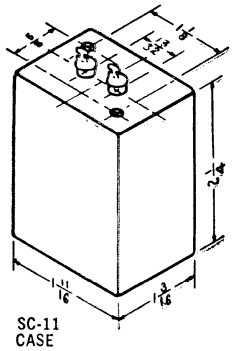


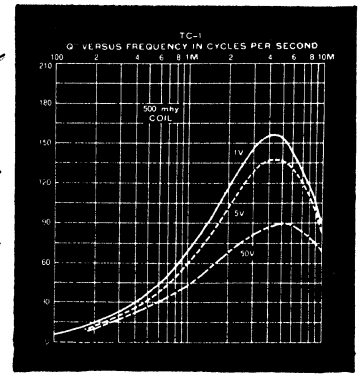
TC-4—Frequency Range same as TC-1. Inductance Range .001 to 10 HYS. Nominal coil size $1\frac{7}{32}$ x $\frac{19}{32}$.



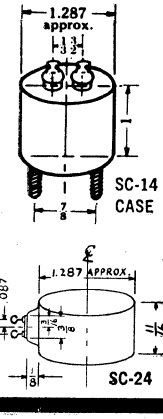


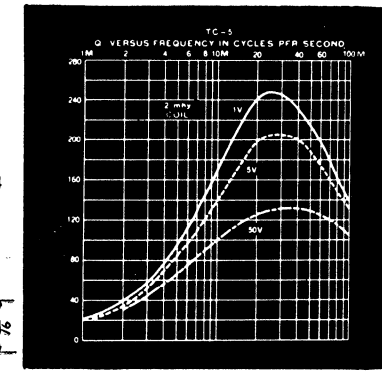
TC-1—Frequency Range 400 CPS to 10 KC. Inductance Range .001 to 15 HYS. Nominal coil size $1\frac{5}{8}$ x $\frac{5}{8}$.





TC-5—Frequency Range 1 KC to 100 KC. Inductance Range .001 to 750 MHY. Nominal coil size $1\frac{7}{32}$ x $\frac{19}{32}$.





PRICE LIST

TC-0 IND. MHY	NET PRICE
1	$ 5.00
10	5.00
20	5.10
30	5.40
50	5.75
100	6.10
250	6.60
500	6.85
750	7.00
1000	7.25
1500	8.35
2000	8.45

TC-1 IND. MHY	NET PRICE
1	$ 6.10
10	6.10
20	6.30
30	6.60
50	6.85
100	7.65
250	8.10
500	8.55
750	8.80
1000	9.00
1500	9.45
2000	10.25
3000	10.95
4000	11.75
5000	12.45
6000	13.25
7000	13.95
10 HYS	15.45
12.5 HYS	16.55
15 HYS	17.55

TC-4 IND. MHY	NET PRICE
1	$ 6.10
10	6.10
20	6.30
30	6.60
50	6.85
100	7.65
250	8.10
500	8.55
750	8.80
1000	9.00
1500	9.45
2000	10.25
3000	10.95
4000	12.45
5000	13.95
6000	16.25
7000	18.45
10 HYS	20.70
15 HYS	—

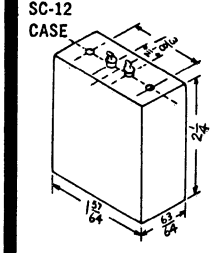
TC-5 IND. MHY	NET PRICE
1	8.10
10	8.10
20	8.45
30	8.75
50	9.10
100	10.25
250	10.95
500	11.75
750	12.45

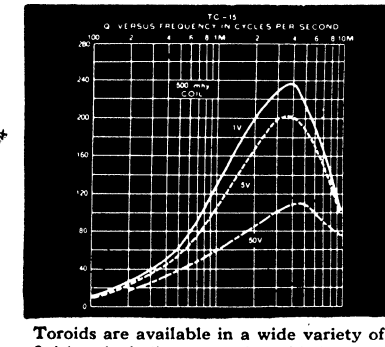
TC-15 IND. MHY	NET PRICE
1	$ 9.45
10	9.45
20	9.45
30	9.45
50	9.45
100	9.45
250	9.95
500	10.40
750	10.85
1000	11.40
1500	11.75
2000	12.45
3000	13.25
4000	13.95
5000	14.75
6000	15.45
7000	16.25
10 HYS	16.95
12.5 HYS	17.75
15 HYS	18.45
17.5 HYS	19.20
20 HYS	19.95
30 HYS	21.45
50 HYS	24.40
75 HYS	28.90
100 HYS	33.80
125 HYS	36.70

add $.50 for each tap.

Other values readily available. All prices for hermetically sealed coils. For uncased coils subtract $1.00 each.

TC-15—Frequency Range 100 to 5000 CPS. Inductance Range .001 to 125 HYS. Nominal coil size $1\frac{7}{8}$ x $\frac{7}{8}$.





Inquiries invited for special toroids and magnetic amplifier coils.

Toroids are available in a wide variety of finishes including several molded types.

Write for catalogue

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YONKERS 2, NEW YORK

PACIFIC DIVISION: South Pasadena, Calif.

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BURNELL FILTERS

All Burnell Filters employ the highest quality toroids and stabilized capacitor components. They have been designed to withstand the rigorous service conditions at communications stations throughout the world... and to comply with the requirements of the MIL-T-27 Government Specifications.

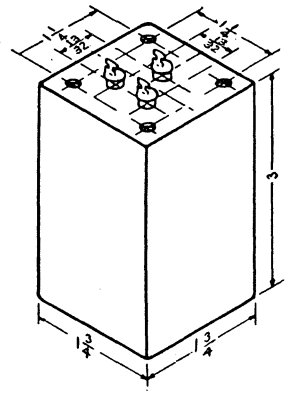
TC-L LOW PASS FILTERS*

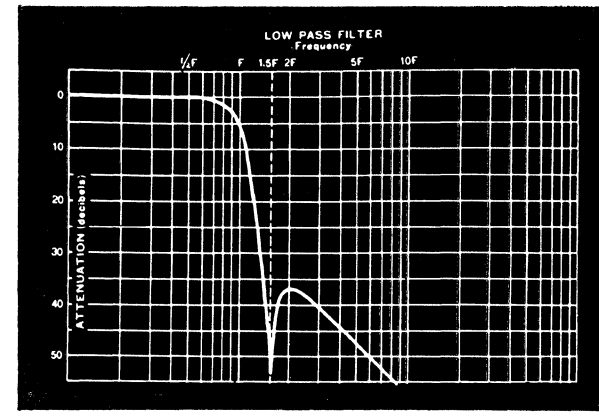
600 ohm impedance up to 350 cycles— $36.00 NET PRICE

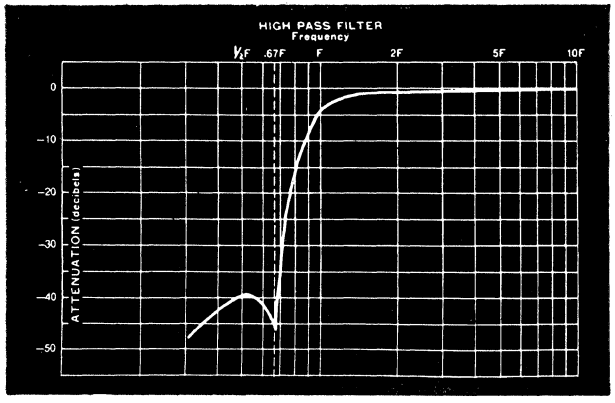
10,000 ohm impedance up to 350 cycles— $34.00 NET PRICE

All filters above 400 cycles, either 600 or 10,000 impedance— $32.00 NET PRICE

Important: Specify impedance when ordering.







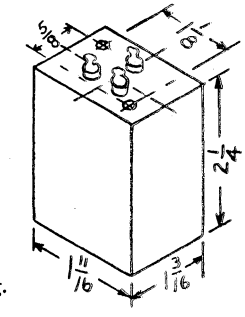
TC-H HIGH PASS FILTERS*

600 ohm impedance up to 350 cycles— $34.00 NET PRICE

10,000 ohm impedance up to 350 cycles— $34.00 NET PRICE

All filters above 400 cycles, either 600 or 10,000 impedance— $32.00 NET PRICE

Important: Specify impedance when ordering.



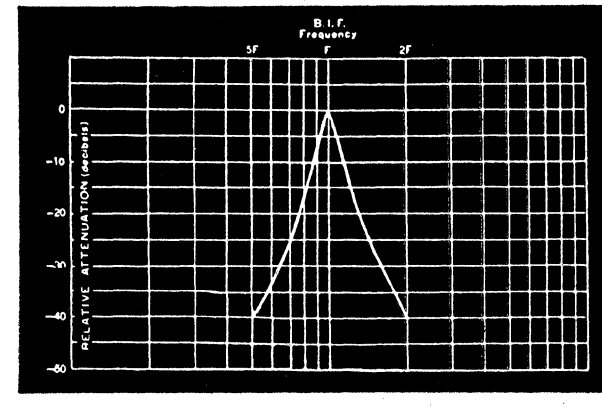
*Available on various cut-off frequencies from 60 to 20,000 cycles.

B.I.F. (Band Pass Interstage Filters)

This series of interstage band pass filters will be of interest to project and design engineers to whom the time required for specially designed filters is prohibitive. A stock supply will be maintained for most commonly used center frequencies** between 60 and 50,000 cycles. The filter is designed to operate between the triode plate and the grid of a tube and provides a voltage gain of approximately 6DB. Filters are hermetically sealed. Small size permits use in compact or even miniaturized equipment. Dimensions are $1\frac{3}{16}$" x $1\frac{11}{16}$" x $2\frac{1}{4}$". When ordering, specify BIF .....Cycles.

B/W = ±3% — Z IN = 10 K ohms
40 db/octave — Z Out = to grid

BIF Net Price $24.00 Each



**Frequencies in cycles available from stock: 60, 100, 120, 200, 300, 400, 500, 750, 1000, 1500, 2000, 2500, 3000, 5000, 7500, 10 KC, 20 KC, 25 KC, 30 KC, 40 KC and 50 KC. Special frequencies not listed are available with minimum delay. Catalog on additional Burnell products available upon request.

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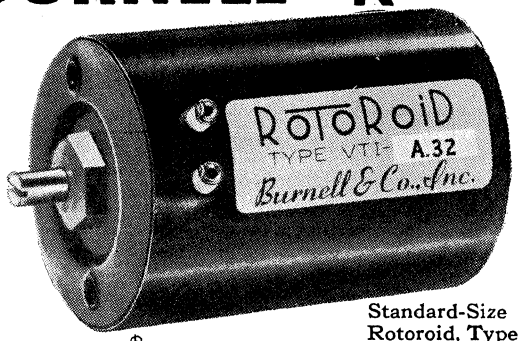
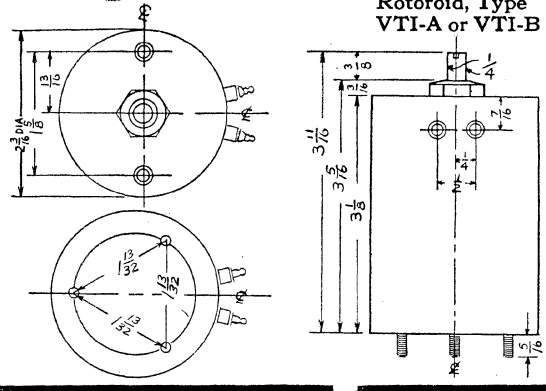
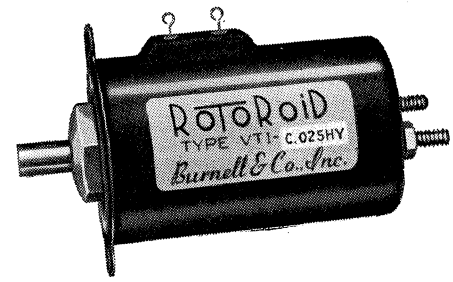
BURNELL ROTOROID®

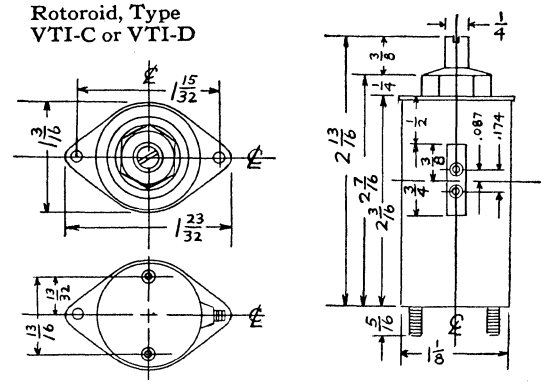


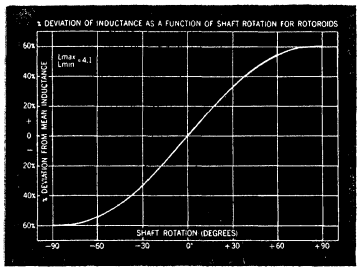
Standard-Size
Rotoroid, Type
VTI-A or VTI-B



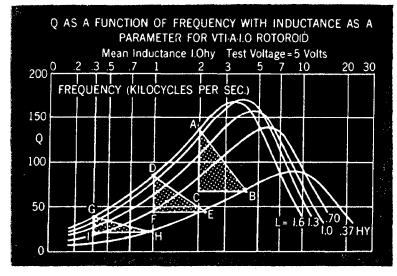


Miniature
Rotoroid, Type
VTI-C or VTI-D

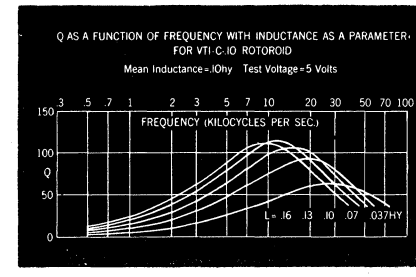




Induction variation as function of shaft rotation for VTI-A and VTI-B units. Inductance ratio 4:1.



Variation in Q as a function of inductance and frequency for VTI-A-1.0. Mean inductance is 1.0 Hy.



Variation in Q as a function of inductance and frequency for VTI-C-.10. Mean inductance is .10 Hy.

NOMINAL INDUCTANCE VALUES*

(available from stock)

VTI-A (TC-16 Core)			VTI-B (TC-3 Core)			VTI-C (TC-0 Core)			VTI-D (TC-6 Core)		
10.0	Hys.	$21.95	.5	Hys.	$16.10	3.2	Hys.	$15.25	.5	Hys.	$16.10
3.2	"	18.50	.32	"	15.75	1.0	"	13.75	.32	"	15.55
1.0	"	16.80	.1	"	15.40	.32	"	13.00	.1	"	14.95
.32	"	15.75	.032	"	15.00	.1	"	12.75	.032	"	13.50
.1	"	15.40	.01	"	15.00	.032	"	12.25	.01	"	13.00
.032	"	15.00	.0032	"	15.00	.01	"	12.25	.0032	"	12.75
.01	"	15.00	.001	"	15.00	.0032	"	12.25	.001	"	12.75
.0032	"	15.00	.00032	"	15.00	.001	"	12.25	.00032	"	12.75
.0010	"	15.00									

***INTERMEDIATE INDUCTANCE VALUES AVAILABLE ON SPECIAL ORDER WITH MINIMUM DELAY**

Also available are special subminiature Rotoroids, Types VTI-F and VTI-G. Inquiries are invited on "Rotoroids" with special features such as taps, additional windings, tracking characteristics, etc. Refer to Rotoroid technical brochure for information on characteristics.

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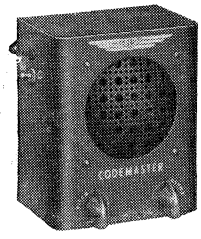
AMATEUR EQUIPMENT

CODE PRACTICE OSCILLATOR AND MONITOR CPO-128A



The BUD CODEMASTER is a real money-saver. No longer do you have to consider your code practice oscillator useless after you have learned the code. A flip of the switch and you have a good CW monitor. This is a really versatile instrument. It has a 4" built-in permanent magnetic dynamic speaker and will operate up to twenty earphones. 2 tubes—50C5 and 35W4.

A volume control, and pitch control permit adjustments to suit individual requirements.

Any number of keys can be connected in parallel to the oscillator for group practice.

This unit will operate on 110 volts A.C. or D.C. An external speaker may be plugged in without the use of an output transformer. All controls are placed on the front of the unit and all jacks are in the rear. The units is 6½" high, 5½" wide and 3½" deep. It is finished in Grey Hammertone enamel with red lettering.

Catalog No.	Dealer Cost
CPO-128A	$17.25

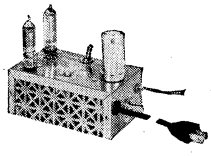
CODE PRACTICE OSCILLATOR AND MONITOR-EARPHONE MODEL CPO-130

This unit is similar to the CPO-128A The difference is that the 4" speaker is not included. The monitor feature, however, is included. A phone jack is provided for the output and as many as 20 pairs of phones and keys can be operated at one time for classroom operation. This model will also operate a permanent magnetic dynamic speaker.

Plug the voice coil leads into the phone jack—no output transformer is needed. Size of case is 5½" wide, 4½" high and 3½" deep.

Catalog No.	Dealer Cost
CPO-130A	$15.60

FREQUENCY CALIBRATOR FCC-90A

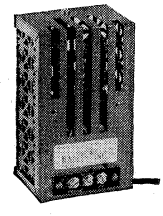


To comply with federal regulations, some means of accurately checking transmitter frequency must be available at every "ham" station. The BUD FCC-90A consists of a 100 kc. crystal oscillator that is **Completely Self-Powered** and has 2 tubes. It will give 100 kc. check points on all bands up to 30 megacycles. This enables the operator to determine exact band edges.

No extra wiring is required to install this unit. Plug the FCC-90A into a 110 volt receptacle, connect the pick-up lead to the antenna binding post of the receiver and the unit is ready for operation. An ON-OFF switch and a STANDBY switch are provided.

Catalog No.	Dealer Cost
FCC-90A	$19.20

WIRELESS PHONO OSCILLATOR WO-6A



This compact unit is designed to enable any standard record player to be easily converted to wireless operation. Record reproduction is then possible through a regular radio receiver without the necessity of cumbersome inter-connecting wires. Installation is simple according to the complete instructions furnished with each unit.

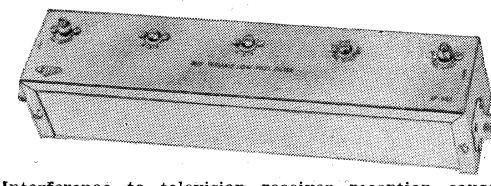
The circuit incorporated in the Wireless Oscillator is of such design that faithful reproduction is assured. The unit comes completely wired and tested including tubes and is finished in black enamel. Operates from 115 volts AC or DC. Frequency range is approximately 1100-2150 K.C. Actual weight 1 lb.

Catalog No.	Dealer Cost
WO-6A	$9.90

FILTERS TO REDUCE OR ELIMINATE TELEVISION INTERFERENCE

The sources of television interference are most often short wave broadcasting stations, amateur radio transmitting stations, diathermy equipment, X-ray equipment, automotive ignition noises or similar sources. The basic problem of eliminating this interference is that of rejection of the signals received from these sources.

LF-601 LOW PASS FILTER



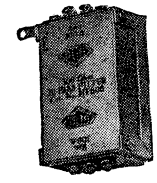
Interference to television receiver reception caused by transmissions from an amateur station can be caused by harmonics or by shock from the transmitter. The shock from the transmitter fundamental can be cured at the television receiver with a Bud HF-600 high pass filter. Harmonics can be greatly reduced or eliminated at the transmitter by use of a Bud LF-601 low pass filter.

The LF-601 high attenuation low pass filter has the following characteristics:

1. Minimum attenuation of 85 decibels on all frequencies above 54 megacycles and a minimum of 93 decibels above 70 megacycles.
2. Maximum rejection is adjustable from 55 to 90 megacycles. This tunable feature provides two slots at least 100 decibels down.
3. The cut-off frequency is 42 megacycles.
4. The unit will easily handle a full kilowatt modulated on a reasonably flat line.
5. The insertion loss is less than one DB.
6. Since the design of this filter provides an adjustable feature, the unit can be used with either 52 ohm or 72 ohm coax.
7. Each inductance is in an individually shielded compartment.
8. All capacitors used are variable.

Catalog No.	Dealer Cost
LF-601	$14.85

HF-600 HIGH PASS FILTER



The HF-600 high pass filter is designed to have a cut off frequency at 42 megacycles, thus this filter rejects signals from 0 to 42 megacycles. It is within this range that the majority of signals causing interference would be received. Since there is no attenuation above 42 megacycles, picture strength or quality is not affected.

This unit is easily installed and complete installation instructions are included. The filter is housed in an attractive aluminum case 3¼" x 2⅛" x 1⅛".

Catalog No.	Dealer Cost
HF-600	$3.90

GIMIX GX-79

The Bud Gimix is a multipurpose unit requiring no batteries or power supply. It is calibrated for use on the 10, 15, 20, 40 and 80 meter amateur bands. No additional coils are needed as the one coil does the work on all bands. It can be used as a **Wave-Meter, a Monitor, a Field Strength Indicator, a Carrier Shift Indicator** and a sensitive **Neutralizing Instrument.** Operating instructions supplied with each unit.

Catalog No.	Dealer Cost
GX-79	$9.00

Prices subject to change without notice.

Only a few of many BUD Products are shown. Write for complete catalog.

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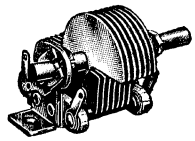
VARIABLE CONDENSERS

BUD MIDGET CONDENSERS



Small size, sturdy construction and high mechanical and electrical efficiency are the outstanding features. Insulation used is Steatite. Rotor and Stator plates are brass and are electro-soldered to their respective rods. All metal parts are cadmium plated. These condensers have both front and rear bearings and are furnished in either mid-line type plates (straight line wave length), or semi-circular plates (straight line capacity).

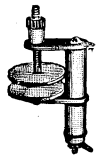
SEMI-CIRCULAR TYPE — DOUBLE BEARING

Catalog Number	Cap. in MMFD. Max.	Min.	Air Gap	Number Plates	Dealer Cost
MC-1850	15	3	.024″	3	**$1.82**
MC-1852	33	4	.024″	5	**1.82**
MC-1853	50	5	.024″	7	**2.12**
MC-1855	100	7	.024″	14	**2.31**
MC-1856	140	7	.024″	19	**2.67**
MC-1858	190	9	.024″	27	**2.84**
MC-1859	235	10	.024″	33	**3.20**
MC-1860	300	12	.024″	43	**3.50**
MC-1861	15	4	.060″	5	**2.04**
MC-1862	35	5	.060″	11	**2.31**
MC-1865	100	12	.060″	31	**3.24**

MID-LINE TYPE — DOUBLE BEARING

Catalog Number	Cap. in MMFD. Max.	Min.	Air Gap	Number Plates	Dealer Cost
MC-900	25	4	.024″	4	**$2.06**
MC-902	35	5	.024″	6	**2.10**
MC-903	50	6	.024″	8	**2.21**
MC-904	75	7	.024″	11	**2.31**
MC-905	100	7	.024″	15	**2.51**
MC-906	140	7	.024″	20	**2.73**
MC-909	250	11	.024″	36	**3.27**
MC-910	300	13	.024″	43	**3.66**

BUD FEED-THROUGH AND BASE MOUNTED NEUTRALIZING CONDENSERS

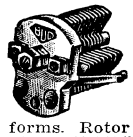


In circuits utilizing tubes with the grid lead terminated in the base a feed-through type of neutralizing condenser is particularly suited. One hole is required for mounting of feed-through condensers. Neutralizing condenser illustrated is feed-through type. Plates are made of aluminum rounded at edges to cut down losses. After proper tuning is attained, movable plate can be locked with the knurled nut.

No. 852 is ideal for popular low power beam tubes.

Catalog Number	Plate Diameter	Size Hole for Mtg.	MMFD. Capacity Max.	Min.	Dealer Cost
NC-852	1″	5/16″	6	.5	**$1.65**
NC-853	1-27/32″	13/32″	11	1	**3.00**

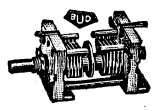
BUD TINY MITE PADDERS



For applications requiring a constant padder capacity under all temperature and humidity conditions, these units are ideal. They lend themselves readily to I. F. transformer applications, fixed tuned circuits for exciters, ganged condenser air trimers, and plug-in-coil padding as they fit inside of standard 1½″ diameter coil forms. Rotor and stator assemblies are made up of brass plates (0.015″ thick) and rods electrically soldered into a solid unit and then are bright cadmium plated. Insulation is Steatite. Each unit may be adjusted in capacity by either a screw-driver or a ¼″ hex. wrench.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Dealer Cost
LC-2076	15	2	.017″	5	**$1.32**
LC-2077	25	2.5	.017″	7	**1.37**
LC-2078	35	3	.017″	10	**1.46**
LC-2079	50	3.9	.017″	14	**1.49**
LC-2080	75	4.5	.017″	20	**1.62**
LC-2081	100	5.5	.017″	27	**1.76**
LC-2082	140	6.5	.017″	37	**2.09**

BUD TINY MITE DUAL CONDENSERS

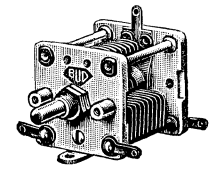


The construction of these units is similar to the regular Tiny Mite Tuning Condensers. The two end pieces are held together firmly with three tie-rods.

A separate round plate is soldered on rotor rod to shield the two stator sections. Large surface front and rear sleeve bearings, provide smooth rotation.

Catalog Number	CAP. PER SECTION Max. MMFD.	Min. MMFD.	Air Gap	No. Plates Per Section	Over all Length	Dealer Cost
LC-1659	8	2.5	.017″	3	2-17/32″	**$2.90**
LC-1660	15	3	.017″	5	2-21/32″	**3.24**
LC-1661	25	4	.017″	9	2-15/16″	**3.56**
LC-1662	50	6	.017″	19	3-5/8″	**3.99**
LC-1663	100	9	.017″	37	4-27/32″	**4.43**
LC-1664	10	4	.037″	7	3-1/16″	**3.24**
LC-1665	15	5	.037″	11	3-17/32″	**3.93**

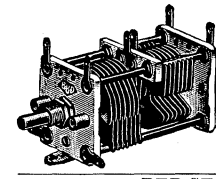
BUD "CE" MIDGET CONDENSERS SINGLE SECTION DOUBLE BEARING



These Midget Condensers were designed to meet the rigid requirements in design of efficient high frequency electronic devices and precision laboratory equipment. Brass rotor and stator plate stacks are assembled into permanent units by means of electro-soldering, which assures long life and accurate plate spacing. End-plates of Steatite insulate the mounting bushings and angles from the rotor and stator assemblies. A large front sleeve bearing provides for smooth rotation. Special wiper contact provides noise-free tuning. All metal parts are cadmium plated. Rotor plates are semi-circular shaped. For either panel or base mounting.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Over-all Length	Dealer Cost
CE-2001	35	6	.030″	7	2-23/32″	**$2.67**
CE-2002	50	7	.030″	9	2-27/32″	**3.03**
CE-2004	100	9	.030″	18	3-11/32″	**3.63**
CE-2005	150	10	.030″	27	3-13/16″	**3.87**
CE-2006	200	11	.030″	35	4¼″	**4.62**
CE-2007	250	12	.030″	44	4¾″	**4.89**
CE-2008	300	15	.030″	52	5-3/16″	**5.12**
CE-2015	100	13	.060″	31	4-29/32″	**4.40**

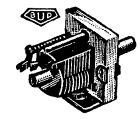
BUD "CE" TYPE DUAL MIDGET CONDENSERS



These well constructed dual condensers are similar in design to the double-bearing "CE" types. They feature a rotor wiping contact placed at center of the rotor assembly to assure maximum efficiency at high frequency Opposed rotor construction assures perfect counterbalance and provides even torque at any position of rotation. Steatite insulation eliminates closed induction loop in frame.

Catalog Number	PER SECTION Max. Cap.	Min. Cap.	No. of Plates	Air Gap	Distance Behind Panel	Dealer Cost
CE-2033	50	7	9	.030″	3¼″	**$3.96**
CE-2035	100	9	18	.030″	4-3/32″	**5.06**
CE-2036	150	10	27	.030″	5-3/16″	**5.81**

BUD TINY MITE TUNING CONDENSERS SINGLE SECTION

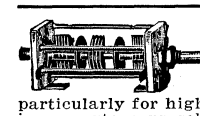


This series of condensers has been designed for applications where space or weight are limiting factors and for tuning of high frequency circuits. Rigid construction, close fitting bearing, positive rotor contact and Steatite insulation are the outstanding features. Cadmium plated, soldered, brass plates and rods insure high frequency efficiency.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Dealer Cost
LC-1640	8	2.5	.017″	3	**$1.49**
LC-1641	15	3	.017″	5	**1.52**
LC-1642	25	4	.017″	9	**1.55**
LC-1643	35	5	.017″	13	**1.55**
LC-1644	50	6	.017″	19	**1.62**
LC-1645	75	7	.017″	29	**1.82**
LC-1646	100	9	.017″	37	**1.85**
LC-1650	25	5.5	.037″	17	**1.79**
LC-1655*	25	9	.073″	27	**2.97**

*Denotes double bearing.

NEW BUD THREE-GANG TINY MITE CONDENSERS



Hams, Radio Constructors and Experimenters can find many uses for these compact, three-gang condensers. Designed particularly for high frequency use, they are adaptable for use in converters, preselectors and receivers covering the Amateur, Television and F.M. bands. Well constructed with soldered brass plates and ceramic brackets. Rotor shaft extended ¼″ at rear. Height 1-5/16″. Width 1-3/16″. Length behind panel 3⅜″. Mounting holes 2-3/16″ apart.

Catalog Number	Cap. Per Section Max.	Min.	No. of Plates Per Section	Dealer Cost
LC-1845	25	6	5	**$4.80**
LC-1846	17	5	7	**5.48**
LC-1847	25	6	9	**5.94**

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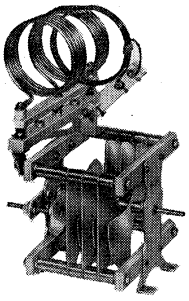
CONDENSERS

BUTTERFLY TRANSMITTER CONDENSERS



These Butterfly condensers are unequaled for mechanical and electrical balance in push-pull amplifier circuits. Where space behind the panel will not permit the use of our Giant or Master condensers, these dual condensers are ideal.

Rotor and Stator plates are made from .062″ thick, highly polished aluminum with all edges rounded and surfaces highly polished to minimize corona loss and danger of peak voltage flash-over Steatite bars are used as insulators.

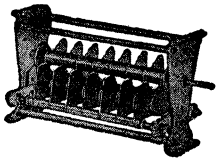
These condensers are so designed that a pair of single plate neutralizing condensers can be fastened to the end plate. Brackets for mounting coil jack bars are furnished with the condensers. All condensers that have an air gap of .5″ are furnished with brackets for kilowatt coils and the condensers that have .3″ air gap are furnished wih brackets for the mounting of 500 watt coils. The height of the condensers is 6¼″ and the width is 7″.

.500″ air gap available in 25 mmfd., 38 mmfd., 54 mmfd., 70 mmfd. and 86 mmfd. capacities.

.300″ air gap available in 31 mmfd., 51 mmfd., 71 mmfd., 92 mmfd. and 114 mmfd. capacities.

For pricing information write our factory since these are custom built units.

GIANT TRANSMITTER CONDENSERS



BUD GIANT TRANSMITTER CONDENSERS are built with a sturdy frame consisting of 3/16″ thick aluminum end plates, connected by ⅝″ diameter duraluminum rods. Formed brackets at top and bottom of end plates provide for mounting these units, and permit placing of associated inductances directly on the condenser.

Rotor and stator plates are accurately stamped from **0.064″** thick highly polished aluminum with all edges rounded to minimize corona loss and danger of peak-voltage flash-over. The plates are separated by accurately machined duraluminum spacers that insure a constant air-gap throughout the entire length of the condenser.

The large two-finger rotor-contact spring, made from plated spring brass, assures positive contact with noise-free operation. Steatite bars insulate the stator, and are placed well outside the electrostatic field to keep dielectric losses at a minimum.

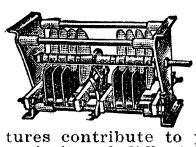
Available in both single and dual section.

In single section: .250″ air gap available in 195 mmfd., 345 mmfd. and 530 mmfd. capacities. .500″ air gap available in 55 mmfd., 95 mmfd., 150 mmfd. and 255 mmfd. capacities. .750 air gap available in 50 mmfd., 75 mmfd., 110 mmfd. and 160 mmfd. capacities. 1″ air gap available in 55 mmfd., 85 mmfd. and 105 mmfd. capacities.

In dual section: .250″ air gap available in 100 mmfd., 215 mmfd., and 320 mmfd. capacities. .500″ air gap available in 55 mmfd., 80 mmfd., and 110 mmfd. capacities. 1750″ air gap available in 30 mmfd., 52 mmfd. and 70 mmfd. capacities. 1″ air gap available in 35 mmfd. capacities.

For pricing information write our factory since these are custom built units.

MASTER TRANSMITTING CONDENSERS



All tie-rods in this series are insulated by glazed Steatite pillars, thus completely eliminating all closed metallic loops in the condenser frame. A special outstanding feature, developed by BUD engineers, is that of placing the positive double wiping rotor contact between the two sections at the center of the rotor. These features contribute to perfect circuit balance and eliminate the majority of difficulties encountered in high frequency equipment due to parasitics, circulating currents and poor neutralization. Use BUD condensers throughout and be trouble free.

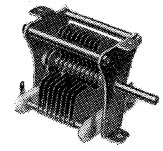
Available in both single and dual section.

In single section: .200″ air gap available in 25 mmfd., 50 mmfd., 75 mmfd., 100 mmfd. and 145 mmfd. capacities . . . 300″ air gap available in 35 mmfd., 55 mmfd., 75 mmfd. and 100 mmfd. capacities.

In dual section: .200″ air gap available in 25 mmfd., 35 mmfd., 50 mmfd., 75 mmfd. and 100 mmfd. capacities. .300″ air gap available in 50 mmfd. capacity.

For pricing information write our factory since these are custom built units.

JUNIOR CONDENSERS



Electro-soldered plate assemblies are featured in the construction of these condensers. This assures correct plate spacing, overall rigidity and light weight. Losses are reduced to a minimum by this method of assembly. End plates are rigidly constructed. The frame has formed angles on top and bottom for mounting the condenser in any position which allows associated tuning inductance to be mounted on the condenser frame. The edges of the brass rotor and stator plates are rounded and the assemblies are cadmium plated. Alsimag insulation is used throughout. Large surface front sleeve bearing and ball and cup rear bearings provide constantly smooth operation. A two finger spring brass pressure contact wiper assures noise-free and positive rotor contact at all times. The low minimum capacities of these units make them especially suitable for multi-band applications where a high ratio of maximum to minimum capacity is desired.

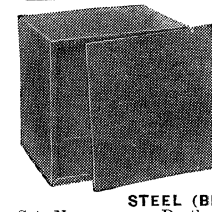
Available in both single and dual section.

In single section: .051″ air gap available in 50 mmfd., 100 mmfd., 145 mmfd., 250 mmfd. and 340 mmfd. capacities. .078″ air gap available in 25 mmfd., 55 mmfd., 110 mmfd., 150 mmfd., 190 mmfd. and 245 mmfd. capacities. 1.144″ air gap available in 20 mmfd., 55 mmfd., 80 mmfd. and 105 mmfd. capacities. .175″ air gap available in 18 mmfd., 40 mmfd., 55 mmfd. and 100 mmfd. capacities.

In dual section: .051″ air gap available in 20 mmfd., 50 mmfd., 70 mmfd., 145 mmfd., 200 mmfd., and 250 mmfd. capacities. .078″ air gap available in 25 mmfd., 55 mmfd., 80 mmfd., 110 mmfd. and 150 mmfd. capacities. .144″ air gap available in 20 mmfd., 40 mmfd. and 55 mmfd. capacities. .175″ air gap available in 18 mmfd. and 40 mmfd. capacities.

For pricing information write our factory since these are custom built units.

For complete information on these and other BUD Sheet Metal Products see pages J-68 to J-78.

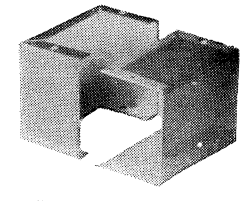


UTILITY CABINETS

A large number of sizes available makes this line useful for all types of electronic equipment. These cabinets have two removable panels for easy accessibility. Units prefixed by CU are made from cold rolled steel and are finished in black wrinkle or light grey hammertone. Those prefixed by AU are made from high grade sheet aluminum and have natural finish or light grey hammertone.

STEEL (Black Wrinkle or Grey Hammertone)				Dealer
Cat. No.	Depth	Width	Height	Cost
CU-883	2″	4″	4″	$1.00
CU-728	3″	5″	4″	1.10
CU-729	4″	5″	6″	1.38
CU-1098	6″	6″	6″	1.52
CU-1099	5″	6″	9″	1.96
CU-879	7″	8″	10″	2.66
CU-1124	6″	7″	12″	2.66
CU-880	8″	10″	10″	3.24
CU-881	8″	11″	12″	4.13
CU-882	7″	9″	15″	4.31

ALUMINUM (Natural or Grey Hammertone)				Dealer Cost	
Cat. No.	Depth	Width	Height	Natural	Grey
AU-1083	2″	4″	4″	$1.29	$1.39
AU-1028	3″	5″	4″	1.37	1.50
AU-1029	4″	5″	6″	1.67	1.83
AU-1039	6″	6″	6″	1.85	2.03
AU-1040	5″	6″	9″	2.35	2.58



MINIBOXES

There are thousands of uses in the field of radio and electronics for these boxes. They are made of high quality aluminum. The design of the box permits installation of more components than would be possible in the more conventionally designed box of the same size. Construction is of the two piece type, each half forming three sides. The flange type construction assures adequate shielding. These units available in either natural aluminum finish or grey hammertone finish.

Gray	Etched				Dealer Cost	
Cat. No.	Cat. No.	Length	Height	Width	Natural	Grey
CU-2100	CU-3000	2¾″	2⅛″	5⅛″	$ .60	$ .80
CU-2101	CU-3001	3¼″	2⅛″	1⅝″	.60	.83
CU-2102	CU-3002	4″	2⅛″	1⅝″	.63	.86
CU-2103	CU-3003	4″	2¼″	2¼″	.82	.98
CU-2104	CU-3004	5″	2¼″	2¼″	.88	1.04
CU-2105	CU-3005	5″	4″	3″	.97	1.27
CU-2106	CU-3006	5¼″	3″	2¼″	.95	1.12
CU-2107	CU-3007	6″	5″	4″	1.20	1.75
CU-2108	CU-3008	7″	5″	3″	1.32	1.85
CU-2109	CU-3009	8″	6″	3⅛″	1.98	2.23
CU-2110	CU-3010	10″	6″	3½″	2.17	2.74
CU-2111	CU-3011	12″	7″	4″	2.77	3.23
CU-2112	CU-3012	17″	5″	4″	3.21	3.80
CU-2113	CU-3013	10″	2″	1⅝″	1.25	1.32
CU-2114	CU-3014	12″	2½″	2¼″	1.22	1.52
CU-2115	CU-3015	4″	2″	2¾″	.82	1.05
CU-2116	CU-3016	4¼″	2¼″	1½″	.85	1.09
CU-2117	CU-3017	3⅛″	2⅛″	1⅛″	.65	.92

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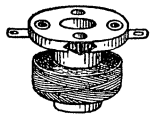
R. F. CHOKES - COUPLINGS

LATTICE WOUND R. F. CHOKES



For all general purpose applications requiring a high quality choke at a reasonable price, this line finds wide acceptance. Each choke is wound from silk-covered enameled copper wire on a white ceramic bobbin. Leads are terminated with two convenient soldering lugs. Chokes can be mounted with a 6-32 screw through the center of the form, and each winding is thoroughly impregnated against moisture. The wide range of sizes fills practically every choke requirement in standard radio circuits. Choke base diam. 1-1/16". distance between ends of leads 1⅝"

Catalog Number	Inductance mh.	D.C. Res. Ohms	Current M.A.	Height	Dealer Cost
CH-1212	2.5	28	125	11/16"	$ .50
CH-1214	5.5	46	125	11/16"	.59
CH-1215	8.	60	125	11/16"	.72
CH-1217	16.	84	125	11/16"	.75
CH-1218	30.	190	100	15/16"	.85
CH-1219	60.	279	90	15/16"	1.01
CH-1220	80.	332	80	15/16"	1.10

TRANSMITTING CHOKES

Here are two heavy duty R. F. Chokes that can really take it in high powered transmitter plate circuits. Each choke is wound on 9/16" dia. Steatite rod, has connection lugs and a mounting foot. **All chokes have a heavy ceramic coating which prevents moisture absorption and enables them to withstand momentary overloads without collapsing the individual pies.**

Consists of five graduated pies wound in continuous winding. Care has been taken to prevent any of the pies from being resonant on an amateur band and to keep the distributed capacity at a minimum. Overall height 3¼".

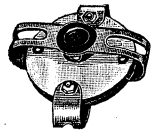
Catalog Number	Inductance	Current Capacity	D. C. Resistance	Dealer Cost
CH-568	2.2 mh.	1 amp.	5 ohms	$2.25
CH-569	4.3 mh.	.6 amp.	12 ohms	2.40

IRON CORE R. F. CHOKES

The efficiency of any circuit requiring an R. F. choke will be definitely improved by utilizing one of these chokes with a finely divided molded metallic core. The improved "Q" possible with this construction results from the D. C. resistance of these chokes being from 40 to 50% less for a given inductance than for regular air-core types. Thus, the D. C. voltage drop through the choke is considerably less, yet the choking action is equally as good. Windings are made with silk-covered enameled wire terminated on convenient soldering lugs, and the chokes are mounted in small square shield cans measuring 1⅜" x 1⅜" x 1-7/16".

Catalog Number	Inductance mh.	D. C. Resis. Ohms	Current ma.	Dealer Cost
CH-1283	16.	53.	125	$1.46
CH-1284	30.	82.	100	1.50
CH-1285	60.	131.	100	1.71
CH-1286	80.	163.	90	1.83
CH-1287	125.	221.	90	2.03
SH-294	Shield Can Only		....	.21

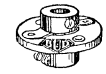
BUD HIGH VOLTAGE FLEXIBLE COUPLINGS



A new type spring construction in these couplings permits a wide gap between shaft connections, freedom from back-lash, and unusual flexibility. The springs are attached to glazed Steatite discs 1½" in diameter and 3/16" thick, and the overall diameter of the finished coupling is 1-15/16". Coupling accommodates standard ¼" shaft.

Catalog No.	Insulation	Dealer Cost
FC-614	Steatite	$ .83

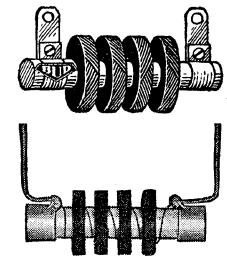
BUD INSULATED FLEXIBLE COUPLINGS



Tandem operation of two or more units is readily accomplished through the use of these couplers. Direct shaft alignment is not essential, and all couplers are made to fit ¼" shafts.

Cat. No.	Diameter	Height	Insulation	Dlr. Cost
FC-795	1-1/16"	11/16"	Ceramic	$ .60
FC-845	1-1/16"	⅝"	Bakelite	.45
FC-855	1½"	11/16"	Bakelite	.45

PIE WOUND R. F. CHOKES



Each choke has a continuous winding of silk covered enameled copper wire and the pies constituting this winding are wound on a ¼" diameter ceramic core. Chokes are made with both strap and wire leads. The CH-876 is a heavy duty choke intended for circuits, such as transmitter plate circuits, where high currents are present. All chokes in this series have an overall length of 1½".

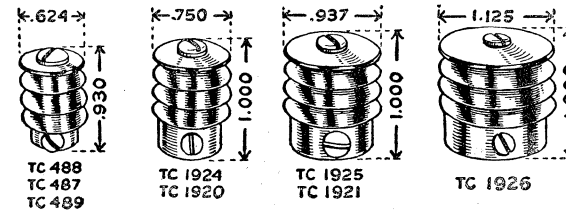
WITH STRAP LEADS

Catalog Number	Inductance mh.	D. C. Resistance	Current Rating	Dealer Cost
CH-920S	2.5	45 ohms	125 ma	$ .53
CH-922S	5.5	60 ohms	125 ma	.63
CH-924S	10.0	78 ohms	100 ma	.90
CH-876S	2.5	16 ohms	250 ma	.80

WITH WIRE LEADS

CH-920W	2.5	45 ohms	125 ma	.53
CH-922W	5.5	60 ohms	125 ma	.63
CH-924W	10.0	78 ohms	100 ma	.90
CH-876W	2.5	16 ohms	250 ma	.80

HEAT RADIATING PLATE AND GRID TUBE CONNECTORS



Bud heat radiating connectors fit all sizes of industrial and transmitting vacuum tubes. These connectors serve a dual purpose, not only are they useful to make connections to plate or grid terminals, but they provide a large heat radiating surface that will dissipate heat from the glass seal and tube element. Eight sizes fit all grid and plate leads and also provide sufficient heat radiation for any tube operating in the range of 50 to 2000 watts. All radiators are machined from special aluminum rod. Edges are rounded to minimize corona loss.

Table below lists Connectors to fit various Tubes

Cat. No.	Hole Size for Lead	Heat Radiating Connectors to Fit the Following Tubes	Dealer Cost
TC-488	.052	3C24, 24, 24G, 25T, 27	$ .55
TC-487	.062	UH50, HK24, 304B, 829B, 832A, 834	.50
TC-489	.072	35T, 35TG, 75TH, HK254, HK257B, 484, 8001, 4E27	.50
TC-1924	.125	HK57, 152TH	.59
TC-1920	.375	4-125A, 150TH, 2-150D, 250R, 250TH, 250TL, 420A, 802, 803, 804, 807, 808 Grid, 814, 815, 828, 2E24, 2E26, 3E22, 4-65A, 4-250A, 816, 6146, 1625, 4032, 807W, 1B3GT, 6BG6G, 6CD6G	.53
TC-1925	.125	304TH, 304TL	.69
TC-1921	.570	ZB60, HF60, HF100, 111H, 211H, 203H, HF175, HF300 Grid, 100R, HK357C, 450TH, 454, 750TH, 805, 806, 808, 809, 810, 811, 812, 813, 828, 833, 866, 854, 1500T, 2000T, 1054, 5331, 5332, 8000, 8003, 8005	.62
TC-1926	.810	WL468, WL463, WL460, HF200, HF201, HF300	.89

NOTE: TC-1923 Heat Radiating Connector with hole size of .110" is still in our line and can be furnished. Dealer Cost $ .60

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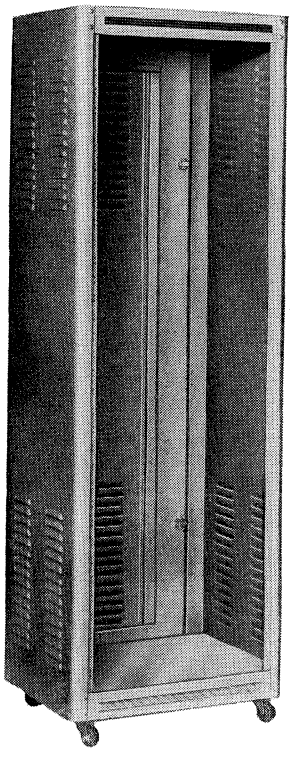
RELAY RACKS



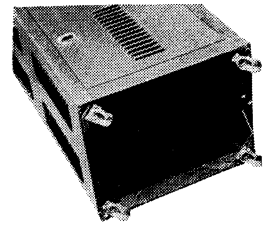
DELUXE RELAY RACKS

These relay racks are made of 16 gauge steel with 7/64" gauge panel mounting supports. The panel mounting supports are recessed so that no edges of the panel will be exposed.

The front and back of the top, the two sides and the door are well louvered to provide adequate ventilation. The door is hung on sturdy, loose joint hinges; it is held closed by two attractive aluminum die cast plunger type snap action catches. A streamlined appearance is achieved by the use of rounded corners and red lined chrome trim. This relay rack is shipped knocked down and complete with all necessary hardware for assembly. All standard 19" panels will fit these racks. Overall width is 22". Depth 17⅛". Inside clearance depth in back of panels 16⅛". Clearance thru rear door 17⅜". Clearance across panel mounting rails 17¾". Panel rails tapped 10/32 with W. E. spacing.

A SPECIAL FEATURE IS THE USE OF FOUR STURDY SUPPORTS IN THE BOTTOM, SO THAT CASTERS CAN BE FASTENED DIRECTLY TO THE BASE, THEREBY ACHIEVING READY MOBILITY.

Bud RC-7756 casters will fit this unit. The casters are not included in the price of the cabinet. Prices quoted below are for light grey hammertone finish. Black or grey wrinkle finish is 10% extra. Use suffix letter "B" for black wrinkle finish. Use suffix letter "G" for grey wrinkle finish. Use suffix letters "HG" for light grey hammered finish.



Catalog No.	Overall Height	Panel Space	Shipping Weight	Dealer Cost
CR-1774	42-1/16"	36¾"	90 lbs.	**$38.33**
CR-1771	47-5/16"	42"	95 lbs.	**43.33**
CR-1772	66-9/16"	61¼"	116 lbs.	**54.17**
CR-1773	82-5/16"	77"	137 lbs.	**65.00**
CR-2072	66-9/16"	61¼"	150 lbs.	**75.00**
CR-2073	82-5/16"	77"	175 lbs.	**90.00**

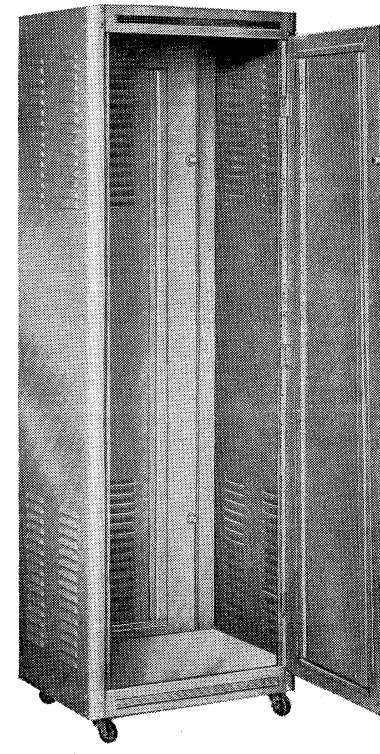
SUPER DELUXE 2 DOOR RACKS

This relay rack is an entirely new model that consists of a relay rack made of 16 gauge steel with 7/64" gauge panel mounting supports. The panel mounting supports are recessed so that no edges of the panel will be exposed. IN ADDITION, THEY ARE ADJUSTABLE FROM FRONT TO BACK IN VARIOUS STOPPING POINTS. THIS ENABLES YOU TO USE THE SPACE IN FRONT AND BEHIND THE PANEL TO ANY DEGREE THAT YOU MAY FIND NECESSARY. Overall width is 22". Depth 17⅛". Inside clearance depth in back of panels 16⅛". Clearance thru rear door 17⅜". Clearance across panel mounting rails 17¾". Panel rails tapped 10/32 with W. E. spacing. Clearance behind panels is 15" to 9" in increments of 1 inch.

These racks are fitted with both front and rear doors. The louvred rear door is to cover any of the equipment behind the panel and at the same time provide easy accessibility to it. The front door, flush with front of rack, is to provide a means of concealing dials, knobs, etc., that may be in front of the panel.

The exclusive Bud feature of supports on the bottom so the casters may be fixed directly to the base, eliminating the need and expense of dollies, is also present in this series of racks. Bud RC-7756 casters will fit these units. The casters are not included in the price of the cabinet.

If black wrinkle finish is desired, use suffix letter "B." If grey wrinkle finish is desired, use suffix letter "G." If light grey hammered finish is desired, use suffix "HG."



Catalog No.	Overall Height	Panel Space	Shipping Weight	Dealer Cost
CR-2174	42-1/16"	36¾" x 19"	102 lbs.	**$55.00**
CR-2171	47-5/16"	42" x 19"	117 lbs.	**61.66**
CR-2172	66-9/16"	61¼" x 19"	151 lbs.	**78.75**
CR-2173	82-5/16"	77" x 19"	183 lbs.	**95.50**

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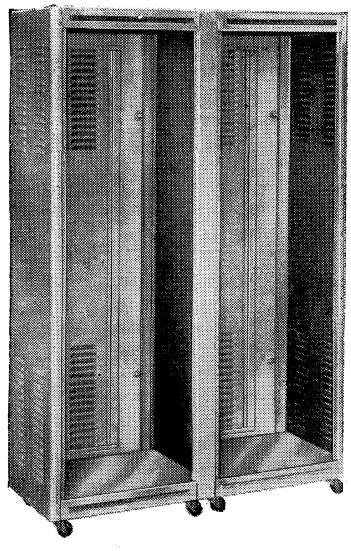
RELAY RACKS—CABINET RACKS

ADD-A-RACK SERIES



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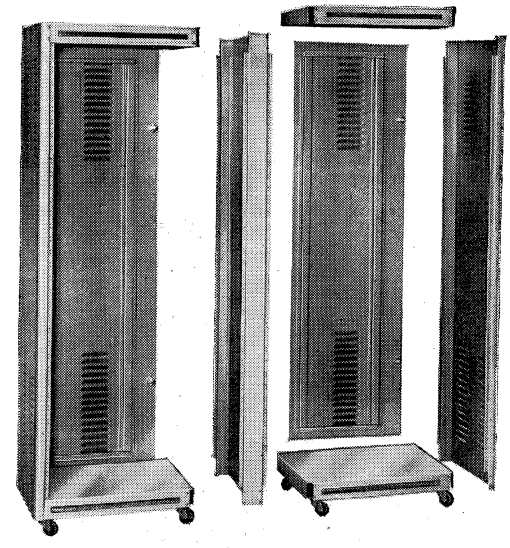


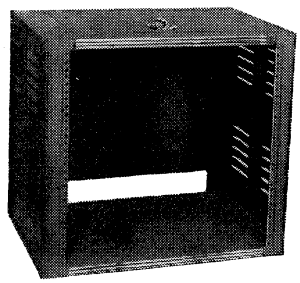
B

It always has been necessary to buy special racks without louvres on one side to obtain maximum interior space with a minimum of floor space. Now, you no longer need to buy an entire new cabinet when you want additional space. When multiple rack units are required, we not only offer additional racks at a lower cost, but provide a sturdier, better looking assembly. Only Add-A-Rack series can accomplish this savings.

Illustration A shows the two Add-A-Rack cabinets assembled together. Illustration B shows the unique and ingenious method of adding a unit to your present equipment. Instead of buying an entirely new outfit, you purchase, as a unit, four parts: 1. The door, 2. the top, 3. the bottom, 4. an Add-A-Rack Coupling Unit. The right or left side of your present relay rack is removed and replaced by the Add-A-Rack Coupling Unit. Next, the top and bottom are fastened into place. The side taken from the first rack is then fastened onto the second rack. Place the additional door into position and you now have two racks, properly and efficiently coupled together. In the same simple way, more racks can be added at any time. Every one will be in a continuous one piece assembly.

Catalog No.	Used to Add-A-Rack to	Shipping Weight	Dealer Cost
AR-1778	**CR-1774**	75 lbs.	**$37.50**
AR-1775	**CR-1771**	77 lbs.	**41.59**
AR-1776	**CR-1772**	100 lbs.	**51.67**
AR-1777	**CR-1773**	127 lbs.	**63.50**

If black wrinkle finish is desired, use suffix letter "B". If grey wrinkle finish is desired, use suffix "G." If light grey hammered finish is desired, use suffix "HG."



DELUXE CABINET RACKS

These cabinet racks are so made that a professional appearance is given. They are ideal for commercial broadcasters, for sound equipment or test equipment.

The five larger sizes have a hinged rear door, while the smaller sizes have the welded panel in the rear.

No other manufacturer has the wide variety of sizes that are included in the Bud line of deluxe cabinet racks.

Adequate ventilation is assured by means of louvered sides and a 2½" opening in the bottom of the back, which extends the entire width of the cabinet. "No scratch" extended metal feet are embossed on the bottom to minimize marring of the table top or any other equipment that this is placed on.

Catalog No.	Overall Height	Panel Space	Shipping Weight	Dealer Cost
CR-1726	8-25/32"	7"	25 lbs.	**$13.20**
CR-1741	10-9/16"	8¾"	28 lbs.	**14.17**
CR-1740	12-5/16"	10½"	30 lbs.	**16.25**
CR-1742	14-1/16"	12¼"	32 lbs.	**17.08**
CR-1739	15-13/16"	14"	34 lbs.	**18.75**
CR-1743*	19-5/16"	17½"	38 lbs.	**22.09**
CR-1727*	22-13/16"	21"	39½ lbs.	**23.75**
CR-1744*	28-1/16"	26¼"	47½ lbs.	**25.50**
CR-1728*	33-5/16"	31½"	52 lbs.	**27.08**
CR-1745*	36-13/16"	35"	60 lbs.	**28.58**

*These sizes have top and rear doors.

Specify a suffix "B" when black wrinkle is desired, the suffix "G" when grey wrinkle is desired, or the suffix "HG" when light grey hammered is desired.

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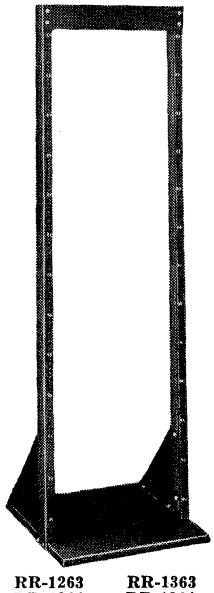
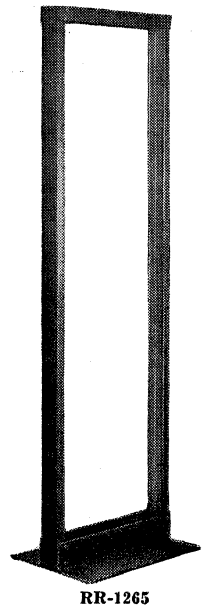
RELAY RACKS–BRACKETS

TELEPHONE TYPE RELAY RACKS



RR-1263 RR-1363
RR-1264 RR-1364
RR-1366



RR-1265

Catalog Nos. RR-1263, RR-1264, RR-1363, RR-1364 & RR-1366 are made of 7/64″ steel channels, three inches deep, with cross bars of the same thickness. The design of the base has been improved to incorporate a chassis type bottom, together with the usual side angles, making this rack exceptionally strong and stable.

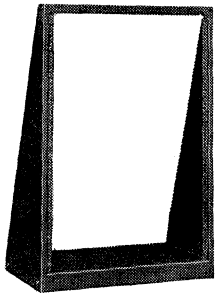
Holes are provided in the base to accommodate Bud RC-7756 casters. Base is 20″ x 22″. Clearance between uprights 17⅞″. Panel mounting rails tapped 10/32 with W. E. spacing. Finish black wrinkle or light grey hammertone.

The BR-1265 is a heavy duty rack, suitable for broadcast stations and other commercial installations, where it is desired that exceptionally sturdy construction be utilized. The usual manner of installation is to bolt this unit to the floor.

To emphasize the heavy duty construction, it is necessary to realize that the base is made of two angles 3½″x5″x5/16″, 20⅜″ long. The channels are 72″ long and made of 3″ x 1⅜″ iron channel. The two supporting cross bars are made of 7/64″ x 3″ steel. Base is 13″ x 20⅜″. Panel holes tapped 10/32 with W. E. spacing. Finish black wrinkle only.

Any of the panel chassis shown on page J-73 or the standard relay rack panels shown on page J-71 can be used with these racks.

Catalog No.	Height	Panel Space	Shipping Weight lbs.	Dealer Cost
RR-1263	35-39/64″	31½″	35	$18.48
RR-1363	40-55/64″	36¾″	37	19.00
RR-1264	70-39/64″	66½″	46	21.06
RR-1364	75-55/64″	71¾″	47	22.18
RR-1366	81-7/64″	77″	48	26.34
RR-1265	72-1/4″	66½″	94	48.84

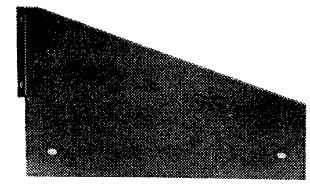


DESK TYPE RELAY RACKS

These racks are perfect for table mounting of low and medium powered transmitters, public address systems and other electronic instruments. The rack has strong chassis for mounting heavy components. These units are shipped knocked down with necessary hardware and are easy to assemble. Depth 12″. Panel holes tapped 10/32 with W. E. spacing. Standard 19″ wide panels can be used and the panels are set in recess so that no edges are exposed. Black wrinkle or light grey hammertone finish.

Catalog No.	Panel Space	Height	Actual Wt. Lbs.	Dealer Cost
RR-1248	21″ x 19″	24″	15	$7.84
RR-1249	28″ x 19″	31″	17	9.66

CHASSIS MOUNTING BRACKETS



Mounting brackets are essential to insure proper support of chassis. Mounting flange is 1″ wide with 2 mounting holes. These brackets are formed of heavy gauge steel cut away at the bottom to provide chassis clearance so that the chassis can be mounted flush against the panel. Finished in black enamel only. Chassis mounting bracket Nos. MB-450 and MB-451 are designed for a chassis height of 4″. These units are sold in pairs only.

Catalog No.	Height	Depth	Actual Weight	Dealer Cost
MB-458	6½″	8″	1¼ lbs.	$ .90 pr.
MB-448	6½″	10″	1¾ lbs.	1.16 pr.
MB-459	6½″	11″	2 lbs.	1.26 pr.
MB-449	6½″	12″	2 lbs.	1.53 pr.
MB-460	6½″	13″	2½ lbs.	1.42 pr.
MB-450	8½″	10″	2¼ lbs.	1.68 pr.
MB-451	8½″	13″	3 lbs.	1.79 pr.

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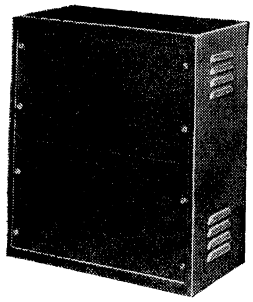
RACKS - PANELS - SHELVES

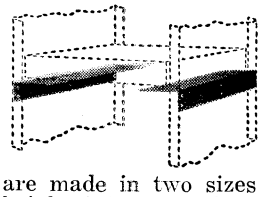


JUNIOR CABINET RACKS

This cabinet rack is a multi-purpose unit that is attractive, and useful, and inexpensive. Cabinet is constructed to accommodate two panels: one panel is 10½" x 18-5/16" and the other is 8¾" x 18-5/16". These panels are supplied with the cabinet. O.A. height 21¼", 10½" depth x 19⅞" width. Tapping 10/32 W. E. spacing. The Bud Junior Cabinet Rack is spacious enough to accommodate a chassis up to 10" x 17".
The rear of the cabinet is covered by a hinged door with a locking device. Finished in black wrinkle only.

Catalog No.	Shipping Weight Pounds	Dlr. Cost
RC-1749A	34	**$18.41**

CHASSIS SUPPORTING ANGLES



Where heavy weights are encountered in chassis construction, the Bud Chassis Supporting Angles will distribute the weight on the sides of the racks to relieve the panel. The angles are made in two sizes from 7/64" thick. Width 3", height 1⅜"; mounting hardware furnished. Finished in black enamel only. The drawing shown around the chassis supporting angles in the illustration is intended to show the manner in which the chassis will be supported by these angles. Sold in pairs only.

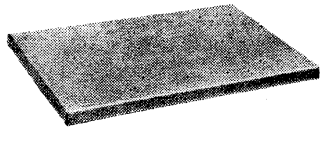
Catalog No.	Length	Actual Weight lbs.	Dealer Cost
SA-1349	14½"	4	**$1.92 pr.**
SA-1350	12"	3	**1.83 pr.**

HANDLE-CATCH SET (Plunger Type)

CL-7777 is an attractive handle and catch set now featured on all Bud Cabinet Racks and Relay Racks. Handle is cast aluminum with chrome plated finish. Snap catch is spring type. IMPORTANT FEATURE IS THE PLUNGER WHICH ASSURES EFFICIENCY AND EASY OPERATION. Supplied complete with mounting hardware. Actual weight ¼ lb.

CL-7777 Dealer Cost **$1.00**

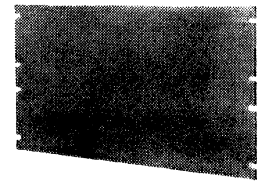
RACK SHELVES



Heavy power supplies, modulator units, etc., can be mounted on these rack shelves, which are supported in the cabinet by the chassis supporting angles which are shown above. Shelves are 19" wide x 1" high. The shelves are made of heavy gauge steel and are finished in black enamel only.

Catalog No.	Depth	Actual Weight	Dealer Cost
CB-1976	**15"**	6½ lbs.	**$ 3.10**
CB-1977	**12"**	5½ lbs.	**2.35**

STANDARD RELAY RACK PANELS



These panels are available in either steel or aluminum. The steel panels are made of high grade steel ⅛" thick. Aluminum panels are standard at ⅛" thick aluminum. All panels are 19" wide. Aluminum panels 3/16" thick are available at a 60% increase in cost over the standard ⅛" panel.

For the first time, we are offering light grey hammered finish panels at no extra charge. Be sure to specify by use of suffix "B" for black wrinkle finish, suffix "G" for grey wrinkle finish or suffix "HG" for light grey hammered finish.

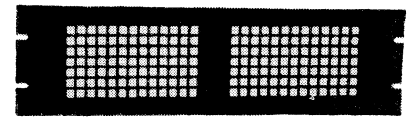
STEEL

Catalog No.	Height	Actual Weight lbs.	Dealer Cost	Catalog No.	Height	Actual Weight lbs.	Dealer Cost
PS-1250	1¾"	1¼	**$ .76**	**PS-1256**	12¼"	8¼	**$2.13**
PS-1251	3½"	2¼	**.86**	**PS-1257**	14"	9½	**2.50**
PS-1252	5¼"	3¼	**1.13**	**PS-1258**	15¾"	10¾	**2.76**
PS-1253	7"	4½	**1.27**	**PS-1259**	17½"	11¾	**3.10**
PS-1254	8¾"	6	**1.50**	**PS-1260**	19¼"	13	**3.46**
PS-1255	10½"	7	**1.80**	**PS-1261**	21"	14¼	**3.81**

ALUMINUM

Catalog No.	Height	Actual Weight lbs.	Dealer Cost	Catalog No.	Height	Actual Weight lbs.	Dealer Cost
PA-1101	1¾"	¼	**$ .99**	**PA-1107**	12¼"	2¾	**$3.75**
PA-1102	3½"	¾	**$1.30**	**PA-1108**	14"	3	**4.20**
PA-1103	5¼"	1	**1.66**	**PA-1109**	15¾"	3½	**4.66**
PA-1104	7"	1¾	**2.16**	**PA-1110**	17½"	4	**5.16**
PA-1105	8¾"	2	**2.58**	**PA-1111**	19¼"	4¼	**5.66**
PA-1106	10½"	2½	**3.20**	**PA-1112**	21"	5	**6.10**

VENTILATING GRILL PANELS



These panels are made of ⅛" thick steel. The grill is stamped into the panel itself and is recommended for use where additional ventilation is desirable. All panels are 19" long and are furnished in black or grey wrinkle finish or light grey hammered finish. Please specify by proper suffix the color desired.

Catalog No.	Height	Grill Size	Actual Weight	Dealer Cost
PS-808	5¼"	3⅜" x $13\frac{13}{32}$"	2½ lbs.	**$ 2.90**
PS-809	7"	4⅞" x $13\frac{13}{32}$"	3½ lbs.	**3.15**
PS-810	8¾"	3⅞" x $13\frac{13}{32}$"*	5 lbs.	**3.80**
PS-811	10½"	5⅞" x $13\frac{13}{32}$"*	5¾ lbs.	**4.02**
PS-812	12¼"	7⅜" x $13\frac{13}{32}$"*	6¼ lbs.	**4.30**

*Allows 3½" space for chassis mounting.

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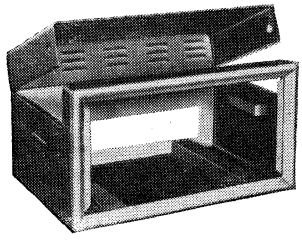
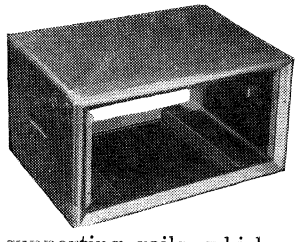
"Prestige" Cabinets - Chassis

BUD "PRESTIGE" CABINETS

Bud Radio, Inc. proudly announces its new line of "PRESTIGE" Cabinets, with eye pleasing contours, highly stylized, yet with quiet dignity. These new cabinets are soundly engineered, versatile in usage; a stock cabinet of advanced design suitable for housing highest quality instruments, etc. We invite your inspection of the following details of construction.



Hinged cover; available-solid or perforated. Swings back completely for easy access to equipment within. Covers may be entirely removed if necessary. Perforated cover is reinforced to provide rigidity and sturdiness.



Smoothly grommeted finger holes assure easy cover lifting. Cover snaps closed to body of cabinet by means of pressure fasteners.

Cabinet is furnished complete with two supporting rails, which can be moved laterally to accommodate any width chassis or mounting platform. Supporting rails may be permanently fixed to cabinet base by means of screws or by welding.

Height of mounting rails permits free air flow under chassis, and provides easy removal of entire cabinet contents through front opening.

Additional ventilation is obtained by means of rear cabinet opening, and louvers in rear of cover.

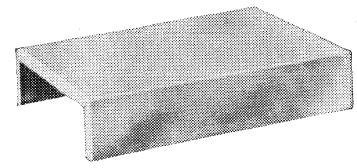
Cabinet may be comfortably carried by two recessed handle slots, safety shielded to prevent contact with equipment housed within.

Built of 16 gauge steel, and flawlessly finished in attractive grey hammertone, this cabinet will accommodate standard size relay rack panels. Rubber feet are attached to the bottom to prevent scratching of the surface upon which the cabinet rests.

Over-all width: 21-9/16"; over-all depth: 14⅞"; clear inside depth: 13⅛"; rear opening: 18" x 3"; cover opening 21-9/16" x 12¾".

Catalog Number	Cover	Over-All Height	Panel Space	Ship. Wgt.	Dealer Net
C-1440	Solid	9½"	7"	21 lbs.	$25.15
C-1441	Solid	11¼"	8¾"	23 lbs.	26.75
C-1442	Solid	13"	10½"	25 lbs.	29.25
C-1550	Perforated	9½"	7"	20 lbs.	27.20
C-1551	Perforated	11¼"	8¾"	22 lbs.	29.20
C-1552	Perforated	13"	10½"	24 lbs.	31.70

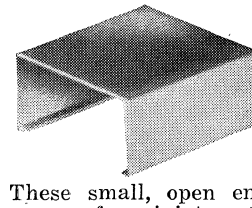
Prices above are 10% higher west of the Mississippi.



OPEN END CHASSIS

These are primarily intended to be used with the various styles and sizes of Bud Metal Cabinets. These chassis are ideal for any type of small built-up units such as record amplifier, code oscillator, etc. From this you can see that there is a wide variety of applications. The U-shaped construction is used with ends folded over ⅜" for additional strength. The finish is electro-zinc plated.

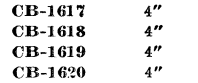
Cat. No.	Depth	Width	Height	Fits Cab. No.	Dealer Cost
CB-38	7"	6"	2"	C-1584	$ .77
CB-30	5"	7"	1½"		.74
CB-41	7"	7"	1½"	C-973	.99
CB-39	7"	8"	2"	C-1585	1.04
CB-996	5½"	9"	1½"	C-993	.84
CB-976	7½"	9"	1½"	C-999, C-1746	1.05
CB-40	7"	10"	2"	C-1586	1.07
CB-997	7"	11"	1½"	C-994, C-1747	1.17
CB-998	7"	13"	1½"	C-995, C-1748	1.28



MINIATURE ALUMINUM CHASSIS

These small, open end aluminum chassis are the answer for miniature tube applications or sub-assemblies. They are made of hard aluminum with ¼" flanges on the bottom allowing the chassis to be fastened down, or allowing a bottom plate to be attached. They are extremely useful for a wide variety of applications such as small receivers, narrow band FM adapters or any place where the space is limited.

Cat. No.	Depth	Width	Height	Fits Cabinet No.	Dealer Cost
CB-1623	2⅝"	2¾"	1¼"	C-1784	$ .35
CB-1624	1¾"	3⅛"	1"	CU-883	.38
CB-1625	3¼"	4½"	2"	C-1788	.41
CB-1626	2¾"	4⅛"	1"	CU-728	.41
CB-1627	3¾"	4⅛"	1½"	CU-729	.41
CB-1628	3"	6⅛"	1¼"	C-1785	.50
CB-1629	5¾"	4⅞"	1½"	CU-1098	.54
CB-1617	4"	3⅛"	1"	C-1602	.41
CB-1618	4"	4⅛"	1"	C-1603	.45
CB-1619	4"	5⅛"	1"	C-1604	.50
CB-1620	4"	6⅛"	1"	C-1605	.54



UTILITY HANDLES

These handles are designed to provide sufficient strength and comfortable hand grip. They are made from aluminum tubing and are given an etched aluminum finish.

Catalog No.	Overall Length	Mounting Hole Center	Actual Weight	Dealer Cost
UH-70A	5⅛"	4⅝"	2 oz.	$ .36
UH-71A	3¾"	3¼"	1 oz.	.30

Prices subject to change without notice.
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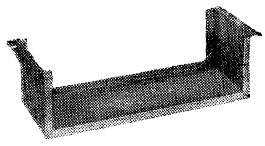
Only a few of many BUD Products are shown. Write for complete catalog.

CHASSIS

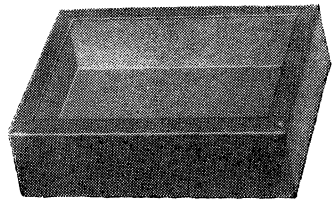
NEW PANEL CHASSIS



This new series of panel mounting chassis is for professional type installations primarily. Made of .062" aluminum. The front flange has standard notching suitable for mounting to a rack.

Catalog No.	Width	Depth	Height	Dealer Cost
CB-1370	19"	5-9/32"	1⅜"	**$2.03**
CB-1371	19"	5-9/32"	3½"	**2.35**
CB-1372	19"	5-9/32"	5¼"	**2.62**
CB-1373	19"	5-9/32"	7"	**3.00**
CB-1374	19"	5-9/32"	8¾"	**3.41**
CB-1375	19"	5-9/32"	10½"	**3.84**
CB-1376	19"	5-9/32"	12¼"	**4.01**
CB-1377	19"	5-9/32"	14"	**4.53**

STEEL CHASSIS

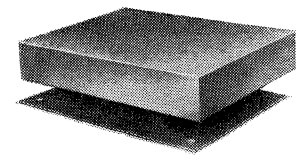


These Chassis are made from one piece of steel. All corners are reinforced and spot welded. The four sides are folded at the bottom for additional strength. This also permits a bottom plate to be attached if desired. As shown in table below, chassis are available in either black wrinkle finish or electro-zinc plated.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Gauge	Dealer Cost Black Wrinkle	Dealer Cost Zinc Plated
CB-628	**CB-629**	5"	7"	2"	22	**$ 95**	**$1.05**
CB-644	**CB-645**	5"	9½"	2½"	22	**1.17**	**1.28**
CB-788	**CB-776**	5"	9½"	1½"	22	**1.07**	**1.17**
CB-604	**CB-605**	5"	10"	3"	22	**1.10**	**1.22**
CB-755	**CB-756**	6"	14"	3"	20	**1.40**	**1.53**
CB-789	**CB-1191**	7"	7"	2"	20	**1.07**	**1.17**
CB-790	**CB-1192**	7"	9"	2"	20	**1.13**	**1.25**
CB-791	**CB-1193**	7"	11"	2"	20	**1.24**	**1.35**
CB-792	**CB-793**	7"	12"	3"	20	**1.31**	**1.50**
CB-646	**CB-1194**	7"	13"	2"	20	**1.36**	**1.57**
CB-647	**CB-1198**	5"	13½"	2½"	20	**1.37**	**1.50**
CB-649	**CB-1189**	7"	15"	3"	20	**1.58**	**1.75**
CB-665	**CB-666**	8½"	15"	3"	20	**1.83**	**2.00**
CB-1068	**CB-1066**	4"	17"	3"	20	**1.37**	**1.50**
CB-648	**CB-1199**	7"	17"	2½"	20	**1.64**	**1.80**
CB-757	**CB-758**	7"	17"	3"	20	**1.65**	**1.82**
CB-701	**CB-702**	8"	10"	2½"	20	**1.49**	**1.64**
CB-703	**CB-704**	8"	12"	2½"	20	**1.57**	**1.74**
CB-759	**CB-760**	8"	12"	3"	20	**1.59**	**1.75**
CB-650	**CB-774**	8"	17"	2"	20	**1.52**	**1.67**
CB-651*	**CB-775**	8"	17"	3"	20	**1.75**	**1.92**
CB-652	**CB-1195**	10"	12"	3"	20	**1.57**	**1.74**
CB-653	**CB-779**	10"	14"	3"	20	**1.68**	**1.84**
CB-654*	**CB-769**	10"	17"	2"	20	**1.78**	**1.95**
CB-636*	**CB-637**	10"	17"	3"	20	**1.82**	**1.97**
CB-655*	**CB-1196**	10"	17"	3"	18	**2.00**	**2.20**
CB-656	**CB-1197**	10"	23"	3"	18	**2.55**	**2.68**
CB-657*	**CB-770**	11"	17"	2"	18	**2.10**	**2.30**
CB-658*	**CB-771**	11"	17"	3"	18	**2.46**	**2.70**
CB-663*	**CB-661**	12"	17"	2"	18	**1.92**	**2.10**
CB-664*	**CB-662**	12"	17"	3"	18	**2.26**	**2.50**
CB-659*	**CB-772**	13"	17"	2"	18	**2.58**	**2.82**
CB-660*	**CB-773**	13"	17"	3"	18	**3.04**	**3.34**
CB-640*	**CB-641**	10"	17"	4"	18	**2.56**	**2.84**
CB-642*	**CB-643**	13"	17"	4"	18	**3.50**	**3.82**
CB-623	**CB-624**	10"	17"	5"	18	**4.00**	**4.40**
CB-625	**CB-626**	13"	17"	5"	18	**4.40**	**4.82**

* Indicates chassis punched to accommodate Chassis Mounting Brackets.

HEAVY DUTY CHASSIS

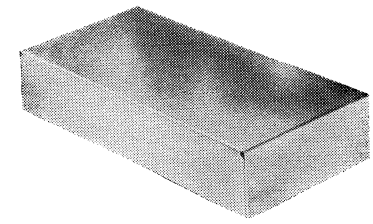


(Furnished with Bottom Plate)

These chassis, made of 16 gauge steel, are designed for applications requiring unusual sturdiness and where large weights are involved. The bottom plates for these chassis are furnished at no extra charge. Available in either black wrinkle finish or electro-zinc plate. All chassis are 17" wide.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Height	Dealer Cost Black Wrinkle	Dealer Cost Zinc Plated
CB-1758	**CB-1765**	8"	3"	**$3.48**	**$3.83**
CB-1760	**CB-1767**	11"	3"	**4.04**	**4.43**
CB-1761	**CB-1768**	13"	2"	**4.33**	**4.77**
CB-1762	**CB-1769**	13"	3"	**4.75**	**5.23**
CB-1763	**CB-1770**	13"	4"	**5.08**	**5.60**

ALUMINUM CHASSIS



The construction and design of these chassis are exactly the same as that of our steel chassis bases. The aluminum chassis are welded on Government approved spot welders that are the same as those used in the welding of aluminum aircraft parts. As a result, you can depend on Bud Aluminum Chassis to do a perfect job and to stand up under all conditions.

Please note that the gauges shown in the table are aluminum gauges.

Catalog Number	Depth	Width	Height	Gauge	Dealer Cost
AC-430	4"	6"	3"	18	**$1.17**
AC-431	4"	6"	2"	18	**1.10**
AC-432	4"	17"	3"	16	**2.33**
AC-402	5"	7"	2"	18	**1.10**
AC-429	5"	7"	3"	16	**1.25**
AC-403	5"	9½"	2"	18	**1.15**
AC-421	5"	9½"	3"	18	**1.47**
AC-404	5"	10"	3"	18	**1.63**
AC-422	5"	13"	3"	18	**1.65**
AC-433	6"	17"	3"	16	**2.56**
AC-405	7"	7"	2"	18	**1.22**
AC-406	7"	9"	2"	18	**1.46**
AC-407	7"	11"	2"	18	**1.58**
AC-408	7"	12"	3"	18	**1.75**
AC-409	7"	13"	2"	18	**1.67**
AC-411	7"	15"	3"	16	**2.34**
AC-423	7"	17"	3"	16	**2.75**
AC-424	8"	12"	3"	16	**2.09**
AC-425	8"	17"	2"	16	**2.34**
AC-412	8"	17"	3"	16	**2.56**
AC-413	10"	12"	3"	16	**2.42**
AC-414	10"	14"	3"	16	**2.84**
AC-415*	10"	17"	2"	16	**2.68**
AC-416*	10"	17"	3"	16	**3.00**
AC-426*	11"	17"	2"	14	**3.31**
AC-417*	11"	17"	3"	14	**3.97**
AC-418*	12"	17"	3"	14	**4.08**
AC-419*	13"	17"	2"	14	**3.34**
AC-420*	13"	17"	3"	14	**4.15**
AC-427*	10"	17"	4"	14	**4.34**
AC-428*	13"	17"	4"	14	**4.59**

* Indicates chassis punched to accommodate Chassis Mounting Brackets.

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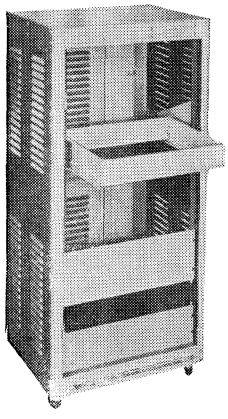
DRAWERS-SHELVES

SLIDING DRAWER ASSEMBLY



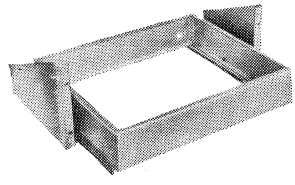
The new Bud S.D. 1717 Sliding Drawer Assembly is easily and quickly assembled and installed in any standard rack. Can't fall out, can't tilt . . . perfectly safe mounting for any object placed on it. Slides easily in and out on ball bearing suspension in the same manner as the drawers in the most expensive steel filing cabinets.

Here are some of the many uses of the Bud Sliding Drawer Assembly:

1. Mounting for record player
2. Base for portable typewriter
3. Mounting for apparatus or instruments
4. Base for writing table
5. Handy drawer space

In addition, there are many other handy uses for this practical drawer.

LOOK AT THESE CONSTRUCTION FEATURES:



Chassis formed from one piece of 14 gauge aluminum. Electrowelded. Chassis size 16¾" x 14" x 3" with ½" flange top and bottom.

Support brackets formed from one piece ⅛" aluminum.

Accurately punched to conform with standard panel mounting holes.

Slide rail fastens securely to chassis, slides easily in and out on ball bearings in channel.

Stop screw on slide rail prevents drawer from falling out of channel.

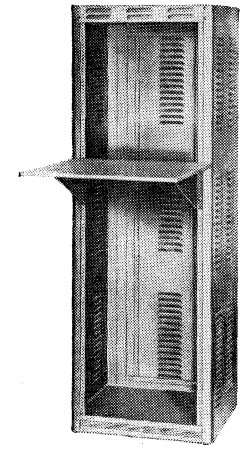
Support brackets and channel finished in etched aluminum.

Chassis finished in light grey hammertone. Will support up to 50 pounds.

Also available, aluminum plate which may be fastened to top of chassis as shelf, desk top or support; or attached to bottom of chassis to form drawer. Size 16¾" x 14". Made of 14 gauge aluminum. Light grey hammertone finish. Punched with four mounting holes. Catalog No. T.P.-1718.

Catalog No.	Weight	Dealer Cost
SD-1717	5 lbs.	**$11.20**
TP-1718	1½ lbs.	**2.08**

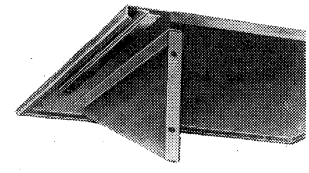
SHELF ASSEMBLY



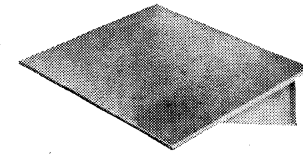
The BUD SHELF ASSEMBLY immediately adds extra utility to a standard rack and at very little cost. Its practical design and attractive appearance immediately indicate its value and long lasting qualities. This sturdy shelf assembly is useful as a desk, as work space and for numerous other purposes. It is finished in black or grey wrinkle or grey hammertone at no extra cost. Thus it will match the finish on all BUD racks.

Can't fall off . . . can't tilt . . . the shelf assembly is perfectly safe and will support any reasonable load placed upon it. The shelf portion is supported by two sturdy brackets. These brackets are punched to fit standard panel mounting strips. Besides being low in cost, an outstanding feature is that no panel is needed for support. However, the shelf assembly may be attached over a rack if so desired.

This BUD SHELF ASSEMBLY really provides extra convenience, extra quality and extra value. It should be a part of every rack installation.



Note construction and assembly features. Slides are welded to bottom of shelf to add additional strength and rigidity. Mounting brackets slip in to slides and are fastened with two screws. All necessary hardware is furnished.



The shelf portion of the assembly is 20" x 22" x 5/8", or 16" x 22" x 5/8", formed from 16 gauge steel. There is a ½" flange around the four sides, which adds to the sturdiness. Supporting brackets 7" high, are made from ⅛" steel. Overall height of assembly is 7".

Specify black or grey wrinkle or grey hammertone when ordering.

Catalog No.	Size	Weight	Dealer Cost
SA-1719	16" x 22"	12 lbs.	**$10.40**
SA-1720	20" x 22"	15 lbs.	**10.55**

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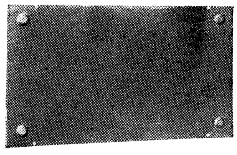
PANELS - BRACKETS - PLATES

CHASSIS BOTTOM PLATES

Steel and Aluminum



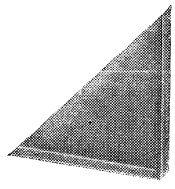
These bottom plates make excellent dust covers and protect all wiring and component parts of the chassis. Each plate has four formed bosses to prevent sharp edges from scratching a table top or other surface. Those numbers prefaced by "BP" are steel bottom plates, supplied in black wrinkle finish or electro-zinc plated finish. Those bottom plates prefaced by "BPA" are made of aluminum and have an etched finish.

STEEL

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Fits Chassis	Dealer Cost Black Wrinkle	Dealer Cost Zinc Plated
BP-705	BP-706	5″ x 7″	$ .50	$ .59
BP-680	BP-667	5″ x 9½″	.56	.68
BP-536	BP-538	5″ x 10″	.53	.60
BP-681	BP-668	7″ x 7″	.70	.80
BP-682	BP-669	7″ x 8″	.76	.80
BP-683	BP-670	7″ x 11″	.84	.83
BP-537	BP-539	7″ x 12″	.71	.88
BP-684	BP-671	7″ x 13″	.92	1.08
BP-685	BP-672	5″ x 13½″	.76	1.00
BP-1069	BP-1067	4″ x 17″	.63	.69
BP-686	BP-673	7″ x 17″	.90	1.15
BP-707	BP-708	8″ x 10″	.92	1.00
BP-709	BP-710	8″ x 12″	1.06	1.17
BP-687	BP-674	8″ x 17″	.95	1.32
BP-688	BP-675	10″ x 12″	.95	1.35
BP-517	BP-514	10″ x 14″	.97	1.07
BP-689	BP-676	10″ x 17″	1.17	1.37
BP-690	BP-677	11″ x 17″	1.17	1.40
BP-691	BP-678	12″ x 17″	1.27	1.43
BP-692	BP-679	13″ x 17″	1.47	1.67

ALUMINUM

BPA-1589	5″ x 7″	$0.74
BPA-1590	5″ x 9½″	.75
BPA-1591	5″ x 10″	.75
BPA-1592	7″ x 7″	.77
BPA-1593	7″ x 9″	.80
BPA-1594	7″ x 11″	.90
BPA-1595	7″ x 12″	.97
BPA-1596	7″ x 13″	1.14
BPA-1597	10″ x 17″	1.52
BPA-1598	13″ x 17″	2.07

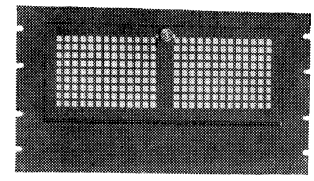


TRIANGULAR MOUNTING BRACKETS

For panel and chassis assemblies where large weights are involved, these triangular mounting brackets, with ¾″ flange, make extremely convenient supports. They are constructed of heavy gauge steel and are furnished in black enamel finish only. These are sold in pairs.

Catalog No.	Height	Depth	Actual Weight lbs.	Dealer Cost
MB-1266	5″	5″	1	$ .84 pr.
MB-1267	7″	7″	1	.97 pr.
MB-1268	9″	9″	1½	1.15 pr.

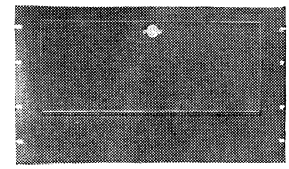
VENTILATED DOOR RACK PANELS



The Bud Ventilated Door Rack Panel has a generous perforated area in the door providing adequate ventilation for adjacent units. Distance from hinged side of opening to bottom 3½″. Distance from lock side of opening to top 1″. The panels are 19″ long and are available in either black or grey wrinkle finish or light grey hammered finish. OF SPECIAL INTEREST TO THE USER IS THE NEWLY DESIGNED IMPROVED LOCK ON THIS PANEL. THE LOCK IS A PLUNGER TYPE THAT MAKES CERTAIN IT IS EASY TO OPEN THE DOOR.

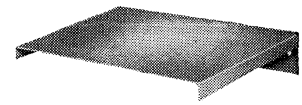
Catalog No.	Height	Door Opening	Actual Weight	Dealer Cost
PS-814	10½″	15⅜″ x 6″	6 lbs.	$6.65
PS-815	12¼″	15⅜″ x 7½″	7 lbs.	7.34

METAL DOOR RACK PANELS



When accessibility to component parts on the chassis is a vital point, this panel is extremely useful. The panels are available in either grey or black wrinkle finish or light grey hammered finish. Please be certain that you specify, by use of the proper suffix, for color when ordering. Panels are made of ⅛″ sheet steel. Distance from hinged side of opening to bottom 3½″. Distance from lock side of opening to top 1″.

Catalog No.	Height	Door Opening	Actual Weight	Dealer Cost
PS-615	10½″	15⅜″ x 6″	7¼ lbs.	$5.25
PS-616	12¼″	15⅜″ x 7½″	8¼ lbs.	5.75



CHASSIS DECKS

These chassis decks are suitable for use in carrying cases, utility cabinets, etc. Each unit is folded over 1½″ on the front, ½″ on the side and is made from steel which is black palladin finish. They are also useful for interstage shielding and supports in regular panel and chassis layouts.

Cat. No.	Width	Depth	Fits Cab. No.	Dealer Cost
CB-522	4¾″	5½″	CU-1095	$ .52
CB-523	4¾″	4½″	CU-1099	.50
CB-525	5¾″	5½″	CU-1124, CC-1096	.60

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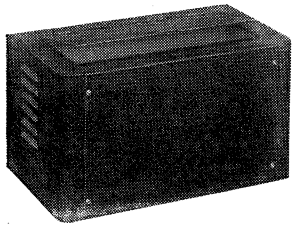
Net

CABINETS–CASES

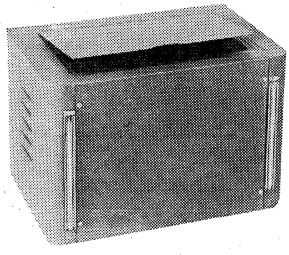
STREAMLINED CABINETS



Distinctive features of these cabinets are the rounded front corners and recessed hinge tops. 3½" opening in rear. All parts built into these cabinets are, therefore, easily accessible. Suitable chassis may be found under the listing of open end chassis on page J-72. These units are furnished in black wrinkle only.

Catalog No.	Panel Size	Cabinet Width	Cabinet Depth	Cabinet Height	Dealer Cost
C-1789	8" x 8"	10½"	8¼"	8"	$3.41
C-1746	8" x 10"	12½"	8¼"	8"	4.20
C-1747	8" x 12"	14½"	8¼"	8"	4.74
C-1748	8" x 14"	16½"	8¼"	8"	5.40
C-1790	8" x 16"	18½"	8¼"	8"	6.04
C-1730	12" x 18"	20⅝"	12"	12"	10.95

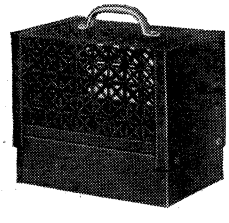
DELUXE STREAMLINED CABINETS



These cabinets are identical with those listed above, except that they have a ½" vertical chrome strip at each side of the panel and are supplied in grey wrinkle enamel finish only.

Catalog No.	Panel Size	Cabinet Width	Cabinet Depth	Cabinet Height	Dealer Cost
C-1791	8" x 8"	10½"	8¼"	8"	$ 5.00
C-1781	8" x 10"	12½"	8¼"	8"	5.33
C-1782	8" x 12"	14½"	8¼"	8"	5.66
C-1783	8" x 14"	16½"	8¼"	8"	6.49
C-1792	8" x 16"	18½"	8¼"	8"	6.83
C-1731	12" x 18"	20⅝"	12"	12"	11.33

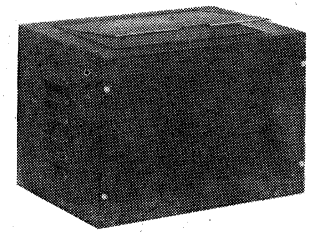
MINIATURE AMPLIFIER FOUNDATIONS



With the increased use of miniature tubes, smaller cabinets can be used when designing a compact amplifier. This amplifier foundation was designed expressly for this purpose. The chassis is 5" x 7" x 2". Height is 6". The cover is made of perforated metal. A streamlined handle makes this cabinet portable. Black wrinkle finish only.

Cat. No.	Actual Weight lbs.	Dealer Cost
CA-1754	1½	$4.00

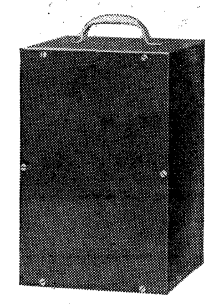
INSTRUMENT & RECEIVER CABINETS



Each cabinet has an evenly recessed hinge cover with convenient finger lift. The panel in the front of the cabinet is readily attached with self tapping screws. No opening in rear. Louvers provide satisfactory ventilation. For chassis to fit these cabinets, see the open end chassis listed on page J-72. Finished in black wrinkle enamel only.

Cat. No.	Height	Width	Depth	Dealer Cost
C-973	7"	8"	8"	$3.36
C-993	7"	10"	8"	3.80
C-994	7"	12"	8"	4.20
C-995	7"	14"	8"	4.41
C-1190	8"	16"	8"	6.30
C-975	9"	15"	11"	6.30
C-999	12"	18"	12"	8.66

CARRYING CASES



These carrying cases have many uses. An easy grip handle is fastened to the top. Front and back panels are removable. Welded construction assures maximum strength where needed, and this unit is also available in aluminum to provide minimum weight where required for portable work. For chassis to fit these cabinets, see the chassis decks on page J-75. Prefix "CC" represents steel construction. Available in black wrinkle or light grey hammertone finish. Prefix "ACC" represents aluminum construction. Available with natural finish or light grey hammertone.

STEEL (Black Wrinkle or Grey Hammertone)

Cat. No.	Depth	Width	Height	Dealer Cost
CC-1095	5"	6"	9"	$2.66
CC-1091	5"	9"	6"	2.66
CC-1096	6"	7"	12"	3.75
CC-1092	6"	12"	7"	3.75
CC-1097	7"	7¾"	15"	4.17
CC-1100	8"	10"	10"	4.00
CC-1093	7"	15"	9"	5.25

ALUMINUM (Natural Finish or Grey Hammertone)

Cat. No.	Depth	Width	Height	Dealer Cost Natural	Grey
ACC-2095	5"	6"	9"	$3.17	$3.49
ACC-2091	5"	9"	6"	3.17	3.49
ACC-2096	6"	7"	12"	3.65	4.00
ACC-2092	6"	12"	7"	3.65	4.00

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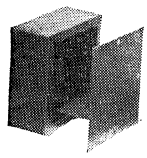
CABINETS–BOXES

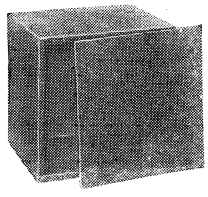
MINIATURE UTILITY CABINETS
(With Attached Chassis)



A long sought for item has been a small cabinet with a chassis attached to the front panel. This is indispensable for building electronic devices using miniature tubes or transistors. Front and rear panels are removable and fastened with self tapping screws that permit easy accessibility. Finished in black wrinkle enamel.

Cat. No.	Height	Width	Depth	CHASSIS SIZE			Dealer Cost
C-1793	4″	4″	2″	1″	3⅛″	1⅞″	$1.15
C-1794	4″	5″	3″	1″	4⅛″	2⅞″	1.27
C-1795	5″	4″	3″	1¼″	3⅛″	2⅞″	1.27
C-1796	6″	5″	4″	1¾″	4⅛″	3⅞″	1.58
C-1797	5″	6″	4″	1¼″	5⅛″	3⅞″	1.58
C-1798	6″	6″	6″	1¾″	4⅞″	5⅞″	1.67

UTILITY CABINETS



A large number of sizes available makes this line useful for all types of electronic equipment. These cabinets have two removable panels for easy accessibility. Units prefixed by CU are made from cold rolled steel and are finished in black wrinkle or light grey hammertone. Those prefixed by AU are made from high grade sheet aluminum and have natural finish or light grey hammertone.

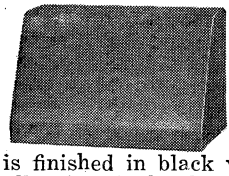
STEEL (Black Wrinkle or Grey Hammertone)

Cat. No.	Depth	Width	Height	Dealer Cost
CU-883	2″	4″	4″	$1.00
CU-728	3″	5″	4″	1.10
CU-729	4″	5″	6″	1.38
CU-1098	6″	6″	6″	1.52
CU-1099	5″	6″	9″	1.96
CU-879	7″	8″	10″	2.66
CU-1124	6″	7″	12″	2.66
CU-880	8″	10″	10″	3.24
CU-881	8″	11″	12″	4.13
CU-882	7″	9″	15″	4.31

ALUMINUM (Natural or Grey Hammertone)

Cat. No.	Depth	Width	Height	Dealer Cost Natural	Grey
AU-1083	2″	4″	4″	$1.29	$1.39
AU-1028	3″	5″	4″	1.37	1.50
AU-1029	4″	5″	6″	1.67	1.83
AU-1039	6″	6″	6″	1.85	2.03
AU-1040	5″	6″	9″	2.35	2.58

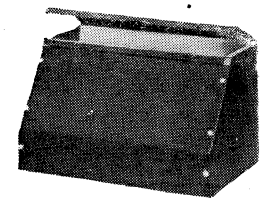
SLOPING PANEL UTILITY CABINETS



This cabinet is similar to the Sloping Panel Utility Box, with the exception of the fact that the opening is on the bottom of the cabinet rather than in the back. It is finished in black wrinkle enamel only. Height on all units 4″, depth 4½″.

Catalog No.	Width	Actual Weight lbs.	Dealer Cost
C-1578	4″	¾	$1.05
C-1579	5″	¾	1.20
C-1580	6″	1	1.39
C-1581	7″	1	1.67

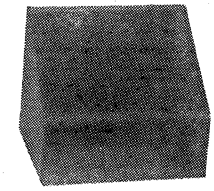
SLOPING PANEL CABINETS



This entire front panel of this cabinet is removable if so desired. THIS CABINET IS ALSO PROVIDED WITH A HINGED TOP FOR EASY ACCESSIBILITY TO TUBES AND OTHER PARTS THAT ARE MOUNTED ON THE CHASSIS, WITHOUT NECESSITATING REMOVAL OF THE FRONT PANEL. These cabinets are finished in black wrinkle enamel or light grey hammertone. Specify with suffix B for black, HG for grey hammertone.

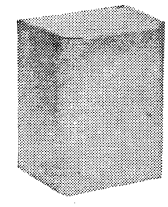
Catalog Number	Height	Width	Depth	Fits Chassis	Dealer Cost
C-1584	6½″	7-1/16″	7 5/16″	7″ x 6″ x 2″	$3.30
C-1585	6½″	9-1/16″	7 5/16″	7″ x 8″ x 2″	3.75
C-1586	6½″	11-1/16″	7 5/16″	7″ x 10″ x 2″	4.15
C-1587	8″	8-1/16″	8″	7″ x 7″ x 2″	3.99
C-1588	8″	10-1/16″	8″	7″ x 9″ x 2″	4.41
C-1892	8″	13-1/16″	8½″	8″ x 12″ x 2½″	4.99
C-1893	10″	18-1/16″	10½″	10″ x 17″ x 3″	6.99
C-1894	8″	14-1/16″	8″	7″ x 13″ x 2″	4.79
C-1896	9″	18-1/16″	8⅛″	7″ x 17″ x 3″	6.84

SLOPING PANEL UTILITY BOXES



The sloping panel utility box offers a streamlined appearance and enough space to house conveniently a two or three miniature tube amplifier or gadget. Height is 4″, depth is 4¼″. A ⅜″ flange around the rear opening of the cabinet provides convenient back cover mounting. Extremely compact, it will accommodate a Bud Miniature Aluminum Chassis. Finished in black wrinkle enamel only.

Catalog No.	Width	Use Chassis No.	Actual Weight lbs.	Dealer Cost
C-1602	4″	CB-1617	½	$1.20
C-1603	5″	CB-1618	½	1.30
C-1604	6″	CB-1619	1	1.40
C-1605	7″	CB-1620	1	1.50



STREAMLINED MULTIPURPOSE CABINET

A handsome streamlined metal cabinet, finished in grey wrinkle enamel only. The back of the cabinet is completely open for ventilation purposes.

Cat. No.	Height	Width	Depth	Use Chassis No.	Dealer Cost
C-1787	4½″	5½″	3½″	CB-1625	1.70
C-1788	6½″	5½″	3½″	CB-1625	1.75

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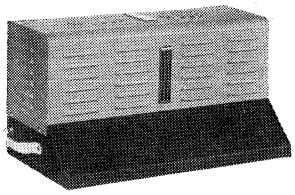
FOUNDATIONS-BOXES-CASES

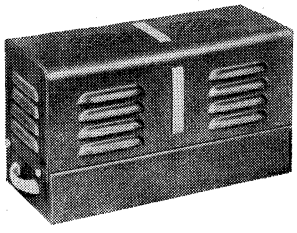
SLOPING PANEL AMPLIFIER FOUNDATIONS



Each foundation consists of a 3½" sloping front chassis on which is mounted a removable top cover. The top cover, 6" high, contains grill cutouts and louvers for adequate ventilation. All have handles mounted on the chassis. The cover is finished in grey wrinkle with chrome trim, and the chassis is finished in black wrinkle to give a unique and attractive appearance.

Catalog No.	Top Depth	Chassis Width	Chassis Depth	Dealer Cost
CA-1980	5"	10"	8"	$7.09
CA-1981	7"	12"	10"	7.25
CA-1982	7"	17"	10"	8.25
CA-1983	10"	17"	13"	9.34

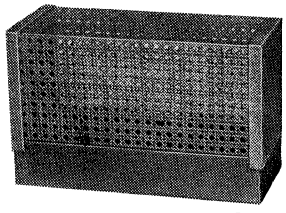
STREAMLINED AMPLIFIER FOUNDATIONS



This unit is most often used to obtain beauty in an amplifier and similar apparatus. Each foundation consists of a standard chassis 3" high, on which is mounted a removable top cover. Chrome trim is used to give additional attractiveness to the equipment. Sturdy, easy grip handles are attached to the chassis. Specify with the suffix "B" for black wrinkle finish or the suffix "G" for grey wrinkle.

Catalog No.	Height	Width	Depth	Dealer Cost
CA-1750	9"	10-1/16"	5"	$ 4.10
CA-1751	9"	12-1/16"	7"	5.32
CA-1752	9"	17-1/16"	7"	5.77
CA-1753	9"	17-1/16"	10"	6.65

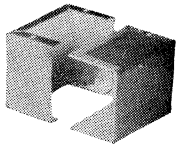
AMPLIFIER FOUNDATIONS



This standard Bud Amplifier Foundation consists of a regular chassis on which is attached a perforated metal cover providing all that you require in ventilation. Easy grip handles attached to the chassis. These units are furnished in black wrinkle finish only.

Cat. No.	Height	Width	Depth	Chassis Height	Dealer Cost
CA-699	8-5/16"	9⅝"	5¼"	2½"	$4.19
CA-1125	8-5/16"	13⅝"	5¼"	2½"	4.90
CA-1126	8-5/16"	17⅛"	7¼"	2½"	6.00
CA-1128	8-13/16"	12⅛"	10⅛"	3"	6.66

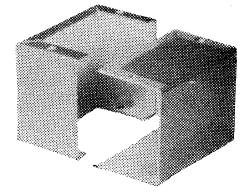
HANDY BOXES



The design of the Handy Box permits a large number of small components to be easily wired or serviced. The cover is held by four self tapping screws. Made from 22 gauge steel and is furnished in black wrinkle finish only.

Catalog No.	Height	Length	Width	Actual Weight lbs.	Dealer Cost
HB-1621	2¼"	4¼"	1½"	½	$ .95
HB-1622	2"	4"	2¾"	½	1.05

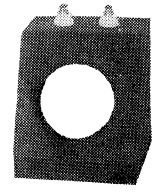
MINIBOXES



There are thousands of uses in the field of radio and electronics for these boxes. They are made of high quality aluminum. The design of the box permits installation of more components than would be possible in the more conventionally designed box of the same size. Construction is of the two piece type, each half forming three sides. The flange type construction assures adequate shielding. These units are available in either natural aluminum finish or grey hammertone finish.

Gray Cat. No.	Natural Cat. No.	Length	Height	Width	Dealer Cost Natural	Dealer Cost Grey
CU-2100	CU-3000	2¾"	2⅛"	1⅝"	$ .60	$ .80
CU-2101	CU-3001	3¼"	2⅛"	1⅝"	.60	.83
CU-2102	CU-3002	4"	2⅛"	1⅝"	.63	.86
CU-2103	CU-3003	4"	2¼"	2¼"	.82	.98
CU-2104	CU-3004	5"	2¼"	2¼"	.88	1.04
CU-2105	CU-3005	5"	4"	3"	.97	1.27
CU-2106	CU-3006	5¼"	3"	2⅛"	.95	1.12
CU-2107	CU-3007	6"	5"	4"	1.20	1.75
CU-2108	CU-3008	7"	5"	3"	1.32	1.85
CU-2109	CU-3009	8"	6"	3½"	1.98	2.23
CU-2110	CU-3010	10"	6"	3½"	2.17	2.74
CU-2111	CU-3011	12"	7"	4"	2.77	3.23
CU-2112	CU-3012	17"	5"	4"	3.21	3.80
CU-2113	CU-3013	10"	2"	1⅝"	1.25	1.32
CU-2114	CU-3014	12"	2½"	2¼"	1.22	1.52
CU-2115	CU-3015	4"	2"	2¾"	.82	1.05
CU-2116	CU-3016	4¼"	2¼"	1½"	.85	1.09
CU-2117	CU-3017	3¼"	2⅛"	1⅛"	.65	.92

METER CASES



Designed for all applications requiring a modern meter case. Size: 4¼" height x 4" deep x 4" wide—rear of case open. All cases have a sloping front with the top corner rounded. Meter cases No. CM-1241 and CM-1242 have insulators on the top for leads to the meter. CM-1965 and CM-1966 are furnished without insulators. These steel units are finished in black wrinkle enamel or light grey hammertone.

Also available are our new aluminum meter cases, prefixed by the letters CMA, as shown in the table below. These units are the same size and design as the steel meter cases, but are especially suitable for use when a case that will have no magnetic effect on a meter is required. No insulators furnished. These cases are natural aluminum finish or light grey hammertone.

Cat. No.	Hole Diameter	Fits Meter Size	Dealer Cost Black	Dealer Cost Grey	Dealer Cost Natural
CM-1241	2.334"	2"	$1.32	$1.32	
CM-1242	2.835"	3"	1.32	1.32	
CM-1965	2.334"	2"	1.00	1.00	
CM-1966	2.835"	3"	1.00	1.00	
CMA-2065	2.334"	2"		1.33	$1.22
CMA-2066	2.835"	3"		1.33	1.22

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SPECIAL SHEET METAL FABRICATION

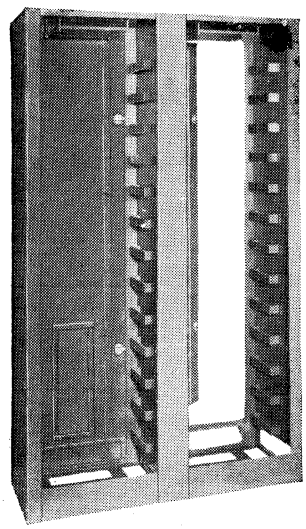
Now, Bud Radio, through its Metal Products Division, offers greatly increased facilities for the production of special sheet metal items. New machinery has been added, departments have been modernized and streamlined, and new methods have been developed.

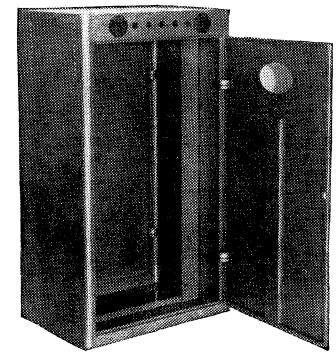
We make over four hundred different sheet metal products as stock items, which are illustrated elsewhere in this catalog. Often a slight change in one of our standard items will eliminate the necessity of special tools and dies, thereby reducing costs greatly. Since we produce thousands of sheet metal products, every month, for ourselves and for leading firms throughout the country, we are able to effect economies in production which mean lower prices and faster delivery.

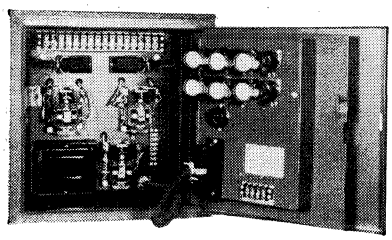
Our expanded facilities, expert workmanship, years of experience and manufacturing "know how" assure high quality products. In addition, our Engineering Staff is always available for consultation and advice. We suggest that you send us your blueprints for estimate.

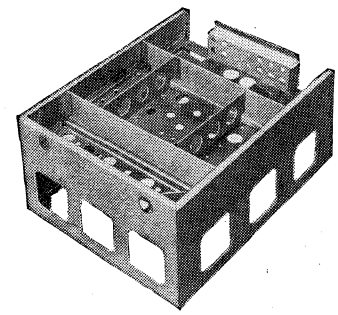
Whether the quantity be one, ten, one hundred, one thousand or many thousands, we are interested in the opportunity to be of service to you.

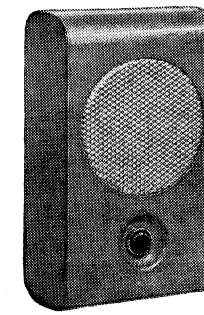
Illustrated on this page are a few examples of specially fabricated sheet metal products.











Only a few of many BUD Products are shown. Write for complete catalog.

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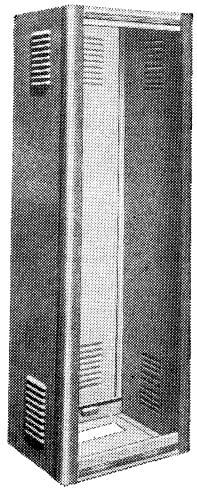
PREMIER PRECISION BUILT METAL HOUSINGS

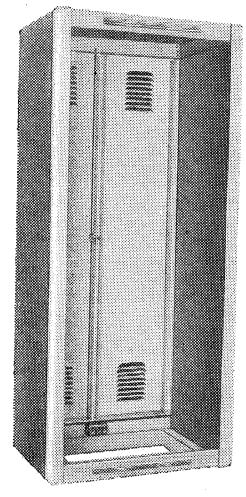
HEAVY DUTY RACKS FOR 19", 24" AND 30" RACK PANELS

- Rigidly constructed of #16 gauge steel with a #12 gauge steel bottom and welded throughout.
- Panel mounting angles are $\frac{3}{16}$ thick and are tapped 12-24 on Universal spacings.
- Rear doors are hung on sturdy loose-jointed hinges and closed by a chrome handle.
- A rectangular cut-out is made in the bottom for leads, etc.
- Racks are supplied with or without louvres.
- Vertical rounded corner moldings are supplied on **RM** racks.
- Tops and bottoms are trimmed with red striped **chrome** moulding.
- Panel mounting angles are adjustable to any distance from the front door by means of channel slides.
- **FD** racks have handles and locks.
- A Duplex Receptacle and Outlet Box are Furnished in the Back Under the Door.
- Racks finished in either black or gray wrinkle, Gray or Brown Hammertone.

RM MODEL

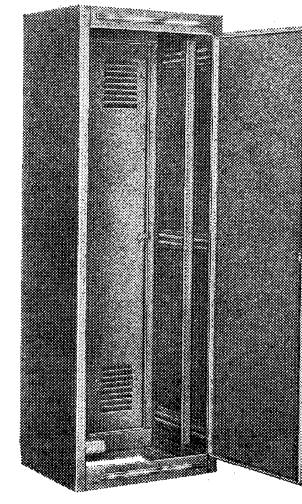


RM-7030 MODEL



Rack supplied with double rear doors and with a 3-point locking device.

FD MODEL



18" DEEP RACKS

Cat. No.	Size	Panel Space	Shp. Wt. Lbs.	List Price
RM-3619	42⅞x22"	36¾x19"	100	$105.00
RM-6119	67⅜x22"	61¼x19"	150	136.50
RM-7618	76⅛x22"	70 x19"	170	168.00
RM-7719	83⅛x22"	77 x19"	190	173.25

RMA RACKS are 24" deep and are constructed the same as RM racks except the panel mounting angles which are adjustable.

24" DEEP RACKS

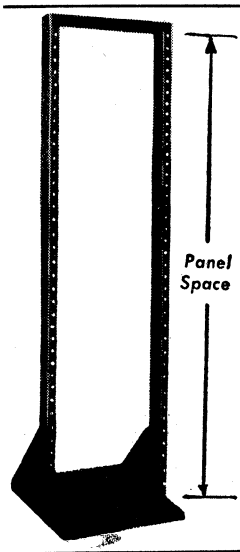
Cat. No.	Size	Panel Space	Shp. Wt. Lbs.	List Price
RM-6124	67⅜x23⅝"	61¼x19"	175	$194.25
RM-7019	76⅛x23⅝"	70 x19"	200	210.00
RM-7724	83⅛x23⅝"	77 x19"	225	236.25
RM-7030	76⅛x33"	70 x30"	240	304.50
RMA-2742	48⅛x27"	42x24"	170	$191.70
RMA-2761	67⅜x27"	61¼x24"	210	218.35
RMA-2770	76⅛x27"	70x24"	240	235.85
RMA-2777	83⅛x27"	77x24"	270	262.50

18" DEEP RACKS WITH DOORS

Cat. No.	Size	Panel Space	Shp. Wt. Lbs.	List Price
FD-3619	42⅞x22"	36¾x19"	115	$162.50
FD-6119	67⅜x22"	61¼x19"	175	183.75
FD-7019	76⅛x22"	70 x19"	200	210.00
FD-7719	83⅛x22"	77 x19"	220	225.75

24" DEEP RACKS WITH DOORS

Cat. No.	Size	Panel Space	Shp. Wt. Lbs.	List Price
FD-2742	48⅛x27"	42x24"	180	$222.50
FD-2761	67⅜x27"	61¼x24"	230	262.50
FD-2770	76⅛x27"	70x24"	260	279.70
FD-2777	83⅛x27"	77x24"	290	315.00



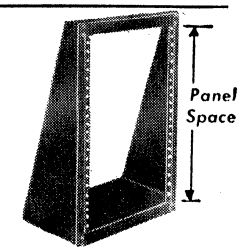
CHANNEL RELAY RACKS

- Rigidly constructed of #12 gauge cold rolled sheet steel and finished in Black Wrinkle.
- Vertical members and top cross-brace are welded together.
- Panel mounting holes are tapped for 10/32 machine screws on Universal Spacings.
- Racks are shipped knocked down with all necessary bolts for easy assembly.

Cat. No.	H.	W.	D.	Panel Space	Shp. Wt. Lbs.	List Price
RR-800	39¼"	20"	18⅜"	36¾" x 19"	40	$30.45
RR-801	74¼"	20"	20⅞"	71¾" x 19"	55	36.25
RR-802	79½"	20"	20⅞"	77" x 19"	60	42.00

All prices F.O.B. N. Y. 59, N. Y.

TABLE TYPE RELAY RACKS



- Rigidly constructed of #16 gauge cold rolled sheet steel and finished in Black Wrinkle.
- Base constructed of one piece, similar to a chassis.
- Panel mounting holes are tapped for 10/32 machine screws on Universal Spacings.
- Racks are shipped knocked down with all necessary bolts for easy assembly.

Cat. No.	H.	W.	D.	Panel Space	Shp. Wt. Lbs.	List Price
TR-2119	25"	21"	12"	21 x 19"	17	$11.55
TR-2819	32"	21"	12"	28 x 19"	20	14.45

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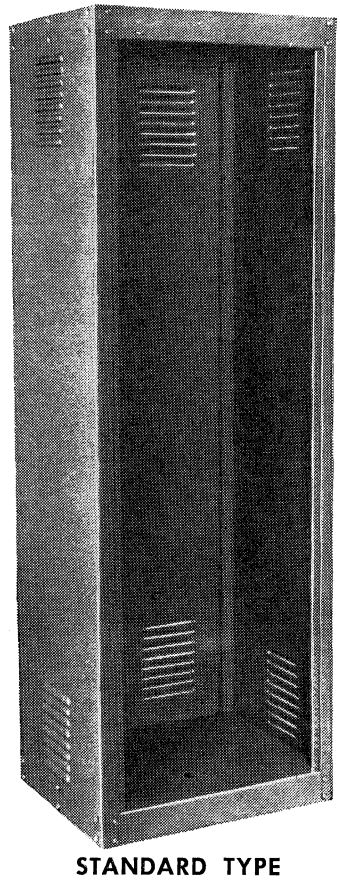
PREMIER PRECISION BUILT METAL HOUSINGS

ENCLOSED RELAY RACKS FOR STANDARD 19" RACK PANELS

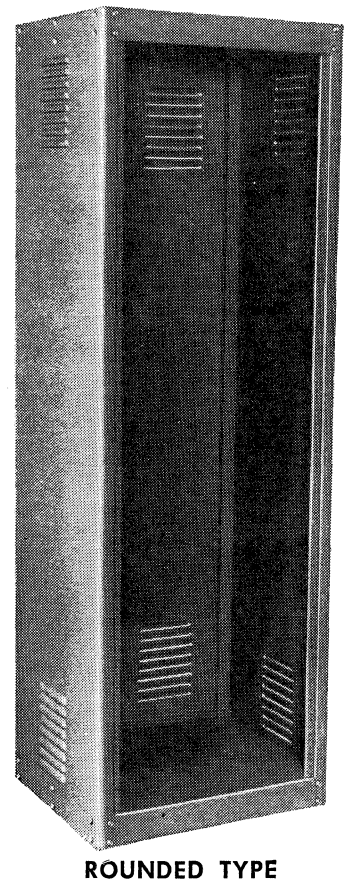


STANDARD TYPE

Catalog No. RS-3619
Overall Dimensions: 41 7/8x22x18"
Panel Space: 36 3/4x19"
Shipping Weight: 80 Lbs.
List Price: $57.25

Catalog No. RS-6119
Overall Dimensions: 66 3/8x22x18"
Panel Space: 61 3/4x19"
Shipping Weight: 120 Lbs.
List Price: $85.25

Catalog No. RS-7719
Overall Dimensions: 82 1/8x22x18"
Panel Space: 77x19"
Shipping Weight: 140 Lbs.
List Price: $102.40



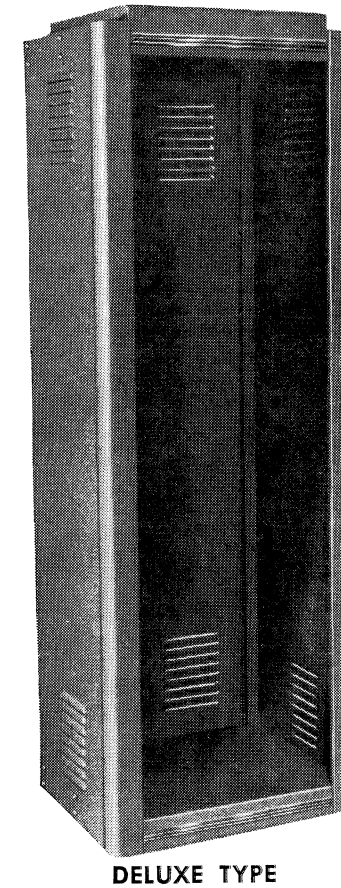
ROUNDED TYPE

Catalog No. R-3619
Overall Dimensions: 41 7/8x22x18"
Panel Space 36 3/4x19" Shp. Wt.: 80 Lbs.
List Price: $57.25

Catalog No. R-4219
Overall Dimensions: 47 1/8x22x18"
Panel Space: 42x19" Shp. Wt.: 90 Lbs.
List Price: $65.55

Catalog No. R-6119
Overall Dimensions: 66 3/8x22x18"
Panel Space: 61 1/4x19" Shp. Wt.: 120 Lbs.
List Price: $85.25

Catalog No. R-7719
Overall Dimensions: 82 1/8x22x18"
Panel Space: 77x19" Shp. Wt.: 140 Lbs.
List Price: $102.40



DELUXE TYPE

Catalog No. DR-3619
Overall Dimensions: 43 1/8x22x18"
Panel Space: 36 3/4x19"
Shipping Weight: 85 Lbs.
List Price: $81.40

Catalog No. DR-6119
Overall Dimensions: 67 5/8x22x18"
Panel Space: 61 1/4x19"
Shipping Weight: 135 Lbs.
List Price: $99.75

Catalog No. DR-7719
Overall Dimensions: 83 3/8x22x18"
Panel Space: 77x19"
Shipping Weight: 160 Lbs.
List Price: $120.75

All prices F.O.B. N. Y. 59, N. Y.

- Rigidly constructed of #16 gauge cold rolled sheet steel.
- The panel mounting angles are of #12 gauge steel and are tapped for 10/32 machine screws on Universal spacings.
- Panels fit into a recess so that the edges are not exposed.
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Rear doors are hung on sturdy loose-jointed hinges, and closed by a chrome handle.
- ROUNDED TYPE have front vertical rounded corners.
- STANDARD TYPE have square front vertical corners.
- DELUXE TYPE — The removable vertical corner mouldings are rounded and cover the mounting screws.
- DELUXE TYPE — Top and bottom are trimmed with red striped chrome finished moulding.
- Cabinets finished in either Black or Gray wrinkle, Gray or Brown Hammertone.

MULTIPLE RACK UNITS

The above racks can be joined together to make multiple units by means of a solid center partition which is bolted to the top and bottom. Vertical trim mouldings are supplied on the DR models. When ordering multiple units specify number of units, such as double, triple, etc. Each multiple section comprises a top, bottom, rear door and a center partition. Use the prefix MR for Models R and RS, such as MR-3619; and DMR for DR Models, such as DMR-3619.

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NEW YORK 59, N. Y.

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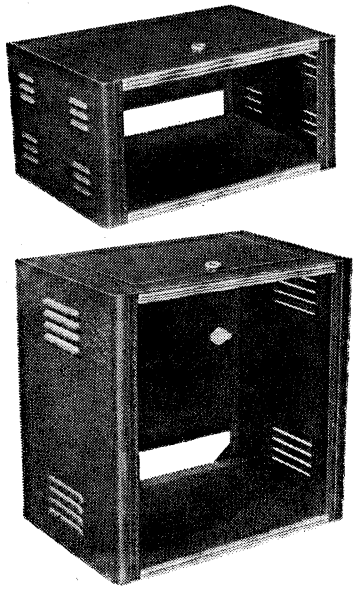
PREMIER PRECISION BUILT METAL HOUSINGS

DELUXE DESK PANEL CABINET RACKS
FOR STANDARD 19" RACK PANELS



- Front vertical corners are rounded and the top and bottom are trimmed with red striped chromo finished moulding.
- Rigidly constructed of #16 gauge cold rolled sheet steel.
- Panels fit into a recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10/32 machine screws on Universal Spacings.
- Piano type hinges are used on the top doors, which are provided with flush snap catches.
- Cabinets finished in either Black or Grey Wrinkle, Gray or Brown Hammertone.

SINGLE UNIT
(with door in top only)

Cat. No.	Cabinet Size	Available Panel Space	Shp. Wt. Lbs.	List Price
DCR-70	8¾ x 21¾ x 15¼" deep	7 x 19"	22	$19.95
DCR-80	10½ x 21¾ x 15¼" deep	8¾ x 19"	24	21.00
DCR-100	12¼ x 21¾ x 15¼" deep	10½ x 19"	26	23.65
DCR-120	14 x 21¾ x 15¼" deep	12¼ x 19"	28	25.55
DCR-140	15¾ x 21¾ x 15¼" deep	14 x 19"	32	28.35

DOUBLE UNIT
(with door in top and door on rear panel)

DCR-170	19¼ x 21¾ x 15¼" deep	17½ x 19"	40	33.60
DCR-190	21 x 21¾ x 15¼" deep	19¼ x 19"	42	35.20
DCR-210	22¾ x 21¾ x 15¼" deep	21 x 19"	44	36.50

TRIPLE UNIT
(with door in top and door on rear panel)

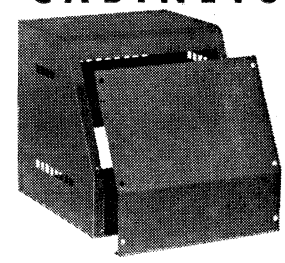
DCR-260	28 x 21¾ x 15¼" deep	26¼ x 19"	45	39.40
DCR-310	33¼ x 21¾ x 15¼" deep	31½ x 19"	40	41.50

QUAD UNIT
(with door in top and door on rear panel)

DCR-350	36¾ x 21¾ x 15¼" deep	35 x 19"	55	43.60

FOR DESK CABINET RACKS IN SUPER DELUXE AND KNOCKED DOWN MODELS — SEE PAGE J-107. FOR MODELS 18" DEEP — SEE PAGE J-112.

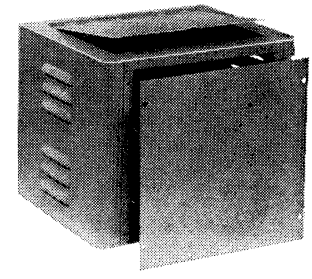
CABINETS



SLOPING FRONT

Cabinet has rounded top corners and a removable front panel. Back of cabinet is perforated and has opening for leads. Constructed of #20 gauge steel. Finished in Grey Wrinkle.

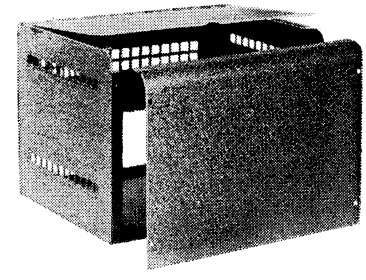
Cat. No.	H. W. D.	Use Chassis No.	Ship. Wt. Lbs.	List Price
SFC-500	8 x 8 x 8"	CH-403	6	$ 6.72
SFC-501	8 x 10 x 8"	CH-404	7	7.46
SFC-502	8 x 14 x 8"	CH-406	8	8.04
SFC-503	9 x 18 x 8"	CH-409	10	11.55
SFC-504	12 x 18 x 12"	CH-415	14	14.70



HINGED TOP ROUNDED CORNER TYPE

Cabinet has front vertical rounded corners and a removable front panel. Back of cabinet is louvred and has opening for leads. Constructed of #20 gauge steel. Finished in Grey Wrinkle.

Cat. No.	H. W. D.	Panel Size	Use Chassis No.	Ship. Wt. Lbs.	List Price
HTC-200	8 x 10 x 8"	8 x 8"	CH-403	6	$ 6.30
HTC-201	8 x 12 x 8"	8 x 10"	CH-404	6½	6.85
HTC-202	8 x 16 x 8"	8 x 14"	CH-406	6½	8.90
HTC-203	9 x 17 x 11"	9 x 15"	CH-413	11	13.80
HTC-204	12 x 20 x 12"	12 x 18"	CH-415	13½	16.30
HTC-205	8 x 14 x 8"	8 x 12"	CH-405	7¼	7.90



HINGED TOP STANDARD TYPE

Front Panel has a rounded corner on top and is removable. Top door has a piano hinge. Back of cabinet is perforated and has opening for leads. Constructed of #20 gauge steel. Finished in Black Wrinkle.

Cat. No.	H. W. D.	For C	Use Chassis No.	Ship. Wt. Lbs.	List Price
HTC-100	7¼ x 10½ x 6"	5½ x 9	CH-400	4	$ 5.05
HTC-101	7¼ x 8 x 8"	7 x 7	CH-403	4½	5.05
HTC-102	7¼ x 10 x 8"	7 x 9	CH-404	4¾	5.80
HTC-103	7¼ x 14 x 8"	7 x 13	CH-406	5¾	6.60
HTC-104	9 x 15 x 10¾"	10 x 14	CH-413	8¼	10.80
HTC-105	12 x 18 x 12"	10 x 17	CH-415	12¼	12.60
HTC-106	7¼ x 12 x 8"	7 x 11	CH-405	5¼	6.30

All prices F.O.B. N. Y. 59, N. Y.

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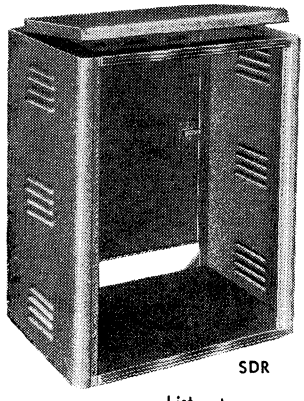
PREMIER PRECISION BUILT METAL HOUSINGS

DESK CABINET RACKS IN SUPER DELUXE AND KNOCKED DOWN MODELS

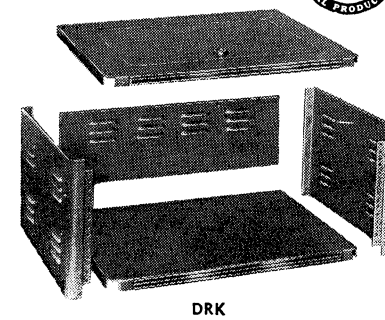


SDR

SAME FEATURES AS DCR MODEL CABINET RACKS PLUS:

- Top door on Models SDR and SDRK open to 90° and have a rounded front corner.
- Models SDRK and DRK are supplied knocked down with all necessary bolts for assembly. On these models the bolts are not visible from the outside and have the same appearance as the welded models.
- Cabinets finished in either Black or Gray Wrinkle, Gray or Brown Hammertone.

For Deluxe Desk Cabinet Racks See Page J-106.
For Models 18" Deep See Page J-112.



DRK

SINGLE UNIT (with door in top only)

Catalog No.	List Price	Catalog No.	List Price	Catalog No.	List Price	Cabinet Size	Ship. Wt. Lbs.	Available Panel Space
SDR- 70	$27.30	SDRK- 70	$26.25	DRK- 70	$18.90	8¾ x 21¾ x 15¼" deep	22	7" x 19"
SDR- 80	28.35	SDRK- 80	27.30	DRK- 80	19.95	10½ x 21¾ x 15¼" deep	24	8¾" x 19"
SDR-100	31.00	SDRK-100	29.95	DRK-100	22.60	12¼ x 21¾ x 15¼" deep	26	10½" x 19"
SDR-120	32.85	SDRK-120	31.80	DRK-120	24.45	14 x 21¾ x 15¼" deep	28	12¼" x 19"
SDR-140	35.70	SDRK-140	34.65	DRK-140	27.30	15¾ x 21¾ x 15¼" deep	32	14" x 19"

DOUBLE UNIT (with door in top and door on rear)

SDR-170	40.95	SDRK-170	39.90	DRK-170	32.55	19¼ x 21¾ x 15¼" deep	40	17½" x 19"
SDR-190	42.60	SDRK-190	41.50	DRK-190	34.15	21 x 21¾ x 15¼" deep	42	19¼" x 19"
SDR-210	43.85	SDRK-210	42.75	DRK-210	35.45	22¾ x 21¾ x 15¼" deep	44	21" x 19"

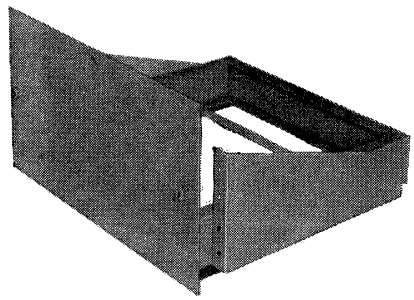
TRIPLE UNIT (with door in top and door on rear)

SDR-260	46.80	SDRK-260	45.68	DRK-260	38.35	28 x 21¾ x 15¼" deep	45	26¼" x 19"
SDR-310	48.85	SDRK-310	47.80	DRK-310	40.45	33¼ x 21¾ x 15¼" deep	50	31½" x 19"

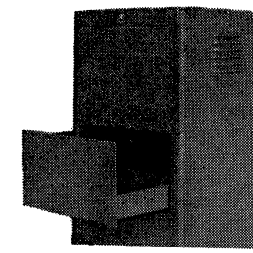
QUAD UNIT (with door in top and door on rear)

SDR-350	50.95	SDRK-350	49.90	DRK-350	42.55	36¾ x 21¾ x 15¼" deep	50	35" x 19"

SLIDING DRAWER TO FIT STANDARD 19" ENCLOSED RELAY RACK CABINETS AND 18" DEEP DESK CABINET RACKS



Panel made of #12 gauge steel; chassis of #16 steel and has a 1" flange on top and bottom to accommodate plywood for the record changer. The chassis is mounted on ball-bearing suspension slides which can sustain 40 lbs. Drawer extends 11" from front of cabinet. Entire unit mounts on angle brackets which can be bolted on to the cabinet. Supplied knocked down with all necessary bolts for easy assembly. Locks in place by means of 2 latches. Finished in black or gray wrinkle, and Gray or Brown Hammertone.

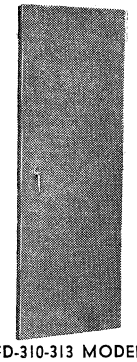


PHOTOGRAPH SHOWING SLIDING DRAWER MOUNTED IN ENCLOSED RELAY RACK (R MODEL)

Catalog No.	Will Fit Rack No.	Panel Size	Chassis Size	Ship. Wt. Lbs.	List Price
RD-10	R, RS, DCR-18 and SDR-18 Models	10⅜" x 18⅞"	17" wide x 16½" deep x 3" high	15	$23.65
RD-12	R, RS, DCR-18 and SDR-18 Models	12⅛" x 18⅞"	17" wide x 16½" deep x 4" high	18	26.25

FRONT DOORS TO FIT STANDARD 19" DESK RACK CABINETS AND ENCLOSED RACKS

Constructed from one piece of #16 gauge steel. Two concealed piano hinges are provided with holes, punched to accommodate universal spacings and are made to fit on top of the panels. Supplied with cylinder lock and angle bracket to hold door in position on FD-300-306. All necessary bolts furnished for easy assembly. Finished in Black or Gray Wrinkle, Gray or Brown Hammertone. All doors are 20½" wide x 1¼" deep.



FD-310-313 MODELS

Chrome handle supplied on FD-310-313 models.

Cat. No.	Will Fit Rack No.	Height	Ship. Wt. Lbs.	List Price
FD-300	DCR, DRK, SDR, SDRK-260	26¼"	10	$19.20
FD-301	DCR, DRK, SDR, SDRK-310	31½"	11	22.35
FD-302	DCR, DRK, SDR, SDRK-350	35"	12	24.95
FD-303	DCR, DRK, SDR, SDRK-120	12¼"	6	14.45
FD-304	DCR, DRK, SDR, SDRK-140	14"	7	15.75
FD-305	DCR, DRK, SDR, SDRK-170	17½"	8	17.10
FD-306	DCR, DRK, SDR, SDRK-210	21"	9	18.40
FD-310	R or RS-3619	36⅞"	13	27.60
FD-311	R-4219	42⅛"	15	31.50
FD-312	R or RS-6119	61⅜"	20	36.75
FD-313	R or RS-7719	77⅛"	24	42.00

FD-300-306 MODELS

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NEW YORK 59, N. Y.

The *MASTER* — 21st Edition

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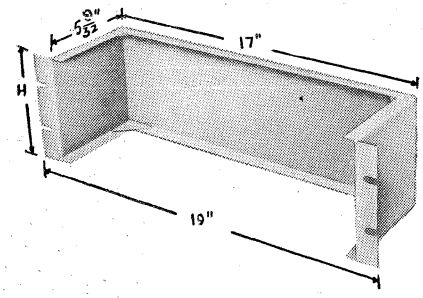
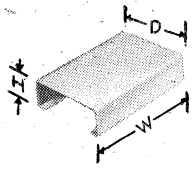
PREMIER PRECISION BUILT METAL HOUSINGS

ALUMINUM VERTICAL PANEL CHASSIS
TO FIT 19" STANDARD RACKS



Made of 14 gauge (.064) Aluminum. Flanges are notched for standard rack mounting. All chassis depths are 5-9/32". Gussets are spot welded in each corner for greater strength. Etched finish.

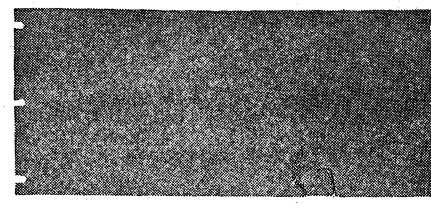
Catalog No.	Height	Ship. Wt. Lbs.	List Price
ACH-1200	1 3/4"	3/4	$3.85
ACH-1201	3 1/2"	1 3/4	4.20
ACH-1202	5 1/4"	1 1/2	4.60
ACH-1203	7"	2	5.30
ACH-1204	8 3/4"	2 1/4	6.25
ACH-1205	10 1/2"	2 3/4	6.70
ACH-1206	12 1/4"	3	7.50
ACH-1207	14"	3 1/4	8.10



ALUMINUM OPEN END CHASSIS

Made of .040 Aluminum Etched Finish.

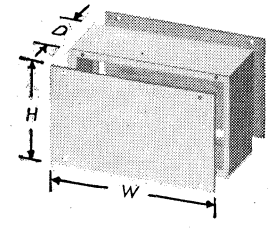
Catalog No.	Depth	Width	Height	Ship. Wt. Lbs.	List Price
ACH-1350	2 5/8"	2 3/4"	1 1/4"	1/4	$ .55
ACH-1351	1 3/4"	3 1/8"	1"	1/4	.62
ACH-1352	3 1/4"	4 1/2"	2"	1/4	.66
ACH-1353	2 3/4"	4 1/8"	1"	1/4	.66
ACH-1354	3 3/4"	4 1/8"	1 1/2"	1/4	.66
ACH-1355	3"	6 1/8"	1 1/4"	1/4	.78
ACH-1356	5 3/4"	4 7/8"	1 1/2"	1/4	.84
ACH-1357	4"	3 1/8"	1"	1/2	.66
ACH-1358	4"	4 1/8"	1"	1/2	.72
ACH-1359	4"	5 1/8"	1"	1/2	.77
ACH-1360	4"	6 1/8"	1"	1/2	.84



ALUMINUM BLANK RACK PANELS 19" WIDE

For racks with multiple 1 1/4—1/2 spacings. Made of 1/8" thick aluminum. Finished in either black or gray wrinkle, Brown or Gray Hammertone.

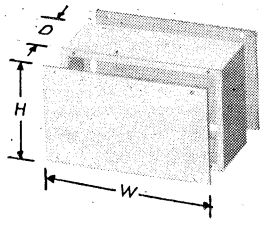
Cat. No.	Width	Ship. Wt. Lbs.	List Price	Cat. No.	Width	Ship. Wt. Lbs.	List Price
ARP-119	1 3/4"	1/2	$1.40	ARP-1219	12 1/4"	3 1/2	$ 6.25
ARP-319	3 1/2"	1	2.00	ARP-1419	14"	4	7.15
ARP-519	5 1/4"	1 1/2	2.95	ARP-1519	15 3/4"	4	8.00
ARP-719	7"	2	3.55	ARP-1719	17 1/2"	4 3/4	8.80
ARP-819	8 3/4"	2 1/2	4.25	ARP-1919	19 1/4"	5	9.65
ARP-1019	10 1/2"	3	5.35	ARP-2119	21"	6	10.50



ALUMINUM UTILITY CASES

Constructed of #18 Ga. (.051) aluminum with flanged edges, spotwelded corners and two removable flat covers. Natural Aluminum finish or Gray Hammertone.

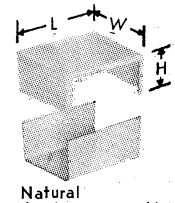
Natural Aluminum Cat. No.	List Price	Size H. W. D.	Ship. Wt. Lbs.	Gray Hammertone Cat. No.	List Price
AC-442	$1.90	4 4 2	1/2	PAC-442	$2.10
AC-453	2.10	4 5 3	3/4	PAC-453	2.45
AC-564	2.50	5 6 4	1	PAC-564	3.05
AC-596	4.10	5 9 6	1 1/2	PAC-596	4.65
AC-666	2.85	6 6 6	1 1/2	PAC-666	3.20
AC-1276	5.65	12 7 6	2 1/4	PAC-1276	6.25
AC-1597	7.70	15 9 7	3 1/2	PAC-1597	8.55



STEEL UTILITY CASES

Constructed of #20 gauge sheet steel with flanged edges, spot-welded corners, and two removable flat covers. Finished in Black Wrinkle.

Catalog No.	H.	W.	D.	Ship. Wt. Lbs.	List Price
C-442	4	4	2"	7/8	$1.32
C-453	4	5	3"	1 1/4	1.55
C-564	5	6	4"	1 3/4	1.85
C-596	5	9	6"	3	2.90
C-666	6	6	6"	2 1/4	2.10
C-695	6	9	5"	3	2.90
C-754	7	5	4"	2	2.00
C-8101	10	10	8"	6	4.75
C-8107	8	10	7"	4 3/4	3.90
C-1128	11	12	8"	7 1/4	5.25
C-1576	15	7 3/4	6 1/2"	6	4.75
C-1597	15	9	7"	7	5.42
C-1276	12	7	6"	4 1/2	3.95



ALUMINUM MINIATURE CASES

A two piece case made of #18 Ga. (.051) aluminum. Natural Aluminum Finish or Gray Hammertone.

Natural Aluminum Cat. No.	List Price	L W H	Ship. Wt. Lbs.	Gray Hammertone Cat. No.	List Price
AMC-1000	$1.05	2 3/4 x 2 1/8 x 1 5/8	1/4	PMC-1000	$1.20
AMC-1001	1.05	3 1/4 x 2 1/8 x 1 5/8	1/4	PMC-1001	1.20
AMC-1002	1.10	4 x 2 1/8 x 1 5/8	1/4	PMC-1002	1.25
AMC-1003	1.45	4 x 2 1/4 x 2 1/4	3/8	PMC-1003	1.60
AMC-1004	1.50	5 x 2 1/4 x 2 1/4	3/8	PMC-1004	1.65
AMC-1005	1.75	5 x 4 x 3	1/2	PMC-1005	1.85
AMC-1006	1.65	5 1/4 x 3 x 2 1/8	1/2	PMC-1006	1.80
AMC-1007	2.10	6 x 5 x 4	1	PMC-1007	2.30
AMC-1008	2.35	7 x 5 x 3	3/4	PMC-1008	2.55
AMC-1009	3.50	8 x 6 x 3 1/2	1 1/8	PMC-1009	3.70
AMC-1010	4.35	10 x 6 x 3 1/2	1 1/2	PMC-1010	4.60
AMC-1011	4.90	12 x 7 x 4	1 3/4	PMC-1011	5.40
AMC-1012	5.80	17 x 5 x 4	2	PMC-1012	6.35
AMC-1013	1.75	10 x 2 x 1 5/8	1/2	PMC-1013	1.85
AMC-1014	2.30	12 x 2 1/2 x 2 1/4	1/4	PMC-1014	2.50
AMC-1015	1.40	4 x 2 x 2 3/4	1/4	PMC-1015	1.80
AMC-1016	1.45	4 1/4 x 2 1/4 x 1 1/2	1/4	PMC-1016	1.60

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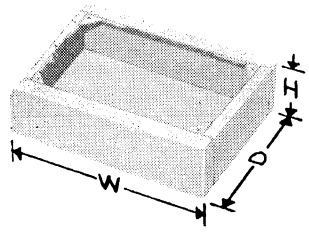
PREMIER PRECISION BUILT METAL HOUSINGS

STEEL AND ALUMINUM BLANK CHASSIS



Chassis are of one piece construction with gussets spot-welded to the bottom flanges for additional strength. Corners have rounded effect and single inside thickness for mounting components. Bottom edges are flanged in on four sides and punched for bottom plates.

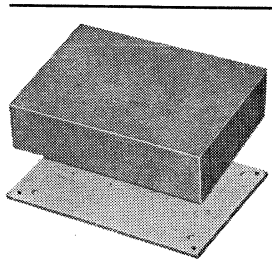
Steel chassis are made of No. 20 gauge cold rolled steel, except those marked * which are of No. 16 gauge. Steel chassis are finished in either Black Wrinkle or Zinc Plated.

Aluminum chassis are made of No. 18 gauge (.040) aluminum, except those marked * which are of No. 16 gauge (.051) and have an etched finish.

ALUMINUM Cat. No.	Ship. Wt. Lbs.	List Price	Size D.	W.	H.	STEEL Cat. No.	Ship. Wt. Lbs.	List Price
ACH-400	1/2	$1.90	5 1/2"	9 1/2"	1 1/2"	CH-400	1	$1.38
ACH-401	3/4	2.20	5"	10"	3"	CH-401	1 1/2	1.90
ACH-402	1	3.70	6"	14"	3"	CH-402	2 1/2	2.22
ACH-403	1/2	1.90	7"	7"	2"	CH-403	1 1/4	1.60
ACH-404	1/2	2.00	7"	9"	2"	CH-404	1 1/2	1.90
ACH-405	3/4	2.20	7"	11"	2"	CH-405	1 7/8	1.95
ACH-406	3/4	2.35	7"	13"	2"	CH-406	2	2.10
ACH-407	1	4.15	7"	15"	3"	CH-407	2 3/4	2.52
ACH-408	1	3.40	4"	17"	3"	CH-408	2 1/4	2.26
ACH-409	1 1/2	4.10	7"	17"	3"	CH-409	3 1/8	2.75
ACH-410	1 1/8	4.15	8"	17"	2"	CH-410	2 3/4	2.52
ACH-411	1 1/2	4.35	8"	17"	3"	CH-411	5 1/4	2.75
ACH-412	1 1/4	3.85	10"	12"	3"	CH-412	2 3/4	2.65
ACH-413	1 1/4	4.90	10"	14"	3"	CH-413	3 1/4	2.80
ACH-414	1 1/4	4.70	10"	17"	2"	CH-414	3 1/4	2.80
ACH-415*	1 7/8	5.25	10"	17"	3"	CH-415*	6	2.90
ACH-416*	2	6.05	10"	17"	4"	CH-416*	7 1/2	3.60
ACH-417*	1 3/4	5.05	11"	17"	2"	CH-417*	5 1/4	3.95
ACH-418*	2	6.15	11"	17"	3"	CH-418*	6 1/4	4.32
ACH-419*	1 7/8	5.50	12"	17"	2"	CH-419*	5	3.00
ACH-420*	2 1/8	6.50	12"	17"	3"	CH-420*	7	3.60
ACH-421*	2 7/8	7.15	12"	17"	4"	CH-421*	8 1/2	3.95
ACH-422*	1 7/8	5.80	13"	17"	2"	CH-422*	6	4.32
ACH-423*	2 1/8	6.90	13"	17"	3"	CH-423*	7	5.00
ACH-424*	2 1/2	7.90	13"	17"	4"	CH-424*	10	5.70
ACH-425	7/8	2.35	7"	11"	3"	CH-425	2 1/4	2.10
ACH-426	1/4	1.55	5"	7"	2"	CH-426	1	1.55
ACH-427	1 1/4	4.20	8 1/2"	15"	3"	CH-427	3	2.90
ACH-428	1/4	2.15	5"	7"	3"	CH-428	1 1/4	1.60
ACH-429	3/4	2.60	5"	13"	3"	CH-429	2	2.35
ACH-430	1	3.15	8"	12"	3"	CH-430	2 1/2	2.52
ACH-431	1/4	1.85	4"	6"	2"	CH-431	1	1.50
ACH-432	1/4	1.90	4"	6"	3"	CH-432	1	1.55
ACH-433	7/8	2.60	7"	12"	3"	CH-433	2 1/2	2.20
ACH-434	1	3.50	6"	17"	3"	CH-434	4	2.65
ACH-435*	2 1/2	6.10	10"	23"	3"	CH-435*	10	4.10

*Made from No. 16 gauge aluminum.

*Made from No. 16 gauge steel



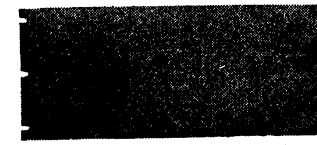
HEAVY DUTY BLANK CHASSIS

Construction same as Blank Chassis above. Bottom plates are supplied with each Heavy Duty Chassis. Made of No. 16 gauge steel and finished in either Black Wrinkle or Zinc Plated.

Cat. No.	Dimensions	Ship. Wt. Lbs.	List Price	Cat. No.	Dimensions	Ship. Wt. Lbs.	List Price
HC-910	8"x17"x2"	8	$4.85	HC-914	13"x17"x2"	11	$ 6.10
HC-911	8"x17"x3"	9	5.25	HC-915	13"x17"x3"	13	6.70
HC-912	11"x17"x2"	10	5.55	HC-916	13"x17"x4"	14	7.46
HC-913	11"x17"x3"	11	5.85	HC-917	17"x17"x4"	17	10.00

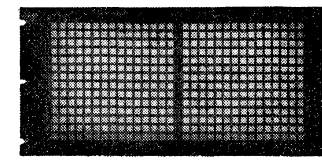
STEEL PANELS 19" WIDE

Made of No. 12 gauge steel. Finished in either Black or Gray Wrinkle, Gray or Brown Hammertone.



BLANK RACK PANELS

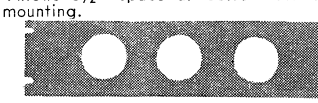
Cat. No.	Height	Ship. Wt. Lbs.	List Price
RP-119	1 3/4"	1	$1.16
RP-319	3 1/2"	2	1.32
RP-519	5 1/4"	3	1.63
RP-719	7"	4	1.90
RP-819	8 3/4"	5 1/4	2.32
RP-1019	10 1/2"	6 1/4	2.80
RP-1219	12 1/4"	7 1/4	3.32
RP-1419	14"	8 1/4	3.82
RP-1519	15 3/4"	9	4.32
RP-1719	17 1/2"	10 1/2	4.75
RP-1919	19 1/4"	12	5.25
RP-2119	21"	12 1/2	5.80



GRILLE PANELS

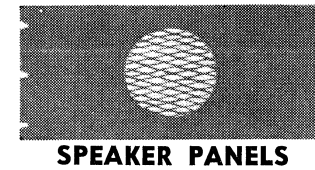
Cat. No.	Panel Size	Grille Size	Ship. Wt. Lbs.	List Price
GRP-601	5 1/4"	3 7/8 x 13 3/8"	2	$4.65
GRP-602	7"	3 7/8 x 13 3/8"	2	5.00
GRP-603	8 3/4"	5 7/8 x 13 3/8"	2 1/2	6.05
GRP-604	8 3/4"	*3 7/8 x 13 3/8"	2 1/2	5.55
GRP-605	10 1/2"	7 7/8 x 13 3/8"	2 1/2	6.60
GRP-606	10 1/2"	*5 7/8 x 13 3/8"	2 1/2	6.05
GRP-607	12 1/4"	*7 7/8 x 13 3/8"	3	6.85

* Allows 3 1/2" space at bottom for chassis mounting.



METER PANELS — 5 1/4"

Cat. No.	No. of Holes	Meter Size	Hole Size	Ship. Wt. Lbs.	List Price
MRP-900	3	2"	2 1/4"	7	$2.30
MRP-901	5	2"	2 1/4"	7	3.15
MRP-902	3	3"	2 13/16"	7	2.30
MRP-903	5	3"	2 13/16"	7	3.15



SPEAKER PANELS

Perforated grille is spot welded behind speaker opening.

Cat. No.	Panel Size	Spkr. Size	Hole Size	Shp. Wt. Lbs.	List Price
SRP- 819	8 3/4"	6"	4 5/8"	6	$4.32
SRP-1019	10 1/2"	8"	6 1/2"	8	5.52
SRP-1219	12 1/4"	10"	8 1/2"	9	6.58
SRP-1419	14"	12"	10"	10	7.62

ALL PANELS SHOWN ABOVE ARE AVAILABLE 30" WIDE AT DOUBLE THE LIST PRICE.

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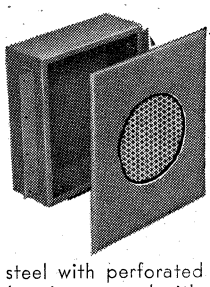
PREMIER PRECISION BUILT METAL HOUSINGS



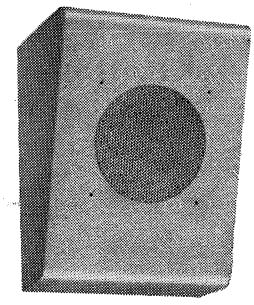
RECESSED SPEAKER BOXES

Designed with adjustable mounting brackets for easy installation in walls or acoustical tile ceilings. Speaker plate has beveled edges to give the same appearance as an acoustical tile, and is easily fastened to the speaker box by means of Tinnerman nuts. Box made of #20 gauge steel; plate of #16 gauge steel with perforated grille spot-welded behind the opening. Interior sprayed with special undercoating to eliminate metallic sound. Finished in gray primer or gray hammertone.

Catalog No.	BOX SIZE W H D	Ship. Wt. Lbs.	List Price
SB-1010	10 x 10 x 4"	4	$ 7.46
SB-1012	10 x 12 x 4"	5	7.88
SB-1417	14 x 17 x 7½"	10	11.85

Catalog No.	SPEAKER PLATE SIZE W.	H.	Speaker Size	Ship. Wt. Lbs.	List Price
SP-1212	12"	12"	8"	2½	$3.68
SP-1214	12"	14"	8"	3	3.94
SP-1619	16"	19"	12"	5½	6.58

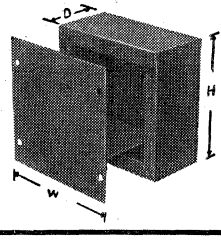
METAL WALL SPEAKER BAFFLE



Sturdily constructed of #18 gauge cold rolled steel to eliminate splitting, warping, or cracking. Perforated grille is spot-welded behind speaker opening. Baffle interior has special undercoating to eliminate metallic sound. Supplied with mounting bracket for simple hanging on wall. Finished in brown hammertone or buff enamel.

Catalog No.	Height	Width	Depth	Speaker Size	List Price
WSB-8	11½"	9½"	7"	8"	$ 8.00
WSB-12	15½"	13½"	9¾"	12"	10.00

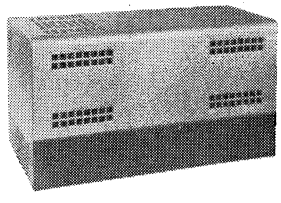
STEEL UTILITY CASES WITH CHASSIS ATTACHED



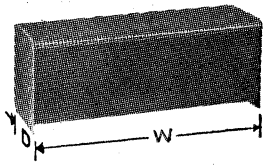
Made of #20 gauge steel with a chassis spot welded to front panel. Front and rear panels are removable. Finished in black wrinkle.

Catalog No.	Height	Width	Depth	Chassis Size	Ship. Wt. Lbs.	List Price
CA-1400	4"	4"	2"	1 x 2⅞ x 1⅞"	1	$1.85
CA-1401	4"	5"	3"	1 x 3⅞ x 2⅞"	1¼	2.05
CA-1402	5"	4"	3"	1¼ x 2⅞ x 2⅞"	1¼	2.05
CA-1403	6"	5"	4"	1¾ x 3⅞ x 3⅞"	2	2.55
CA-1404	5"	6"	4"	1¼ x 4⅞ x 3⅞"	2	2.55
CA-1405	6"	6"	6"	1¾ x 4⅞ x 5⅞"	3	2.65

AMPLIFIER FOUNDATIONS



STANDARD TYPE



PERFORATED TYPE COVERS

STANDARD TYPE

TOP COVER has perforations, rounded corners and is 6" high. Finished in Gray Wrinkle.
CHASSIS constructed of one piece with corners spot-welded. Finished in Black Wrinkle.

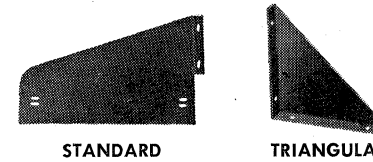
Cat. No.	Chassis Size	Ship. Wt. Lbs.	List Price
AF-510	5" x 10" x 3"	9	$ 6.60
AF-615	6" x 14" x 3"	10	7.65
AF-717	7" x 17" x 3"	11	8.70
AF-1012	10" x 12" x 3"	11	8.70
AF-1017	10" x 17" x 3"	13	10.25
AF-1317	13" x 17" x 3"	15	12.35

PERFORATED TYPE COVERS

TOP COVER made of perforated steel and has rounded corners with solid ends spot-welded and is 6" high. Finished in Gray Wrinkle. Supplied without chassis.

Cat. No.	W.	D.	Use Chassis No.	Ship. Wt. Lbs.	List Price
PC-510	10"	5"	ACH or CH-401	1¾	$4.70
PC-615	14"	6"	ACH or CH-402	2⅜	5.40
PC-717	17"	7"	ACH or CH-409	3	5.95
PC-1012	12"	10"	ACH or CH-412	3	6.05
PC-1017	17"	10"	ACH or CH-415	3¼	7.48

CHASSIS MOUNTING BRACKETS



STANDARD TRIANGULAR

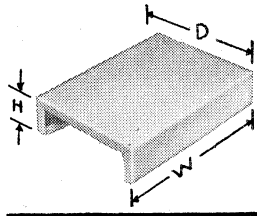
- Constructed of No. 16 gauge steel.
- Finished in Black enamel.
- Sold in pairs only.

STANDARD TYPE

	Cat. No.	H.	D.	Ship. Wt. Lbs.	List Price
Notched for 3" Chassis	CB- 78	6½"	8"	1½	$1.38
	CB-710	6½"	10"	1¾	1.85
	CB-711	6½"	11"	2	2.00
	CB-712	6½"	12"	2⅛	2.16
	CB-713	6½"	13"	2¼	2.32
	CB-717	6½"	17"	3	3.60
Notched for 4" Chassis	CB-810	8½"	10"	2⅜	2.75
	CB-813	8½"	13"	3	2.90

TRIANGULAR TYPE

Cat. No.	Height	Depth	Ship. Wt. Lbs.	List Price
TCB-55	5"	5"	1	$1.42
TCB-77	7"	7"	1	1.60
TCB-99	9"	9"	1½	1.94



OPEN END CHASSIS

Made of #20 gauge steel and zinc plated.

Catalog No.	Depth	Width	Height	Ship. Wt. Lbs.	List Price
CH-1300	7"	6"	2"	1	$1.16
CH-1301	5"	7"	1½"	¾	1.05
CH-1302	7"	7"	1½"	1	1.68
CH-1303	7"	8"	2"	1	1.48
CH-1304	5½"	9"	1½"	1	1.26
CH-1305	7½"	9"	1½"	1	1.68
CH-1306	7"	10"	2"	1¼	1.60
CH-1307	7"	11"	1½"	1¼	1.80
CH-1308	7"	13"	1½"	1½	2.10
CH-1309	10¾"	14"	2"	2½	2.52
CH-1310	7¾"	15"	2"	2	2.42

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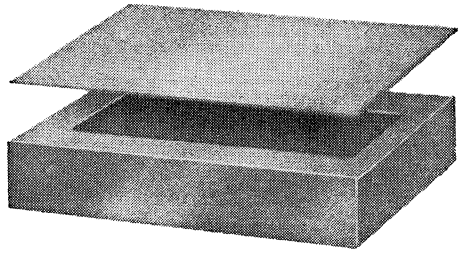


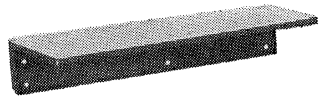
REMOVABLE TOP CHASSIS

Made of #16 Ga. Cold Rolled Steel. Top and Bottom edges flanged in on four sides. Top plate is removable. Finished in either Black Wrinkle or Zinc Plated.

Cat. No.	Size	Ship. Wt. Lbs.	List Price
RCH-415	10 x 17 x 3	5	$5.78
RCH-416	10 x 17 x 4	5	6.42
RCH-423	13 x 17 x 3	9	6.05
RCH-424	13 x 17 x 4	10	7.48

REPLACEMENT TOPS

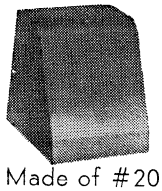
Cat. No.	Size	Ship. Wt. Lbs.	List Price
RTC-415	10 x 17	2	$2.22
RTC-423	13 x 17	3	2.75



CHASSIS SUPPORTS

Made of #12 gauge steel. Finished in black enamel. Sold in pairs only.

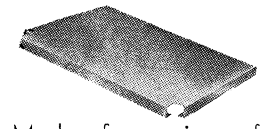
Cat. No.	Size	Ship. Wt. Lbs.	List Price
CS-12	12 x 3 x 3	4	$2.90
CS-14	14 1/2 x 3 x 3	5 1/4	3.15



SLOPING PANEL CABINETS

Made of #20 Ga. Steel with Rounded Top Corners and sloping front. Finished in Black Wrinkle.

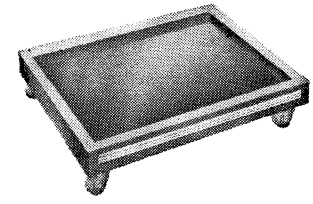
Cat. No.	W H D	Ship. Wt. Lbs.	List Price
SPC-1200	4 3/16 x 4 1/2 x 4 1/4	3/4	$1.80
SPC-1201	5 3/16 x 4 1/2 x 4 1/4	1	2.05
SPC-1202	6 3/16 x 4 1/2 x 4 1/4	1	2.32
SPC-1203	7 3/16 x 4 1/4 x 4 1/2	1 1/2	2.80



RACK SHELF

Made of one piece of #16 Ga. Cold Rolled Steel, 1" high. Holes are punched on sides for mounting to rack. Finished in Black or Gray Wrinkle, Gray or Brown Hammertone.

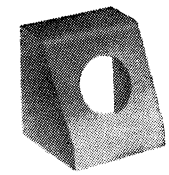
Cat. No.	Will Fit Rack No.	Shelf Size	Ship Wt. Lbs.	List Price
RS-1106	All DCR Racks	12x21 9/16	7	$4.48
RS-1107	R, RS, DR and RM Racks	15x21 13/16	7	5.52
RS-1108	FD Racks	13x21 13/16	7	5.00
RS-1109	24" deep RM Racks	22x23 7/16	7	8.94



ROLLER TRUCKS FOR RACKS

Made from 1 piece of #16 Ga. Cold Rolled Steel. Supplied with 2" Dia. Composition Wheels and bolts for easy assembly. Finished in either Black or Gray Wrinkle, Gray or Brown Hammertone and has a red striped Chrome moulding.

Cat. No.	Will Fit Rack No.	Inside Dimensions	Ship. Wt. Lbs.	List Price
RT-1100	All DCR Racks	15 3/4x22 1/4	22	$15.75
RT-1101	R, RS, DR, RM and FD Racks	18 3/4x22 3/4	22	19.95
RT-1102	RR-801 and RR-802	20 1/2x21 1/2	22	22.05
RT-1105	24" deep RM Racks	24 1/2x24 1/2	23	24.65

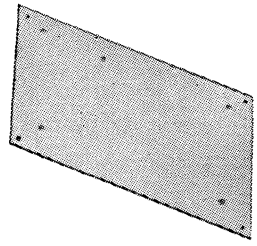


METER CASES

Made of #20 Ga. Steel with Rounded Top Corner and sloping front. Accommodates 2" or 3" Meters. Finished in Black Wrinkle.

Cat. No.	W H D	Meter Size	Hole Size	Ship. Wt. Lbs.	List Price
SPC-1208	4 3/16x4 1/2x4 1/4	2"	2 3/16"	3/4	$2.00
SPC-1209	4 3/16x4 1/2x4 1/4	3"	2 3/16"	3/4	2.00

ALUMINUM AND STEEL BOTTOM PLATES



The bottom plates have holes to match the chassis and have 4 pressed dimples. Steel plates made of No. 20 gauge steel, finished in either Black Wrinkle or Zinc Plated. Aluminum plates made of No. 18 gauge (.040). Natural aluminum finish.

ALUMINUM Cat. No.	List Price	Size	STEEL Cat. No.	List Price	Ship. Wt. Lbs.
ABP-400	$1.32	5 1/2" x 9 1/2"	BP-400	$0.63	1
ABP-401	1.32	5" x 10"	BP-401	.69	1
ABP-402	2.00	6" x 14"	BP-402	.95	1
ABP-403	1.35	7" x 7"	BP-403	.69	1
ABP-404	1.45	7" x 9"	BP-404	.75	1
ABP-405	1.60	7" x 11"	BP-405	.90	1
ABP-406	2.00	7" x 13"	BP-406	1.00	2
ABP-407	2.00	7" x 15"	BP-407	1.10	2
ABP-408	2.00	4" x 17"	BP-408	.90	2
ABP-409	2.05	7" x 17"	BP-409	1.16	2
ABP-410	2.30	8" x 17"	BP-410	1.16	2

ALUMINUM Cat. No.	List Price	Size	STEEL Cat. No.	List Price	Ship. Wt. Lbs.
ABP-412	$2.25	10" x 12"	BP-412	$1.16	2
ABP-413	2.06	10" x 14"	BP-413	1.22	2
ABP-414	2.60	10" x 17"	BP-414	1.55	2
ABP-418	3.25	11" x 17"	BP-418	1.60	3
ABP-419	3.45	12" x 17"	BP-419	1.68	3
ABP-422	3.65	13" x 17"	BP-422	1.80	3
ABP-423	1.30	5" x 7"	BP-423	.63	1
ABP-424	1.50	5" x 13"	BP-424	1.00	1
ABP-425	2.00	8" x 12"	BP-425	1.39	2
ABP-426	1.30	4" x 6"	BP-426	.63	1
ABP-427	1.70	7" x 12"	BP-427	1.20	2
ABP-428	2.05	6" x 17"	BP-428	1.16	2
ABP-429	3.85	10" x 23"	BP-429	2.50	2

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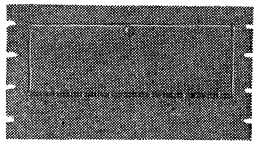
PREMIER PRECISION BUILT METAL HOUSINGS

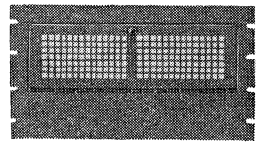
STEEL DOOR PANELS • 19" WIDE

Made of No. 12 Gauge Steel and finished in either Black or Gray Wrinkle, Gray or Brown Hammertone

Panels have flush hinged doors with piano hinges, and are equipped with a door latch. All doors are located 1" from top to allow space for chassis at bottom.



STANDARD TYPE

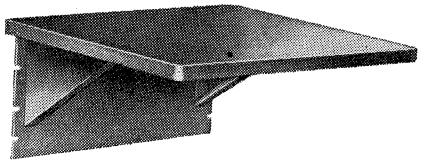


GRILLE TYPE

STANDARD TYPE Cat. No.	List Price	Height	Door Size	Ship. Wt. Lbs.	GRILLE TYPE Cat. No.	List Price
DRP-700	$7.35	8¾"	4½"x15⅜"	9	GDRP-700	$ 9.45
DRP-701	7.90	10½"	6" x15⅜"	10	GDRP-701	10.25
DRP-702	8.70	12¼"	7½"x15⅜"	12	GDRP-702	11.30

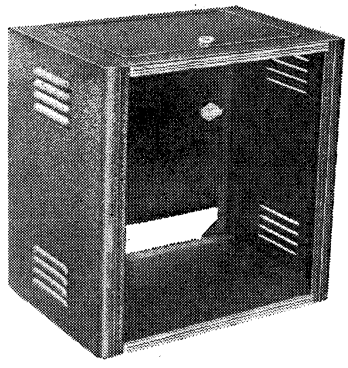
PANELS SHOWN ABOVE ARE AVAILABLE 30" WIDE AT DOUBLE THE LIST PRICE.

DESK PANELS



- Made of No. 16 gauge steel and spot welded to a standard steel panel 10½" x 19".
- Front corners are rounded.
- Finished in Black or Gray Enamel, Gray or Brown Hammertone.
- Shipped knocked down with all necessary hardware for easy assembly.

Cat. No.	Width	Depth	Ship. Wt. Lbs.	Price
DP-1016	22"	16"	20	$23.65
DP-1020	22"	20"	22	24.15



DCR-18260 MODEL

DELUXE AND SUPER DELUXE DESK CABINET RACKS 18" DEEP — 21¾" WIDE

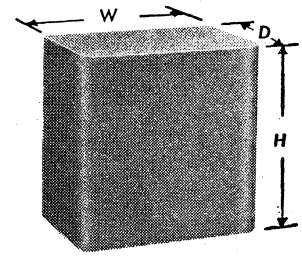
For 15¼" Deep Models and Complete Description See Pages J-106 and J-107.

DELUXE MODEL Cat. No.	List Price	Overall Height	Panel Space	Ship. Wt. Lbs.	SUPER DELUXE MODEL Cat. No.	List Price
DCR-1880	$25.20	10½"	8¾"	26	SDR-1880	$32.55
DCR-18100	28.35	12¼"	10½"	29	SDR-18100	35.70
DCR-18120	30.55	14"	12¼"	31	SDR-18120	37.95
DCR-18140	34.02	15¾"	14"	35	SDR-18140	41.40
DCR-18170	40.32	19¼"	17½"	44	SDR-18170	47.70
DCR-18190	42.25	21"	19¼"	46	SDR-18190	49.60
DCR-18210	43.80	22¾"	21"	48	SDR-18210	51.15
DCR-18260	47.25	28"	26¼"	49	SDR-18260	54.60
DCR-18310	49.80	33¼"	31½"	55	SDR-18310	57.15
DCR-18350	52.30	36¾"	35"	60	SDR-18350	59.65

SPEAKER CABINETS

- Constructed of No. 18 gauge steel with perforated grille spot welded behind the opening.
- Front vertical corners are rounded.
- Supplied with handle.
- Removable back plate has key hole slots for hanging.
- Finished in Black Wrinkle.

Cat. No.	H.	W.	D.	Hole Size	Speaker Size	Ship. Wt. Lbs.	List Price
SC-1006	10"	10"	6"	4⅝"	6"	7⅜	$ 6.05
SC-1227	12"	12"	7"	6½"	8"	10	7.62
SC-1448	14"	14"	8"	8½"	10"	13½	9.72
SC-1668	16"	16"	8"	11"	12"	16	12.88



ROUNDED CORNER UTILITY CASES

- Made of No. 20 gauge steel.
- Front vertical corners are rounded.
- Back of cabinet is completely open.
- Finished in Gray Wrinkle.

Cat. No.	Height	Width	Depth	Ship. Wt. Lbs.	List Price
RC-343	4½"	3⅝"	3⅛"	¾	$2.90
RC-543	4½"	5½"	3½"	1¼	3.00
RC-743	4½"	7⅛"	3⅛"	1	3.40
RC-563	6½"	5½"	3½"	1¼	3.10

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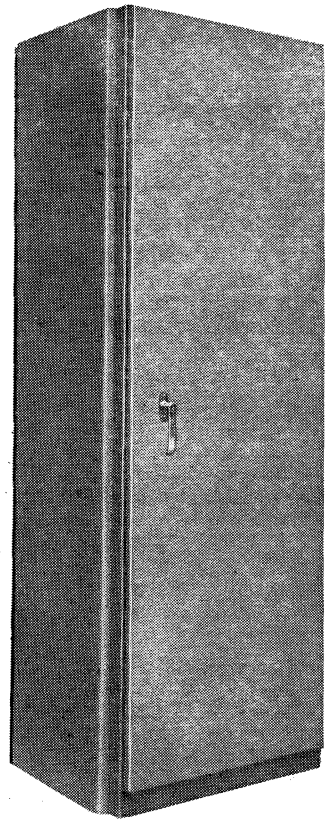
PREMIER PRECISION BUILT METAL HOUSINGS

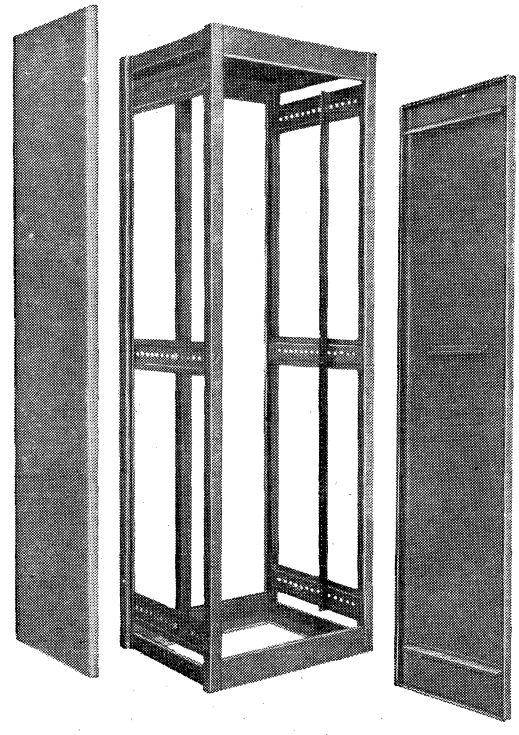
HEAVY DUTY TRANSMITTER RACKS

FOR 19" RACK PANELS • FOR MULTIPLE INSTALLATIONS

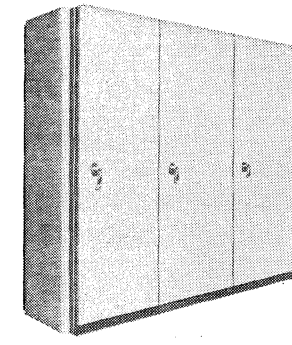


Model PR-77 with
SP-77 panels attached

- Rigidly constructed of heavy gauge steel and welded throughout.
- Panel mounting angles 3/16" thick and tapped 12/24 on universal spacings.
- Front and rear doors hung on loose jointed hinges and are equipped with handle and lock.
- Doors may be hinged for right or left hand opening by rotating door 180°.
- Racks are shipped with blank doors. Louvres are furnished at no additional cost.
- Panel mounting angles are adjustable to any desired position.
- A rectangular cut-out is provided in the bottom for leads, etc.
- Sides are detachable permitting multiple assembly of cabinets in double, triple, or larger units by bolting together.
- Tops supplied either solid or with cut-out at no additional cost.
- Finished in Black or Gray Wrinkle, Gray or Brown Hammertone.



SHOWN WITHOUT
FRONT AND REAR DOORS



3 UNITS IN ASSEMBLY

ALSO AVAILABLE IN
24" DEEP UNITS.
When ordering specify as
follows: PR-61-24
SP-61-24

RACKS 22" WIDE x 18" DEEP

FRAMES AND DOORS
Each unit consists of 1 frame and 2 doors.

Catalog No.	Height	Panel Space	Door Size	Ship. Wt. Lbs.	List Price
PR-61	67 3/8"	61 1/4 x 19"	65 1/2 x 21 1/2 x 1 3/16"	140	$220.50
PR-70	76 1/8"	70 x 19"	74 1/4 x 21 1/2 x 1 3/16"	150	252.00
PR-77	83 1/8"	77 x 19"	81 1/4 x 21 1/2 x 1 3/16"	165	262.50

SIDE PANELS

Catalog No.	Size	Ship. Wt. Lbs.	List Price
SP-61	67 1/4 x 15 x 1 1/2"	23	$34.15
SP-70	76 x 15 x 1 1/2"	26	36.75
SP-77	83 x 15 x 1 1/2"	28	39.40

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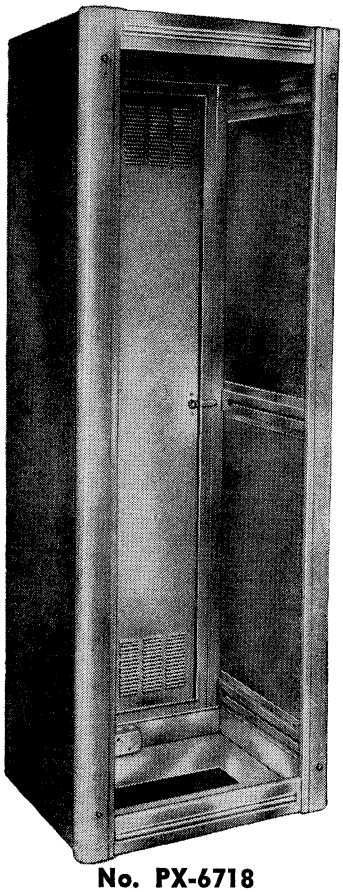
TYPE "C" UNIVERSAL CABINET RACKS

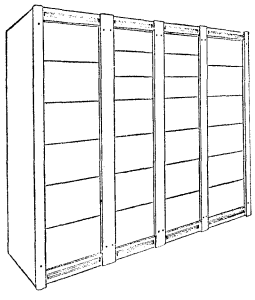
TYPE "PX" AND "FX" SERIES RACKS FOR 19" & 24" WIDE PANELS—18" & 24" DEEP

PAR-METAL ELECTRONIC HOUSINGS

WITH REAR DOOR ONLY



No. PX-6718



In this group are shown our standard "PX" type racks, 24" deep. The racks at the end positions are for 24" wide panels, and 19" wide panels are used on the two center racks. Regular width vertical trim strips covering the panel mounting screws are used in this arrangement.

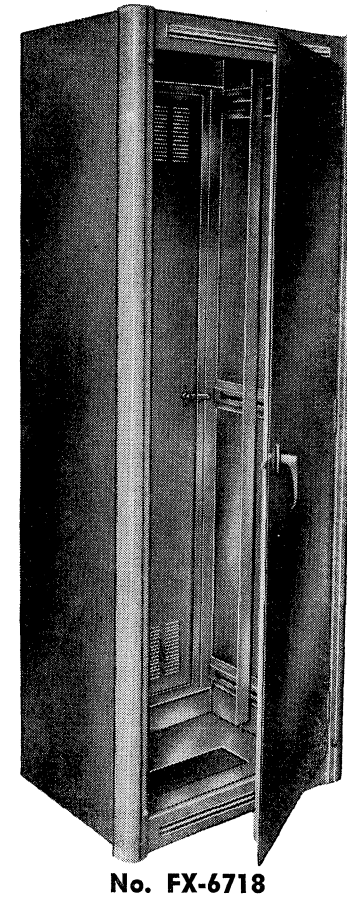
Similar groupings could be made using "PX" racks of the same height in 18" or 24" deep racks, using 19" or 24" wide panels. All of the racks in this group have solid sides.

These **Universal Cabinet Racks** are similar in construction to our standard Type "C" Racks, except that the design has been modified to facilitate the location and mounting of chassis supports, sliding shelves, and standard sliding devices. In addition, all racks, **with** and **without** front doors, have adjustable panel mounting angles, which may be positioned on the sides of the racks from front to back.

You now have available a complete line of cabinet racks similar in design, **with** or **without** front doors, with **open** or **closed** sides, which can be used **singly** or **grouped** together in continuous rows. Where racks with solid sides of the same height are used, they may be set up and intermixed for 19" and 24" panels, with rear doors only, or with front and rear doors; the racks are available for 19" wide panels, in 18" and 24" depths, and for 24" wide panels in 24" depths. The same group arrangement can be made with racks with open sides on Pages J-92 and J-93.

All racks with rear doors only are equipped with regular vertical trim strips to cover the panel mounting screws. However, where sliding drawers and custom assembled sliding chassis are used, these standard trims will interfere with the operation of such drawers. To overcome this difficulty, optional **"Narrow-Type"** vertical trims (same as racks with front doors) are available which permit free operation of sliding drawer equipment. Although such trims expose panel mounting screws, they do maintain the conventional appearance of these racks. Vertical corners of the rack proper are full cabinet design, so the edges of panels are recessed with trims removed.

WITH FRONT & REAR DOOR



No. FX-6718

The grooved bolt retainers on the sides of all racks, which are primarily used for adjusting the position of panel mounting angles, also serve as a means for bolting the Vertical Side Supports shown on Page J-94. To these side supports may be attached chassis brackets, shelves, slides, etc., as described on that page. Other **arrangements** which can be made with our **"FR" or "PR" (Detachable Type)** Cabinet Racks are shown on Page J-92:

Advantages of "UNIVERSAL" Type Racks may be summarized as follows:

1. A complete line of racks to provide unit row type assembly, or for use as single racks.
2. Racks with or without front doors, for either 19" or 24" wide panels may be used singly, or in rows, intermixed as required.
3. The panel mounting angles on ALL racks are fully adjustable, and may be set at any position from front to back.
4. Vertical Side Supports (see Page J-94) for attaching chassis brackets, shelves, slides, etc., may be installed without drilling or fitting.
5. Either regular or "Narrow Type" vertical corner trims are available without additional cost.
6. A simplified method is provided for installing standard or custom-built slides.
7. **Available finishes are black or grey ripple enamel, primer coat only, grey hammertone or aluminum grey lacquer.**

PLEASE SPECIFY FINISH DESIRED WITH YOUR ORDER, THANK YOU.

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TYPE "C" UNIVERSAL CABINET RACKS

PAR-METAL ELECTRONIC HOUSINGS

TYPE "PX" AND "FX" SERIES RACKS FOR 19" & 24" WIDE PANELS—18" & 24" DEEP

SPECIFICATIONS FOR ALL RACKS

CABINET: Entire cabinet is welded together into one integral unit. Body of cabinet is made from 1/16" thick cold rolled sheet steel; top of cabinet is made from 5/64" thick steel; bottom of cabinet is made from 7/64" thick steel.

PANEL MOUNTING: Angle irons are 3/16" thick structural steel, holes are accurately drilled and tapped 12/24 thread on standard 1¼"-½" spacings.

DOORS: Doors are of a new type with vastly improved construction features. They are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement.

"FULL VENTILATING" type louvres provide adequate ventilation in the rear doors.

HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles. Hinges are of the "slip joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated trims at top and bottom.

OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc. **"Knock-out"** holes are provided at sides for wiring between racks.

LOCKS: Locking type handles are regularly supplied on front door of **"FX"** Series Racks only. They are available on all doors at an extra charge of $1.00.

MODIFICATIONS: Modified doors are available with louvres at **Top OR Bottom** only as required. Tops of cabinets can be supplied with round or rectangular openings, with or without grilles or baffles. **"PX"** and **"FX"** Universal Cabinet Racks are available for 30" wide panels to special order.

TYPE "PX" SERIES RACKS — WITH REAR DOORS ONLY

Catalog No.	Dimensions Height Width Depth	Panel Space	*Clear Inside Depth	**Clear Inside Width (Front)	Clear Inside Width (Rear)	Shipping Wt. Lbs.	Net Price
PX-4818	48⅛x22x18"	42 x19"	16⅞"	17¾"	19⅛"	140	$ 73.50
PX-6718	67⅜x22x18"	61¼x19"	16⅞"	17¾"	19⅛"	170	84.00
PX-7718	76⅛x22x18"	70 x19"	16⅞"	17¾"	19⅛"	190	94.50
PX-8418	83⅛x22x18"	77 x19"	16⅞"	17¾"	19⅛"	200	105.00
PX-4824	48⅛x22x24"	42 x19"	22⅝"	17¾"	19⅛"	160	89.00
PX-6724	67⅜x22x24"	61¼x19"	22⅝"	17¾"	19⅛"	190	102.00
PX-7724	76⅛x22x24"	70 x19"	22⅝"	17¾"	19⅛"	215	112.50
PX-8424	83⅛x22x24"	77 x19"	22⅝"	17¾"	19⅛"	230	126.00
PX-4827	48⅛x27x24"	42 x24"	22⅝"	22¾"	24⅛"	180	115.00
PX-6727	67⅜x27x24"	61¼x24"	22⅝"	22¾"	24⅛"	220	131.00
PX-7727	76⅛x27x24"	70 x24"	22⅝"	22¾"	24⅛"	240	141.50
PX-8427	83⅛x27x24"	77 x24"	22⅝"	22¾"	24⅛"	255	157.50

TYPE "FX" SERIES RACKS — WITH FRONT AND REAR DOOR

Catalog No.	Dimensions Height Width Depth	Panel Space	*Clear Inside Depth	**Clear Inside Width (Front)	Clear Inside Width (Rear)	Shipping Wt. Lbs.	Net Price
FX-4818	48⅛x22x18"	42 x19"	16¼"	17¾"	19⅛"	150	$ 89.00
FX-6718	67⅜x22x18"	61¼x19"	16¼"	17¾"	19⅛"	190	105.00
FX-7718	76⅛x22x18"	70 x19"	16¼"	17¾"	19⅛"	210	120.50
FX-8418	83⅛x22x18"	77 x19"	16¼"	17¾"	19⅛"	220	131.00
FX-4824	48⅛x22x24"	42 x19"	22¼"	17¾"	19⅛"	170	107.50
FX-6724	67⅜x22x24"	61¼x19"	22¼"	17¾"	19⅛"	210	123.00
FX-7724	76⅛x22x24"	70 x19"	22¼"	17¾"	19⅛"	235	139.00
FX-8424	83⅛x22x24"	77 x19"	22¼"	17¾"	19⅛"	250	152.00
FX-4827	48⅛x27x24"	42 x24"	22¼"	22¾"	24⅛"	190	133.50
FX-6727	67⅜x27x24"	61¼x24"	22¼"	22¾"	24⅛"	240	157.50
FX-7727	76⅛x27x24"	70 x24"	22¼"	22¾"	24⅛"	260	167.50
FX-8427	83⅛x27x24"	77 x24"	22¼"	22¾"	24⅛"	280	189.00

* clearance between front and rear doors.

** indicates clearance for chassis between panel mounting strips.

BEFORE ORDERING, PLEASE READ INSTRUCTIONS BELOW:

CORNER TRIMS ("PX" Series Racks): Regular vertical trim strips to cover panel attachment screws supplied as standard. Where sliding drawers are used. "Narrow Type" trim strips should be specified. Where racks are set up in rows, front joining trims of either type are available, if so specified, at same price.

Specify if required, otherwise standard corner trims will be supplied with each rack.

CORNER TRIMS ("FX" Series Racks): "Narrow Type" vertical trim strips are standard. Where Series "PX" and "FX" racks are intermixed in rows, "Narrow Type" trim strips must be used. Front joining trims are available at same price. **Specify if required.**

FINISH: Black Ripple Enamel is standard. Grey ripple or "Primer Coat" only are optional at same price. Other available finishes (at an additional cost of 15%) are Grey Hammertone enamel or Aluminum Grey Lacquer. **SPECIFY FINISH REQUIRED.**

HOW TO ORDER: Specify CATALOG NUMBER and FINISH. On "PX" Series Racks, standard vertical trim strips (to cover panel attachment screws) will be furnished unless "Narrow Type" trim strips are specified.

PANELS: Panels to fit these racks in 19" and 24" widths are listed on Pages J-102 and J-103. Grille panels, etc. listed 19" wide can be supplied 24" wide to special order.

ROLLER TRUCKS: Roller trucks to fit these racks are listed on Page J-101.

SHELVES: Vertical side supports, brackets, and shelves are listed on Page J-94.

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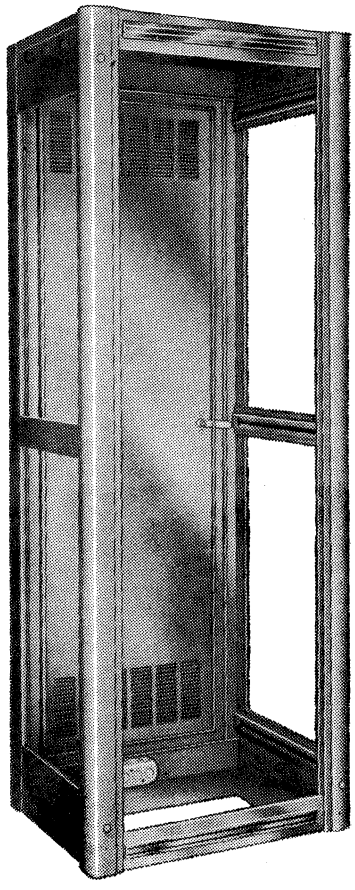
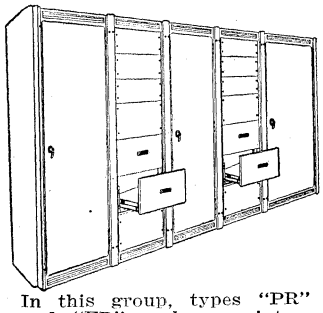
TYPE "C" UNIVERSAL CABINET RACKS

TYPE "PR" & "FR" SERIES RACKS FOR 19" & 24" WIDE PANELS — 18" & 24" DEEP With Open Sides and Detachable Side Panels

WITH REAR DOOR ONLY



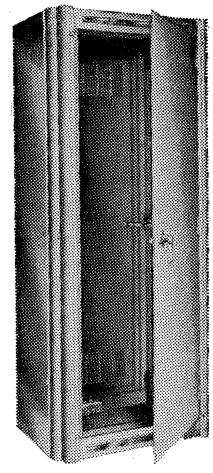
No. PR-6718



In this group, types "PR" and "FR" racks are intermixed.

Racks for 24" wide panels are used on the ends, whereas the three center racks are for 19" wide panels. Three of the racks have front as well as rear doors. The position of the racks can be interchanged as desired.

Similar groupings can be made with our "PX" (Solid Sides) Cabinets as illustrated on Page J-90.



This Cabinet has Detachable Side Panels mounted.

These **UNIVERSAL CABINET RACKS** are similar to those listed on the preceding pages except that they are constructed with OPEN SIDES and DETACHABLE SIDE PANELS. The illustrations at the left and right show how these units look with the side panels removed; the illustration above shows an FR Type Rack with the detachable side panels in place.

In the price list on the opposite right-hand page (Page J-93), you will note that the last two columns list the matching detachable side panels; prices are **per pair.** The illustrations below are typical assemblies of multiple installations; many others are possible.

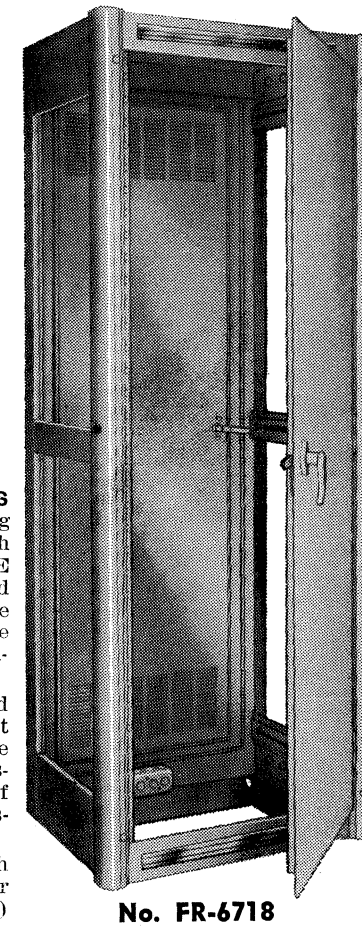
UNIVERSAL CABINET RACKS (with detachable side panels as shown herewith, or with solid sides — on preceding pages) facilitate the location and mounting of chassis supports, shelves, sliding shelves, and standard sliding devices. Panel mounting angles may be positioned at the sides of the racks at any location from front to back.

Advantages of **"UNIVERSAL"** Type Racks may be summarized as follows:

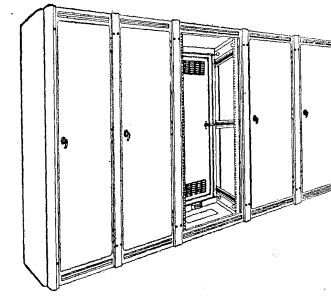
1. A complete line of racks to provide unit row type assembly, or for use as single racks.
2. Racks with or without front doors, for either 19" or 24" wide panels may be used singly, in rows, or intermixed.
3. The panel mounting angles on ALL racks are fully adjustable, and may be set at any position from front to back.
4. Vertical Side Supports (see Page J-94) for attaching chassis brackets, shelves, slides, etc., may be installed without drilling or fitting.
5. Either regular or "Narrow Type" vertical corner trims are available without additional cost.
6. A simplified method is provided for installing standard or custom-built slides.
7. **Available finishes are black or grey ripple enamel, primer coat only, grey hammertone or aluminum grey lacquer.**

PLEASE SPECIFY FINISH DESIRED WITH YOUR ORDER. THANK YOU.

WITH FRONT & REAR DOORS



No. FR-6718



This typical group consists of racks with open sides, using types "PR" and "FR" racks intermixed. Narrow trim strips are used throughout, because racks with front doors are in the assembly.

If "PR" racks (with rear doors only(were in the group exclusively, either regular width or "narrow" type trims could be installed at your option. Detachable side panels are installed on the end racks.

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TYPE "C" UNIVERSAL CABINET RACKS

PAR-METAL ELECTRONIC HOUSINGS

TYPE "PR" & "FR" SERIES RACKS FOR 19" & 24" WIDE PANELS — 18" & 24" DEEP With Open Sides and Detachable Side Panels

SPECIFICATIONS FOR ALL RACKS

CABINET: Entire cabinet is welded together into one integral unit. Body of cabinet is made from 1/16" thick cold rolled sheet steel; top of cabinet is made from 5/64" thick steel; corner posts and bottom of cabinet is made from 7/64" thick steel.
PANEL MOUNTING: Angle irons are 3/16" thick structural steel, holes are accurately drilled and tapped 12/24 thread on standard 1¼"-½" spacings.
DOORS: Doors are of a new type with vastly improved construction features. They are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement.
"FULL VENTILATING" type louvres provide adequate ventilation in the rear doors.
HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles. Hinges are of the "slip joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated trims at top and bottom.

OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc. **Knockout holes** and **bolts** for assembling racks in rows are supplied.
LOCKS: Locking type handles are regularly supplied on front door of **"FR"** Series Racks only. They are available on all doors at an extra charge of $1.00.
MODIFICATIONS: Modified doors are available with louvres at **Top OR Bottom** only as required. Detachable side panels may be ordered with louvres to your specifications. Tops of cabinets can be supplied with round or rectangular openings, with or without grilles or baffles. **"PR"** and **"FR"** Universal Cabinet Racks are available for 30" wide panels to special order.

TYPE "PR" SERIES RACKS — WITH REAR DOORS ONLY

Catalog No.	Overall Dimensions Height Width Depth	Panel Space	Clear Inside Depth	** Clear Inside Width (Front)	Clear Inside Width (Rear)	Shipping Wt. Lbs.	Net Price	DETACHABLE SIDE PANELS Catalog No. (Per Pair)	Net Price (Per Pair)
PR-4818	48⅛ x22x18"	42 x19"	16⅞"	17¾"	19⅛"	130	$ 73.50	RS-418	$ 31.50
PR-6718	67⅜ x22x18"	61¼ x19"	16⅞"	17¾"	19⅛"	170	84.00	RS-618	37.75
PR-7718	76⅛ x22x18"	70 x19"	16⅞"	17¾"	19⅛"	190	94.50	RS-718	40.75
PR-8418	83⅛ x22x18"	77 x19"	16⅞"	17¾"	19⅛"	200	105.00	RS-818	44.00
PR-4824	48⅛ x22x24"	42 x19"	22⅝"	17¾"	19⅛"	150	89.00	RS-424	38.00
PR-6724	67⅜ x22x24"	61¼ x19"	22⅝"	17¾"	19⅛"	190	102.00	RS-624	44.00
PR-7724	76⅛ x22x24"	70 x19"	22⅝"	17¾"	19⅛"	215	112.50	RS-724	47.25
PR-8424	83⅛ x22x24"	77 x19"	22⅝"	17¾"	19⅛"	230	126.00	RS-824	50.25
PR-4827	48⅛ x27x24"	42 x24"	22⅝"	22¾"	24⅛"	170	115.00	RS-424	38.00
PR-6727	67⅜ x27x24"	61¼ x24"	22⅝"	22¾"	24⅛"	220	131.00	RS-624	44.00
PR-7727	76⅛ x27x24"	70 x24"	22⅝"	22¾"	24⅛"	240	141.50	RS-724	47.25
PR-8427	83⅛ x27x24"	77 x24"	22⅝"	22¾"	24⅛"	255	157.50	RS-824	50.25

TYPE "FR" SERIES RACKS — WITH FRONT AND REAR DOORS

Catalog No.	Overall Dimensions Height Width Depth	Panel Space	* Clear Inside Depth	** Clear Inside Width (Front)	Clear Inside Width (Rear)	Shipping Wt. Lbs.	Net Price	DETACHABLE SIDE PANELS Catalog No. (Per Pair)	Net Price (Per Pair)
FR-4818	48⅛ x22x18"	42 x19"	16¼"	17¾"	19⅛"	140	$ 89.00	RS-418	$ 31.50
FR-6718	67⅜ x22x18"	61¼ x19"	16¼"	17¾"	19⅛"	190	105.00	RS-618	37.75
FR-7718	76⅛ x22x18"	70 x19"	16¼"	17¾"	19⅛"	210	120.50	RS-718	40.75
FR-8418	83⅛ x22x18"	77 x19"	16¼"	17¾"	19⅛"	220	131.00	RS-818	44.00
FR-4824	48⅛ x22x24"	42 x19"	22¼"	17¾"	19⅛"	160	107.50	RS-424	38.00
FR-6724	67⅜ x22x24"	61¼ x19"	22¼"	17¾"	19⅛"	210	123.00	RS-624	44.00
FR-7724	76⅛ x22x24"	70 x19"	22¼"	17¾"	19⅛"	235	139.00	RS-724	47.25
FR-8424	83⅛ x22x24"	77 x19"	22¼"	17¾"	19⅛"	250	152.00	RS-824	50.25
FR-4827	48⅛ x27x24"	42 x24"	22¼"	22¾"	24⅛"	180	133.50	RS-424	38.00
FR-6727	67⅜ x27x24"	61¼ x24"	22¼"	22¾"	24⅛"	240	157.50	RS-624	44.00
FR-7727	76⅛ x27x24"	70 x24"	22¼"	22¾"	24⅛"	260	167.50	RS-724	47.25
FR-8427	83⅛ x27x24"	77 x24"	22¼"	22¾"	24⅛"	280	189.00	RS-824	50.25

* clearance between front and rear doors. ** indicates clearance for chassis between panel mounting strips.

BEFORE ORDERING, PLEASE READ INSTRUCTIONS BELOW:

CORNER TRIMS ("PR" Series Racks): Regular vertical trim strips to cover panel attachment screws supplied as standard. Where sliding drawers are used. "Narrow Type" trim strips should be specified. Where racks are set up in rows, front joining trims of either type are available, if so specified, at same price.

Specify if required, otherwise standard corner trims will be supplied with each rack.

CORNER TRIMS ("FR" Series Racks): "Narrow Type" vertical trim strips are standard. Where Series "PR" and "FR" racks are intermixed in rows, "Narrow Type" trim strips must be used. Front joining trims are available at same price. **Specify if required.**

SPECIFY FINISH REQUIRED.
FINISH: Black Ripple Enamel is standard. Grey ripple or "Primer Coat" only are optional at same price. Other available finishes (at an additional cost of 15%) are Grey Hammertone enamel or Aluminum Grey Lacquer.
HOW TO ORDER: Specify CATALOG NUMBER and FINISH. On "PR" Series Racks, standard vertical trim strips (to cover panel attachment screws) will be furnished unless "Narrow Type" trim strips are specified. Order Detachable Side Panels if Required.
PANELS: Panels to fit these racks in 19" and 24" widths are listed on Pages J-102 and J-103. Grille panels, etc. listed 19" wide can be supplied 24" wide to special order.
ROLLER TRUCKS: Roller trucks to fit these racks are available on special order.
SHELVES: Vertical side supports, brackets, and shelves are listed on Page J-94.

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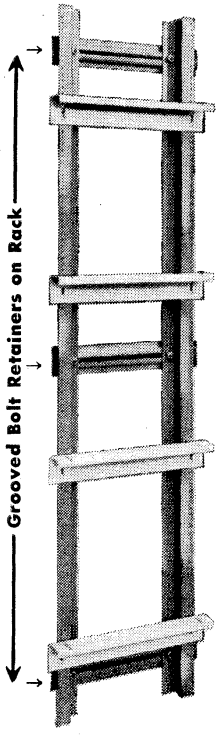
UNIVERSAL CABINET RACK ACCESSORIES

PAR-METAL ELECTRONIC HOUSINGS

VERTICAL SIDE SUPPORTS



These vertical side supports are supplied in sets of four uprights to fit type **"PX," "PR," "FX"** and **"FR"** racks listed on Pages J-90 thru J-93. (Cut shows side mounting brackets in place which are sold separately — see listing below).

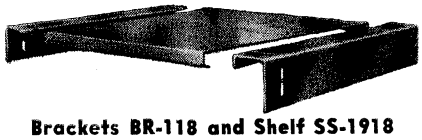
Uprights are fastened to grooved bolt retainers which hold panel mounting angles in place, and are adjustably mounted from front to back of rack. Holes are **drilled** and **tapped vertically** on **"universal centers"** to provide adequate vertical adjustment for mounting brackets, shelves, and various sliding devices made for electronic equipment.

When installed in racks for 19" wide panels, the clearance between uprights (from right to left) is 17¾"; for 24" wide panels, the clearance is 22¾". Uprights are 2⅝" wide and 1½" deep.

Uprights are made from ⅛" steel, finished in aluminum enamel. Each set is supplied with necessary bolts for rack mounting.

Cat. No.	Height	To Fit Racks	Shp. Wt. Lbs.	Net Price per Set of 4
VS-42	46½"	PX, PR, FX, FR-4818, 4824, 4827	30	$14.25
VS-61	65¾"	PX, PR, FX, FR-6718, 6724, 6727	40	18.90
VS-70	74½"	PX, PR, FX, FR-7718, 7724, 7727	45	22.00
VS-77	81½"	PX, PR, FX, FR-8418, 8424, 8427	50	24.60

SIDE MOUNTING BRACKETS



Brackets BR-118 and Shelf SS-1918

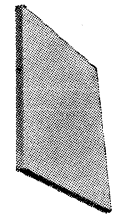
These brackets will fit on Vertical Side Supports as listed above. They are sold in pairs, and slotted to provide vertical adjustment at any height required. Brackets are 2" wide and 1-13/16" high. They are made from ⅛" steel, with zinc plated finish. Necessary bolts are supplied. Shipping weight is 3 lbs.

Cat. No.	Length	To Fit Racks	Net Price
BR-118	14"	All 18" deep racks	$2.85 per pair
BR-124	20"	All 24" deep racks	3.80 per pair

EQUIPMENT SHELVES

These shelves will assemble with the side mounting brackets listed above, to make a complete shelf between Vertical Side Supports. Made from 1/16" steel, zinc plated. Necessary bolts for assembly are included. All shelves are ⅞" high.

Cat. No.	Width	Depth	To Fit Racks	Net Price
SS-1918	15⅝"	14¼"	19" panels - 18" deep	$3.00
SS-1924	15⅝"	20¼"	19" panels - 24" deep	3.60
SS-2724	20⅝"	20¼"	24" panels - 24" deep	4.25



SIDE SHIELDS FOR PF & FR RACKS

(Racks are Listed on Pages J-92 & J-93)

Where our PR, FR, Series Racks are used in groups, it is often desirable to use a shield between racks. The shield fits into the upper and lower opening of the rack, each one shielding one half of the side. They are attached with 2 latch screws—no drilling is necessary.

To Fit Rack No.	Shield No.	Size Height	Size Depth	Net Price Per Shield
PR-4818	P-418	16½"	13½"	$4.75
PR-6718	P-618	26¼"	13½"	5.25
PR-7718	P-718	30½"	13½"	5.75
PR-8418	P-818	34 "	13½"	6.25
PR-4824	P-424	16½"	19½"	5.25
PR-6724	P-624	26¼"	19½"	6.25
PR-7724	P-724	30½"	19½"	7.00
PR-8424	P-824	34 "	19½"	7.75
PR-4827	P-424	16½"	19½"	5.25
PR-6727	P-624	26¼"	19½"	6.25
PR-7727	P-724	30½"	19½"	7.00
PR-8427	P-824	34 "	19½"	7.75

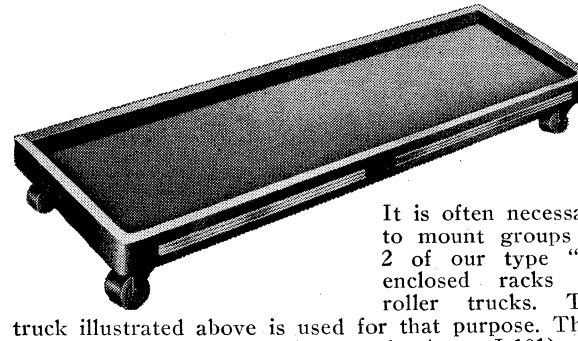
PANEL MOUNTING ANGLES

These panel mounting angles (or strips) are the same as used in all Universal type racks, and will fit in either PX, FX, PR, or FR series racks (see Pages J-90 thru J-93). They are supplied with necessary bolts to fit into the grooved retainers which hold the pair of panel mounting angles regularly supplied with each rack.

It is often desirable to use an additional pair of panel mounting angles for mounting chassis, terminal strips, etc. They may be adjusted to any depth within the rack from front to back.

To Fit Rack Nos	Angle No.	Net Price Per Pair
PX,FX,PR,FR-4818,4824,4827	PA-42	$10.50
PX,FX,PR,FR-6718,6724,6727	PA-61	14.50
PX,FX,PR,FR-7718,7724,7727	PA-70	16.50
PX,FX,PR,FX-8418,8424,8427	PA-77	18.00

DOUBLE WIDTH ROLLER TRUCKS



It is often necessary to mount groups of 2 of our type "C" enclosed racks on roller trucks. The truck illustrated above is used for that purpose. They are similar to our heavy duty trucks (page J-101), except that they have been reinforced with heavier steel because of their greater length.

They are supplied with 6 - 3" diameter wheels with heavy duty type casters. Due to the numerous possible sizes, we are unable to list prices, but they are available upon receipt of your requirements. Please advise **finish** required. They may be obtained in black or grey ripple, grey hammertone enamel, grey lacquer, or primer coat only.

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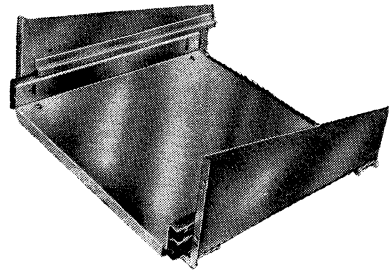
UNIVERSAL CABINET RACK ACCESSORIES

PAR-METAL ELECTRONIC HOUSINGS

SLIDING SHELF UNITS

These sliding shelves may be mounted on all of the relay racks listed by us, as they are screw mounted to the front panel mounting angles, the same as regular panels.



Basic Slide Assembly SD-1916

The basic assembly illustrated is sold as a complete unit. Chassis may be bolted directly to the sliding shelf; panels may be attached to the shelf using standard chassis brackets listed on Page J-105. Formed panels with a minimum height of 7" are recommended.

The forward movement of shelves for 18" deep racks is 13¼"; for 24" deep racks, it is 17¼". The shelf may be quickly removed from the slide while it is in an extended position.

The illustration shows a sliding shelf unit with the slide carrier in a vertical position. This type affords the maximum load capacity, but reduces the usable shelf space to 15⅝" wide. The shelf height is only 1".

We also list shelves with slide carriers mounted horizontally under the shelf. This method permits the use of 17" wide chassis, but reduces the load capacity. The shelf height is increased to 1¾". All parts on both types are zinc plated.

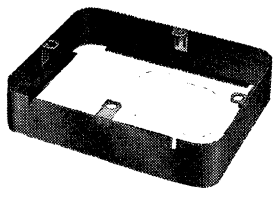
WITH VERTICAL SLIDE CARRIERS

Cat. No.	Usable Space Width	Usable Space Depth	Panel Width	Rack Depth	Net Price
SD-1916	15⅝"	14¼"	19"	18"	$14.55
SD-2016	15⅝"	20¼"	19"	24"	23.75
SD-2416	20⅝"	20¼"	24"	24"	26.70

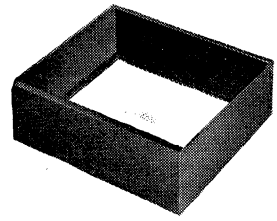
WITH HORIZONTAL SLIDE CARRIERS

Cat. No.	Usable Space Width	Usable Space Depth	Panel Width	Rack Depth	Net Price
SD-1920	17⅛"	14¼"	19"	18"	$15.15
SD-2020	17⅛"	20¼"	19"	24"	23.75
SD-2420	17⅜"	20¼"	24"	24"	26.70

METAL BASE PANS



MB-88



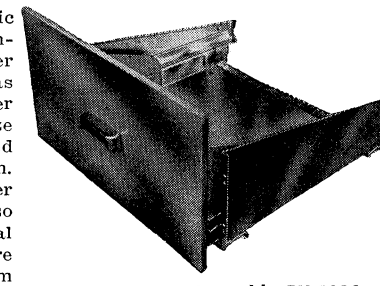
MB-154, 155

Pans are made from $\frac{1}{16}$" steel with open tops. No. MB-80 has brackets for attaching changer; MB-154 and MB-155 have mounting flanges on top. Finish is grey wrinkle enamel.

Cat No.	Size	To Fit	Net Price
MB-88	15"x12½"x3½" to 4"	RC-88 or RC-98	$4.50
MB-154	15⅝"x14⅛"x4⅛"	general use	4.20
MB-155	15⅝"x14⅛"x5⅛"	general use	4.20

PHONO DRAWER ASSEMBLIES

Consists of basic sliding shelf assembly with a drawer front and handle as illustrated. Drawer front is same size as standard formed panel 10½" high. (12¼" high drawer fronts are also available.) Vertical slide carriers are used for maximum load capacity.



Phono Drawer Assembly PH-1916

Where metal base pans are available with changers, it is recommended that such pans be used and bolted directly to the shelf.

For Garrard changers, a metal base pan is listed below. For other changers and turntables, we list two open top metal bases in 4" and 5" depths.

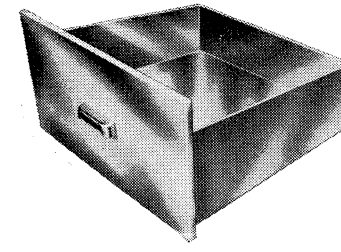
Forward movement of drawer is 13". **No. PH-1916** will fit **standard 18"** deep racks; **No. PH-2416** is for **24"** deep racks.

Catalog No.	Usable Space Width	Usable Space Depth	Height	Front Panel	Net Price
*PH-1916	15⅝"	14¼"	9½"	10½x19"	$20.40
PH-2416	20⅝"	20¼"	9½"	10½x24"	32.70

* Available with 12¼" high panels for Garrard RC-90, or similar changers at 5% increase.

FINISH: Available in black or grey ripple enamel, grey hammertone, or aluminum grey lacquer. SPECIFY FINISH REQUIRED.

STATIONERY DRAWER ASSEMBLIES



This drawer is similar to our No. PH-1916 phono drawer except that the panel has been reduced to a 7" height, and the sides of the slide are completely enclosed to form a drawer. Horizontal slide carriers are used to provide a useable space approximately 17" wide, 14" long and 5" deep.

FINISH: Available in black or grey ripple enamel, grey hammertone, or aluminum grey lacquer.

SPECIFY FINISH REQUIRED.
Catalog No. **DD-1925**, Net Price **$17.50**

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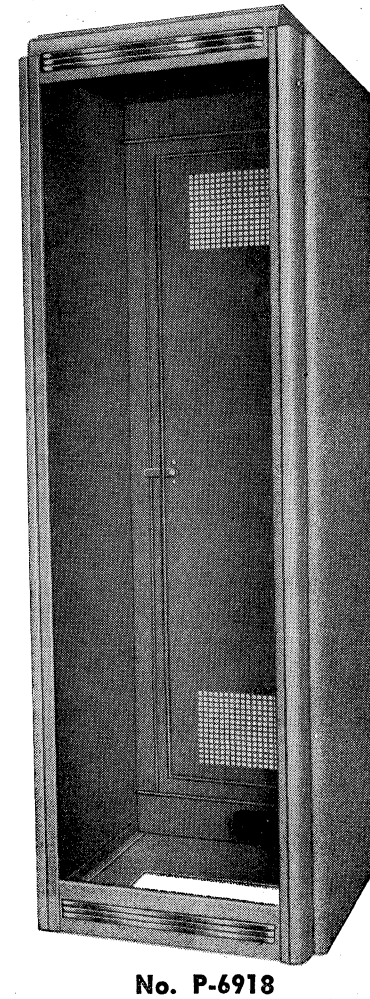
TYPE "C" DELUXE CABINET RACKS

FOR 19" WIDE PANELS - 18½" & 24" DEEP

THESE RACKS will appeal to those who desire to combine rugged construction with modern styling and improved design. Combining furniture steel with dependable workmanship and careful attention to mechanical detail, they have been adapted to a wide range of requirements in the electronic industry.

The design of the vertical posts permits these racks to be installed in rows or "gangs," without the use of front joining strips between the racks. This provides a greater flexibility in their installation, particularly in broadcast stations.



No. P-6918

SPECIFICATIONS FOR THESE DELUXE TYPE RACKS

CABINET: Entire cabinet is welded together into one integral unit. Body of cabinet is made from $\frac{1}{16}$" thick cold rolled sheet steel; top of cabinet is made from 5/64" thick steel; bottom is made from 7/64" thick steel.

PANEL MOUNTING: Angle irons are $\frac{3}{16}$" thick structural steel, holes are accurately drilled and tapped 12/24 thread on standard 1¼"-½" spacings.

DOOR: Doors are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement.

HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles. Hinges are of the "slip-joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated trims at top and bottom.

OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc.

CORNER TRIMS: All racks have quick detachable corner trims, which are fastened to the rack by means of two "Cowl Type" fasteners on each trim.

PANELS: Panels 19" wide to fit these racks are described on J-102, J-103.

FINISH: Black ripple with corner trims finished in dull black; or slate grey ripple with corner trims finished in slate grey are standard. The letter **"P"** before Catalog No. indicates black ripple enamel; the letter **"PG"** before Catalog No. indicates slate grey ripple enamel.

OTHER OPTIONAL FINISHES: Primer coat only is available at same price. Other obtainable finishes (at an additional cost of 12%) are grey hammertone enamel, or aluminum grey lacquer. Use prefix **"P"** when specifying optional finishes on your order.

RACK SHELVES: Shelf R-2218 fits the 18½" deep racks; and Shelf R-2224 fits the 24" deep racks. See Page J-101.

ROLLER TRUCKS: Truck RT-418 fits the 18½" deep racks; and Truck RT-424 fits the 24" deep racks. See Page J-101.

MODIFIED RACKS: The deluxe type racks listed on this page can be supplied with grille openings in top for additional ventilation. Special openings in doors can also be provided.

18½" DEEP RACKS

Catalog No.	Finish	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Shipping Wt. Lbs.	Net Price
P-6918	• Black Ripple	69⅝x23⅝x18½"	61¼x19"	17¾"	19⅛"	16½"	155	$ 94.50
P-7818	• Black Ripple	78⅜x23⅝x18½"	70 x19"	17¾"	19⅛"	16½"	165	103.50
P-8518	• Black Ripple	85⅜x23⅝x18½"	77 x19"	17¾"	19⅛"	16½"	180	117.50

24" DEEP RACKS

P-6924	• Black Ripple	69⅝x23⅝x24"	61¼x19"	17¾"	19⅛"	22"	175	$111.00
P-7824	• Black Ripple	78⅜x23⅝x24"	70 x19"	17¾"	19⅛"	22"	190	120.00
P-8524	• Black Ripple	85⅜x23⅝x24"	77 x19"	17¾"	19⅛"	22"	200	135.00

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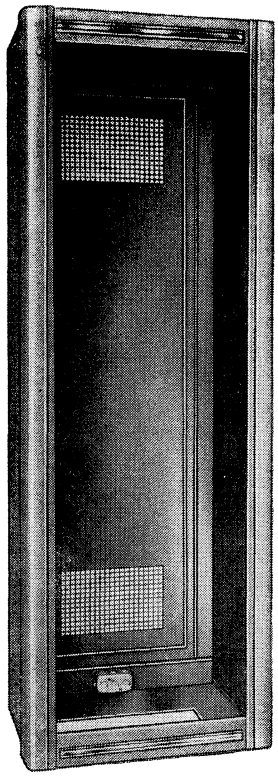
TYPE "C" STANDARD CABINET RACKS

FOR 19" and 30" WIDE PANELS

PAR-METAL ELECTRONIC HOUSINGS

Models P-6618 and P-8318 are listed primarily for replacement and extensions of installations already made. **Our "PX" series on pages J-90 and J-91 offer racks of the same dimensions with important additional features at a nominal increase in cost.**

These racks have been a standard unit in the electronic industry for many years, and have been adapted to a broad field of requirements. The construction is essentially the same as our Racks on Pages *J-90* thru *J-93*, and similar specifications would apply as to *CABINET, PANEL MOUNTING, DOOR, HARDWARE and OUTLET.*



No. P-6618

Models *G-2218, G-2219* and *G-3024* have additional reinforcement at the rear corners, and are suitable for transmitter equipment. The louvres on the rear door are covered with mesh screening in the inside, and *additional* knockouts are provided for conduit and 4" square duct.

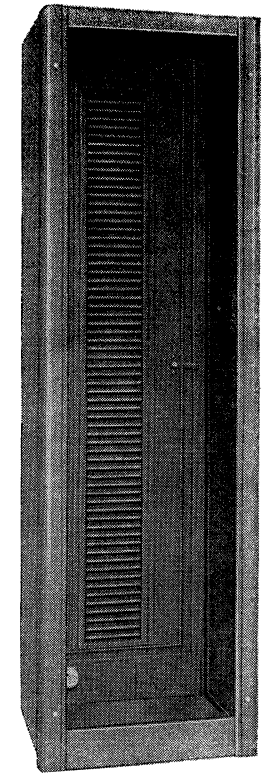
CORNER TRIMS: All racks have **quick, detachable,** new corner trims, which are fastened to front of rack with two **finger type "captive screws."** This permits quick, simple removal without the use of screw-drivers, etc.

TO SET UP IN GANGS OR ROWS: The racks may be joined together by means of a flat trim fastened to the front of the adjacent support angles, overlapping both racks. Knockout holes 1⅛" in diameter are provided at the sides of the racks to permit connections between them.

Racks are regularly shipped with corner trim as illustrated; where specified, the front joining trim is furnished without additional charge in place of the corner trim.

FINISH: Black ripple with corner trims finished in dull black; or slate grey ripple with corner trims finished in slate grey are standard. Prime coat only is optional in place of ripple enamel finish at no extra charge, if so specified in your order. Aluminum grey lacquer is available **at an additional charge.** The letter, **"P"** before Catalog No. indicates black ripple enamel; the letter **"PG"** before Catalog No. indicates slate grey ripple enamel.

PANELS: Panels 19" and 30" wide to fit these racks are described on Pages J-102 & J-103.



No. G-2218

RACK SHELVES: Shelf R-2219 fits all 18" deep racks. Shelves are listed on Page J-101.

ROLLER TRUCKS: Truck RT-412 fits all 18" deep racks. Roller trucks are listed on Page J-101.

18" DEEP RACKS

Cat. Nos.	Overall Size	Panel Space	Clear Depth	Ship. Wt. Lbs.	Net Price
P, PG, 3618	42⅞x22x18"	36¾x19"	16⅞"	110	$ 60.00
P, PG, 6618	67⅜x22x18"	61¼x19"	16⅞"	150	78.00
P, PG, 8318	83⅛x22x18"	77x19"	16⅞"	180	99.00
G-2218	76⅛x22x18"	70x19"	16⅞"	185	105.00
G-2219	83⅛x22x18"	77x19"	16⅞"	200	117.00

24" DEEP RACKS

G-3024	76⅛x33x24"	70x30"	22⅞"	360	174.00

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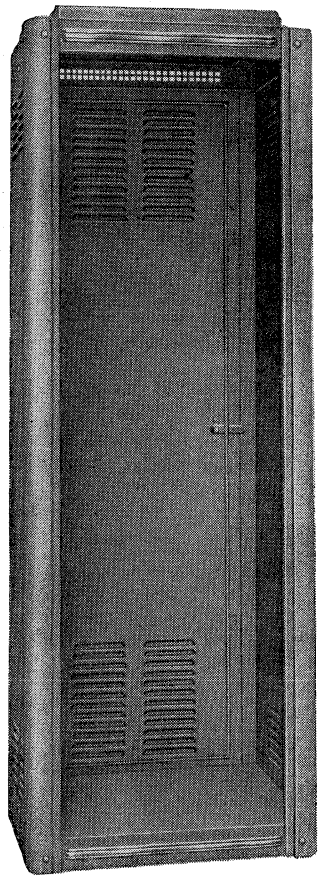
TYPE "A" ENCLOSED RELAY RACKS

DELUXE TYPE—FOR 19″ WIDE PANELS

WITH REAR DOOR ONLY



No. ER-225

THESE DELUXE TYPE "A" RACKS are fully in keeping with modern streamlined styling. Vertical corner mouldings cover the panel mounting screws, similar to our Type "C" racks. Panels fit into a recess, so that the edges of panels are not exposed when corner mouldings are removed. Trimmed at top and bottom with chrome finished trims.

CABINET: Entire cabinet is constructed of 1/16″ thick cold-rolled steel. These racks are shipped "knocked-down" with necessary bolts for easy assembly.

PANEL MOUNTING: Angle irons are of 7/64″ thick steel, holes are accurately drilled and tapped 10-32 thread on universal centers for all types of panels.

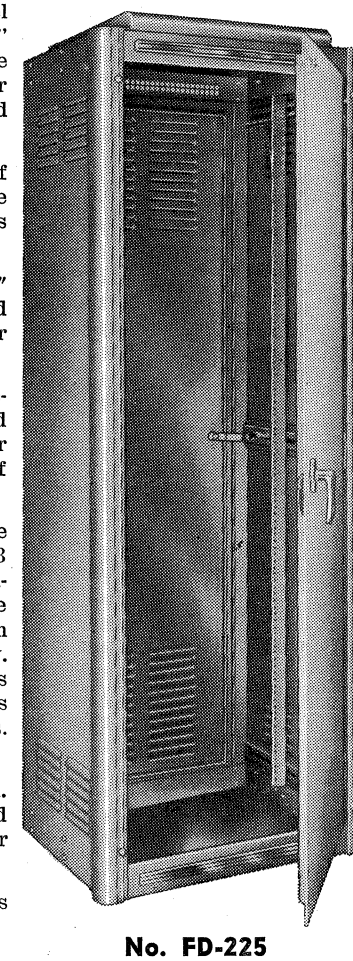
CORNER TRIMS: All racks have quick detachable, new corner trims which are fastened to front with two studs. This provides for rapid, finger-tip removal without the use of screwdrivers, etc.

HARDWARE: Doors are of new design same as our Type "C" commercial racks. No. ER-223 is equipped with a "push-button" type concealed snap catch. The two larger models have "automobile" type handles. The handle on front door is equipped with lock and key. Hinges are the "slip-joint" type so that doors may be easily removed. Front of rack is trimmed with chrome finished mouldings. Screws for mounting panels are supplied.

FINISH: Slate grey ripple finish is standard. Black ripple enamel finish will be supplied without extra charge if so specified on your order.

PANELS: Panels 19″ wide to fit these racks are listed on Pages J-102 & J-103.

WITH FRONT AND REAR DOORS



No. FD-225

SERIES ER-225 RACKS: These units may be ganged in double or "multi-rack" units. When so ordered, racks are supplied with common intermediate sides which are joined to adjacent tops and bottoms. Solid intermediate sides are supplied. In multiple units, center joining trims are supplied.

SERIES FD-225 RACKS: This series with front and rear doors have **adjustable** panel mounting angles, which may be located at any distance from front to rear of rack. VERTICAL SIDE SUPPORTS listed on Page J-94 will fit into these racks.

SPECIFICATIONS

Catalog No.	Doors	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Shipping Wt. Lbs.	Net Price
ER-223	Rear only	43¼ x22x18″	36¾ x19″	17⅝″	19″	16¾″	90	$48.15
ER-225	Rear only	67¾ x22x18″	61¼ x19″	17⅝″	19″	16¾″	120	59.25
ER-227	Rear only	83½ x22x18″	77 x19″	17⅝″	19″	16¾″	140	71.70
FD-223	Front & Rear	43¼ x22x18″	36¾ x19″	19⅛″	19″	*16″	110	57.90
FD-225	Front & Rear	67¾ x22x18″	61¼ x19″	19⅛″	19″	*16″	145	72.00
FD-227	Front & Rear	83½ x22x18″	77 x19″	19⅛″	19″	*16″	160	90.00

* clearance between front and rear doors.

ROLLER TRUCK: Roller truck No. RT-412 for Series ER-225 racks; use RT-418 for Series FD-225; both are listed on Pg. J-101.

SHELVES: For Series ER-225 Racks, use shelf No. ER-2212 listed on Pg. J-101. To install shelves in Series FD-225, it is recommended that Vertical Side Supports, brackets and shelves listed on Page J-94 be used.

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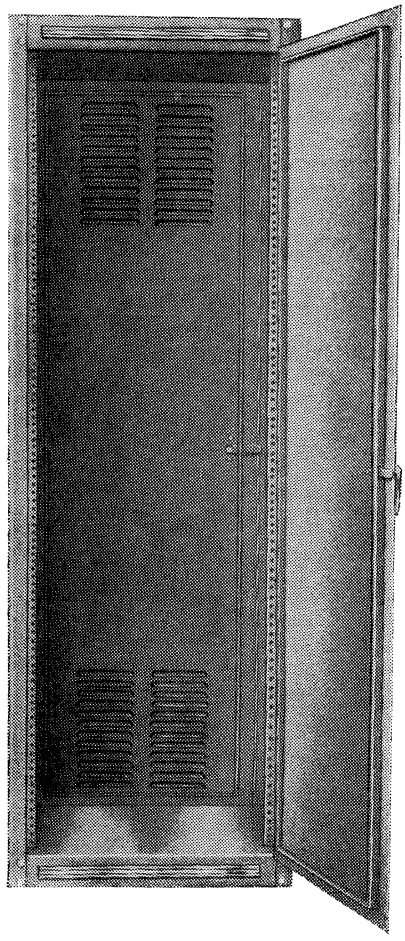
TYPE "A" ENCLOSED RELAY RACKS

PAR-METAL ELECTRONIC HOUSINGS

ROUNDED CORNER TYPE — FOR 19″ WIDE PANELS

WITH FRONT AND REAR DOORS



No. FD-215

THESE RACKS ARE SIMILAR in construction to our Series ER-225 Racks. They provide a combination of standard functional design and superior construction at a modest price. The vertical front corners are nicely rounded, and the top and bottom are trimmed with red-striped chrome finished mouldings. The panels fit into a recess, so that the edges are not exposed.

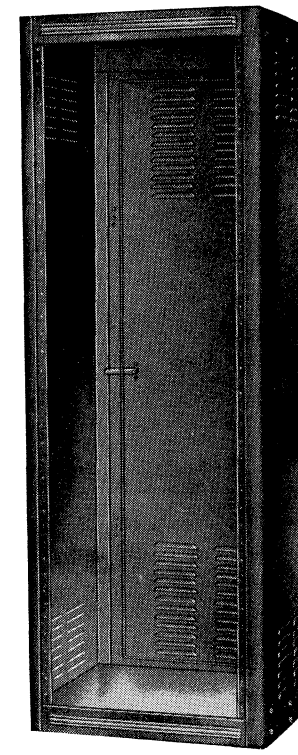
CABINET: Entire cabinet is constructed of 1/16″ thick cold-rolled steel. These racks are shipped "knocked-down" with necessary bolts for easy assembly. Screws for mounting panels are supplied.

PANEL MOUNTING: Angle irons are 7/64″ thick steel, holes are accurately drilled and tapped 10-32 thread on universal centers for all types of panels.

HARDWARE: Doors are of new design same as our Type "C" commercial racks. No. ER-213 is equipped with a "push-button" type concealed snap catch. The two larger models have "automobile" type handles. Hinges are the "slip-joint" type so that doors may be easily removed.

FRONT DOOR RACKS: On Series FD-215 racks, the front panel mounting angles are recessed 2″ deep to allow clearance for dials, etc. The clear inside depth behind the panel is 13½″. The handle on front doors is equipped with a lock and key.

WITH REAR DOOR ONLY



No. ER-215

SPECIFICATIONS

Catalog No.	Doors	Overall Dimensions	Panel Space	Clear Inside Depth	Clear Inside Width (Rear)	Clear Inside Width (Front)	Shipping Wt. Lbs.	Net Price
ER-213	Rear only	42 x22x16½″	36¾ x19″	15¼″	19″	17⅝″	85	$34.35
ER-215	Rear only	66½ x22x16½″	61¼ x19″	15¼″	19″	17⅝″	110	50.85
ER-217	Rear only	82¼ x22x16½″	77 x19″	15¼″	19″	17⅝″	130	61.20
FD-215	Front & Rear	66½ x22x16½″	61¼ x19″	*13½″	19″	19⅛″	145	67.20
FD-217	Front & Rear	82¼ x22x16½″	77 x19″	*13½″	19″	19⅛″	160	81.90

* clearance behind panel.

FINISH: SLATE GREY RIPPLE enamel is standard. Black ripple enamel finish will be supplied without extra charge if so specified on your order.

RACK SHELVES: For Series ER-215 racks, use shelf No. ER-2112. For Series FD-215 racks, use shelf No. R-2215. Both shelves are listed on Page J-101.

ROLLER TRUCK: No. RT-411 will fit all racks listed on this page. Roller trucks are listed on Page J-101.

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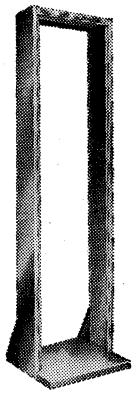
TYPE "A" CHANNEL RELAY RACKS

FOR 19" WIDE PANELS

DELUXE TYPE



No. RR-197

OUR NEW DELUXE CHANNEL TYPE RELAY RACK extends the utility and applicability of the standard channel relay rack.

The panel space has been changed to 77"x19", to match a standard height used on enclosed cabinet racks.

The upright channels have been modified to an 8" overall depth, which when combined with a formed recess for the panels, greatly increases the rigidity of the rack. The edges of the panels are not exposed.

The rack is drilled and tapped for 10-32 screws at **both front and back** permitting the optional use of either panels, or dish type chassis mounted to the racks at both front and back. The **full** panel space of 77"x19" is available on the back, the same as the front.

The clear distance between panel mounting flanges (from front to back) is 6¾". It is practicable to use this 6" depth as an enclosure for dish type chassis listed on Page J-105. When such chassis are mounted at the back, the addition of standard or hinged type panels (see Pg. J-102) will make a rack enclosure with a clear depth of 6¾". The top cross-brace is provided with a grille for ventilation where needed.

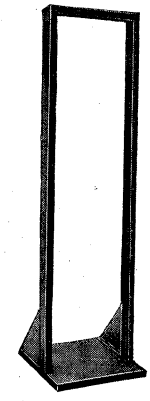
The top brace and the vertical channel members are securely welded together. The base and rear braces are shipped knocked down, with all necessary bolts for assembly. Panel mounting screws are also supplied.

CATALOG No. RR-197:

Overall Dimensions: 80⅜" high, 21⅛" wide, 20" deep
Available Panel Space: 77"x19" (at front and rear)
Clearance between Uprights: 17⅝"
Clear Depth in Channel: 6¾" inside
Shipping Weight: 100 lbs. **Net Price: $35.40**

FINISH: Standard finish is black ripple enamel. For grey ripple enamel, add 10%. **PANELS:** Panels to fit these racks are listed on Pages J-102 and J-103.

STANDARD TYPE



No. RR-195

THESE RACKS have been a standard unit in the electronics industry for years. They are sturdily constructed from 7/64" pressed steel, and braced at the rear as illustrated. The two vertical members and the top cross-brace are securely welded together.

Panel mounting holes are accurately drilled on universal centers for either Type "A" or type "C" panels, tapped for 10-32 machine screws. An ample supply of panel mounting screws and finishing washers are supplied.

Upright channels are 3" deep with flanges 1⅛" wide. Clearance between uprights is 17¾". Base is 20⅞" deep and extends both front and rear on the RR-195 rack; it is 18⅜" deep on the RR-193 rack.

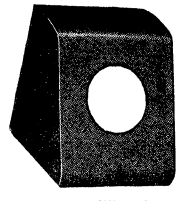
FINISH: BLACK RIPPLE ENAMEL.

Cat. No.	Overall Size	Panel Space	Shp. Wt. Lbs.	Net Price
RR-195	73¼x20x20⅞"	71¾x19"	55	$21.00
RR-193	38¼x20x18⅜"	36¾x19"	45	18.00

UTILITY CASES & CANS

STEEL METER CASES

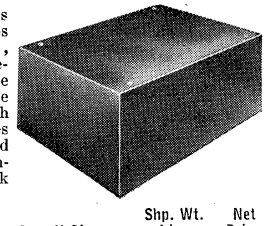
These meter cases may be obtained for 2" and 3" meters, in both single and triple units. They are substantially made of steel, with welded joints, and black ripple enamel finish. Top front corner is rounded.



Cat. No.	Meters	Meter Hole	Shp. Wt. Lbs.	Net Price
SM-12	Single 2"	2¼"	1	$ .99
SM-32	Three 2"	2¼"	2	2.76
SM-13	Single 3"	2 13/16"	1	.99
SM-33	Three 3"	2 13/16"	2	2.76

STEEL UTILITY CASES

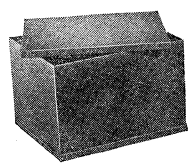
These cases have flat tops and bottoms, which are removable. Made from 20 gauge sheet steel, with flanged edges and spot-welded corners. Finished in black ripple enamel.



Cat. No.	Overall Size	Shp. Wt. Lbs.	Net Price
MC-442	4x 4 x 2"	1	$ .84
MC-453	4x 5 x 3"	2	.93
MC-596	5x 9 x 6"	4	1.86
MC-654	6x 5 x 4"	3	1.20
MC-666	6x 6 x 6"	3	1.44
MC-8101	8x10 x10"	7	3.06
MC-8107	8x10 x 7"	6	2.64
MC-1128	11x12 x 8"	9	3.60
MC-1576	15x 7¾x 6½"	9	3.30
MC-1597	15x 9 x 7"	8	4.08

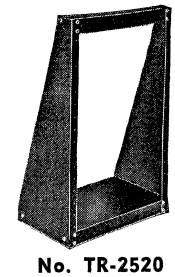
STEEL UTILITY CANS

Can be used for monitors, shield cans, etc. Made of sheet steel with spot welded reinforced corners. Tops and bottoms removable with self-tapping screws. Black ripple enamel finish.



Cat. No.	Overall Size	Ship. Wt. Lbs.	Net Price
UC-565	5½x 6x 5½"	3	$1.44
UC-596	5 x 9x 6"	5	1.86
UC-8107	8 x10x 7"	6	2.64
UC-8101	8 x10x10"	7	3.06
UC-1128	11 x12x 8"	9	3.60

TABLE TYPE RELAY RACKS



No. TR-2520

THESE RACKS are intended for table mounting and are useful where a regular floor type heavy duty rack is not required.

The base is constructed of one piece, similar to a chassis. Mounting holes are accurately drilled on universal centers, tapped for 10-32 screws.

They are finished in black ripple enamel and shipped "knocked down" with all necessary screws.

Cat. No.	Overall Size	Panel Space	Shp. Wt. Lbs.	Net Price
TR-2520	25x21x12"	21x19"	17	$7.11
TR-3220	32x21x12"	28x19"	20	8.22

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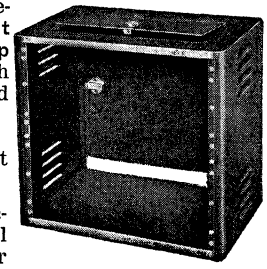
TYPE "A"
DESK PANEL CABINET RACKS
For Standard 19" Rack Panels

In keeping with our other Deluxe racks, the **vertical front corners are rounded** and the **top** and **bottom** are trimmed with red-striped chrome finished mouldings.



No. DL-1713

- Panels fit into a recess, so that the edges are not exposed.
- Panel mounting holes are accurately drilled on universal centers, for either type "A" or type "C" panels.
- Holes are tapped for 10-32 machine screws. They may be used with any chassis up to 13"x17" in size.
- All cabinets are rigidly constructed of 1/16" thick cold rolled sheet steel, with all joints **electrically welded.**
- Louvres provide ample ventilation through sides and back.
- Piano type hinges are used on the top doors.
- Panel mounting screws and washers are furnished.

(With door in top only) *(not illustrated)*

Catalog No.	Cabinet Size	Available Panel Space	Ship. Wt.	Net Price
DL-128	10½"x21½"x15" deep	8¾"x19"	28 lbs.	$12.90
DL-1210	12¼"x21½"x15" deep	10½"x19"	29 lbs.	14.58
DL-1225	14" x21½"x15" deep	12¼"x19"	30 lbs.	15.69
DL-1413	15¾"x21½"x15" deep	14" x19"	32 lbs.	17.28

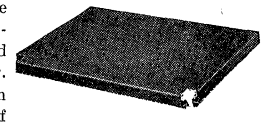
(With door in top and door on rear panel)

Catalog No.	Cabinet Size	Available Panel Space	Ship. Wt.	Net Price
DL-1713	19¼"x21½"x15" deep	17½"x19"	38 lbs.	$20.10
DL-2613	28" x21½"x15" deep	26¼"x19"	48 lbs.	23.40
DL-3513	36¾"x21½"x15" deep	35" x19"	58 lbs.	25.80

FINISH: BLACK RIPPLE ENAMEL is standard. Slate grey ripple enamel will be supplied without extra charge if so specified in your order.
PANELS: Type "C" panels to fit these racks are listed on Pages J-102 and J-103.
RACK SHELF: Rack Shelf No. R-2128 will fit these racks.
ROLLER TRUCK: Roller truck No. RT-410 will fit these racks.

SHELVES FOR CABINET RACKS

These shelves are designed to fit into the various enclosed racks listed in this catalog. They are constructed to be mounted **inside the rack** with side bolt mounting. All shelves are 1" high, and **finished in black ripple enamel.** Shipping weight of all shelves is 10 lbs.



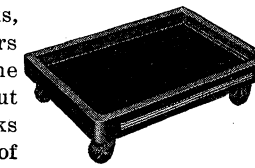
No. R-2015

Catalog No.	Will Fit Rack No.	Rack Page No.	Shelf Size	Net Price
ER-2112	ER-213, ER-215, ER-217	J-99	13"x21 15/16"	$3.15
R-2215	FD-215, FD-217	J-99	10⅝"x21 15/16"	3.15
ER-2212	ER-223, ER-225, ER-227	J-98	15"x21 15/16"	3.15
R-2128	DL-1713, 2613, 3513	J-101	12"x21 3/16"	2.55
R-2219	G-2218, G-2219	J-97	16"x21⅝"	4.50
R-2018	P, PG-3618, 6618, 8318	J-97	16"x21⅞"	4.65
R-2218	P, PG-6918, 7818, 8518	J-96	16"x23½"	4.20
R-2224	P, PG-6924, 7824, 8524	J-96	22"x23½"	5.10

ROLLER TRUCKS FOR RACKS
STANDARD TYPE

PAR-METAL ELECTRONIC HOUSINGS

These trucks are especially designed for use on our Deluxe streamlined racks, and have rounded corners at the front with chrome trim. Overall size is about 2" wider than the racks for better distribution of weight.

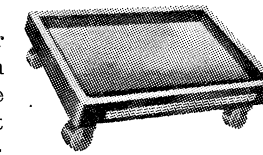


No. RT-412

Castors are ball-bearing swivel-type with 2" rubber composition wheels. **Finished in slate grey ripple enamel.** Also available in grey hammertone or aluminum grey lacquer at an additional cost of 15%. Shipping weight is 22 lbs.

Catalog No.	Will Fit Rack No.	Rack Page No.	Net Price
RT-410	DL-1713, DL-2613, DL-3513	J-101	$ 9.00
RT-411	ER-213, ER-215, ER-217 FD-215, FD-217	J-99 J-99	9.60
RT-412	ER-223, ER-225, ER-227 P, PG-3618, 6618, 8318 G-2218 and G-2219	J-98 J-97 J-97	10.50
RT-418	P, PG-6918, 7818, 8518 FD-223, FD-225, FD-227 PX-4818, 6718, 7718, 8418 FX-4818, 6718, 7718, 8418	J-96 J-98 J-91 J-91	12.30
RT-420	PX-4824, 6724, 7724, 8424 FX-4824, 6724, 7724, 8424	J-91 J-91	13.50
RT-424	P, PG-6924, 7824, 8524	J-96	13.50

ROLLER TRUCKS FOR RACKS
HEAVY DUTY TYPE



No. HD-412

Our heavy duty roller trucks are similar in size and design to the standard units, except that they have **reinforced bottoms,** and are equipped with **heavy-duty swivel type casters,** with 3" diameter wheels. They are **recommended** for use on all **24" deep racks,** and on other racks where necessary.

Standard finish is grey ripple enamel; black ripple is optional. Also available in grey hammertone or aluminum grey lacquer at an additional cost of 10%. Shipping weight is 30 lbs.

Catalog No.	Will Fit Rack No.	Rack Page No.	Net Price
HD-412	ER-223, ER-225, ER-227 P, PG-3618, 6618, 8318 G-2218, G-2219	J-98 J-97 J-97	$19.80
HD-418	FD-223, FD-225, FD-227 PX-4818, 6718, 7718, 8418 FX-4818, 6718, 7718, 8418 P, PG-6918, 7818, 8518	J-98 J-91 J-91 J-96	21.60
HD-420	PX-4824, 6724, 7724, 8424 FX-4824, 6724, 7724, 8424	J-91 J-91	22.95
HD-424	P, PG-6924, 7824, 8524	J-96	22.95
HD-427	PX-4827, 6727, 7727, 8427 FX-4827, 6727, 7727, 8427	J-91 J-91	25.80

NOTE: Roller Trucks are available on special order for racks not listed in either the standard or heavy duty types.

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TYPE "C" RACK PANELS 19"-24"-30"-WIDE

PAR-METAL ELECTRONIC HOUSINGS

Unless otherwise indicated, these panels are uniformly slotted to fit type "C" cabinet racks and all type "A" racks. They will also fit any other rack equipment having multiple 1¼" - ½" spacings or what is commonly termed as "W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel. Panels can be furnished in grey hammertone or aluminum grey lacquer at extra charge.

Medium grey enamel to match Utility Desk Assemblies listed on Pages J-106 thru J-109 is also available for all panels listed on this page.

⅛" STEEL STANDARD BLANK PANELS ⅛" ALUMINUM

Standard flat panels made from ⅛" thick steel, either 19", 24", or 30" wide. Finished in black or slate grey ripple enamel. Other finishes available as mentioned in page heading, also primer coat only.

Standard flat panels made from ⅛" aluminum.

Panels 24" or 30" wide, made from ⅛" or 3/16" aluminum, are available on order.

19" WIDE PANELS — ⅛" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6600	G-6600	1¾"	2	$ .69
6601	G-6601	3½"	3	.81
6602	G-6602	5¼"	4	1.02
6603	G-6603	7"	5	1.20
6604	G-6604	8¾"	7	1.44
6605	G-6605	10½"	8	1.68
6606	G-6606	12¼"	9	1.98
6607	G-6607	14"	10	2.25
6608	G-6608	15¾"	12	2.52
6609	G-6609	17½"	13	2.82
6610	G-6610	19¼"	14	3.15
6611	G-6611	21"	15	3.48

24" WIDE PANELS — ⅛" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6201	G-6201	3½"	4	$1.14
6202	G-6202	5¼"	6	1.41
6203	G-6203	7"	7	1.65
6204	G-6204	8¾"	9	2.01
6205	G-6205	10½"	10	2.40
6206	G-6206	12¼"	12	2.68
6207	G-6207	14"	14	3.30
6208	G-6208	15¾"	15	3.75
6209	G-6209	17½"	17	4.11
6210	G-6210	19¼"	18	4.59
6211	G-6211	21"	20	5.04

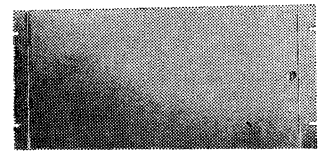
30" WIDE PANELS — ⅛" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6301	G-6301	3½"	4	$1.56
6302	G-6302	5¼"	6	1.92
6303	G-6303	7"	8	2.25
6304	G-6304	8¾"	10	2.70
6305	G-6305	10½"	12	3.30
6306	G-6306	12¼"	14	3.90
6307	G-6307	14"	16	4.44
6308	G-6308	15¾"	18	4.95
6309	G-6309	17½"	20	5.55
6310	G-6310	19¼"	22	6.15
6311	G-6311	21"	24	6.75

19" WIDE PANELS — ⅛" ALUMINUM

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6675	G-6675	1¾"	1	$ .84
6676	G-6676	3½"	1	1.14
6677	G-6677	5¼"	2	1.59
6678	G-6678	7"	2	1.98
6679	G-6679	8¾"	3	2.37
6680	G-6680	10½"	3	2.97
6681	G-6681	12¼"	4	3.45
6682	G-6682	14"	4	3.96
6683	G-6683	15¾"	5	4.41
6684	G-6684	17½"	5	4.89
6685	G-6685	19¼"	6	5.34
6686	G-6686	21"	7	5.82

SIDE HINGED BLANK PANELS
⅛" STEEL



These door panels are made from ⅛" steel, hinged at the sides, with a cowl type fastener to hold the door closed.

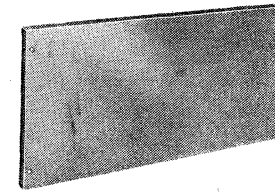
Finishes are **black** or **slate grey ripple** enamel; other finishes available are mentioned in page heading; also primer coat only. May be mounted on racks with hinges on right or left side.

*Cat. Nos.	Panel Size	Clear Opening (Width)	Shp. Wt. Lbs.	Net Price
HP, GP-350	3½x19"	15¾"	3	$2.52
HP, GP-525	5¼x19"	15¾"	4	2.73
HP, GP-700	7 x19"	15¾"	5	2.94
HP, GP-875	8¾x19"	15¾"	7	3.15
HP, GP-1050	10½x19"	15¾"	8	3.39
HP, GP-1225	12¼x19"	15¾"	9	3.66
HP, GP-1400	14 x19"	15¾"	10	3.96

*FINISHES: HP denotes black ripple enamel. GP denotes slate grey ripple enamel.

FORMED BLANK PANELS

These panels are made from 1/16" thick steel, with formed edges to make an overall thickness of 7/16". They are made 19" and 24" wide, with mounting holes on standard centers to fit relay racks. Finishes are black or grey ripple enamel. Other available finishes are mentioned in page heading, also primer coat only. For medium grey enamel, see Page J-109.



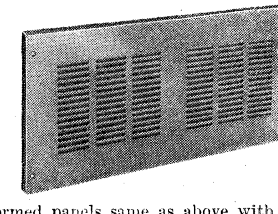
19" WIDE PANELS — 1/16" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
P-601	G-601	3½"	2	$ .90
P-602	G-602	5¼"	2	1.05
P-603	G-603	7"	3	1.20
P-604	G-604	8¾"	4	1.45
P-605	G-605	10½"	5	1.80
P-606	G-606	12¼"	6	2.10
P-607	G-607	14"	6	2.35
P-608	G-608	15¾"	7	2.70
P-609	G-609	17½"	7	3.00
P-610	G-610	19¼"	8	3.30
P-611	G-611	21"	9	3.60

24" WIDE PANELS — 1/16" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
P-641	G-641	3½"	2	$1.45
P-642	G-642	5¼"	3	1.70
P-643	G-643	7"	4	1.90
P-644	G-644	8¾"	5	2.30
P-645	G-645	10½"	6	2.90
P-646	G-646	12¼"	7	3.40
P-647	G-647	14"	8	3.80
P-648	G-648	15¾"	9	4.30
P-649	G-649	17½"	9	4.80
P-650	G-650	19¼"	10	5.30
P-651	G-651	21"	10	5.80

FORMED BLANK PANELS
19" WIDE PANELS — 1/16" STEEL



Formed panels same as above with louvres to match those used in Utility Desk Assemblies. Finished in black or grey ripple enamel. For medium grey enamel, see Page J-109. 24" wide panels are also available.

Cat. No. Black	Cat. No. Grey	Size	Ship. Wt. Lbs.	Net Price
PV-603	GV-603	7"	3	$2.85
PV-604	GV-604	8¾"	4	3.15
PV-605	GV-605	10½"	5	3.45
PV-606	GV-606	12¼"	6	3.90
PV-611	GV-611	21"	9	6.00

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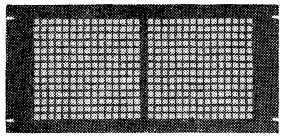
TYPE "C" RACK PANELS — 19" WIDE

PAR-METAL ELECTRONIC HOUSINGS

Unless otherwise indicated, these panels are made from 1/8" thick steel and are uniformly slotted to fit type "C" cabinet racks and all type "A" racks. They will also fit any other rack equipment having multiple 1¼" - ½" spacings or what is commonly termed as "W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel. Panels can be furnished in aluminum grey lacquer or grey hammertone enamel at extra charge.

GRILLE PANELS
19" WIDE — 1/8" STEEL

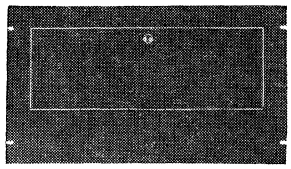


This modern type ventilating grille panel is stamped into the panel itself; it is not a pieced assembly.

Cat. No. Black	Cat. No. Grey	Panel Size	Grille Size	Shipping Wt. Lbs.	Net Price
P-661	G-661	5¼"	3⅜x14⅜"	4	$2.79
P-662	G-662	7"	4⅞x14⅜"	5	3.06
P-663	G-663	8¾"	6⅞x14⅜"	6	3.66
P-664	G-664	8¾"	*3⅞x14⅜"	6	3.36
P-665	G-665	10½"	8⅜x14⅜"	7	4.05
P-666	G-666	10½"	*5⅞x14⅜"	7	3.78
P-667	G-667	12¼"	*7⅜x14⅜"	8	4.11

* Allows 3½" space at bottom for chassis mounting.

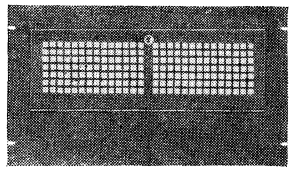
SOLID DOOR PANELS
19" WIDE — 1/8" STEEL



These panels have flush hinged doors with full length piano hinges; they are equipped with a chrome knob and concealed snap catch. All doors are located 1" from top to allow space for chassis at bottom. Regular chassis brackets may be used if desired.

Cat. No. Black	Cat. No. Grey	Panel Size	Door Size	Shipping Wt. Lbs.	Net Price
P-670	G-670	8¾"	4½x15⅜"	7	$ 4.41
P-671	G-671	10½"	6 x15⅜"	8	4.71
P-672	G-672	12¼"	7½x15⅜"	9	5.19

GRILLE DOOR PANELS
19" WIDE — 1/8" STEEL



These panels have flush hinged doors with modern type ventilating grille. Doors are equipped with piano hinges, chrome knob and concealed snap catch. All doors start 1" from top to allow space for chassis at bottom. Regular chassis brackets may be used if desired.

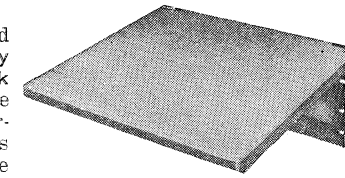
Cat. No. Black	Cat. No. Grey	Panel Size	Door Size	Shipping Wt. Lbs.	Net Price
P-680	G-680	8¾"	4½x15⅜"	7	$ 5.70
P-681	G-681	10½"	6 x15⅜"	8	6.15
P-682	G-682	12¼"	7½x15⅜"	9	6.75

RECESSED METER PANELS
1/8" STEEL

These panels are made so that the meters may be recessed from the front of the panel. Meters are protected by a plate glass insert, allowing ¾" clearance in back of panel. A blank bakelite sub-panel is provided. The clear sub-panel space is 4⅛"x 15" on the 19" wide panel which is sufficient for 4-3" meters. On the 24" and 30" wide panel the clear sub-panel space is 5¾"x20" and 5¾"x26" respectively.

Cat. No. Black	Cat. No. Grey	Size	Shipping Wt. Lbs.	Net Price
P-690	G-690	5¼x19"	6	$ 6.30
P-691	G-691	7 x24"	7	11.25
P-692	G-692	7 x30"	10	15.60

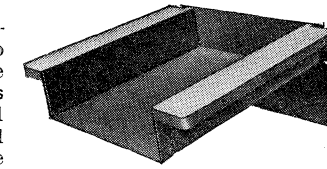
STANDARD DESK PANELS



These standard tables are rigidly made of 1/16" thick furniture steel. The rounded front corners are of seamless construction and the flanges of the shelf are folded in to provide smooth edges underneath. They are securely mounted to regular 1/8" steel panels, size 10½"x19". They may be obtained in two sizes and finishes as listed below. The tables are 22" wide to give full working space across the front of the racks when mounted in place. Shipping weight is 25 lbs.

Cat. No.	Width	Depth	Finish	Net Price
BT-2220	22"	20"	Black enamel	$14.75
BT-2216	22"	16"	Black enamel	13.50
GT-2220	22"	20"	Grey enamel	15.90
GT-2216	22"	16"	Grey enamel	14.40

TYPEWRITER DESK PANELS



These tables are similar in construction to standard desk type except that a recess 4½" deep is provided for using a standard typewriter. They are securely mounted on regular 1/8" steel panels, 10½"x 19" and are 22" wide to give full working space across the front of the rack. Shipping weight is 30 lbs.

Cat. No.	Width	Depth	Finish	Net Price
BY-2220	22"	20"	Black enamel	$20.40
GY-2220	22"	20"	Grey enamel	22.05

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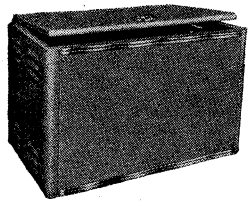
UTILITY DESK CABINETS AMPLIFIER FOUNDATION CHASSIS

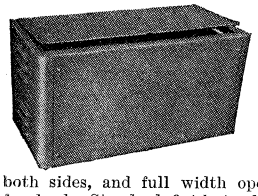
DELUXE TYPE CABINETS



These cabinets make attractive housings for commercial and amateur use. The formed type door, with modern handle, is **hinged at the back** for full access to the interior. Chrome finished mouldings are mounted on the front at top and bottom. Cabinet has ventilating louvres **on each side,** and full width opening at back for leads, etc. Standard finish is slate grey ripple enamel. Prices do not include chassis, which are listed on Page J-105.

Catalog No.	Overall Dimensions	Panel Size	For Chassis	Shp. Wt. Lbs.	Net Price
CA-300	9x12⅛x 8″	8½x10″	7x 9x2″	6	$ 5.82
CA-301	9x16⅛x 8″	8½x14″	7x13x2″	7	6.60
CA-302	10x17⅛x11″	9½x15″	10x14x3″	8	10.35
CA-303	10x20⅛x 9″	9½x18″	8x17x3″	11	10.35
CA-304	13x20⅛x12″	12½x18″	10x17x3″	15	11.64

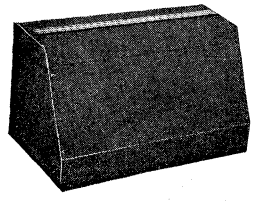
ROUNDED CORNER TYPE CABINETS



Standard type cabinets are similar in design to those listed above. They have **flat type doors,** hinged at back to permit full access to the interior. The vertical front corners are rounded; ventilating louvres are stamped in both sides, and full width opening is provided at the back for leads. Standard finish is slate grey ripple enamel. Prices do not include chassis, which are listed on Page J-105.

Catalog No.	Overall Dimensions	Panel Size	For Chassis	Shp. Wt. Lbs.	Net Price
CA-200	8½x10⅛x 8″	8½x 8″	7x 7x2″	6	$ 4.26
CA-201	8½x12⅛x 8″	8½x10″	7x 9x2″	7	4.56
CA-202	8½x16⅛x 8″	8½x14″	7x13x2″	8	5.49
CA-203	9½x17⅛x11″	9½x15″	10x14x3″	11	8.64
CA-204	12½x20⅛x12″	12½x18″	10x17x3″	15	10.26

SLOPING FRONT CABINETS

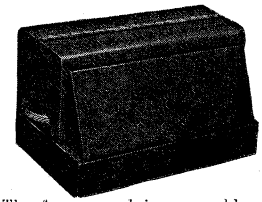


May be readily adapted as instrument cases for use in studios, laboratories, etc.

- Top corner is rounded and trimmed with a chrome moulding, and with the slate grey ripple finish makes a very attractive case.
- A chassis may be mounted to a front panel and removed as a unit.
- Rear of case is ventilated, with an opening for connections.
- Prices do not include chassis, which are listed on Page J-105.

Catalog No.	Overall Dimensions	For Chassis	Shp. Wt. Lbs.	Net Price
SF-500	8x 8x 8″	7x 7x2″	6	$ 3.96
SF-501	8x10x 8″	7x 9x2″	7	4.41
SF-502	8x14x 8″	7x13x2″	8	4.74
SF-503	9x18x 8″	7x17x3″	10	7.20
SF-504	12x18x12″	10x17x3″	14	9.00

SLOPING FRONT TYPE

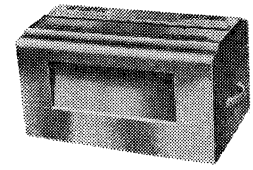


These new foundations follow the latest trend in amplifier design. The combination of sloping front panel and streamlined cover enables you to build up a job similar to that used on commercial deluxe type amplifiers. All parts are finished in slate grey ripple enamel, trimmed with red-striped chrome finished mouldings and handles.

The front panel is removable and protrudes 3″ from the face of the screen cover. **Chassis are supplied complete WITH bottom plates.**

Cat. No.	Chassis Size	Screen Cover	Shp. Wt. Lbs.	Net Price
F-10120	10x12x3″	6½″ high	11	$ 6.90
F-10170	10x17x3″	6½″ high	13	7.80
F-13170	13x17x3″	6½″ high	15	8.85

DELUXE TYPE WITH RECESSED PANEL

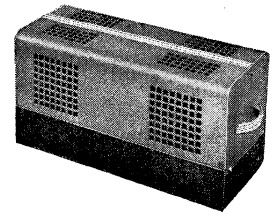


These chassis will appeal to many who prefer a Deluxe Type unit with a recessed panel. The panel slopes slightly and is attached to the chassis with screws, so that it may be removed for drilling, etc. The screen cover may be raised without disturbing the panel. The cover is finished in slate grey ripple enamel, and is trimmed with a chrome finished moulding and handles at each end.

The chassis is finished in black ripple and is drilled for bottom plates, which are listed on J-105.

Cat. No.	Chassis Size	Depth of Cover	Panel Size	Shp. Wt. Lbs.	Net Price
FC-510	5x10x3″	6″	4x 7″	7	$ 5.52
FC-615	6x14x3″	6″	4x10″	8	6.09
FC-717	7x17x3″	6″	4x13″	9	6.78
FC-1012	10x12x3″	6″	4x 9″	9	6.78
FC-1017	10x17x3″	6″	4x13″	10	7.65
FC-1317	13x17x3″	6″	4x13″	12	8.70

ROUNDED CORNER TYPE

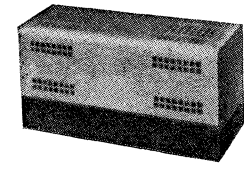


Rounded corners effectively streamline the screen covers of these chassis. Ventilation is obtained through rectangular screen openings. The moulding and handles, finished in chrome with red striping, gives the units a distinctive, modern design.

The screen cover is finished in slate grey ripple enamel to contrast with the black chassis. Chassis are drilled for bottom plates, which are listed on Page Page J-105.

Cat. No.	Chassis Size	Depth of Cover	Shp. Wt. Lbs.	Net Price
DF-510	5x10x3″	6″	7	$ 4.44
DF-615	6x14x3″	6″	8	4.80
DF-717	7x17x3″	6″	9	5.70
DF-1012	10x12x3″	6″	9	5.70
DF-1017	10x17x3″	6″	10	6.45
DF-1317	13x17x3″	6″	12	7.71

STANDARD TYPE



These units are similar in design to our other chassis, the screen covers having rounded corners. The grill type ventilation gives them a modern appearance. The chassis are stamped from one piece of cold rolled steel, with corners securely spot welded. The covers are finished in slate grey and the chassis in black ripple enamel. Chassis are drilled for bottom plates, which are listed on Page J-105.

Cat. No.	Chassis Size	Depth of Cover	Shp. Wt. Lbs.	Net Price
F-510	5x10x3″	6″	7	$ 3.39
F-615	6x14x3″	6″	8	3.72
F-717	7x17x3″	6″	9	4.50
F-1012	10x12x3″	6″	9	4.50
F-1017	10x17x3″	6″	10	5.28
F-1317	13x17x3″	6″	12	6.30

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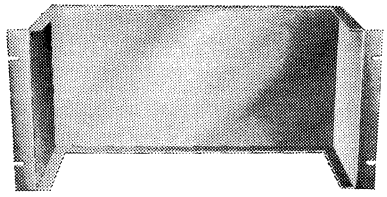
BLANK STEEL CHASSIS BASES

PAR-METAL ELECTRONIC HOUSINGS

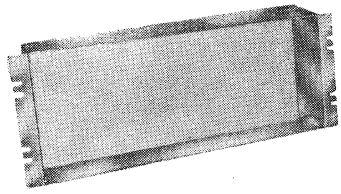
RACK MOUNTING CHASSIS



These chassis are suitable for installation in all Universal enclosed relay racks listed on Pages J-90 thru J-93 and any other racks which have provision for "mid-rail" mounting. They may also be used on Deluxe channel racks listed on Pg. J-100. Material used is 1/16" aluminum, with corners welded for added rigidity. Etched finish on inside and outside. All chassis are 5¼" deep; overall width is 19"; chassis width inside is 16⅞".

Catalog No.	Height	Shipping Wt. Lbs.	Net Price
AC-430	1¾"	2	$ 2.25
AC-431	3½"	3	2.55
AC-432	5¼"	3	2.91
AC-433	7"	4	3.21
AC-434	8¾"	5	3.51
AC-435	10½"	5	3.87
AC-436	12¼"	6	4.26
AC-437	14"	7	4.71

RACK MOUNTING CHASSIS



These chassis are fabricated from 1/16" **thick aluminum** with etched finish, or 1/16" **thick steel, zinc** plated. Overall length including mounting flanges is 18¾". They are designed to mount under 19" wide formed panels listed on Pg. J-102. The 4-15/16" height is for use with 5¼" high panels. 6-11/16" for 7" high panels, etc. Additional slots are provided in chassis side flanges to clear panel attachment screws. Although chassis are 18¾" overall width, they will fit on any relay rack.

ALUMINUM Cat. No.	Net Price	Chassis Dimensions	STEEL Cat. No.	Net Price
AC-402	$3.45	4-15/16"x17"x3"	SC-402	$2.52
AC-403	3.93	6-11/16"x17"x3"	SC-403	2.85
AC-404	4.41	8- 7/16"x17"x3"	SC-404	3.15
AC-405	4.89	10- 3/16"x17"x3"	SC-405	3.48
AC-406	5.46	11-15/16"x17"x3"	SC-406	3.78

CHASSIS MOUNTING BRACKETS

No. SB-78

These brackets are made for assembly with our standard or heavy duty type chassis listed on this page. Panels must be at least 7" high. Finished in black enamel.

Cat. No.	Dimensions	Shp. Wt. Lbs.	Net Price
SB- 78	For 8" Base	2	$ .87
SB-710	For 10" Base	2	1.11
SB-711	For 11" Base	2	1.20
SB-713	For 13" Base	3	1.38
SB-717	For 17" Base & Larger	4	2.10

BOTTOM PLATES

Bottom plates have holes to match our standard or heavy duty type chassis listed on this page, and have pressed "bumpers" at the corners.

Cat. No. Black Ripple	Cat. No. Zinc Plated	Size	Shp. Wt. Lbs.	Net Price
BP-4507	CP-4507	5x 7"	1	$0.39
BP-4502	CP-4502	8x12"	1	.84
BP-4500	CP-4500	5½x9½"	1	.48
BP-4508	CP-4508	5x10"	1	.48
BP-4509	CP-4509	6x14"	1	.63
BP-4510	CP-4510	7x 7"	1	.63
BP-4511	CP-4511	7x 9"	1	.66
BP-4512	CP-4512	7x11"	1	.69
BP-4513	CP-4513	7x13"	2	.75
BP-4514	CP-4514	7x15"	2	.78
BP-4518	CP-4518	4x17"	2	.60
BP-4515	CP-4515	7x17"	2	.87
BP-4531	CP-4531	8x17"	2	.90
BP-4525	CP-4525	10x12"	2	.87
BP-4524	CP-4524	10x14"	2	.90
BP-4528	CP-4528	10x17"	2	1.08
BP-4527	CP-4527	10x23"	3	1.44
BP-4533	CP-4533	11x17"	2	1.05
BP-4516	CP-4516	12x17"	3	1.20
BP-4535	CP-4535	13x17"	3	1.26
BP-4540	CP-4540	17x17"	4	1.71

STANDARD TYPE CHASSIS

Stamped from one piece of cold rolled steel, and have four solid sides with welded corners. Bottom edges are flanged in on four sides to provide additional reinforcement, and they are drilled for bottom plates. The chassis are made from #20 gauge steel, except those marked (*) which are stamped from 1/16" steel exactly like our heavy-duty type.

Cat. No. Black Ripple	Cat. No. Zinc Plated	Size	Shp. Wt. Lbs.	Net Price
B-4500	C-4500	5½x9½x1½"	2	$0.81
B-4507	C-4507	5x 7x2"	2	.90
B-4508	C-4508	5x10x3"	3	1.08
B-4509	C-4509	6x14x3"	4	1.35
B-4510	C-4510	7x 7x2"	2	.96
B-4511	C-4511	7x 9x2"	2	1.08
B-4512	C-4512	7x11x2"	3	1.17
B-4513	C-4513	7x13x2"	3	1.26
B-4514	C-4514	7x15x3"	4	1.53
B-4518	C-4518	4x17x3"	4	1.32
B-4515	C-4515	7x17x3"	4	1.65
B-4502	C-4502	8x12x3"	5	1.50
B-4531	C-4531	8x17x2"	4	1.65
B-4532	C-4532	8x17x3"	5	1.65
B-4525	C-4525	10x12x3"	4	1.56
B-4524	C-4524	10x14x3"	5	1.65
B-4528	C-4528	10x17x2"	5	1.65
B-4529	C-4529	10x17x4"	7	2.04
B-4526	C-4526	10x17x3"	7	1.77
B-4527	C-4527	10x23x3"	7	2.34
B-4533*	C-4533*	11x17x2"	7	2.40
B-4534*	C-4534*	11x17x3"	9	2.70
B-4516	C-4516	12x17x2"	5	1.92
B-4517	C-4517	12x17x3"	6	2.13
B-4530	C-4530	12x17x4"	6	2.55
B-4535*	C-4535*	13x17x2"	8	2.70
B-4536*	C-4536*	13x17x3"	9	3.15
B-4537*	C-4537*	13x17x4"	10	3.54
B-4540	C-4540	17x17x4"	13	4.05

HEAVY DUTY TYPE CHASSIS

These heavy duty bases are similar to the standard type chassis bases listed above.

However, they are substantially constructed for **"heavy duty"** uses since they are formed from one piece of **1/16" sheet steel.** Bottom plates and mounting screws are supplied with each of these chassis.

Ends are drilled to fit standard chassis mounting brackets listed at the left.

Cat. No. Black Ripple	Cat. No. Zinc Plated	Dimensions	Shp. Wt. Lbs.	Net Price
15280	15208	8x17x2"	8	$2.91
15281	15209	8x17x3"	9	3.18
15282	15218	11x17x2"	9	3.39
15210	15219	11x17x3"	11	3.69
15212	15214	13x17x2"	11	3.90
15213	15215	13x17x3"	12	4.35
15216	15217	13x17x4"	13	4.74
15283	15284	17x17x4"	15	5.70

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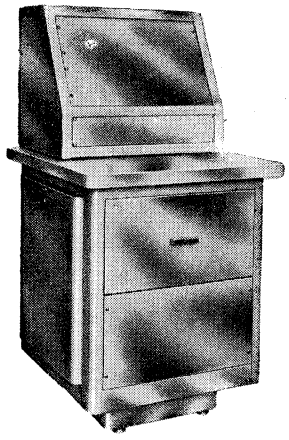
Net

UTILITY DESK ASSEMBLIES

Standardized Units Adaptable to Individual Requirements

General Description



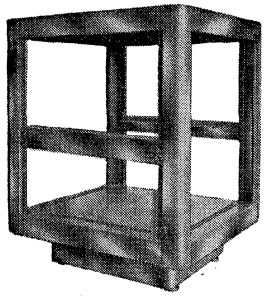
SINGLE UNIT ASSEMBLY

The combination of a control cabinet mounted on a table, desk or similar support has been in general use in the electronics industry for some time. Due to the various functions for which it may be employed, such equipment has assumed various forms, arrangements and sizes, requiring costly, custom-built construction to achieve their purpose.

While it is obvious that no particular fixed design can serve every demand, we have devised a group of ***standardized units,*** the combination of which is readily adaptable for control stations, testing apparatus, sound distribution systems, and similar applications.

The ***line drawing on the opposite page*** is a composite view of a complete equipment in which have been grouped various available components. Essentially, it consists of a desk cabinet or turret, a 71" long table top, and two pedestals. Other arrangements include a 51" long table top, a pedestal and end table support, and a smaller desk cabinet; where a single pedestal only is needed, a 25" wide table top and suitable desk cabinet is listed.

The sizes and specifications of the various units are catalogued on the following pages. There are several features which warrant your consideration, particularly the pedestal. Note that all doors of the pedestal are easily removable, allowing complete access to the interior ***from all sides.*** (See illustration at left.) Each side of the four supporting posts has also been drilled and tapped on "universal" centers, making it possible to mount standard rack panels or doors on any or all sides, at your preference. Each door is equipped with a "push-button" spring catch, plus a lock with interchangeable keys. The use of the lock is optional.



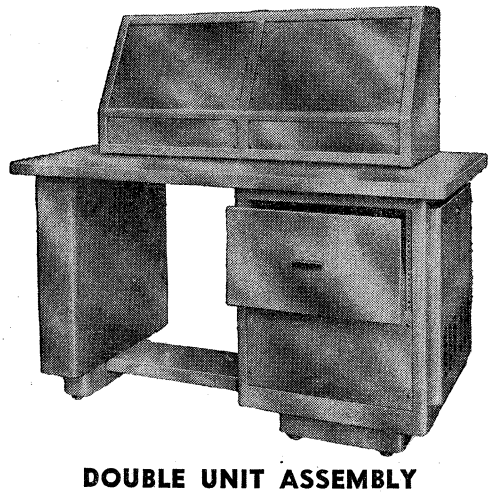
The above illustrates how brackets are mounted. They are used for mounting chassis, standard shelves, or drawers. With all sides open, easy access saves considerable time in assembly.

Another time-saving aid is the method of supporting apparatus in the interior of the pedestal. Universal brackets are easily attached to any of the four sides by utilizing the tapped panel mounting holes. The brackets are slotted, so that almost continual vertical adjustment may be made. They may be used to support regular 17" wide chassis, or standard shelves. The shelves are suitable for mounting amplifiers, power supplies, record changers, etc.

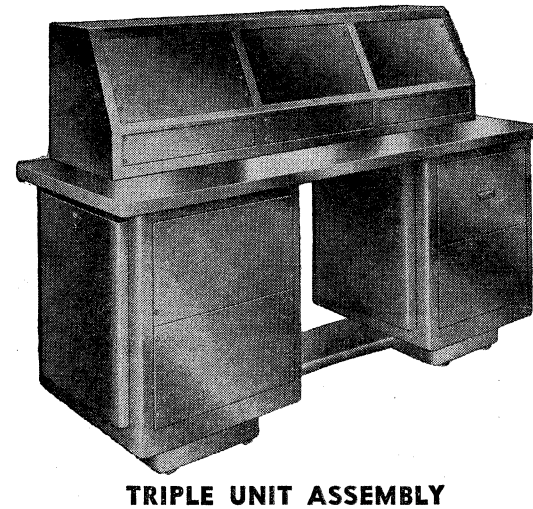
All table-tops have screw type studs, which are inserted in matching holes already drilled in the pedestals. The desk cabinets have necessary mounting holes, but they have been omitted from the table top to permit a flexible assembly of similar cabinets, or other equipment.

SPECIFICATIONS: The Desk Panel Cabinets, Table Tops and Pedestals are constructed of 1/16" thick furniture steel. They are rigidly braced and reinforced wherever necessary, and substantially welded into integral units. No holes have been drilled in the table tops for desk cabinets, to permit cabinets to be located wherever desired.

FINISH: Unless otherwise specified, the standard finish for all items on Pages J-106 thru J-109 is medium grey enamel. Black wrinkle, slate grey wrinkle, grey hammertone, or prime coat only is available at same price. Samples of above finishes will be mailed upon request.



DOUBLE UNIT ASSEMBLY



TRIPLE UNIT ASSEMBLY

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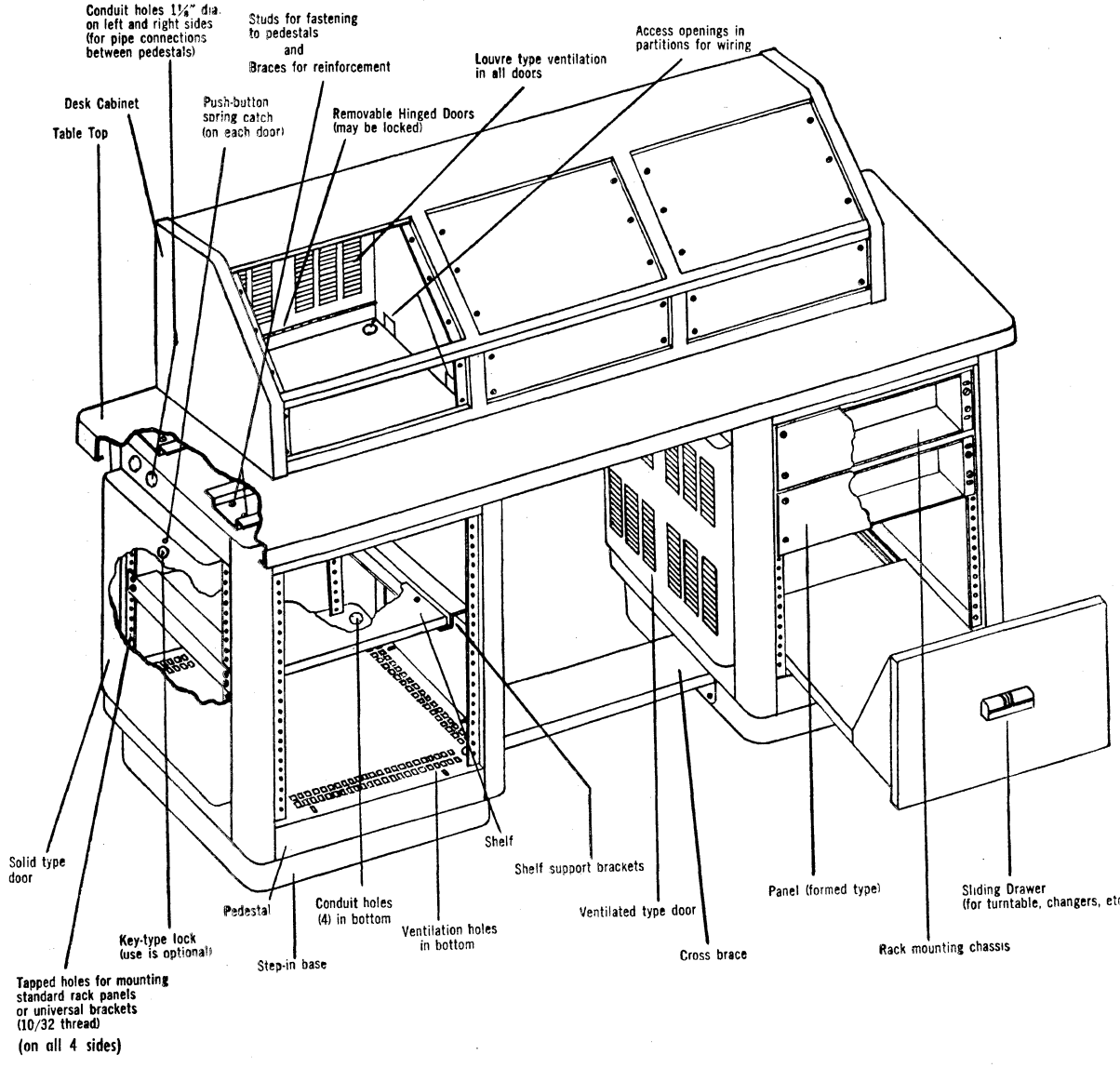
UTILITY DESK ASSEMBLIES

PAR-METAL ELECTRONIC HOUSINGS

DETAILS OF COMPLETE ASSEMBLY



NOTE: **ON DOUBLE UNIT ASSEMBLIES (shown on opposite page) where it is desirable to have the end pedestal on the right side, the entire assembly is revolved 180°; the front and back of both pedestals are identical, and all panels, doors, drawers, etc., may be inserted as illustrated above.**

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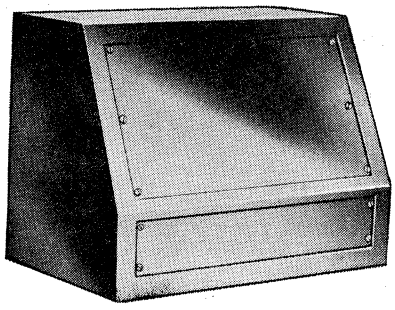
UTILITY DESK ASSEMBLY ACCESSORIES

PAR-METAL ELECTRONIC HOUSINGS

DESK PANEL CABINETS



These cabinets are available in single, double and triple units, as listed below. Double and triple assemblies are shown on Page J-106.

DOORS: Hinged door at back is removable; adequately louvered for ventilation. Equipped with combined "push-button" catch and lock. Individual doors on each section of multiple unit cabinets.

MOUNTING: Holes for securing cabinet to table top are drilled in the bottom. Two "knockout" holes 1⅛" diameter, adjacent to the back, are also included. Felt bumpers are also supplied.

PARTITIONS: A solid partition separates each section in double and triple units. Partitions have access holes for wiring.

PANELS: Upper and lower panels are recessed for any panel up to 7/16" thick. The upper panel is 12¼" x 19" and mounted at an angle of 30°. The lower panel is 3½" x 19". Mounting holes are standard rack panel spacings. See Page J-102 for panels.

Catalog No.	Description	Height	Length	Depth	Net Price
CC-101	Single Unit	18¼"	21⅝"	16"	$48.00
CC-102	Double Unit	18¼"	42 "	16"	72.00
CC-103	Triple Unit	18¼"	62¼"	16"	96.00

The above prices include formed panels as illustrated.

TABLE TOPS

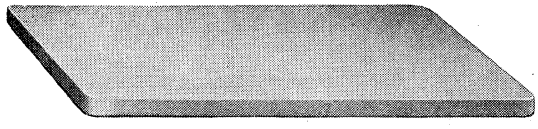


Table tops are made in three sizes, for use with single, double, or triple unit desk cabinets.

They are substantially constructed from 1/16" thick furniture steel, suitably braced on the underside, with all edges flanged in underneath to provide smooth surfaces. Screw studs are securely fastened in place, for insertion into matching holes in pedestals. Necessary lock-washers and nuts are included.

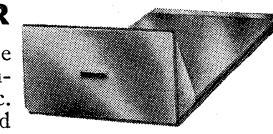
No holes have been drilled for desk cabinets, so that cabinets already in use or other control units may be mounted wherever desired.

Cat. No.	Description	Width	Length	Depth	Net Price
T-301	Single Unit	28"	25"	1½"	$21.00
T-302	Double Unit	28"	55"	1½"	25.00
T-303	Triple Unit	28"	71"	1½"	30.00

The above table tops are available with lineoleum covering. Prices on request

FINISH ON ALL ITEMS ABOVE: Standard finish is medium grey enamel. Optional finishes are grey hammertone enamel, black or blue grey wrinkle, or primer coat only.

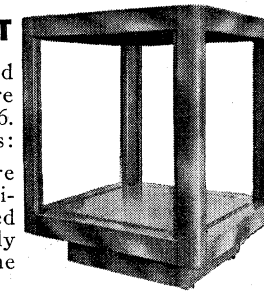
SLIDE DRAWER



These sliding drawers are suitable for mounting turntables, record changers, etc. The drawer front is a standard 10½" x 19" formed panel and is welded to the drawer. The slide mechanism is fastened to a standard shelf, **No. CD-12,** which is included in the assembly. If the drawer is mounted at the top of the pedestal, a pair of brackets, **No. CB-20,** are required. Since no base or platform for a changer is supplied by us, we suggest that it be purchased with the changer.

Panel size (drawer front): 10½" x 19".
Mounting platform: 17½" long, 21" deep.
Clear height above platform: 8¾".
Forward movement of drawer: 14"
Catalog No. CD-10 .....Net Price $22.60

PEDESTAL UNIT



The design, construction and utilization of the pedestal are given in detail on Page J-106. Specifications are as follows:

MATERIAL: All parts are made from 1/16" thick furniture steel, with a reinforced base. Entire pedestal is rigidly welded together into one integral unit.

PANEL MOUNTING: 21" panel space available on all four sides where doors are not used. Holes tapped 10/32 on "universal" centers for standard rack panels. Either panels or doors may be mounted on any side (not both).

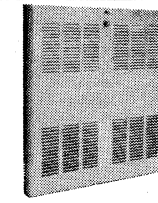
HOLES: Holes are drilled in top to match screw studs in table tops. "Knockout" holes 1⅛" dia. are located on each side.

BASE: The base is 4" high, and is set inward for toe space; it is equipped with four steel "glider type" casters, which are adjustable for height and uneven floors.

Catalog No. PD-200 (Pedestal less doors and panels)
Net Price $48.00

Overall Size: 22"long, 24" deep, 30" high.
Panel Space: 21" x 19" on all four sides.
Clearance between corner posts: 17¾".
Clearance inside (front to back): 23".
Clearance inside (from left to right): 21".
Base height: 4".

PEDESTAL DOORS



Doors are "slip-in" type and held in position by studs and "push-button" spring catches. Locks and keys are provided. Doors are interchangeable; and available with or without louvred ventilation. Doors and panels are sold separately to permit flexible assembly.

Plain Door (without louvres)
Cat. No. PD-201 .....Net Price $10.75
Ventilated Door (with louvres as shown)
Cat. No. PD-202 .....Net Price $11.50
Both doors are 21" High, 19" Wide, 1½" Deep.

ALL PRICES ARE F.O.B. LONG ISLAND CITY, NEW YORK

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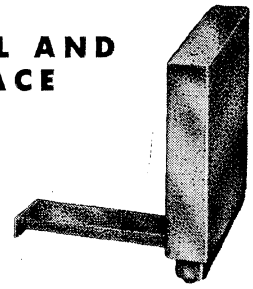
UTILITY DESK ASSEMBLY ACCESSORIES

PAR-METAL ELECTRONIC HOUSINGS

END PEDESTAL AND FLOOR BRACE



When a 55" table top is used with a single pedestal, we can supply an end pedestal and floor brace as shown. This size table is suitable for use with a double unit cabinet.

The end pedestal is 6" wide and 24" from front to back. The floor brace is 25½" long. Both units are drilled with all necessary holes and are shipped with hardware for assembly.

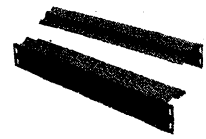
Catalog No. PD-210 .....Net Price $32.00.

FLOOR BRACE ONLY — This is similar to floor brace illustrated above, and is required on TRIPLE UNIT ASSEMBLY.

Catalog No. PB-211 .....Net Price $8.00

(Standard Floor Braces to fit other pedestal assemblies are also available.)

MOUNTING BRACKETS



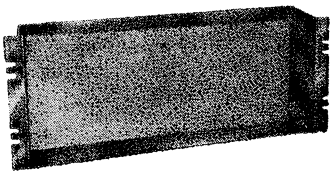
These brackets are 19" Long, 2" High, 2¾" Deep, and are slotted for vertical adjustment and drilled for assembly with **No. CD-10 drawer.** (see Page J-107), or **CD-12 shelf illustrated below.**

Standard finish: Medium Gray Enamel.

Catalog No. CB-20 .....Net Price $3.60 per pair

RACK TYPE CHASSIS (Steel or Aluminum)

These chassis are fabricated from **1/16" thick aluminum** with etched finish, or **1/16" thick steel, zinc plated.** Overall length including mounting flanges is 18¾".



STEEL Catalog No.	Overall Dimensions	Net Price
SC-402	4 1/16"x17"x3"	$2.52
SC-403	6 1/16"x17"x3"	2.85
SC-404	8 1/16"x17"x3"	3.15
SC-405	10 1/16"x17"x3"	3.48
SC-406	11 1/16"x17"x3"	3.78

ALUMINUM Catalog No.	Overall Dimensions	Net Price
AC-402	4 1/16"x17"x3"	$3.45
AC-403	6 1/16"x17"x3"	3.93
AC-404	8 1/16"x17"x3"	4.41
AC-405	10 1/16"x17"x3"	4.89
AC-406	11 1/16"x17"x3"	5.46

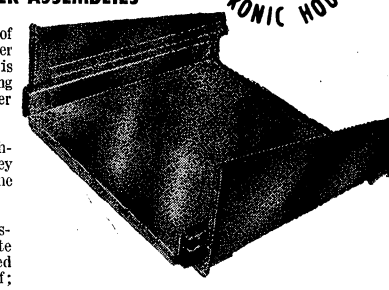
SLIDING SHELF UNITS PHONO DRAWER ASSEMBLIES

Where the large platform of our CD-12 Sliding Drawer (listed on page J-108) is not required, these sliding shelf units and phono drawer assemblies are available.

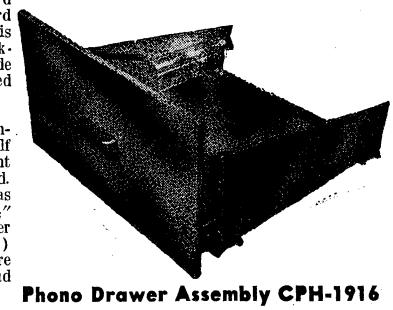
They may be installed without shelf brackets, as they are screw mounted to the front of the pedestals.

The basic assembly illustrated is sold as a complete unit. Chassis may be bolted directly to the sliding shelf; panels may be attached to the shelf using standard chassis brackets. Forward movement of shelves is 13". Shelf may be quickly removed from the slide while it is in an extended position.

Phono drawer assembly consists of basic sliding shelf assembly with a drawer front and handle as illustrated. Drawer front is same size as standard formed panel 10½" high. (12¼" high drawer fronts are also available.) Vertical slide carriers are used for maximum load capacity.



Basic Slide Assembly SD-1916



Phono Drawer Assembly CPH-1916

Catalog No.	Usable Space Width	Usable Space Depth	Panel Width	Rack Depth	Net Price
SD-1916	15⅝"	14¼"	19"	18"	$14.55

Standard Finish: All parts are zinc plated.

Catalog No.	Usable Space Width	Usable Space Depth	Height	Front Panel	Net Price
CPH-1916	15⅝"	14¼"	9½"	10½x19"	$21.00

*available with 12¼" high panel at 5% increase.

Standard Finish: Drawer front finished in enamel*. All other parts are zinc plated, same as SD-1916.

SHELF

These shelves are drilled for assembly with **CB-20 Brackets** shown above. Overall size: 17½" Wide, 22" Deep, ¾" High.

Catalog No. CD-12 .....Net Price $4.05

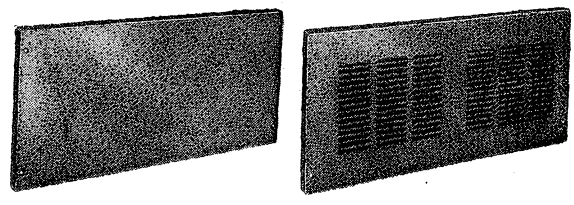
FINISH ON ALL ITEMS: (except for special notes) Standard finish is medium grey enamel. Optional finishes are grey hammertone enamel, black or blue grey wrinkle, or primer coat only.

FORMED RACK PANELS—7/16" THICK

These panels are made from **1/16" furniture steel** with formed edges to make an overall thickness of 7/16". Holes are on standard 1¼"-½" **centers,** and they are suitable for use on pedestals or any relay rack.

BLANK TYPE

Cat. No.	L	W	Net Price
601	3½"	19"	$1.14
602	5¼"	19"	1.32
603	7 "	19"	1.50
604	8¾"	19"	1.83
605	10½"	19"	2.25
606	12¼"	19"	2.61
607	14 "	19"	2.94
608	15¾"	19"	3.39
609	17½"	19"	3.75
610	19¼"	19"	4.11
611	21 "	19"	4.50



VENTILATED TYPE

Ventilated type panels have louvre type ventilation, exactly the same way as on pedestal doors, shown on Page J-107.

Cat. No.	L	W	Net Price
V-603	7 "	19"	$3.15
V-604	8¾"	19"	3.54
V-605	10½"	19"	3.90
V-606	12¼"	19"	4.41
V-611	21 "	19"	6.90

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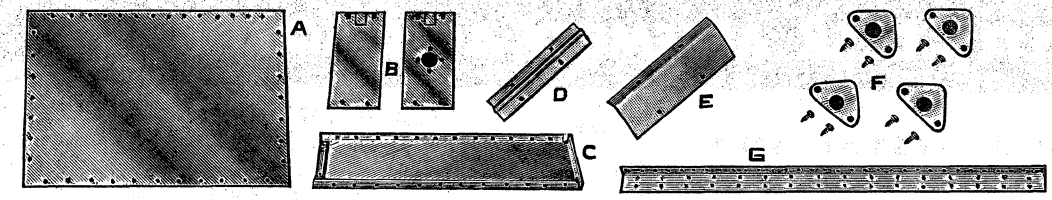


SEEZAK E-X-P-A-N-D-A-B-L-E CHASSIS

PANELS—16 GA. ALUMINUM (FIG. A)

105 common sizes and shapes from 4″ x 4″ to 17″ x 17″.

Lgth. In.	4″ Wide No.	4″ Wide Net	5″ Wide No.	5″ Wide Net	6″ Wide No.	6″ Wide Net	7″ Wide No.	7″ Wide Net
4	P-44	$0.33						
5	P-45	.36	P-55	$0.42				
6	P-46	.39	P-56	.45	P-66	$0.57		
7	P-47	.42	P-57	.48	P-67	.60	P-77	$0.69
8	P-48	.45	P-58	.54	P-68	.63	P-78	.72
9	P-49	.48	P-59	.57	P-69	.66	P-79	.75
10	P-410	.54	P-510	.60	P-610	.69	P-710	.78
11	P-411	.57	P-511	.63	P-611	.72	P-711	.81
12	P-412	.60	P-512	.66	P-612	.75	P-712	.84
13	P-413	.63	P-513	.69	P-613	.78	P-713	.87
14	P-414	.66	P-514	.72	P-614	.81	P-714	.90
15	P-415	.69	P-515	.75	P-615	.84	P-715	.93
16	P-416	.72	P-516	.78	P-616	.87	P-716	.96
17	P-417	.75	P-517	.81	P-617	.90	P-717	.99

PANELS—14-GA. ALUMINUM

Lgth. In.	8″ Wide No.	8″ Wide Net	9″ Wide No.	9″ Wide Net	10″ Wide No.	10″ Wide Net	11″ Wide No.	11″ Wide Net
8	P-88	$0.81						
9	P-89	.84	P-99	$0.90				
10	P-810	.87	P-910	.93	P-1010	$1.02		
11	P-811	.93	P-911	.99	P-1011	1.05	P-1111	$1.14
12	P-812	.96	P-912	1.02	P-1012	1.11	P-1112	1.23
13	P-813	.99	P-913	1.05	P-1013	1.17	P-1113	1.26
14	P-814	1.02	P-914	1.11	P-1014	1.23	P-1114	1.32
15	P-815	1.05	P-915	1.14	P-1015	1.29	P-1115	1.38
16	P-816	1.11	P-916	1.23	P-1016	1.32	P-1116	1.41
17	P-817	1.14	P-917	1.26	P-1017	1.38	P-1117	1.47

	12″ Wide No.	12″ Wide Net	13″ Wide No.	13″ Wide Net	14″ Wide No.	14″ Wide Net	15″ Wide No.	15″ Wide Net
12	P-1212	$1.29						
13	P-1213	1.35	P-1313	$1.44				
14	P-1214	1.38	P-1314	1.50	P-1414	$1.62		
15	P-1215	1.44	P-1315	1.59	P-1415	1.68	P-1515	$1.77
16	P-1216	1.50	P-1316	1.65	P-1416	1.74	P-1516	1.83
17	P-1217	1.59	P-1317	1.71	P-1417	1.80	P-1517	1.89

	16″ Wide No.	16″ Wide Net	17″ Wide No.	17″ Wide Net
16	P-1616	$1.92		
17	P-1617	1.98	P-1717	$2.10

PROTOTYPE PANELS (FIG. B)

Pre-punched to accommodate various sockets. 16-ga. aluminum.

No. PT-0—Blank panel. Net Each..... $0.24
No. PT-7—Pre-punched for 7-pin Miniature. Net Each... .30
No. PT-8—Pre-punched for Octal Sockets. Net Each.... .30
No. PT-9—Pre-punched for 9-pin Miniature. Net Each... .30

RAILS (FIG. C)

Packaged in pairs with screws.

Lgth. In.	2″ 18-Ga. Rails No.	2″ 18-Ga. Rails Net Pr.	3″ 16-Ga. Rails No.	3″ 16-Ga. Rails Net Pr.	4″ 16-Ga. Rails No.	4″ 16-Ga. Rails Net Pr.
4	R-24	$0.33	R-34	$0.45	R-44	$0.60
5	R-25	.36	R-35	.51	R-45	.66
6	R-26	.39	R-36	.54	R-46	.72
7	R-27	.42	R-37	.60	R-47	.78
8	R-28	.45	R-38	.63	R-48	.84
9	R-29	.48	R-39	.69	R-49	.90
10	R-210	.54	R-310	.75	R-410	.99
11	R-211	.60	R-311	.81	R-411	1.05
12	R-212	.66	R-312	.87	R-412	1.14
13	R-213	.72	R-313	.96	R-413	1.23
14	R-214	.78	R-314	1.02	R-414	1.29
15	R-215	.84	R-315	1.08	R-415	1.38
16	R-216	.87	R-316	1.14	R-416	1.44
17	R-217	.90	R-317	1.20	R-417	1.50

RAIL CONNECTORS (FIG. D)

To make "L", "U" and other combination shaped chassis.

No. RC-2—2″ high. 18-ga. aluminum. Net Each..... $0.09
No. RC-3—3″ high. 16-ga. aluminum. Net Each..... .12
No. RC-4—4″ high. 16-ga. aluminum. Net Each..... .15

SHIELD CLIP (FIG. E)

Use with rail 1″ shorter than side rails for internal shielding.

No. SC-2—For 2″ rails. 18-ga. aluminum. Net Each..... $0.09
No. SC-3—For 3″ rails. 16-ga. aluminum. Net Each..... .12
No. SC-4—For 4″ rails. 16-ga. aluminum. Net Each..... .15

RAIL FEET (FIG. F)

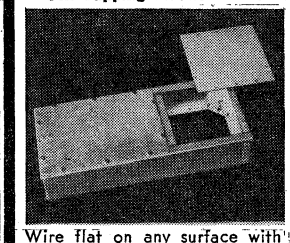
Set of 4 feet, 4 rubber bumpers, 8 screws. 16-ga. aluminum.

No. RF-1—Set of four feet. Net per set..... $0.39

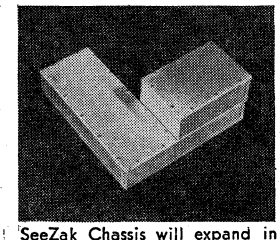
PANEL COUPLER (FIG. G)

18-ga. aluminum in standard 16″ lengths. Cut to size.

No. PC-16—16″ length Panel Coupler. Net Each..... $0.30
Self-Tapping Screws No. SS4-40—Package of 100. Net.. .90



Wire flat on any surface with SeeZak's interlocking rails and removable panels.

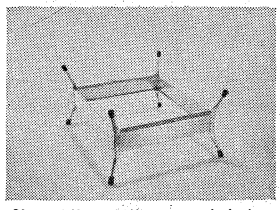


SeeZak Chassis will expand in all directions, any form, shape or size as needed.

ASK YOUR JOBBER FOR A COMPLETE CATALOG

SeeZak

BENCH RACK

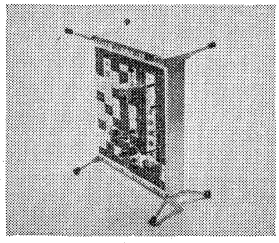


Size 17" x 20", tapped holes per "universal" rack spacing

NET PRICE $12.75

COMPONENT PARTS

Name-No.	Pkg'd Price
ANGLE LEG	
AL-1	$3.00/4
MOUNTING STRIP	
MS-17	4.80/pr.
SIDE RACK RAIL	
RR-317	1.80/pr.
END RACK RAIL	
RR-320	2.10/pr.
RUBBER TIPS	
RT-1	.75/8



Bench Racks accommodate all SeeZak parts and standard rack panels, facilitates work in any position, won't tip over.

PEGBOARD, PGB-4

4" x 17", 1/16" phenolic, holes for "Presto" terminals punched on 1/4" centers.

NET PRICE ..... $1.68 ea.

PRESTO TERMINALS T-100

Slotted, brass, silver plated, snap-in type, reusable.

NET PRICE $4.20/100

RIVSET 600

Plastic case with 3/32" and 1/8" riveting tools, 200 rivets, 100 #4 self-tapping screws.

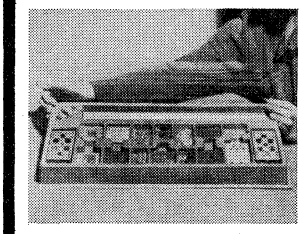
NET PRICE $3.90

SeeZak

CIRCUIT ASSEMBLER STARTER KIT

A special starter kit in a gray, plastic tray for orderly parts storage. Transparent top.

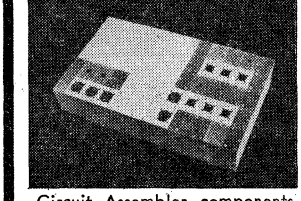
NET PRICE $15.90



COMPONENT PARTS

Name-No.	NET Pkg'd Price
BODY ANGLE	
BA-16	$ .30/1
COMPONENT TRAY	
CT-17	3.45/1
END BRACKET	
EB-23	1.20/pr.
LEAD-IN PLATE	
LP-10	1.80/10
1" MOUNTING PLATE	
MP-8	1.80/10
1½" MOUNTING PLATE	
MP-12	1.80/10
MINIATURE TUBE PLATE	
MTP-12	1.80/10
⅜" MULTI-USE PLATE	
MUP-3	1.80/10
½" MULTI-USE PLATE	
MUP-4	1.80/10
OCTAL TUBE PLATE	
OTP-12	1.80/10
POTENTIOMETER BRACKET	
PB-1	1.08/6
RACK ADAPTER	
RA-2	1.80/6
RUBBER FEET	
RF-4	.39/20
RACK MOUNTING SCREWS	
RMS-10-32	.30/20
SWITCH BRACKET	
SB-1	1.08/6
TERMINAL BOARD	
TB-12	1.80/10
VERTICAL TERMINAL BOARD	
VTB-65	1.80/4

YOUR JOBBER HAS BULK PRICES



Circuit Assembler components are designed to coordinate with all SeeZak Chassis parts.

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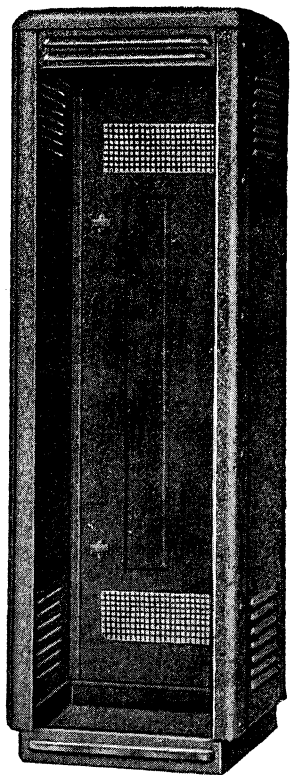
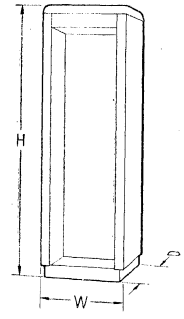
De Luxe Transmitter Racks



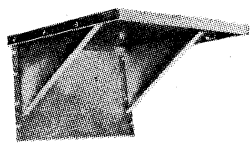
A rugged streamlined relay rack of the newest modern design. Ample ventilation provided. Double thick mounting supports assure sturdy rigidity. Drilled and tapped for all standard 19" panels. Rear door hung on sturdy hinges with two flush snap catches added. Welded gusset plates on the rack base, permit easy attachment of casters.

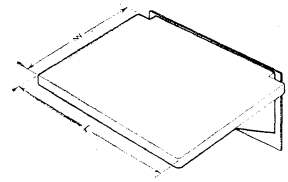
Made of 16 gauge steel. Shipped "KNOCKED DOWN" with all hardware for easy assembly. Furnished in neat Ultramarine Ripple Finish; Black Ripple Finish only on request.



Cat. No.	H	W	D	Panel Space	Interior Width	Interior Depth	Ship. Wt. Lbs.
3865	43¼"	22"	18"	36¾" x 19"	17⅝"	16¾"	81
3866	67¾"	22"	18"	61¼" x 19"	17⅝"	16¾"	116
3867	83½"	22"	18"	77" x 19"	17⅝"	16¾"	133

Rack Shelf Assembly

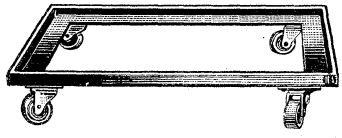




No.	W	L	Ship. Wt. Lbs.
3858	16" x 22"	14½
3859	20" x 22"	18⅛

A convenient utility shelf for addition to rack cabinets. Made of 16 gauge steel. Standard mounting panel, 10½" x 19". Will not sag or tilt. Easily attached with hardware supplied. Finish in Ultramarine Ripple; Black Wrinkle finish supplied on request.

Rack Dolly

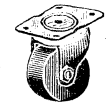


Especially designed to simplify the moving of heavy or large racks or cabinets of any type. Constructed of 16 gauge steel. Has sturdy heavy duty casters. Supplied in Black Wrinkle Finish.

Cat. No.	L	W	Ship. Wt. Lbs.
4086	22"	21"	8⅝

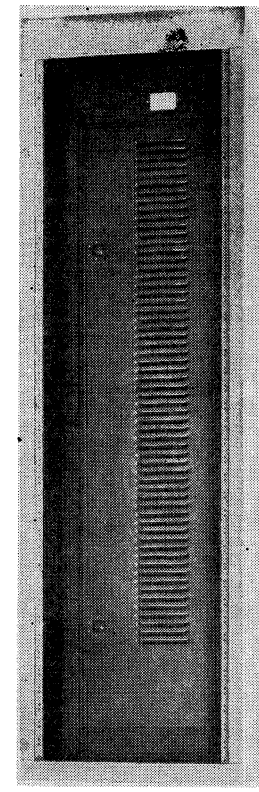
Casters

Heavy gauge steel frames; durable composition rollers (2" diam. x 1" w.) on ball bearing swivel that adds mobility to any cabinet, rack, etc. The mounting plate measuring 1⅞" x 2⅝" has 4 holes of 9/32" diam.; mounting hole centers 1" x 2⅛". Overall height: 2½". Rated load: 500 lbs.



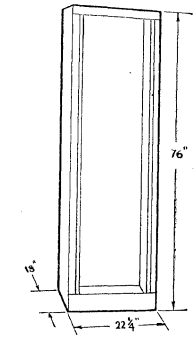
Cat. No. 3209 **Ship. Wt. Lbs. ½**

Heavy Duty All-Welded Transmitter Rack



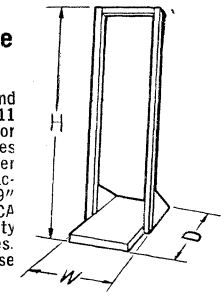
An all-welded 16 gauge steel rack, ruggedly constructed for supporting heavier instruments or apparatus. The double thickness mounting channels offer additional load-bearing strength. Smooth front trim hides mounting holes for neat finish. Rear door has two chrome-plated snap-locks; mounted on sturdy hinges; easily removed if desired; louvred practically entire length to provide maximum ventilation.

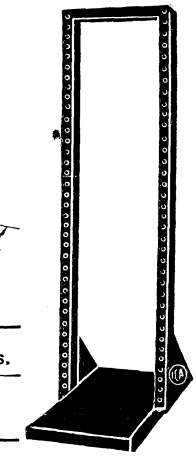
Combination 1", 2" or 3" knock-outs located on top, bottom, sides and rear base for conduit or wire connections. Switch opening in rear base. Panel space: 70". Shipped completely assembled, ready for use.
No. 3868 **Shipping Wt. 108 lbs.**



Telephone Type Relay Racks

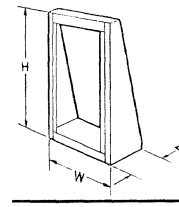
An unusually strong and sturdy rack made of 11 gauge steel. Designed for P. A. units, various types of transmitters and other commercial set-ups. Accommodates standard 19" rack panels of which ICA supplies a wide variety shown on other pages. Black Ripple Finish. Base depth: 22".



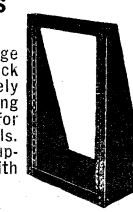


Cat. No.	H	W	D	Panel Space	Ship. Wt. Lbs.
3912	73½"	20"	20⅞"	71¾"	58
3913	38¼"	20"	18⅜"	36¾"	46
3914	99½"	20"	20⅞"	98"	78

Table Mount Relay Racks



Sturdily constructed 16 gauge steel heavy duty table rack with one-piece base. Accurately drilled and tapped mounting holes universally spaced for all standard 19" wide panels. Finished in Black Ripple. Supplied "KNOCKED DOWN" with all necessary hardware.



Cat. No.	W	H	D	Panel Space	Ship. Wt. Lbs.
3910	21"	25"	12"	21" x 19"	18⅛
3911	21"	32"	12"	28" x 19"	21

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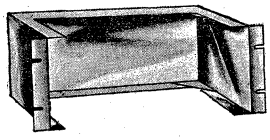
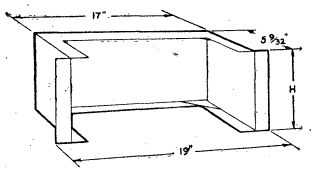
Panel Chassis



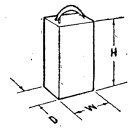
A new type of chassis with notched flanges to fit standard 19" racks. Made of .062 aluminum with etched finish.



Cat. No.	H	Ship. Wt. Lbs.
29060	1¾"	⅝
29061	3½"	1⅝
29062	5¼"	1¾
29063	7"	1⅞
29064	8¾"	2⅛
29065	10½"	2⅝
29066	12¼"	2⅞
29067	14"	3⅛

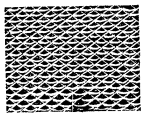
Portable Cabinets

Ideal for housing oscillators, transceivers, test equipment, etc. Both front and back panels are removable. Supplied in 20 gauge steel — Black Ripple Finish with Leather handle; also in .050 aluminum — etched finish — with chrome plated steel handle.



ALUMINUM CAT. NO.	SHIP. WT.	SIZE D	W	H	STEEL CAT. NO.	SHIP. WT.
29860	1	5	6	9		
29861	1	5	9	6		
29862	1⅛	6	7	12		
29863	1⅛	6	12	7		
		7	7¾	12	3850	5¾
		7	7¾	15	3851	7⅜

Aluminum Mesh Grille



For use on custom built radios, phonographs, etc., results in unmuffled reproduction of sound. Permanent non-fading, non-tarnishing, gold finish. Non-dust catching. May be easily cut to desired size.

Cat. No.	W	L	Net Wt. Lbs.
3947	12"	18"	½
3948	18"	24"	1
3949	24"	36"	2

Sold in lots of 6 each size.

Standard Relay Rack Panels

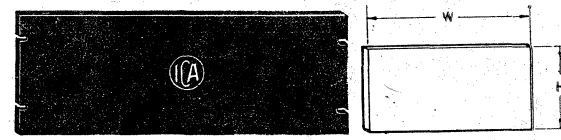
Slotted to fit any standard 19" relay rack. Supplied in ⅛" thickness. Notched according to RTMA specifications. If Western Electric notching is desired, add "WE" to catalog numbers. Made of Steel (in Black Ripple or Ultramarine Finish) or Aluminum (in Black Ripple or Ultramarine Wrinkle; also in Gray Hammertone on request).

STEEL Black	Ultramarine	Net Wt. Lbs.	W	ALUMINUM Black	Ultramarine	Net Wt. Lbs.
*3600RS	*3612RS	1	1¾"	*8600RS	*8620RS	½
*3601RS	*3613RS	2¼	3½"	*8601RS	*8621RS	⅞
*3602RS	*3614RS	3¼	5¼"	*8602RS	*8622RS	1¼
*3603RS	*3615RS	4⅝	7"	*8603RS	*8623RS	1⅜
3604RS	3616RS	5⅞	8¾"	8604RS	*8624RS	2⅛
*3605RS	*3617RS	7	10½"	*8605RS	*8625RS	2¼
3606RS	3618RS	7⅝	12¼"	8606RS	8626RS	2½
3607RS	3619RS	8¾	14"	8607RS	8627RS	3⅜
3608RS	3620RS	10¼	15¾"	8608RS	8628RS	3¾
3609RS	3621RS	12⅛	17½"	8609RS	8629RS	4⅛
*3610RS	*3622RS	14¼	19¼"	*8610RS	*8630RS	4⅝
3611RS	3623RS	14⅞	21"	8611RS	8631RS	5⅛

*** RTMA and "WE" notching specifications are identical.**

SPECIAL SIZES OF RACK PANELS AVAILABLE ON ORDER
Insuline Corporation of America is geared to supply rack panels in various sizes, thicknesses and finishes. Materials include Steel, Aluminum or Masonite in any thickness from ⅛" to ¼". Any finish according to specifications.

Masonite Relay Rack Panels



Made of Tempered Masonite — easily drilled and worked. Finished in Black Ripple or Ultramarine. RTMA notching. If Western Electric notching is desired, add "WE" to catalog No.

Black Ripple Cat. No.	Ultramarine Cat. No.	H	W	Net Wt. Lbs.
*3662RS	*3570RS	1¾"	19"	¼
*3663RS	*3571RS	3½"	19"	½
*3664RS	*3572RS	5¼"	19"	¾
*3665RS	*3573RS	7"	19"	⅞
3666RS	3574RS	8¾"	19"	1⅛
*3667RS	*3575RS	10½"	19"	1⅝
3668RS	3576RS	12¼"	19"	1⅞
3669RS	3577RS	14"	19"	2⅛
3670RS	3578RS	15¾"	19"	2¼
3671RS	3579RS	17½"	19"	2⅝
*3672RS	*3580RS	19¼"	19"	3
3673RS	3581RS	21"	19"	3¼

*** RTMA and "WE" notching specifications are identical.**

Meter Panels

Notched to RTMA specifications ("WE" notching identical). Will fit all standard racks. Finished in Baked Black or Ultramarine Ripple. Size 5¼" x 19". Black will be shipped unless Ultramarine is specified.

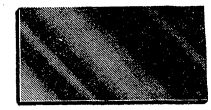
STEEL PANELS Cat. No.	No. Holes	Meter Size	Hole	Net Wt. Lbs.	MASONITE PANELS Cat. No.	No. Holes	Meter Size	Hole	Net Wt. Lbs.
3651	5	2"	2-3/16"	2⅝	3641	3	2"	2-3/16"	⅝
3652	3	2"	2-3/16"	3	3642	4	2"	2-3/16"	⅝
3653	5	3"	2-13/16"	2½	3643	3	3"	2-13/16"	⅝
3654	3	3"	2-13/16"	2⅝	3644	4	3"	2-13/16"	⅝

Steel Panels

Designed for a wide range of application. Made of 20 gauge steel. Finished in Black Ripple Finish.

Cat. No.	W	L	Ship. Wt. Lbs.	Cat. No.	W	L	Ship. Wt. Lbs.
3175	7"	10"	1⅜	3184	8"	14"	2
3176	7"	12"	1½	3186	8"	18"	2⅝
3177	7"	14"	1⅞	3191	10"	14"	2½
3178	7"	18"	2⅜	3192	10"	18"	3⅜
3183	8"	12"	1⅝	3194	10"	24"	4¾

Bakelite Radio Panels



Smooth Finish. Made of XX bakelite. For panels and general use where low moisture absorption, good electrical properties and fine surface finish are required. Tensile strength 8,000 lbs. per square inch.

⅛" Thickness Cat. No.	Ship. Wt. Lbs.	L	W	3/16" Thickness Cat. No.	Ship. Wt. Lbs.
832	½	10"	7"	842	¾
833	⅝	12"	7"	843	⅞
834	⅞	14"	7"	844	1
835	⅞	18"	7"	845	1¼
836	1	21"	7"	846	1⅜
837	1	24"	7"	847	1⅝
840	1¼	30"	7"	850	2
860	¾	12"	10"	863	1
861	1¼	18"	10"	864	1¾

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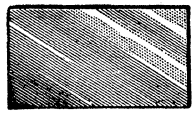
Full Size Bakelite Sheets

Black Glossy Finish

Cat. No.	W	L	Thickness	Approx. Wt.
852	38"	49"	1/16"	6 lbs.
853	38"	49"	3/32"	9 lbs.
854	38"	49"	1/8"	12 lbs.
857	38"	49"	3/16"	18 lbs.
858	38"	49"	1/4"	24 lbs.

Other sizes, thickness or grades available on request.

Aluminum Panels



Where aluminum panels and sheets are required for special use, ICA offers an excellent range of sizes for every application. Made of .064 high grade aluminum in a bright natural finish.

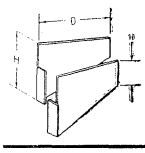
Cat. No.	W	L	Ship. Wt. Lbs.	Cat. No.	W	L	Ship. Wt. Lbs.
1194	7"	10"	1/4	1200	7"	24"	1
1195	7"	12"	1/4	3157	10"	12"	3/4
1196	7"	14"	3/8	3158	10"	18"	1 1/8
1198	7"	18"	1/2	3159	10"	24"	1 1/2
1199	7"	21"	3/4				

Masonite Panels

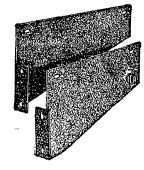
Made of tempered masonite of 3/16" thickness. Finished in Black Ripple.

Cat. No.	W	L	Ship. Wt. Lbs.	Cat. No.	W	L	Ship. Wt. Lbs.
810	7"	10"	1/2	815	8"	12"	3/4
811	7"	12"	5/8	816	8"	14"	1
812	7"	14"	3/4	817	8"	16"	1 1/8
813	7"	18"	1	818	8"	18"	1 1/4
814	7"	21"	1 1/4				

Chassis Mounting Brackets

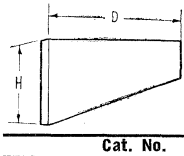


Heavy gauge steel brackets to provide support for chassis and panels; designed to permit chassis mounting flush against panel. Supplied in pairs with Black Ripple Finish.



Cat. No.	Front H	D	Back H	Net Wt. Lbs.
4092	6 1/2"	8"	4"	1 1/2
4077	6 1/2"	10"	3"	1 7/8
4093	6 1/2"	11"	4"	2
4079	8 1/2"	10"	4"	2 1/8
4081	6 1/2"	12"	3"	2
4094	6 1/2"	13"	4"	2 1/2
4083	8 1/2"	13"	4"	3

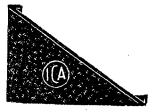
Chassis Mounting Brackets



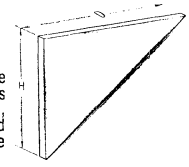
Designed to fit 17" relay rack chassis. Panels must be at least 7" high. Supplied in pairs with Black Ripple Finish.

Cat. No.	H	D	Net Wt. Lbs.
3955 — For 8" Base	6 1/4"	8"	1 1/4
3958 — For 10" Base	6 1/4"	10"	1 7/8
3956 — For 11" Base	6 1/4"	11"	2 1/4
3957 — For 13" Base	6 1/4"	13"	1 7/8

Relay Rack Brackets

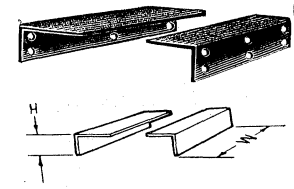


These sturdy brackets are ideal for reinforcing racks as well as for mounting of panels, shelves or chassis. Supplied in pairs with Black Ripple Finish.



Cat. No.	H	D	Net Wt. Lbs.
3950 — 5" Base Brackets	6 1/4"	5"	1/2
3951 — 8" Base Brackets	6 1/4"	8"	1
3952 — 11" Base Brackets	6 1/4"	11"	1 1/4

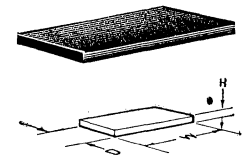
Chassis Bracing Angles



For supporting chassis bearing heavy loads. Angles provide necessary support, thus freeing panel from weight load. Made of 1/8" steel: supplied in pairs with Black Ripple Finish.

Cat. No.	L	H	Net Wt. Lbs.
3856	14"	3"	5 1/2
3857	12"	3"	5

Steel Rack Shelves

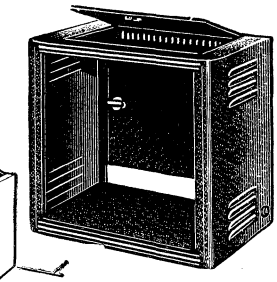


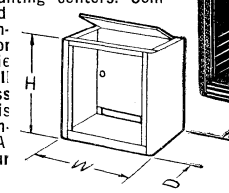
Where unusually heavy units (power supplies, etc.) must be added to the cabinet, these heavy gauge steel shelves, used with ICA bracing angles, provide the needed support. Black Ripple Finish.

Cat. No.	W	H	D	Net Wt. Lbs.
3854	19"	1"	15"	12
3855	19"	1"	12"	9 1/2

De Luxe Cabinet Racks

16 gauge steel, welded cabinets of stream-lined design for a variety of uses. Chrome trim, hinged doors, and flush-fitting snap locks. Rear base opening and louvres provide excellent ventilation. Recessed panel mounting holes, drilled and tapped 10/32, on universal mounting centers. Completely assembled ready for use. Finished in Black or Ultramarine Ripple Enamel. **Black will be supplied unless** Ultramarine is specified. Accommodates RTMA W.E., or Amateur panels.

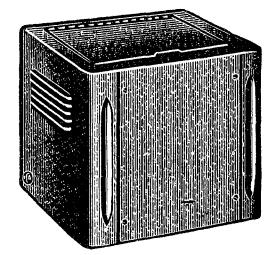


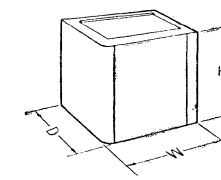


Cat No.	H	W	D	Panel Space	Ship. Wt. (lbs.)
*3880	10 1/2"	21 3/4"	15 1/4"	8 3/4" x 19"	27 1/8
*3885	12 1/4"	21 3/4"	15 1/4"	10 1/2" x 19"	28
*3881	14"	21 3/4"	15 1/4"	12 1/4" x 19"	29 5/8
*3886	15 3/4"	21 3/4"	15 1/4"	14" x 19"	30
†3882	19 1/4"	21 3/4"	15 1/4"	17 1/2" x 19"	36 1/2
†3883	28"	21 3/4"	15 1/4"	26 1/4" x 19"	42
†3884	36 3/4"	21 3/4"	15 1/4"	35" x 19"	52

*Door on top. †Doors on top and rear.

De Luxe Hinged Steel Cabinets





Beautifully designed ultra-modern streamlined cabinet. Chrome plated "Air-Gate" ventilators on sides. Top panel door hangs on full sized piano type hinge for easy accessibility. Back panels (with necessary openings at base for cable connections, leads, etc.) have modern grille type ventilators. Base has 4 sturdy non-marring bosses. Finished in Ultramarine Ripple Enamel. 20 gauge steel.

Cat. No.	H	W	D	Panel Size	Ship. Wt. Lbs.	Uses ICA Chassis No.
3860	8"	10"	8"	8" x 8"	6	4024
3861	8"	12"	8"	8" x 10"	6 3/4	4004
3862	8"	14"	8"	8" x 12"	7 3/4	4005
3863	12"	20"	12"	12" x 18"	17	4033

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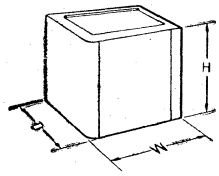
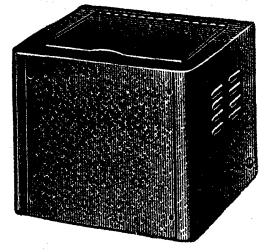
Standard Hinged Steel Cabinets



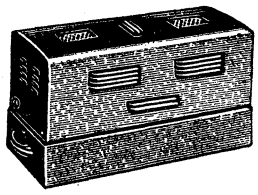


Designed in the same style and appearance as the De Luxe cabinets shown except that the Chrome Trim is eliminated and ventilating louvres are die-punched into metal.

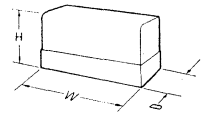
NOTE: This series is similar to 3860 series above with minor changes indicated.

Cat. No.	H	W	D	Panel Size	Ship. Wt. Lbs.	Uses ICA Chassis No.
3925	8"	10"	8"	8" x 8"	6	4024
3926	8"	12"	8"	8" x 10"	6¾	4004
3927	8"	14"	8"	8" x 12"	7¾	4005
3928	12"	20"	12"	12" x 18"	17	4033

De Luxe Amplifier Foundation Chassis



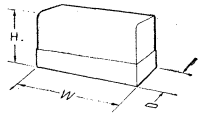
Beautifully styled chrome moulding and easy-carrying handles add smartness to utility of this unit. Chassis supplied with bottom plate mounting holes. Chassis height: 3". Constructed of 20 gauge steel; Ultramarine Ripple Enamel finish.

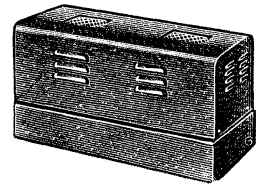


Cat. No.	D	W	H	Ship. Wt. Lbs.	Uses ICA Bottom Plate No.
3971	5½"	10"	9"	5⅝	1677
3972	8"	12"	9"	6⅞	1679
3973	7"	17"	9"	9⅞	1681
3974	10"	14"	9"	11⅛	1683
3975	10"	17"	9"	12	1685

Standard Amplifier Foundation Chassis

Same design and appearance as the DeLuxe chassis shown above with the exception that the chrome trim and handles are eliminated and ventilating louvres are die-punched into the metal.

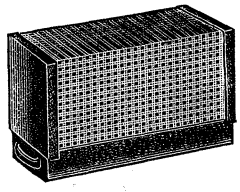




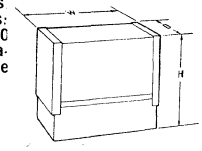
NOTE: This series is similar to 3971 series above with minor changes indicated.

Cat. No.	D	W	H	Ship. Wt. Lbs.	Uses ICA Bottom Plate No.
3980	5½"	10"	9"	5½	1677
3981	8"	12"	9"	6¾	1679
3982	7"	17"	9"	9¾	1681
3983	10"	14"	9"	10⅞	1683
3984	10"	17"	9"	11¾	1685

Perforated Amplifier Foundation Chassis

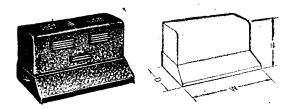


Features a perforated metal cover providing maximum ventilation. Includes Sturdy handles Height of chassis: 3". Made of 20 gauge steel; Ultramarine Ripple Enamel.



Cat. No.	D	W	H	Ship. Wt. Lbs.
3965	5½"	10"	9"	5
3966	8"	12"	9"	5⅜
3967	7"	17"	9"	6½
3968	10"	14"	9"	6½
3969	10"	17"	9"	7⅛

De Luxe Sloping Chassis Amplifier Units

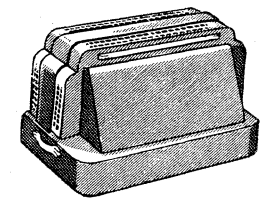


Offers the latest trend in cabinet and amplifier design. The sloping chassis provides ample space for mounting instruments. Ultramarine Ripple Finish. Slope size: 4"; Chassis height: 3½". Made of 20 gauge steel.

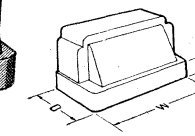
Cat. No.	Chassis Bottom D	W	H	Chassis Top D	W	Ship. Wt. Lbs.	Uses ICA Bottom Plate No.
3962	10"	17"	9½"	7"	17"	9½	1686
3963	13"	14"	9½"	10"	14"	9¼	1687
3964	13"	17"	9½"	10"	17"	11⅜	1688

Sloping panel cabinets made to requirements. Quotations on request.

"Super" Streamlined Sloping-Front Amplifier Chassis



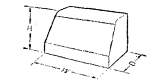
Combines a sloping front panel with streamlined top cover. Removable front panel extends 3" from face of the screen top. Ultramarine Ripple finish with chrome trim and front rounded corners. Supplied with bottom plates. Constructed of 20 gauge steel.

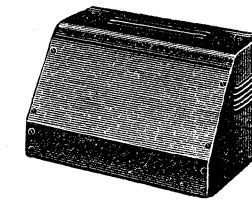


Cat. No.	D	W	H	Top Cover	Ship. Wt.Lbs.
3930	10"	12"	3"	6½" High	9
3931	10"	17"	3"	6½" High	11
3932	13"	17"	3"	6½" High	14½

De Luxe Sloping Panel Cabinets

Deluxe all-purpose 20 gauge steel cabinets. Front panel already mounted. The front panel is removable so that the chassis can be attached to it and used as one unit. Finished in Ultramarine Ripple Enamel.

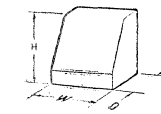




Cat. No.	H	W	D	Ship. Wt. Lbs.	Uses ICA Chassis Numbers: Black Wrinkle Finish	Zinc or Cad. Plated Finish
3990	8"	8"	8"	5	4024	1526
3991	8"	10"	8"	6⅛	4004	1569
3992	8"	14"	8"	6⅝	4007	1571
3993	12"	18"	12"	13½	4033	1583

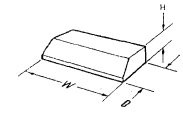
Sloping Panel Cabinets

Smartly designed and finished in neat Ultramarine Ripple, these cabinets are rugged and compact. Made of 20 gauge steel.



Cat. No.	W	H	D	Net Wt. Lbs.
3905	4¼"	4½"	4¼"	⅞
3906	7-5/16"	4½"	4¼"	1¼

Sloping Front Chassis



Streamlined modern design chassis base featuring sloping front for instrument mounting. Constructed of 20 gauge steel; Black Ripple Enamel finish. Size of slope: 4".

Cat. No.	Top of Base D	W	Bottom of Base D	W	Height	Net Wt. Lbs.
3320	7"	17"	10"	17"	3½"	3
3321	10"	14"	13"	14"	3½"	3
3322	10"	17"	13"	17"	3½"	4½

Sloping panel cabinets made to requirements. Quotations on request.

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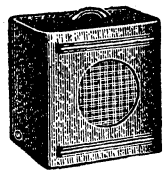
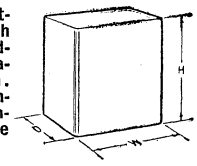
De Luxe Speaker Cabinets

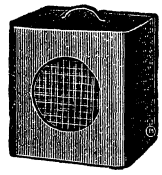


A speaker cabinet of outstanding beauty with streamlined design. Modern steel grille; Ultramarine Ripple Finish. Supplied with well ventilated back covers. Constructed of 20 gauge steel.

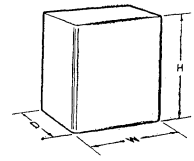


Cat. No.	H	W	D	Hole Size	Speaker Size	Ship. Wt.
3935	10"	10"	6"	4¾"	6"	5
3936	12"	12"	7"	6½"	8"	7½
3937	14"	14"	8"	9"	10"	11
3938	16"	16"	8"	11"	12"	12

Standard Speaker Cabinets

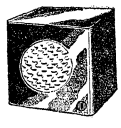


Similar to the De Luxe cabinet above, this unit has the same utility features minus trim. Includes black steel handle. Finished in Black Ripple Enamel.

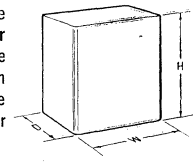


Cat. No.	H	W	D	Hole Size	Speaker Size	Ship. Wt.
3942	10"	10"	6"	4¾"	6"	5
3943	12"	12"	7"	6½"	8"	7½
3944	14"	14"	8"	9"	10"	11
3945	16"	16"	8"	11"	12"	12

Composite Speaker Cabinet

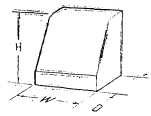


A neatly designed composite unit to house either a 4" or 5" speaker. Ultramarine Ripple finished 20 gauge steel with embossed grille. Removable back plate has "key ways" for easy hanging.

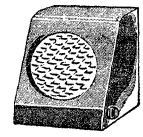


Cat. No.	W	D	H	Ship. Wt. Lbs.
3988	7"	4"	7"	3

Midget Speaker Cabinets

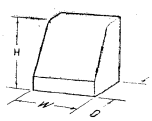


For the smaller type speakers. Finished in Ultramarine Ripple with attractively embossed grille. Speaker mounts on special removable internal chassis, punched for proper speaker opening. This unit fastens to side of cabinet with no visible screws to mar cabinet front. Facilitates ease of assembly. 20 gauge steel.

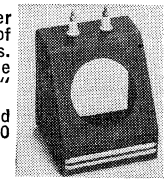


Cat. No.	Description	D	W	H	Hole Dia.	Net Wt. Lbs.
3986	For 2" speakers	4¼"	4⅜"	4½"	2⅜"	1
3987	For 3" speakers	4¼"	4⅜"	4½"	2 13/16"	⅞

De Luxe Meter Cases

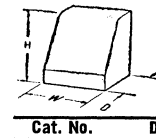


A sturdily made steel meter case for wide application of meter housing requirements. Finished in Ultramarine Ripple Enamel. Available for 2" and 3" meters.
Model No. 3999 is equipped with stand-off insulators. 20 gauge steel.



Cat. No.	D	W	H	Meter Hole	Net Wt. Lbs.
3995	4¼"	4¼"	4½"	2⅜"	1
3996	4¼"	4¼"	4½"	2 13/16"	⅞
3999	4¼"	4¼"	4½"	2 13/16"	⅞

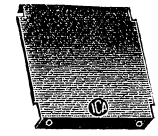
Streamlined Meter Cases

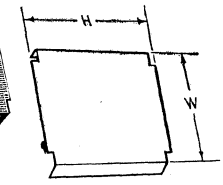


Modern streamlined steel cases. Finished in Ultramarine Ripple Enamel and trimmed with chrome band. 20 gauge steel.

Cat. No.	D	W	H	Meter Hole	Net Wt. Lbs.
3997	4¼"	4¼"	4½"	2⅜"	1
3998	4¼"	4¼"	4½"	2 13/16"	⅞

Cabinet Rear Covers



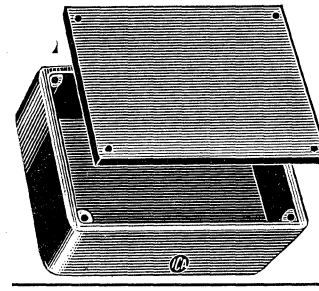


Rear cabinet covers designed specifically for the ICA cases indicated. Made of 20 gauge steel in Ultramarine Wrinkle Finish.

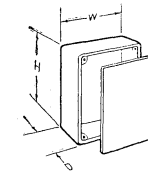
Cat. No.	H	W	Net Wt. Lbs.
*4155	4½"	4 3/16"	⅛
**4156	4½"	7½"	¼

* For ICA Cabinets Nos. 3905, 3995, 3996, 3986, 3987.
** For ICA Cabinet No. 3906.

Bakelite Instrument Cases



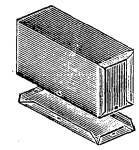
Solid molded bakelite one-piece case for a variety of electronic housings. Complete with ⅛" bakelite panel, drilled for mounting.



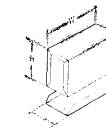
Cat. No.	H	W	D	Ship. Wt. Lbs.
*8201	6¼"	3¾"	2"	½
**8202	6¾"	5¼"	2⅜"	1

* Four corner holes for panel mounting.
** Tapped corner holes and brass inserts with 4-36 threading for flush panel mounting.

Control . . . Switch Case

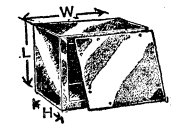


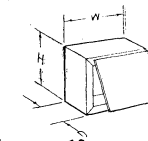
Strongly welded steel case; removable cover. Suitable for control or switch box; enclosing small assemblies, etc. Includes cover screws. Gray Hammertone Finish. 20 gauge steel.



Cat. No.	W	H	D	Ship. Wt. Lbs.
3797	5¼"	3¼"	2⅛"	¾

Aluminum . . . Steel Cabinets





Popular utility cabinets now available in Aluminum, Gray Hammertone and Natural Finish. Removable front and back covers may be fastened to cabinet with self-tapping screws provided. Also supplied in steel with Black Ripple Finish. Aluminum is .050 thick; Steel, cover 16 gauge — side 20 gauge.

Aluminum Natural	Aluminum Gray Hammertone	Ship. Wt. Lbs.	W	H	D	Steel Black Ripple	Ship. Wt. Lbs.
29840	29810	½	4"	4"	2"	3810	1
29841	29811	⅝	4"	5"	3"	3811	1¼
29842	29812	⅞	4"	6"	5"	3812	1¾
29843	29800	1¼	6"	6"	6"	3800	2½
29844	29801	1½	9"	6"	5"	3801	3⅛
			10"	7"	8"	3802	5
			10"	10"	8"	3803	6
			12"	8"	11"	3804	7¼

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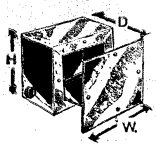
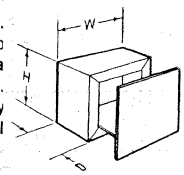
Utility Cabinets with built-in-chassis



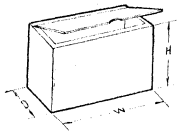
A multi-use small cabinet. The chassis is welded to front panel, making it a time-saving, convenient unit. Front and rear panels easily removable. Of 20 gauge steel in Black Ripple Finish.



Cat. No.	Cabinet Size W	D	H	Chassis Size W	D	H	Ship. Wt. Lbs.
3816	4"	2"	4"	2⅞"	1⅞"	1"	1
3817	4"	3"	5"	2⅞"	2⅞"	1"	1⅜
3818	5"	3"	4"	3⅞"	2⅞"	1¼"	1⅜
3819	4"	5"	6"	2⅞"	4⅞"	1¾"	2⅜
3821	6"	5"	4"	4⅞"	4⅞"	1¼"	2¼
3823	6"	6"	6"	4⅞"	5⅞"	1¾"	3⅛

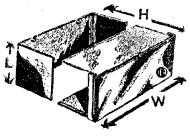
Hinged Cover Cabinets

A convenient rugged steel cabinet with piano hinged lids so arranged that bottom, front or back panel may be removed for circuit wiring changing without disturbing the rest of the cabinet. Supplied "KNOCKED-DOWN" for easy handling; quickly assembled. Finished in Black Ripple Enamel. Constructed of 20 gauge steel.

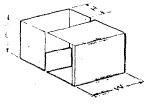


Cat. No.	W	D	H	Ship. Wt. Lbs.	Uses ICA Chassis No.
3825	9"	5"	6"	3¼	4000
3826	10"	8"	7"	5	4004
3828	12"	8"	7"	5½	4005
3829	12"	11"	8"	7⅛	
3830	14"	8"	7"	6⅛	4007
3831	18"	12"	9"	12¼	4023

Channel-Lock Aluminum Boxes

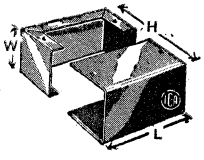


Latest two-piece box with special "channel-lock" feature for snug and firm fit. Makes all mounting space easily accessible. Easily assembled. Made of .050 aluminum in Black Wrinkle, Gray Hammertone and Natural Aluminum Finish.



Natural Aluminum Cat. No.	Black Wrinkle Cat. No.	Gray Hammertone Cat. No.	W	L	H	Ship. Wt. Lbs.
29200	29300	29400	4"	2⅛"	1⅝"	¼
29205	29305	29405	5"	2¼"	2¼"	⅜
29210	29310	29410	5¼"	3"	2⅛"	⅜
29215	29315	29415	3"	4"	5"	½
29220	29320	29420	6"	4"	5"	¾
29225	29325	29425	10"	4"	2½"	¾

"Flexi-Mount" Aluminum Cases



A two-piece case designed for maximum accessibility. Has wide application. Made of .050 aluminum — finished in Gray Hammertone or Natural Aluminum.

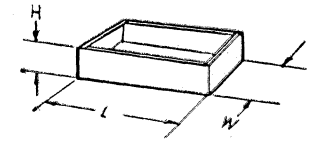
Gray Hammertone Cat. No.	Natural Cat. No.	W	L	H	Ship. Wt. Lbs.
29435	29335	2⅛"	2¾"	1⅝"	⅛
29436	29336	2⅛"	3¼"	1⅝"	¼
29437	29337	2⅛"	4"	1⅝"	¼
29438	29338	2¼"	4"	2¼"	¼
29439	29339	2¼"	5"	2¼"	⅜
29441	29341	3"	5¼"	2⅛"	⅜
29440	29340	4"	5"	3"	½
29442	29342	5"	6"	4"	¾
29443	29343	5"	7"	3"	⅞
29447	29347	5"	17"	4"	2
29444	29344	6"	8"	3½"	1
29445	29345	6"	10"	3½"	1¼
29446	29346	7"	12"	4"	1¾

Slip Cover Aluminum Boxes

Slide cover permits easy accessibility to mounted parts; offers shielding and dust-proof protection. .050 aluminum in Natural Finish or Gray Hammertone.

Gray Hammertone Cat. No.	Natural Cat. No.	W	L	H	Ship. Wt. Lbs.
29130	29100	3⅛"	13"	2⅝"	1
29135	29105	5⅛"	13"	2⅝"	1¼
29140	29110	3"	17"	2⅝"	1⅛

Steel and Aluminum Chassis Bases



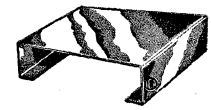
Listed below is the widest possible range of chassis bases to fit every requirement. Each steel base is solidly constructed of a single piece of rugged steel sheeting. Supplied with bottom plate mounting holes. The aluminum chassis bases are of similar construction. Made of .051 first grade aluminum.

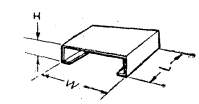
Steel-Zinc Plated Finish Cat. No.	Steel-Black Ripple Finish Cat. No.	Gauge	Net Wt. Lbs.	W	L	H	Aluminum Cat. No.	Net Wt. Lbs.
				4	6	2	29043	⅜
				4	6	3	29044	½
				4	17	3	29027	1⅛
				4½	8	1½	*29000	¼
1586	4037	20	¾	5	7	2	29030	½
				5	7	3	29047	½
				5	9½	1½	*29001	⅜
1587	4038	20	1⅛	5	9½	2	29033	⅝
1565	4002	20	1½	5	9½	3	29002	¾
1564	4042	20	1⅝	5	10	3	29048	⅞
1566	4003	20	1¾	5	13	3	29003	1
1582	4032	20	1¾	5½	10	3	29004	⅞
				6	17	3	29050	1⅜
1518	4043	16	2	6	14	3	29034	1⅛
1526	4024	20	1⅛	7	7	2	29005	⅝
1569	4004	20	1¼	7	9	2	29006	¾
1570	4005	20	2	7	11	2	29007	1
1527	4006	20	2¼	7	12	3	29008	1½
1571	4007	20	2⅛	7	13	2	29009	1⅛
1572	4008	20	2⅝	7	15	3	29010	1⅜
1528	4009	20	3¼	7	17	3	29011	1½
1567	4013	20	2½	8	12	3	29012	1¼
1573	4014	20	2¾	8	17	2	29013	1½
1575	4035	20	3½	8	17	3	29014	1⅝
1588	4039	20	3⅛	8½	15	3	29037	1⅜
1520	4016	20	3	10	12	3	29015	1¼
1568	4017	20	3¾	10	14	3	29016	1⅝
1589	4040	20	3¼	10	17	2	29039	1½
1583	4033	20	4	10	17	3	29017	1¾
1521	4018	18	5	10	17	3		
1580	4030	18	5¾	10	17	4	29025	2⅛
1522	4019	18	5¾	10	23	3	29018	2¼
1577	4027	18	4½	11	17	2	29019	1⅝
1519	4023	18	5⅛	11	17	3	29020	2
1574	4020	18	4½	12	17	2	29021	1¾
1578	4028	18	5¼	12	17	3	29022	2⅛
1579	4029	18	5	13	17	2	29023	1⅞
1524	4021	18	6	13	17	3	29024	2¼
1581	4031	18	7¾	13	17	4	29026	2½

* Open ends.

Miniature Open End Aluminum Chassis

Designed for many uses where space limitation is a factor. Made of .051 aluminum with base flange for attaching bottom plate or fastening down of chassis.





Cat. No.	W	L	H	Net Wt. Lbs.
29076	1¾"	3⅛"	1"	⅛
29075	2⅝"	2¾"	1¼"	⅛
29078	2¾"	4⅛"	1½"	⅛
29080	3"	6⅛"	1¼"	¼
29077	3¼"	4½"	2"	¼
29079	3¾"	4⅛"	1½"	¼
29082	4"	3⅛"	1"	⅛
29083	4"	4⅛"	1"	¼
29084	4"	5⅛"	1"	¼
29085	4"	6⅛"	1"	¼
29000	4½"	8"	1½"	¼
29001	5"	9½"	1½"	⅜
29081	5¾"	4⅞"	1½"	¼

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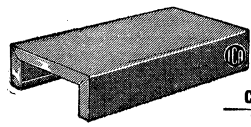
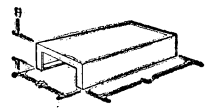
Open End Steel Chassis



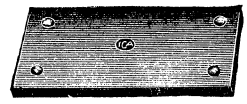


Made of 16 gauge steel-zinc plated finish. Permits easier wiring of the smaller assemblies.

Cat. No.	W	L	H	Net Wt. Lbs.
1560	4½"	8"	1½"	5/8
*4000	4½"	8"	1½"	5/8
1547	5"	7"	1½"	½
1530	5"	9½"	1½"	¾
*4001	5"	9½"	1½"	¾
1559	5½"	9"	1½"	1⅛
1546	7"	6"	2"	¾
1548	7"	7"	1½"	¾
1556	7"	8"	2"	¾
1596	7"	10"	2"	1¼
1597	7"	11"	1½"	1½
1595	7½"	9"	1½"	1⅛
1599	7¾"	15"	2"	2⅛
1598	10¾"	14"	2"	2⅜

* Steel-Black Ripple Finish

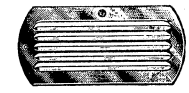
Chassis Bottom Plates



A complete line of bottom plates, available in 20 gauge steel (in Black Ripple or Zinc Plated Finish) and .050 aluminum. Suitable for all Insuline chassis bases and amplifier units.

Steel				Aluminum		
Zinc Plated Cat. No.	Black Ripple Cat. No.	W	L	Net Wt. Lbs.	Cat. No.	Net Wt. Lbs.
1636	4076	5"	7"	¼	8729	⅛
1601	4051	5"	9½"	½		
1600	4060	5"	10"	5/8	8730	¼
1602	4052	5"	13"	¾	8702	¼
1625	4075	5½"	10"	5/8	8725	¼
1623	4073	7"	7"	5/8	8723	¼
1603	4053	7"	9"	½	8703	¼
1604	4054	7"	11"	1	8704	¼
1605	4055	7"	12"	1	8705	½
1606	4056	7"	13"	1	8706	⅜
1607	4057	7"	15"	1½	8707	½
1608	4058	7"	17"	1¼	8708	5/8
1612	4062	8"	12"	1⅛	8712	½
1613	4063	8"	17"	1½	8713	5/8
1629	4064	8½"	15"	1⅜	8721	½
1615	4065	10"	12"	1¼	8715	½
1616	4066	10"	14"	1⅜	8716	½
1617	4067	10"	17"	1½	8717	⅞
1618	4068	10"	23"	2⅛	8718	1
1622	4072	11"	17"	2	8727	⅞
1619	4069	12"	17"	2¼	8719	1⅛
1620	4070	13"	17"	2⅜	8720	1¼
1624	4074	13"	14"	1¾		

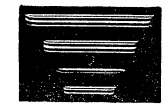
Chrome Ventilating Louvres



Adds the attractive touch to any receiver, amplifier, transmitter, etc. A polished chrome finished steel "Air-Gate," consisting of 5 ventilating louvres. Over-all size: 5 7/16" long — 3" wide. Distance between mounting hole centers: 4⅞". Diameter of holes: 5/32". Length of louvres: 4¼". Air space between louvre plates: 5/16".

Cat. No. 3525 — Ship. Wt. Lbs. ¼

Chrome Trim Moulding



Beautiful chrome trim mouldings to dress up any cabinet, chassis, receiver, speaker cabinet, transmitter, etc. All moulding furnished with mounting tracks or clips.

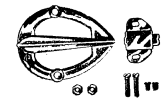
Cat. No.	Description	Ship. Wt. Lbs.
3510	Chrome Moulding, with single Stripe. Size: ½" wide by 4" long.	1/16
3513	Chrome Moulding, with double Stripe. Size: ¾" wide by 8" long.	1/16
3514	Chrome Moulding, with double Stripe. Size: ¾" wide by 12" long.	1/16
3515	Chrome Moulding, with double Stripe. Size: ¾" wide by 17" long.	⅜
3505	Bullet Shape all Chrome Moulding. Size ¼" wide by 6" long.	⅛

Chrome Handles

A neatly styled adornment for any cabinet, amplifier chassis, transmitter, etc. Furnished with mounting screws. Has gleaming chrome finish.

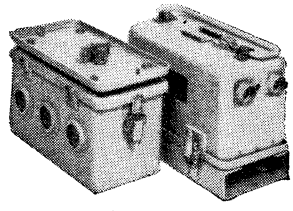
Cat. No.	Description	Ship. Wt. Lbs.
3500	Chrome 4" l., 1 1/16 w. Mounting centers: 2¾" apart	1/16
3501	Chrome 6¼" l., 5/8" w. Mounting centers: 4 13/16" apart	¼

Handle . . . Lock Set

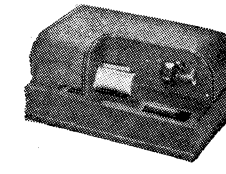


A complete, attractive handle and lock set that will dress up a variety of cabinets. Streamlined handle of zinc with nickel-plated finish; spring snap lock of durable steel for long service. Includes screws and nuts. This is the standard handle and lock set used on all Insuline cabinets.

Cat. No. 3532 — Ship. Wt. Lbs. ⅜

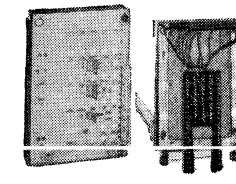


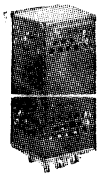
METAL GOODS TO *YOUR* SPECIFICATIONS

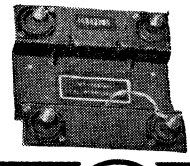


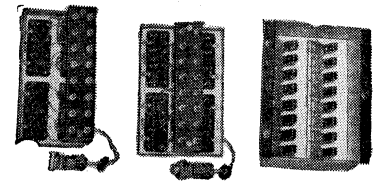
In addition to its wide range of stock metal items herein listed, Insuline's vast facilities are available for the manufacture of an extensive variety of products to particular specifications. Production capabilities include Screw Machine Work, Stamping, Drilling, Assembling, Engraving, Screening, Machining, Finishing. Supplying some of the country's leading industrial organizations, Insuline is also available for sub-contract orders (industrial or military) including assemblies, sub-assemblies, completely wired junction boxes, shock mounts, wiring or any similar type of production.

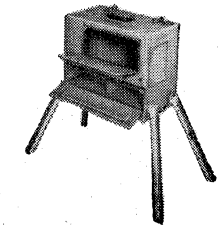
Detailed brochure describing Insuline's special manufacturing facilities, supplied on request.











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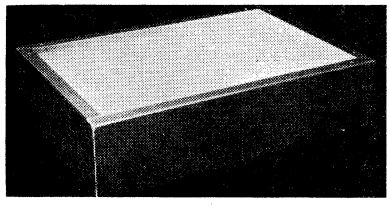
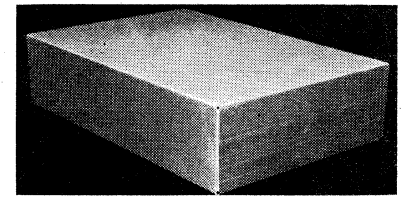
CALIFORNIA *Chassis* COMPANY





STANDARD CHASSIS

All chassis are stamped and formed from one piece of material (except 6" depth). All four corners welded and flanged to accommodate bottom plates.

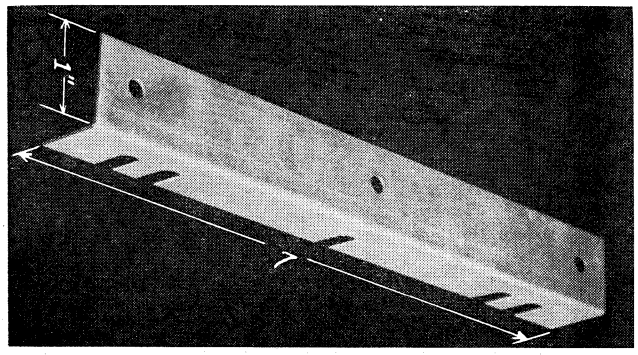
STEEL CHASSIS

ZINC PLATED	BLACK STEEL WRINKLE	APPROX. WEIGHT	GAUGE	NET PRICE
C-134	W-134	¼ #	22	$ .76
C-135	W-135	¼	22	.79
C-136	W-136	⅜	22	.82
C-137	W-137	½	22	.82
C-149	W-149	½	22	1.06
C-138	W-138	½	22	1.02
C-121	W-121	½	22	1.05
C-101	W-101	1	22	1.06
C-150	W-150	1	22	1.22
C-147	W-147	1	22	1.06
C-119	W-119	¾	22	.98
C-122	W-122	1	22	1.02
C-102	W-102	1¼	22	1.11
C-120	W-120	1¼	22	1.22
C-103	W-103	1¼	22	1.31
C-104	W-104	1¼	22	1.14
C-105	W-105	1½	22	1.32
C-113	W-113	2	20	1.40
C-106	W-106	2	20	1.78
C-151	W-151	3	20	1.62
C-114	W-114	2¼	20	1.50
C-139	W-139	2¼	20	1.82
C-107	W-107	2¼	20	1.90
C-117	W-117	2¼	20	1.56
C-124	W-124	2¾	20	1.80
C-108	W-108	3	20	1.90
C-129	W-129	3½	20	2.31
C-115	W-115	3½	20	1.98
C-130	W-130	3	20	1.82
C-125	W-125	3½	20	2.08
C-118	W-118	2¼	20	1.63
C-145	W-145	3	20	2.31
C-144	W-144	2¾	20	2.18
C-152	W-152	2¾	20	1.98
C-109	W-109	3	20	1.82
C-116	W-116	3¾	20	1.95
C-140	W-140	4½	18	2.02
C-110	W-110	5¼	18	2.30
C-153	W-153	5	18	2.52
C-141	W-141	6¾	18	4.62
C-146	W-146	4½	18	2.51
C-128	W-128	5½	18	2.76
C-127	W-127	5¼	18	2.14
C-123	W-123	6	18	2.48
C-126	W-126	5½	18	2.95
C-111	W-111	6¼	18	3.18
C-112	W-112	6¾	18	3.62
C-142	W-142	8	18	5.06
C-133	W-133	6⅛	18	3.63
C-131	W-131	7¼	18	4.13
C-148	W-148	9	18	5.15
C-132	W-132	4½	18	2.92
C-143	W-143	8¾	18	4.82

ALUMINUM

ALUMINUM	APPROX. WT.	GAUGE	DIMENSIONS	NET PRICE
A-134	¼ #	18	2½ x 4½ x 1	$ .92
A-135	¼	18	3½ x 4½ x 1	.96
A-136	¼	18	3½ x 5½ x 1	.96
A-137	¼	18	4 x 6 x 1½	1.09
A-149	¼	18	4 x 6 x 3	1.18
A-138	⅜	18	4 x 5 x 2	1.16
A-121	¼	18	5½ x 5½ x 1	1.22
A-101	⅜	18	5 x 7 x 2	.96
A-150	⅜	18	5 x 7 x 3	1.20
A-147	⅜	18	4 x 8 x 2	1.19
A-119	⅜	18	4½ x 8 x 1½	1.09
A-122	⅜	18	5 x 9 x 1½	1.19
A-102	⅜	18	5 x 9½ x 2½	1.28
A-120	¾	18	6 x 8 x 2	1.45
A-103	⅜	18	5 x 10 x 3	1.41
A-104	½	18	7 x 7 x 2	1.15
A-105	¾	18	7 x 9 x 2	1.22
A-113	¾	18	7 x 11 x 2	1.38
A-106	1	18	8 x 10 x 2½	2.11
A-151	1	18	6 x 14 x 3	2.40
A-114	¾	18	7 x 13 x 2	1.43
A-139	¾	18	5 x 13 x 3	1.36
A-107	1	18	8 x 12 x 2½	2.34
A-117	1	18	7 x 12 x 3	1.66
A-124	1	18	8 x 12 x 3	2.10
A-108	1¼	18	10 x 12 x 3	2.37
A-129	1½	18	12 x 12 x 3	2.90
A-115	1¼	18	10 x 14 x 3	2.75
A-130	1¼	18	7 x 15 x 3	2.35
A-125	1½	18	9 x 15 x 3	2.90
A-118	1	18	4 x 17 x 3	2.16
A-145	1¼	18	6 x 17 x 3	2.10
A-144	1	18	7 x 17 x 2	2.28
A-152	1½	18	7 x 17 x 3	2.36
A-109	1½	18	8 x 17 x 2	2.20
A-116	1½	16	8 x 17 x 3	2.54
A-140	2¼	16	10 x 17 x 2	2.60
A-110	2	16	10 x 17 x 3	2.98
A-153	3	16	10 x 17 x 4	3.94
A-141	3¼	14	10 x 17 x 5	4.55
A-146	1½	16	11 x 17 x 2	3.02
A-128	2½	14	11 x 17 x 3	3.26
A-127	2¼	14	12 x 17 x 2	3.30
A-123	2½	14	12 x 17 x 3	3.65
A-126	2½	14	13 x 17 x 2	3.26
A-111	2¾	14	13 x 17 x 3	3.85
A-112	3¼	14	13 x 17 x 4	4.42
A-142	3½	14	13 x 17 x 5	5.38
A-133	3¼	14	14 x 17 x 3	4.45
A-131	3¾	14	15 x 17 x 4	5.48
———		—	15 x 17 x 6	
A-132	2½	16	10 x 23 x 3	4.13
A-143	4¼	14	17 x 17 x 4	5.94

Special chassis made regardless of quantity using a set up charge of $3.60 plus co st of next largest chassis. Unless specified, all aluminum chassis are etched finished. Painted chassis are available at additional 10% cost. Dimensions for Steel and Aluminum are the same.



CHASSIS FLANGES

These Chassis Flanges will convert any regular 17" long chassis into a panel rack chassis. Made of 16 gauge Zinc plated steel. Mounting holes are universal notch (both Western Electric and Amateur). Mounting screws included. Packaged in pairs only.

Cat. No.	Length	Shipping Weight	Net Price
CF-12	5¼	½ #	$ .83
CF-13	7	½	.89
CF-14	8¾	1	.96
CF-15	10½	1	1.02
CF-16	12¼	1	1.08
CF-17	14	1	1.19

CALIFORNIA CHASSIS CO. • Lynwood, California

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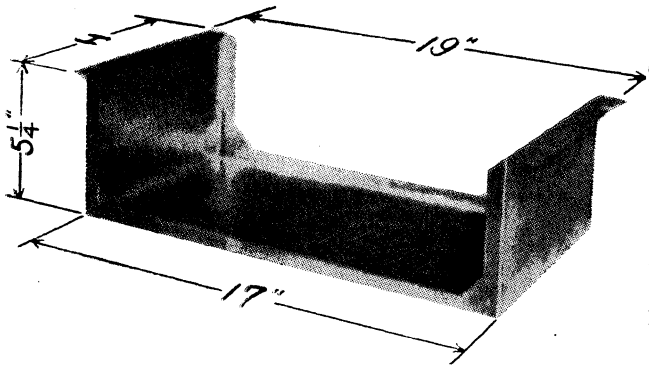
CALIFORNIA *Chassis* COMPANY



PANEL CHASSIS

Cat. No.	Height	Weight	Net Price
PC-110	1¾	2#	$2.20
PC-111	3½	2¾	2.49
PC-112	5¼	4	2.61
PC-113	7	4½	2.86
PC-114	8¾	5¾	3.43
PC-115	10½	6¾	3.63
PC-116	12¼	7½	4.28
PC-117	14	8½	4.62

Larger sizes on request. All made from 16 gauge steel Electro Zinc Plated. Notched Western Electric. Depth from flange to bottom is 5¼".

HEAVY DUTY CHASSIS (16 Ga. Steel)

Cat. No.	Weight	Dimensions	Net Price
HD-109	6¾ #	8 x 17 x 2	$3.67
HD-116	7½	8 x 17 x 3	4.00
HD-110	8½	10 x 17 x 3	3.89
HD-146	8	11 x 17 x 2	4.20
HD-128	10	11 x 17 x 3	4.62
HD-126	9½	13 x 17 x 2	5.06
HD-111	11½	13 x 17 x 3	5.55
HD-112	12	13 x 17 x 4	6.16

Bottom Plates Included

REMOVABLE TOP CHASSIS

Cat. No.	Weight	Dimensions	Net Price
RT-1	5¼ #	10 x 17 x 3	$4.16
RT-2	7	13 x 17 x 3	4.37
RT-3	6½	10 x 17 x 4	4.62
RT-4	9	13 x 17 x 4	5.36

Experimenters and the radio amateur when designing will find it economical to use this type chassis as the tops and bottoms may be easily replaced or discarded.

Steel - Electro Zinc Only

TOPS ONLY, FOR REMOVABLE TOP CHASSIS

Cat. No.	Weight	Dimensions	Net Price
T-1	3#	10 x 17	$1.60
T-2	4	13 x 17	1.85

Made From 16 ga. Steel-Electro Zinc Finish

OPEN END CHASSIS

Cat. No.	Weight	Dimensions	Net Price
EC-1	1#	7 x 6 x 2	$ .81
EC-2	¾	5 x 7 x 1½	.72
EC-3	1	5½ x 9 x 1½	.85
EC-4	1¼	7½ x 9 x 1½	1.16
EC-5	1½	7 x 13 x 1½	1.41
EC-6	2¼	7¾ x 15 x 2	1.60

These chassis are ideal for any type of unit which is built-up, such as a record changer. U-type construction is used with the ends remaining open.

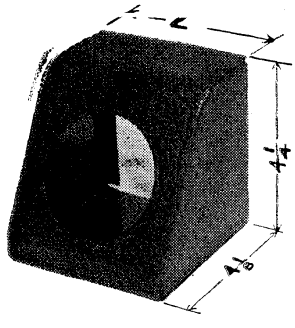
Steel - Electro Zinc Only

CHASSIS BOTTOM PLATES

Cat. No.	Aluminum Weight	Size	Steel Weight	Net† Price
BP-134	1 oz.	2½ x 4½	2 oz.	$ .40
BP-135	2 oz.	3½ x 4½	¼ lb.	.40
BP-136	2 oz.	3½ x 5½	¼ lb.	.50
BP-137	2 oz.	4 x 6	¼ lb.	.50
BP-138	2 oz.	4 x 5	¼ lb.	.56
BP-147	¼ lb.	4 x 8	½ lb.	.76
BP-121	2 oz.	5½ x 5½	½ lb.	.56
BP-101	2 oz.	5 x 7	¼ lb.	.51
BP-119	¼ lb.	4½ x 8	½ lb.	.57
BP-122	¼ lb.	5 x 9	½ lb.	.56
BP-102	¼ lb.	5 x 9½	½ lb.	.59
BP-120	¼ lb.	6 x 8	½ lb.	.69
BP-151	½ lb.	6 x 14	1¼ lb.	.92
BP-103	¼ lb.	5 x 10	½ lb.	.58
BP-104	¼ lb.	7 x 7	½ lb.	.85
BP-105	½ lb.	7 x 9	¾ lb.	.85
BP-113	¾ lb.	7 x 11	1 lb.	.90
BP-106	¼ lb.	8 x 10	¾ lb.	.95
BP-139	¼ lb.	5 x 13	½ lb.	.83
BP-114	¾ lb.	7 x 13	1 lb.	.95
BP-107	¾ lb.	8 x 12	1¼ lb.	1.09
BP-117	½ lb.	7 x 12	1 lb.	.86
BP-108	¾ lb.	10 x 12	1½ lb.	1.14
BP-129	¾ lb.	12 x 12	1½ lb.	1.12
BP-115	¾ lb.	10 x 14	2 lb.	1.18
BP-130	½ lb.	7 x 15	1 lb.	.95
BP-125	¾ lb.	9 x 15	1½ lb.	1.12
BP-118	½ lb.	4 x 17	1 lb.	.76
BP-145	¾ lb.	6 x 17	1 lb.	1.08
BP-144	¾ lb.	7 x 17	1 lb.	1.12
BP-109	½ lb.	8 x 17	1¾ lb.	1.14
BP-110	¾ lb.	10 x 17	2½ lb.	1.40
BP-128	1 lb.	11 x 17	2 lb.	1.40
BP-123	1¼ lb.	12 x 17	3 lb.	1.52
BP-111	1½ lb.	13 x 17	3¼ lb.	1.77
BP-133	1½ lb.	14 x 17	3½ lb.	1.98
BP-131	1½ lb.	15 x 17	3½ lb.	1.81
BP-143	2 lb.	17 x 17	5 lb.	2.05
BP-132	1½ lb.	10 x 23	3¼ lb.	1.39

Steel bottom plates may be supplied in either zinc plate or black enamel—aluminum is caustic dipped.

†Prices shown are Steel—Aluminum slightly higher.



METER CABINETS

Meter Size	Aluminum Cat. No.	Length	Net Price	Weight	Steel Cat. No.	Weight	Net Price
2"	MC-2	4"	$1.18	½ #	SMC-2	1½ #	$1.10
3"	MC-3	4"	1.18	½	SMC-3	1½ #	1.10
No holes	MC-4	4"	1.18	½	SMC-4	1½ #	1.10
2"	MC-6*	4"	1.18	½	SMC-6*	1½ #	1.10
3"	MC-7*	4"	1.18	½	SMC-7*	1½ #	1.10
No holes	MC-8	7½"	1.65	¾	SMC-8	2¼ #	1.48

*Indicates it has 2—½" holes on ¾" centers at top of cabinet for insulators.
Finish: Black or gray wrinkle. Back is open except for two $\frac{5}{16}$" flanges.

CALIFORNIA CHASSIS CO. • Lynwood, California

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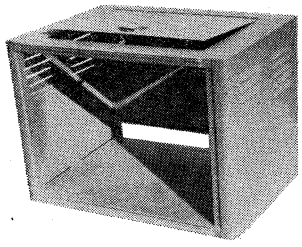
CALIFORNIA *Chassis* COMPANY

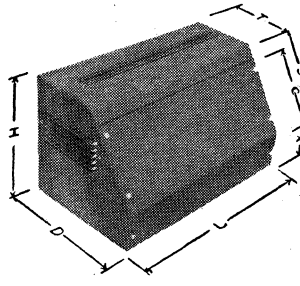


DESK CABINET RACKS

We are proud of this addition to our line of high quality electronic equipment. Appearance as well as utility has been built into this line of deluxe Cabinet Racks.

Cabinets have universal notching, accommodating W. E.; RETMA or Amateur notched panels. Unit is made from 16 ga. steel, having a 2" opening on bottom rear for ventilation in addition to side louvers.
All models have feet and a 10¾" x 16" hinged top door. The four smaller models have solid welded backs. The five larger models have a hinged rear door.

Cat. No.	Panel Space	Height	Shipping Weight	Net Price
DCR-8	8¾	10 11/16	27#	$13.86
DCR-10	10½	12 7/16	29#	15.83
DCR-12	12¼	14 3/16	31#	16.86
DCR-14	14	15 15/16	33#	18.71
DCR-17	17½	19 7/16	37#	22.18
DCR-21	21	22 15/16	39#	24.06
DCR-26	26¼	28 3/16	47#	25.99
DCR-31	31½	33 7/16	51#	27.72
DCR-35	35	36 15/16	58#	28.77

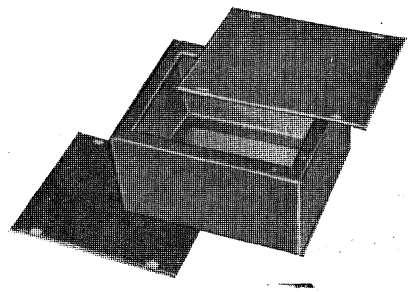


SLOPING FRONT CABINETS

These all purpose cabinets are designed for wide use in the electronic field. Front and top corners are rounded, sides have stainless steel ventilators. Beautiful chrome trim give cabinets that professional look. The rear of the cabinet has punched ventilators with a 2" opening at bottom for cable connections. Embossed feet to prevent scratching.

Material - Steel **Finish - Gray Wrinkle**

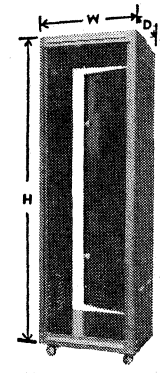
Cat. No.	D	H	L	T	X	S	C	Weight	Net Price
SFC-42	8"	8"	8"	4¼"	2¾"	6"	5¼"	4½#	$ 4.59
SFC-44	8"	8"	10"	4¼"	2¾"	6"	5¼"	5#	6.44
SFC-46	8"	8"	14"	4¼"	2¾"	6"	5¼"	6¼#	7.76
SFC-48	12"	12"	18"	6"	3⅛"	10⅜"	9½"	11¾#	10.40



METAL UTILITY CABINETS

These Utility Cabinets are useful for many types of electronic applications, such as frequency-meters, monitors and housings for various types of meters. Since both sides are removable, it makes working with this cabinet very simple. Finish, Baked Black Wrinkle. Please specify if aluminum is desired.

Catalog No.	Weight Steel	Depth	Width	Height	Weight Alum.	Alum. Net Price	Steel Net Price
CAB-1	¾#	2"	4"	4"	⅜#	$1.09	$ .99
CAB-2	1	3"	5"	4"	½	1.35	1.10
CAB-3	1½	4"	5"	6"	¾	1.58	1.40
CAB-4	2½	6"	6"	6"	1	2.18	1.51
CAB-5	3¼	5"	6"	9"	1¼	2.40	2.17
CAB-6	4¾	7"	8"	10"	2	3.07	2.66
CAB-7	5	6"	7"	12"	2	3.40	2.85
CAB-8	6	8"	10"	10"	2½	4.06	3.36
CAB-9	7	8"	11"	12"	2¾	5.05	4.16
CAB-10	7	7"	9"	15"	2¾	5.94	4.74



CABINET RACKS

These racks are made entirely of 16 gage steel except for the heavy steel panel supports. They have universal notching, the holes being tapped for 10/32" screws. Panels fit into a recess so that the edges do not show.

Mounting plate on bottom of rack permits casters to be fastened directly to base for easy mobility. Casters are not included in price of rack but may be ordered separately.

Racks are shipped knocked down with all assembly hardware included. Rear door is hung on loose jointed pins.

The vertical front corners are rounded giving a streamlined appearance. A red stripped chrome strip top and bottom gives that finished look to these cabinets.

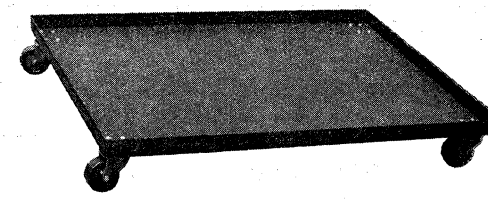
Finish is black wrinkle, gray wrinkle or silver hammertone. Black will be furnished unless specified otherwise.

Cat. No.	Panel Space	Height	Width	Depth	Depth Inside Clear.	Shipping Weight Lbs.	Net Price
CR-36	36¾	42	22	17	15½	90	$37.77
CR-42	42	47½	22	17	15½	96	46.72
CR-61	61¼	66½	22	17	15½	120	56.13
CR-77	77	82¼	22	17	15½	145	67.63
CRD-36	36¾	42	22	24	22½	99	54.05
CRD-42	42	47¼	22	24	22½	105	61.88
CRD-61	61¼	66½	22	24	22½	133	77.55
CRD-77	77	82¼	22	24	22½	160	96.20

TRUCK CASTERS

Catalog No. TC-10

Casters are heavy duty and are designed for easy rolling regardless of weight in rack. They are ball bearing, swivel mounted construction, 2⅞" high with 2 inch hard rubber wheels. Distance between mounting holes 1-3/16" x 1-9/16". Price $3.00 set of 4.



ROLLER TRUCKS FOR RACKS

Cat. No. RCT-1 — 17½ lbs. — Net Price: $10.50

These roller trucks are substantially made from heavy steel. The overall size is about 3" wider than the racks, to provide a better distribution of weight. Casters have ball-bearing swivels, with 2" rubber composition wheels. Finish is black wrinkle.

UTILITY CABINET WITH PLATFORM CHASSIS INCLUDED

Catalog No.	Weight	Cabinet Size H W D	Chassis Size	Net Price
HA-201	1 #	4 x 4 x 2	3⅛ x 1⅞	$1.16
HA-202	1½	4 x 5 x 3	4⅛ x 2⅞	1.27
HA-203	1½	5 x 4 x 3	3⅛ x 2⅞	1.27
HA-204	2¼	6 x 5 x 4	4⅛ x 3⅞	1.57
HA-205	2¼	5 x 6 x 4	5⅛ x 3⅞	1.57
HA-206	3	6 x 6 x 6	4⅞ x 5⅞	1.63

This small steel cabinet has a chassis welded to the front panel. Front and rear panels are removable and fastened with screws to permit easy accessibility. Finished in black wrinkle only.

CALIFORNIA CHASSIS CO. • Lynwood, California

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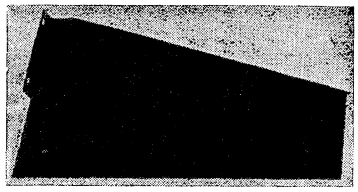
CALIFORNIA *Chassis* COMPANY

RELAY RACK PANELS

Regular panels are made from ⅛" material. Aluminum is 1100 H 14. Notching is either Western Electric (WE) or Amateur (A). Finish Black or Gray Wrinkle and Silver Gray Hammertone.

Aluminum $\frac{3}{16}$" panels may be had on special order. Aluminum is 2024 T 3 (Formerly 24 ST). ⅛" panels made from 2024 T 3 (formerly 24 ST) may be had on special order. Prices of special panels are shown in regular price list.

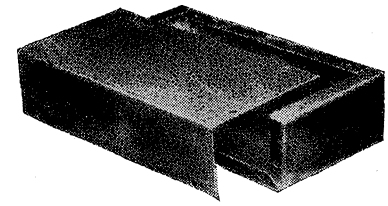
Notching Western Electric	Amateur	Height	Width	Weight Alum.	Weight Steel	Alum. Net Price	Steel Net Price
PW-10	PA-10	1¾	19	½	1¼	$1.09	$ .83
PW-11	PA-11	3½	19	¾	2¼	1.33	.95
PW-12	PA-12	5¼	19	1¼	4	1.79	1.12
PW-13	PA-13	7	19	1½	4¾	2.18	1.25
PW-14	PA-14	8¾	19	2	6	2.61	1.51
PW-15	PA-15	10½	19	2½	6¾	3.12	1.85
PW-16	PA-16	12¼	19	3	8¾	3.59	2.15
PW-17	PA-17	14	19	3½	9¾	4.40	2.49
PW-18	PA-18	15¾	19	4	10¾	4.54	2.77
PW-19	PA-19	17½	19	4½	11	4.68	3.12
PW-20	PA-20	19¼	19	5	13	5.39	3.47
PW-21	PA-21	21	19	5½	15¾	6.12	3.82
PW-22	PA-22	24½	19	6	18½	6.67	5.87



CHASSIS MOUNTING BRACKETS

To assure the proper support for a chassis a sturdy mounting bracket is used. Proper clearance for the chassis is provided in these brackets, allowing the chassis to be mounted flush against the panel. Flange is ⅝" inside dimension. Elongated hole $\frac{3}{16}$" x $\frac{11}{32}$" is centered in flange. "X" shows the center distance between flange holes. Finished in Black Enamel unless specified. Zinc plated "C" or Wrinkle "W" may be had at additional cost of 15%.

Black Enamel	Dimensions Height	X	Depth	Clearance	Weight	Net Price
E-58B	6½	2½	8	3 1/16	1¼	$ .99
E-57B	6½	2½	9	3 1/16	1½	1.19
E-48B	6½	2½	10	3 1/16	1¾	1.27
E-59B	6½	2½	11	3 1/16	1¾	1.39
E-49B	6½	2½	12	3 1/16	1¾	1.68
E-60B	6½	2½	13	3 1/16	2	1.56
E-50B	8½	3½	10	4 1/16	2½	1.85
E-51B	8½	3½	13	4 1/16	3	1.97
E-52B	12	7	15	4 1/16	4½	2.57
E-53B	14	8	17	5 1/16	5¾	2.97

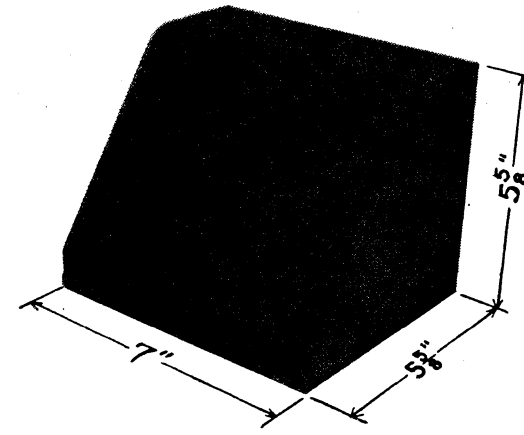


UTILITY BOX REMOVABLE COVER

Cat. No.	Weight	Dimensions	Net Price	Covers Only	Net Price
HA-10	½#	3 x 4 x 1½	$1.18	HAC-10	$ .59
HA-11	1	4 x 5 x 2	1.55	HAC-11	.59
HA-12	1¼	4 x 8 x 2	1.72	HAC-12	.73
HA-13	2	5 x 9½ x 2½	1.85	HAC-13	.79
HA-14	2½	6 x 12 x 2½	2.08	HAC-14	.89
HA-15	4	7 x 15 x 2½	2.84	HAC-15	1.32

Finish on Utility Box with Removable Cover is Electro Zinc Only.

ENCLOSED METER CABINET



Cat. No. EMC-2 ..... Net Price Steel $2.86
Aluminum $3.30

Enclosed Meter Cabinet bottom is open. Bottom plate with embossed feet and four sheet metal screws included. Gray wrinkle unless other color specified. Available in black wrinkle, silver gray hammertone at no additional cost. Steel or aluminum.

METER PANELS

All panels are 5¼" x 19" x ⅛" steel or aluminum, black or grey wrinkle—designed to handle either 2" or 3" meters. All units Western Electric notch.

Cat. No. Aluminum	Weight	No. Holes	Diameter	Net Price
MPA-32	1	3	2 3/16	$2.05
MPA-52	1¼	5	2 3/16	2.44
MPA-33	1⅛	3	2 13/16	2.04
MPA-53	1	5	2 13/16	2.44

Cat. No. Steel	Weight	No. Holes	Diameter	Net Price
MPS-32	3	3	2 3/16	$1.54
MPS-52	2¾	5	2 3/16	2.15
MPS-33	3½	3	2 13/16	1.54
MPS-53	3	5	2 13/16	2.15

Small holes are for 2" meters, larger holes are for 3" meters.

TRIANGULAR MOUNTING BRACKETS

Cat. No.	Weight	Dimensions	Net Price
MB-55	½	5 x 5	.92
MB-77	1¼	7 x 7	1.07
MB-99	1¾	9 x 9	1.27

Steel - Black Enamel Only

CALIFORNIA CHASSIS CO. • Lynwood, California

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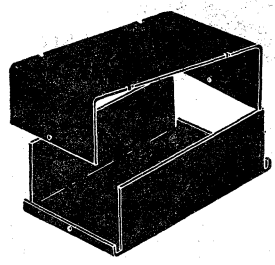
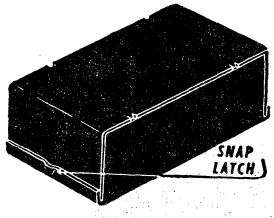
L. M. B. Box Chassis

The Engineered Precision Line with Interlocking and Flangelocking Construction

Interlocking





Here is the answer to box chassis needs, for the laboratory, manufacturer, experimenter, or builder. The following L. M. B. Boxes are available from stock in either interlocking (screw fastened) or snap latch. All screw fastenings are drilled and tapped. Self-tapping screws are not used. Available colors include natural aluminum, gray or brown hammertone, and black crackle. When ordering specify style and color.

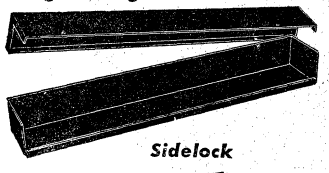
Manufacturers Special Discounts on Application

Model	Size	Price	Model	Size	Price
M00	2¼″ x 1½″ x 1⅜″	.53	138	6¼″ x 3½″ x 2⅛″	1.23
00Z	2½″ x 2¼″ x 1¾″	.59	139	5½″ x 3″ x 1¼″	.93
000	3¼″ x 2⅛″ x 1⅝″	.63	*140	3″ x 4″ x 5″	1.20
00	4″ x 2⅛″ x 1⅝″	.66	140	3″ x 4″ x 5″	1.50
100	2¾″ x 2⅛″ x 2⅝″	.83	*141	6″ x 4″ x 3″	1.33
101	2¾″ x 2¼″ x 1¼″	.81	141	6″ x 4″ x 3″	1.68
102	4″ x 2″ x 2¾″	.95	*142	6″ x 4″ x 5″	1.55
107	4″ x 2¼″ x 2¼″	.89	142	6″ x 4″ x 5″	1.95
108	5″ x 2¼″ x 2¼″	.96	143	4″ x 4″ x 2″	1.23
135	3″ x 3½″ x 2⅛″	.90	144	10″ x 4″ x 2½″	2.02
136	5¼″ x 3″ x 2⅛″	1.01	145	7″ x 5″ x 3″	1.95
650	6½″ x 2⅛″ x 1⅝″	.98	146	8″ x 6″ x 4½″	2.76
137	8″ x 3″ x 2¾″	1.50	15	12″ x 2″ x 1¾″	1.50
850	8½″ x 2⅛″ x 1⅝″	1.26			

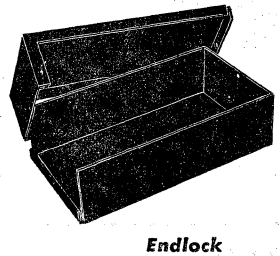
* Natural aluminum only

SIDELOCK and ENDLOCK CONSTRUCTION

Flangelocking



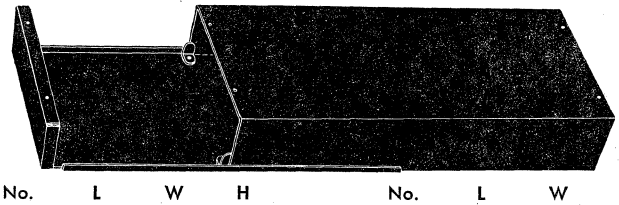
Sidelock



Endlock

L. M. B. aluminum Box chassis with sidelock and endlock construction are dust proof, semi-water, and rain proof. Sturdy construction and 100% shielded. The following models are available in plain aluminum, or finished in black, gray, or brown. Endlock or sidelock construction:

Model	Size	Price	Model	Size	Price
221	2¾″ x 3⅛″ x 1⅝″	1.05	686	6″ x 8″ x 6″	3.99
321	3¼″ x 2⅛″ x 1⅝″	1.05	695	6″ x 9″ x 5″	3.59
421	4″ x 2⅛″ x 1⅝″	1.05	753	7″ x 5″ x 3″	2.39
422	4″ x 2¼″ x 2¼″	1.20	754	7″ x 5″ x 4″	2.58
424	4″ x 2″ x 4″	1.85	858	8″ x 5″ x 8″	4.44
435	4″ x 3″ x 5″	2.02	863	8″ x 6″ x 3½″	2.67
442	4″ x 4″ x 4″	1.75	865	8″ x 6″ x 5″	3.33
531	5¼″ x 3″ x 1½″	1.20	868	8″ x 6″ x 8″	4.92
532	5¼″ x 3″ x 2⅛″	1.37	888	8″ x 8″ x 8″	5.50
534	5⅝″ x 3″ x 4″	1.91	1063	10″ x 6″ x 3½″	3.33
543	5″ x 4″ x 3″	1.74	1085	10″ x 8″ x 5″	4.13
546	5″ x 4″ x 6″	2.56	1221	12″ x 2″ x 1¾″	1.74
645	6″ x 4″ x 5″	2.43	1274	12″ x 7″ x 4″	4.34
654	6″ x 5″ x 4″	2.34	1754	17″ x 5″ x 4″	4.92
666	6″ x 6″ x 6″	3.16	7108	7″ x 10″ x 8″	5.73
668	6″ x 6″ x 8″	4.32	10108	10″ x 10″ x 8″	6.75



No.	L	W	H		No.	L	W	H	
17	13″	x 4⅛″	x 2⅝″		18	13″	x 5¼″	x 2⅝″	
Natural Aluminum				3.18 ea.	Gray, Black, Brown				4.36 ea.
17	13″	x 4⅛″	x 2⅝″		19	17″	x 3⅛″	x 2⅝″	
Gray, Black, Brown				3.95 ″	Natural Aluminum				3.36 ″
18	13″	x 5¼″	x 2⅝″		19	17″	x 3⅛″	x 2⅝″	
Natural Aluminum				3.51 ″	Gray, Black, Brown				4.20 ″

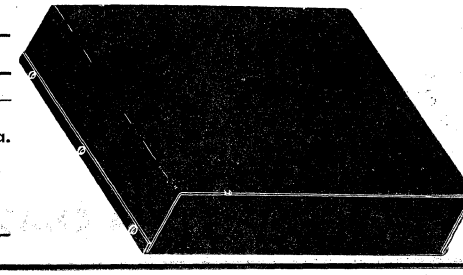
SHIELDED CHASSIS

No.	L	W	H		No.	L	W	H	
No. 20	7½″	x 7″	x 2″		No. 21	13″	x 10″	x 3″	
Plain				1.56 ea.	Anodized				5.43 ea.
No. 20	7½″	x 7″	x 2″		No. 22	17″	x 10″	x 3″	
Anodized				1.92 ″	Plain				4.73 ″
No. 21	13″	x 10″	x 3″		No. 22	17″	x 10″	x 3″	
Plain				4.05 ″	Anodized				6.23 ″

PRICES SUBJECT TO CHANGE

SLIDE COVER (or dust cover) BOXES DESIGNED BY BROADCAST ENGINEERS

These boxes lend themselves readily to Broadcast Application, Television Strips Mobile Equipment, Terminal Block Boxes, Public Address Construction, Custom Built Equipment, Amateur Experimentation, and many other uses. They are also adaptable to telephone type of construction. Steel Plated or Aluminum Natural or Painted Finish.



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CABINETS CHASSIS

MIDDLETOWN MANUFACTURING CO.

MIDDLETOWN IN CONNECTICUT

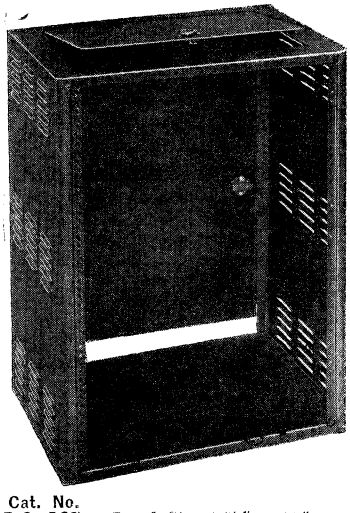
CASES PANELS

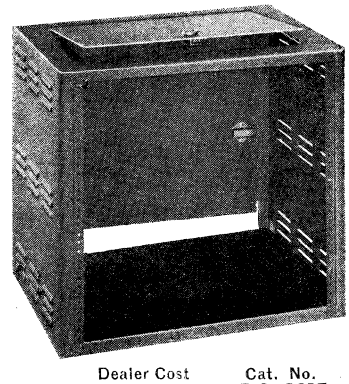
D.C. DELUXE CABINET RACKS—USE 19" RACK PANELS

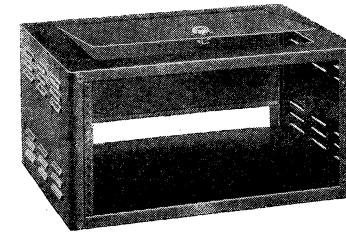
Middletown D. C. Cabinets conform to the conventional design of streamlined cabinets used by builders of amateur and commercial equipment.

FEATURES

- ★ Constructed of heay gauge 1/16" steel, electrically welded.
- ★ Adequate ventilation is provided by sufficient louvres in sides, and ventilation in back.
- ★ Front Vertical posts rounded.
- ★ Flush panel mounting (recessed).
- ★ Drilled and tapped for 10/32" screws on universal centers.
- ★ Flush door in top fitted with flush snap-lock and piano hinges.
- ★ Black Wrinkle finish. *Grey Wrinkle if desired.*







Cat. No.		Dealer Cost
D.C. 108	Panel Size 8¾" x 19". Size of Cabinet 10½" x 21½" x 15". Single Unit	$11.64
D.C. 1412	Panel Size 12¼" x 19". Size of Cabinet 14" x 21½" x 15". Single Unit	14.19
D.C. 1514	Panel Size 14" x 19". Size of Cabinet 15¾" x 21½" x 15". Single Unit	15.84
D.C. 1917	Panel Size 17½" x 19". Size of Cabinet 19¼" x 21½" x 15". Double Unit—Door Top and Back	$18.84
D.C. 2826	Panel Size 26¼" x 19". Size of Cabinet 28" x 21½" x 15". Triple Unit—Door Top and Back	22.14
D.C. 3635	Panel Size 35" x 19". Size of Cabinet 36¾" x 21½" x 15". Quad. Unit—Door Top and Back	24.54

BLANK STEEL CHASSIS
Heavy Duty

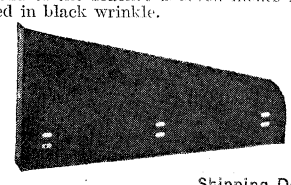
Middletown heavy duty Chassis are made from one piece of 1/16" sheet steel—Spot Welded at all four corners. Bottom edges are folded over on all four sides for additional rigidity and rilled to match bottom plates. Ends are drilled to fit standard Middletown brackets Bottom plates are supplied with these Chassis.

Stock Sizes
Black Wrinkle

Cat. No.		Dealer Cost
H.D. 8172	8 x 17 x 2"	$2.90
H.D. 8173	8 x 17 x 3"	3.15
H.D. 11172	11 x 17 x 2"	3.30
H.D. 11173	11 x 17 x 3"	3.65
H.D. 13172	13 x 17 x 2"	4.00
H.D. 13173	13 x 17 x 3"	4.49
H.D. 13174	13 x 17 x 4"	4.84

CHASSIS BRACKETS
Mounting

These brackets are for chassis listed above. Front end of the bracket is seven inches high. Finished in black wrinkle.



Cat. No.	Size	Shipping Weight	Dealer Cost
C.B. 8	For 8" Base	2 lbs.	$0.87
C.B. 11	For 11" Base	3 lbs.	1.26
C.B. 13	For 13" Base	3 lbs.	1.47

BLANK CHASSIS
Standard Type

Middletown Chassis are made from one piece of No. 20 gauge steel spot-welded at all 4 corners—bottom edges are folded over on four sides for additional rigidity and drilled to match bottom plates.

Bottom plates are drilled to match holes on flange of chassis and have pressed bumpers at corners. Material No. 20 gauge steel.

Standard Chassis
Steel Black Wrinkle

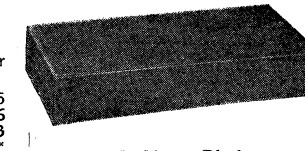
Cat. No.	Size	Dealer Cost
**B.S. 442	4x 4x2"	$0.72
**B.S. 591	5½x9½x1½"	.78
**B.S. 5103	5x10x3"	1.08
B.S. 4173	4x17x3"	1.29
B.S. 6143	6x14x3"	1.26
**B.S. 772	7x 7x2"	.90
**B.S. 792	7x 9x2"	1.08
B.S. 7112	7x11x2"	1.11
B.S. 7132	7x13x2"	1.20
B.S. 7153	7x15x3"	1.44
B.S. 7173	7x17x3"	1.56
B.S. 8172	8x17x2"	1.44
B.S. 8173	8x17x3"	1.56
B.S. 10123	10x12x3"	1.50
B.S. 10143	10x14x3"	1.59
B.S. 10172	10x17x2"	1.59
B.S. 10173	10x17x3"	1.65
*B.S. 11172	11x17x2"	2.01
*B.S. 11173	11x17x3"	2.22
B.S. 12172	12x17x2"	1.71
B.S. 12173	12x17x3"	2.04
B.S. 12174	12x17x4"	2.25
*B.S. 13172	13x17x2"	2.30
*B.S. 13173	13x17x3"	2.60
*B.S. 13174	13x17x4"	3.00

*18 ga.
**22 ga.

Aluminum Chassis

Cat. No.	Dealer Cost
†ABC 591	$1.05
†ABC 5103	1.26
‡ABC 4173	1.83
‡ABC 6143	1.98
†ABC 772	.99
†ABC 792	1.08
†ABC 7112	1.20
†ABC 7132	1.32
‡ABC 7153	2.16
‡ABC 7173	2.25
‡ABC 8172	1.98
‡ABC 8173	2.34
‡ABC 10123	1.98
‡ABC 10143	2.52
‡ABC 10172	2.40
‡ABC 10173	2.73
‡ABC 11172	2.49
‡ABC 11173	3.15
‡ABC 12172	3.00
‡ABC 12173	3.36
‡ABC 12174	3.90
‡ABC 13172	3.00
‡ABC 13173	3.54
‡ABC 13174	4.05

†18 ga.
‡16 ga.



Bottom Plates
Black Wrinkle

Cat. No.	Size	Dealer Cost
B.P. 59	5½x9½"	$0.39
B.P. 510	5x10"	.45
B.P. 417	4x17"	.57
B.P. 614	6x14"	.60
B.P. 77	7x 7"	.42
B.P. 79	7x 9"	.45
B.P. 711	7x11"	.57
B.P. 713	7x13"	.63
B.P. 715	7x15"	.69
B.P. 717	7x17"	.72
B.P. 817	8x17"	.72
B.P. 1012	10x12"	.72
B.P. 1014	10x14"	.78
B.P. 1017	10x17"	.96
B.P. 1117	11x17"	.99
B.P. 1217	12x17"	1.05
B.P. 1317	13x17"	1.14

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Net

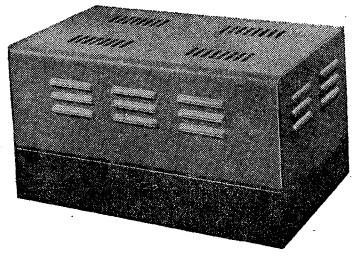
CABINETS CHASSIS

MIDDLETOWN MANUFACTURING CO.

CASES PANELS

MIDDLETOWN IN CONNECTICUT

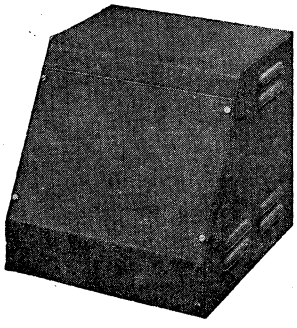
AMPLIFIER FOUNDATIONS—DeLuxe Models



This unit is designed to meet the most critical requirements. It has rounded corners, special Middletown designed louvres on all 4 sides and elongated holes on top to give maximum ventilation. Chassis are finished in Black wrinkle. Covers are finished in Grey wrinkle. Chassis are drilled for bottom plates which are listed separately. Covers all have a depth of 6".

Cat. No.	Size	Dealer Cost
A.F.-5109	5 x 10 x 9"	$2.80
A.F.-6149	6 x 14 x 9"	3.00
A.F.-7179	7 x 17 x 9"	3.75
A.F.-10129	10 x 12 x 9"	3.75
A.F.-10179	10 x 17 x 9"	4.50
A.F.-13179	13 x 17 x 9"	5.40

SLOPING FRONT PANEL CABINETS

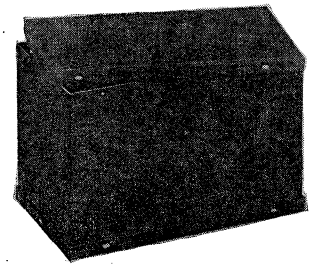


Sloping front panel cabinets have a wide application in the electronic field since they are adaptable for various uses. They are constructed of heavy gauge steel electrically spot-welded. Top corner is rounded, front panel is removable, and louvres on sides provide ventilation.

Back panel is ventilated on top and an opening is provided on the bottom so that connections can be made directly to the rear of the chassis. Finished in Grey wrinkle.

Cat. No.	H.W.D.	Chassis Size	Dealer Cost
S.F.-888	8 x 8 x 8"	7 x 7 x 2"	$3.84
S.F.-8108	8 x 10 x 8"	7 x 9 x 2"	4.26
S.F.-8128	8 x 12 x 8"	7 x 11 x 2"	4.44
S.F.-8148	8 x 14 x 8"	7 x 13 x 2"	4.59
S.F.-121812	12 x 18 x 12"	10 x 17 x 3"	8.40

STEEL UTILITY CANS



These Utility Cans are substantially made from sheet steel with spot welded reinforced corners. Tops and bottoms are removable and are flanged on all four sides. Held in place with self-tapping screws.

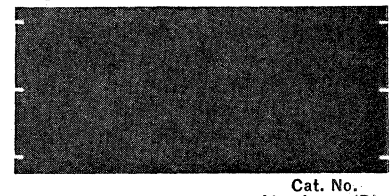
Cat. No.	Size	Weight	Dealer Cost
U.C. 565	5½ x 6 x 5½"	3 lbs.	$1.38
U.C. 596	5 x 9 x 6"	5 lbs.	1.86
U.C. 8107	8 x 10 x 7"	6 lbs.	2.70
U.C. 81010	8 x 10 x 10"	7 lbs.	3.45
U.C. 11128	11 x 12 x 8"	9 lbs.	4.35

RACK PANELS — 19" LONG (Steel and Aluminum)

Middletown Rack Panels are offered in either ⅛" steel or ⅛" aluminum. They are 19" wide and are slotted for conventional W. E. mounting. Fourteen standard sizes. Furnished in black or grey wrinkle finish.

Note: When ordering grey wrinkle, add prefix "G" to catalog number.

*Available on special order.



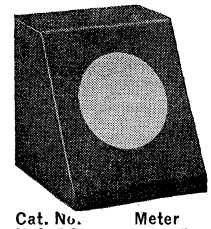
Cat. No. Steel (Blk. Wrinkle)	Dealer Cost	Height	Cat. No. Aluminum (Black Wrinkle)	Dealer Cost
R.P. 1	$0.77	1¾"	A.R.P. 1	$0.87
R.P. 3	.84	3½"	A.R.P. 3	1.20
R.P. 5	1.05	5¼"	A.R.P. 5	1.80
R.P. 7	1.20	7"	A.R.P. 7	2.16
R.P. 8	1.50	8¾"	A.R.P. 8	2.58
R.P. 10	1.68	10½"	A.R.P. 10	3.24
R.P. 12	2.10	12¼"	A.R.P. 12	3.78
R.P. 14	2.40	14"	A.R.P. 14	4.35
R.P. 15	2.70	15¾"	A.R.P. 15	4.80
R.P. 17	2.97	17½"	A.R.P. 17	5.34
R.P. 19	3.30	19¼"	A.R.P. 19	5.85
R.P. 21	3.66	21"	A.R.P. 21	6.30
R.P. 26*	.....	26¼"	A.R.P. 26*	.....
R.P. 35*	.....	35"	A.R.P. 35*	.....

METER PANELS

Middletown Meter Panels are made 5¼" high and are made to the same specifications as our Rack Panels — are available to fit 3" meters.

Cat. No.	Holes	Hole Size	Dealer Cost
R.P.M. 33	3	2 3/16"	$1.30
R.P.M. 35	5	2 3/16"	1.85

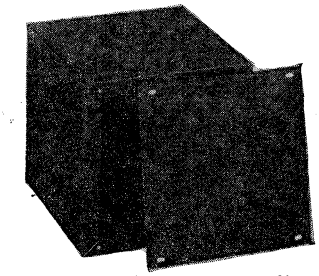
METER CASES



These cases have sloping front panel with rounded top corner which blends with streamline equipment. They are sturdily constructed from sheet steel with welded joints.

Cat. No.	Meter	Hole Size	H.W.D.	Dealer Cost
M.C. 13	Single 3"	2 13/16"	4½ x 4 x 4	$1.14
M.C. 33	3-3" Meters	2 13/16"	4½ x 11¼ x 4	3.06

STEEL CASES — STANDARD



These cases are similar to our standard steel utility cans except they have flat tops and bottoms which are held in place with self tapping screws and are removable. These cases are of sturdy construction and have spot welded corners. Case has flanges on all edges. Furnished in black wrinkle.

Cat. No.	Size	Weight	Dealer Cost
S.C. 442	4 x 4 x 2 "	2 lbs.	$0.84
S.C. 453	4 x 5 x 3 "	3 lbs.	.96
S.C. 666	6 x 6 x 6 "	3 lbs.	1.32
S.C. 1276	12 x 7 x 6 "	5 lbs.	2.49
S. C. 1597	15 x 9 x 7 "	9 lbs.	3.39
S.C. 1287	12 x 7¾ x 6½"	9 lbs.	2.88
S.C. 1576	15 x 7¾ x 6½"	11 lbs.	2.97

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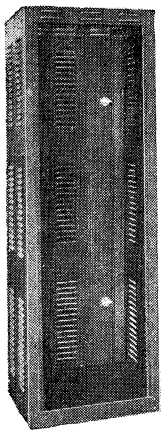
CABINETS CHASSIS — MIDDLETOWN MANUFACTURING CO. — CASES PANELS

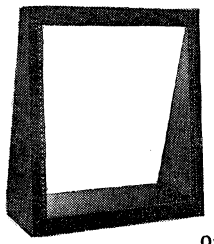


DE LUXE RELAY RACKS

Middletown De Luxe Relay Racks are made of 16-gauge steel with ⅛" panel supports which are recessed so that edges of panels set flush. Standard 19" panels fit these racks. (See page J-113 for panel sizes.)
Adequate ventilation is provided by louvres in the two sides, the door and in the top at front and back. Door is hung on sturdy hinges and has snap catches. Racks come with rigid, built-in caster supports. (Casters not included in price of rack.) Furnished in either black or grey wrinkle finish. Shipped knocked down with all necessary hardware.
Rack shelves and supporting angles to fit these Relay Racks are available. Information and prices on request.

Cat. No. (Black Wrinkle)	Overall Size H	W	D	Panel Size H	W	Dealer Cost
DRR 4236	42 1/16	22	17¼	36¾	19	$32.70
DRR 4742	47 5/16	22	17¼	42	19	37.45
DRR 6661	66 9/16	22	17¼	61¼	19	48.60
DRR 8277	82 13/16	22	17¼	77	19	58.50

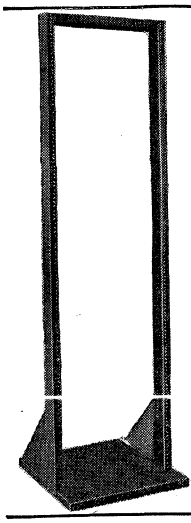
Note: When ordering grey wrinkle, add prefix "G" to catalog number. Dimensions in Inches.



OPEN-TYPE TABLE RELAY RACKS

For table mounting of power transmitters, P. A. systems and other radio and electronic apparatus. Rack is ruggedly constructed with strong base to accommodate heavy components. Drilled and tapped for conventional 19" wide panels which set in recess so that no edges are exposed. (See page J-113 for panel sizes.)
Shipped knocked down with necessary hardware. Black wrinkle finish.

Catalog Number	Overall Size H	W	D	Panel Space H	W	Dealer Cost
TRR 24	24	21	12	21	19	$6.60
TRR 31	31	21	12	28	19	8.25

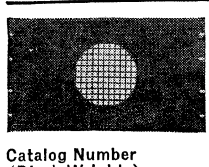


OPEN-TYPE CHANNEL RELAY RACKS

Sturdy construction with rigid supporting members and side angle braces make these racks perfectly suited to all heavy-duty assignments. Made of ⅛" steel channels, 3" deep, welded together with angle cross pieces of the same material. Chassis type base. Drilled and tapped to accommodate conventional 19" panels. (See page J-113 for panel sizes.) Black wrinkle finish. Shipped knocked down with necessary hardware.

Cat. No.	Overall Size H	W	D	Panel Size H	W	Dealer Cost
OCR 35	35½	21	22	31½	19	$17.40
OCR 70	70½	21	22	66½	19	20.70

Dimensions in Inches.

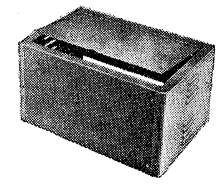


SPEAKER PANELS

Made from ⅛" steel, panels fit either 6", 8", 10" or 12" speakers. They are 19" wide, slotted for standard W.E. mounting. Furnished in black or grey wrinkle finish. Opening covered with an attractive clover-leaf design steel grille.

Catalog Number (Black Wrinkle)	Panel Space H	W	Hole Diameter	Speaker Size	Dealer Cost
SP 8	8¾	19	4¾	6	$2.46
SP 10	10½	19	6½	8	3.15
SP 12	12¼	19	9	10	3.75
SP 14	14	19	11	12	4.35

Note: When ordering grey wrinkle, add prefix "G" to catalog number. Dimensions in Inches.

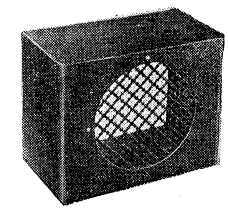


ROUNDED CORNER CABINETS

These are de luxe streamlined cabinets with front vertical corners rounded. Flush panel door, hung on full-length piano hinge, provided in top for convenient access. Ventilating louvres on sides. Opening at bottom of rear panel permits easy accessibility for leads, cables, etc. Front panel held in position with self-tapping screws. Grey wrinkle finish. Sturdily built of sheet steel.

Catalog No.	Size H	W	D	Panel Space H	W	Chassis Size D	W	H	Dealer Cost
RC 8108	8	10	8	8	8	7	7	2	$3.60
RC 8128	8	12	8	8	10	7	9	2	3.90
RC 8168	8	16	8	8	14	7	13	2	5.07
RC 91711	9	17	11	9	15	10	14	3	7.89
RC 122012	12	20	12	12	18	10	17	3	9.30

Chassis are not included unless ordered. See J-112 for chassis listings. Dimensions in Inches.

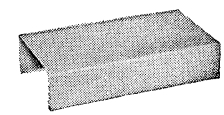


STANDARD SPEAKER CABINETS

These cabinets are designed especially for permanent or portable public address systems. Made from heavy sheet steel with front vertical corners rounded for neat, streamlined appearance. Attractive clover-leaf grille. Removable back cover. Black or grey wrinkle finish.

Catalog Number (Black Wrinkle)	Cabinet Size H	W	D	Hole Diam.	Speaker Size	Dealer Cost
SS 10106	10	10	6	4¾	6"	$3.45
SS 12127	12	12	7	6½	8"	4.65
SS 14148	14	14	8	9	10"	5.55
SS 16168	16	16	8	11	12"	7.35

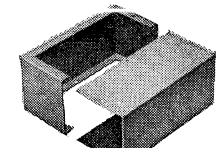
Note: When ordering grey wrinkle, add prefix "G" to catalog number.



ALUMINUM MIDGET CHASSIS

These small, open-end aluminum chassis are ideal for miniature tube assemblies and all applications where space is limited. Made of prime sheet aluminum with ¼" flange on bottom for fastening down, or attaching bottom plate. Finish is etched aluminum.

Cat. No. AMC	D	Size W	H	Dealer Cost	Cat. No. AMC	D	Size W	H	Dealer Cost
221	2 5/8	2¾	1¼	$0.30	541	5¾	4⅞	1½	$0.45
131	1¾	3⅛	1	.33	431	4	3⅛	1	.36
342	3¼	4½	2	.36	441	4	4⅛	1	.39
241	2¾	4⅛	1	.36	451	4	5⅛	1	.42
341	3¾	4⅛	1½	.36	461	4	6⅛	1	.45
361	3	6⅛	1¼	.42					



MULTI-MOUNTS

These are all-purpose boxes with an unlimited field of application in radio and electronics. Made from prime sheet aluminum. Two-piece telescoping construction, each half forming three sides. Finish is etched aluminum or grey hammer-tone.

Cat. No. MM	D	Size W	H	Dealer Cost	Cat. No. MM	H	Size W	D	Dealer Cost
	(Etched Aluminum)					(Etched Aluminum)			
122	1 5/8	2¾	2⅛	$0.63	386	3½	8	6	$2.01
132	1 5/8	3¼	2⅛	.63	3106	3½	10	6	2.49
142	1 5/8	4	2⅛	.66	4127	4	12	7	2.94
242	2¼	4	2¼	.87	4175	4	17	5	3.45
252	2¼	5	2¼	.90	1102	1 5/8	10	2	.99
354	3	5	4	.99	2122	2¼	12	2½	1.35
253	2⅛	5¼	3	.96	2420	2¾	4	2	.84
465	4	6	5	1.23	1420	1½	4¼	2¼	.87
375	3	7	5	1.38					

Note: When ordering grey hammer-tone, add prefix "GH" to catalog number. Dimensions in Inches.

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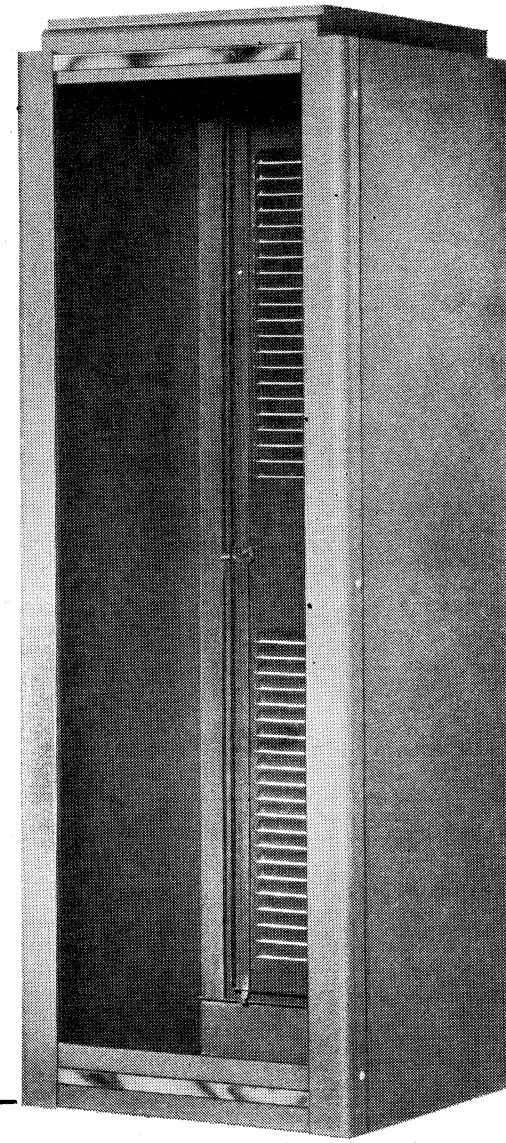
WYCO METAL PRODUCTS ALL-WELDED DELUXE CABINET RACKS

DELUXE "D" SERIES

AN ALL-WELDED UNIT FOR 19" RACK PANELS

SPECIFICATIONS:

A. Rack is constructed throughout from 16 gauge high-quality steel and is completely welded together.
B. Panel mounting angles constructed of 1½ x 1½ x 3/16" angle iron.
C. Mounting holes are tapped 10/32 thread.
D. Mounting holes are at 1¼"-½" spacings. (WESTERN ELECTRIC SPACING.)
E. Double row of louvres in rear door provide ventilation.
F. Door is hung on loose-pin hinges; it may be easily removed.
G. Door is securely locked by means of an "automotive" type highly-polished handle and linkage rods.
H. Highly polished metal trim is on front of rack at top and bottom.
I. Panel mounting screws are concealed by detachable corner vertical trim.
J. Finished in black or grey wrinkle enamel and silver grey hammertone.
K. When it is desired to "gang" two or more of these cabinets together, order connecting trim, using the prefix "AD" plus the last two numbers of the catalog number of the cabinet.



RACKS — 18½" DEEP

Catalog Number	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside width (Rear)	Clear Inside Depth	Approx. Shipping Weight	Dealer Cost
D 1869	69⅝ x 23⅝ x 18½	61¼ x 19	17¾	19⅝	16¾	155 lbs.	$ 94.50
D 1878	78⅜ x 23⅝ x 18½	70 x 19	17¾	19⅝	16¾	167 lbs.	103.50
D 1885	85⅜ x 23⅝ x 18½	77 x 19	17¾	19⅝	16¾	180 lbs.	117.00

RACKS — 24" DEEP

D 2469	69⅝ x 23⅝ x 24	61¼ x 19	17¾	19⅝	22¼	176 lbs.	$111.00
D 2478	78⅜ x 23⅝ x 24	70 x 19	17¾	19⅝	22¼	192 lbs.	120.00
D 2485	85⅜ x 23⅝ x 24	77 x 19	17¾	19⅝	22¼	205 lbs.	135.00

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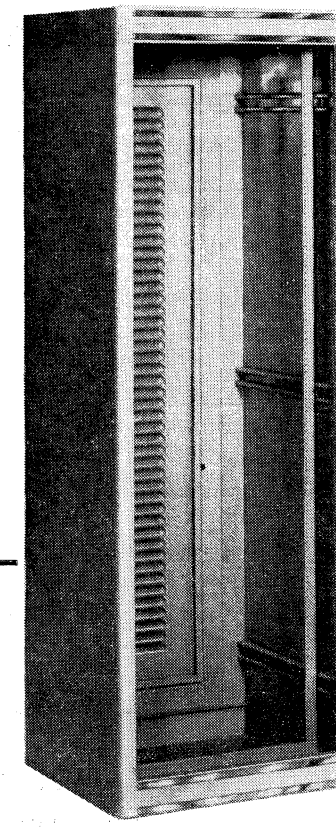
WYCO
METAL PRODUCTS

ALL-WELDED CABINET RACKS

ADJUSTABLE MOUNTING ANGLES

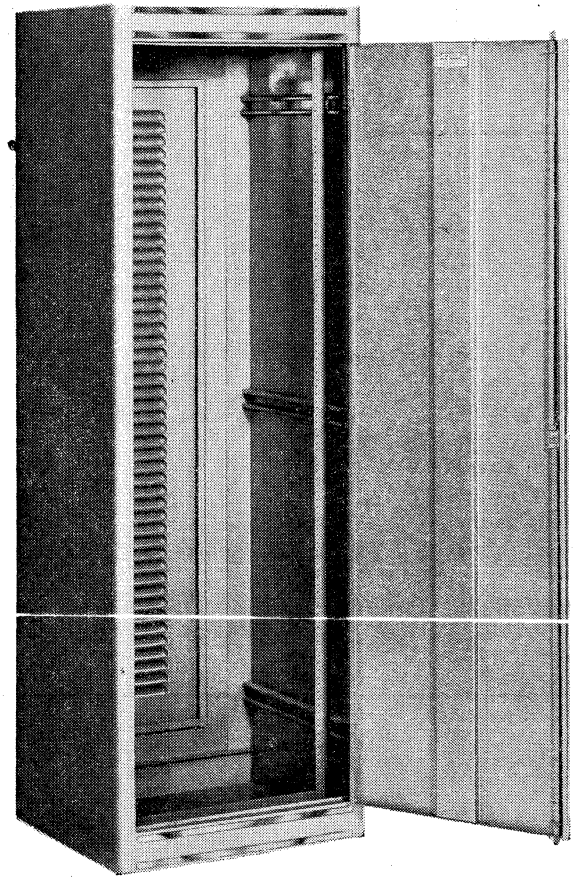
AN ALL-WELDED DELUXE CABINET RACK WITH ADJUSTABLE MOUNTING ANGLES.



DESCRIPTION:

A. Fabricated of 16 ga. high quality steel.
B. Panel mounting angles are ⅛ steel.
C. Mounting holes are tapped 10/32.
D. Western Electric spacing.
E. Louvres in rear door.
F. Rear door has two flush-type latches.
G. Door hung on loose-pin hinge; it is easily removable.
H. Front corners are rounded.
I. Highly-polished trim on front of cabinet at top and bottom.
J. Available in grey and black wrinkle or silver grey hammertone.
K. PANEL MOUNTING ANGLES ARE ADJUSTABLE FROM FRONT TO BACK.

Cat. No.	Overall Dim.	Panel Space	Approx. Ship. Wt. Lbs.	Dealer Cost
G 6119	67⅜" x 22" x 18"	61¼" x 19"	165	$ 84.00
G 7019	76⅛" x 22" x 18"	70" x 19"	185	94.50
G 7719	83⅛" x 22" x 18"	77" x 19"	195	105.00



AN ALL-WELDED DELUXE CABINET RACK WITH FRONT DOOR AND ADJUSTABLE MOUNTING ANGLES

DESCRIPTION:

A. Fabricated of 16 ga. high quality steel.
B. Panel mounting angles are ⅛ steel.
C. Mounting holes are tapped 10/32.
D. Western Electric spacing.
E. Louvres in rear door.
F. Rear door has two flush-type latches.
G. Front door has high-polish handle with three point catch.
H. Doors hung on loose-pin hinges; they are easily removable.
I. Front corners are rounded.
J. Highly-polished trim on front of cabinet at top and bottom.
K. Available in grey and black wrinkle or silver grey hammertone.
L. PANEL MOUNTING ANGLES ARE ADJUSTABLE FROM FRONT TO BACK.

CAT. NO.	Overall Dim.	Panel Space	Approx. Ship. Wt. Lbs.	Dealer Cost
DF1961	67⅜" x 22" x 18"	61¼" x 19"	185	$105.00
DF1970	76⅛" x 22" x 18"	70" x 19"	200	120.50
DF1977	83⅛" x 22" x 18"	77" x 19"	210	131.00

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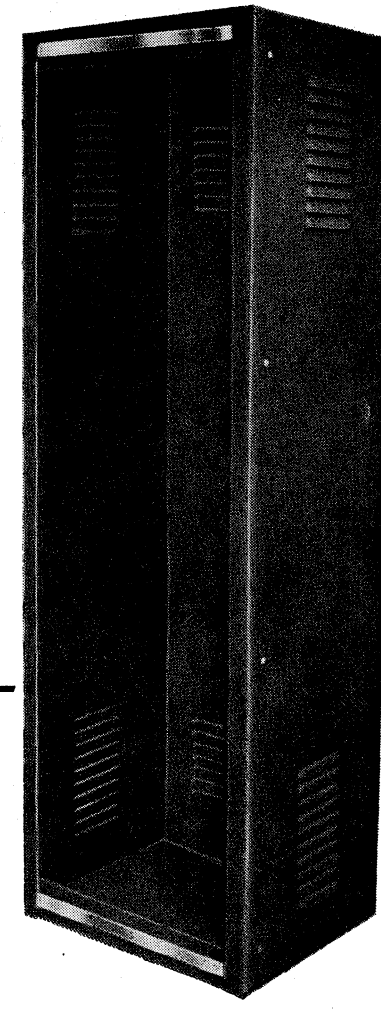
WYCO METAL PRODUCTS ALL-WELDED CABINET RACKS

STANDARD "SL" SERIES
FOR 19" RACK PANELS



SPECIFICATIONS:

A. Rack constructed throughout from 16 gauge high-quality steel and is completely welded together.
B. Panel mounting angles constructed of 1½ x 1½ x ⅛" angle iron.
C. Mounting holes are tapped 10/32 thread.
D. Mounting holes at 1¼"-½" spacings. (WESTERN ELECTRIC SPACING.)
E. Louvres in rear door provide ample ventilation.
F. Door hung on loose-pin hinges; it may be easily removed.
G. Door is securely closed by two flush-type catches.
H. Highly polished metal trim on front of rack at top and bottom.
I. Panel mounting screws concealed by vertical trim.
J. Louvres at side provide additional ventilation.
K. Finished in black or grey wrinkle enamel and silver grey hammertone.

STANDARD "S" SERIES
FOR 19" RACK PANELS

SPECIFICATIONS:

A. ALL SPECIFICATIONS AND DIMENSIONS OF "SL" SERIES APPLY, EXCEPT FOR FOLLOWING:
   (1) LOUVRES AT SIDE ARE OMITTED to facilitate use of racks in rows or "gangs."
   (2) When it is desirable to set up these cabinets in rows or "gangs," we can supply a connecting trim for a small additional charge. Order connecting trim, using prefix "AS" plus the last two numbers of the catalog number of the cabinet.
   (3) Catalog Numbers are prefaced with "S" instead of "SL."

Catalog Number	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Approx. Shipping Weight	Dealer Cost "S" and "SL"
SL 1842	42⅞ x 21⅛ x 18	36¾ x 19	17¾	17¼	16½	107 lbs.	$60.00
SL 1867	67⅜ x 21⅛ x 18	61¼ x 19	17¾	17¼	16½	145 lbs.	78.00
SL 1883	83⅛ x 21⅛ x 18	77 x 19	17¾	17¼	16½	177 lbs.	99.00

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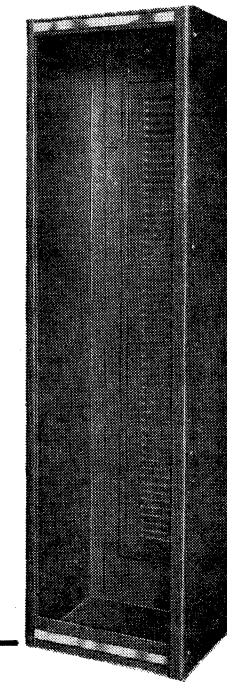
WYCO METAL PRODUCTS — CABINET RACKS — RELAY RACKS

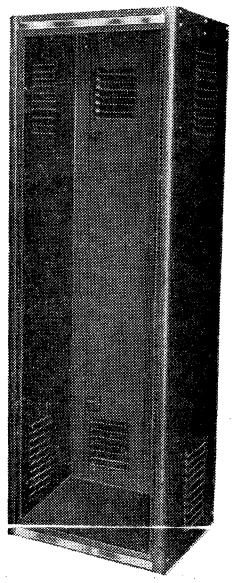
BANNER "B" SERIES
FOR 19" RACK PANELS

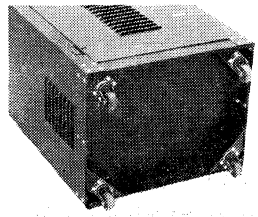


SPECIFICATIONS:

A. Rack constructed throughout from 16 gauge high-quality steel and is completely welded together.
B. Panel mounting angles constructed of 1½ x 1½ x 3/16 angle iron.
C. Mounting holes are tapped 10/32 thread.
D. Mounting holes at 1¼"-½" spacings. (WESTERN ELECTRIC SPACING.)
E. Louvres in rear doors provide ample ventilation.
F. Rear corners re-inforced for heavier equipment.
G. Door hung on loose pin hinges; it may be easily removed.
H. Door is securely closed by two flush-type latches.
I. Highly-polished trim on front of rack at top and bottom.
J. Panel mounting screws concealed by vertical trim.
K. Finished in black or grey wrinkle enamel and silver grey hammertone.
L. When it is desirable to set up racks in rows or "gangs," order connecting trim, using the prefix "AB" plus the last two numbers of the catalog number of the cabinet.

Catalog Number	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Approx. Shipping Weight	Dealer Cost
B 1876	76⅛ x 21⅛ x 18	70 x 19	17½	17¼	16½	178 lbs.	$105.00





MODEL "W" SERIES

SPECIFICATIONS:

A. Rack constructed of 16 gauge high-quality steel.
B. Front corners are rounded.
C. Panel mounting angles constructed of 2 x 1½ x ⅛" steel.
D. Mounting holes are tapped 10/32 thread.
E. Mounting holes are spaced on UNIVERSAL CENTERS.
F. Louvres in rear door and sides provide ample ventilation.
G. Door is hung on loose pin hinges; it may be easily removed.
H. Door is securely closed by catch.
I. Highly-polished trim on front of rack at top and bottom.
J. RACK IS SHIPPED "KNOCKED-DOWN"; all necessary bolts supplied for assembly.
K. Finished in black or grey wrinkle and silver grey hammertone.
L. There are four brackets spot welded to the bottom of the cabinet. Our casters (catalog No. RC100) can be attached to these brackets. This offers instant mobility, if required.

Catalog Number	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Approx. Shipping Weight	Dealer Cost
W 1036	42 x 22 x 17¼	36¾ x 19	17¾	17¼	15⅞	88 lbs.	$38.33
W 1042	47¼ x 22 x 17¼	42 x 19	17¾	17¼	15⅞	95 lbs.	43.33
W 1061	66½ x 22 x 17¼	61¼ x 19	17¾	17¼	15⅞	122 lbs.	54.17
W 1077	82¼ x 22 x 17¼	77 x 19	17¾	17¼	15⅞	148 lbs.	65.00

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WYCO METAL PRODUCTS EXPAND-A-RACK SERIES

DESCRIPTION:

A. When it is necessary to join two or more racks together, WYCO METAL PRODUCTS offers the "EXPAND-A-RACK" series.

B. Figure "A" shows two Expand - A - Racks joined together.

C. Figure "B" illustrates the method of expanding your present rack space. In place of purchasing an additional rack, a unit, consisting of the following items, would be bought: (a) the door; (b) the top; (c) the bottom; (d) an Expand-A-Rack joining unit. The right or left side of your existing relay cabinet rack is dis-assembled and replaced with an Expand-A-Rack joining unit. Following this step, the top and bottom are assembled. The cabinet side removed from the original rack is then fastened onto the second rack. Upon hanging the additional door, two complete racks are now joined together.

D. Wyco's Expand-A-Rack series may be purchased by one of two methods. One method consists of buying one complete rack (the "W" series) plus one Expand-A-Rack unit. If you already have one of our basic "W" series cabinets, then order an Expand-A-Rack unit.

E. Supports are electronically welded to the bottom to receive our casters (#RC-100).

F. There is an ample amount of compound knockouts in the Expand-A-Rack joining unit center partition. This allows cables and leads to be taken from one cabinet to the other.

G. Available in Grey or Black Wrinkle and Silver Grey Hammertone.

Cat. No.	Used to Expand-A-Rack With	Approx. Ship Wt. Lbs.	Dealer Cost
E-400	W-1036	74	$37.50
E-401	W-1042	78	41.59
E-402	W-1061	99	51.67
E-401	W-1077	126	63.50

Cat. No.	Forms 2 Racks Same Size As	Approx. Ship Wt. Lbs.	Dealer Cost
E-405	W-1036	162	$ 75.83
E-406	W-1042	173	84.92
E-407	W-1061	221	105.84
E-408	W-1077	274	128.50

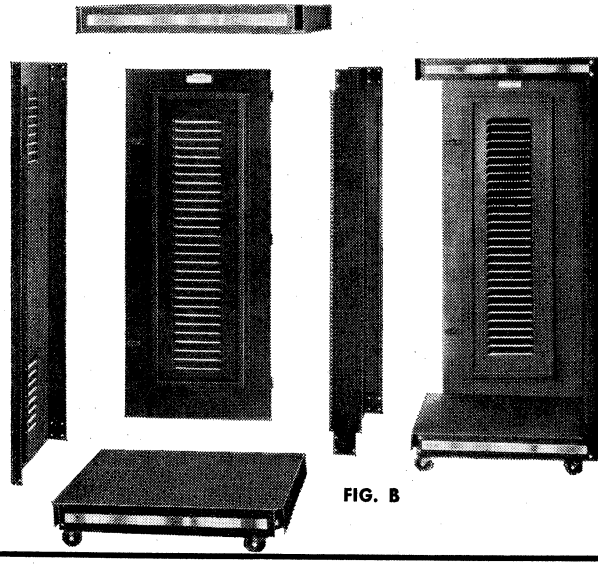

FIG. B

FIG. A

CASTERS

DESCRIPTION:

A. Can be used with our "W" series and Expand-A-Rack series.

B. Load capacity of a set of four is 520 lbs.

C. The swivel bearing wheels are made of a hard fibrous compound.

CATALOG NO. RC-100 APPROX. SHIP. WT. EACH 8 oz. DEALER COST $.99 ea.

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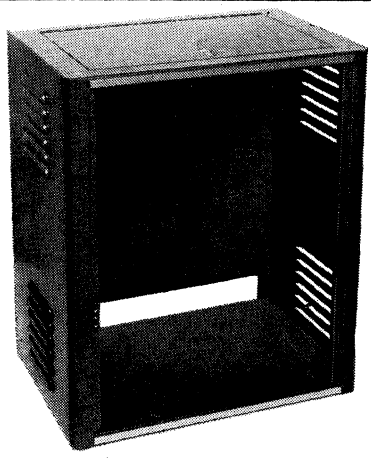


MODEL "C" SERIES

SPECIFICATIONS:

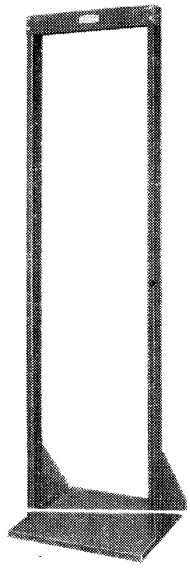
A. Constructed of heavy gauge high-quality steel and is completely welded together.
B. Front vertical corners rounded.
C. Mounting holes tapped 10/32 thread.
D. Mounting holes spaced on UNIVERSAL CENTERS.
E. Louvres in side provide ample ventilation.
F. Highly-polished trim at top and bottom of front.
G. Top door has piano hinge and flush-type latch.
H. Finished in black or grey wrinkle and silver grey hammertone.
I. Embossed feet on bottom minimize marring of table tops.

DOOR IN TOP ONLY

Catalog Number	Dimensions	Panel SPace	Approx. Shipping Weight	Dealer Cost
C819	10½ x 22 x 15 Deep	8¾ x 19	27 lbs.	$14.17
C1019	12¼ x 22 x 15 Deep	10½ x 19	28 lbs.	16.25
C1219	14 x 22 x 15 Deep	12¼ x 19	30 lbs.	17.08
C1419	15¾ x 22 x 15 Deep	14 x 19	32 lbs.	18.75

DOOR IN TOP AND REAR

Catalog Number	Dimensions	Panel Space	Approx. Shipping Weight	Dealer Cost
C1719	19¼ x 22 x 15 Deep	17½ x 19	36 lbs.	$22.09
C2119	22¾ x 22 x 15 Deep	21 x 19	40 lbs.	23.75
C2619	28 x 22 x 15 Deep	26¼ x 19	43 lbs.	25.50
C3119	33¼ x 22 x 15 Deep	31½ x 19	47 lbs.	27.08
C3519	36¾ x 22 x 15 Deep	35 x 19	50 lbs.	28.58



"RC" SERIES

SPECIFICATIONS:

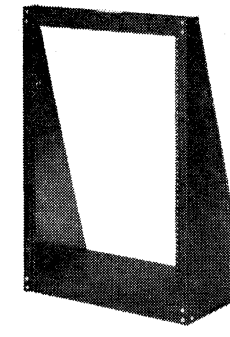
A. Rack constructed of 1/8" high-quality steel.
B. Mounting holes are tapped 10/32 thread.
C. Mounting holes are spaced on UNIVERSAL CENTERS.
D. Base is 20" x 20".
E. Finished in black wrinkle only.
F. SHIPPED "KNOCKED-DOWN"; all necessary bolts supplied for assembly.

Catalog Number	Panel Space	Approx. Shipping Weight	Dealer Cost
RC36	36¾ x 19	28 lbs.	$18.00
RC71	71¾ x 19	41 lbs.	21.00

"RT" SERIES

SPECIFICATIONS:

A. Rack constructed of heavy gauge high-quality steel.
B. Mounting holes are tapped 10/32 thread.
C. Mounting holes are spaced on UNIVERSAL CENTERS.
D. Finished in black wrinkle only.
E. SHIPPED "KNOCKED-DOWN"; all necessary bolts supplied for assembly.



Catalog Number	Panel Space	Height	Width	Depth	Approx. Shipping Weight	Dealer Cost
RT21	21 x 19	25"	21"	12"	16 lbs.	$7.84
RT28	28 x 19	32"	21"	12"	18 lbs.	9.66

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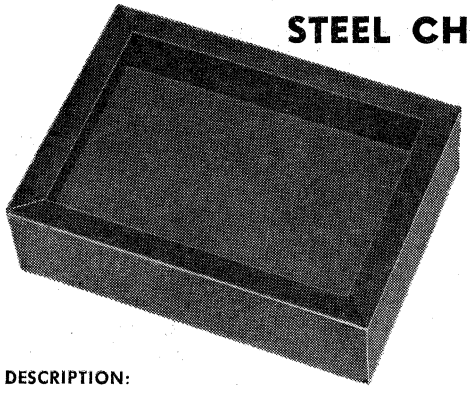
WYCO METAL PRODUCTS

CHASSIS

STEEL CHASSIS

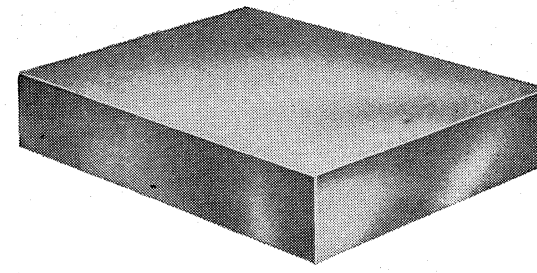


DESCRIPTION:

A. Fabricated from one piece of steel.
B. All corners electronically spot welded.
C. Flanges on bottom formed and punched to allow bottom plate to be attached, if desired.
D. Finished in Black Wrinkle or Zinc plated.
E. Asterisk indicates holes punched to receive chassis mounting brackets.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Ht.	Ga.	Approx. Ship. Wt. - Lbs.	Dealer Cost Black	Zinc
BC-940	CP-1300	5"	7"	2"	22	1	$ .95	$1.05
BC-941	CP-1301	5"	9½"	2½"	22	1¼	1.17	1.28
BC-942	CP-1302	5"	9½"	1½"	22	1	1.07	1.17
BC-943	CP-1303	5"	10"	3"	22	1¼	1.10	1.22
BC-944	CP-1304	6"	14"	3"	20	1¾	1.40	1.53
BC-945	CP-1305	7"	7"	2"	22	1½	1.07	1.17
BC-946	CP-1306	7"	9"	2"	22	1½	1.13	1.25
BC-947	CP-1307	7"	11"	2"	20	1½	1.24	1.35
BC-948	CP-1308	7"	12"	3"	20	1¾	1.31	1.50
BC-949	CP-1309	7"	13"	2"	20	2	1.36	1.57
BC-950	CP-1310	5"	13½"	2½"	20	1¾	1.37	1.50
BC-951	CP-1311	7"	15"	3"	20	2	1.58	1.75
BC-952	CP-1312	8½"	15"	3"	20	2½	1.83	2.00
BC-953	CP1313	4"	17"	3"	20	2¼	1.37	1.50
BC-954	CP-1314	7"	17"	2½"	20	2½	1.64	1.80
BC-955	CP-1315	7"	17"	3"	20	1¾	1.65	1.82
BC-956	CP-1316	8"	10"	2½"	20	2	1.49	1.64
BC-957	CP-1317	8"	12"	2½"	20	2½	1.57	1.74
BC-958	CP-1318	8"	12"	3"	20	1¾	1.59	1.75
BC-959	CP-1319	8"	17"	2"	20	2½	1.52	1.67
BC-960	CP-1320	8"	17"	3"	20	3¼	1.75	1.92
BC-961	CP-1321	10"	12"	3"	20	3	1.57	1.74
BC-962	CP-1322	10"	14"	3"	20	4	1.68	1.84
BC-963*	CP-1323	10"	17"	2"	20	3¼	1.78	1.95
BC-964*	CP-1324	10"	17"	3"	20	4	1.82	1.97
BC-965*	CP-1325	10"	17"	3"	18	5	2.00	2.20
BC-966	CP-1326	10"	23"	3"	18	5½	2.55	2.68
BC-967*	CP-1327	11"	17"	2"	18	4½	2.10	2.30
BC-968*	CP-1328	11"	17"	3"	18	4½	2.46	2.70
BC-969*	CP-1329	12"	17"	2"	18	4½	1.92	2.10
BC-970*	CP-1330	12"	17"	3"	18	5¼	2.26	2.50
BC-971*	CP-1331	13"	17"	2"	18	5	2.58	2.82
BC-972*	CP-1332	13"	17"	3"	18	5½	3.04	3.34
BC-973*	CP-1333	10"	17"	4"	18	6½	2.56	2.84
BC-974*	CP-1334	13"	17"	4"	18	7½	3.50	3.82
BC-975	CP-1335	10"	17"	5"	18	7½	4.00	4.40
BC-976	CP-1336	13"	17"	5"	18	8	4.40	4.82

ALUMINUM CHASSIS



DESCRIPTION:

A. Fabricated of one piece of aluminum.
B. All corners are electronically spotwelded.
C. Flanges on bottom formed and punched to allow bottom plate to be attached, if desired.
D. Etched aluminum finish.
E. Gauges indicated are aluminum gauges.

Cat. No.	Depth	Width	Ht.	Gauge	Approx. Shipping Wt. - Lbs.	Dealer Cost
CA-2001	4"	6"	3"	18	½	$1.17
CA-2002	4"	6"	2"	18	½	1.10
CA-2003	4"	17"	3"	16	1¼	2.33
CA-2004	5"	7"	2"	18	½	1.10
CA-2005	5"	7"	3"	16	¾	1.25
CA-2006	5"	9½"	2"	18	½	1.15
CA-2007	5"	9½"	3"	18	¾	1.47
CA-2008	5"	10"	3"	18	¾	1.63
CA-2009	5"	13"	3"	18	¾	1.65
CA-2010	6"	17"	3"	16	1¼	2.56
CA-2011	7"	7"	2"	18	½	1.22
CA-2012	7"	9"	2"	18	½	1.46
CA-2013	7"	11"	2"	18	¾	1.58
CA-2014	7"	12"	3"	18	1	1.75
CA-2015	7"	13"	2"	18	¾	1.67
CA-2016	7"	15"	3"	16	1½	2.34
CA-2017	7"	17"	3"	16	1¾	2.75
CA-2018	8"	12"	3"	16	1½	2.09
CA-2019	8"	17"	2"	16	1½	2.34
CA-2020	8"	17"	3"	16	1¾	2.56
CA-2021	10"	12"	3"	16	1½	2.42
CA-2022	10"	14"	3"	16	1¾	2.84
CA-2023	10"	17"	2"	16	1¼	2.68
CA-2024	10"	17"	3"	16	2	3.00
CA-2025	11"	17"	2"	14	2¼	3.31
CA-2026	11"	17"	3"	14	2¾	3.97
CA-2027	12"	17"	3"	14	2¾	4.08
CA-2028	13"	17"	2"	14	2½	3.34
CA-2029	13"	17"	3"	14	2¾	4.15
CA-2030	10"	17"	4"	14	3½	4.34
CA-2031	13"	17"	4"	14	3¾	4.59

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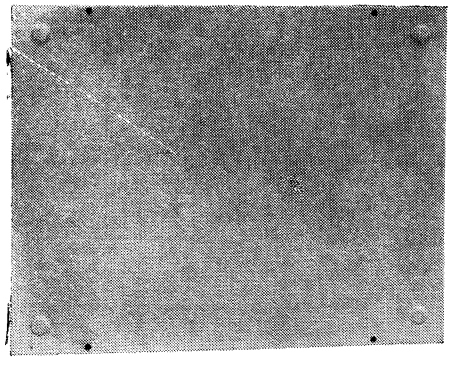
CHASSIS BOTTOM PLATES

STEEL AND ALUMINUM

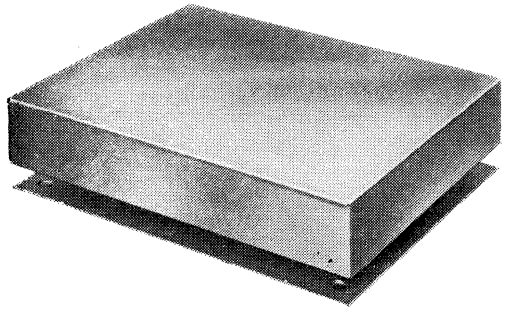
DESCRIPTION:

A. Protects component parts and wiring from dust.
B. Four embossed feet protect table top or other surfaces from being marred.
C. Catalog numbers R6000 to R6022 are Black Wrinkle steel.
D. Catalog numbers R6023 to R6045 are Zinc plated steel.
E. Catalog numbers R6046 to R6055 are Aluminum etched finish.



Black Wrinkle Cat No.	Zinc Plated Cat. No.	Aluminum Etched Cat. No.	W.	L.	Steel Ship. Wt.	Alum. Ship. Wt.	Dealer Cost Blk.	Zinc	Alum.
R-6000	R-6023	R-6046	5"	7"	1/2	1/8	$.50	$.59	$.74
R-6001	R-6024	R-6047	5"	9 1/2"	3/4	1/4	.56	.68	.75
R-6002	R-6025	R-6048	5"	10"	3/4	1/4	.53	.67	.75
R-6003	R-6026	R-6049	7"	7"	1	1/3	.70	.80	.77
R-6004	R-6027	R-6050	7"	9"	1	1/3	.76	.80	.80
R-6005	R-6028	R-6051	7"	11"	1	1/3	.84	.83	.90
R-6006	R-6029	R-6052	7"	12"	1 1/4	1/2	.71	.88	.97
R-6007	R-6030	R-6053	7"	13"	1 1/4	1/2	.92	1.08	1.14
R-6008	R-6031		5"	13 1/2"	1		.76	1.00	—
R-6009	R-6032		7"	15"	1 1/4		.80	1.04	—
R-6010	R-6033		8 1/2"	15"	1 1/2		.84	1.10	—
R-6011	R-6034		4"	17"	1 1/2		.63	.69	—
R-6012	R-6035		6"	17"	1 1/2		.90	1.15	—
R-6013	R-6036		8"	10"	1 1/4		.92	1.00	—
R-6014	R-6037		8"	12"	1 1/2		1.06	1.17	—
R-6015	R-6038		8"	17"	1 3/4		.95	1.32	—
R-6016	R-6039		10"	12"	1 1/2		.95	1.35	—
R-6017	R-6040		10"	14"	1 1/2		.97	1.07	—
R-6018	R-6041	R-6054	10"	17"	1 3/4	3/4	1.17	1.37	1.52
R-6019	R-6042		11"	17"	1 1/2		1.17	1.40	—
R-6020	R-6043		12"	17"	2		1.27	1.43	—
R-6021	R-6044	R-6055	13"	17"	2 1/2	3/4	1.47	1.67	2.07
R-6022	R-6045		10"	23"	2 1/4		1.67	1.78	—

HEAVY DUTY CHASSIS

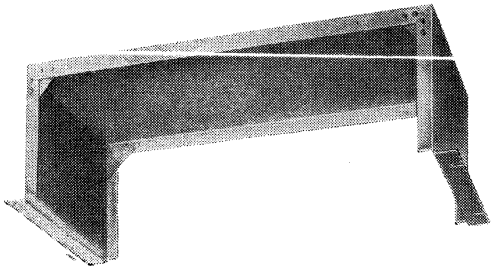


DESCRIPTION:

A. Made of 16 gauge cold rolled steel.
B. Bottom plate included at no additional charge.
C. Available in Black Wrinkle finish or Electro Zinc Plate.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Approx. Shipping Wt. - Lbs.	Dealer Cost Black Wrinkle	Zinc Plated
C-620	C-627	8"	17"	2"	6	$3.20	$3.50
C-621	C-628	8"	17"	3"	7 1/2	3.48	3.83
C-622	C-629	11"	17"	2"	8 1/2	3.64	3.99
C-623	C-630	11"	17"	3"	9	4.04	4.43
C-624	C-631	13"	17"	2"	9 1/2	4.33	4.77
C-625	C-632	13"	17"	3"	10	4.75	5.23
C-626	C-633	13"	17"	4"	11	5.08	5.60

PANEL CHASSIS



DESCRIPTION:

A. Fabricated of .062 aluminum.
B. Etched finish.
C. Flange notched for mounting to rack mounting angles.

Catalog No.	Width	Height	Depth	Approx. Shipping Wt. - Lbs.	Dealer Cost
PC-505	19"	1 3/4"	5-9/32"	3/4	$2.03
PC-506	19"	3 1/2"	5-9/32"	1 1/4	2.35
PC-507	19"	5 1/4"	5-9/32"	1 1/2	2.62
PC-508	19"	7"	5-9/32"	2	3.00
PC-509	19"	8 3/4"	5-9/32"	2 1/4	3.41
PC-510	19"	10 1/2"	5-9/32"	2 3/4	3.84
PC-511	19"	12 1/4"	5-9/32"	3	4.01
PC-512	19"	14"	5-9/32"	3 1/4	4.53

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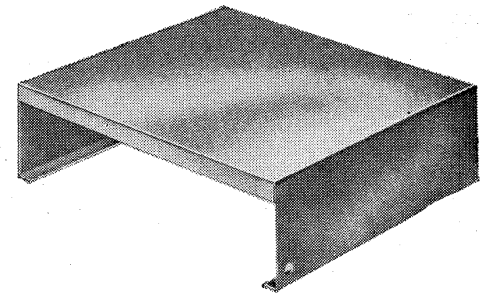
WYCO METAL PRODUCTS

CHASSIS

OPEN END CHASSIS

DESCRIPTION:

A. Can be utilized on all types of small built-up units such as record amplifier, code oscillator, etc.
B. Electro-Zinc plated.

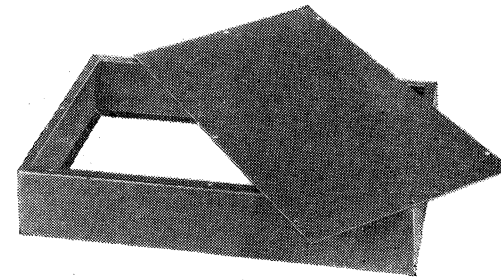


Catalog Number	Depth	Width	Height	Approx. Shipping Wt. - Lbs.	Dealer Cost
E-570	7"	6"	2"	1	$ .77
E-571	5"	7"	1 1/2"	3/4	.74
E-572	7"	7"	1 1/2"	3/4	.99
E-573	7"	8"	2"	1	1.04
E-574	5 1/2"	9"	1 1/2"	3/4	.84
E-575	7 1/2"	9"	1 1/2"	1	1.05
E-576	7"	10"	2"	1 1/4	1.07
E-577	7"	11"	1 1/2"	1 1/4	1.17
E-578	7"	13"	1 1/2"	1 1/2	1.28
E-579	10 3/4"	14"	2"	2 1/2	1.65
E-580	7 3/4"	15"	2"	2	1.58

REMOVABLE TOP CHASSIS

DESCRIPTION:

A. When it is desired to discard a chassis top that has been drilled, this unit can be used.
B. Supplied in Black Wrinkle or Electro-Zinc plate.



Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Width	Depth	Height	Approx. Shipping Wt. - Lbs.	Dealer Cost Black Wrinkle	Dealer Cost Zinc Plated
R-600	R-604	10"	17"	3"	4 3/4	$3.64	$3.97
R-601	R-605	10"	17"	4"	6	4.03	4.41
R-602	R-606	13"	17"	3"	6	3.81	4.19
R-603	R-607	13"	17"	4"	6 1/2	4.69	5.15

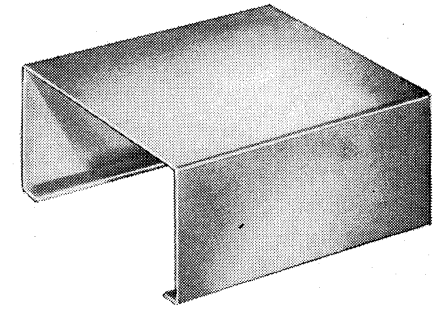
REPLACEMENT CHASSIS TOPS

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Approx. Shipping Wt. - Lbs.	Dealer Cost Black Wrinkle	Dealer Cost Zinc Plated
R-610	R-612	10"	17"	1/16"	2	$1.40	$1.52
R-611	R-613	13"	17"	1/16"	2 1/4	1.71	1.88

MINIATURE ALUMINUM CHASSIS

DESCRIPTION:

A. Ideal for miniature tube applications, sub-assemblies, small receivers, narrow band FM adapters.
B. Has 1/4" flanges on bottom.
C. Etched aluminum finish.



Catalog No.	Depth	Width	Height	Approx. Shipping Wt. - Lbs	Dealer Cost
MA-700	2 5/8"	2 3/4"	1 1/4"	1/4	$.35
MA-701	1 3/4"	3 1/8"	1"	1/4	.38
MA-702	3 1/4"	4 1/2"	2"	1/4	.41
MA-703	2 3/4"	4 1/8"	1"	1/4	.41
MA-704	3 3/4"	4 1/8"	1 1/2"	1/4	.41
MA-705	3"	6 1/8"	1 1/4"	1/4	.50
MA-706	5 3/4"	4 7/8"	1 1/2"	1/4	.54
MA-707	4"	3 1/8"	1"	1/2	.41
MA-708	4"	4 1/8"	1"	1/2	.45
MA-709	4"	5 1/8"	1"	1/2	.50
MA-710	4"	6 1/8"	1"	1/2	.54

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WYCO METAL PRODUCTS

RACK and METER PANELS

STANDARD RELAY RACK PANELS

DESCRIPTION:

A. 1/8" STEEL or ALUMINUM.
B. 19" wide.
C. Western Electric notching.
D. Available in black or grey wrinkle and silver grey hammertone.
E. NOTE: Aluminum panels 3/16" thick are available at a 60% increase in cost.

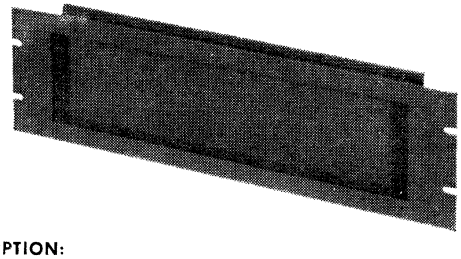
STEEL

Cat. No.	Height	Wt. Lbs.	Dealer Cost	Cat. No.	Height	Wt. Lbs.	Dealer Cost
SP-210	1 3/4"	1 1/4	$ .76	SP-216	12 1/4"	8 1/4	2.13
SP-211	3 1/2"	2 1/4	.86	SP-217	14"	9 1/2	2.50
SP-212	5 1/4"	3 1/4	1.13	SP-218	15 3/4"	10 3/4	2.76
SP-213	7"	4 1/2	1.27	SP-219	17 1/2"	11 3/4	3.10
SP-214	8 3/4"	6	1.50	SP-220	19 1/4"	13	3.46
SP-215	10 1/2"	7	1.80	SP-221	21"	14 1/4	3.81

ALUMINUM

Cat. No.	Height	Wt. Lbs.	Dealer Cost	No. Cat.	Height	Wt. Lbs.	Dealer Cost
AP-320	1 3/4"	1/4	$ .99	AP-326	12 1/4"	2 3/4	$3.75
AP-321	3 1/2"	3/4	1.30	AP-327	14"	3	4.20
AP-322	5 1/4"	1	1.67	AP-328	15 3/4"	3 1/2	4.66
AP-323	7"	1 3/4	2.16	AP-329	17 1/2"	4	5.16
AP-324	8 3/4"	2	2.58	AP-330	19 1/4"	4 1/4	5.66
AP-325	10 1/2"	2 1/2	3.20	AP-331	21"	5	6.10

ENCLOSED METER PANEL

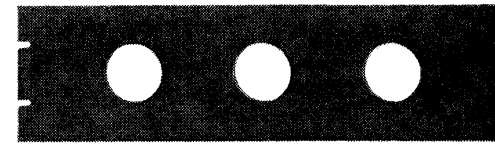


DESCRIPTION:

A. 5 1/4" x 19" steel panel has large cutout.
B. Blank masonite sub-panel is mounted behind steel panel.
C. Sub-panel has meter mounting area of 4 1/8" x 15 1/8".
D. Sub-panel sufficient to mount four 3" meters.
E. Meters protected by glass insert that mounts in slides (glass not supplied).
F. Glass insert should be cut 16" x 4 5/8".
G. Available in black or grey wrinkle and silver grey hammertone.

CAT NO. — RM500 WEIGHT — 3 LBS.
DEALER COST: $6.14

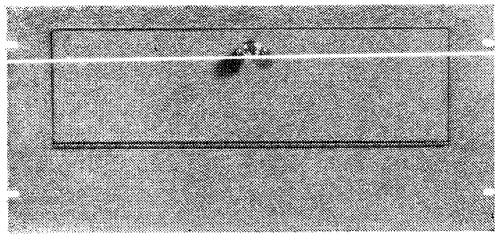
METER PANELS



DESCRIPTION:

A. 5 1/4" x 19" steel panel 1/8" thick.
B. Small hole will fit 2" meter.
C. Large hole will fit 3" meter.
D. Available in black or grey wrinkle and silver grey hammertone.

Cat. No.	No. Holes	Dia. Holes	Wt. Lbs.	Dealer Cost
PM-120	3	2 1/4"	2 3/4	$1.54
PM-121	5	2 1/4"	2 3/4	2.15
PM-122	3	2-13/16"	2 1/2	1.54
PM-123	5	2-13/16"	2 1/2	2.15



METAL DOOR RACK PANELS

DESCRIPTION:

A. Used when accessability to component parts on chassis is necessary.
B. Made of 1/8" steel.
C. Available in black or grey wrinkle and silver grey hammertone.
D. 19" wide.

Cat. No.	Height	Door Opening	Wt. Lbs.	Dealer Cost
RP-310	10 1/2"	15 3/8" x 6"	7 1/4	$5.25
RP-311	12 1/4"	15 3/8" x 7 1/2"	8 1/4	5.75

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WYCO METAL PRODUCTS SLOPING PANEL SUPPORT

DESCRIPTION:

In answer to many requests from engineers within the industry, WYCO METAL PRODUCTS presents the all-new SLOPING PANEL SUPPORT. As indicated in figures "A", "B" and "C", the SLOPING PANEL SUPPORT allows for mounting of the standard 19" panel in sloping position. This enables the engineer or equipment user to more easily view the rack mounted instrument panel. From these illustrations, it is easy to see that the SLOPING PANEL SUPPORT offers a variety of positions in which a standard 19" panel may be supported in sloping position. The SLOPING PANEL SUPPORT is fabricated of heavy gauge steel and is finished in Black and Grey Wrinkle or Silver Grey Hammertone.

IMPORTANT! When ordering SLOPING PANEL SUPPORTS FOR CABINET RACKS THAT HAVE FRONT CORNER VERTICAL TRIM, use catalog prefix 'B". In all other cases use catalog prefix "G".

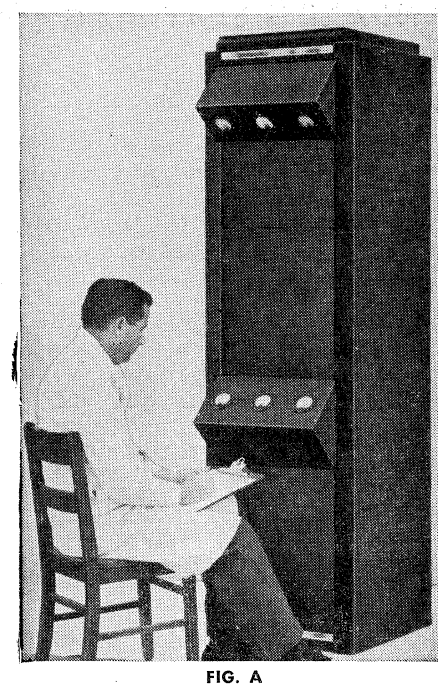

FIG. A

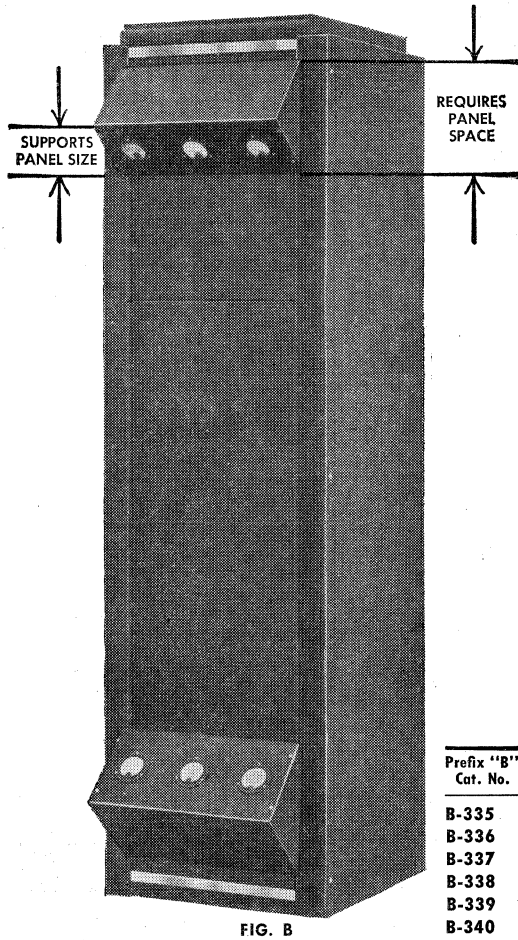

FIG. B

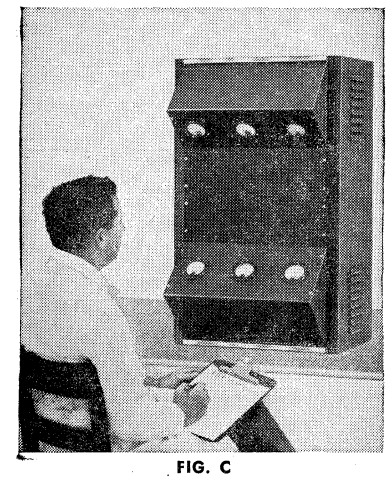

FIG. C

Prefix "B" Cat. No.	Prefix "G" Cat. No.	Supports Panel Size	Requires Panel Space	Prefix "B" Ship. Wt.	Prefix "G" Ship. Wt.	Dealer Cost "B"	Dealer Cost "G"
B-335	G-350	5¼" x 19"	7"	4	2	$5.85	$3.24
B-336	G-351	7" x 19"	10½"	6	4	6.81	3.78
B-337	G-352	8¾" x 19"	12¼"	6½	4½	7.29	4.20
B-338	G-353	10½" x 19"	15¾"	9	6½	8.49	5.31
B-339	G-354	12¼" x 19"	17½"	10	7	9.30	6.12
B-340	G-355	14" x 19"	21"	12	9	10.38	7.17

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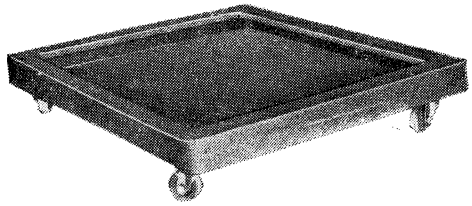
WYCO METAL PRODUCTS

ROLLER TRUCKS — DESK PANELS CHASSIS MOUNTING BRACKETS

ROLLER TRUCKS

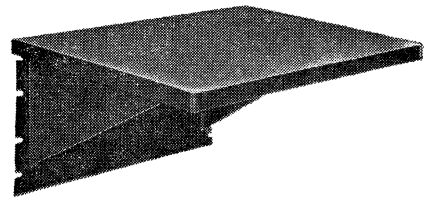


SPECIFICATIONS:

A. Roller Truck constructed from heavy gauge high-quality steel.
B. Casters have 2" rubber wheels and are ball-bearing swivel type.
C. Finished in black or grey wrinkle.

Catalog No.	Constr. for Rack Series	Description of Rack	Inside Clearance	Approx. Ship. Weight	Dealer Cost
T 18	SL	Page J-125	21½x18½	16 lbs.	$12.00
	S	Page J-125			
	B	Page J-126			
T 19	D (18½" Deep)	Page J-123	23⅞x18¾	18 lbs.	12.75
	W	Page J-126			
T 24	D (24" Deep)	Page J-123	23⅞x24¼	22 lbs.	13.80

DESK PANELS

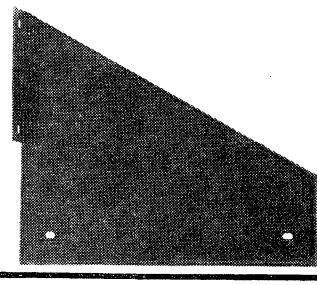


SPECIFICATIONS:

A. Table is constructed of heavy gauge high-quality steel and measures 21" x 16".
B. Panel, constructed of ⅛" steel, is 10½" x 19".
C. Front corners of table are rounded.
D. SHIPPED "KNOCKED-DOWN"; all necessary bolts supplied for easy assembly.
E. Finished in black or grey enamel and silver grey hammertone.

Catalog Number	Width	Depth	Approx. Shipping Weight	Dealer Cost
DP 16	21"	16"	14 lbs.	$13.50

CHASSIS MOUNTING BRACKETS

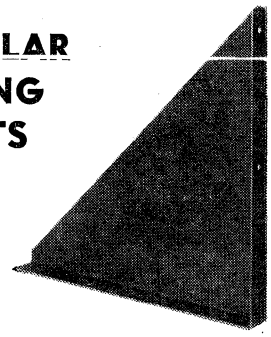


DESCRIPTION:

A. Used to insure proper support of chassis.
B. Made of heavy gauge steel.
C. Cut away at bottom to provide clearance so that chassis can mount flush against panel.
D. Finished in black enamel only.
E. Cat. # CB-565 and CB-566 designed for 4" chassis height.
F. Sold in pairs only.

Cat. No.	H.	D.	Wt. Lbs.	Dealer Cost	Cat. No.	H.	D.	Wt. Lbs.	Dealer Cost
CB-560	6½"	8"	1¼	$ .90 pr.	CB-564	6½"	13"	2½	$1.42
CB-561	6½"	10"	1¾	1.16 pr.	CB-565	8½"	10"	2¼	1.68
CB-562	6½"	11"	2	1.26 pr.	CB-566	8½"	13"	3	1.79
CB-563	6½"	12"	2	1.53 pr.					

TRIANGULAR MOUNTING BRACKETS



DESCRIPTION:

A. When large weights are involved in panel and chassis assemblies, triangular mounting brackets are used as supports.
B. Fabricated of heavy gauge steel; finished in Black enamel only.
C. Sold only in pairs.

Catalog No.	Size	Approx. Shipping Wt. - Lbs.	Dealer Cost
TB-410	5" x 5"	1	$ .85 pr.
TB-411	7" x 7"	1	.97 pr.
TB-412	9" x 9"	1½	1.15 pr.

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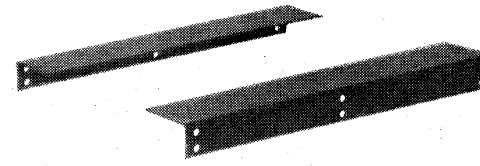
WYCO METAL PRODUCTS — Supporting Angles—Amplifier Foundations Sloping Front Cabinets — Rack Shelves

CHASSIS SUPPORTING ANGLES

DESCRIPTION:

A. Used when heavy weights are encountered in chassis construction.
B. Distributes weight on sides of rack to relieve panel.
C. Made of ⅛" steel.
D. Finished in black enamel only.
E. Sold in pairs only.

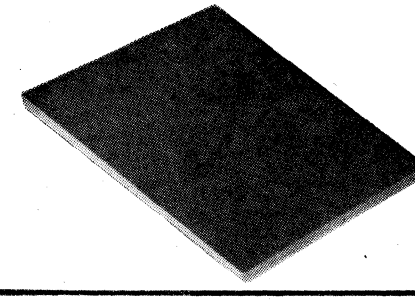


Cat. No.	Length	Wt. Lbs.	Dealer Cost
A143	14½"	4	$1.92 pr.
A144	12"	3	1.83 pr.

RACK SHELVES

DESCRIPTION:

A. Used to mount heavy power supplies, modulator units, etc.
B. Supported by chassis supporting angles which are described on this page.
C. Made of heavy gauge steel.
D. Finished in black enamel only.

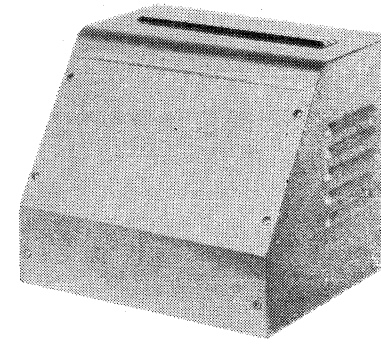


Cat. No.	Size	Wt. Lbs.	Dealer Cost
S195	19" x 15"	6½	$3.10
S196	19" x 12"	5½	2.35

SLOPING FRONT CABINET

DESCRIPTION:

A. Top corner rounded.
B. Attractive high-polish moulding at top.
C. Front panel is removable.
D. Chassis may be mounted to front panel and removed as unit.
E. Louvres at both sides; vented at rear.
F. Available in silver grey hammertone only.



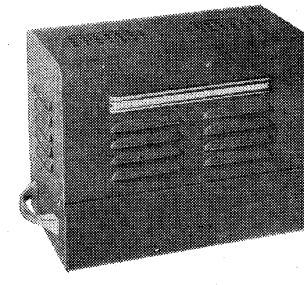
Cat. No.	Height	Width	Depth	Dealer Cost
K810	8"	8"	8"	$4.88
K811	8"	10"	8"	5.75
K812	8"	14"	8"	7.00
K813	12"	18"	12"	9.41

NOTE: If desired, an attractive handle can be used with above "K" series cabinet. Holes to mount moulding are spaced for handle, also. Catalog # for handle is HK70. Dealer Cost: $.84

STREAMLINED AMPLIFIER FOUNDATIONS

DESCRIPTION:

A. Consists of standard chassis and streamlined removable top cover.
B. Includes attractive stainless steel trim and handles.
C. Available in Black or Grey Wrinkle.



Catalog No.	Width	Depth	Approx. Shipping Wt. - Lbs.	Dealer Cost
SA-670	10-1/16"	5"	4¾	$5.25
SA-671	12-1/16"	7"	5	6.25
SA-672	17-1/16"	7"	8	6.50
SA-673	17-1/16"	10"	9	8.00

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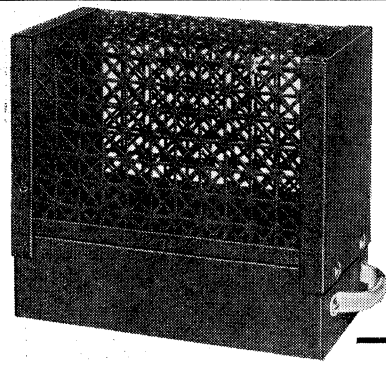
WYCO
METAL PRODUCTS

AMPLIFIER FOUNDATIONS
UTILITY CABINETS

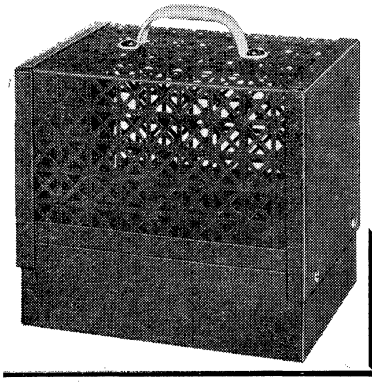


AMPLIFIER FOUNDATIONS

DESCRIPTION:

A. Consists of standard chassis and perforated metal cover.
B. Includes handles.
C. Available in Black Wrinkle only.

Cat. No.	Height	Width	Depth	Height Chassis	Approx. Shipping Wt. - Lbs.	Dealer Cost
AF-680	8-5/16"	9⅝"	5⅛"	2½"	3	$4.19
AF-681	8-5/16"	13⅝"	5⅛"	2½"	4¾	4.90
AF-682	8-5/16"	17⅛"	7⅛"	2½"	6	6.00
AF-683	8-13/16"	17⅛"	10⅛"	3"	8	8.94
AF-684	8-13/16"	12⅛"	10⅛"	3"	7	6.66

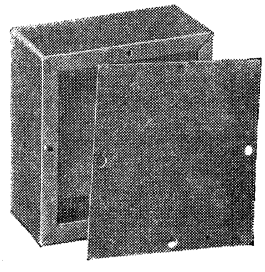


MINIATURE AMPLIFIER FOUNDATION

DESCRIPTION:

A. Chassis size 5" x 7" x 2".
B. Perforated metal cover.
C. Includes handle.
D. Black Wrinkle finish only.

Catalog No.	Approx. Shipping Weight - Lbs.	Dealer Cost
MA-1000	2	$4.00

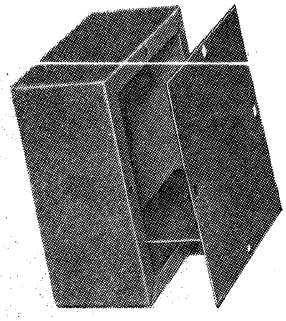


METAL UTILITY CABINETS

DESCRIPTION:

A. Cabinet has two removable covers.
B. Prefix MU designates steel finished in Black Wrinkle.
C. Prefix LU designates aluminum in an etched finish.
D. Used for amplifiers, monitors, input stages, meters, tranceivers, etc.

Steel Cat. No.	Alum. Cat. No.	Depth	Width	Ht.	Steel Approx. Ship. Wt. Lbs.	Alum. Approx. Ship. Wt. Lbs.	Dealer Cost Steel	Dealer Cost Alum.
MU-750	LU-760	2"	4"	4"	¾	¼	$1.00	$1.29
MU-751	LU-761	3"	5"	4"	1	¼	1.10	1.37
MU-752	LU-762	4"	5"	6"	1¼	½	1.38	1.67
MU-753	LU-763	6"	6"	6"	2½	¾	1.52	1.85
MU-754	LU-764	5"	6"	9"	3	1	1.96	2.35
MU-755	—	7"	8"	10"	5		2.66	—
MU-756	—	6"	7"	12"	4		2.66	—
MU-757	—	8"	10"	10"	5½		3.24	—
MU-758	—	8"	11"	12"	6		4.13	—
MU-759	—	7"	9"	15"	7½		4.31	—



MINIATURE UTILITY CABINETS

DESCRIPTION:

A. Front and rear panels are removable.
B. Chassis attached to front panel.
C. Fabricated in steel; Black Wrinkle only.

Cat. No.	Ht.	Width	Depth	Chassis Size	Approx. Shipping Wt. - Lbs.	Dealer Cost
A-780	4"	4"	2"	1" x3⅛"x1⅞"	¾	$1.15
A-781	4"	5"	3"	1" x4⅛"x2⅞"	1	1.27
A-782	5"	4"	3"	1¼"x3⅛"x2⅞"	1	1.27
A-783	6"	5"	4"	1¾"x4⅛"x3⅞"	1¾	1.58
A-784	5"	6"	4"	1¼"x5⅛"x3⅞"	1¾	1.58
A-785	6"	6"	6"	1¾"x4⅞"x5⅞"	2¾	1.67

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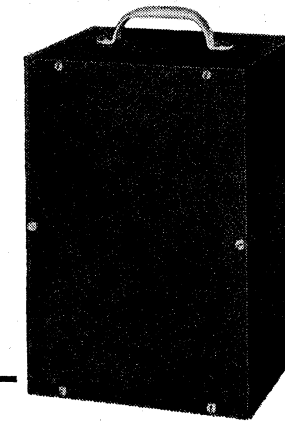
WYCO METAL PRODUCTS

BOXES and CASES

CARRYING CASE



DESCRIPTION:

A. Front and rear panels are removable.
B. Includes handle.
C. Prefix "D" designates steel Black Wrinkle finish.
D. Prefix "DA" designates aluminum etched finish.

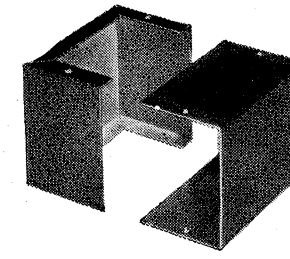
Steel Cat. No.	Alum. Cat. No.	Depth	Width	Height	Steel Approx. Ship. Wt.	Alum. Approx. Ship. Wt.	Dealer Cost Steel	Alum.
D-850	DA-857	5"	6"	9"	3¼	1⅛	$2.66	$3.17
D-851	DA-858	5"	9"	6"	3¼	1⅛	2.66	3.17
D-852	DA-859	6"	7"	12"	4	1⅓	3.75	3.65
D-853	DA-860	6"	12"	7"	4	1⅓	3.75	3.65
D-854	—	7"	7¾"	15"	5		4.17	—
D-855	—	8"	10"	10"	5		4.00	—
D-856	—	7"	15"	9"	5		5.25	—

MINITBOXES

DESCRIPTION:

A. Fabricated of aluminum.
B. Design assures necessary shielding.
C. Available in etched finish or Silver Grey Hammertone.

Silver Grey Cat. No.	Etched Cat. No.	Length	Width	Height	Approx. Shipping Wt. - Lbs.	Dealer Cost Grey	Etched
E-900	E-918	2¾"	2⅛"	1⅝"	¼	$ .80	$ .60
E-901	E-919	3¼"	2⅛"	1⅝"	¼	.83	.60
E-902	E-920	4"	2⅛"	1⅝"	¼	.86	.63
E-903	E-921	4"	2¼"	2¼"	¼	.98	.82
E-904	E-922	5"	2¼"	2¼"	¼	1.04	.88
E-905	E-923	5"	4"	3"	½	1.27	.97
E-906	E-924	5¼"	3"	2⅛"	¼	1.12	.95
E-907	E-925	6"	5"	4"	¾	1.75	1.20
E-908	E-926	7"	5"	3"	¾	1.85	1.32
E-909	E-927	8"	6"	3½"	1	3.23	1.98
E-910	E-928	10"	6"	3½"	1¼	2.74	2.17
E-911	E-929	12"	7"	4"	1¾	2.23	2.77
E-912	E-930	17"	5"	4"	2¼	3.80	3.21
E-913	E-931	10"	2"	1⅝"	½	1.32	1.25
E-914	E-932	12"	2½"	2¼"	¾	1.52	1.22
E-915	E-933	4"	2"	2¾"	¼	1.05	.82
E-916	E-934	4¼"	2¼"	1½"	¼	1.09	.85
E-917	E-935	3¼"	2⅛"	1⅛"	¼	.92	.65



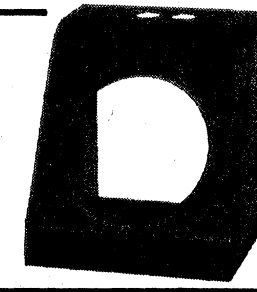
EASY BOXES

DESCRIPTION:

A. Design allows a number of small components to be easily wired or serviced.
B. Fabricated of 22 gauge steel.
C. Black wrinkle finish only.

Catalog No.	Height	Width	Depth	Approx. Shipping Wt. - Lbs.	Dealer Cost
H-105	2¼"	4¼"	1½"	½	$ .95
H-106	2"	4"	2¾"	½	1.05

METER CASES



DESCRIPTION:

A. Sloping front with top corner rounded.
B. Prefix "MC" designates steel Black Wrinkle finish.
C. Prefix "AC" designates aluminum etched finish.

Catalog No.	Hole Diameter	Approx. Ship. Wt. - Lbs.	Dealer Cost
MC-73	2-1/4"	1	$1.00
MC-74	2-13/16"	1	1.00
AC-86	2-1/4"	⅓	1.22
AC-87	2-13/16"	⅓	1.22

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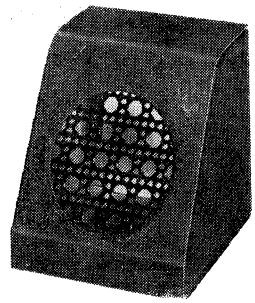
WYCO METAL PRODUCTS CASES and SHIELDS

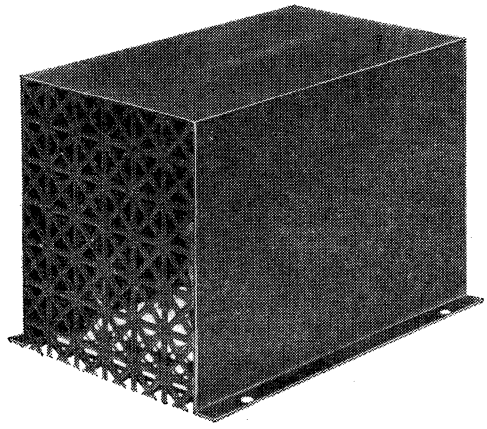


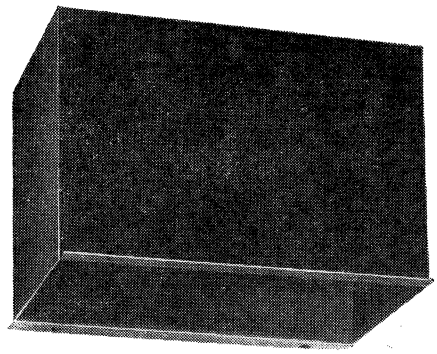
MINIATURE SPEAKER CASE

DESCRIPTION:

A. Houses midget 2" or 3" speakers.
B. Black Wrinkle finish only.

Catalog Number	Hole Diameter	Fits Speaker Size	Approx. Ship. Wt. Lbs.	Dealer Cost
MS-80	2-1/4"	2"	¾	$1.50
MS-81	2-13/16"	3"	¾	1.50





BOX SHIELDS

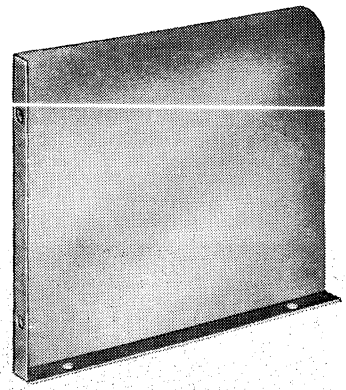
DESCRIPTION:

A. Used in shielding power transformers, chokes and protects various components in power supplies, transmitters, receivers and other electronic units.

B. Catalog #R-50 has perforated steel ends for ventilation.

C. Catalog #R-51 has solid ends.

Catalog Number	Ends	Size	Approx. Ship. Wt. Lbs.	Dealer Cost
R-50	Ventilated	7½"x5"x4½"	1	$2.60
R-51	Solid	7½"x5"x4½"	1½	1.80



INTERSTAGE SHIELDS

DESCRIPTION:

A. Used to eliminate interstage coupling and isolating individual circuits.
B. Flanges have holes so that shield can be attached to panel or chassis.

Catalog Number	Height	Depth	Approx. Ship. Wt. Lbs.	Dealer Cost
S-300	5½"	7"	½	$ .80
S-301	5½"	10"	¾	.85
S-302	6½"	10"	1	.90

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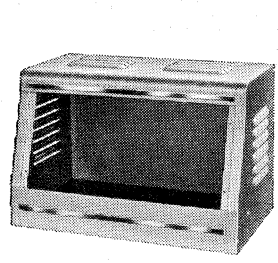
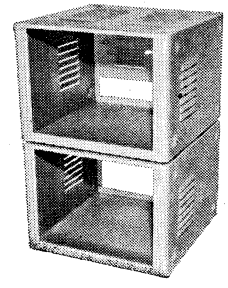
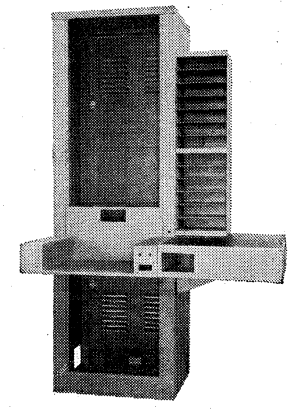
Wyco for Profitable Production

Contract Manufacturing Facilities

METAL ENCLOSURES • CHASSIS • PANELS



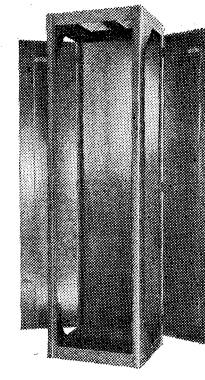


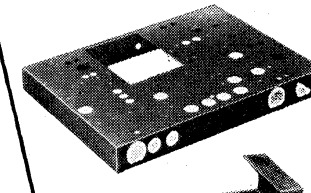


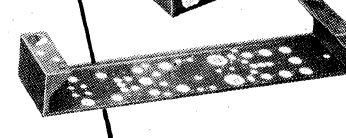
Experience and facilities acquired in manufacturing a standard line of metal cabinets for electronic equipment and contract work can serve you to advantage. The typical products shown represent a wide range of practical experience in the manufacturing of specially designed cabinets, chassis and panels.

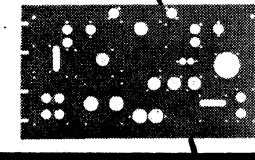
In every category, from top management down, Wyco's work force is trained in low cost manufacturing. A capable design staff will work with your engineers in product development and also works continually on product and process improvement for lower costs.

Plant facilities—the Wyco plant, 25,000 square feet of manufacturing space is located in the center of Southern California's industrial area. Situated as it is in the West Coast's industrial heart, the plant is within 500 miles of a score of manufacturing centers, permitting overnight delivery.









Manufacturing "Know-How" Assures High Quality Products

Quite often it is possible to modify one of our standard units. This can eliminate the necessity of special dies, consequently reducing costs. A high degree of quality is guaranteed, due to our excellent facilities, expert workmanship, years of experience and manufacturing "know-how". Our staff is always at your service for consultation and advice.

Specialists in Quantity Contract Manufacturing

For a quotation, send details and prints of your parts. Wyco metal products will gladly discuss PERSONALLY your metal fabricating problems.

Wyco Metal Products

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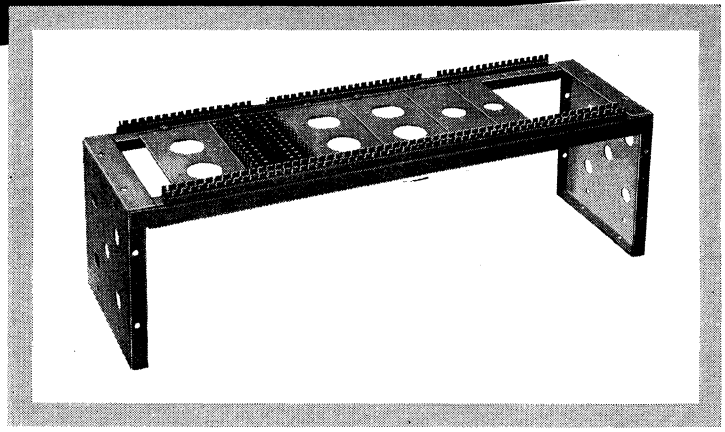
SPEED-CHASSIS

SPECIFIC | PRODUCTS



CHASSIS:

Chassis only 5" wide, 5¼" deep, 16⅞" long; 20 ga. steel heavily cad. plated: 4 insulated tie-point strips, 1 grounded. Ea.	C-100	$ 6.00
Chassis Kit plus assortment of plates. Ea. Kit	CK-200	9.95
Chassis Super-Kit: One chassis kit CK-200 plus rack panel and dust cover. Ea. Kit	CK-300	18.95

INDIVIDUAL PLATES FOR:

Single, 7-pin miniature, 1⅛" wide, ea.	P-17S	$ .20
Double, 7-pin miniature, 1⅛" wide, ea.	P-17D	.25
Single, 7-pin Vector turret lug, 1⅛" wide, ea.	P-17ST	.35
Double, 7-pin Vector turret lug, 1⅝" wide, ea.	P-17DT	.40
Triple, 7-pin Vector turret lug, 1⅝" wide, ea.	P-17TT	.45
Single, 9-pin miniature, 1⅝" wide, ea.	P-19S	.23
Double, 9-pin miniature, 1⅝" wide, ea.	P-19D	.28
Single, 9-pin Vector turret lug, 1⅝" wide, ea.	P-19ST	.35
Double, 9-pin Vector turret lug, 1⅝" wide, ea.	P-19DT	.40
Triple, 9-pin Vector turret lug, 1⅝" wide, ea.	P-19TT	.45
Single, octal, 1½" centers, 2⅛" wide, ea.	P-28AS	.26
Dual of preceding item, ea.	P-28AD	.31
Single, octal, 1 5/16" centers, 2⅛" wide, ea.	P-28BS	.26
Dual of preceding item, ea.	P-28BD	.31
Volume control, ea.	P-11V	.35
Universal transformer (2 req'd), 1⅛" wide, pr.	P-11T	.35
Blank, 1⅛" wide, ea.	P-11B	.15
Blank, 1⅝" wide, ea.	P-21B	.18
Blank, 2⅛" wide, ea.	P-31B	.21
(All plates heavily cad. plated 20 ga. steel)		
11 forklet lugs, ea. side, bakelite, 2⅛" wide, ea.	BP-31LA	.95

PANELS:

5¼" x 19", .024 steel with formed edges, drilled to match tapped holes in rack brackets, gray prime coat finish, ea.	PA-150	$ 1.50

RACK BRACKETS:

For mounting chassis in st'd rack (2 req'd), pr.	RB-200	1.00
Same as above except for mounting two chassis together. Pr.	RB-400	1.50

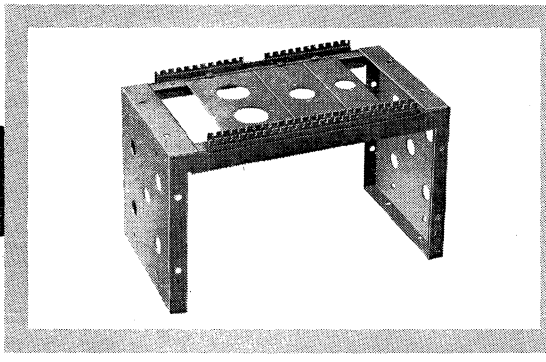
DUST COVERS:

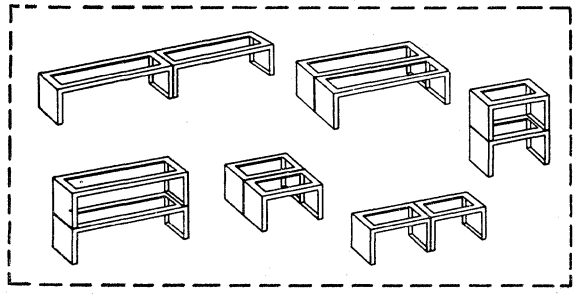
Gray hammertone finish, with suitable bracket for mounting over chassis, ea.	DC-10	5.00

POWER SUPPLIES:

Power supply, D.C., adjustable from 75 v. to 275 v. @ 50 ma., adequately filtered; mounting plate to fit C-100 chassis, 4" wide; power supply; filter 6.3 3A, ea.	APS-275A	29.95

half-size SPEED-CHASSIS





CHASSIS: Chassis only, 5" wide, 5¼" deep, 8 7/16" long; 20 ga. cad. pl. steel, 4 insulated tie-point strips, 1 grounded, ea. C-50 6.00

Chassis Kit plus assortment of plates. Ea. Kit. . . . CK-75 9.95

Prices and designations for individual plates, panels, rack brackets, dust covers and power supplies are the same as shown for the full-size Speed-Chassis.

Stacking and placing arrangements are extremely varied; either unit or units in combination may be placed side-to-side, end-to-end, or one on top another on bench or on panel to serve practically every need. Mounting holes for these arrangements are already punched. Both Chassis are preassembled; controls may be mounted on either end. A few examples of the many possible arrangements are illustrated.

All prices and specifications subject to change. All prices net F.O.B. Los Angeles

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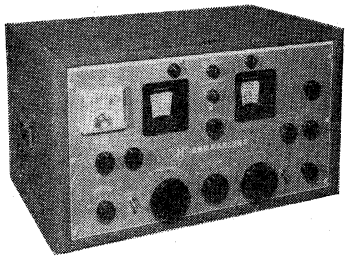
HAMMARLUND

COMMUNICATIONS RECEIVERS

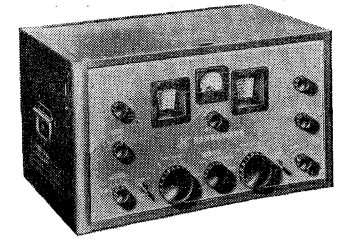


NEW HQ-150 COMMUNICATIONS RECEIVER

A new superheterodyne communications receiver in the medium price class featuring built-in Q-multiplier and a 100 KC crystal calibrator. The HQ-150 covers a continuous range of frequencies from 540 KC to 31 MCS, or from 555 meters to 9.7 meters in six bands. Circuitry and tube line-up are the same as the famous Hammarlund HQ-140-XA.

The HQ-150 has extremely high sensitivity and selectivity, plus outstanding frequency stability and image rejection. New, fully illuminated, expanded scale panel meter is incorporated for easier, more accurate readings.

HQ-140-XA COMMUNICATIONS RECEIVER



An improved version of the famous HQ-140-X. A superheterodyne type receiver that provides all the advantages of modern design and circuitry for the ham and short wave listener. Extremely high degree of sensitivity and selectivity plus improved frequency stability and image ratio. Covers a continuous range of frequencies from 540 KCS to 31 MCS, or from 555 meters to 9.7 meters in six bands.

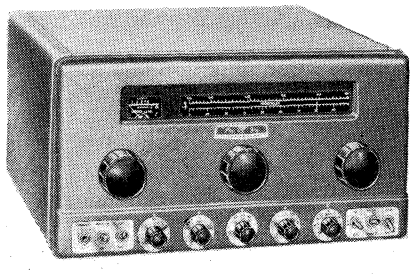
Band spread tuning is supplied on the four higher frequency bands, with actual calibration in the 80, 40, 20, 15, and 10 meter amateur bands. The outstanding noise limiter and special Hammarlund patented crystal filter reduce noise and interference.

FEATURES

Tuning Ranges: 0.54 - 1.32 MCS, 1.32 - 3.2 MCS, 3.2 - 5.7 MCS, 5.7 - 10 MCS, 10 - 18 MCS, and 18 - 31 MCS.

Calibrated Band Spread: 3.5 - 4 MCS, 7 - 7.3 MCS, 14 - 14.4 MCS, 20.9 - 21.6 MCS, and 28 - 30 MCS.

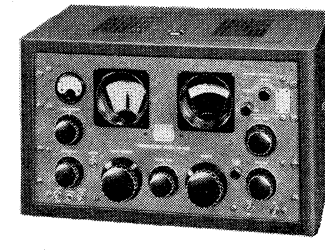
Tube Line-Up: 6C4 Oscillator, 6BA6 RF Amplifier, 6BE6 Mixer, 6BA6 1st IF Amplifier, 6BA6 2nd IF Amplifier, 6BA6 3rd IF Amplifier, 6AL5 Combination Detector and AVC Noise Limiter, 12AU7 1st AF Amplifier and BFO, 6V6GT/G Audio Power Output, OC3/VR105 Voltage Regulator, and 5U4G Full Wave Rectifier.



PRO-310 COMMUNICATIONS RECEIVER

A beautiful receiver in all respects—appealing in looks and listening. The PRO-310 employs modern etched circuits and plated circuits in the RF section. Ideal for either ham or professional user. All frequencies can be read to 0.05%. Bandspread is continuously calibrated over the entire range from 540 KCS to 35.5 MCS. Exalted BFO and sharp selectivity are built in for SSB operation. Modern circuits and components result in exceptional stability. High image rejection is achieved on all six bands. Double conversion is used on the top four bands. A rugged, sectionalized turret is employed for bandswitching. All operating controls are located for easy, quick and accurate operation.

SP-600-JX COMMUNICATIONS RECEIVER



The world-famous Hammarlund SP-600-JX receiver is a professional-type for the ham who wants the very finest. Six bands cover the frequency range from 540 KCS to 54 MCS. The SP-600-JX is a 20-tube, dual conversion superheterodyne. Operation of any of the six crystal-controlled fixed frequency channels within the range of the receiver is immediately available. Perfect as a point-to-point or network receiver: Pre-arranged day and night fixed frequencies. Crystal control permits instantaneous selection of desired channels. Stability is 0.001% to 0.01% depending upon frequency. Image rejection is 80 db to 120 db down, and spurious responses are at least 100 db down. Sensitivity is 1 uv cw and 2 uv am, while selectivity for the three non-crystal ranges is from 200 cps to 13 KCS. Radiation is negligible with no cross-talk in multi-receiver installations.

SEE HAMMARLUND CAPACITORS ON PAGES J-40, 41, 42 and 43

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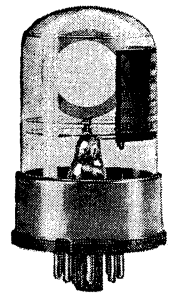
JAMES KNIGHTS COMPANY

PRECISION GLASS ENCLOSED CRYSTALS over a complete range of 800 cycles to 5 mc.

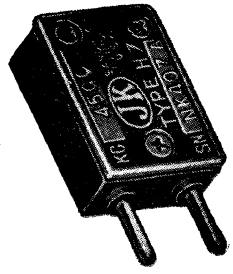


JK G-9

JK G-12A — with a proven stability potential of one part in 100 million at 1000 kc.

MINIATURE PRECISION GLASS ENCLOSED CRYSTALS

Miniaturized Precision "Glasline" Crystals, in a range from 1000 cycles to 150 mc, combining minimum size with maximum stability.

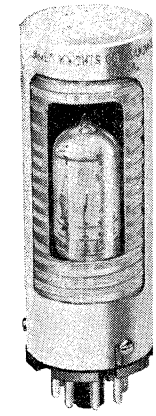


PRESSURE MOUNTED

A complete line of commercial and military types.

JK PRODUCTS

FREQUENCY MANAGEMENT SPECIALISTS

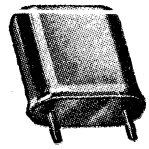


"Thermystal", an advance design frequency control unit that combines plug-in simplicity with extreme precision. Calibration accuracy: ± (1 cycle + .0001%). Temperature stability: 30 to 900 kc ± .0001%, 1000 kc to 150 mc .00005%.

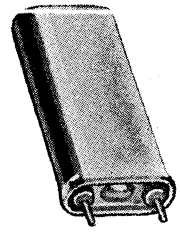
JK THERMYSTAL

MILITARY TYPES

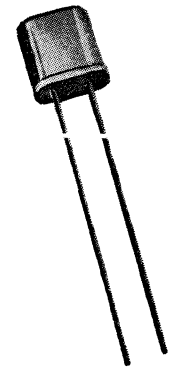
Hermetic sealed, metal cased, in frequency ranges from 16 kc to 100 mc.



JK H-17

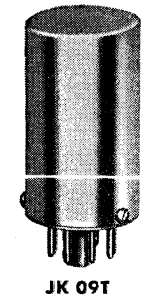


JK H-17T

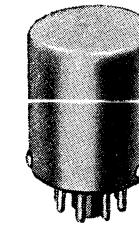


JK H-3

A Wide Range of TEMPERATURE CONTROL OVENS

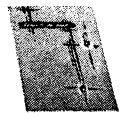


JK 09T



JK 09

- Custom Oscillators, Crystal Filter Networks.
- Suppliers of Quartz for Ultra Sonic Transducers.
- Complete customer engineering service provided for quartz crystal applications.



Write for technical catalog

THE JAMES KNIGHTS COMPANY

SANDWICH, ILLINOIS

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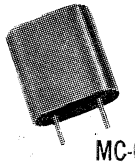
MONITOR

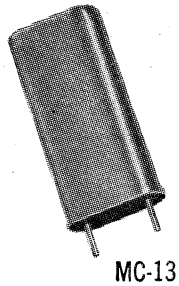
25 years of engineering and manufacturing goes into each Monitor Crystal and Oven.

QUARTZ CRYSTALS

MC-4



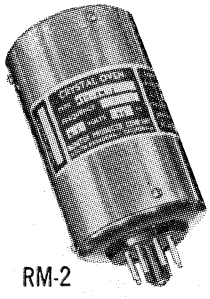
MC-6



MC-13

Type	Pin Dia.	Pin Spacing	Max. Height	Max. Width	Max. Thickness	Nominal Frequency Range
MC-4	.125″	.750″	1.187″	1.125″	.4375″	80 kc. — 10 mc.
MC-6	.050″	.486″	.765″	.750″	.343″	75 kc. — 130 mc.
MC-62	.050″	.486″	.765″	.750″	.343″	5 — 87 mc.
MC-18	wire leads		.515″	.421″	.171″	5 — 75mc.
MC-13	.050″	.486″	1.516″	.750″	.343″	16 — 200 kc.
MC-131	.050″	.486″	2.00″	.750″	.343″	1.5 — 100 kc.
MC-132	.050″	.486″	2.500″	.750″	.343″	1 — 75 kc.
MC-100, MC-101, MC-102 (Noval Based)			1.75″	diameter .75″		3 — 500 kc.
			2.25″	.75″		1.5 — 100 kc.
			2.75″	.75″		1 — 75 kc.

CRYSTAL OVENS

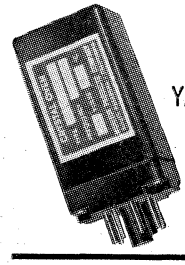


RM-2

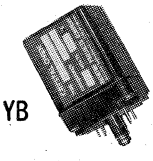
Type	Base	Max. Height	Max. Width	Max. Thickness	Voltage	Normal Operating Temperature
YA	Octal or loctal	2.75″	1.4219″	1.0″	6.3, 12, 24-28 AC or DC	75°C ±2°C.
YB	Octal or loctal	1.957″	1.4219″	1.0″	6.3, 12, 24-28 AC or DC	75°C ±2°C.

The above types meet all Military specifications

RM-1	Octal or Standard 5 pin	2.6875″	diameter 1.375″	6.3, 12, 24-28 AC or DC	75°C ±2°C.
RM-2	Octal or Standard 5 pin	3.4375″	diameter 2.0″	6.3, 12, 24-28, 115 AC or DC	75°C ±2°C.



YA



YB

MONITOR MAKES CRYSTALS FROM WELL DOWN IN THE AUDIO-FREQUENCY RANGE TO OVER 100 MC.

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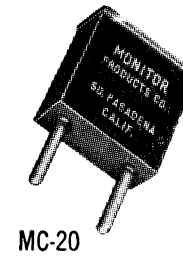
CRYSTALS

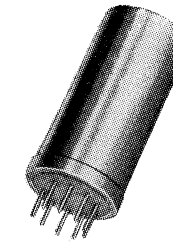
Staff engineers are available at all times to satisfy your crystal needs or special requirements.

QUARTZ CRYSTALS

Type	Pin Dia.	Pin Spacing	Max. Height	Max. Width	Max. Thickness	Nominal Frequency Range
MC-14	.050"	.486"	.574"	.750"	.343"	4 — 15 mc.
MC-10	.062"	coaxial	.555"	.560" diameter		5 — 50 mc.
MC-15	Octal Based		1.75"	1.00" diameter		3 — 2500 kc.
MC-151	Octal Based		2.625"	1.00" diameter		1.5 — 100 kc.
MC-1	.125"	.75"	1.375"	1.1875"	.5625"	1,000 — 10,000 kc.
MC-2	.125"	.75"	.625"	1.375" diameter		2,500 — 25,000 kc.
MC-5	3 pin	W.E.	2.025"	1.594"	1.187"	80 — 5,000 kc.
MC-11V	.125"	.75"	1.625"	1.5"	.625"	500 — 5,000 kc.
MC-20	.093" .125"	.486" .500" .750"	1.156"	1.125"	.4375"	2,000 — 10,000 kc.
MC-243	.093"	.486"	1.125"	.8125"	.4375"	2,000 — 15,000 kc.



MC-20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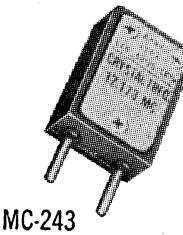
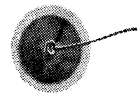
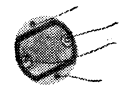
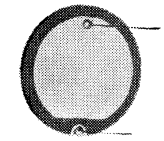
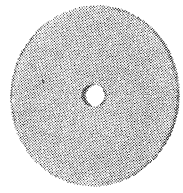
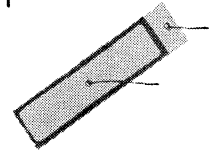
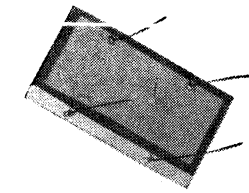

MC-243

ULTRASONIC CRYSTALS

Monitor is equipped to manufacture a wide variety of ultrasonic crystals in all sizes, shapes, platings, finishes, with or without leads. Contact us for your specific requirements.



MONITOR mpc PRODUCTS COMPANY

South Pasadena, California

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PR Crystals

Since 1934

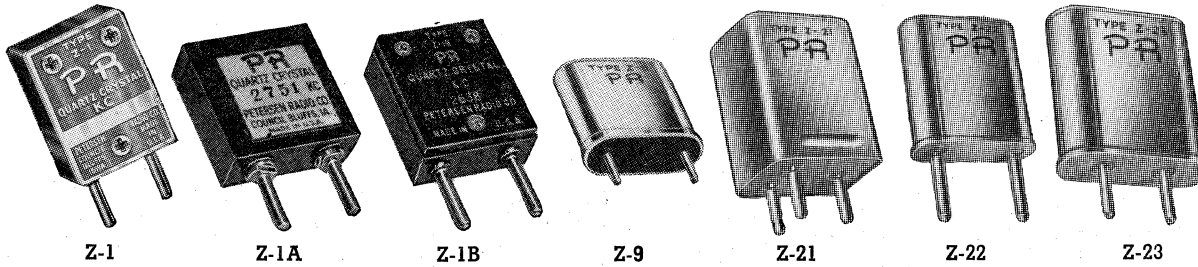
USE PR AND KNOW WHERE YOU ARE

COMMERCIAL TYPES—SPECIFICATIONS

	Type	Frequency Range	Pin Spacing	Pin Diameter	Height Above Pins	Width	Depth
Z-1	Fundamental	900 Kc. to 12000 Kc.	.486"	.093"	1-3/16"	13/16"	7/16"
Z-1	Harmonic	12001 Kc. to 30000 Kc.	.486"	.093"	1-3/16"	13/16"	7/16"
*Z-1A	Fundamental	500 Kc. to 2000 Kc.	¾"	.125"	1⅜"	1⅜"	½"
Z-1B	Fundamental	1000 Kc. to 12000 Kc.	¾"	.125"	1⅜"	1-3/16"	½"
Z-1B	Harmonic	12001 Kc. to 30000 Kc.	¾"	.125"	1⅜"	1-3/16"	½"
Z-1D	Same as Z-1	Same as Z-1	½"	.125"	1-3/16"	13/16"	7/16"
Z-1E	Same as Z-1	Same as Z-1	½"	.125"	1¼"	1⅛"	7/16"
Z-1H	Single or dual unit Fundamental	500 Kc. to 12000 Kc.	3-Pin W.E.	.157"	2-1/16"	1-19/32"	1-3/16"
Z-1K	Same as Z-1A except has .157" dia. pins	500 Kc. to 12000 Kc.	¾"	.157"	1⅜"	1⅜"	½"
Z-1M	Fundamental	1000 Kc. to 10000 Kc.	⅞"	Std. Banana	2-3/32"	1-19/32"	¾"
Z-1R	Fundamental	150 Kc. to 900 Kc.	½"	.093"	1¼"	1-3/32"	7/16"
Z-4	Fundamental	1601 Kc. to 12000 Kc.	¾"	.125"	.650"	Diameter	.995"
Z-4	Harmonic	12001 Kc. to 30000 Kc.	¾"	.125"	.650"	Diameter	.995"
Z-7	Fundamental	Same as Z-1 Fundamental	¾"	Std. Banana	1.660"	1.192"	.518"
Z-8	Fundamental	500 Kc. to 1600 Kc.	¾"	⅛"	1¾"	1-9/16"	1-11/16"
Z-9	Fundamental	175 Kc. to 15000 Kc.	½"	.050"	.758"	.720"	.309"
Z-9R	Harmonic	15001 Kc. to 50000 Kc.	½"	.050"	.758"	.720"	.309"
E-1	Fundamental	100 Kc. to 7000 Kc.	Interchangeable with FT-164 and AC-95				
Z-21	Fundamental	85 Kc. to 500 Kc.	3-Pin W.E.	.157"	2"	1-19/32"	1-3/16"
Z-22	Fundamental	125 Kc. to 15000 Kc.	¾"	.125"	1¼"	1-3/16"	7/16"
Z-22	Harmonic	15001 Kc. to 50000 Kc.	¾"	.125"	1¼"	1-3/16"	7/16"
Z-23	Same as Z-22	Same as Z-22	.486"	.093"	1¼"	1-3/16"	7/16"
Z-24	Same as Z-22	Same as Z-22	½"	.125"	1¼"	1-3/16"	7/16"

* Can be Supplied with Standard Banana Pins.

EVERY PR CRYSTAL IS UNCONDITIONALLY GUARANTEED



Z-1 Z-1A Z-1B Z-9 Z-21 Z-22 Z-23

PETERSEN RADIO Company, Inc., Council Bluffs, Iowa

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PR Crystals

Since 1934

USE PR AND KNOW WHERE YOU ARE

PRICE LIST

Effective February 1, 1956
Subject to Change Without Notice

FOR AMATEUR SERVICE

Z-2 and Z-3 Crystals are supplied *only* in the following bands and calibrated *integral kilocycles* only, *no fractions.*

TYPE	FREQUENCY RANGE	PRICE
Z-2	1750 to 2000 Kc. 3500 to 4000 Kc. 5000 to 6000 Kc. 6250 to 6750 Kc. 6740 to 6807 Kc. 7000 to 7425 Kc. 8000 to 8222 Kc. 8334 to 9000 Kc. 9000 to 9250 Kc.	$2.95
Z-3	12000 to 12333 Kc. 12500 to 13500 Kc. 13480 to 13615 Kc. 14000 to 14850 Kc.	$3.95
Z-9A	24000 to 24666 Kc. 25000 to 27000 Kc.	$4.95

All amateur crystals calibrated plus or minus 500 cycles, except 160 meters, which are plus or minus 250 cycles and Type Z-9A, plus or minus 3 Kc.

SPECIAL CRYSTALS

Type Z-1, AIRCRAFT

3023.5 Kc., .005% $3.45

Type Z-1, MARS and CAP

Calibrated to .005%

Official assigned transmitter frequencies in the range.

1500 to 10000 Kc. $3.45

Type 2XP

Suitable for converters, experimental, etc. Same holder dimensions as Type Z-2.

1600 to 12000 Kc. ±5 Kc. $3.45
12001 to 25000 Kc. ±10 Kc. $4.45

Type Z-1, TV Marker Crystals

Channels 2 through 13 ..... $6.45
4.5 Mc. Intercarrier, .01% $2.95
5.0 Mc. Signal Generator, .01% $2.95
10.7 Mc. FM, IF, .01% $2.95

Type Z-6A, Frequency Standard

100 Kc. $6.95

VHF Type Z-9R

For LEAR, NARCO and similar equipment operating in the 121 Mc. region, requiring crystals in 30 Mc. range. Each $4.95

Type Z-9A Radio Controlled Objects

27.255 Mc., .04% $3.95

ACCESSORIES

Single Sockets, Z-9, Z-9A, Z-9R 25c
Single Sockets Z-1, Z-2, and Z-3 ..... 30c
Dual Sockets 35c
Adapters, to adapt Z-1 and Z-2 to ¾" Socket 35c

BROADCAST CRYSTALS REGRINDING SERVICE

Any Frequency, 550 to 1600 Kc. $20.00

PETERSEN RADIO Company, Inc., Council Bluffs, Iowa

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FOR 26 YEARS

BLILEY CRYSTALS

DEPENDABILITY . . . PRECISION PERFORMANCE . . . CRAFTSMANSHIP

★ AMATEUR ★ TV SERVICE ★ DIATHERMY ★ SINGLE SIGNAL FILTERS ★ SHIP-TO-SHORE ★ CITIZEN'S BAND ★ EXPERIMENTAL

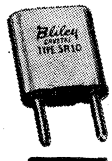
AMATEUR FREQUENCIES • CRYSTAL FILTERS • STANDARD FREQUENCIES

CODE	TYPE	APPLICATION	TOLERANCE	PRICE
E10	KV3	reference frequency 100 kc	±.005%	$ 8.50
E11	MS433	reference frequency 1000 kc	±.005%	17.00
E11A	MC9	marker frequency 1000 kc	±.05%	8.00
E13	MC9	13.6275 mc (multiplier to 27.255 mc) CITIZEN'S RADIO SERVICE (CLASS "C")	±.04%	5.50
E13A	SR10	27.255 mc (3rd overtone crystal) CITIZEN'S RADIO SERVICE (CLASS "C")	±.04%	5.50
E14	CF3	455 kc—456 kc—465 kc Single Signal Filters	±5 kc	5.00
E15	CF6	455 kc—456 kc—465 kc Single Signal Filters	±5 kc	4.50
E17	AX2	1800-1825 kc; 1875-1900 kc; 1900-1925 kc; 1975-2000 kc	*	3.75
E18	AX2	3500-4000 kc	*	2.95
E19	AX2	7000-7425 kc; 8000-9000 kc	*	2.95
***Note: We will supply to integral spot frequencies (no fractions) as ordered; calibration ± 500 cycles in factory test oscillator.**				
E20	AX2	14-14.5 mc	±10 kc	3.95
SPOT FREQUENCIES FOR NET OPERATION				
E22	MC9	3 mc-12 mc experimental frequencies	±.03%	6.50
E22A	SR10	12 mc-27.5 mc experimental frequencies	±.03%	8.50

NOVICE BAND CRYSTALS

USE STANDARD BLILEY CRYSTALS FOR BEST PERFORMANCE

BAND	MULTIPLIER	CRYSTAL FREQ. RANGE	TYPE	CODE	PRICE
80 Meters	1	3700.0 to 3750.0 kc's	AX2	E18	$2.95
40 Meters	2	3587.5 to 3600.0 kc's	AX2	E18	2.95
40 Meters	1	7175.0 to 7200.0 kc's	AX2	E19	2.95
15 Meters	1	21,100 to 21,250.0 kc's	SR10	E22A	8.50
15 Meters	3	7033.33 to 7083.33 kc's	AX2	E19	2.95
15 Meters	6	3516.66 to 3541.66 kc's	AX2	E18	2.95
2 Meters	6	24,166.66 to 24,500.0 kc's	SR10	E22A	8.50



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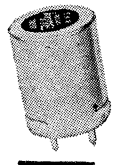
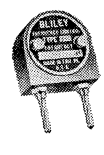


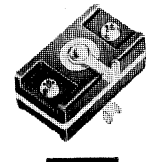
KV3 — CODE NO. E10

MS433 — CODE NO. E11

MC9 — CODE NO. E3 E8 E9 E11A E13 E22



CF3 — CODE NO. E14



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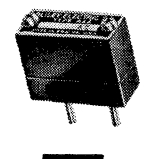
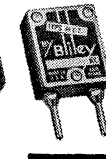
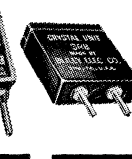


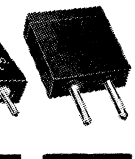
AX2 — CODE NO. E17 THRU E20



MC7 — CODE NO. E5



SR8 — CODE NO. E7



SR5 — CODE NO. E6

DIMENSIONS

CODE	TYPE	CASE LENGTH	WIDTH	THICKNESS	PIN SIZE	PIN SPACE
E10	KV3	1 9/32″	1 3/16″ (dia.)	-----	.093″	.486″
E11	MS433	1 31/32″	1 25/64″ (dia.)	-----	.093″	OCTAL
E3, E8, E9, E11A, E13, E22	MC9	1 11/64″	13/16″	7/16″	.093″	.486″
E2, E4, E13A, E22A	SR10	51/64″	3/4″	11/32″	.093″	.486″
E14	CF3	1 13/32″	1 3/16″	3/4″	.125″	.750″
E15	CF6	17/32″	15/16″	.695″	-----	-----
E17, E18, E19, E20	AX2	15/16″	1 1/16″	7/16″	.093″	.486″
E5	MC7	1 39/64″	1 1/8″	21/32″	.125″	.500″
E6	SR5	1 1/4″	1 9/64″	7/16″	.125″	.500″
E7	SR8	1 1/4″	1 1/8″	7/16″	.093″	.486″

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★ TV SERVICE ★ SINGLE SIGNAL FILTERS ★ EXPERIMENTAL
★ SHIP-TO-SHORE ★ CITIZEN'S BAND ★ DIATHERMY

Bliley CRYSTALS

NOTE: Prices Are Based On "Standard" Specifications As Shown. Quotations Will Be Made On Any Special Requirements.

TV SERVICE CRYSTALS, SOUND AND PICTURE CHANNEL MARKERS (Sub-Multiple Frequencies ±.05%)

CODE	TYPE	CHANNEL NO.	CHAN. FREQ. (mc)	SOUND CHAN. (mc)	CRYS. FREQ. (kc)	PRICE
E2	SR10	2	54-60	59.75	19916.666	$6.95
E2	SR10	3	60-66	65.75	16437.500	6.95
E2	SR10	4	66-72	71.75	17937.500	6.95
E2	SR10	5	76-82	81.75	16350.000	6.95
E2	SR10	6	82-88	87.75	17550.000	6.95
E2	SR10	7	174-180	179.75	17975.000	6.95
E2	SR10	8	180-186	185.75	18575.000	6.95
E2	SR10	9	186-192	191.75	19175.000	6.95
E2	SR10	10	192-198	197.75	19775.000	6.95
E2	SR10	11	198-204	203.75	18522.727	6.95
E2	SR10	12	204-210	209.75	19068.181	6.95
E2	SR10	13	210-216	215.75	19613.636	6.95
E4	SR10	SPECIFY	SPECIFY	PICTURE CHANNEL	RANGE 15-27.5 mc	8.50

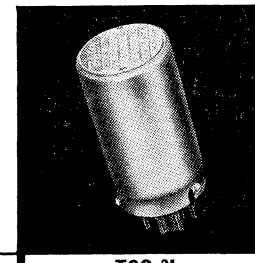
PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

TV SERVICE CRYSTALS, I-F ALIGNMENT AND TRAP FREQUENCIES

CODE	TYPE	FREQUENCIES	TOLERANCE	APPLICATION	PRICE
E3	MC9	4.5 mc	±.02%	intercarrier	$3.95
E4	SR10	15-27.5 mc	±.05%	video, sound i-f alignment; trap frequencies	8.50
E8	MC9	5.0 mc	±.02%	signal generator	3.95
E9	MC9	10.7 mc	±.05%	FM—i-f alignment	3.95

THE BLILEY TCO-2L TEMPERATURE CONTROLLED OVEN WITH TYPE BH6A CRYSTAL AT 1000kc AND TYPE BH9A CRYSTAL AT 100kc . . . . . .

This compact temperature controlled package provides a high stability reference source at both 100 kc and 1000 kc. Recommended for general laboratory use and the precision calibration of signal generators or other test instrumentation.



NEW
HIGH STABILITY PACKAGE with 100kc and 1000kc CRYSTALS

TYPE	DESCRIPTION	STABILITY	PRICE
TCO-2L	Oven	75°C ± 5°C	$9.00
BH6A Crystal	1000kc	±.0002%	12.50
BH9A Crystal	100 kc	±.0005%	11.00

Crystal units described are calibrated in recommended oscillator circuit-adjustable to zero beat (at 75° C) in this circuit.

SPECIFY CODE E23 FOR TCO-2L OVEN ONLY
SPECIFY CODE E24 FOR BH6A 1000 KC CRYSTAL ONLY
SPECIFY CODE E25 FOR BH9A 100 KC CRYSTAL ONLY
SPECIFY CODE E26 FOR OVEN WITH BH6A AND BH9A CRYSTALS

TCO-2L
CODE E23
Operating Temperature 75°C
Case Length $2\frac{3}{16}$"
Diameter $1\frac{1}{4}$"
OCTAL BASE

CRYSTALS

CODE E24	BH6A
Length	$1\frac{1}{32}$"
Width	$\frac{3}{4}$"
Thickness	$\frac{11}{32}$"
Pin Size	.050"
Pin Space	.486"

CODE E25	BH9A
Length	$1\frac{25}{32}$"
Width	$\frac{3}{4}$"
Thickness	$\frac{11}{32}$"
Pin Size	.050"
Pin Space	.486"

SHIP-TO-SHORE

CODE	TYPE	APPLICATION	TOLERANCE	PRICE
E5	MC7	radiotelephone 2-3.5 mc	±.02%	$7.50
E6	SR5	radiotelephone 2-3.5 mc	±.02%	$7.50
E7	SR8	radiotelephone 2-3.5 mc	±.02%	$7.50

For EASY FAST TV SERVICING *Select* BLILEY CRYSTALS

STANDARD FREQUENCIES

CODE	TYPE	APPLICATION	TOLERANCE	PRICE
E10	KV3	reference frequency 100 kc	±.005%	$ 8.50
E11	MS433	reference frequency 1000 kc	±.005%	17.00
E11A	MC9	marker frequency 1000 kc	±.05%	8.00

BLILEY ELECTRIC CO.
UNION STATION BLDG., ERIE

DIATHERMY, SINGLE SIGNAL FILTERS, CITIZEN'S RADIO SERVICE (CLASS C) AND EXPERIMENTAL

CODE	TYPE	APPLICATION	TOLERANCE	PRICE
E13	MC9	13.560 mc (multiplies to 27.12 mc) Diathermy 13.6275 mc (multiplies to 27.255 mc) Citizen's	±.04%	$5.50
E13A	SR10	27.12 mc Diathermy; 27.255 mc Citizen's (3rd overtone crystals)	±.04%	5.50
E14	CF3	455 kc-456 kc-465 kc Single Signal Filter	±5 kc	5.00
E15	CF6	455 kc-456 kc-465 kc Single Signal Filter	±5 kc	4.50
E22	MC9	3-12 mc experimental frequencies	±.03%	6.50
E22A	SR10	12-27.5 mc experimental frequencies	±.03%	8.50

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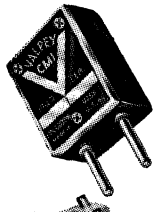
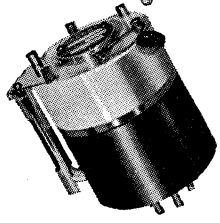
VALPEY Quartz Crystals





TYPE VR6

Hermetically sealed in compact metal case, 1,000 Kc to 75.0 Mc frequency range. (Jan type HC-6/u) Pin is .050" diameter, spaced .486"

TYPE CM1

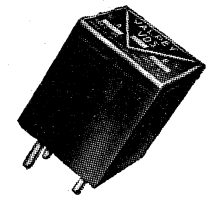
Fixed air gap, 850 to 20,000 Kc frequency range. Available in standard ¾" and G.R. ¾", ⅝" ⅞" or .850" spaced pins.

TYPE CBC-O

Frequency range 60 to 10,000 Kc. Available with 6, 8, or 10 volts, ± ½ degree C. temperature stability. Standard 5-prong socket.

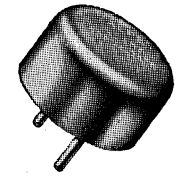
TYPE VD5

Frequency range 1,000 to 6,000 Kc. Single or dual crystals. Mounts in special 3-prong socket, pin diameter .562", spaced .500" x .8125"



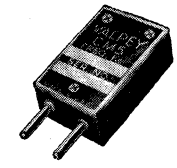
TYPE XL100

Exact 100 Kc., used extensively in frequency standards. Mounts in ¾" crystal socket or standard 5-prong socket.



TYPE CM5

Frequency range 1,000 to 30,000 Kc. Fixed air gap, standard .486" x .093" or standard octal socket.

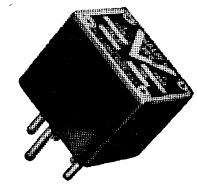


TYPE DFS

Features separate 100 and 1,000 Kc. crystals in one mounting, with accuracy ± .005% over range of −10°C to +60°C when used in recommended circuits.

TYPE VDO

Frequency range 1,000 to 10,000 Kc. Single or dual crystals with 6 volt oven ± ½ degree temperature stability Mounts in standard 5-prong socket.



APPLICATION	TYPE	FREQUENCIES	TOLERANCE	PRICE
Commercial or Military (Jan HC 6/u)	VR6 VR6 VR6	1.0 to 2.0 Mc 2.0 to 30.0 Mc 30.0 to 75.0 Mc	.005% .005% .005%	$15.00 9.50 15.00
Commercial or Military (Jan Spec.)	CM1 & CM5	1.0 to 30.0 Mc 1.0 to 30.0 Mc	.005% .005%	9.50
Marine	CM1	2.0 to 3.2 Mc	.01%	6.00
Marine	CM5	2.0 to 3.2 Mc	.01%	6.00
Marine	VD5	2.0 to 3.2 Mc Dual Crystal	.01%	19.00
Standard	XL100	100 Kc	.005%	6.95
Standard	DFS	100 — 1,000 Kc Dual Crystal	.005%	8.95
Close Frequency Oven	VDO	1.0 to 30.0 Mc	.002%	16.00
Broadcast and Close Frequency Oven	CBC-O	60 Kc to 10.0 Mc	.002%	65.00
Amateur	CM5	160M Bands 3.5 to 4.0 Mc 7.0 to 7.4 Mc 8.0 to 8.222 Mc 14.0 to 14.8 Mc 12.0 to 12.3 Mc 24.0 to 24.666 Mc 25.0 to 27.00 Mc 28.5 to 29.7 Mc	 ±1 Kc ±1 Kc ±1 Kc ±1 Kc ±5 Kc ±5 Kc ±5 Kc ±5 Kc	 3.75 2.80 2.80 2.80 3.50 3.50 3.95 3.95 3.95

For additional details on these and other types, request Catalog QC-BG

VALPEY Crystal CORPORATION

HOLLISTON, MASS.

CRAFTSMANSHIP IN CRYSTALS SINCE 193[illegible]

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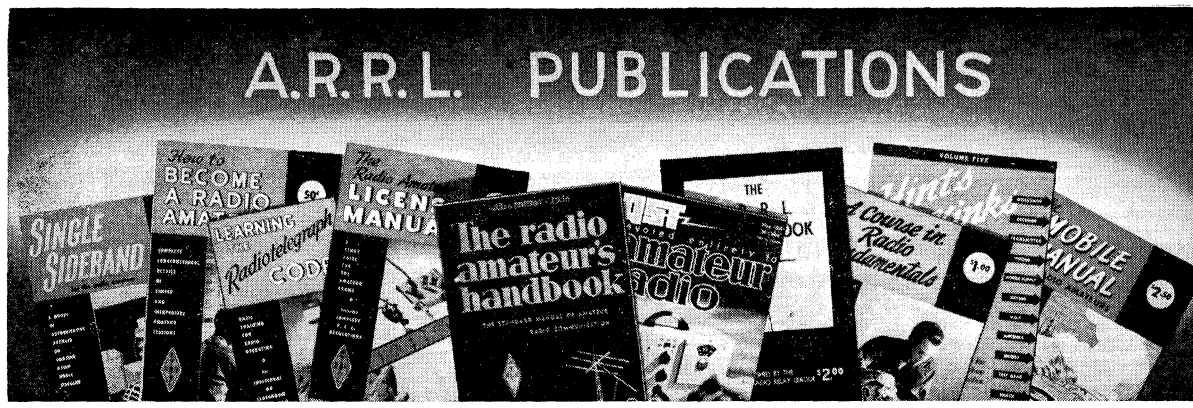

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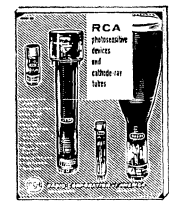
Price 60 cents.*



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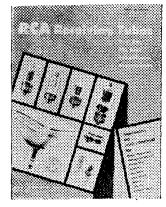

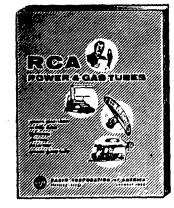

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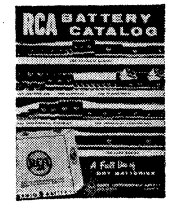

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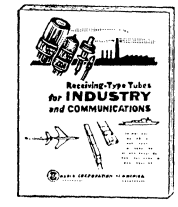

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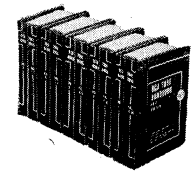

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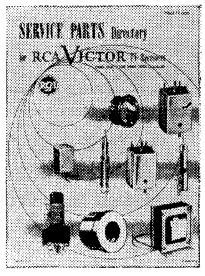

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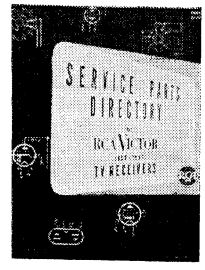

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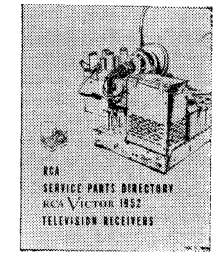

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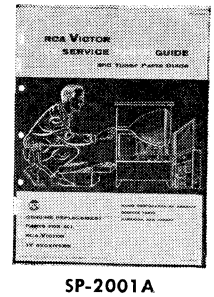

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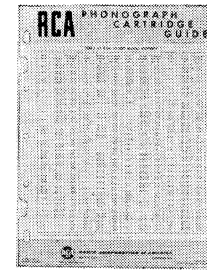

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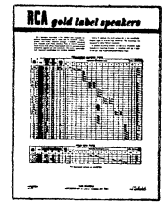

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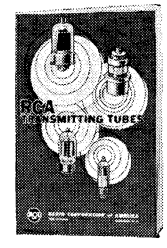

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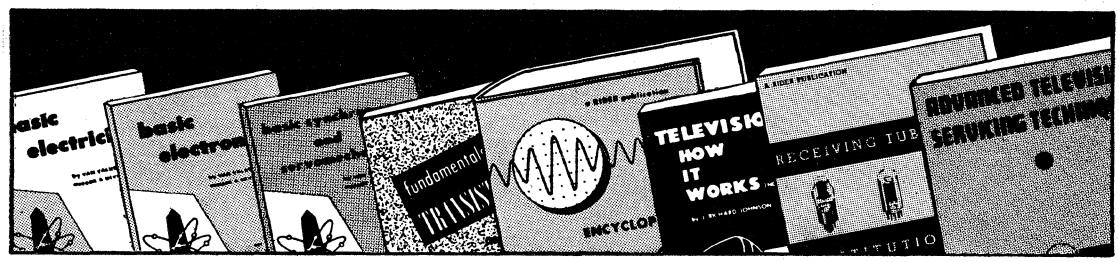

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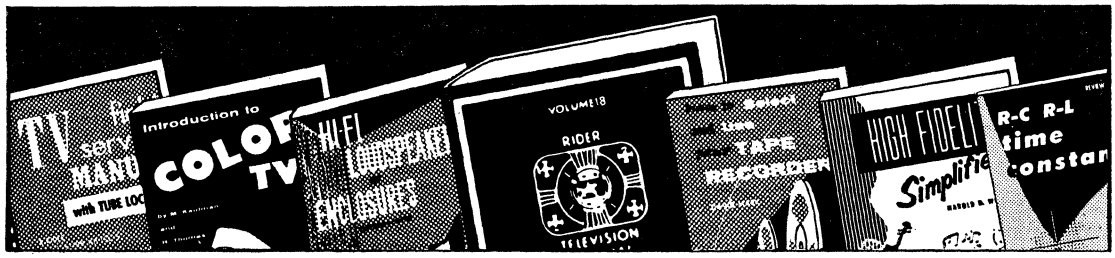

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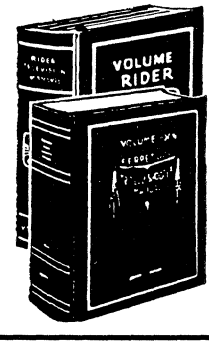

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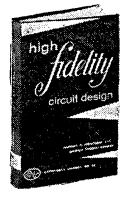

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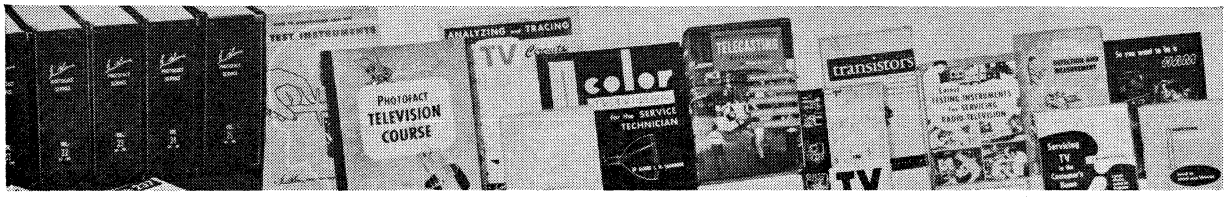

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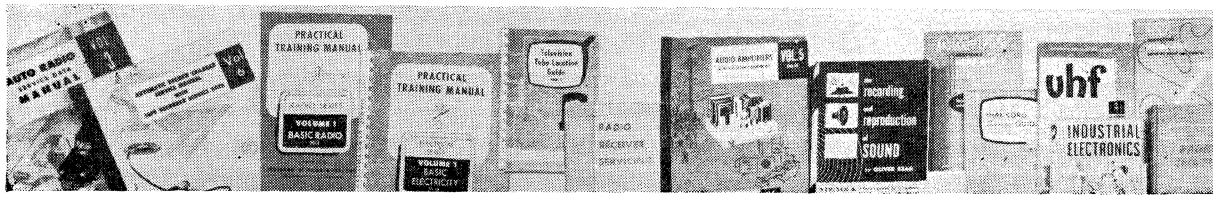

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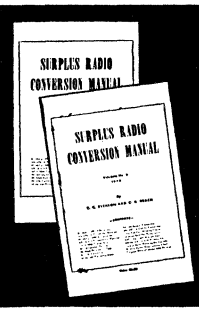

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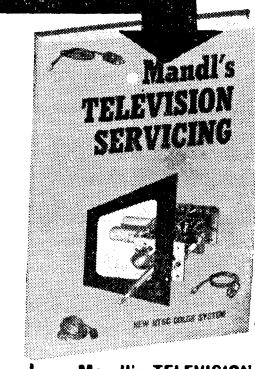

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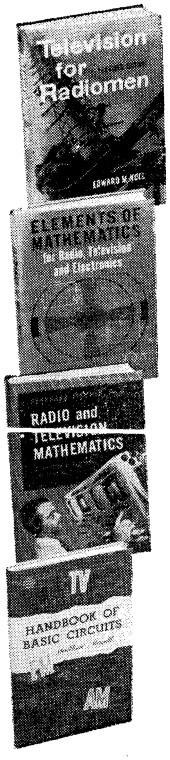

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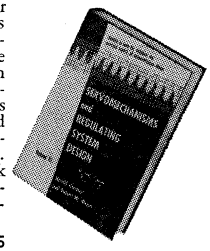

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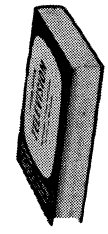

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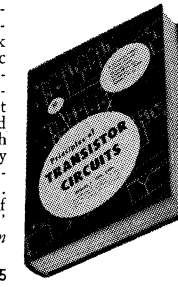

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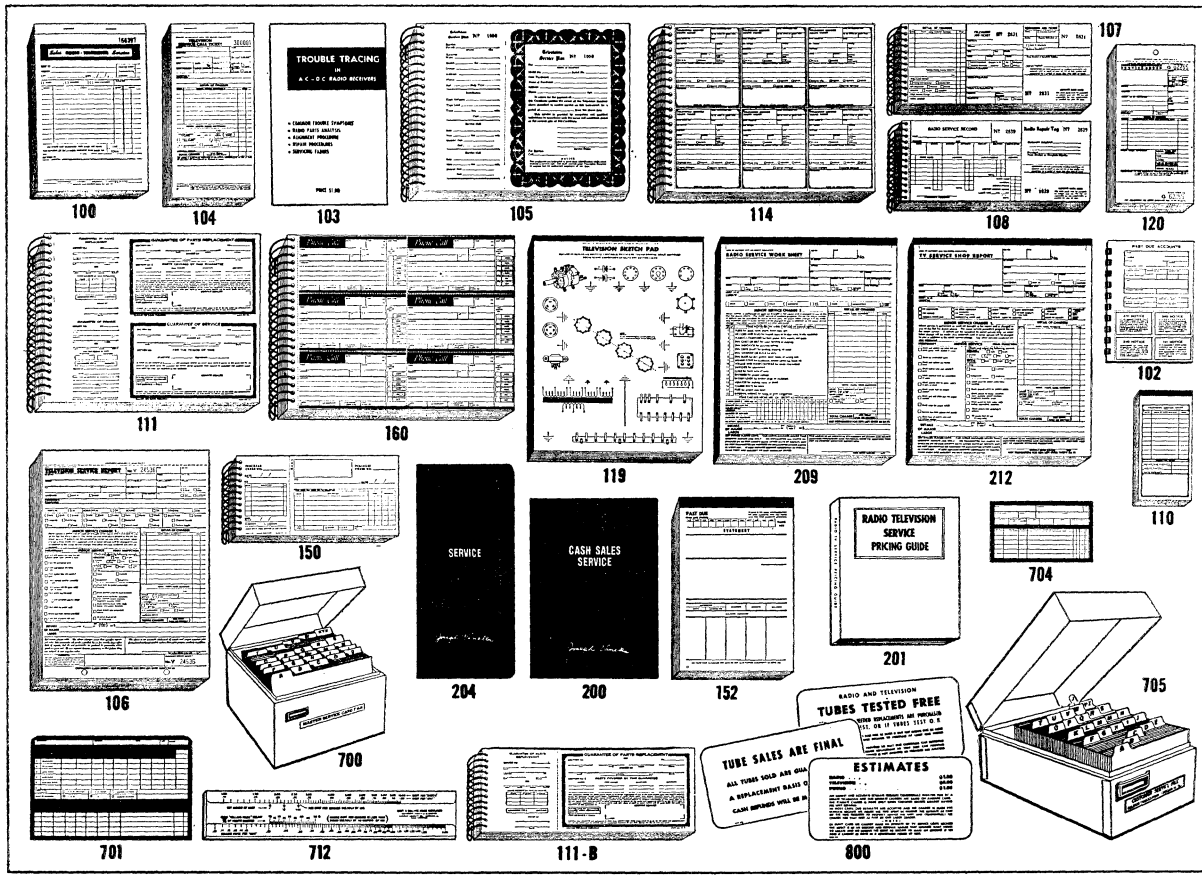

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No. 160 Message Minder Book—Spiral bound book of 450 duplicate phone message blanks.....Ea. **$1.95**

No. 200 Plastic Book Holder for No. 100 Cash Sales Book. Ea. **$1.00**

No. 201 Radio-TV Service Pricing Guide—Loose leaf book showing charges for radio-TV service.....Ea. **$2.95**

No. 204 Plastic Book Holder for No 104 TV Service Call Book Ea. **$1.00**

No. 209 Radio Service Work Sheet—Book of 50 duplicate sets with blanks for all details.....Ea. **$ .95**

No. 212 TV Service Shop Report—Book of 50 duplicate sets with blanks for all details.....Ea. **$ .95**

No. 700 Master Service Card File—Metal Case, 500 5"x8" cards and index.....Ea. **$14.95**

No. 701 Master Service Card—5"x8" service card for all customer details.....Box of 100 **$2.00**

No. 704 Customer Service Card—3"x5" account card showing record of service.....Box of 500 **$2.50**

No. 705 Customer Service Card File—Metal Case, 500 3"x5" Cards and index.....Ea. **$6.95**

No. 712 Cost and Selling Price Indicater—Plastic slide rule for figuring selling prices and costs.....Ea **$1.00**

No. 800 Business Sign Kit—25-5"x10" signs printed on heavy wood grain stock for Radio-TV.....Kits ea. **$2.50**

COMPLETE CATALOG AVAILABLE AT YOUR ELECTRONIC PARTS JOBBER

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LEARN MORE ! EARN MORE !
WITH H. G. CISIN'S TV SERVICE BOOKS

1956 TV CONSULTANT

NEW! Easy way to solve toughest TV troubles. New rapid methods of pin-pointing faults. New alignment methods shown by pictures, diagrams and easy to follow directions. **TV CONSULTANT** tells exactly **WHAT TO DO** and **HOW TO DO IT. UHF** section includes conversion, installation and servicing. Lists instruments needed for servicing **COLOR TV.** Practical pointers on use of TV Test Instruments. 300 pix, raster and sound symptoms. Detailed directions tell **WHERE** and **HOW** to find faulty parts. Over **135 RAPID CHECKS** including many using picture tube as trouble locator. Over 125 illustrations of scope wave-forms, diagrams, station patterns showing various defects — make TV servicing a pleasure. **NO MATH, NO THEORY — NO FORMULAS** — just practical servicing information covering all types of TV sets.

TV Serviceman's Silent Partner—
No. L1 ..... $2

SHOOT TV & RADIO TROUBLE *FAST!*

NEW! Rapid Trouble Shooting of **AC-DC RADIO** sets combined with new edition of Rapid TV Trouble Shooting Method. Locates radio and TV faults in record-breaking time, regardless of make or model. Also contains a section on **PRINTED CIRCUIT SERVICING OF VITAL INTEREST TO ALL SERVICEMEN.** Written in response to the requests of many radio-TV servicemen, this is the only book which combines both TV and radio trouble tracing. Mr. Cisin, the author, is the inventor of AC-DC radios.

Quickest Radio & TV Trouble Shooter—No. T2 ..... $1.50

TV DOCTOR

How to Diagnose and Remedy TV Troubles; Copyrighted Trouble Location Guide; Useful Info About TV Sets; Easy TV Trouble Checks; UHF Installation and Servicing; Antenna Know-How; Practical Servicing Hints; Color TV for Beginners; Trouble Due to Defective Tubes; How to Read Schematic Diagrams. Many practical hints for prospective TV servicemen.

Beginner's Best Buy—No. D5 ..... $1

TV TUBE LOCATOR

TROUBLE INDICATING TUBE LOCATION GUIDES for over 3000 most popular models from **Admiral** to Zenith. Also shows **PIX tubes used in** each model. Charts cover products of over 110 different TV manufacturers. Over 135 common TV troubles are listed with explicit directions for locating defective tubes which cause each fault.

Speed Servicing System

No. K1 — Early to 1954 Models $1.00
No. K2 — 1955-1956 Models $1.00

TV & RADIO TUBE SUBSTITUTION GUIDE

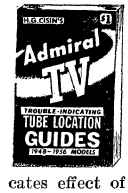
1st Section gives tube replacements for TV sets, radios and other electronic devices. All suggested replacements **FIT SAME SOCKET** and require **NO CHANGES** in wiring.

2nd Section contains complete data on TV PICTURE TUBE replacements, many directly — others with only slight changes. Substitution is emphasized rather than conversion.

Substitute with Certainty

No. S1 ..... 50¢

TV TUBE LOCATION GUIDES



Complete compilation to date of ADMIRAL & RCA TV TROUBLE INDICATING TUBE LOCATION GUIDES. ADMIRAL book contains over 1150 models—earliest to 1956. Includes profusely illustrated section showing how each tube trouble affects picture. RCA BOOK covers 1947 to 1955 models. Each guide shows positions of all tubes and by a copyrighted method indicates effect of each tube on operation of TV set.

Admiral Guides No. M1 - RCA Guides No. A1
Each Volume $1

ABC OF COLOR TV

Takes mystery out of Color TV. Explains this fascinating new TV development in simple down-to-earth manner. Covers basic color principles, color signal, transmission, color TV reception, plus practical pointers on color pix tubes, tests, etc.

COLOR TV SIMPLIFIED—
No. R1 ..... $1

TV TROUBLE TRACER

Each vol. has different **Trouble Indicating Tube Location Guides** of hundreds of popular TV models. Each has over 70 illustr. & Guides. 40 most common pix troubles illustrated.

Vol. 1 (No. TT1) older models
Vol. 2 (No. TT2) '52-'53 sets
Vol. 3 (No. TT3) '53-'54 sets
Vol. 4 (No. TT4) '54-'55 models
Vol. 5 (No. TT5) '55-'56 models

FIND IT & FIX IT—
EACH VOL. ..... 50¢

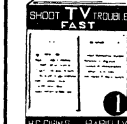
TV PIX GUIDE

Sect. 1 is a fully illustrated Guide to oft-recurring picture faults. Causes and cures explained. Copyrighted illustrated **Chart** tells where troubles start in typical TV set. Illustrations show resulting faulty TV pictures.

Sect. 2 explains hundreds of TV terms in non-technical language.

PIX SHOW FAULTS—
No. G1 ..... $1

RAPID TV TROUBLE SHOOTING METHOD

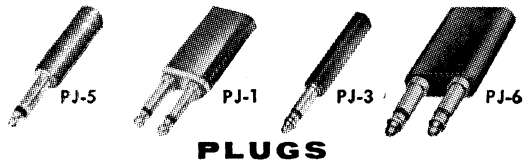


This unique TV servicing method has helped thousands to become expert TV diagnosticians. Step-by-step directions show how and where to find faulty parts.

EASY TO USE—No. T1 ..... $1

HARRY G. CISIN, Publisher
Amagansett, N. Y.

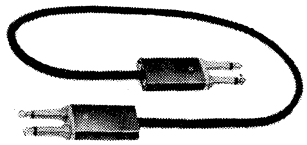
ADC the Quality line of...



PLUGS

Rugged, high quality plugs, engineered to give you years of trouble-free service. Careful selection of materials and outstanding dependability have made ADC plugs a standard in the broadcast-audio fields. Plugs test 500 V. RMS.

TYPE	DESCRIPTION	COND.	LIST
PJ-5	Equivalent PL-55, WE-47. Fits ¼" phone jacks. Black phenolic sleeve. Solder connection.	2	$1.30
PJ-1	Equivalent WE-241. Heavy duty die cast frame. Black phenolic shell notched for polarity identification. Plug prongs on ⅝" centers.	3	4.60
PJ-3	Equivalent WE-310. Designed for use with ¼" tip, ring and sleeve jacks. Molded insulation, red shell.	3	4.00
PJ-6	Equivalent WE-213. Designed for applications requiring two separate 3 conductor circuits. Popularly used with operator's intercom/monitor headsets. Black shell notched for polarity identification. Plug prongs on 11/16" centers.	6	16.30



PATCH CORDS

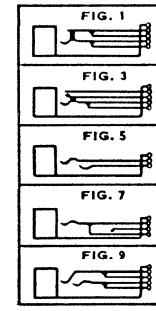
Consists of patch cord and two PJ-1 double plugs or cord and two PJ-5 or two PJ-3 single plugs. High quality tinned copper two conductor wire. Heavy braided cover reinforced for 6" at each end.

Length	Cord with PJ-3 Plugs	List	Replacement Cords Only	List
2-feet	PJ-82	$14.50	PJ-62	$3.50
4-feet	PJ-84	15.50	PJ-64	4.00
6-feet	PJ-86	16.50	PJ-66	4.70

Length	Cord with PJ-1 Plugs	List	Cord with PJ-5 Plugs	List	Replacement Cords Only	List
6-inch	PJ-10½	$11.80	PJ-50½	$5.80	PJ-20½	$1.85
1-foot	PJ-11	12.10	PJ-51	6.05	PJ-21	2.50
2-feet	PJ-12	12.35	PJ-52	6.38	PJ-22	2.75
3-feet	PJ-13	12.65	PJ-53	6.82	PJ-23	2.90
4-feet	PJ-14	13.10	PJ-54	7.37	PJ-24	3.00
5-feet	PJ-15	13.45	PJ-55	7.92	PJ-25	3.15
6-feet	PJ-16	14.05	PJ-56	8.75	PJ-26	4.13
10-feet	PJ-10	14.88	PJ-50	9.68	PJ-20	5.25

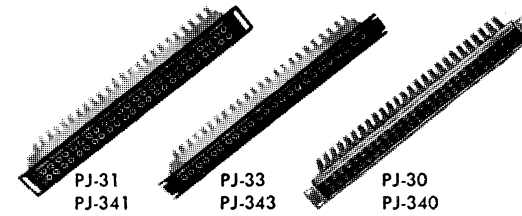
JACKS

A dependable line of quality jacks. Frame and face plate are of one piece construction with a unique welding arrangement providing maximum strength and accuracy. Springs are nickel silver — contacts are coin silver. Frames plated and chromate treated to withstand moisture and 50-hour salt spray tests. Tinned connecting lugs. Interchangeable with any telephone jack using a ¼" plug. Spring arrangements available as follows:



TYPE	FIG.	LIST
PJ-116	1	$1.70
PJ-318	2	1.15
PJ-125	3	1.70
PJ-123	4	1.05
PJ-238	5	1.20
PJ-117	6	1.60
PJ-203	7	1.38
PJ-115	8	1.48
PJ-339	9	1.60

For use with plugs PJ-1, PJ-5, except PJ-238 and PJ-339 use with PJ-3 and PJ-6.



JACK PANELS

3 top quality jack panels for use in television and broadcast stations, theatres, recording studios, industrial paging systems or any other application requiring efficient switching and distribution of audio signals. Panels are molded of solid bakelite, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with ⅝" spacing. Designation strips furnished with each panel — all panels will fit standard 19" relay rack.

Double panel. Holds 48 jacks — requires 2⅛" panel space.

TYPE	DESCRIPTION	LIST
PJ-31	Double panel, less jacks	$15.75
PJ-341	Double panel, with PJ-318 jacks	71.25

Single panel. Holds 24 jacks — requires 1¾" panel space.

PJ-33	Single panel, less jacks	$14.20
PJ-343	Single panel, with PJ-318 jacks	41.88

Double panel. Holds 52 jacks — requires 1¾" panel space. Double designation strip. All jacks mounted on ⅝" centers.

PJ-30	Double panel, less jacks	$21.50
PJ-340	Double panel with PJ-318 jacks	87.50

Remember — in addition to the plugs, jacks, jack panels and patch cords illustrated above — ADC is still one of the country's largest manufacturers of custom iron core components, such as transformers, filters, reactors and chokes, designed and built in production quantities to your specifications. For complete information address your inquiry to:

ADC AUDIO DEVELOPMENT COMPANY
Minneapolis, Minnesota

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Yard-Ohm Resistance Kits

Each Yard-Ohm Kit consists of the following: 1 yard spiral wound resistance wire; 1 yard insulated braid; 24 spiral wire leads. The kit is available in eight resistance values.

Dissipation—all types: ½ watt per inch.

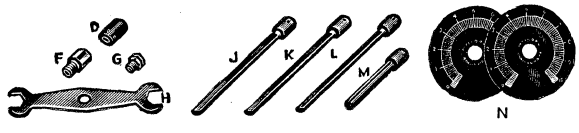
List Price **$0.75** each

Catalog Number	Resistance Value (Ohms per Inch)	Carrying Capacity in Amperes	Catalog Number	Resistance Value (Ohms per Inch)	Carrying Capacity in Amperes
YO-1	1	.707	**YO-50**	50	.100
YO-5	5	.315	**YO-100**	100	.071
YO-10	10	.223	**YO-250**	250	.044
YO-25	25	.141	**YO-500**	500	.031

Adjustable Mounting Brackets

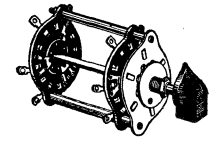
Cat. No.	Description	List Price
RB248	1¾″ Mounting Centers (A)	**$0.25**
RB249	2½″ Mounting Centers (B)	**.25**
RB254	Universal	**.25**

Shafts—Couplers—Bushings—Dial Plates



Cat. No.	Description	List Price
EC240	For coupling two ¼″ shafts or ¼″ and 3/16″ (D)	**$0.75**
EB247	5/8″ Extension Bushing (F)	**.25**
UB241	Panel Bushing for ¼″ shaft (G)	**.95** per 10
178	½″ and 9/16″ Wrench (H)	**.75**
RS242	4″ long x ¼″ diameter x 1/32″ flat (K)	**.40**
RS243	4″ long x ¼″ diameter x 3/32″ flat (J)	**.40**
RS244	4″ long x 3/16″ diameter x 1/64″ flat (L)	**.40**
RS245	2″ long x ¼″ diameter x slotted 3/32″ (M)	**.45**
369	0-100 All Rheostats and Potentiometers (compromise scale) 2¼″ (N)	**.25**
391	Increase Volume—All Rheostats and Potentiometers—1½″ (N)	**.15**
393	0-10 For "C" Type Rheostats and Potentiometers—2¼″ (N)	**.25**
395	0-10 For Standard Wire-Wound Controls with Plain cover; also "M" Type Rheostats and Potentiometers—2¼″ (N)	**.25**
396	0-10 For Standard Wire-Wound Controls with switch type cover—2¼″ (N)	**.25**
397	0-10 For Standard Carbon Controls with Plain cover—2¼″ (N)	**.25**
398	0-10 For Standard Carbon Controls with switch type cover—2¼″ (N)	**.25**
399	0-10 For "E" Type Potentiometers—2¼″ (N)	**.25**

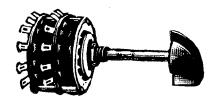
Two-Section, Five-Position "Hamswitch"®



For meter or circuit switching in transmitters. Rated at 1000 volts AC up to 1500 volts DC. Two section, 5 position. 2¼″ spacing between sections. 60° indexing between positions. Adjustable stop. Non-shorting type. Supplied with 3/8″-32 bushing, ¼″ x 2″ notched round shaft. Pointer knob and mounting hardware furnished. Requires 3¼″ mounting depth.

Catalog No. **151L** List Price **$3.00**

Two-Section, Two-Circuit, Six-Position "Hamswitch"



Coil and circuit rotary switch with 6 positions, 2 circuits and 2 sections (½″ spacing) designed to short out automatically all unused positions. Ideal for test oscillator switching, band-switching or meter-switching uses. Phenolic insulated and equipped with 3/8″-32 bushing, ¼″ x 2″ notched round shaft and adjustable stop. Supplied with pointer knob and mounting hardware.

Catalog No. **152L** List Price **$3.60**

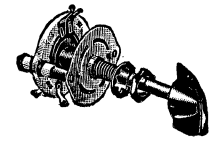
Decade Switches

Especially designed for use in the construction of capacitor and resistor decade instruments.

The unusual circuit arrangement of these switches permits real economies in the construction of precision resistor and capacitor decade assemblies since they require only 4 standard resistors or capacitors to complete a full decade of test values. Each switch is equipped with high grade phenolic insulation and heavily silvered contact members to assure excellent electrical stability. Adjustable stops are provided to permit interconnecting with other switches for multiple decade operation. One Mallory No. 366 bar knob and mounting nut furnished. Dial plates with 30 degree numeral spacing must be employed.

Catalog No. **153L** Capacitor Decade Switch List Price **$3.65**
Catalog No. **154L** Resistor Decade Switch List Price **$4.10**

Ceramic Section "Ham Band" Switches



For use in transmitter plate circuits not exceeding 1000 volts DC with power up to 100 watts. Switches have 4 positions in 360° rotation with each section a single circuit. 90° indexing. All models are non-shorting. Ceramic insulation provides low losses at high frequencies. Equipped with double-contact tie points. A 2″ mounting area is required. Two-section models have 1⅞″ spacing, all others have 1″. Switches are supplied with ¼″ round shafts, 2″ long, and 3/8″-32 bushings. Each switch is furnished with pointer knob and mounting hardware.

Catalog Number	Number of Gangs or Sections	Spacing Between Sections	Circuits Per Switch	List Price
161C	1		1	**$2.50**
162C	2	1⅞″	2	**3.80**
163C	3	1″	3	**5.25**
164C	4	1″	4	**6.60**
165C	5	1″	5	**7.50**

For the Best in Radio and TV Controls — Buy Mallory

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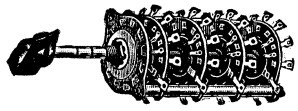
ROTARY, SELECTOR AND LEVER ACTION SWITCHES

P. R. MALLORY & CO. INC. · INDIANAPOLIS

P.R. MALLORY & CO. Inc. MALLORY

Multi-Section Rotary Switches

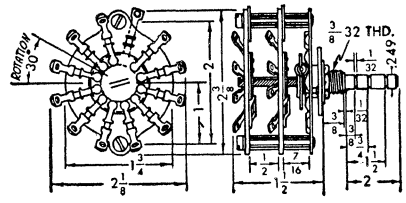


High grade, phenolic-insulated, rotary switches for radio and electronic equipment in circuits not exceeding 500 volts DC. These switches have self-wiping, silver-plated, copper alloy contacts which assure long, useful life. All models feature an adjustable stop. A 2½″ mounting area is required. Mounting depth is dependent on number of sections. Switches have ¼″ round shafts, 2″ long, and ⅜″-32 bushings. Each switch supplied with pointer knob and mounting hardware. All switches have ½″ spacing between sections, except the 3 and 4 section which have 1″ spacing.

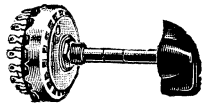
Shorting Type Catalog Number	Non-Shorting Type Cat. No.	No. of Circuits per Section or Gang	Total No. of Circuits per Switch	No. of Positions	List Price
1211L	1311L	1	1	2 to 11	$1.95
1215L*	1315L*	2	2	2 to 5	1.95
1213L*	1313L*	3	3	2 to 3	2.20
1212L*	1312L*	4	4	2 to 2	2.20
1221L	1321L	1	2	2 to 11	2.75
1225L*	1325L*	2	4	2 to 5	2.75
1223L*	1323L*	3	6	2 to 3	2.80
1222L*	1322L*	4	8	2 to 2	3.05
1231L	1331L	1	3	2 to 11	3.60
1235L*	1335L*	2	6	2 to 5	3.85
1241L	1341L	1	4	2 to 11	4.70
1245L*	1345L*	2	8	2 to 5	4.95
1251L	1351L	1	5	2 to 11	5.40
1256L	1356L	2	10	2 to 6	6.05
1261L	1361L	1	6	2 to 11	6.40
1266L	1366L	2	12	2 to 6	7.40

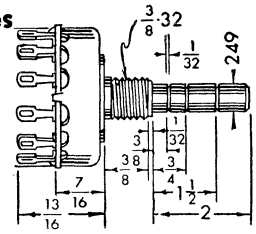
* These switches are provided with an "Off" position which is in addition to the greatest number of positions listed. The "Off" position precedes the other positions.

Typical Dimensions of 1200L, 1300L Rotary Switch



Single-Section Rotary Switches

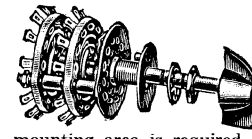




Small, compact, phenolic-insulated switches equipped with ⅜″-32 bushings, and easy-to-cut grooved shafts, ¼″ diameter x 2″ long. The 1¼″ base styles have 30° indexing. The 1 1/16″ base styles have 20° indexing and are equipped with adjustable stops.

Shorting Type Catalog Number	Non-Shorting Type Cat. No.	Number of Circuits	Number of Positions	Diameter of Base	List Price
3115J	3215J	1	5	1¼	$1.40
31112J	32112J	1	12	1¼	1.40
3122J	3222J	2	2	1¼	1.40
3123J	3223J	2	3	1¼	1.40
3126J	3226J	2	6	1¼	1.40
3134J	3234J	3	4	1¼	1.45
3142J	3242J	4	2	1¼	1.45
3143J	3243J	4	3	1¼	1.45
31117J	32117J	1	2 to 17	1 1/16	2.15
3129J	3229J	2	2 to 9	1 1/16	2.15
3136J	3236J	3	2 to 6	1 1/16	2.30
3163J	3263J	6	2 to 3	1 1/16	2.30

Ceramic Section Selector Switches

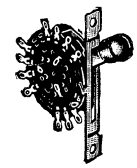


High grade, ceramic-insulated, rotary switches for use in transmitters, test and high frequency radio equipment. Supplied with silicone treated, ceramic sections and double, self-wiping, silver-plated, copper alloy contacts. All models have adjustable stops. A 2″ mounting area is required. Two-section models have ½″ spacing; 3-section models have 1″ spacing. Equipped with ¼″ round shafts, 2″ long, and ⅜″-32 bushings. Pointer knob and mounting hardware included.

Catalog Number	Number of Gangs or Sections	Number of Circuits per Gang or Section	Number of Positions	List Price
172C	1	1	2 to 11	$2.75
173C*	1	2	2 to 5	2.75
174C*	1	3	2 to 3	2.75
176C	2	1	2 to 11	4.20
177C*	2	2	2 to 5	4.20
178C*	2	3	2 to 3	4.20
180C	3	1	2 to 11	5.50
181C*	3	2	2 to 5	5.50

* These switches are provided with an "Off" position which is in addition to the greatest number of positions listed. The "Off" position precedes the other positions.

Lever Action Switches

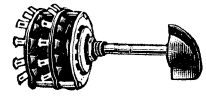


Bat-handle design. For circuit selection in intercommunication, PA and similar equipment. 2″ mounting depth behind panel required for all models. Switches of the 5000 Series have No. 8 by ¼″ elongated mounting holes with 2¼″ mounting centers. Switches of the 6000 and 7000 Series have No. 6 mounting holes with 1⅝″ mounting centers. Provided with knob and hardware.

Positive Indexing

Shorting Type Catalog No.	Non-Shorting Type Catalog No.	Number of Poles or Circuits	Number of Positions or Contacts	List Price
5124	5224	2	4	$1.90
6142	6242	4	2	1.65
6143	6243	4	3	1.65

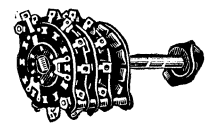
24-Position Tap Switch



For test equipment. Switches have 1 circuit and 24 positions. Phenolic insulation. Furnished with ⅜″-32 brass bushing and ¼″ x 2″ notched shaft. Dial plate 394, knob and mounting hardware supplied.

Catalog No. **13124L** List Price **$3.95**

Circuit-Opening Switch



For meter and circuit switching in test equipment and small transmitters. Switches have 4 sections and 2 to 12 positions with adjustable stop. Phenolic-insulated for 500 volt DC operation. Mounting depth behind panel is 2⅛″. Supplied with ¼″ x 2″ notched shaft and ⅜″-32 brass bushing. Pointer knob, dial plate 382, and mounting hardware included.

Catalog No. **1400L** List Price **$6.50**

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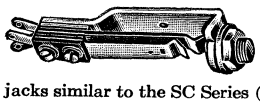
Jacks



Metal parts on all jacks have protective plating. Fine contact surfaces provide excellent electrical conductivity. Suitable mounting hardware supplied with all jacks. LA Jacks are economy jacks similar to the SC Series (see listing this page).

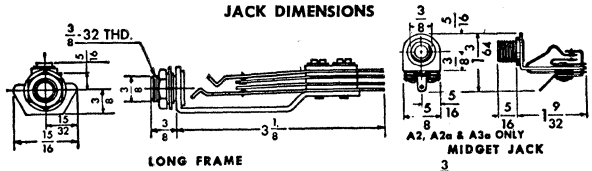
Long Frame Cat. No.	List Price	Junior Jacks Cat. No.	List Price	Infant and Midget Jacks Cat. No.	List Price
1	$0.75	701	$0.75	A-1	$0.65
2	.95	702	.85	A-2	.80
2A	.95	702A	.95	A-2A	.95
2B	.95	702B	.95		
3	1.00	703	1.00		
		703A	1.00	A-3A	1.10
3B	1.00	703B	1.00		
		703C	1.00		
		704	1.15		
		704A	1.15		
4B	1.25	704B	1.15		
5	1.50	705	1.25		
6	1.75				

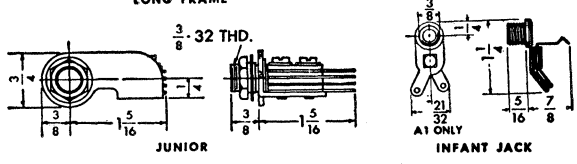
LA Series	
LA-1	$0.45
LA-2	.50
LA-2A	.55

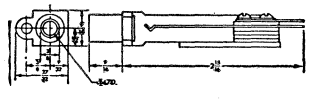
These Jacks equivalent electrically to A-1, A-2 and A-2A listed above

GJ-1 Airplane Grounding Jack—Similar to A-1 Jack except for insulation. List Price **$0.50**

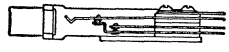
JACK DIMENSIONS



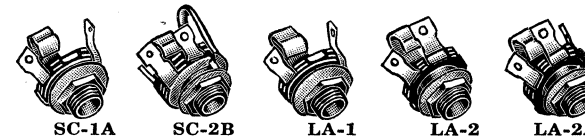




Cat. No.	Type
XP1	(Open Circuit)
XP2B	(Three-Circuit Microphone)
XP3B	(Single Circuit, Make before Break)



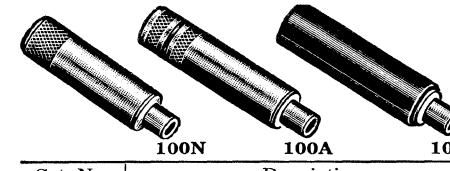
SC Jacks and LA Jacks



SC-1A SC-2B LA-1 LA-2 LA-2A

Both SC Type Jacks have standard brass ⅜"-32 bushings. Mounting depth behind panel 1 1/16". LA Jacks are similar in basic design and size, but have commercial construction. Use with No. 75, 75N, 75A or 85 phone plugs.

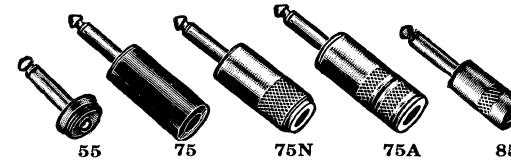
Cat. No.	Description	List Price
SC-1A Phone Jack	Commercial equivalent of military jack No. JJ-034. Same spring arrangement as No. 1 long-frame jack. Designed to receive the following plugs: Mallory No. 75, Western Electric Nos. 47A and 47B. Signal Corps Nos. PL-47, PL-48, PL-55, PL-148, PL-155, PL-125 and JAN plugs PJ-055, PJ-155, PJ-634, PJ-636, PJ-047	$0.60
SCA-2B	Commercial equivalent of military jack No. JJ-033. Same spring arrangement as No. 2B Long frame jack. Designed to receive the following plugs: Western Electric No. 109 and Signal Corps Nos. PL-68, PL-168, and JAN plugs PJ-068, PJ-168, and PJ-309	.70
LA-1	Open Circuit	.45
LA-2	Circuit closing	.50
LA-2A	Two circuits	.55



100N 100A 100

Extension Jacks

Cat. No.	Description	List Price
100	Two-Way Extension Jack (Fiber Shell) for No. 75 Phone Plug. Overall length 3¼".	$1.40
100N	Two-Way Extension Jack (Shielded One-Piece Nickel Shell) for No. 75N Phone Plug. Overall length 3 5/16".	1.80
100A	Two-Way Extension Jack (Shielded Two-Piece Nickel Shell) for No. 75A Phone Plug (with Built-in Cable Clamp). Overall length 3 1/16".	2.50



55 75 75N 75A 85

Plugs

Cat. No.	Description	List Price
55	Adapts standard microphone connector for use with conventional Jack.	$0.50
75	Two-Way Phone Plug with Tie-Cord Anchor (Phenolic Shell)	.75
75N	Two-Way Phone Plug with Tie-Cord Anchor (Shielded One-Piece Nickel Shell)	1.10
75A	Two-Way Phone Plug with Tie-Cord Anchor (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp)	1.75
76	Three-Way Microphone Plug (Phenolic Shell)	1.10
76A	Three-Way Microphone Plug (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp)	1.95
85	Two way miniature phone plug, shielded.	.60

"X" Type Jacks Plain bushing type for telephone switchboard service. Furnished with 1 mounting nut and washer.

Cat. No.	Type	List Price
XP1	Open Circuit	$1.05
XP2B	3-Circuit Microphone	1.25
XP3B	Single Circuit—Make before Break	1.50

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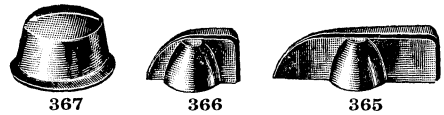
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Knobs



367 366 365

Catalog No.	Description	List Price
364	1 1/16" Dia. Similar to 368, but with pointer at base. Black	$0.15
365-1	2 1/4" Bar Type Knob, Black	.25
366-1	1 1/4" Bar Type Knob, Black	.20
366-R-1	1 1/4" Bar Type Knob, Red	.20
367-1	1 1/2" Dia. Round Knob, Black	.25
368-1	1 1/8" Dia. Round Knob, Black	.20

Mounting Nuts For Switches and Controls

A11260-2 A11260-12 232 255

Catalog Number	Description	Thread	Dimension	List Price
232	Flat Hex Mounting Nut	3/8-32	1/2 x 3/32	$0.35*
255	Hex Mounting Nut	3/8-32	1/2 x 7/64 x 7/64 shoulder nut	.20
A-11260-2	Hex Mounting Nut	3/8-32	1/2 x 7/64 x 15/32 shoulder nut	.30
A-11260-12	Hex Mounting Nut	3/8-32	1/2 x 7/64 x 7/32 shoulder nut	.25

* Per 10 pieces.

Washers—For Switches and Controls

226 227 225 203 212

Catalog Number	Description and Dimensions	List Price
203	Extruded Washer—Fiber—3/4" O.D. x 3/8" I.D. x 1/16"; Extruded 1/2" x 1/32". For Set See No. 212 Flat Washer	$0.30*
212	Flat Washer—3/4" O.D. x 3/8" I.D. x 1/32"; Phenolic	.20*
225	Metal Washer—Nickel Finish—5/8" O.D. x 3/8" I.D. .040 Brass	.20*
226	Metal Washer—Nickel Finish—5/8" O.D. x 7/16" I.D. .040 Brass	.20*
227	Lock Washer—Cadmium Plated Steel—1 1/16" O.D. x 25/64" I.D.	.20*

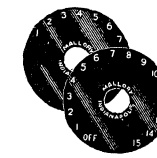
* Per 10 pieces.

Soldering Iron Tips

No. 311—Replacement tip for soldering irons that are turned on for short periods only. Heats quicker than No. 312, but is not as long wearing. Made of a special Mallory copper alloy long in use as a welding tip material. Nickel plated to resist corrosion. Size—3/8" diameter, 4" length. Plunger style with "screw driver" point.
List Price **$0.85**

No. 312—Replacement tip for soldering irons that are used continuously for long periods of time. Made of a special Mallory copper alloy of great hardness and high electrical conductivity. Nickel plated to resist corrosion. Size—3/8" diameter, 4" length. Plunger style, with "screw driver" point. List Price **$0.95**

Dial Plates



For Mallory Circuit Selector, Tap and All-Wave Switches.
List Price **$0.20** each (all types)

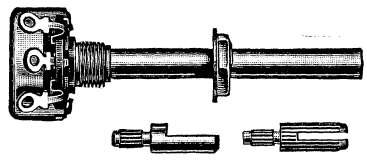
Neat-appearing Dial plates with easy-to-read aluminum figures clearly etched on solid black background. Dimensions are 1 3/16" in diameter with 7/16" hole, with figures 7/64" high. .020" aluminum stock.

For all types 3100J, 3200J Switches, with 1 1/16" base. 20 degree spacing between numerals. Catalog Number	For all Switch types 1200L, 1300L and 1/4" base 3100J, 3200J. 30 degree spacing between numerals. Catalog Number	Marking
	372	1 to 2
453	373	1 to 3
454	374	1 to 4
455	375	1 to 5
456	376	1 to 6
457	377	1 to 7
458	378	1 to 8
459	379	1 to 9
460	380	1 to 10
461	381	1 to 11
462	382	1 to 12
463		1 to 13
464		1 to 14
465		1 to 15
466		1 to 16
467		1 to 17
468		1 to 18
472		Off 1 to 2
473	383	Off 1 to 3
474	384	Off 1 to 4
475	385	Off 1 to 5
476	386	Off 1 to 6
477	387	Off 1 to 7
478	388	Off 1 to 8
479	389	Off 1 to 9
480	390	Off 1 to 10
481		Off 1 to 11
482		Off 1 to 12
483		Off 1 to 13
484		Off 1 to 14
485		Off 1 to 15
486		Off 1 to 16
	*394 Special	1 to 24
	†487 Special	1 to 5
	‡488 Special	1 to 4

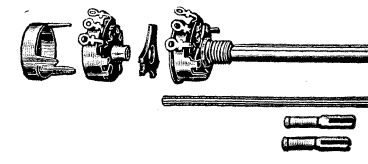
* 15° Spacing Between Numerals ‡ 90° Spacing Between Numerals
† 60° Spacing Between Numerals

Mallory Midgetrol

Single Section



Dual Section



For complete listing and description see Page 1, Mallory Resistors and Controls Section.

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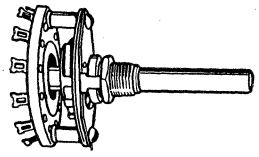
SWITCHES

MINIATURE CERAMIC ROTARY SWITCHES
PA-2000 SWITCHES — STEATITE INSULATION

New Small Size! 1 7/16" d. gives saving of 7/16" over standard switches. One piece shaft construction for accurate indexing; adjustable stop allows selection of positions or continuous rotation; meet 50 hour salt spray tests. Available as complete switches or separate assemblies. Same ratings as the larger 2500 series switches plus excellent r.f. characteristics. Shaft 1 7/8" from bushing.



MINIATURE SWITCHES WITH 30° INDEXING

Total Number Poles	Total Positions	Number Sections	Poles Per Section	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-12	1	1	PA-2000	PA-2001	$2.75
2	2-6	1	2	PA-2002	PA-2003	2.90
2	2-12	2	1	PA-2004	PA-2005	4.15
3	2-5	1	3	PA-2006	PA-2007	3.05
3	2-12	3	1	PA-2008	PA-2009	5.50
4	2-6	2	2	PA-2010	PA-2011	4.30
4	2-12	4	1	PA-2012	PA-2013	6.90
5	2-3	1	5	PA-2014	PA-2015	3.15
5	2-12	5	1	PA-2016	PA-2017	8.25
6	2	1	6	PA-2018	PA-2019	3.15
6	2-5	2	3	PA-2020	PA-2021	4.40
6	2-6	3	2	PA-2022	PA-2023	5.80
6	2-12	6	1	PA-2024	PA-2025	9.65
8	2-6	4	2	PA-2026	PA-2027	7.15
9	2-5	3	3	PA-2028	PA-2029	5.80
10	2-3	2	5	PA-2030	PA-2031	4.70
10	2-6	5	2	PA-2032	PA-2033	8.55
12	2	2	6	PA-2034	PA-2035	4.70
12	2-6	6	2	PA-2036	PA-2037	9.90
15	2-3	3	5	PA-2038	PA-2039	6.35
18	2	3	6	PA-2040	PA-2041	6.35
			SPECIAL			
1	2-10	1	1	PA-2042	.....	2.75
		(1 off, 9 progressively shorting positions)				
2	4	2	1	PA-2050	.....	2.75
		(For switching dual lines)				
2	2-12	2	1	.....	PA-2049	6.35
		(Solid-silver clips and contacts)				

MINIATURE SWITCHES WITH 60° INDEXING

1	2-6	1	1	.....	PA-2043	2.75
2	2-6	2	1	.....	PA-2045	4.15
		(1 1/2" spacing between sections)				

SEPARATE STEATITE SECTIONS FOR MINIATURE SWITCH 30° INDEXING

Number Poles	Number Positions	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-12	PA-0	PA-1	$1.50
2	2-6	PA-2	PA-3	1.50
3	2-5	PA-4	PA-5	1.65
5	2-3	PA-6	PA-7	1.65
6	2	PA-8	PA-9	1.65
1	2-5	PA-10	.....	1.50
	(Unused contacts one side of common connected and shorted out)			
1	2-11	PA-11	PA-18	1.50
	(All unused contacts connected and shorted out)			
1	2-10	PA-12	.....	1.50
	(1 off, 9 progressively shorting positions)			

60° INDEXING

1	2-6	.....	PA-17	1.50

SOLID SILVER CLIPS AND CONTACTS 30° INDEXING

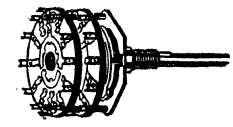
1	2-11	PA-16	.....	2.75
2	2-5	PA-14	.....	2.75
4	2	PA-15	.....	2.75

SEPARATE INDEX ASSEMBLIES FOR MINIATURE SWITCH

Suggested No. Sections	Indexing	Rear Shaft Length	Cat.No.	List Price
1 to 3	30°	2"	PA-300	$1.65
4 to 6	30°	4"	PA-301	2.20
7 to 9	30°	6"	PA-302	2.75
1 to 3	60°	2"	PA-304	1.65
4 to 6	60°	4"	PA-305	2.20
ADJUSTABLE STOP PLATE.....			P-319	Pkg. of 5/1.50
INTERSECTION SHIELD.....			P-320	Pkg. of 5/1.50

MINIATURE PHENOLIC ROTARY SWITCHES
PA-1000 SWITCHES — PHENOLIC INSULATION

A complete, new line that matches our 1400 Series in switching, and our PA-2000 Series in physical size. Index assemblies and hardware are identical to PA-2000 Series accessories. High-strength, high-resin, laminated phenolic insulation exceeds Phenolic Standards Grade XXXP. One-piece shaft construction permits accurate indexing. Adjustable stop permits selection of positions or continuous rotation (11 active positions, 1 off-position). Grade L-5 steatite spacers are used with nickel-plated brass shafts, bushings, tie bolts, and nuts. All other metal parts are treated to pass 50-hour salt-spray test. Rating same as 1400 Series. General use, 6 watts. Excellent r.f. characteristics. Shaft 1 7/8" from bushing.



MINIATURE SWITCHES WITH 30° INDEXING

Total Number Poles	Total Positions	Number Sections	Poles Per Section	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-11	1	1	PA-1000	PA-1001	$2.50
2	2-5	1	2	PA-1002	PA-1003	2.50
2	2-11	2	1	PA-1004	PA-1005	3.30
3	2-3	1	3	PA-1006	PA-1007	2.50
3	2-11	3	1	PA-1008	PA-1009	4.15
4	2	1	4	PA-1010	PA-1011	2.50
4	2-5	2	2	PA-1012	PA-1013	3.30
4	2-11	4	1	PA-1014	PA-1015	4.95
5	2-11	5	1	PA-1016	PA-1017	5.80
6	2-3	2	3	PA-1018	PA-1019	3.30
6	2-5	3	2	PA-1020	PA-1021	4.15
6	2-11	6	1	PA-1022	PA-1023	6.60
8	2	2	4	PA-1024	PA-1025	3.30
8	2-5	4	2	PA-1026	PA-1027	4.95
10	2-5	5	2	PA-1030	PA-1031	5.80
12	2	3	4	PA-1028	PA-1029	4.15
12	2-5	6	2	PA-1032	PA-1033	6.60
1	2-10	1	1	PA-1034	.....	2.50
	(One off—nine progressively shorting positions pick up and hold each progressive position)					

MINIATURE SWITCHES WITH 60° INDEXING

1	2-6	1	1	.....	PA-1035	2.50
2	2-6	2	1	.....	PA-1037	3.30

SEPARATE MINIATURE PHENOLIC SECTIONS

Use with Index Assemblies No. PA-301, PA-302 for assembly of special units of your own spacing and design.

Number Poles	Number Positions	Indexing	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-11	30°	PA-30	PA-31	$1.10
2	2-5	30°	PA-32	PA-33	1.10
3	2-3	30°	PA-34	PA-35	1.10
4	2	30°	PA-36	PA-37	1.10
1	2-5	30°	PA-38	PA-39	1.10
	(All unused contacts one side of common connected and shorted out)				
1	2-11	30°	PA-40	PA-41	1.10
	(All unused contacts connected and shorted out)				
1	2-10	30°	PA-43	.....	1.10
	(One off—nine progressively shorting positions pick up and hold each progressive position)				
1	2-6	60°	.....	PA-45	1.10

SEPARATE INDEX ASSEMBLIES

Same as for PA-2000 Series shown at left.

KIT No. 2000 — MINIATURE STEATITE SWITCHES

Kit No. 2000 of miniature switch parts is made available to meet the demand of commercial users and the armed forces for smaller units. The kit has 39 sections, 12 complete index assemblies and extensive hardware. All metal parts will withstand a salt spray test of fifty hours. Kit No. 2000.....List Price $88.00

MINIATURE SWITCH HARDWARE AND ACCESSORIES

See listing on Page L-8 of this catalog.

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SWITCHES (Cont'd)

ROTARY SELECTOR SWITCHES
2500 SERIES — STEATITE INSULATION

2500 Series Switches have highest quality (grade L-5) Steatite insulation, meet critical requirements of r.f. circuit applications. Bushing ⅜" x 32 thd. x ⅜" long. Shaft 1⅞". Positive 30° Index with adjustable stop. Separate parts also available. Packaged with Mtg. nut, lockwasher and 1¼" black bar knob. Shorting — make before break. Non-Shorting — break before make.

Total Poles	No. of Positions	Total Sections	Poles per Section	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2 to 6	1	1	2500	2501	$2.50
1	2 to 11	1	1	2502	2503	2.50
2	2 to 5	1	2	2504	2505	2.50
3	2 to 3	1	3	2506	2507	2.50
2	2 to 6	2	1	2510	2511	3.85
2	2 to 11	2	1	2512	2513	3.85
4	2 to 5	2	2	2514	2515	3.85
6	2 to 3	2	3	2516	2517	3.85
3	2 to 6	3	1	2520	2521	5.50
3	2 to 11	3	1	2522	2523	5.50
6	2 to 5	3	2	2524	2525	5.50

STEATITE SECTIONS ONLY FOR 2500 SERIES

Standard: .064" Rotor Slot. Use with above switches or P-121, 122, 123 Index.

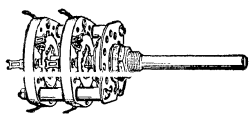
Number Poles	Number Positions	Standard Shorting	Standard Non-Shorting	List Each
1	2 to 6	T	X	$1.40
1	2 to 11	U	Y	1.40
2	2 to 5	R	RR	1.40
3	2 to 3	S	SS	1.40
4	2	V	Z	1.40
1	2 to 10	GG	—	1.40
	(All unused contacts connected and shorted out)			
1	2 to 10	—P1S	—	1.50
	(1 off—9 progressively shorting positions)			

STANDARD INDEX ASSEMBLIES

2-piece shaft, .064" thick rotor shaft for use with standard phenolic or steatite sections. Individually cartoned, all hardware included.

Sugg'd. No. Sections	Indexing	Cat. No.	List Price
1 to 3	30°	P-121	$1.65
3 to 4	30°	P-122	2.20
5 to 8	30°	P-123	2.75
Basic Index only, no hardware		1435W	1.25

STEATITE HAM-TYPE SWITCHES



90° Indexing Ham Switches will handle 15 watts and can be operated with tubes up to 1000 volts and inputs up to 150 watts. Extra heavy steatite sections and spacers assure high breakdown point. Heavily silver plated contacts. Non-shorting type switching.

Poles Per Sec.	Total Sec.	Positions	Cat. No.	List Price
1	1	2 to 4	2542	$2.50
1	2	2 to 4	2543	3.85
1	3	2 to 4	2544	5.25
1	4	2 to 4	2545	6.60
1	5	2 to 4	2546	8.00

Separate Sections

1 pole, 2 to 4 positions, non-shorting type with 4 fibre washers.

Cat. No. XX.....List $1.40

Separate Index Assemblies

For No. Section	Cat. No.	List Price
1 or 2	P-170	$1.65
3 or 4	P-171	2.20
5 to 8	P-172	2.75

ROTARY SELECTOR SWITCHES
1400 SERIES PHENOLIC INSULATION

Series 1400 offers compact design and quality construction. Laminated phenolic insulation. Mounting Bushings ⅜" x 32 thd. x ⅜" long. Shafts 1⅞" from end of bushing. Positive 30° index with adjustable stop. Revisions or additions can easily be made due to availability of all parts separately (see listings under hardware switch sections). Packaged with mtg. nut, lockwasher, 1¼" black bar knob. Shorting — make before break. Non-shorting — break before make.

Total Poles	No. of Positions	Total Sections	Poles per Section	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2 to 6	1	1	1400	1401	$2.00
1	2 to 11	1	1	1402	1403	2.25
2	2 to 5	1	2	1404	1405	2.25
3	2 to 3	1	3	1406	1407	2.25
4	2 only	1	4	1408	1409	2.25
2	2 to 6	2	1	1410	1411	2.75
2	2 to 11	2	1	1412	1413	2.75
4	2 to 5	2	2	1414	1415	3.00
6	2 to 3	2	3	1416	1417	3.00
8	2 only	2	4	1418	1419	3.00
3	2 to 6	3	1	1420	1421	3.50
3	2 to 11	3	1	1422	1423	3.75
6	2 to 5	3	2	1424	1425	3.75
4	2 to 6	4	1	1426	1427	4.25
4	2 to 11	4	1	1428	1429	4.75
8	2 to 5	4	2	1430	1431	5.00

PHENOLIC SECTIONS ONLY — 1400 SERIES

.064" Rotor Slot.

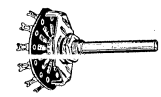
Use with above switches or P-121, 122, 123 Index.

Poles	Positions	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2 to 6	A	H	$1.10
1	2 to 11	B	J	1.10
2	2 to 5	C	K	1.10
3	2 to 3	D	L	1.10
4	2 only	E	M	1.10
4	2 to 3	EE	—	1.65
1	2 to 5	F	—	1.10
	(On F section unused contacts on one side of common connected and shorted out.)			
1	2 to 10	G	—	1.10
	(On G section all unused contacts connected and shorted out.)			

	Each
N and P Special—Combine for resistance decade switch	$1.10
Q—Special for capacitance decade switch	1.10
P-1 Special—10 pos. progressively shorting out 9 positions	1.10

(See listing of "Deluxe" sections—DD rotor slot—Page L-8)

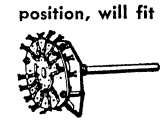
UNIVERSAL FLAT AND P.A. TYPE SWITCHES



1450 "ECONO-SWITCH"® — A 4 pole, 2 position economically designed switch which requires only ⅝" depth behind panel. Can be used as SPST and up to 4 pole, 2 position. Positive, non-shorting, leaf type index.
List Price.....**$1.25**

1451 "PERMA-SWITCH"® — The famous Centralab long life coil spring switch with a minimum of 150,000 cycles. Similar in style to the 1450 switch, 4 pole 2 position. Designed for hard life and long use in test equipment and intercom use. Coil spring can be replaced without removing switch. Non-shorting, spring return index.
List Price.....**$1.75**

1448-1449 "ALL PURPOSE" — Intercom switches. Six pole, three position, will fit practically every intercom application in use. Both units have replaceable coil spring indexing assuring 150,000 cycles minimum.



Cat. No.	List Price
1448 Spring ret. both sides	$2.75
1449 Spring ret. one side	2.75

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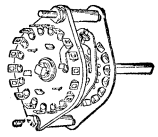
SWITCHES (Cont'd)

MEDIUM DUTY ROTARY POWER SWITCHES



STEATITE — 750 Watts at 115 Volts A.C.

An accurate, long-life unit for transmitter, power supply, and specialized application. Has positive, non-stall 20° indexing, double wiping solid silver contacts. Mounting bushing 3/8"-32 thd. x 3/8" long. 2-7/16" between locating rods. With adjustable stop and dial plate.

Total Poles	Number Positions	Number Sections	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-17	1	JV-9000	JV-9001	$14.00
2	2-8	1	JV-9032	JV-9033	14.00
2	2-17	2	JV-9004	JV-9005	22.50
3	2-5	1	JV-9002	JV-9003	14.00
3	2-17	3	JV-9008	JV-9009	32.00
4	2-8	2	JV-9034	JV-9035	22.50
4	2-17	4	JV-9012	JV-9013	42.00
5	2-17	5	JV-9016	JV-9017	55.00
6	2-5	2	JV-9006	JV-9007	22.50
6	2-8	3	JV-9036	JV-9037	32.00
6	2-17	6	JV-9020	JV-9021	65.00
8	2-8	4	JV-9038	JV-9039	42.00
9	2-5	3	JV-9010	JV-9011	32.00
12	2-5	4	JV-9014	JV-9015	42.00
15	2-5	5	JV-9018	JV-9019	55.00

SEPARATE SECTIONS FOR JV-9000 SERIES

1	2-17	..	KV-8	KVN-8	10.00
2	2-8	..	KV-10	KVN-10	10.00
3	2-5	..	KV-9	KVN-9	10.00

INDEX ASSEMBLY FOR JV-9000 SERIES

Includes shaft, tie rods, spacers, nuts and lockwashers, adjustable stop pin, 2" black bar knob, and dial plate.
Cat. No. KV-7.....List Price $7.00

DIAL PLATES — 2¾" Diameter — 20° Markings

P-230	Marked 1 to 5	List Price
P-232	Marked 1 to 8	Package, 5 of 1
P-231	Marked 1 to 17	$1.75

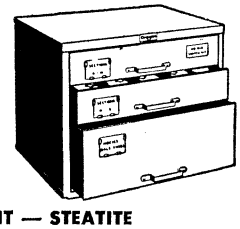
ROTARY SWITCH KITS

1500 SWITCH KIT

A four drawer cabinet containing an adequate supply of sections and indexes listed on this page to custom build two 4 section switches, two 3 section, six 1 section, one 2 section condenser decade, and one 1 section resistor decade switch. For labs, engineers, hams, and experimenters needing specialized switching arrangements. Cabinets can be replenished with stock parts.....List Price $66.00

414 DELUXE SWITCH KIT — PHENOLIC

An extra large assortment of switch hardware and sections to make the widest possible assortment of phenolic switches to your needs. Contains 111 sections including 34 of the special "DD" deluxe sections listed below, 31 Index assemblies, 25 doz. spacers, 5 doz. shafts, 8 doz. tie rods, 40 dial plates and complete hardware. Especially suited to large users of specialized switches. All kit parts may be purchased for refill from stock listings.....List Price $220.00



419 DELUXE SWITCH KIT — STEATITE

Similar to the 414 Kit, but all sections are made of Centralab's high quality grade L-5 steatite ceramic, long regarded as "the best." Contains standard and special deluxe sections below. Has 81 sections, 31 Index Assemblies, 26 doz. spacers, 35 knobs, 30 dial plates and assorted hardware. This is Centralab's finest switch kit.....List Price $209.00

"DD" DELUXE SWITCH PARTS

"Double-D" describes CRL's extra heavy (3/16" thick) rotor shaft switch and the corresponding hole in the section rotor. Also, deluxe switches have one-piece, positive indexing shaft and index assembly.

DELUXE INDEX ASSEMBLIES

Includes all hardware to use with separate sections listed above.

Rotor Shaft Length	For No. Sections	Cat. No.	List Price
2"	1 - 3	P-270	$1.65
4"	1 - 6	P-271	2.20
8"	7 - 9	P-272	2.75

FOR OTHER SWITCH HARDWARE AND ACCESSORIES, see the latest complete Centralab catalog available at your distributor.

DELUXE SECTIONS

PHENOLIC

No. Poles	Positions	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	6	AD	HD	$1.10
1	11	BD	JD	1.10
2	5	CD	KD	1.10
3	3	DD	LD	1.10
4	2	ED	MD	1.10
4	3	EED	—	1.65
1	5	FD	—	1.10
	Unused contacts shorted out 1 side of common			
1	10	GD	—	1.10
	All unused contacts shorted out			
Combine for resistance Decade		ND PD	—	1.10
For capacitance decade		QD	—	1.10
1	10	PID	—	1.10
#1 off, 9 progressively shorting.				

STEATITE

No. Poles	Positions	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	6	TD	XD	$1.50
1	11	UD	YD	1.50
2	5	RD	RRD	1.50
3	3	SD	SSD	1.50
4	2	VD	ZD	1.50
1	10	GGD	—	1.50
	All unused contacts shorted out.			
NSD-PSD Combine for resistance decade				1.50
QSD For capacitance decade				1.50
1	10	PISD	—	1.50
#1 off, 9 progressively shorting.				

MINIATURE SWITCH HARDWARE AND ACCESSORIES

STEATITE SPACERS—.120" I.D., .187" O.D.—1 dozen minimum.

Length	Cat. No.	List Price Doz.	Length	Cat. No.	List Price Doz.
1/8"	P-325	$0.50	5/8"	P-340	$0.50
3/16"	P-326	.50	11/16"	P-342	.50
1/4"	P-328	.50	3/4"	P-344	.50
5/32"	P-329	.50	13/16"	P-346	.75
5/16"	P-330	.50	7/8"	P-348	.75
3/8"	P-332	.50	15/16"	P-350	.75
7/16"	P-334	.50	1"	P-352	.75
1/2"	P-336	.50	1 1/2"	P-354	.75
9/16"	P-338	.50			

TIE BOLTS—Nickel-plated brass, 4-40 thread, #4 head, 1 doz. minimum.

Length	Cat. No.	List Price Doz.	Length	Cat. No.	List Price Doz.
3/4"	P-360	$0.75	2 3/4"	P-376	$2.00
1"	P-362	.75	3"	P-378	2.00
1 1/4"	P-364	.75	3 1/2"	P-380	2.75
1 1/2"	P-366	.75	4"	P-382	2.75
1 3/4"	P-368	.75	5"	P-384	2.75
2"	P-370	2.00	6"	P-386	2.75
2 1/4"	P-372	2.00	7"	P-388	2.75
2 1/2"	P-374	2.00			

TIE-BOLT NUTS—4-40 thread nickel-plated brass. Minimum order, 1 dozen.
CAT. No. P-390.....List $0.50
TIE-BOLT LOCKWASHERS—Split ring, stainless steel. Minimum order, 1 dozen.
CAT. No. P-392.....List $0.50
FIBRE SPACER WASHERS—For use between steatite sections and steatite spacers. Minimum, 1 dozen.
CAT. No. P-394.....List $0.50

STANDARD SWITCH HARDWARE AND ACCESSORIES

SPACERS—Cadmium-plated seamless brass tubing, .133" I.D., .187" O.D., chambered edges. Packaged 12 per envelope (minimum order).

Length	Cat. No.	List Price Doz.	Length	Cat. No.	List Price Doz.
1/8"	P-150	$0.50	7/8"	P-152	$0.75
1/4"	P-124	.50	1"	P-128	.75
3/8"	P-125	.50	1 1/4"	P-153	1.00
1/2"	P-126	.50	1 1/2"	P-154	1.00
5/8"	P-151	.75	2"	P-155	1.00
3/4"	P-127	.75			

ATTACHABLE FLAT SHAFTS— For use with 1435W Basic Index or in place of shafts furnished in P-121, -2, and -3. .064" thick, 1/4" wide. Packaged in dozen lots minimum.

Length	Cat. No.	List Price Doz.	Length	Cat. No.	List Price Doz.
1"	P-166	$0.50	5"	P-132	$0.75
2"	P-129	.50	6"	P-133	1.00
3"	P-130	.50	7"	P-134	1.00
4"	P-131	.75	8"	P-135	1.00

MOUNTING NUT AND LOCKWASHER (Std. or Miniature)

P-277 Mtg. Nut—3/8"-32 thd.....Pkg. of 12—List $0.50
P-250 Lockwasher—3/8" I.D.....Pkg. of 12—List .50

HAM-TYPE SWITCH HARDWARE AND ACCESSORIES

STEATITE SPACERS— Can be used with 1400 Series and 2500 Series switches, as well as ham-type switches. Minimum order, 1 dozen.

Length	Cat. No.	List Price Doz.	Length	Cat. No.	List Price Doz.
1/8"	P-181	$0.50	7/8"	P-182	$0.75
1/4"	P-187	.50	1"	P-192	.75
3/8"	P-188	.50	1 1/4"	P-183	1.00
1/2"	P-189	.50	1 1/2"	P-184	1.00
5/8"	P-190	.75	2"	P-185	1.00
3/4"	P-191	.75	3"	P-186	1.00

FIBRE WASHERS—For use between steatite section and steatite spacer. Minimum 1 dozen
CAT. No. P-180.....List $0.50

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

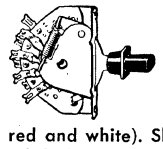
SWITCHES (Cont'd)

KIT NO. 1000 — MINIATURE PHENOLIC SWITCHES

Kit No. 1000 is to phenolic miniature switches what Kit No. 2000 is to miniature steatite switches. It's a lab and experimental stock of switch sections, hardware, and indexes which puts any standard and practically any special switch in the hands of the user without delay. Specifications are the same as for regular PA-1000 Series switches. The kit has 68 sections, 15 complete index assemblies, and hardware.

Kit No. 1000.....List Price $110.00

LEVER ACTION SWITCHES



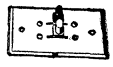
Coil spring and cam index design provides guaranteed minimum life of 150,000 switching cycles. Smooth, "clean" action. Coil type index spring easily replaceable. Mounting plates available. Furnished with black paddle-type knob (same style knob also available in red and white). Shorting — make before break. Non-shorting — break before make.

Number Poles	Number Positions	Type Indexing	Cat. No. Shorting	List Price	Cat. No. Non-Shorting
2	3	Positive	1452	$1.75	1454
2	3	Spring Return	1453	1.75	1455
2	3	Positive Spring Return	1466	1.75	1467
4	2	Spring Return	1456	2.00	1457
4	2	Positive	1459	2.00	1458
2	3	Positive	2815	1.40	....

(Special model-railroad reversing or turnout and signal switch)

MOUNTING PLATES FOR LEVER SWITCHES

TYPE A—Made of .035" die cut steel, black crackle finish. Eliminate alignment problems, provide ¾" spacing between switches. Available for 1 to 5 switch mounting. Height of all plates is 2⅝".



TYPE B — Specially furnished for mounting lever switches in electrical outlet boxes. Chrome plated wall plates will fit all standard boxes with mounting holes 3⅜" between centers. Ideal for P.A. or Intercom installations.

MOUNTING PLATE — Type A

No. Switches	Length	Cat. No.	List Price
1	¾"	P-1755	$0.50
2	1½"	P-1756	.50
3	2¼"	P-1757	.55
4	3"	P-1758	.70
5	3¾"	P-1759	.85

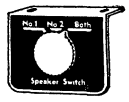
WALL PLATE — Type B

No. Switches	Cat. No.	List Price
2	P-221	$0.85
1	P-222	.70

Size: 2¾" x 4½" overall.
¾" spacing between switches.

DUAL SPEAKER SWITCH MOUNTING KIT

Kit No. PK-300 — Contains complete assembly for switching between dual speakers such as auto rear seat and front seat speakers including etched dial-mounting plate and complete installation instructions.

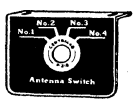


Contents:

1 Cat. No. 1484 Dual speaker switch
1 Cat. No. P-216 Mounting bracket and dial
1 Cat. No. P-197 White split knurl pointer knob
2 Self tapping sheet metal mounting screws

Kit No. PK-300.....List Price $1.50

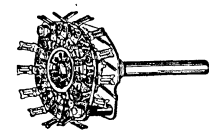
DIAL-MOUNTING BRACKET



Use with switch PA-2050 marked 1-2-3-4, for switching twin-lead antenna lines.

Cat. No. P-218.....Pkg. of 5 $3.00

23 POSITION SELECTOR SWITCH



1443 "23 CLIPPER"® — Single pole, 23 positions, shorting type contacts. High quality "W" type construction requires only 1" behind the panel. Double wiping silver plated contacts mean low loss. Include dial plate.
List Price.....$2.75

SMALL GENERAL PURPOSE SWITCHES

TYPE 1460 — Single pole, 2 position, shorting contacts, positive index. Can be used as SPST or SPDT. For phono-radio, tone or sensitivity control.
List Price $0.85.

TYPE 1461 — Single pole, 3 position, shorting contacts, positive index. Useful in miniature and band change, step type tone or sensitivity control, P.A. channel selector switch. List Price $1.50

TYPE 1462 — Double pole, 2 position, shorting contacts, positive index. Can be used as SPST, SPDT, DPST, DPDT — for meter reversing, P.A. channel, or switching both lines on phono-radio. List Price $1.50.

TYPE 1463 — Single pole, 2 position, non-shorting contacts, spring return index. Same size as Type 1460. Useful for meter reversing or momentary intercom talk switch. Non-shorting. List Price $1.50

TYPE 1464 — Double pole, 2 position, non-shorting contacts, spring return index. Same physical size as Type 1462. Can also be used as SPST, SPDT or DPST. Used as meter switch and momentary line or remote speaker return on intercoms. List Price $1.50

TYPE 1465 — Single pole, 4 position, shorting, positive index, with SPST AC line switch attached. The selector switch has 3 active positions and "off." The line switch operates between "off" and first active selector position. Line switch is Underwriters' approved for 3 amperes at 125 volts, 1 ampere at 250 volts A.C. Type 1465 is a replacement for "on-off" step tone control switches used in many AM and FM receivers. Shaft is 2½" long from end of ¼" bushing.
List Price $2.50

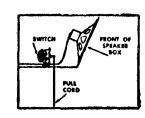
TYPE 1472 — 2 pole, 3 position, non-shorting contacts, positive index. An economical change switch for AM, FM, phono selector to amplifier in custom installations.
List Price $1.50

TYPE 1473 — Same as 1472 except shorting contacts.
List Price $1.50

TYPE 1483 — Single pole, 3 position, shorting contacts, positive index. For use with dual or auxiliary rear seat auto radio speakers. Permits operation of either speaker separately or both simultaneously. List Price $0.90

TYPE 1484 — Single pole, 3 position remote speaker switch. Same as Cat. No. 1483 except with ¼" bushing and 7/16" split knurl shaft. 15/16" White split knurl pointer knob, Cat. No. P-197, is furnished.
List Price $0.90

INTERCOM SYSTEM "TALK-BACK" SWITCH KIT
ELIMINATES expensive conduit extensions



KIT No. PK-500—Switch is mounted inside wall-mounted speaker-housing in multiple PA systems with "talk-back" feature. Cord extends below speaker — just pull to talk back. Replaces conduit wiring and outlet box mounting of switch. Only three holes required for mounting. Includes switch and bracket, cord, and mounting screws
List Price $2.20

SHORTING Contacts—make before break.
NON-SHORTING Contacts—break before make.

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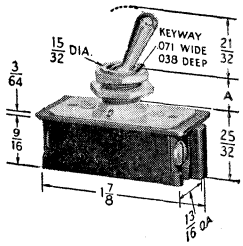
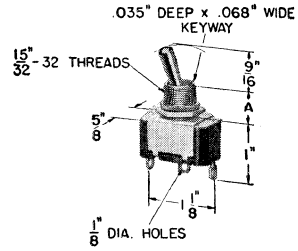
CUTLER-HAMMER SWITCHES . . .

These Cutler-Hammer switches are of the one-hole mounted type, designed for convenient installation on panels, housings and other flat surfaces of machines and appliances. Experienced Cutler-Hammer engineers working closely with the electronics and appliance manufacturers — have developed these devices to meet the requirements of every type of apparatus and every class of service.

One Hole Mounting — Commercial Applications



Cat. No. 7320 (D.P..S.T.)
Standard Duty



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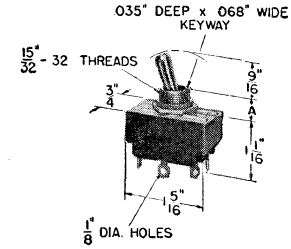
Standard Duty



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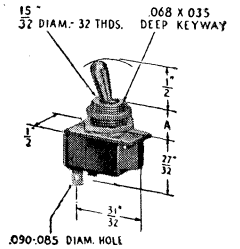
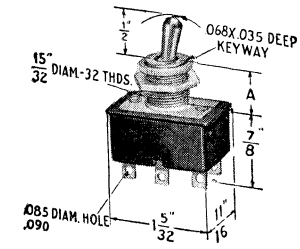
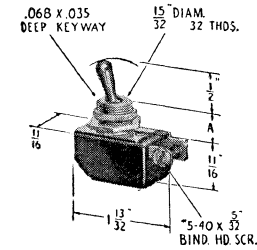
Standard Duty



Cat. No. 8280 (S.P. S.T.)
Light Duty



Cat. No. 8363 (D.P. D.T.)
Light Duty



Cat. No. 8396 (S.P. S.T.)
Light Duty

Ratings A-c Only	Single Pole S.T.	Single Pole D.T.	Double Pole S.T.	Double Pole D.T.	Three Pole S.T.	Three Pole D.T.	Four Pole S.T.	Terminal	
3 A. 125 V.	8098							L	
	8098	7141						S	
		7140 †						S	
10 A. 230 V.	7500	7504	7560	7564	7610	7614		S	
and	7501	7505	7561	7565	7611	7615		L	
15 A. 125 V.		7503 †		7563 †		7613 †		L	
		7502 †		7562 †		7612 †		S	
	7506		7566				7697	L	1
	7506		7566		7616		7696	S	1
	7507		7567					L	2
	7507		7567					S	2
10 A. 230 V.		7508 †		7568 †				L	3
		7508 †		7568 †		7617 †		S	3
		7509 †		7569 †				L	4
		7509 †		7569 †				S	4
		7510		7570				L	5
		7510		7570		7618		S	5

Standard bushing lengths — 11/32" and 15/32"

S — Screw Terminal L — Solder Lug

Ratings A-c and D-c	Single Pole S.T.	Single Pole D.T.	Double Pole S.T.	Double Pole D.T.	Terminal
1 A. 250 V.		8282			Lugs
		8297			Screw
		8292			Wire
3 A. 250 V.	8280		8360	8363	Lugs
	8290		8361	8364	Wire
	8295		8362	8365	Screw
3 A. 250 V.	8381		8370	8373	Lugs
and	8391		8371	8374	Wire
6 A. 125 V.	8396		8372	8375	Screw
6 A. 250 V.					
and	7321	7328	7320	8680	Screw
12 A. 125 V.					
10 A. 250 V.					
and	7361		7360	8690	Screw
15 A. 125 V.					

Standard bushing lengths 1/4", 11/32" and 15/32"

†Center Off, 1 — Normally open, 2—Normally closed, 3—Momentary one side, 4—Momentary both sides, 5—One side normally open, other, normally closed.

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CUTLER-HAMMER, Inc.
Milwaukee 1, Wis.

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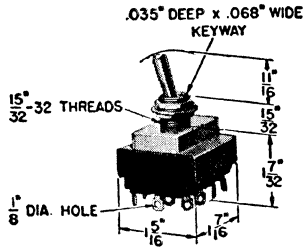
. . . for Electronics, Radio, Small Motors

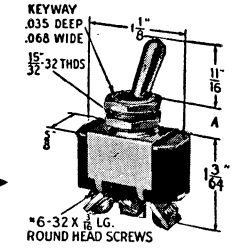
These switches are designed to meet the exacting requirements of communication and power apparatus for all branches of the government. The single pole and double pole switches meet the requirements of JAN-S-23 and the four pole switches are designed to meet the same rigid requirements. Standard bushing length — 15/32".

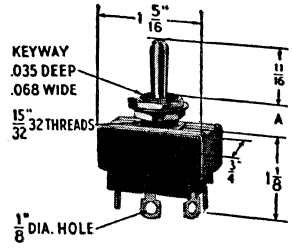


One Hole Mounting Aircraft Type Applications

Cat. No. 7663
(4 Pole D.T. — with Solder Lug)

Cat. No. 8800
(S.P., D.T. — with Screw Terminals)





Cat. No. 8821
(D.P., D.T. — Solder Terminal)

SINGLE POLE

Single Pole ST No.	Single Pole Cat. No.	Terminal	Single Pole ST No.	Single Pole Cat. No.	Terminal	Lever Position
40A	8801K7	S	42A	8803K6	L	On None Off
40B	8813K6	S	42B	8819K5	L	On None Off★
40C	8811K6	S	42C	8817K5	L	Off None On★
40D	8810K6	S	42D	8816K5	L	On None On
40E	8800K7	S	42E	8802K6	L	On Off On
40F	8804K8	S	42F	8805K5	L	On None On★
40G	8812K7	S	42G	8818K5	L	On★Off On★
40H	8809K7	S	42H	8815K6	L	On Off On★

DOUBLE POLE

Double Pole ST No.	Double Pole Cat. No.	Terminal	Double Pole ST No.	Double Pole Cat. No.	Terminal	Lever Position
50K	8822K5	S	52K	8823K5	L	On None Off
50L	8828K5	S	52L	8829K5	L	On None Off★
50M	8826K5	S	52M	8827K5	L	Off None On★
50N	8824K5	S	52N	8825K5	L	On None On
50P	8820K5	S	52P	8821K5	L	On Off On
50R	8830K5	S	52R	8831K5	L	On None On★
50S	8834K1	S	52S	8835K3	L	On★Off On★
50T	8832K1	S	52T	8833K3	L	On Off On★

FOUR POLE

Four Pole Cat. No.	Terminal	Lever Position
7660K7	S	On None Off
7661K5	L	On None Off
7662K4	S	On Off On
7663K4	L	On Off On
7664K2	S	On None On
7665K3	L	On None On
7666K5	S	Off None On★
7667K5	L	Off None On★
7668K3	S	On None Off★
7669K3	L	On None Off★
7670K3	S	On Off On★
7671K3	L	On Off On★
7672K3	S	On★Off On★
7673K3	L	On★Off On★
7674K3	S	On None On★
7675K3	L	On None On★

★Momentary contact S — Screw terminal L — Solder lug

The switches shown on these pages constitute only a partial listing of standard type Cutler-Hammer switches available. Additional data on other standard and special types may be obtained from your Cutler-Hammer electrical distributor or your nearest Cutler-Hammer sales office.

What you should know about Cutler-Hammer

Cutler-Hammer has long held the respect of the aircraft industry because this company has been part of the aircraft industry for 35 years. Today, as for the decades past, Cutler-Hammer engineers are working closely with the aircraft industry's leaders . . . thinking ahead, planning, designing and building for the future. Here is the record:

1920 Cutler-Hammer designed and manufactured the first line of switches ever created specifically for use in aircraft.

1938 Cutler-Hammer designed and manufactured the first d-c power relays ever created specifically for use in aircraft.

1943 Cutler-Hammer designed and manufactured the first a-c power relays ever created specifically for use in air-craft.

1949 Cutler-Hammer started development of the first environment-free power relays for use in aircraft.

1953 Cutler-Hammer submitted samples and certified test reports on the first hermetically sealed power relay to WADC and Bu. Aer. Cutler-Hammer configuration was adopted as industry standard by ASG.

1955 Cutler-Hammer designed and manufactured the first one hole mounting Lever Lock aircraft switches.

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CUTLER-HAMMER, Inc.
Milwaukee 1, Wis.

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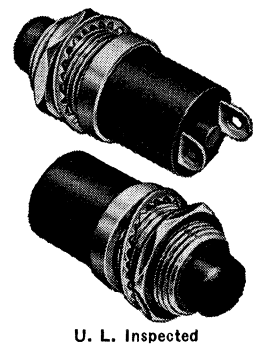
HETHERINGTON

AIRCRAFT-TYPE SWITCHES AND INDICATOR LIGHTS



U. L. Inspected

Snap-Action PUSH BUTTON SWITCHES

Momentary Contact

Although conservatively rated for a full 8 amperes, these Hetherington "B" Series switches are actually considerably smaller than conventional ½-amp momentary-contact push-button switches.

The secret of this high rating is the unique Hetherington snap-action mechanism which reduces arcing and contact wear and provides far greater current capacity than the small size and low cost of these switches would indicate. Moreover, this exceptionally positive mechanism provides strongest contact pressure at the point of "break," thus making it impossible to "tease" the switch on or off contact.

RATING: 8 Amperes, 115 volts, ac. Underwriters' Laboratories, Inc. Inspected.

CIRCUIT ARRANGEMENTS: Single pole-Single throw, with either Normally Open (NO) or Normally Closed (NC) contacts.

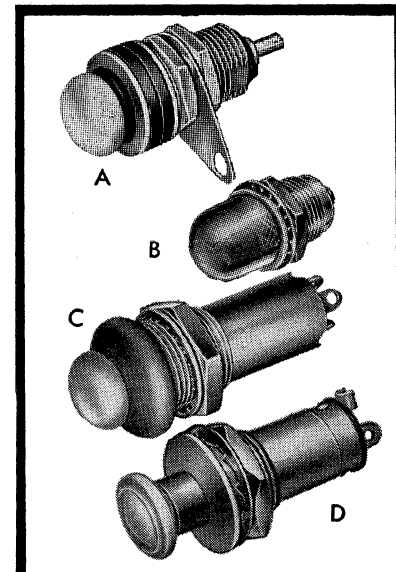
CONSTRUCTION: Cylindrical, molded phenolic housing seals switch against dust and moisture. Threaded aluminum bushing swaged to housing. Mounting nut and lockwasher provided. Contacts have heavy silver overlay on a copper base. Highly tinned lug terminals.

DIMENSIONS: $1\frac{6}{16}$" long by $\frac{31}{64}$" diameter, overall. $\frac{3}{8}$" long bushing. Mounts in ½" diam. panel hole. $\frac{7}{16}$" long lug terminals.

PRICES: **Type B2001**—SPST (NO) ..... **$1.47 list**
Type B2002—SPST (NC) ..... **$1.47 list**

Subminiature INDICATOR LIGHTS and SWITCH-LIGHT COMBINATIONS

These tiny, light-weight Hetherington indicator lights are sturdily constructed for military and industrial uses where long, trouble-free service under adverse conditions is a requisite. All types use standard AN-3140 lamps with ratings of 6, 14, 18, or 28 vdc. Removable plastic lens caps available in amber, blue, green, red, or white. Write for details on any type.

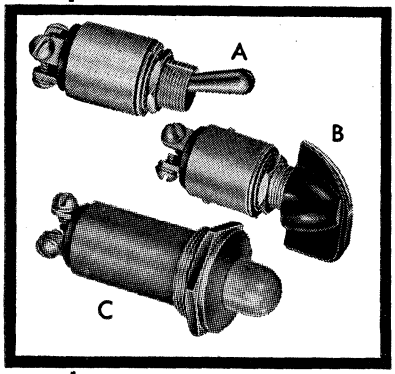


SERIES L1000: (A) For regular panel mounting in $\frac{13}{32}$" hole. Supplied with removable insulating bushings, spacers, and ground terminal. Sealed against moisture. $1\frac{5}{16}$" l. by $\frac{7}{16}$" diam. Also available for edge-lit panel mounting as Series L2000.

SERIES L6000: (B) Subminiature indicator or warning light with exceptionally wide visibility. Unique bevelling of long plastic lens "pipes" light throughout entire periphery. Lens and lamp removable as a unit from the front. For standard or edge-lit panels. Mounts in $\frac{13}{32}$" panel hole. Lens extends $\frac{27}{64}$" beyond panel. $1\frac{1}{32}$" overall length x ½" diam. Also available in 2-terminal and "Press-to-Test" styles.

SERIES L3000: (C) "Push-to-Test" indicator lights. Lamp circuit is "tested" by pressing spring-mounted plastic lens to make contact. Available with or without silicone boot for moisture protection. For flange-type mounting in ½" hole. Overall length, $1\frac{25}{32}$". Lens extends $\frac{27}{64}$" from panel.

SWITCH-LIGHT COMBINATIONS: (D) Designed originally as hostess call lights, these space-saving Hetherington switches with built-in lights now serve many industrial uses as well. Types include: Push-pull snap switches with auxiliary momentary contact and lamp circuit, Push button momentary contact switch with auxiliary lamp circuit, and Push-on pull-off or Push-off pull-on switch with integral lamp circuit. Switch ratings up to 15 amps, ac-dc. Details on request.



TOGGLE, ROTARY and "PUSH-PUSH" SWITCHES

Cam-roller action Hetherington switches positively cannot be "teased off" contact. Cylindrical anodized aluminum case reduces size by 25% over conventional rectangular switches. Continuous current ratings of 40 amps at 28 vdc or 115 vac. Write for details on any type.

SERIES T1000: (A) Bat-handle toggle switch. Available in: SP-ST on-off, SP-DT on-on, SP-ST momentary on—normally off, SP-ST momentary off—normally on, SP-DT on—momentary on. Mounts in $\frac{15}{32}$" hole. Overall length inc. toggle: $2\frac{3}{32}$".

SERIES R1000: (B) Snap-action, rotary switch available in SP-ST or SP-DT. Mounts in $\frac{15}{32}$" hole. Overall length inc. $\frac{3}{8}$" long shaft: $1\frac{31}{32}$".

SERIES J100: (C) "Push-Push" switch providing maintained contact with push button operation. SP-ST push-on push-off, or SP-DT available. Mounts in ¾" hole. Overall length $2\frac{15}{32}$".

HETHERINGTON • INC.

SHARON HILL, PENNA., U.S.A.

West Coast Division: El Segundo, California

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

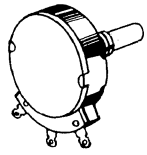
Carter PARTS COMPANY

Electrical Controls

CARTER PARTS COMPANY

SKOKIE, ILL.

FORMERLY CARTER RADIO DIVISION OF UTAH RADIO PRODUCTS



HI-WATT 5 WATT WIRE WOUND

This is an extremely rugged control designed for applications where standard commercial quality controls are not suitable. Special materials enable it to withstand long periods of overload without deterioration. It can be supplied in single, dual, and triple ganged units.

Specifications: Conservatively rated at five watts, insulated contact arm, wire wound, linear taper, 300° mechanical rotation, 290° electrical rotation, tested for breakdown at 1,500 volts RMS. This control will operate at rated watts over an ambient range of —55° C. to +71° C. It has a life of 1,000 hours based on a maximum element temperature of 175° C. and a case temperature of 150° C.

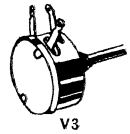
Materials: Resistance element wound with Advance or Nichrome wire (depending on overall resistance required) on Silicone impregnated Fiberglas strip. Winding held in place on strip by high grade Teflon coating. Main body of control is molded high grade heat-resistant phenolic, with cadmium plated steel shaft with nickel plated brass bushing. Contact arm is silver plated beryllium copper. Terminals are silver plated brass, hot tin dipped. All metal parts are treated to withstand 200 hours salt spray test.

Dimensions: 1 13/32″ diam. (1 7/8″ over terminals), x 17/32″ deep. Lower cost commercial quality controls are also available in following stock resistances with a 3″ long flatted universal shaft.

Stock Number	Resistance Ohms	Stock Number	Resistance Ohms
H1-1	1	H1-300	300
H1-2	2	H1-400	400
H1-3	3	H1-500	500
H1-5	5	H1-750	750
H1-10	10	H1-1000	1000
H1-20	20	H1-1500	1500
H1-25	25	H1-2000	2000
H1-30	30	H1-3000	3000
H1-40	40	H1-4000	4000
H1-50	50	H1-5000	5000
H1-75	75	H1-7500	7500
H1-100	100	H1-10000	10000
H1-150	150	H1-15000	15000
H1-200	200		

VARIABLE RESISTORS — Wire Wound Type

W1



V3

W400

Standard Specifications

The shaft and housing are constructed of steel, cadmium plated. Bushing and hex. nuts are brass, but can be supplied nickel-plated. Terminals are made of steel, silver-plated over copper plate. Insulating material as described for individual types. Low temperature—coefficient wire used on all units except where physical size of wire will not permit.

Stock Number Pots.	Resist. Ohms	Stock Number Pots.	Resist. Ohms
W1-½	½	W1-40	40
W1-1	1	W1-50	50
W1-2	2	W1-75	75
W1-3	3	W1-100	100
W1-6	6	W1-200	200
W1-10	10	W1-400	400
W1-15	15	W1-500	500
W1-20	20	W1-1000	1000
W1-25	25	W1-1500	1500
W1-30	30		

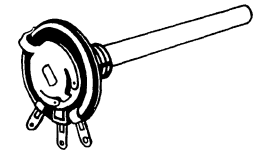
Type W1 — 3 WATT RATING

Stock No.	Value in Ohms	Stock No.	Value in Ohms
V3-10	10	V3-800	800
V3-20	20	V3-1M	1000
V3-30	30	V3-2M	2000
V3-50	50	V3-3M	3000
V3-100	100	V3-4M	4000
V3-200	200	V3-5M	5000
V3-300	300	V3-6M	6000
V3-400	400	V3-10M	10000
V3-500	500	V3-15M	15000
V3-600	600		

Type V3—4 WATT RATING

Stock No.	Resist. Ohms	Stock No.	Resist. Ohms
W400-100	100	W400-1M	1000
W400-150	150	W400-2M	2000
W400-200	200	W400-3M	3000
W400-250	250	W400-5M	5000
W400-300	300	W400-7500	7500
W400-400	400	W400-10M	10000
W400-500	500	W400-20M	20000
W400-800	800	W400-50M	50000

Type W400—15 WATT RATING



THRIFTY IMP 2 WATT WIRE WOUND

This is a low cost, yet sturdily constructed, control. It can be supplied with either grounded contact arm, or insulated contact arm.

Specifications: Rated at 2 watts, wire wound, linear taper, open construction, 300° mechanical rotation, 280° electrical rotation, tested for breakdown at 500 volts RMS.

Materials: Resistance element wound on braided Fiberglas cord. Resistance element nests in groove between two heavy fiber body pieces. Aluminum bushing, aluminum shaft, phosphor bronze contact arm, tin coated solder terminals.

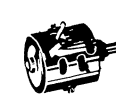
Dimensions: 1⅛″ dia. (1 7/16″ diam. over terminals) x 5/16″ deep. Stock version has ⅜″ x ⅜″ bushing with flatted shaft extending ½″ beyond end of bushing.

Stock Number		Resist. Ohms	Stock Number		Resist. Ohms
Insulated Arm	Grounded Arm		Insulated Arm	Grounded Arm	
R99-2	R98-2	2	R99-100	R98-100	100
R99-3	R98-3	3	R99-150	R98-150	150
R99-5	R98-5	5	R99-200	R98-200	200
R99-6	R98-6	6	R99-250	R98-250	250
R99-8	R98-8	8	R99-300	R98-300	300
R99-10	R98-10	10	R99-400	R98-400	400
R99-15	R98-15	15	R99-500	R98-500	500
R99-20	R98-20	20	R99-750	R98-750	750
R99-30	R98-30	30	R99-1000	R98-1000	1000
R99-50	R98-50	50	R99-1500	R98-1500	1500
R99-75	R98-75	75	R99-2000	R98-2000	2000

CARTER "T" & "L" PAD WIREWOUND ATTENUATORS

V2

W300



V7

W201

(V2) 4-WATT "L" PADS ENCLOSED SINGLE TYPE. BODY: 1 7/16″ diameter, 1/16″ deep. BUSHING: ⅜″ diameter, ⅜″ long. SHAFT: ¼″ diameter, 1½″ long, from bushing. Mount in single ⅜″ hole.

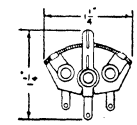
(W300) 10-WATT "T" PADS OPEN FRAME TYPE. BODY: 2 1/16″ diameter, 7/32″ deep. BUSHING: 1/16″ diameter, ⅜″ long. SHAFT: ¼″ diameter, 1/16″ long, from bushing.

(V7) 8-WATT "L" PADS ENCLOSED DUAL TYPE. BODY: 1 7/16″ diameter, 1½″ deep. BUSHING: ⅜″ diameter, ⅜″ long. SHAFT: ¼″ diameter, 1½″ long, from bushing.

(W201) 15-WATT "L" PADS OPEN FRAME TYPE.

STOCK NO.	IMPEDANCE
V2/W300/V7/W201—8	8 Ohms
V2/W300/V7/W201—16	16 Ohms
V2/W300/V7/W201—50	50 Ohms
V2/W300/V7/W201—200	200 Ohms
V2/W300/V7/W201—500	500 Ohms
V2/W300/V7/W201—1000	1000 Ohms

TYPE AD ADJUSTABLE WIREWOUND RESISTORS



The Carter Type AD Resistor is an inexpensive and compact adjustable resistor capable of dissipating one watt. The arm is slotted for ease of adjustment. Its sturdy construction permits mounting either by its terminals or through the large eyelets.

Stock No.	Resist. in Ohms	Stock No.	Resist. in Ohms
AD-10	10	AD-200	200
AD-20	20	AD-250	250
AD-25	25	AD-400	400
AD-40	40	AD-500	500
AD-50	50	AD-750	750
AD-75	75	AD-1000	1000
AD-100	100	AD-2000	2000

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Carter PARTS COMPANY

Electrical Controls

CARTER PARTS COMPANY

SKOKIE, ILL.

FORMERLY CARTER RADIO DIVISION OF UTAH RADIO PRODUCTS

CARTER TELEPHONE JACKS

SPECIFICATIONS

CONTACTS: Silver-zinc alloy is standard. Coin silver, fine silver and others can also be supplied in production quantities.

BUSHING: Plain brass is standard. Available with nickel-plate when specified.

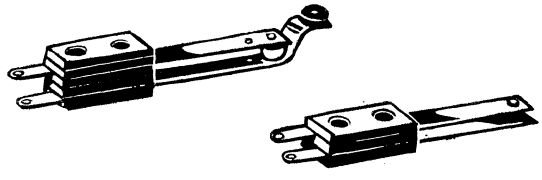
SPRINGS: Finest grade nickel silver with soldering terminals hot tinned for easy soldering.

INSULATION: Spacers made of high grade laminated phenolic.

FRAME: Frame and face plate cadmium plated steel. Frame and face plate are electrically welded to form one integral unit. This provides outstanding strength and superior ability to "stand the gaff." Where paramount quality and ruggedness is desired this telephone jack is recommended.

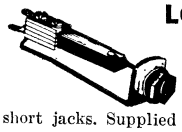
Carter "imp" Telephone Jacks can be supplied in many circuit combinations to suit your requirements. They are ideal for use in telephone, broadcast studio and audio equipment.

LEAF SPRING STACK ASSEMBLY SWITCHES



Low-cost, practical, dependable Contact Switch Assemblies can be supplied by Carter to meet innumerable different specifications and arrangements. It is impractical to catalog the many possible combinations, and for that reason we suggest you write in about your requirements.

LONG AND SHORT FRAME JACKS



LONG JACKS . . . The original long jacks were adapted from the telephone switchboard jacks. Long rugged, phosphor-bronze springs parallel to the plug axis give precise action. These jacks take minimum panel mounting space, less than the short jacks. Supplied with nickel-plated Palnut.

SHORT JACKS . . . Carter short jacks are small and compact, but do a full-sized job. Depth behind the panel is cut down by placing the tempered nickel-silver springs parallel to the panel. High quality sheet phenolic and tubular ebonite insulators are used throughout—no paper or fibre used in Carter Jacks. Supplied with nickel-plated Palnut.

Short and long jacks mount in single ⅜" hole in panels up to $\frac{5}{16}$" thick. Fit of the plug in the jack is not affected by the thickness of the panel. Fit all standard plugs in two and three conductor types. Cadmium plated steel frame. All contacts between springs are fine silver, giving minimum contact resistance.

CARTER "Imp" PLUNGER SWITCH

- **Wiping-Rotating Action**
- **Minimum Arcing**
- **No Impact Load on Plunger**
- **Longer Life**
- **No Corroding Carbides or Oxides**
- **Silver Plated Contactor and Terminals**

Electrical Specifications and Types Available: Carter's "imp" Plunger switch is **available in a variety of mountings** to meet most demands for this type of a switch.

Electrical Specs: "Imp" plunger switch is designed to handle ¾ Amperes at 100-125 Volts, ¼ Amperes at 250 Volts.

CIRCUITS: Normally closed.

CARTER IMP JACKS

These are the smallest jacks available for use with standard phone plugs. They come in a wide variety of circuits, as shown below. Mount in a single ⅜" diam. hole, panels up to $\frac{5}{32}$" thick. More detailed catalog information available on request.

"Imp" SHORT JACKS

J-1 Open Circuit "imp" Short Jack—Has tip and sleeve circuits only.

J-2 Closed Circuit "imp" Short Jack—Similar to J-1 with an additional spring making contact with tip spring until plug is inserted.

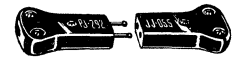
J-3 Microphone "imp" Short Jack—A new 3-conductor jack having tip, ring and sleeve circuits. Fits standard 3-circuit ¼" dia. microphone plugs.

Inquire regarding JAN Specs. Jacks and Plugs

CARTER "Imp" JACKS

Schematic	Part No.	Description
	J1	2 conductor—open circuit
	J2	2 conductor—closed circuit
	J3	3 conductor—open circuit
	J4	3 conductor—closed circuit on tip spring
	J5	3 conductor—closed circuit on ring spring
(Same as J1)	*J6	2 conductor—open circuit (JAN JJ-034)
(Same as J3)	*J7	3 conductor—open circuit (JAN JJ-033)
	J8	2 conductor—break-make circuit
	J9	2 conductor—separate break circuit
	J10	2 conductor—separate make circuit
(Same as J1)	J11	2 conductor—open circuit
(Same as J2)	J12	2 conductor—closed circuit
	J13	3 conductor—closed circuit grounded
(Same as J4)	J14	same as J4 except .2085" dia. bushing
(Same as J5)	J15	same as J5 except .2085" dia. bushing
	J16	2 conductor—closed circuit grounded
(Same as J7)	J17	same as J7 except .2085" dia. bushing
(Same as J2)	*J20	2 conductor—closed circuit (JAN JJ-089)

* Built to meet JAN Specs.



CARTER HEADSET CONNECTORS

These miniature connectors are built to government specifications for aircraft headset use. Small, lightweight, ideal for any low voltage audio or signal circuit. Positive "snap" fit. All current carrying parts nickel plated.

PJ-292 Plug—1 $\frac{5}{8}$" long x ¾" wide x ⅜" deep. Solder terminals.
JJ-055 Jack—1 $\frac{7}{16}$" long x ¾" wide x ⅜" deep. Solder terminals.

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Carter PARTS COMPANY

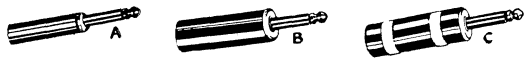
Electrical Controls

CARTER PARTS COMPANY

SKOKIE, ILL.

FORMERLY CARTER RADIO DIVISION OF UTAH RADIO PRODUCTS

CARTER "*Imp*" PHONE PLUGS



Fit standard 2-conductor jacks ¼" diameter. New types now stocked for wide range of uses. For headphones, microphones, speakers, musical instruments, medical and test equipment, many others.

Molded handles. Metal Shield handles are bright nickel plated with internal 2-layer, high quality tubular insulators, preventing short circuits in handle.

(A) "imp" Phone Plug—Trend to miniaturization is reflected in the new "imp" phone plug. All features same as standard plug but ½" diameter handle.

(B and C) Carter Two Conductor Phone Plugs—Old standby original Carter "imp" two conductor phone plug. General purpose type. Screw type terminals designed to take phone tips singularly or in pairs, spade lugs. Screws are binding head terminal type. Handles $\frac{11}{16}$" diameter, $2\frac{1}{16}$" long. Type B uses molded black phenolic handle. Type C has nickel plated handle.

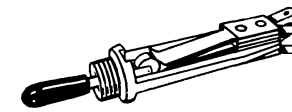
Part No.	Type	Handle	Circuit	Terminal
P1	A	Black	2 Conductor	Clamp type
P2	A	Red	2 Conductor	Clamp type
P3	A	Metal	2 Conductor	Clamp type
P4	A	Black	2 Conductor	Screw type
P5	A	Red	2 Conductor	Screw type
P6	A	Metal	2 Conductor	Screw type
P7	A	Black	2 Conductor	Solder lug
P8	A	Red	2 Conductor	Solder lug
P9	similar to A	Short Metal	2 Conductor	Solder lug
P19	A	Metal	2 Conductor	Solder lug
P10	A	Black	3 Conductor	Clamp type
P11	A	Red	3 Conductor	Clamp type
P12	A	Metal	3 Conductor	Clamp type
P23	similar to C	Short Metal	2 Conductor	Screw type
P24	B	Black	2 Conductor	Screw type
P25	B	Red	2 Conductor	Screw type
P26	C	Metal	2 Conductor	Screw type
P27	B	Black	3 Conductor	Solder lug
P28	B	Red	3 Conductor	Solder lug
P29	C	Metal	3 Conductor	Solder lug
P30	similar to C	Short Metal	3 Conductor	Solder lug

(D and E) Two-Conductor Portable Jacks—Used on end of extension cord. Fits 2-conductor plugs. Screw terminals take one pair phone tips, terminals or wires. Shield handles have tubular insulator to prevent short circuits. Ideal for use in connecting audio and recording equipment.

Part Number	Type	Handle
J80	E	Black
J81	E	Red
J82	D	Metal

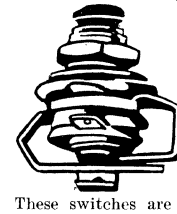
CARTER IMP LEVER SWITCHES

Miniature lever action switch, available in numerous circuits, both locking and non-locking. Solid, one-piece die-cast frame. Roller bearing action. Fine silver contacts rated at 3 amperes, 120 volts AC, non-inductive. Mounts in single $\frac{15}{32}$" diameter hole.



Part No. Locking	Part No. Non-Locking	Schematic
L-200	L-210	
L-201	L-211	
L-202	L-212	
L-204	L-214	
L-205	L-215	
L-206	L-216	
L-220	L-223	
L-221	L-224	
L-222	L-225	

CARTER "*Imp*" PUSH-BUTTON SWITCHES



Carter "Imp" Push-Button Switches combine compact size, highest quality and economical price. Springs are fully insulated from the mounting bushing and shaft.

The push-buttons can be supplied in colors—one-piece shaft and button made of Kolonite, red, green or black color. The one-piece type button and shaft afford speedier assembly to mounting panel since button does not require removal to pass through the hole in the mounting surface.

These switches are supplied in "non-locking" only, and in only 3 circuits. The part numbers listed cover standard combinations.

Circuit	Contact Arrangement	One-Piece Red Push-Button Part No.	One-Piece Black Push-Button Part No.
	"Single Make"	L4	L1
	"Single Break"	L5	L2
	One "Break-Make"	L6	L3

SPECIFICATIONS

Springs: Spring tempered nickel silver.
Contacts: Integral contacts. Silver contacts can be supplied (in production quantities) when specified.
Insulation: Highest quality bakelite throughout.
Mounting Bushings: Nickel plated brass.
Push-Button: See text above.
Mounting Hardware: Supplied with one brass nickel plated locknut and one steel nickel plated washer.

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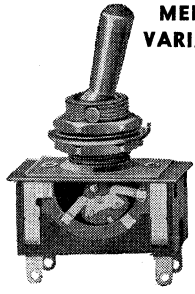
SINGLE HOLE · FLUSH MOUNTING TOGGLE SWITCHES

MEDIUM DUTY TYPES DESIGNED FOR GOV'T SPECS. SUCH AS JAN-S-23 AND DDAX SERIES

VARIATIONS IN CONSTRUCTION NOW IN PROCESS FOR MIL-S-3950 SERIES MS25098 and MS25100.



Single Pole • Double Pole
Single Throw • Double Throw
Side Connected • Rear Connected
Series ST12, ST13, ST16, ST17
Series ST22, ST23, ST26, ST27

This page covers 24 models of toggle switches nominally rated at 6 amp. at 125 VAC, 3 amp. at 250 VAC. Sixteen models have threaded bushings 29/64" in length; eight 1/4" in length.

NEW **STAND UP UNDER TOUGH ENVIRONMENTAL TESTS**

Like J-B-T Switches in the rotary, lever-action, and heavy-duty toggle switch fields, this new series has quality as its first objective. J-B-T controls quality by doing its own designing, actual manufacturing and in-plant testing of production samples.

Sound Electrical Characteristics . . . Stationary contacts are brass, heavily silver plated; wiping contacts are phosphor bronze, heavily silver plated. Tested to meet 50% overload for brief periods. Contact resistance well under 0.01 ohm requirement of military specifications. High dielectric exceeds 1000 volts r.m.s., 60 cycles at sea level.

Cold and Heat . . . Specialized aircraft lubricant facilitates mechanical and electrical operation at both low and high temperatures (–67°F to 185°F).

High Humidity . . . Materials, plating, construction and lubricant enable switch to withstand tropical climates.

Salt . . . Meets 100 hour Salt-Spray Test QQ-M-151a which is twice the required minimum.

Vibration and Shock . . . No momentary make or break nor mechanical damage during stringent shake tests and 75 G's drop test.

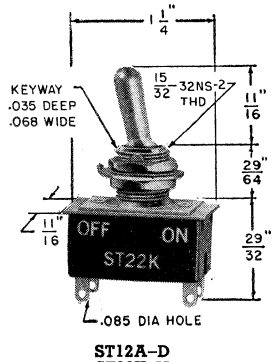
Combination . . . Can be used under any or all of these adverse conditions.

Exceptionally Rugged . . . Dull nickel plate external finish . . . terminals withstand 5 pound pull . . . operating cycles far in excess of the minimum specified as acceptable . . . stainless steel springs.

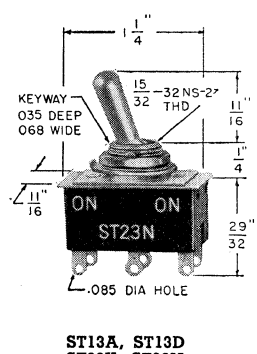
SINGLE POLE **CIRCUIT ARRANGEMENT** **DOUBLE POLE**

CIRCUIT DIAGRAM	MODEL NUMBER REAR CON Bushing Lgth. 29/64"	MODEL NUMBER REAR CON Bushing Lgth. 1/4"	MODEL NUMBER SIDE CON Bushing Lgth. 29/64"	MODEL NUMBER SIDE CON Bushing Lgth. 1/4"	A	B	C (KEYWAY)	MODEL NUMBER REAR CON Bushing Lgth. 29/64"	MODEL NUMBER REAR CON Bushing Lgth. 1/4"	MODEL NUMBER SIDE CON Bushing Lgth. 29/64"	MODEL NUMBER SIDE CON Bushing Lgth. 1/4"	CIRCUIT DIAGRAM
SPST	ST12A	ST13A	ST16A	ST17A	on	none	off	ST22K	ST23K	ST26K	ST27K	DPST
	ST12B	—	ST16B	—	on	none	off*	ST22L	—	ST26L	—	
SINGLE POLE SINGLE THROW	ST12C	—	ST16C	—	off	none	on*	ST22M	—	ST26M	—	DOUBLE POLE SINGLE THROW
SPDT	ST12D	ST13D	ST16D	ST17D	on	none	on	ST22N	ST23N	ST26N	ST27N	DPDT
SINGLE POLE DOUBLE THROW					*Momentary Position							DOUBLE POLE DOUBLE THROW

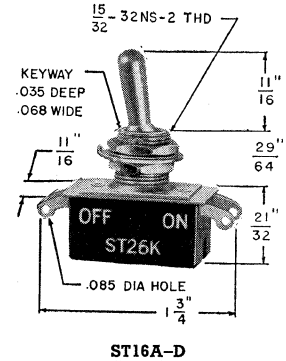
For Electrical Characteristics, Current Values and Full Information, Ask for Bulletin TS-5A.



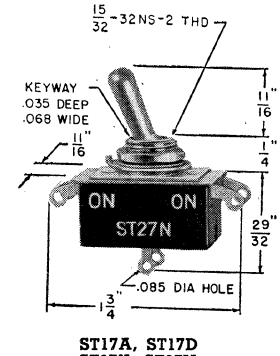
ST12A–D
ST22K–N



ST13A, ST13D
ST23K, ST23N



ST16A–D
ST26K–N



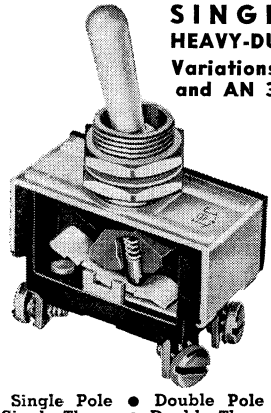
ST17A, ST17D
ST27K, ST27N

Instrument Quality — J-B-T INSTRUMENTS, INC. — Components

SINGLE HOLE • FLUSH MOUNTING TOGGLE SWITCHES

HEAVY-DUTY TYPES DESIGNED FOR GOV'T SPECS. SUCH AS JAN-S-23 AND DDAX SERIES

Variations in construction now in process for air craft type MIL-S-6745 (AN-S-20a) series AN 3021 and AN 3027 also all-purpose type MIL-S-3950 series MS35058 and MS35059.



Single Pole ● Double Pole
Single Throw ● Double Throw
Screw Terminal ● Solder Lug
Series ST40, ST42
Series ST50, ST52

This page covers 32 models of toggle switches nominally rated at 20 amp. at 125 VAC, and 10 amp., 250 VAC, and other higher and lower ratings where specified in JAN-S-23 or other pertinent specifications.

REGULARLY TESTED TO MEET ADVERSE OPERATING CONDITIONS

Overload . . . Tested to make and break at 50% overload for brief periods. To assure performance of these switches with their comparatively heavy current ratings, J-B-T features ample size **solid coin silver contacts and rocker arms** instead of clad or brazed construction. Contact resistance is under 0.005 ohms. High dielectric exceeds 1000 volts r.m.s. at 60 cycles at sea level.

Cold and Heat . . . Specialized aircraft lubricant facilitates mechanical and electrical operation at both low and high temperatures (–67°F to 185°F).

Vibration and Shock . . . No momentary make or break or mechanical damage during stringent shake tests and 75 G's drop test.

High Humidity . . . Materials, dull finish on outside metal parts (as required by Armed Services specifications) and lubricant enable switches to withstand tropical climates.

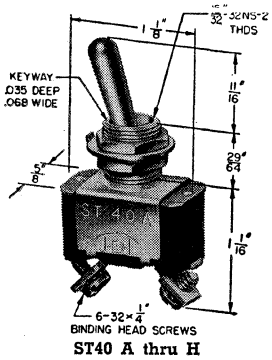
Salt . . . Meet 100 hour Salt-Spray Test QQ-M-151a which is twice the required minimum of JAN-S-23.

Rugged Service . . . Generously proportioned and substantially built for extra life. For instance, both screw-type terminals and solder lugs easily withstand a 30 pound pull test. Operating cycles far in excess of minimum specified as acceptable. Springs are stainless steel. Quality standards are maintained by in-plant testing of production samples to meet adverse operating conditions.

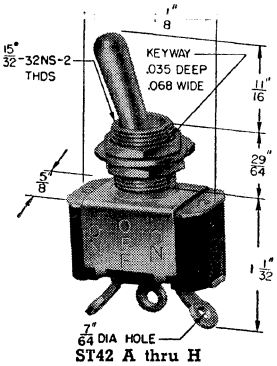
SINGLE POLE			CIRCUIT ARRANGEMENT			DOUBLE POLE		
CIRCUIT DIAGRAM	MODEL NUMBER		A	B	C	MODEL NUMBER		CIRCUIT DIAGRAM
	SCREW TERMINAL	SOLDER LUG			KEYWAY	SCREW TERMINAL	SOLDER LUG	
SPST SINGLE POLE SINGLE THROW	ST40A	ST42A	on	none	off	ST50K	ST52K	DPST DOUBLE POLE SINGLE THROW
	ST40B	ST42B	on	none	off*	ST50L	ST52L	
	ST40C	ST42C	off	none	on*	ST50M	ST52M	
SPDT SINGLE POLE DOUBLE THROW	ST40D	ST42D	on	none	on	ST50N	ST52N	DPDT DOUBLE POLE DOUBLE THROW
	ST40E	ST42E	on	off	on	ST50P	ST52P	
	ST40F	ST42F	on	none	on*	ST50R	ST52R	
	ST40G	ST42G	on*	off	on*	ST50S	ST52S	
	ST40H	ST42H	on	off	on*	ST50T	ST52T	

*Momentary Position

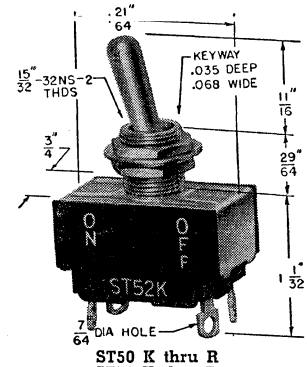
For Electrical Characteristics, Current Values and Full Information, Ask for Bulletin TS-5A.



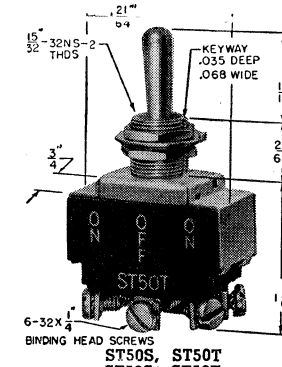
ST40 A thru H



ST42 A thru H



ST50 K thru R
ST52 K thru R



ST50S, ST50T
ST52S, ST52T

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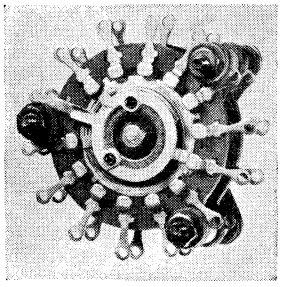
INSTRUMENT AND TESTER SWITCHES (LAMINATED)

Rotary Selector — Single and Multi-Gang — Non-Shorting and Shorting



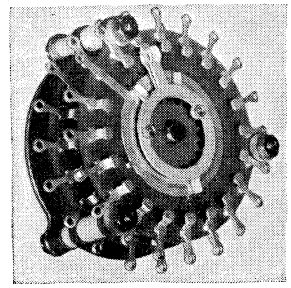
SS-14-2

J-B-T Instrument-type Rotary Selector Switches are used widely in quality test equipment, portable instruments, inspection setups and avionics where trouble-free, dependable performance is of major importance. Available in two basic types—14 and 20 position—the design gives extra contacts in minimum space. One to six decks.

FEATURES:

Reliability—Rigid, 3-post deck suspension, instead of the usual 2; all current carrying parts are brass or phosphor bronze, silver flashed and then heavily plated with fine silver to meet 100 hour salt spray test; ball bearing action, beryllium-copper balanced spring (SS-14); leaf-type (SS-20), and sharp detent assure positive indexing. Springs of both switches are generally replaceable without disturbing soldered connections. Laminated plastic decks and rotors selected for maximum mechanical and dielectric strength. Insulation resistance above 50,000 megohms.

Exceptional Compactness—14-position switch takes 13 circuits and "off" in 2" circle; 20-position switch handles 19 circuits and "off" in 2-23/32" circle. Each deck above first adds only 5/16".



SS-20-2

Low Contact Loss—Double-grip collector arms, and large-area contacts, silver to silver, result in an average contact resistance of .007 ohms or less during the useful life of the switch.

Ample Dielectric—AC or DC; normal carrying capacity (not make-and-break), 1 amp.; maximum momentary capacity (not make-and-break), 5 amp.; maximum voltage between contacts 1,500 volts R.M.S.; between decks and ground, 2000 volts R.M.S.

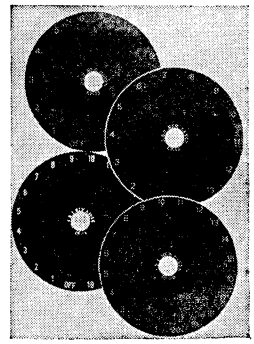
Military Variations—The following can be supplied on special order at extra cost: (a) laminated plastic, Type PBE-P per Spec. MIL-P-3115B; (b) vacuum impregnation of rotors, decks, spacers, and ceramic spacers with approved fungicides; (c) hot tin dip on contact surfaces to be soldered; (d) 14 to 20 live positions, no off, (add suffix F, as SS-14-2F); (e) common position in non-standard location.

BASIC 14-POSITION: 1¼" Bar knob supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, unless otherwise specified. **Contact lugs** and common lugs positioned as shown below, 13 contacts per deck. **One to six decks;** for each additional deck (or gang) add 5/16" to depth. **Continuous rotation type** supplied unless otherwise specified. **Adjustable Stop** normally is supplied on standard cataloged switches. **Fixed Stops** can be supplied on quantity orders at moderate cost. **Panel locator** positioned as shown unless otherwise specified on bulk orders.

BASIC 20-POSITION: 2" Bar knob supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat on shaft, unless otherwise specified. **Contact lugs** and common lugs positioned as shown, 19 contacts per deck, continuous rotation types. **One to six decks;** for each additional deck, add 5/16" to depth. **Continuous rotation type** supplied unless otherwise specified. **Panel locator** positioned as shown unless otherwise specified on bulk orders.

SWITCH KIT (Laminated Phenolic)

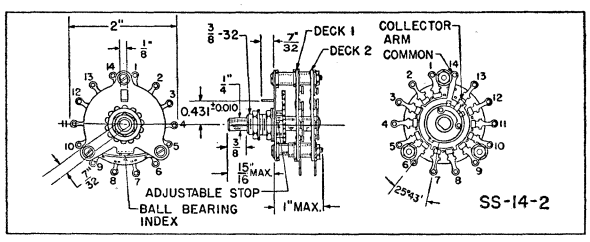
Most of the 14 and 20 position laminated switches, plus special variations as needed, can be assembled quickly from the kit shown on an adjoining page. Designers, service engineers, laboratories, and industrial maintenance departments will especially appreciate the convenience, flexibility, and time saved.



ETCHED DIAL PLATES

For SS-14 or MS-14 Series; and for SS-20 or MS-20 Series. Dull black finish — with raised bright metal numerals. 2¾" diameter.

EP-13 off thru 13	**$0.21**
EP-14 1 thru 14	**.21**
EP-19 off thru 19	**.21**
EP-20 1 thru 20	**.21**



Non-Shorting—Break before make. **Shorting**—Make before break.

LAMINATED SWITCHES, SS-14 TYPE
(14 positions; angular indexing 25° 43')

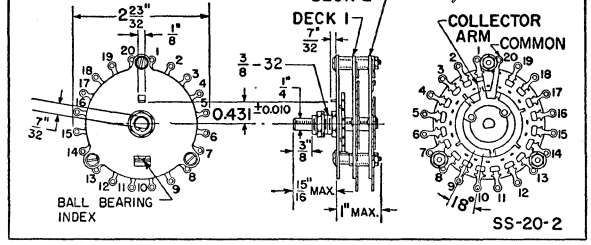
Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Boxed, Including Knob
SS-14-1	14	1	1	N-S	**$1.70**
SS-14-1A*	5†	2	1	N-S	**1.80**
SS-14-1S*	14	1	1	S	**1.75**
SS-14-1CS‡*	14	1	1	CS	**2.10**
SS-14-2	14	1	2	N-S	**2.10**
SS-14-2A*	5†	2	2	N-S	**2.30**
SS-14-2S*	14	1	2	S	**2.20**
SS-14-2CS‡*	14	1	2	CS	**2.90**
SS-14-3	14	1	3	N-S	**2.55**
SS-14-3S*	14	1	3	S	**2.70**
SS-14-4	14	1	4	N-S	**3.30**
SS-14-6	14	1	6	N-S	**4.80**

*Standard items, but not regularly stocked; check with your electronic parts distributor.
†Denotes correction in former catalogs; 5 positions include 4 "live" and 1 "off".
‡Complete shorting — all contacts shorted except one in use.

LAMINATED SWITCHES, SS-20 TYPE
(20-positions; angular indexing, 18°)

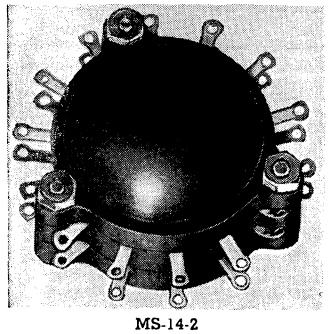
SS-20-1	20	1	1	N-S	**$2.20**
SS-20-1A*	6§	2	1	N-S	**2.30**
SS-20-1S*	20	1	1	S	**2.25**
SS-20-2	20	1	2	N-S	**2.75**
SS-20-2S*	20	1	2	S	**2.85**
SS-20-3	20	1	3	N-S	**3.60**
SS-20-4	20	1	4	N-S	**4.50**
SS-20-6	20	1	6	N-S	**6.30**

*Standard items, but not regularly stocked; check with your electronic parts distributor.
§Denotes correction in former catalogs; 6 positions include 5 "live" and 1 "off".



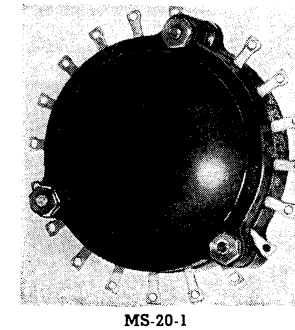
UNIQUE — MOLDED ROTARY SELECTOR SWITCHES

Fully Enclosed — Single and Multi-Gang — Shorting and Non-Shorting



MS-14-2

- **All moving contacts enclosed — minimizes dirt and corrosion.**
- **Sturdy construction with 3-post deck suspension, double grip collector arms, and rectangular drive shaft for precision indexing.**
- **Interchangeable, electrically and mechanically, with SS-14 and SS-20 laminated switches widely used by industry and Armed Services.**



MS-20-1

FEATURES:

For description of rigid 3-post construction; heavy fine silver plating to meet 100-hour salt-spray test; exceptional compactness; .007 ohm average contact resistance; insulation resistance above 50,000 megohms; current-carrying capacity and voltage breakdown; see adjoining page on SS-14 and SS-20 laminated switches. Besides fully enclosing all the moving contact parts, the molded switches differ from the laminated construction in the design of the detent mechanism, but both types provide the positive indexing which quickly identifies the superior quality of J-B-T switches. Test results are available on request covering certain procedures of MIL-E-5272A on insulation resistance; high and low temperature and temperature shock; humidity; altitude; salt spray; vibration; fungus resistance; rain, sand and dust; explosion; shock; and endurance values.

BASIC 14-POSITION MOLDED (MS-14): 13 circuits and "off" per deck in 2 5/32" circle for compactness. **Molded end cover** regularly supplied. **1¼" Bar knob** included with individually boxed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, so that knob pointer points to live contact. **Common or "off" contact lug** is bent down for ready identification. **Internal construction:** double-grip collector arms hold contact lug on upper and lower surfaces; collector ring is self-wiping. **One to ten decks** add 5/16" per deck (or gang) to depth; for eleven decks and over, add ½" to depth for double indexing mechanism; add 5/32" to depth for adjustable stop mechanism. **Continuous rotation type** supplied unless adjustable stop (type MAS) is ordered or, on quantity orders, pre-set fixed stops are specified. **Panel locator** is available at extra cost on quantity orders when specified; on MS-14-4 and MS-14-6, extra hex nut and longer screw can be supplied for inverting supporting screw nearest common, thus converting into panel locator.

BASIC 20-POSITION MOLDED (MS-20): 19 circuits and "off" per deck in 2 5/8" circle for compactness. **Molded end cover** regularly supplied. **2" Bar knob** included with individually boxed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, so that knob pointer points to live contact. **Common or "off" contact lug** is bent down for ready identification. **Internal construction:** double-grip collector arms and self-wiping collector ring are standard construction. **One to seven decks;** add 5/16" per deck (or gang) to depth. **Continuous rotation type** supplied; on quantity orders, pre-set fixed stops are available. **Panel locator** available at extra cost on quantity orders when specified; on MS-20-4 and MS-20-6, extra hex nut and longer screw can be supplied for inverting supporting screw nearest common, thus converting into panel locator.

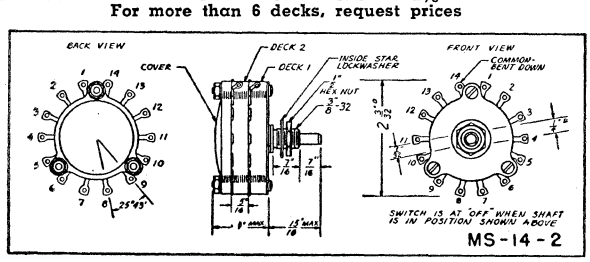
MOLDED SWITCHES, MS-14 TYPE

(14 positions; angular indexing 25° 43')
Continuous rotation, no stops

Non-Shorting—Break before make. **Shorting**—Make before break.

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Depth Behind Panel	Boxed Including Knob
MS-14-1	14	1	1	N-S	13/16"	$1.75
MS-14-1S*	14	1	1	S	13/16"	1.85
MS-14-2	14	1	2	N-S	1⅛"	2.20
MS-14-2S*	14	1	2	S	1⅛"	2.30
MS-14-3	14	1	3	N-S	1 7/16"	2.70
MS-14-4	14	1	4	N-S	1¾"	3.50
MS-14-6	14	1	6	N-S	2⅜"	5.10

For more than 6 decks, request prices



MOLDED SWITCHES, MS-20 TYPE

(20 positions; angular indexing 18°)
Continuous rotation, no stops (except 6DT Types)

Non-Shorting—Break before make. **Shorting**—Make before break.

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Depth Behind Panel	Boxed Including Knob
MS-20-1	20	1	1	N-S	13/16"	$2.25
MS-20-1-6DT	2	6	1	N-S	13/16"	2.95
MS-20-1S*	20	1	1	S	13/16"	2.30
MS-20-2	20	1	2	N-S	1⅛"	2.85
MS-20-2-6DT	2	6	2	N-S	1⅛"	4.30
MS-20-2S*	20	1	2	S	1⅛"	2.95
MS-20-3	20	1	3	N-S	1 7/16"	3.75
MS-20-4	20	1	4	N-S	1¾"	4.65
MS-20-6	20	1	6	N-S	2⅜"	6.45

For more than 6 decks, request prices

ADJUSTABLE STOP MOLDED SWITCHES, MAS-14 TYPE

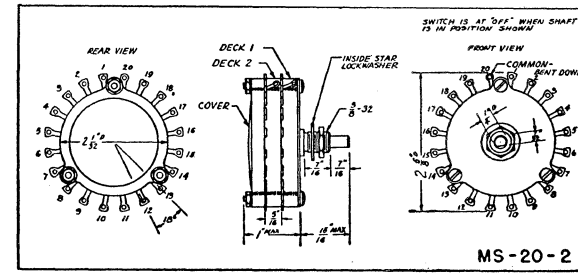
(14 positions; angular indexing 25° 43')

IMPORTANT: Enclosed adjustable stop mechanism increases switch length 5/32" behind panel; decreases effective bushing length by 5/32"; and shortens shaft extending from bushing by 1/16". Rings RI-23 and RI-24 are supplied.

Non-Shorting—Break before make. **Shorting**—Make before break.

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Depth Behind Panel	Boxed Including Knob
MAS-14-1	14	1	1	N-S	31/32"	$2.25
MAS-14-1S*	14	1	1	S	31/32"	2.35
MAS-14-2	14	1	2	N-S	1 3/32"	2.70
MAS-14-2S*	14	1	2	S	1 3/32"	2.80
MAS-14-3	14	1	3	N-S	1 1/32"	3.20
MAS-14-4	14	1	4	N-S	1 29/32"	4.00
MAS-14-6	14	1	6	N-S	2 17/32"	5.60

For more than 6 decks, request prices



* Standard items, but not regularly stocked; check with your electronic parts distributor.

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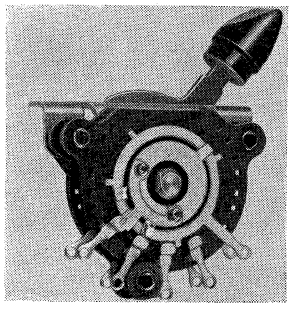
Net

LEVER ACTION SWITCHES, KITS AND SPECIAL SWITCHES

3- and 4-Position Lever Switches — New 5-Position — Unique 6-Pole Double-throw per Deck



SS-14-1L4F-2
Two-Deck Lever-Action Switch

POSITIVE TYPE, 3- and 4-Positions. (Single-deck.) Specified where quality is a consideration, these lever switches offer many of the design features of the J-B-T SS-14 instrument-type rotary switches. The single-deck models (not illustrated) come in the conventional three-positions and in a newer four-position. Present uses include tube checkers, inspection apparatus, communication systems, hobby equipment, consoles, and sound devices. The four-position types, interchangeable except in slot length with the standard three-position, provide the extra circuit which is often needed. Dimensions are shown on the drawing below. Variations in mounting hole sizes, lever length, and tapped mounting holes can be supplied on long runs involving set-up charges. Switches are normally individually boxed with mounting hardware and KN-17 black pointed knob as illustrated. Spacing between single decks: recommended 3/4", minimum 9/16". Also see list of available mounting plates.

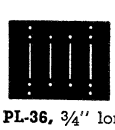
Spring Return Type. Single deck 3-position switches also may be ordered with spring return. Lever returns to position 11, giving momentary action at positions 9 and 10 (Model Suffix—R).

Two-Deck Lever Action Switches. These use the same strong parts, 3-pole suspension and double-grip collector arms as the one-deck type, but are specified where quality is the prime requirement. Spacing is 3/8" between decks, the same distance as TV twinlead wires. Non-shorting (break before make) positive action, individually boxed including KN-17 knob and hardware. Recommended spacing between decks 15/16"; minimum spacing 18".

Model	Pos. per Circuit	Ckts. per Deck	Decks	Short. or Non	Stand.* Contact Pos.	Boxed Incl. Knob
SS-14-1L3	3, no "off"	1	1	NS	A	**$0.85**
SS-14-1L3A	3, no "off"	2	1	NS	B	**1.00**
SS-14-1L3S	3, no "off"	1	1	S	A	**.90**
SS-14-1L3-R Sp. Ret.	3, no "off"	1	1	NS	A	**1.00**
SS-14-1L3S-R Sp. Ret.	3, no "off"	1	1	S	A	**1.05**
SS-14-1L3-2	3, no "off"	1	2	NS	A	**1.45**
SS-14-1L4	3 & "off"	1	1	NS	C	**.95**
SS-14-1L4F	4, no "off"	1	1	NS	D	**.95**
SS-14-1L4F-2	4, no "off"	1	2	NS	D	**1.60**
SS-14-1L4S	3 & "off"	1	1	S	C	**1.00**

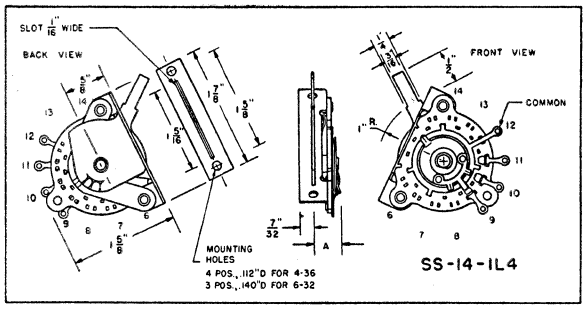
*A—common at 12, contacts at 9, 10, 11; B—common at 9, 10, contacts at 6, 7, 8, 12, 13, 14; C—common and off at 12, contacts at 9, 10, 11; D—common at 12, contacts at 8, 9, 10, 11.

MOUNTING PLATES



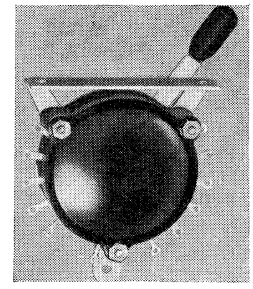
These .035" stamped steel plates in black crackle finish simplify alignment of standard 3-position 1-deck switch models having symbol 1L3. Separation is 3/4" between switches; all plates are 2 5/8" high.

PL-36, 3/4" long, for one switch **$0.30**
PL-37, 1 1/2" long, for two switches ..... **.40**
PL-38, 3" long, for four switches (illustrated) ..... **.45**



Dimensions A=13/32" on 1-deck Switches; 23/32" on 2-deck. Non-shorting type with standard level length is shown.

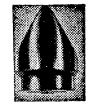
MS-20-1L5A-1
5-Position Lever Switch



MODEL MS-20-1L5A-1. For the first time designers and servicemen have available 5 live positions, two circuits per deck in a fully enclosed, lustrous black molded construction. Adapted from the MS-20 series of instrument-quality switches shown on a preceding page and having similar electrical characteristics, this positive action lever switch made an instant hit for sound systems. Now that it is released for general use, control, inspection, test and experimental circuits can be simplified by its use. Shipped individually boxed with hardware and threaded black molded knob. Sketch for mounting will be supplied upon request for SK-64.

MS-20-1L5A-1, 5-position, 2 circuit (1-deck) **$2.60**

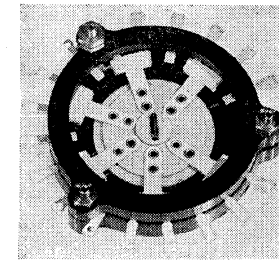
KNOBS FOR LEVERS



Spare knobs, push-on type, are:

KN-17, black, modern pointed design, metal insert, shown at left, now regularly supplied **$0.08**
KN-18, walnut, same as KN-19 ..... **.06**
KN-19, black, round, flat-type, shown at right; no insert needed ..... **.06**

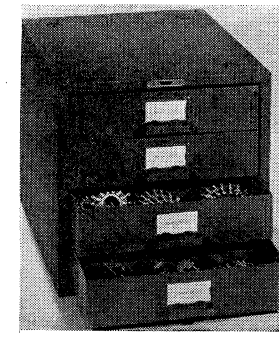
6-POLE DOUBLE-THROW PER DECK—1 or 2 DECKS



6-Pole Switches. Double-throw switching, 6 circuits per deck, becomes easy with this unique rotary-type molded switch. It is fully enclosed and similar in appearance to the molded MS-20 switches described on another page. The illustration at the right shows internal construction with back protective cover cut away. Circuit arrangement is designated on the metal front of the switch. Quality features include .007 ohm average contact resistance; heavy, fine-silver plating for 100-hour salt spray test; double-grip collector arms. Now available in non-shorting (break before make) and shorting (make before break). 2 5/8" maximum diameter, one deck, 1 13/16" behind panel; two deck, 1 1/8" behind panel.

MS-20-1-6DT, 6-pole, double-throw (1 deck), non-shorting **$2.95**
MS-20-1-6DTS, 6-pole, double throw (1 deck), shorting **3.05**
MS-20-2-6DT, 6-pole, double throw (2 decks), non-shorting **4.30**
MS-20-2-6DTS, 6-pole, double throw (2 decks), shorting **4.50**

SWITCH KIT — 14- and 20-Positions



MODEL K-1. The instrument-quality, laminated phenolic switches described previously as SS-14 and SS-20 rotary types now are available in kit form for quick assembly. This arrangement is especially helpful to engineers, experimenters, hams, and electronic maintenance departments, for special assemblies or emergency requirements. The sturdy, 4-drawer, steel cabinet with 48 compartments contains 15 SS-14 index assemblies; 11 SS-20 index assemblies; 50 14-position decks, including non-shorting (break before make), shorting (make before break); A-type (2 circuits); CS-type (complete shorting); F-type (14 live positions); and 33 20-position decks including non-shorting, shorting; A-type (2 circuits); and F-type (20 live positions). One simple tool for pushing rotors on switch shafts, also replacement parts list for ordering refills through distributors are included.

Switch Kit
Model K-1 ..... **$87.00**

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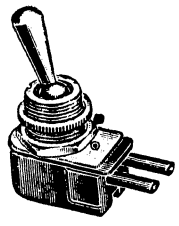
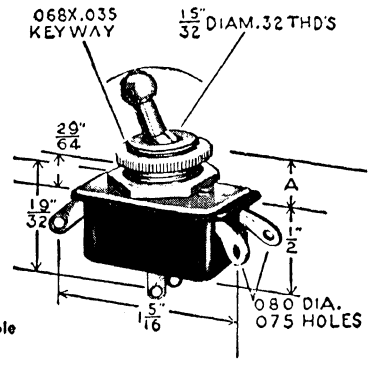
SINGLE POLE DOUBLE POLE SWITCHES—TOGGLE

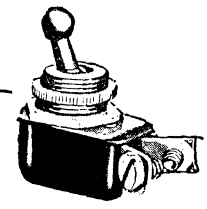
Maintained (Locking) and Momentary (Non-Locking) Types



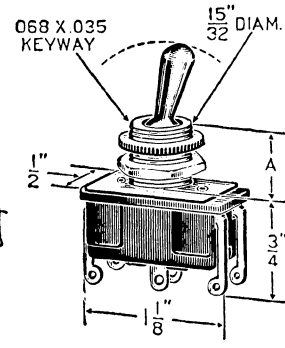
Wire Leads
Single Pole or Double Pole



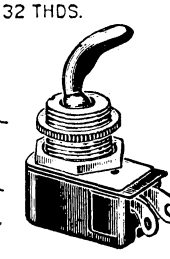
End Lugs—Double Poles
Bottom Lugs—Single Pole



Screw Terminals
Single Pole Only



Bottom Lugs—Double Poles



Trigger Bat
Momentary Only

End Lugs
Single Pole
Switches

IMPORTANT—ADD correct SUFFIX NUMBER to CATALOG NUMBER to receive type TOGGLE and STEM wanted.

MAINTAINED CONTACTS

CATALOG NUMBER	TYPES OF TERMINALS	POLES-CIRCUIT	NOMINAL RATING AC or DC
T-110 T-110-B T-110-S T-111-16	Lugs—End Lugs—Bottom Screw Wire	S.P.—S.T.	3 Amp—250 V. 6 Amp—125 V.T. (T Rated)
110 110-B 110-D 110-S 111-16 111-D	Lugs—End Lugs—Bottom Lugs—2 Ends Screw Wire Wire—2 Ends	S.P.—S.T.	3 Amp—250 V. 6 Amp—125 V.
112 112-A	Lugs—End Wire	S.P.—D.T.	1 Amp—250 V. 3 Amp—125 V.
216 216-A 216-B	Lugs—End Wire Lugs—Bottom	D.P.—S.T.	
316 316-A 316-B	Lugs Wire Lugs—Bottom	D.P.—D.T.	
516 516-A 516-B	Lugs—End Wire Lugs—Bottom	Two Circuit	
2BB62	Lugs—End	S.P.—D.T.	3 Amp—250 V. 6 Amp—125 V.
2BK62	Lugs—End	D.P.—S.T.	
2BL62 2BL63	Lugs—End Lugs—Bottom	D.P.—D.T.	
160 160-A 160-B 160-S	Lugs—End Wire Lugs—Bottom Screw	S.P.—S.T.	10 Amp—125 V. 5 Amp—250 V.

MOMENTARY TYPES — Stem Length 15/32" ONLY

NOMINAL RATING AC or DC	POLES-CIRCUIT	TYPES OF TERMINALS	CATALOG NUMBER
6 Amp—125 V. 3 Amp—250 V.	S.P.—S.T. Normally Open (Off) (Momentarily On)	Lugs—End Lugs—Bottom Lugs—2 Ends Screw Wire Wire—2 Ends	110-M-NO 110-BM-NO 110-M-DNO 110-SM-NO 111-16M-NO 111-16M-DNO
	S.P.—S.T. Normally Closed (On) (Momentarily Off)	Lugs—End Lugs—Bottom Lugs—2 Ends Screw Wire Wire-2 Ends	110-M-NC 110-BM-NC 110-M-DNC 110-SM-NC 111-16M-NC 111-16M-DNC
3 Amp—125 V. 1 Amp—250 V.	S.P.—D.T.	Lugs—End Wire	112-M 112-M-A
	D.P.—S.T. Normally Open (Off) (Momentarily On)	Lugs—End Wire	216-M-NO 216-M-ANO
	D.P.—S.T. Normally Closed (On) (Momentarily Off)	Lugs—End Wire	216-M-NC 216-M-ANC
	D.P.—D.T.	Lugs Lugs—Bottom	316-M 316-BM
	Two Circuit (1 On—1 Off)	Lugs—End Wire Lugs—Bottom Screw	516-M 516-AM 516-BM 516-SM

TOGGLE TYPE & LENGTH	BALL 3/8"	BAT 1/2"	BAT 1 1/16"	TRIGGER BAT
SUFFIX NO.	—23	—63	—73	—93

TOGGLE TYPE & LENGTH	BALL 5/16	BALL—3/8" LONG				BAT—1/2"		BAT—1 1/16"	SLOTTED
STEM LENGTH (A)	1/4"	1/4"	11/32"	13/32"	7/8"	11/32"	13/32"	13/32"	11/32"
Std. SUFFIX NOS.	—11	—21	—22	—23	—25	—62	—63	—73	
*With Neoprene Seal			—57			—67	—68		
& Toggle Type & Length			BAT 3/8			BAT 1/2	BAT 9/16		

MARINE APPLICATIONS USE PREFIX M-

***DUSTPROOF SEAL (Also RAIN RESISTANT)**

Note: Solderless quick disconnect terminals are available on #110 switch above

Use Addt'l Suffix No. — "TABS"

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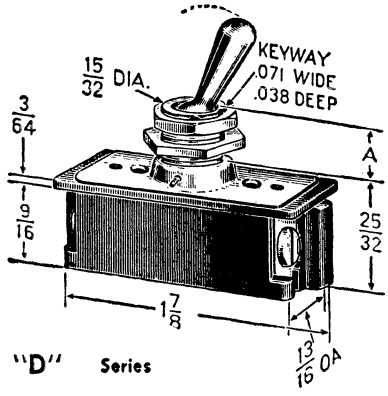
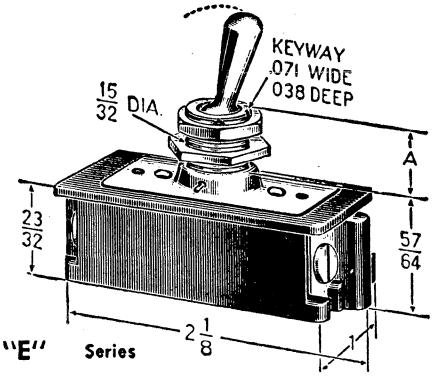
SINGLE POLE DOUBLE POLE SWITCHES-TOGGLE



"D" Series



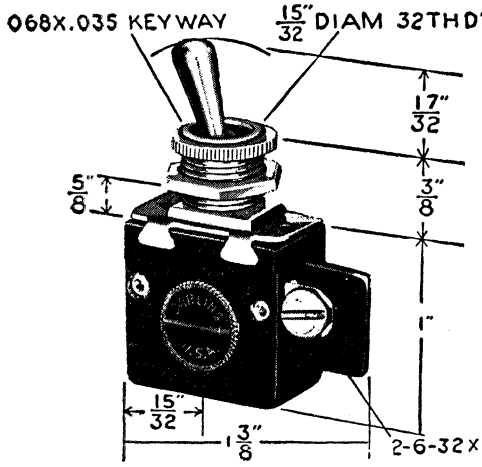
"E" Series

CATALOG NUMBER	TYPE OF TERMINALS	POLES OR CIRCUIT	NOMINAL RATING A.C. OR D.C.
2DA25	Screw	S.P.—S.T.	12 Amps—125 V. 6 Amps—250 V. 1 H.P. 125—250 V.
2DK25	Screw	D.P.—S.T.	
EA255	Screw	S.P.—S.T.	15 Amps—125 V. 10 Amps—250 V. 1½ H.P. 125—250 V.
EK255	Screw	D.P.—S.T.	

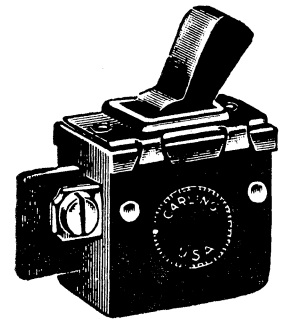
CATALOG NUMBER SUFFIX FOR TOGGLE & STEM LENGTHS (Bat Toggle Only)		
TOGGLE LENGTH	STEM LENGTH	SUFFIX NO.
11/16"	1½"	—72
11/16"	1 5/32"	—73

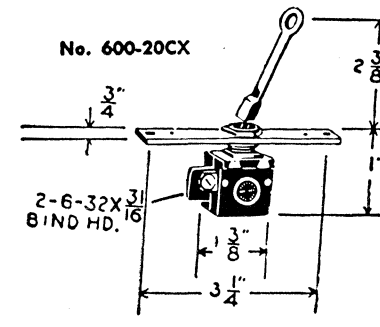
SINGLE POLE SWITCHES-TOGGLE

Single Hole Mounting **Three Hole Mounting** **Special Lever**



No. 600-C


No. 600-20



No. 600-20CX

CATALOG NUMBER	TYPE OF TERMINALS	POLES OR CIRCUIT	NOMINAL RATING A.C. OR D.C.
600—C 600—20 600—20CX (See Illustrations)	Screw	S.P.—S.T.	20 Amps—125 V. 10 Amps—250 V. A.C.—D.C.

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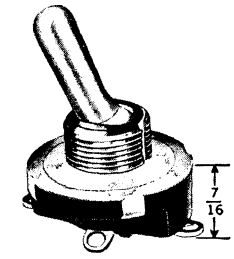
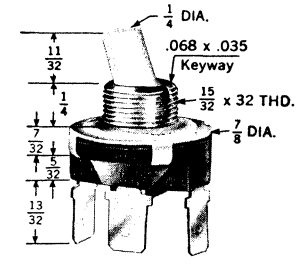
SINGLE POLE SWITCHES-TOGGLE

RATING: 15 Amp. — 125 V. A-C
7½ Amp. — 250 V. A-C
½ H.P. 115-23 V. A-C

CATALOG NUMBERS			CIRCUIT CHARACTERISTICS WITH POSITION OF TOGGLE		
TERMINALS					
LUG	SCREW	TAB	UP	CENTER	DOWN
AA252	AA254	AA25A	On	None	Off
AB252	AB254	AB25A	On	None	On
AC252	AC254	AC25A	On	Off	On
RATING: 3 Amp. — 125 V. A-C (Below)					
AA232	AA234	AA23A	On	None	Off



"A" Series
Illustrated Above with Solder Lugs and Metal Toggle 11/16" Long

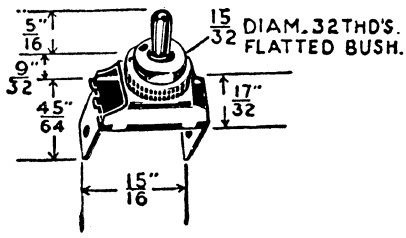


"A" Series
Illustrated Above with Tab Terminals and Plastic Toggle

Add: Following Suffixes to ABOVE CATALOG NOS.

		SUFFIX
Metal Toggle Type		—71
Colored Plastic Toggle Types:	Black	—BL
	Brown	—BR
	White	—WH
	Red	—RD

SINGLE POLE SWITCHES
#125, #126, #127, #128



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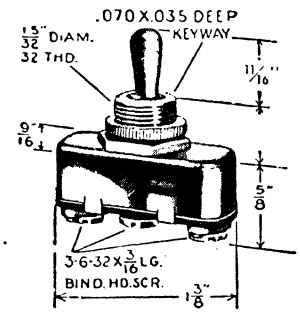
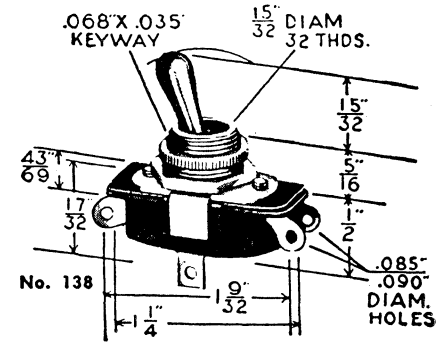


No. 126 No. 127 No. 128

DOUBLE POLE SWITCH #138



No. 138

NOMINAL RATING	POLES OR CIRCUIT	CATALOG NUMBERS			STEM TYPE	CONTACTS EXTENDING FROM
		SCREW TERMINALS	SOLDER LUGS	WIRE LEADS		
3 Amp—125 V. A.C.	S.P.—S.T.	125—R 125—RS	125—RB 125—RBS	125—RA 125—RAS	(Round with Keyway)	Bottom End
		125 125—S	125—B 125—BS	125—A 125—AS	(Flatted)	Bottom End
3 Amp—125 V. A.C.	S.P.—D.T. S.P.—D.T.—Center Off	126 127	127—B	127—A	Round with Keyway	Nos. 126, 127, and 128 available with either 5/16" or 7/16" stem length.
15 Amp—125 V. A.C. 10 Amp—250 V. A.C. ½ H.P.	S.P.—S.T. S.P.—D.T. S.P.—D.T.—Center Off	128—15 126—15 127—15	128—15B 126—15B 127—15B	128—15A 126—15A 127—15A		
1 Amp—125 V. A.C.	D.P.—D.T.—Center Off		138			

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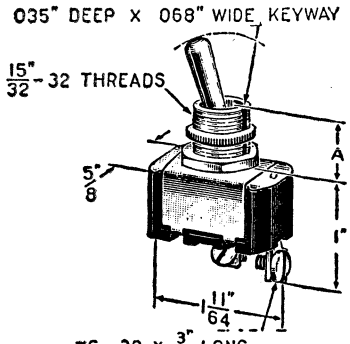
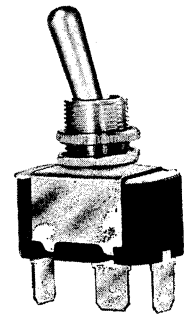
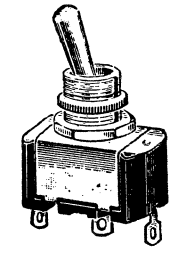
SINGLE POLE — DOUBLE POLE and TWO CIRCUIT

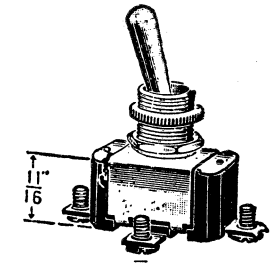
SWITCHES—TOGGLE





For TAB Terminals as above Add Suffix — "TABS"

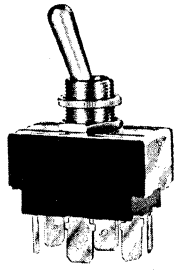




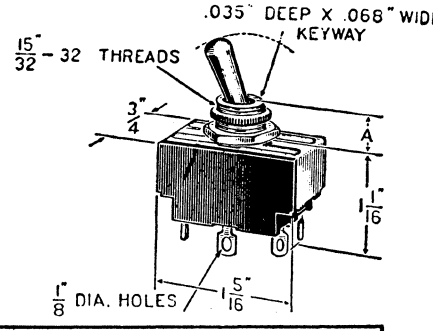
End and Side Terminals (Lug or Screw) Available on Special Order

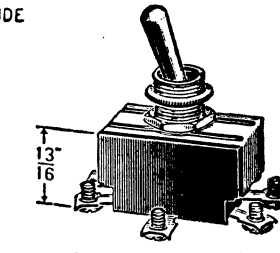
* Note: #2FA53 and #2FA54 have a higher rating of 1 H.P.

CATALOG NUMBERS — NOMINAL RATINGS				ELECTRICAL CIRCUIT CHARACTERISTICS (NOTE—Keyway Indicates "Down" Position)			CATALOG NUMBER SUFFIX FOR TOGGLE and STEM LENGTHS (Bat Toggle Only)		
15 Amp—125 V. A.C. 10 Amp—250 V. A.C. ¾ H.P.—115-230 V. A.C.		6 Amp—125 V. A.C. 3 Amp—250 V. A.C. ¼ H.P.—115-230 V. A.C.		UP POSITION	CENTER POSITION	DOWN POSITION	TOGGLE LENGTH	STEM LENGTH (A)	SUFFIX NO.
SOLDER LUGS	SCREW TERMINALS	SOLDER LUGS	SCREW TERMINALS						
				SINGLE POLE—SINGLE THROW					
*2FA53	*2FA54	2FA63	2FA64	On	None	Off	13/32"	11/32"	—52
6FA57	6FA58	6FA67	6FA68	On	None	Momentarily Off	9/16"	11/32"	—62
6FA53	6FA54	6FA63	6FA64	Off	None	Momentarily On	9/16"	15/32"	—63
				SINGLE POLE—DOUBLE THROW			11/16"	11/32"	—72
2FB53	2FB54	2FB63	2FB64	On	None	On	11/16"	15/32"	—73
2FC53	2FC54	2FC63	2FC64	On	Off	On	1"	11/32"	—A2
6FB53	6FB54	6FB63	6FB64	On	None	Momentarily On	3"	13/32"	—I3
6FC53	6FC54	6FC63	6FC64	Momentarily On	Off	Momentarily On			
6FC57	6FC58	6FC67	6FC68	On	Off	Momentarily On			



For TAB Terminals as above Add Suffix — "TABS"

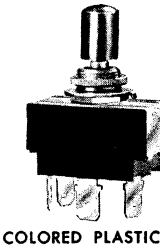




End and Side Terminals (Lug or Screw)

CATALOG NUMBERS — NOMINAL RATINGS				ELECTRICAL CIRCUIT CHARACTERISTICS (NOTE—Keyway Indicates "Down" Position)			CATALOG NUMBER SUFFIX FOR TOGGLE and STEM LENGTHS (Bat Toggle Only)		
15 Amp—125 V. A.C. 10 Amp—250 V. A.C. ¾ H.P.—115-230 V. A.C.		6 Amp—125 V. A.C. 3 Amp—250 V. A.C. ¼ H.P.—115-230 V. A.C.		UP POSITION	CENTER POSITION	DOWN POSITION	TOGGLE LENGTH	STEM LENGTH	SUFFIX NO.
SOLDER LUGS	SCREW TERMINALS	SOLDER LUGS	SCREW TERMINALS						
				DOUBLE POLE—SINGLE THROW					
2GK53	2GK54	2GK63	2GK64	On	None	Off	13/32"	11/32"	—52
6GK57	6GK58	6GK67	6GK68	On	None	Momentarily Off	9/16"	11/32"	—62
6GK53	6GK54	6GK63	6GK64	Off	None	Momentarily On	9/16"	15/32"	—63
				DOUBLE POLE—DOUBLE THROW			11/16"	11/32"	—72
2GL53	2GL54	2GL63	2GL64	On	None	On	11/16"	15/32"	—73
2GM53	2GM54	2GM63	2GM64	On	Off	On	1"	13/32"	—A3
6GL53	6GL54	6GL63	6GL64	On	None	Momentarily On	1 1/4"	15/32"	—B3
6GM53	6GM54	6GM63	6GM64	Momentarily On	Off	Momentarily On			
6GM57	6GM58	6GM67	6GM68	On	Off	Momentarily On			
NOMINAL RATING				PROGRESSIVE TWO CIRCUIT					
Circuit 1—⅓ H.P. 8 Amp—125-250 V. A.C.		2GG53	2GG54	2 Circuits On	Circuit 1 On	Off			
Circuit 2—½ H.P. 15 Amp—125 V. A.C. 10 Amp—250 V. A.C.		6GG57	6GG58	Off	Circuit 1 On	Momentarily 2 Circuits On			

NOMINAL RATING	TABS	LUGS	SCREWS			
8 Amp.—1/3 H.P.	GH28A	GH283	GH284	Circuit 1 On	2 Circuits On	Circuit #2 On
125-250 V. A-C	GH68A	GH683	GH684	Mom. 1 On	2 Circuits On	Mom. #2 On
	GH68B	GH687	GH688	Circuit 1 On	2 Circuits On	Mom. #2 On
	GE28A	GE283	GE284	SINGLE POLE—3 Position ON-ON-ON (No Off)		
15 Amp.—125 V. A-C	GI25A	GI253	GI254	2 CIRCUIT—CENTER OFF—SERIES to PARALLEL		



For COLORED PLASTIC Toggle as above— Inquire

Momentary Types — Suffix 73 only.

CATALOG NUMBER SUFFIX FOR TOGGLE and STEM LENGTHS (Bat Toggle Only)

TOGGLE LENGTH	STEM LENGTH	SUFFIX NO.
13/32"	11/32"	—52
9/16"	11/32"	—62
9/16"	15/32"	—63
11/16"	11/32"	—72
11/16"	15/32"	—73
1"	13/32"	—A3
1 1/4"	15/32"	—B3

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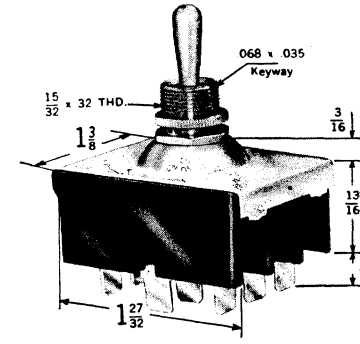
THREE POLE SWITCHES — TOGGLE

RATING: 13 Amp. — 125 V. A-C
10 Amp. — 250 V. A-C
1 H.P. — 1, 2, 3 PHASE
115-575 V. A-C

CATALOG NUMBERS			CIRCUIT CHARACTERISTICS WITH POSITION OF TOGGLE		
TERMINALS			UP	CENTER	DOWN
LUG	SCREW	TAB	(3 POLE—SINGLE THROW)		
HK233	HK234	HK23A	On	None	Off
HK633	HK634	HK63A	Off	None	Momentarily On
HK637	HK638	HK63B	On	None	Momentarily Off
			(3 POLE—DOUBLE THROW)		
HL233	HL234	HL23A	On	None	On
HL633	HL634	HL63A	On	None	Momentarily On
			(3 POLE—DOUBLE THROW—CENTER OFF)		
HM233	HM234	HM23A	On	Off	On
HM633	HM634	HM63A	Momentarily On	Off	Momentarily On
HM637	HM638	HM63B	On	Off	Momentarily On



"H" Series

Illustration is with Tab type terminals

Note: Keyway is at Down Position

FOUR POLE SWITCHES — TOGGLE

RATING: 15 Amp. — 125 V. A-C
10 Amp. — 250 V. A-C

CATALOG NUMBERS			CIRCUIT CHARACTERISTICS WITH POSITION OF TOGGLE		
TERMINALS			UP	CENTER	DOWN
LUG	SCREW	TAB	(4 POLE—SINGLE THROW)		
IK253	IK254	IK25A	On	None	Off
IK653	IK654	IK65A	Off	None	Momentarily On
IK657	IK658	IK65B	On	None	Momentarily Off
			(4 POLE—DOUBLE THROW)		
IL253	IL254	IL25A	On	None	On
IL653	IL654	IL65A	On	None	Momentarily On
			(4 POLE—DOUBLE THROW—CENTER OFF)		
IM253	IM254	IM25A	On	Off	On
IM653	IM654	IM65A	Momentarily On	Off	Momentarily On
IM657	IM658	IM65B	On	Off	Momentarily On
			(CROSS CONNECTED REVERSING)		
IR253	IR254	IR25A	On	None	On
IR653	IR654	IR65A	On	None	Momentarily On
IS253	IS254	IS25A	On	Off	On
IS653	IS654	IS65A	Momentarily On	Off	Momentarily On
IS657	IS658	IS65B	On	Off	Momentarily On
RATING: 8 Amps. — 125 V. A-C (Below)			(MULTIPLE CIRCUIT)		
IG283	IG284	IG28A	4 Cir. On	2 Cir. On	Off
IH283	IH284	IH28A	1 & 2 On	4 Cir. On	3 & 4 On

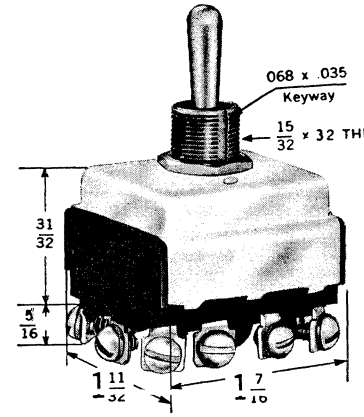


Illustration above shows Screw Terminals

Note: Keyway is at Down Position

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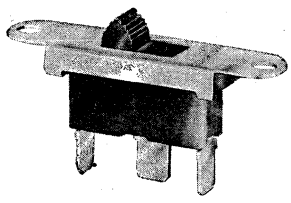
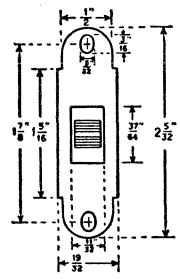
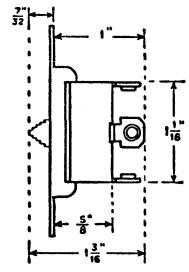
SINGLE POLE and DOUBLE POLE SWITCHES–SLIDE

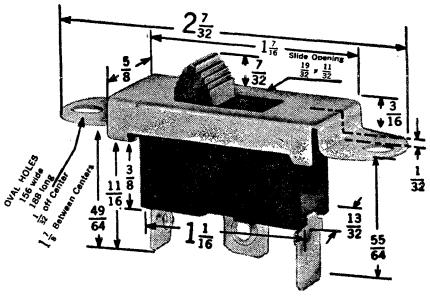
(Also available with ON-OFF Stamped on Slide or Case on Special Order)



"L" Series



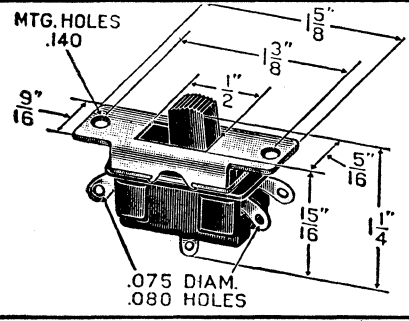


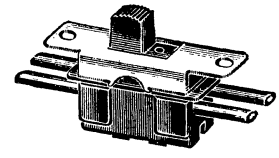


CATALOG NUMBERS						ELECTRICAL CIRCUIT CHARACTERISTICS		
NOMINAL RATINGS						UP POSITION	CENTER POSITION	DOWN POSITION
15 Amp—125 V. A.C. 10 Amp—250 V. A.C. ½ H.P.—115-230 V. A.C.			3 Amp—250 V. A.C. 6 Amp—125 V. A.C.			SINGLE POLE—SINGLE THROW & SINGLE POLE—DOUBLE THROW		
SOLDER LUGS	SCREW TERM.	TAB TERM.	SOLDER LUGS	SCREW TERM.	TAB TERM.			
LA453	LA454	LA45A	LA463	LA464	LA46A	On	None	Off
LB453	LB454	LB45A	LB463	LB464	LB46A	On	None	On
LC453	LC454	LC45A	LC463	LC464	LC46A	On	Off	On

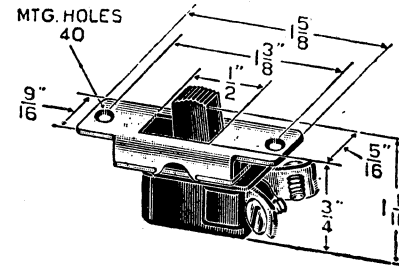
Illustration Above Shows Variation Available Add SUFFIX "—2" to Catalog No. for this variation

For Slide COLOR Add SUFFIX		
BLACK	RED	GRAY
—BL	—RD	—GY



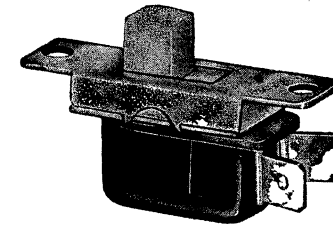


With Wire Leads



CATALOG NUMBER	TERMINALS	POLES OR CIRCUIT	NOMINAL RATING
S—110 S—110—B S—110—S S—111 S—111—D	Lugs—End Lugs—Bottom Screw Wire Leads Wire—2 Ends	S.P.—S.T.	6 Amp—T25 V. 3 Amp—250 V. A.C. or D.C
S—112 S—112—A	Lugs Wire	S.P.—D.T.	3 Amp—125 V. 1 Amp—250 V. A.C. or D.C.
S—216 S—216—A	Lugs Wire	D.P.—S.T.	
S—316 S—316—A	Lugs Wire	D.P.—D.T.	
S—516 S—516—A	Lugs Wire	S.P.—2 Circuit	

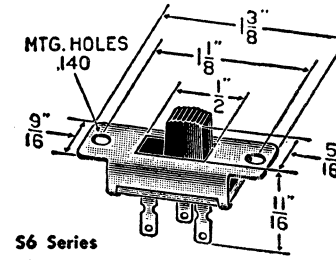
For COLOR of SLIDE	BLACK	RED	GRAY	MAROON	IVORY	
Use SUFFIX No.	—BL	—RD	—GY	—MR	—IV	



With TAB TERMINALS SPST only—Catalog #S-110—TABS

CATALOG NO.	TERMINALS	CIRCUIT CHARACTERISTICS	RATING
S60A	Lugs	S.P.—S.T.	4 Amp—125 V. A.C.
S60B	Lugs	S.P.—D.T.	

For COLOR OF SLIDE	IVORY	BLACK	RED	GRAY	DARK RED
USE CATALOG SUFFIX NO. FIX NO.	—IV	—BL	—RD	—GY	—MR



S6 Series

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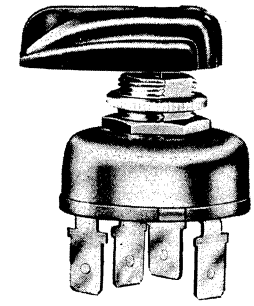
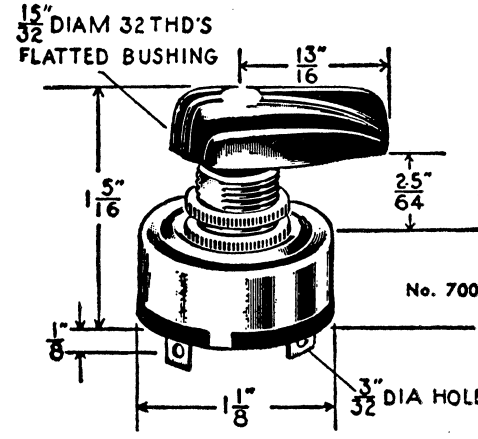
SINGLE POLE SWITCHES—ROTARY

RATING: 4 Amp. — 125 V. A-C
1 Amp. — 125 V. D-C

CATALOG NUMBERS		CIRCUIT CHARACTERISTICS			
TERMINALS		POSITION			
LUG	TAB	1	2	3	4
700-1	700-1A	OFF	—	ON	
700-7	700-7A	ON	—	ON	
700-6	700-6A	ON	—	OFF	— ON
700-4	700-4A	OFF	—	ON	— ON
700-8	700-8A	ON	—	ON	— ON
700-5	700-5A	OFF	—	ON	— OFF
700	700-A	OFF	—	ON	— ON — ON
700-3	700-3A	OFF	—	ON	— ON — OFF
700-9	700-9A	OFF	—	ON	— OFF — ON
700-2	700-2A	OFF — ON — ON — ON — REPEAT (8 Position — No Stop — Operates Either Direction)			
For COLOR of KNOB		BLACK	BROWN	GRAY	
Use SUFFIX NO.		—BL	—BR	—GY	



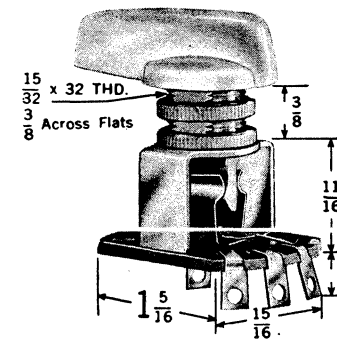
with Tabs



"700" Series with Lugs

RATING: 4 Amp. — 125 V. A-C
1 Amp. — 125 V. D-C
½ Amp. — 250 V. A-C or D-C

CATALOG NUMBERS			CIRCUIT CHARACTERISTICS			
TERMINALS			POSITION			
LUG		WIRE	1	2	3	4
RRA43		RRA41	OFF	—	ON	
RRB43		RRB41	ON	—	ON	
RRC43		RRC41	ON	—	OFF	— ON
RRD43		RRD41	OFF	—	ON	— ON
RRE43		RRE41	ON	—	ON	— ON
RRF43		RRF41	OFF	—	ON	— OFF
RRO43		RRO41	OFF	—	ON	— ON — ON
RRP43		RRP41	OFF	—	ON	— ON — OFF
RRQ43		RRQ41	OFF	—	ON	— OFF — ON
For COLOR of KNOB		GRAY				
Use SUFFIX NO.		—GY				



"RR" Series

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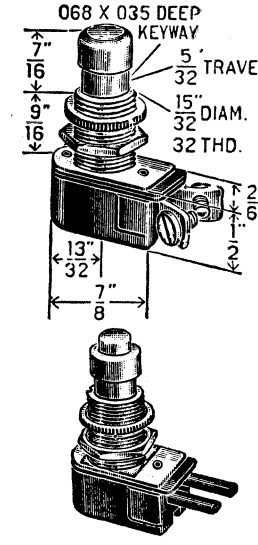
SINGLE POLE DOUBLE POLE SWITCHES - PUSH

MAINTAINED CONTACTS OR MOMENTARY CONTACTS AC—DC



CATALOG NUMBERS			TYPE TERMINALS	POLES OR CIRCUIT	NOMINAL RATING
MAINTAINED CONTACTS	MOMENTARY CONTACTS				
	NORMALLY OPEN	NORMALLY CLOSED			
110—P 110—BP 110—SP 111—16P	110—PM—OFF 110—PBM—OFF 110—SPM—OFF 111—PM—OFF	110—PM—ON 110—PBM—ON 110—SPM—ON 111—PM—ON	Lug Lug (Bottom) Screw Wire	S.P.—S.T.	6 Amp—125 V. 3 Amp—250 V. A.C.—D.C.
160—P 160—BP 160—SP 160—AP	None	None	Lug Lug (Bottom) Screw Wire	S.P.—S.T.	10 Amp—125 V. 5 Amp—250 V. A.C.—D.C.
216—PP 216—PPA	216—PM—OFF 216—PAM—OFF	216—PM—ON 216—PAM—ON	Lug Wire	D.P.—S.T.	3 Amp—125 V. 1 Amp—250 V. A.C.—D.C.
112—P 112—PA	112—PM 112—PAM		Lug Wire	S.P.—D.T.	
316—PP 316—PPA	316—PM 316—PAM		Lug Wire	D.P.—D.T.	
516—PP 516—PPA	516—PM 516—PAM		Lug Wire	2 circuit	

Overtravel available for Momentary Switches only—Add CATALOG SUFFIX NO. —OV

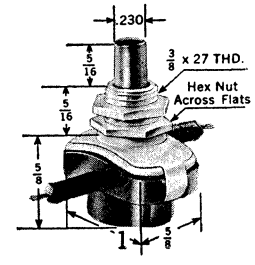
TAB (Quick Disconnect) Terminals available on above SPST Switches

MAINTAINED CONTACTS — (Single Pole / Single Throw)

RATING: 3 Amp. — 125 V
1 Amp. — 250 V

CATALOG NO.	TERMINALS	CIRCUIT CHARACTERISTICS
KA331	Wire Lead	Push On — Push Off

For COLOR of PLUNGER	BROWN	BLACK	WHITE		
Use SUFFIX NO.	—BR	—BL	—WH		



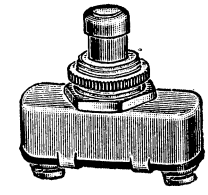
"KA3" SERIES
MAINTAINED CONTACT

MOMENTARY CONTACTS

(Also available with Plastic Buttons / See Page L-29 — Add Color Suffix Shown)

CATALOG NUMBERS			POLES or CIRCUIT	NOMINAL RATING
SCREW TERMINALS	SOLDER LUGS	WIRE LEADS		
172 *170	172-B *170-B	172-A *170-A	S.P.—S.T. Normally Open (Off) S.P.—S.T. Normally Closed (On)	10 Amp. 125-250 V. A.C.

CATALOG NO. 172 SWITCHES HAVE ON OVERTRAVEL OF APPROX. 1/32"



17 Series

PUSH BUTTONS (MOMENTARY) for DOORBELLS

Nos. 90 and 91

Cat. No.		Std. Pkg.	Carton	Pkg. Wt.
90	Black with Ivory Button	200	20	8 lbs.
91	Ivory with Black Button	200	20	8 lbs.

GARAGE DOOR OPENERS
TOYS
OTHER LOW VOLTAGE
APPLICATIONS

CARLING ELECTRIC, INC. — West Hartford, 10, Conn.

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SINGLE POLE DOUBLE POLE SWITCHES - PUSH

MOMENTARY ACTION

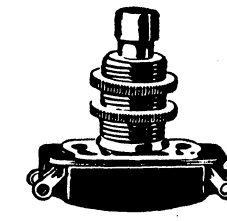
***Note: All Normally Closed (ON) switches on this page have an OVERTRAVEL in the Open Circuit or "OFF" position.**

WITH ALL. METAL PLUNGER

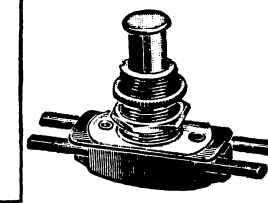
CATALOG NUMBER		TYPE TERMINALS	POLES OR CIRCUIT	NOMINAL RATING
STANDARD PLUNGER	WITH OVERTRAVEL			
16—3POFF 16—3APOFF	16—3POFF—OV 16—3APOFF—OV	Lug Wire	S.P.—S.T.—Normally Open (OFF) (Momentarily ON)	3 Amp 125 V. A.C.
16—3PON 16—3APON	* *	Lug Wire	S.P.—S.T.—Normally Closed (ON) (Momentarily OFF)	
116—P 116—AP	116—P—OV 116—AP—OV	Lug Wire	S.P.—D.T.	1 Amp 125 V. A.C.
216—P—OFF 216—AP—OFF	216—P—OFF—OV 216—AP—OFF—OV	Lug Wire	D.P.—S.T.—Normally Open (OFF) (Momentarily ON)	
216—P—ON 216—AP—ON	* *	Lug Wire	D.P.—S.T.—Normally Closed (ON) (Momentarily OFF)	
316—P	316—P—OV	Lug	D.P.—D.T.	
516—P 516—AP	516—P—OV 516—AP—OV	Lug Wire	S.P.—2 Circuit (1 ON—1 OFF)	

USE CATALOG SUFFIX	
FOR STEM LENGTH	NO.
5/16"	—2
9/16"	—4

STEM LENGTH 9/16" ONLY WITH OVERTRAVEL



Standard Plunger
5/16" or 9/16" Stem Length



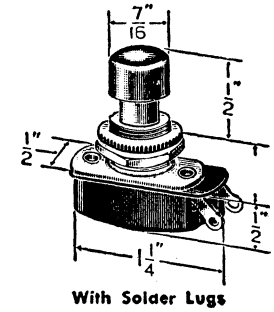
With OVERTRAVEL
9/16" Stem Length Only

WITH INSULATING PLASTIC CAP

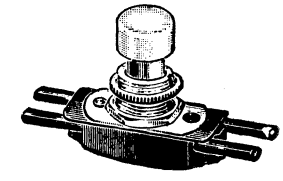
(5/16" Stem Length — Use Suffix —2
9/16" Stem Length — Use Suffix —4)

CATALOG NUMBER	TYPE TERMINALS	POLES OR CIRCUIT	NOMINAL RATING
16—3POFF—C 16—3APOFF—C	Lug Wire	S.P.—S.T.—Normally Open (OFF) (Momentarily ON)	3 Amp 125 V. A.C.
16—3PON—C 16—3APON—C	Lug* Wire*	S.P.—S.T.—Normally Closed (ON) (Momentarily OFF)	
116—P—C 116—AP—C	Lug Wire	S.P.—D.T.	1 Amp 125 V. A.C.
216—P—OFF—C 216—AP—OFF—C	Lug Wire	D.P.—S.T.—Normally Open (OFF) (Momentarily ON)	
216—P—ON—C 216—AP—ON—C	Lug* Wire*	D.P.—S.T.—Normally Closed (ON) (Momentarily OFF)	
316—P—C	Lug	D.P.—D.T.	
516—P—C 516—AP—C	Lug Wire	S.P.—2 Circuit (1 On—1 Off)	

COLOR OF CAP	BLACK	WHITE	RED	GREEN	YELLOW	BLUE
USE ADDITIONAL SUFFIX NO.	BL	WH	RD	GN	YL	LU



With Solder Lugs



With Wire Leads

FINISHES — ALL ONE HOLE MOUNTING TYPE SWITCHES

Standard Finish — Nickel Natural Brass available at No Extra Charge
Other Finishes — Chrome, Cadmium, Bronze, Black Oxide at a Slight Extra Charge.

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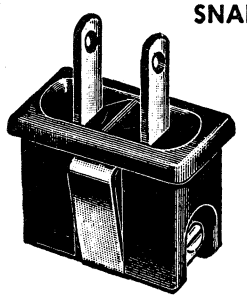
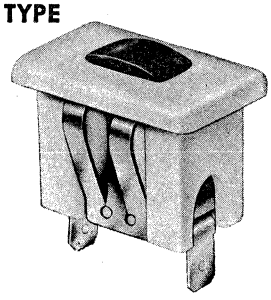
SWITCHES – OUTLETS – CAPS – PILOT LIGHTS

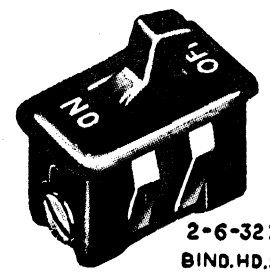
SNAP-IN TYPE



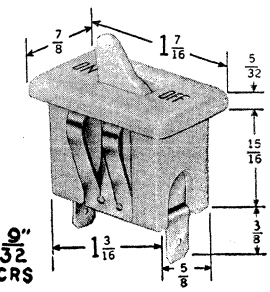
221



222



2-6-32 X 9/32" BIND. HD. SCRS



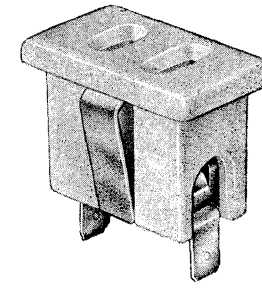
215

CATALOG NUMBERS			ITEM	NOMINAL RATING
SCREW TERMINALS	WIRE LEADS	TAB TERMINALS		
215	215-A	MAAOA	S.P.—S.T. Switch	20 Amp—125 V. A.C. 10 Amp—250 V. A.C.
220	220-A	220-B	Outlet	15 Amp—125 V. 10 Amp—250 V. A.C.— D.C.
221	221-A	—	Cap	
222	222-A	222-B	Pilot Light	110 V. A.C.—D.C.
222—6	222-6A	222-6B	Pilot Light	230 V. A.C.—D.C.

For COLOR of CASE	BROWN	WHITE	BLACK	GRAY	RED		
Add SUFFIX NO.	—BR	—WH	—BL	—GY	—RD		

For COLOR of LENS	RED NYLON	WHITE NYLON	RED CLEAR	COLORLESS
Add Additional SUFFIX NO.	—NR	—ML	—RC	—CL

MOUNTING: The only provision necessary for mounting these units is a rectangular opening (1-7/32" x 21/32") in a .045" to .065" thick panel or base into which the unit can be snapped.



220

(with Printing "TIMED" add Suffix —T)

Standard Flange (Face) on these items 7/8" WIDE. Narrow Flange 3/4" WIDE. Available on Special Order.

GROUNDING or SHORTING SWITCHES

— TOGGLE TYPE —

When used with our Indicator plates switch will show "OFF" when grounded.

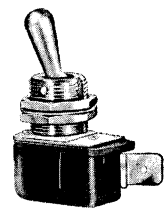
for GASOLINE MOTORS, MAGNETO USE, or other APPLIANCES

RATING:

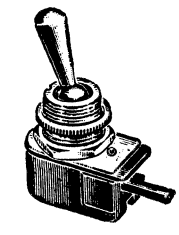
15 Amp—30 V. D.C.
6 Amp—125 V.
3 Amp—250 V.
A.C.—D.C.

for DUSTPROOF SEAL (Also RAIN RESISTANT)

Add Additional SUFFIX —NEO (to suffixes —52, —62, and —63 only)

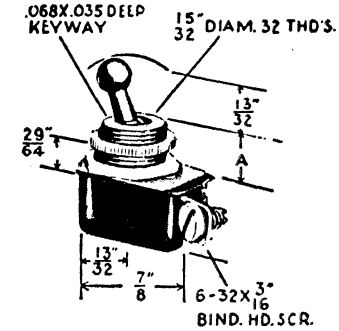


110-TH



CATALOG NUMBERS — TERMINALS					CIRCUITS GROUNDED THRU STEM
TAB	WIRE	LUGS (end)	LUGS (bottom)	SCREW	
110-TH	111-H	110-H	110-BH	110-SH	SPST
—	BN251	BN252	BN253	—	DPST — 2 Terminals (2 Terminals to Ground)

For Toggle Type	BAT—3/8"	BAT—1/2"		BAT—11/16"	BALL—3/8" LONG			
and Stem Length	11/32	11/32	15/32	15/32	1/4	11/32	15/32	7/8
Use SUFFIX NO.	—52	—62	—63	—73	—21	—22	—23	—25



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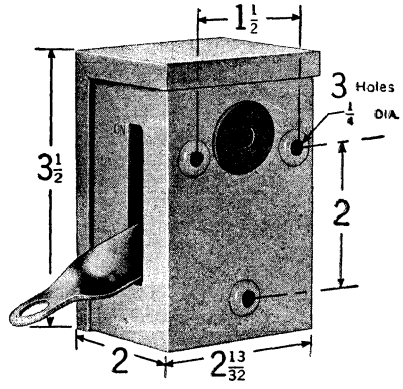
DOUBLE POLE SWITCHES — SPECIAL LEVER ACTION



RATING:
½ H.P.
115-230 V. DC
D.P.—S.T.

for
SUMP PUMPS
and many
OTHER APPLICATIONS

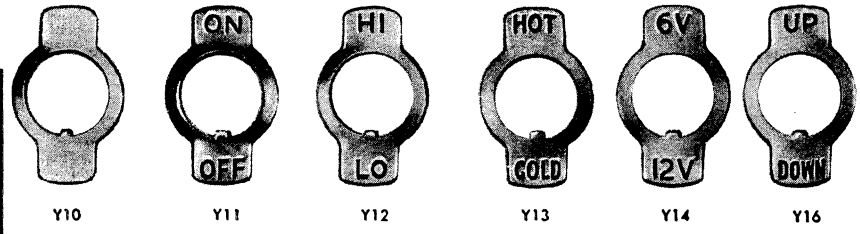
CATALOG NOS.:

#DK025-91 complete with BOX

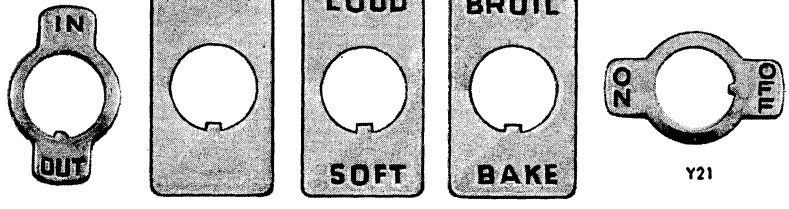
#DK025-E switch only (NO BOX)

ACCESSORIES for ONE HOLE MOUNTING SWITCHES listed previously

INDICATOR PLATES

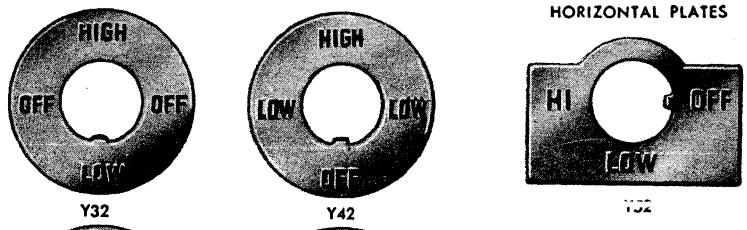


Y10 Y11 Y12 Y13 Y14 Y16

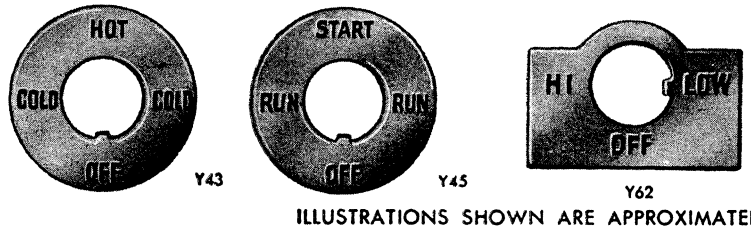


Y19 Y00 Y07 Y08 Y21

HORIZONTAL PLATES

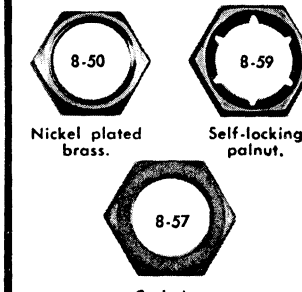


Y32 Y42 Y52



Y43 Y45 Y62

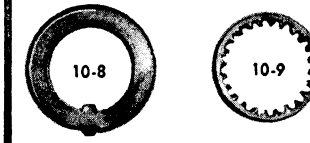
HEX NUTS



Nickel plated brass. Self-locking palnut.

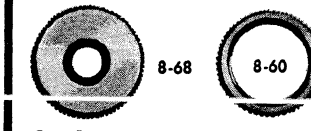
Cadmium plated steel.

STEEL CADMIUM PLATED



Locking Ring Lock Washer

BRASS NICKEL PLATED



Cap Ring Nut Ring Nut

Available with (8-68) or without washer (8-67)

NOTE: Special stampings available. Write factory for details.
Nickel finish standard on indicator plates.
Other finishes available on special order.

ILLUSTRATIONS SHOWN ARE APPROXIMATELY FULL SCALE

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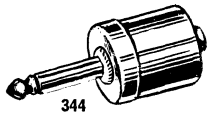
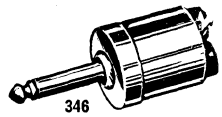
SWITCHCRAFT INC.

CHICAGO 22, ILLINOIS

- **ADAPTERS**
- **AUDIO MIXERS**
- **JACK PANELS**

SWITCHCRAFT "ADAPTERS" & "SHIELDED JAX"


344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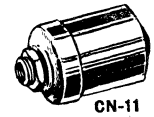

CN-11

"ADAPTERS"—Various "Adapters" provide convenient interchange of equipment between various connector devices. Sturdy construction; brass nickel plated housing supports respective connecting devices.

"SHIELDED JAX"—Ideal in high impedance circuits; regular "Littel-Jax" (described separately) assembled into shield.

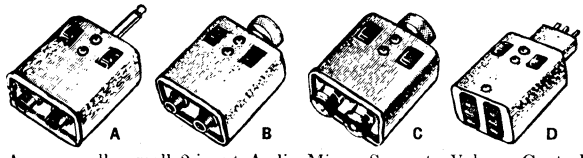
"ADAPTERS"

Part No.	U.S.A. List Price	DESCRIPTION
332	$1.75	Phone Jack Input to Female Microphone Connector Output.
334	$1.45	Phono Jack Connector Input to Female Microphone Connector Output.
336	$1.45	Phone Jack Input to Phono Plug Connector Output.
338	$1.45	Male Microphone Connector Input to Phono Plug Connector Output.
342	$2.60	Dual-Purpose Binding Post/Banana Jack Input to Phone Plug Output.
344	$1.45	Phono Jack Connector Input to Phone Plug Output.
346	$2.15	Tip Jack Input to Phone Plug Output.
348	$1.40	Phono Jack Input to Phono Jack Output.

"SHIELDED JAX"

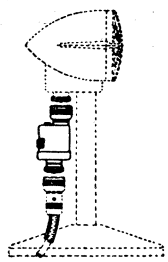
Part No.	U.S.A. List Price	DESCRIPTION
CN-11	$0.80	Open circuit, (See No. 11 "Littel-Jax").
CN-12A	$0.85	Closed circuit, (See No. 12A "Littel-Jax").
CN-12B	$0.95	Open circuit, 3 conductor (See No. 12B "Littel-Jax").
CN-13B	$1.15	Closed circuit, 3-conductor (See "Littel-Jax" No. 13B).

SWITCHCRAFT "MINI-MIX"


A B C D

An unusually small 2-input Audio Mixer. Separate Volume Control directly in line with each input. Knobs recessed inside housing. Average size 2¼" x 1 13/16" x 1 1/16". Ideal for tape recorders to "mix" two different sound sources.

Part No.	U.S.A. List Price	Fig. No.	DESCRIPTION
310	$7.95	A	2-cond. Phone Jack inputs with 2-cond. Plug output. (For equipment where Jack is recessed, use 8266 Cable Assembly Adapter.)
315	7.95	B	2-cond. Phone Jack inputs with Microphone connector output.
320	7.95	C	Microphone Connector inputs and output mating with standard mic connectors.
325	9.95	D	For use with recorders using Jones type connectors. Fits Early Webcor Recorders.
326	9.95	A	3-cond. Jack Inputs with long 2-cond. Plug Output. For Webcor Recorders Series 2020, 2110, and 2130.



SWITCHCRAFT MICROPHONE CONTROL "ADAPTER"

Designed for high impedance circuits to reduce or increase relative volume. For example, microphone applications (using the single conductor shielded cable).

Part No.	U.S.A. List Price	DESCRIPTION
329	$6.95	Female microphone connector (off center) one end to male connector.

SWITCHCRAFT "JACK COVERS"

500 Series Cover used with conventional ⅜"-32 threaded bushing type Phone Jacks. Spring loaded cover immediately snaps over Jack opening when plug is removed, providing a moisture seal.

600 Series Cover, similar to above, is used with certain type Tip Jacks. Fit Tip Jacks with ¼" mounting; height of Tip Jack head ⅛" to 3/16".

Part No.	U.S.A. List Price	DESCRIPTION
510	$1.05	Olive Drab
515	1.05	Black
520	1.05	Navy Grey
610	0.75	Olive Drab
615	0.75	Black
620	0.75	Navy Grey

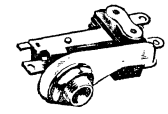
SWITCHCRAFT "JACK PANELS"

Black phenolic strip, reinforced with steel, supports Switchcraft **"T-Jax"** and **"MT-Jax"** (see separate listing). Slotted mounting brackets for standard 19" relay racks. Double plug cannot make cross connection between adjacent circuits because of spacing. Designation strip furnished. Double strip supports 48 Jacks; requires 2⅛" panel space.

Write for more detailed information.

Part No.	U.S.A. List Price	DESCRIPTION
2432A	$75.00	Double Row, 24 pair closed circuit T-332A "T-Jax".
2532A	95.00	Double Row, 24 pair closed circuit MT-332A "MT-Jax"

SWITCHCRAFT C20 and C50 SERIES "SF-JAX"



Short frame construction same as **"SF-Jax"** listed under **"Switchcraft Phone Jacks"**, but JAN Types with Military Insulation and Finishes. C20 Series solder lugs parallel to panel; C50 Series solder lugs perpendicular to panel.

Part No.	U.S.A. List Price	Jan Type No.	Schematic
C23	$1.20	JJ-099	
C23A	1.20	JJ-098	
C23E	1.20	JJ-102	
C51	1.20	JJ-096	
C52A	1.20	JJ-097	
C52B	1.20	JJ-103	
C53A	1.55	JJ-092	
C54A	1.60	JJ-093	
C54B	1.60	JJ-101	
C55B	1.85	JJ-095	

SWITCHCRAFT "TINI-JAX" and "TINI-PLUGS"

"Tini-Jax" — A miniature 2-conductor Phone Jack; Approximately ⅓ the size of Switchcraft **"Littel Jax"**; otherwise similar in construction. Mounts in ¼" diameter hole; panels up to ⅛" thick. Ideal for radios, recorders, musical equipment, etc.

"Tini-Plugs" — A miniature 2-conductor Phone Plug for the **"Tini-Jax"**; about ⅓ the size of Switchcraft **"Littel Plug"**; similar construction. Accepts cable up to 3/16" diameter. Cable clamp terminals for soldering also screw terminal with no clamp.

Part No.	U.S.A. List Price	Description
41	$0.40	Open Circuit—See Phone Jack Schematic I
42A	$0.45	Closed Circuit—See Phone Jack Schematic III
740	$0.75	Black Tenite Handle—Screw terminals
745	$0.75	Red Tenite Handle—Screw terminals
750	$0.70	Black Tenite Handle—Clamp lug terminals
755	$0.70	Red Tenite Handle—Clamp lug terminals
770	$1.05	Shielded Handle—Screw terminals
780	$1.00	Shielded Handle—Clamp lug terminals

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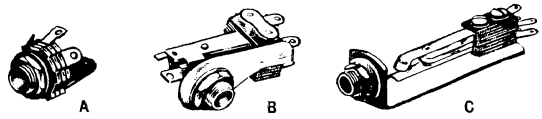
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SWITCHCRAFT INC.

CHICAGO 22, ILLINOIS

- **PHONE JACKS**
- **SWITCHBOARD JACKS**
- **EXTENSION JACKS**

SWITCHCRAFT PHONE JACKS



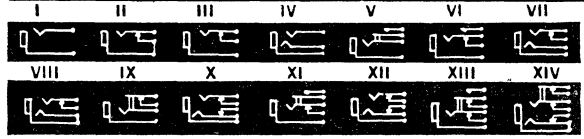
The **"Littel-Jax"** (A), features notched insulating washers mechanically interlocking springs and lugs; "V-bend" in tip spring firmly "holds" mating Plug; minimum space requirements, economical. Mounts in single ⅜" dia. hole, panels up to 5/32" thick.

No. C-11 (JJ-034) and C-12A (JJ-089) mate with No. 440 (PJ-055B) Plug; C-12B (JJ-033), S-12B and S-13B mate with No. 480 (JAN PJ-068 or W.E. No. 309) Plug. No. C-11 and C-12B have locating pins (non-turn devices). No. S-11 similar to No. 11 except .210" I.D. sleeve to mate with S-250 and S-280 Plugs. C-11 (JJ-034), C-12B (JJ-033) and C-12A (JJ-089) per JAN-J-641.

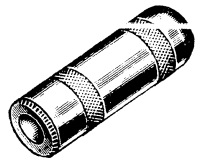
The short frame type Jack **"SF-JAX"** (B), requires minimum panel depth, mounts in single ⅜" dia. hole, panels up to 3/16" thick.

The long frame type Jack **"LF-JAX"** (C), requires minimum panel space, 3" deep, mounts in single ⅜" dia. hole, panels up to ¼" thick.

"LITTEL-JAX"		"SF-JAX"		"LF-JAX"		
Part No.	U. S. A. List Price	Part No.	U. S. A. List Price	Part No.	U. S. A. List Price	Schematic No. (See below)
11	$0.40					
C-11	$0.60					
S-11	$0.45	21	$0.55	31	$0.65	I
		22	$0.70	32	$0.85	II
12A	$0.45					
C-12A	$0.75	22A	$0.70	32A	$0.85	III
12B	$0.55					
C-12B	$0.70					
S-12B	$0.65	22B	$0.70	32B	$0.85	IV
		23	$0.85	33	$0.95	V
		23A	$0.85	33A	$0.95	VI
13B	$0.75					
S-13B	$0.95	23B	$0.85	33B	$0.95	VII
		23C	$0.85	33C	$0.95	VIII
		23E	$0.85	33E	$0.95	IX
		24	$0.95	34	$1.10	X
		24A	$0.95	34A	$1.10	XI
		24B	$0.95	34B	$1.10	XII
		25	$1.15	35	$1.25	XIII
		26	$1.25	36	$1.40	XIV



SWITCHCRAFT "EXTENSION JAX"



Features a clamp type terminal providing a cable anchor. Spring tempered nickel silver springs, designed to properly "hold" mating plug. Exterior metal parts N.P.: Terminals mechanically interlock. High grade insulation. Available in 2 and 3-conductor types, solder lug or screw type terminals. Bakelite or Brightly Nickel Plated Brass handles. Mates with any standard plug.

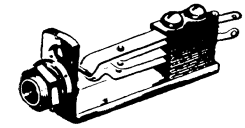
Part No.	U.S.A. List Price	Color or Type of Handle	Description
80	$1.15	Black	2-conductor. Screw Term.
88	$1.00	"	" " Lug. Term.
120	$1.55	Shielded	" " Screw Term.
126	$1.80	"	" " for R-280 Plug
128	$1.40	"	" " Lug. Term.
830	$1.55	Black	3-conductor. Screw Term.
838	$1.40	"	" " Lug. Term.
1230	$1.95	Shielded	" " Screw Term.
1238	$1.80	"	" " Lug. Term.
S-128	$1.50	"	2-cond Spec. Lug. Term.

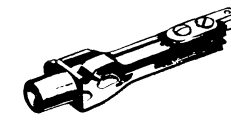
SWITCHCRAFT "T" JAX

"T-JAX" — Long Frame, Switchboard type, designed for low cost communication equipment.

Part No.	U.S.A. List Price		Schematic
T-331	$1.05	FOR JAN TYPES See "MT-JAX"	
T-332A	$1.20		
T-332B	$1.20		
T-334A	$1.50		
T-334B	$1.60		
T-334C	$1.50		

SWITCHCRAFT "MT" & "M" JAX





"MT-JAX" — Long Frame, Switchboard type, designed for high quality communication and military equipment. Military finishes and insulation; Cross-bar Palladium contacts in switching circuits ideal for low level Audio circuits. Frame design available with locating ear rotated 90°; add "C" prefix to Part Number.

"M-JAX" — Heavy, long frame Jack, often referred to as Navy Jack, designed for industrial and military equipment requirements. Circuits listed are standard; more complex circuits available.

"MT-JAX"			
Part No.	U.S.A. List Price	Similar Jan Type No.	Schematic
MT-331	$1.50	JJ-086	
MT-332A	1.70	JJ-024	
MT-332B	1.70	JJ-022	
MT-332C	1.95		
MT-333	1.95	JJ-084	
MT-334A	2.00		
MT-334B	2.00	JJ-042	
MT-334C	2.00	JJ-072	
MT-334E	2.00	JJ-085	
MT-334F	2.00	JJ-035	
*MT-342B	1.95		
*MT-344B	2.25		
MT-388	5.15	JJ-088	
"M-JAX"			
M-441	1.50		
M-442A	1.70	JJ-107	
M-443A	1.95	JJ-105	
M-443B	2.10	JJ-106	
*M-444	2.30	JJ-083	
M-444B	2.20	JJ-082	
M-445	2.75	JJ-104	
M-446	3.50	JJ-079	
M-446A	3.90	JJ-061	

*Bushing .2085" to mate PJ-068 and PJ-309.

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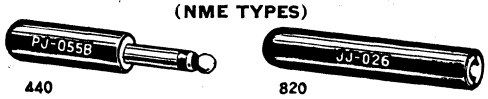
SWITCHCRAFT INC.

CHICAGO 22, ILLINOIS

- **CONNECTORS**
- **CABLE ASSEMBLIES**
- **PHONE PLUGS**

SWITCHCRAFT' 'LITTEL-PLUG" AND "EXTENSION JAX"
(NME TYPES)



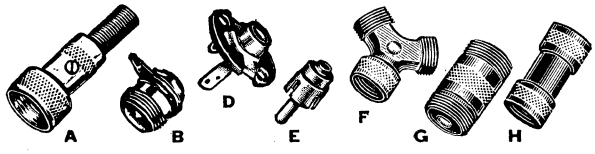
440 820

Designed to meet exacting requirements of Industry and the Armed Services. Molded construction provides complete continuity of insulation in plugs. Jack per JAN-J-641; Plugs per JAN-P-642.

PART No.	U. S. A. LIST PRICE	DESCRIPTION
410	$0.60	Two conductor-Solder Cup--Type PJ-291 (Old Signal Corps No. PL-291)—Mates with No. 810 (JJ-048) Jack.
*430	$1.40	Two-conductor-Screw Terminals. Cable Opening ¼"—Black Plastic Handle—Type PJ-054B (Old Signal Corps No. PL-54).
*435	$1.40	Same as No. 430, except Red Plastic Handle—Type PJ-054R (Old Signal Corps No. PL-354).
440	$1.40	2-cond.—Screw Term. Black Plastic Handle—Type PJ-055B. (Old Signal Corps No. PL-55).
445	$1.40	2 cond.—Screw Term. Red Plastic Handle—Type PJ-055R.
*450	$1.40	Same as No. 430, except—Type PJ-540B—Cable Opening 9/32" (13/32" deep). (Old Signal Corps No. PL-540). Black Plastic Handle.
*455	$1.40	Same as No. 450, except—Type PJ-540 R. Red Plastic Handle.
470	$2.00	2-cond.—Screw Term. Shielded Handle—Type PJ-055M (Old Signal Corps. No. PL-125).
480	$3.60	3-cond.—Screw Term. Black Plastic Handle—Type PJ-068 (Old PL-68).
810	$ .80	2-cond.—Solder Lug—Type JJ-048 (Old Signal Corps No. JK-48), mates with No. 410 (PJ-291) Plug.
820	$2.00	2-cond.—Screw Term. Black Plastic Handle—Type JJ-026 (Old Signal Corps No. JK-26).
P-1074-1	.85 for PKG. of 25	Strain Relief Clamp, Nickel Plate Brass.

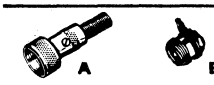
* Mates with No. 820 (JJ-026) "Extension Jax"

SWITCHCRAFT "PHONO" AND "MICROPHONE" CONNECTORS



Designed for use with single conductor microphone conductor cable. Panel receptacle mounts in .385" hole.

Fig.	Part No.	U.S.A. List Price	DESCRIPTION
A	2501F	$0.60	Straight Connector, single contact, female type, coupling ring.
	2501M	$0.45	Straight Connector, single contact, male type.
B	2501MP	$0.35	Panel Connector, single contact, male type.
B	2501MPC	$0.45	Panel Connector, closed circuit, male type.
	2501R	$0.15	Coupling Ring, used with 2501M to convert to 2501F.
D	3501F	$0.15	Phono Jack—2 conductor.
E	3501M	$0.10	Phono Plug—2 conductor.
F	25Y	$1.65	"Y"-Connector. 2 males and 1 female to connect 2 cables in parallel.
G	2501MT	$0.70	Double Male Connector. For connecting 2 cables with female connectors.
H	2501FT	$0.80	Double Female Connector. For connecting 2 cables with male connectors.

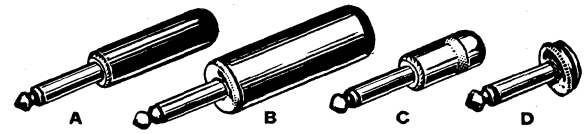


SWITCHCRAFT "MINI-CON" CONNECTORS

About ¼ the size of standard size connectors; designed for single conductor microphone cable up to 3/16" O.D. Panel receptacle mounts in 3/16" hole when grounded; ¼" hole when insulated.

Fig.	Part No.	U. S. A. List Price	DESCRIPTION
A	5501F	$0.60	Straight Connector, single contact, female type, removable coupling ring.
	5501M	$0.45	Straight Connector, single contact, male type.
B	5501MP	$0.35	Panel Connector, single contact, male type.

SWITCHCRAFT PHONE PLUGS



The **"Littel-Plug"** (A), radically new, fitting standard Jacks; solder lug type features clamp terminal serving as a cable clamp and terminal—perfect for metal braid cable. Screw type terminals—no clamp. Tenite or Metal handles are 1⅝"L., ½"dia. Exterior metal parts bright nickel Pl.

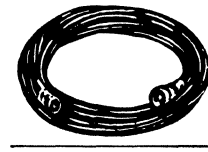
No.'s S-250 and S-280 have a .206 dia. sleeve; mates with S-11 and S-128 Jacks. No.'s 180 and 288 have wide insulator between sleeve and tip—makes it possible to use a 2-conductor Plug in a 3-conductor Jack.

The **Standard Plugs** (B), conventional design, available both black Bakelite or metal handles 2 1/16"L. x 1 1/16" O.D., except No. 90 and No. 160 have metal handles 1" long. Exterior metal parts bright nickel Pl.

The **"Lug Plug"** (C), low-cost two conductor, solder lug term. Exterior metal parts bright Nickel Pl. Red or Black Tenite Handles are 1⅝"L., ½" O.D. No. 380 has metal handle 1" L., bright Nickel Pl.

Plug Adapter (D) used with 2501F Connector for use with standard Jacks. For special adapters see separate listing.

Part No.	U.S.A. List Price	Plug Type	Color or Type of Handle	Description
240	$0.75	"Littel-Plug"	Black	2-conductor. Screw Term.
245	$0.75	" "	Red	" " " "
270	$1.05	" "	Metal	" " " "
250	$0.70	"Littel-Plug"	Black	2-conduct. Clamp-lug Term.
255	$0.70	" "	Red	" " " " "
280	$1.00	" "	Metal	" " " " "
260	$1.20	"Littel-Plug"	Black	3-conductor. Screw Term.
290	$1.40	" "	Metal	" " " "
267	$1.05	"Littel-Plug"	Black	3-conduct. Clamp-lug Term.
269	$1.05	" "	Red	" " " " "
297	$1.30	" "	Metal	" " " " "
40	$0.70	Standard	Black	2-conductor. Screw Term.
70	$1.20	"	Metal	" " " "
160	$0.90	"	Metal	" " " "
44	$0.50	Adapter	—	" " " "
60	$1.05	Standard	Black	3-conductor. Lug Terminals
90	$1.30	"	Metal	" " " "
350	$0.55	"Lug-Plug"	Black	2-conductor. Lug Terminals
355	$0.55	" "	Red	" " " "
380	$0.70	" "	Metal	" " " "
180	$1.05	Standard	Metal	2-conductor. Screw Term
288	$1.05	"Littel-Plug"	Metal	2-cond. Clamp-lug Term.
S-250	$0.75	" "	Black	" Clamp-lug Term.
S-280	$1.00	" "	Metal	" Clamp-lug Term.
R-280	$1.25	" "	Metal	2-cond. Clamp-lug Term. Short sleeve for Revere Recorders, mates with No. 126 "Extension Jax".



SWITCHCRAFT "CABLE ASSEMBLIES"

Twenty five foot lengths, 2-and 3 conductor plastic covered cable (Polyvinyl), shielded and multi-conductor types, terminated with popular Switchcraft 'Littel-Plugs', 'Extension Jax' and 'Connectors'.

Part No.	U.S.A. List Price	DESCRIPTION
8252	$ 6.40	2-cond. cable; No. 250 "Littel-Plug" to No. 88 "Ext. Jax".
8282	$ 6.95	2-cond. cable; No. 280 "Littel-Plug" to No. 128 "Ext. Jax".
8256	$ 7.25	2-cond. shielded cable; No. 250 "Littel-Plug" to No. 88 "Ext. Jax".
8286	$ 7.80	2-cond. shielded cable; No. 280 "Littel-Plug" to No. 128 "Ext. Jax".
8259	$ 7.80	2-cond. shielded cable; No. 2501M connector to No. 2501F connector.
8263	$10.00	3-cond. shielded cable; No. 267 "Littel-Plug" to No. 838 "Ext. Jax".
8293	$11.50	3-cond. cable; No. 297 "Littel-Plug" to No. 1238 "Extension Jax".
8266	$ 3.75	1-ft. long. 2-cond. shield cable; No. 280 "Littel-Plug" to No. 128 "Extension Jax". Used with No. 310 "Mini-Mix" where panel Jack is recessed.

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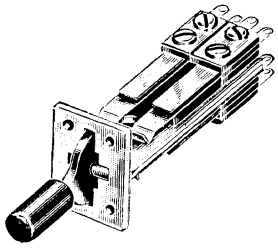
SWITCHCRAFT INC.

CHICAGO 22, ILLINOIS

SWITCHES

Lever Action • Push Button • Rotary

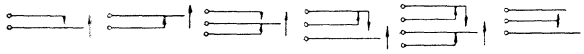


SWITCHCRAFT "TELEVER SWITCH"

Rugged Telephone Type Lever Switch; 3" depth behind panel; Nickel Silver springs; Cross bar Palladium contacts rated 3 amps., 120 volts A.C. (non-inductive). Nylon rollers; solder lug terminal. Insulated black knob. Chrome plated brass actuator. Standard mounting centers $\frac{17}{32}$" x $\frac{13}{16}$"; usually mounted by four No. 3-48 screws (not furnished); can be assembled to escutcheon plate.

TWO POSITION TYPE				
PART NUMBER		U.S.A.	CONTACT	
Non-Locking	Locking	LIST PRICE	ASSEMBLY	
6006	6006L	$ 5.00	2-C	
6008	6008L	$ 5.60	4-A	
6009	6009L	$ 6.00	3-C	
60012	60012L	$ 6.80	4-C	
60024	60024L	$10.00	8-C	
THREE POSITION TYPE			POS. 1	POS. 2
6036	6036L	$ 5.00	1-C	1-C
6038	6038L	$ 5.60	2-A	2-A
60312	60312L	$ 6.80	2-C	2-C
60324	60324L	$10.00	4-C	4-C
530	Escutcheon Plate with 4 Mtg. Screws	$ 0.60		

BASIC CONTACT FORMS



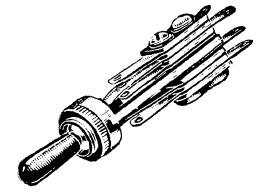
A B C D E F

SWITCHCRAFT "NF-SWITCHES"

A push button switch with features of the "FF-Switch" described on this page, but smaller in size. Frame only ½" wide; 1-⅝" long O/A. Mounts in ⅜" dia. hole, panels up to 5/32" thick.

PART NO.	U.S.A. LIST PRICE	SCHEMATIC CIRCUIT	
4001	$0.95	I	SEE BOTTOM OF PAGE
4002	0.95	II	
4003	1.10	III	
4004	1.20	IV	
4005	1.20	V	
4006	1.45	VI	
4009	2.00	VII	

SWITCHCRAFT "LEV-R-SWITCHES"



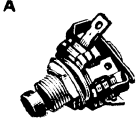
Unusually small, lever action switch, available in numerable circuits, to provide the simplest in switching design. Ideal for inter-comm. equip., test equip., model r.r. switch panels, recording equip., etc.

Mounts in single $\frac{15}{32}$" dia. hole, panels up to $\frac{5}{64}$" thick; Long life springs; soft, easy action — real detent action on locking types; Springs assembled into a conventional stack assembly; fine silver contacts rated at 3 amperes, 120 volts A.C., non-inductive load; other contacts available.

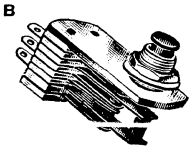
TWO-POSITION TYPE			
Part No. Non-locking	Part No. Locking	U.S.A. List Price	Schematic
3001	3001L	$1.95	
3002	3002L	$1.95	
3003	3003L	$2.25	
3004	3004L	$2.50	
3005	3005L	$2.50	
3006	3006L	$2.75	
THREE-POSITION TYPE			
3033	3033L	$2.50	
3034	3034L	$2.60	
3035	3035L	$2.60	
3036	3036L	$2.90	
3037	3037L	$2.95	
INTER-COMM. SWITCHES			
3033T		$2.50	
3037T		$2.95	

SWITCHCRAFT PUSH-BUTTON & ROTARY SWITCHES

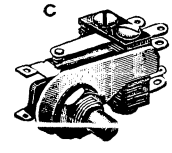
A



B



C



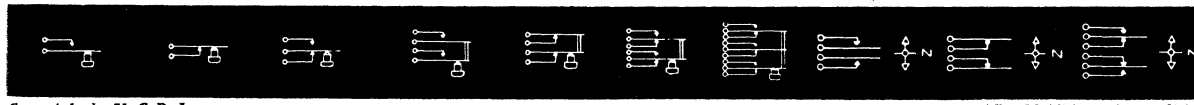
The **"Littel-Switch"** (A), available in 3 circuits, either in Red or Black one-piece Plastic Push-Button, non-locking only. Mounts in single ⅜" dia. hole, panels up to ¼" thick. Integral contacts are standard, recommended for low current only.

The **"FF-Switch"** (B), all common circuits, one-piece Black Plastic Push-Button, non-locking only. Mounts in single ⅜" dia. hole, panels up to ¼" thick. Fine silver contacts rated 3 amperes, 120 volts A.C., non-inductive.

The **"RS-Switch"** (C), locking and non-locking, 2- or 3- position, all common circuits. Mounts in single ⅜" dia. hole, panels up to ¼" thick. Fine silver contacts rated 3 amperes, 120 volts A.C. (non-inductive).

"LITTEL-SWITCH"			"FF-SWITCH"		"RS-SWITCH"			
Part No. Red-Button	Part No. Black-Button	U.S.A. List Price	Part No.	U.S.A. List Price	Part No. Non-Locking	Part No. Locking	U.S.A. List Price	Schematic Circuit
101	201	$0.85	1001	$0.95	2001	2001L	$1.00	I
102	202	$0.85	1002	$0.95	2002	2002L	$1.00	II
103	203	$0.90	1003	$1.10	2003	2003L	$1.20	III
			1004	$1.20	2004	2004L	$1.25	IV
			1005	$1.20	2005	2005L	$1.25	V
			1006	$1.45	2006	2006L	$1.65	VI
			1009	$2.00				VII
					THREE-POSITION TYPES			
					2034	2034L	$1.25	VIII
					2035	2035L	$1.25	IX
					2036	2036L	$1.65	X

I II III IV V VI VII VIII IX X



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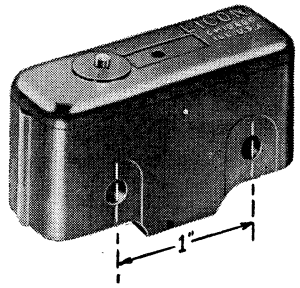
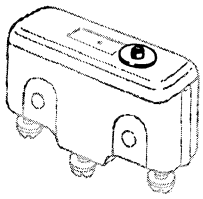
LICON™ Precision Switches



TYPE 10
Precision Basic Switch

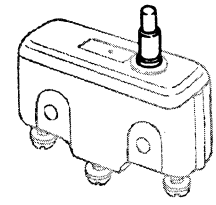
Features extremely sensitive operation plus long life and high electrical rating. Over 10,000,000 actuations by test. Movement differential of .001 on standard types. 15 amp; 125,250,406 V.A.C. Meets all government specs. ½ amp; 125 V.D.C. Und. Lab. App. Switches with .010" and .020" contact gaps (i.e. 10-121, and 10-122) have 15 amp. ratings. Those having .040" and .070" gap are rated 20 amps. Gap is shown by last number of catalog listing. Standard 1" mounting centers. Bold face listings are more standard.



PIN PLUNGER 10-122

Movement differential ..... .002 in. max.
Operating force ..... 10 ± 3 oz.
Overtravel ..... .005 in. min.
Weight ..... 1 oz.

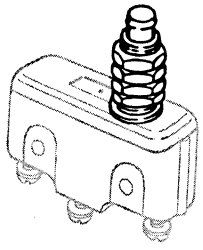
10-121, 10-122, 10-124, 10-127



PIN PLUNGER 10-222

Movement differential ..... .002 in. max.
Operating force ..... 10 ± 3 oz.
Overtravel ..... 1/16 in. min.
Weight ..... 1.1 oz.

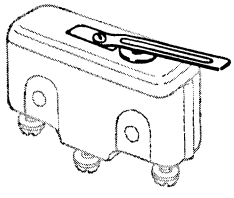
10-221, 10-222, 10-224, 10-227



PANEL MOUNT 10-322

Movement differential ..... .002 in. max.
Operating force ..... 10 ± 3 oz.
Overtravel ..... 7/32 in. min.
Weight ..... 1.6 oz.

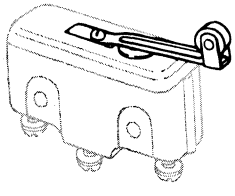
10-321, **10-322**, 10-324, 10-327



LEAF SPRING 10-422

Movement differential ..... .050 in. max.
Operating force ..... 5 oz. max.
Overtravel ..... 1/16 in.
Weight ..... 1 oz.

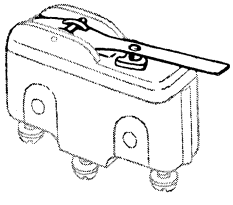
10-421, **10-422**, 10-424, 10-427



ROLLER LEAF SPRING 10-522

Movement differential ..... .050 in max.
Operating force ..... 4 ± 1 oz.
Overtravel ..... 1/16 in.
Weight ..... 1¼ oz.

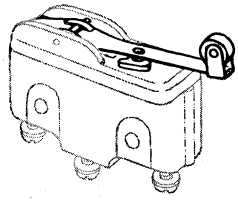
10-521, **10-522**, 10-524, 10-527



RIGID LEVER 10-622

Movement differential ..... .050 in. max.
Operating force ..... 2½ oz. max.
Overtravel ..... 5/32 in. min.
Weight ..... 1.25 oz.

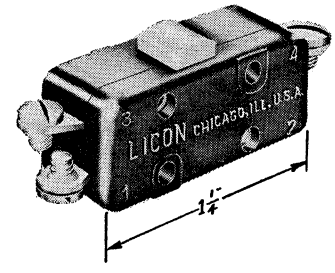
10-621, **10-622**, 10-624, 10-627



ROLLER LEVER 10-722

Movement differential ..... .050 in. max.
Operating force ..... 2½ oz. max.
Overtravel ..... 5/32 in. min.
Weight ..... 1.4 oz.

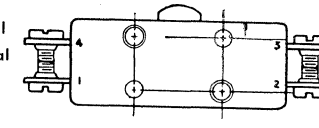
10-721, **10-722**, 10-724, 10-727



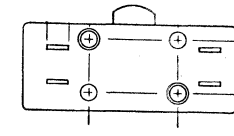
TYPE 11
Precision Basic Switch

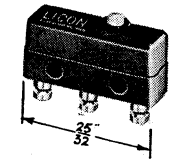
Type 11 combines small size, long life, high rating and double break in one reliable package. Government approved. Rated 10 amps., 30 V.D.C., Und. Lab. App. 125 or 250 V.A.C. Tested for over 20,000,000 cycles life. Reset switches available in all terminal styles.

11-204 Screw Terminal
11-104 Solder Terminal
11-214 Reset Switch



11-304 Side Solder Terminal
11-314 Reset Switch





SUB-MINIATURE TYPE 12

For applications requiring the most compact switch — only ¼" thick — long dependable life. Rated 5 amps. 250 V.A.C. Meets government specifications. Sensitive action.

12-102 TURRET TERMINAL

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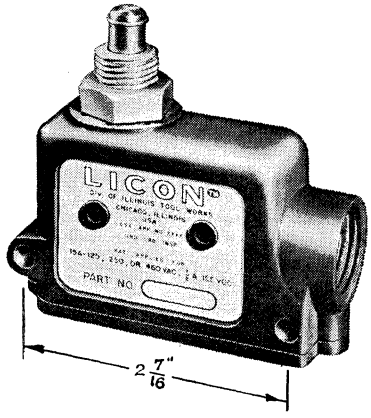
LICON™ Precision Switches

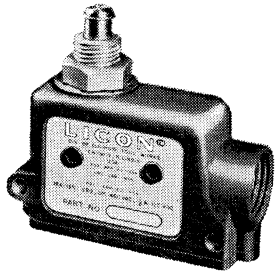


TYPE 30
ENCLOSED LIMIT SWITCHES

- **VERSATILE — 3 Actuators, 3 Housings } Provide 14 types**
- **EFFECTIVE — Oil tight sealing without boot seals**

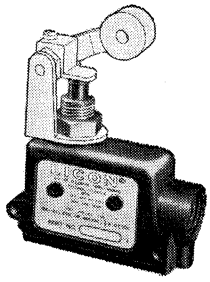
The Type 30 Licon Limit Switch is used for industrial control, limit and safety applications. The aluminum die cast housing provides a rugged enclosure for the switch, adequate wiring room, and a ½"-14 internal tap conduit hub. Superior mounting means and a variety of actuators are available. Switch actuation is sensitive. 15 amp. — 125,250,460 V.A.C., ½ amp. — 115 V.D.C., Und. Lab. App. Tested mechanical life over 10,000,000 cycles. 6 types below interchangeable with all 14 competitive types.

SEALED SWITCHES
Oil, Water and Dust Tight



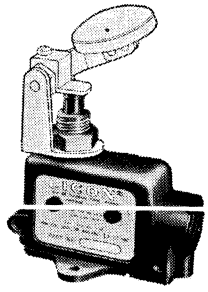
30-200
SEALED PLUNGER SWITCH

.002 Movement differential
¼" Overtravel



30-400
SEALED
ROLLER ARM SWITCH

For Cam operation
Adjustable arm

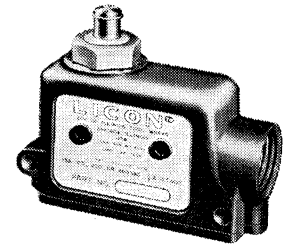


30-600
SEALED
PALM BUTTON SWITCH

For hand operation
Ideal start, stop,
safety switch

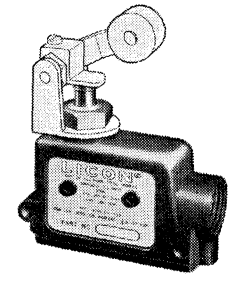
Alternate bottom
mounting plate
Supplied with all
actuator styles

UNSEALED SWITCHES
For General Purpose Use



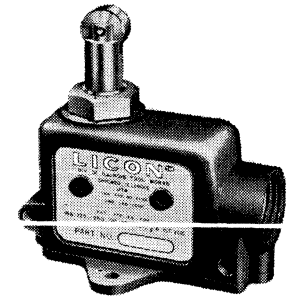
30-100
OVERTRAVEL
PLUNGER SWITCH

.002 Movement differential
¼" Overtravel



30-300
ROLLER ARM SWITCH

For Cam operation
Adjustable arm



30-500
ROLLER PLUNGER SWITCH

Plunger roller adjustable
for actuation
from any direction

ACTUATORS

70-101 LEVER ACTUATOR: Used to convert 30-200, Sealed Plunger Limit Switch to 30-400 Sealed Roller Arm.; 30-100 Plunger Switch to 30-300 Roller Arm Switch.

70-102 PALM BUTTON ACTUATOR: Used to convert 30-200 Sealed Plunger Switch to 30-600 Sealed Palm Button Switch. Also attaches to 30-100.

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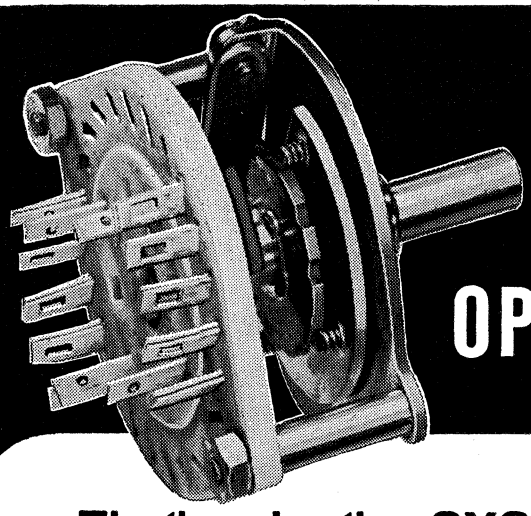
'SWITCHES • ATTENUATORS • POTENTIOMETERS



Still "On Tap" after 1,000,000 OPERATING CYCLES!

That's why the SYSTEM ANALYZER CORP. Chose Tech Laboratories Tap Switches for $200,000 Electronic "Brain"

TYPE 2C TAP SWITCH SPECIFICATIONS

Contact resistance: 3-4 milliohms
Contact material: Silver plated brass
Contact design: Laminated wiper arm, self-cleaning, shorting or non-shorting
No. of contacts: 2 to 24 single pole, 2 to 11 double pole, 2 to 7 triple pole, 2 to 5 four pole; shorting or non-shorting
Spacing: 15° or 20° shorting or non-shorting
No. of poles per deck: 1 to 4
No. of decks: According to requirements
Current carrying cap.: 3 amp.
Max. operating voltage: 120 V., a.c.
Mounting: Single hole, 3/8"-32 bushing
Size: 1 3/4" dia.
Detent: Ball and spring
Weight: Approx. 1 oz. per deck

PRICE LIST TYPES 2A† & 2C*

No. of Decks	No. of Poles/ Deck	No. of Pos. Shorting	Type No. for 2C	2A	2C
1	1	24	C1S24	$4.50	$6.75
1	2	12	C2S12	4.75	7.12
1	3	6	C3S6	5.00	7.50
1	4	5	C4S5	5.25	7.87
2	1	24	C1S24-2	7.00	10.50
2	2	12	C2S12-2	7.50	11.25
2	3	6	C3S6-2	8.00	12.00
2	4	5	C4S5-2	8.50	12.75
3	1	24	C1S24-3	9.50	14.25
3	2	12	C2S12-3	10.25	15.37
3	3	6	C3S6-3	11.00	16.50
3	4	5	C4S5-3	11.75	17.62
4	1	24	C1S24-4	12.00	18.00
4	2	12	C2S12-4	13.00	19.50
5	1	24	C1S24-5	14.50	21.75
5	2	12	C2S12-5	15.75	23.62
6	1	24	C1S24-6	17.00	25.50
6	2	12	C2S11-6	18.50	27.75

* Ceramic insulation † Phenolic Insulation

WE MAKE A GREAT MANY KINDS OF ATTENUATORS & ROTARY SWITCHES
3 to 4 weeks delivery on orders up to 6 units.

WRITE FOR NEW BULLETINS
on Switches • Decade Resistors
Potentiometers
and Power Supplies for Mobile Equipment

TECH LABORATORIES INC.
PALISADES PARK, N. J.,

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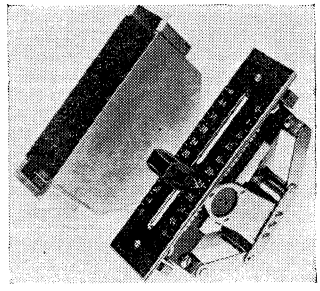
SPLICING BLOCKS• PRECISION AND VERTICAL ATTENUATORS

VERTICAL ATTENUATORS



The present model is a new development coming out of seventeen years of experience. It has removed the last objections to a unit of this type and has produced an attenuator of such perfection that we believe it will eventually displace all rotary units.

SPECIFICATIONS:

Noise Level: 130-140 db. below zero level.

Range: Standard units are furnished with 30 steps at 1.5 db. and inf. or 20 steps at 2 db. and inf. loss (off) on last contact . . . 31 or 32 contacts.

Circuit: Ladder "T" or potentiometer is standard, other circuits can be furnished to order.

Impedance: Standard values 30, 50, 150, 200, 250, 500 and 600 ohms for ladders, and 250,000 ohms for potentiometers, others to order.

Cueing Switch: Normally closed, open in off position, S.P.S.T.

Size: 30 step unit—1 ½" x 6 ½" x 3 ½".
20 step unit—1 ½" x 5 ⅛" x 2 ¾".

Insertion Loss: 0 to 5 db. depending on circuit.

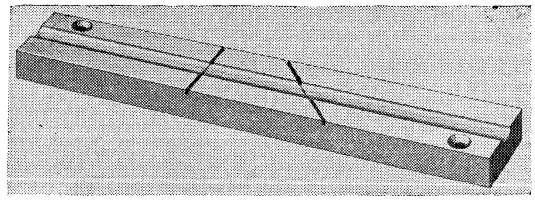
Dial: Linear, etched easily read.

Contact Arms: Multiple laminated-wiping action.

Shielding: Electrostatic shield, dust proof.

Frequency Response: Flat to 50 kc.

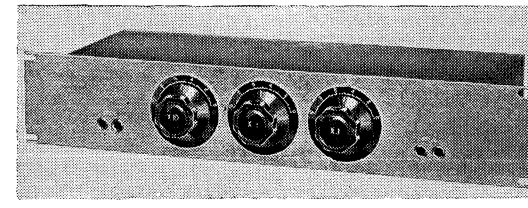
EDITALL TAPE SPLICING BLOCK



A new exclusively designed tape splicing block that can be used in conjunction with any tape recorder using standard tape. Splices can be easily and quickly made with a minimum of time and effort. Made of lifetime Duraluminum with no clips or mechanical parts to go out of order. Can be used as a separate unit or mounted as part of the tape recorder itself. Approximate overall dimensions—6 ½" long x 1" wide x ⅜" high. Furnished with drilled and countersunk holes for easy mounting.

TYPE 850 PRECISION ATTENUATOR

With the increased demand for precision in laboratory measurement of volume levels, transmission losses, gains of amplifiers, etc., the older methods and standards have become obsolete. The present units are a complete redesign of our older precision attenuators and will serve as laboratory standards. These precision units are now furnished with jack terminals and are completely shielded. They are flat for all frequencies in the audio range and reasonably flat to 200 kc. up to 70 db. They are furnished with either rack or box mounting in gray finish.



SPECIFICATIONS:

Mounting: Type 850-AT and 850-AH, standard rack panels, $3\frac{15}{32}$" x 19" x ⅛". Type 850-B furnished with dust cover.

Switches: Multiple leaf, silver alloy blades with silver contacts. Ball type detent.

Terminals: Telephone type jacks are used for input and output connections. Solder terminals are provided on rear panels for permanent connections. Insertion of plugs into twin-jacks lifts rear terminal connections.

Type of Resistors: All resistors are non-inductively wound. Negligible phase angle.

Accuracy of Resistors: All windings are adjusted to within 0.1% of the calculated value except on very low resistance values which are adjusted to within 0.25%.

Frequency Characteristics: For "T" configuration, the frequency error is negligible up to 80 db. loss, below 50 kilocycles. Balanced "H" configuration should be used where measurements above 50 kilocycles are necessary.

NEW TYPE 850 PRECISION ATTENUATORS

Type	Mounting	Circuit	Range	Db/Step	Size Rack Panel
850-AT	Rack	"T"	111 db.	0.1	3 ½"x19" Std.
850-AH	Rack	Bal. "H"	111 db.	0.1	3 ½"x19" Std.
850-BT	Box	"T"	93 db.	0.1	9 ½"x4"x4 ¾"
850-BH	Box	Bal. "H"	93 db.	0.1	9 ¾"x4"x4 ¾"
850-CT	Box	"T"	111 db.	0.1	12 ¾"x4"x4 ¾"
850-CH	Box	Bal. "H"	111 db.	0.1	12 ¾"x4"x4 ¾"

TECH LABORATORIES INC.

PALISADES PARK • NEW JERSEY

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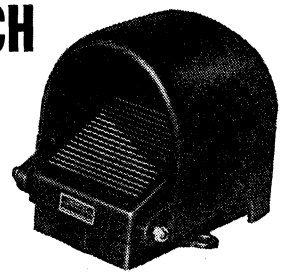
LINEMASTER

AMERICA'S FOOT SWITCH LEADER

A LINEMASTER Safety Extra!

FOOT SWITCH GUARD



. . . a necessary precaution wherever accidentally tripping machine might be dangerous or costly. Strong and durable, with a black crackle finish on cast iron, it fits over and encloses switch.

Available for all Senior Models.

Tip-Toe Control for Tip-Top Production!

LINEMASTER, Jr. FOOT SWITCH

#121-S & #122-S

Lightweight, sensitive... ideal for women workers! Needs only a touch of the toe, while heel remains comfortably on the floor.

Aluminum housing, black crackle finish. Weight 1 lb. 5½" long, 3¼" wide, 1¼" high. Rated at 15 amps., 115 volts A.C.; 15 amps., 250 volts A.C. Can be wired to operate as single pole, normally open; single pole, normally closed; or single pole, double throw. Momentary Contact only.

#122-S—Rated at 20 amps., 115-250 volts A.C.

The LINEMASTER

TWIN-COMPACT

Forward-Reverse Switch #491S Twin

Twice as efficient because it works both ways!

The TWIN-COMPACT gives you all the advantage of the famous COMPACT—doubled—because it actually IS two complete LINEMASTER COMPACTS, mounted on a single base. Foolproof bridge between mountings prevents accidental operations of both at once.

Strong steel housing, black crackle finish. 6" long, 3" wide, 1½" high. Weight 1 lb. Specifications (for each switch) same as for LINEMASTER COMPACT No. 491-S.

The LINEMASTER

CLIPPER SWITCH

in two models:

1. **Momentary contact** (press to start—release to stop)
2. **Maintained contact** (press to start—press to release)

Rugged Momentary Contact Clipper has proved invaluable to product engineers and machine operators. Maintained Contact Clipper is now available for heavy duty applications. Molded nylon actuating cams; rugged cast iron housings, sponge rubber skid pads. Size: 4½" x 3½" x 1½". Weight: 2½ lbs.

#632-S—AC Rating: 20-A, 125-250V, Momentary Contact, Single Pole, Double Throw.

#634-S—AC Rating: 10-A, 125-250V, Momentary Contact, Double Pole, Double Throw.

#632-D—AC Rating: 20-A, 125-250V, Maintained Contact, Single Pole, Double Throw.

#634-D—AC Rating: 10-A, 125-250V, Maintained Contact, Double Pole, Double Throw.

The LINEMASTER

EXECUTIVE

#B-2-S

Two Switches in One "On-Center" Mechanical Interlock!

This handsome switch is fool-proof and easy-to-operate! Selective circuits and guaranteed interlock eliminates possibility of accidentally tripping both circuits simultaneously while low, wide casing saves excessive leg movement—foot pivots easily from one side to the other.

Easy to wire—remove only one screw and switch is ready. Either interior (or both) may be wired as normally open or normally closed—single pole—double throw. Cord sets available to your specifications.

Heavy steel housing, baked hammertone grey finish. Weight, 14 oz., 4⅝" long, 4" wide, 1¼" high. Each interior rated at 15 amps at 125-250 volts A.C.

The LINEMASTER

DUPLEX FOOT TREADLE SWITCH

#475-S & #476-S

Actually 2 switches in one compact housing!

LINEMASTER'S new DUPLEX FOOT TREADLE SWITCH is especially well adapted for sound and transmission equipment; relays, solenoids and magnetic switches. The DUPLEX provides either forward-and-reverse or start-and-stop action with slight heel or toe pressure, and allows two circuits to be selectively operated from one neutral position. Available in two spring weights, to allow for operation from either sitting or standing positions.*

Cast aluminum housing, black crackle finish. Weight, 1¾ lbs.; length, 8½"; width, 3½"; height, 2". Rated at 15 amps, 110 volts A.C.; 15 amps., 220 volts A.C. Either switch, or both, may be wired as single pole, normally open; single pole, normally closed; single pole, double throw.

*Specify #475-S—heavy spring—for standing operation.

#476-S—Light spring—for seated position.

"When awkward jobs hold you up—a LINEMASTER FOOT SWITCH is your third hand!"

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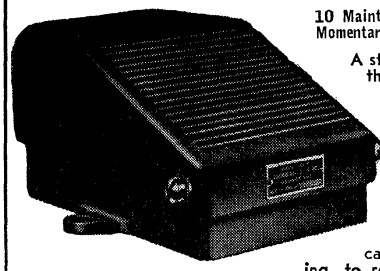
LINEMASTER

PRECISION-BUILT • DEPENDABLE • RUGGED • ECONOMICAL • OVER 1000 APPLICATIONS

LINEMASTER "SENIOR" 4000 SERIES



10 Maintained and Momentary Contact Models

A sturdy industrial-type switch that operates with light pressure from foot or knee, leaving both hands free for work. Economical and built to give years of trouble-free service — fully enclosed and hooded for protection against dirt and chips, with additional heavy spring and cast stop under cover casting, to relieve pressure and strain on spring inside switch proper.

Heavy-duty cast iron housing; black crackle enamel finish. 7" long, 4" wide, 3¼" high. Weight, 5¼ lbs.

MAINTAINED CONTACT MODELS: Press to start—press to stop.

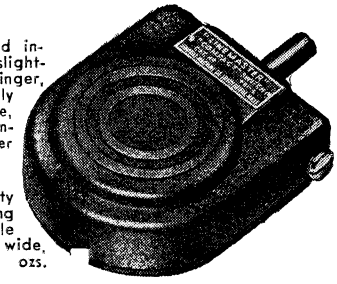
MOMENTARY CONTACT MODELS: Press to start—release to stop.

ELECTRICAL CHARACTERISTICS						MAINTAINED CONTACT	MOMENTARY CONTACT
Description	Amperes AC	Amperes DC	Volts	Horsepower	Ph.	Cat. No.	Cat. No.
D-P	20	20	125	1	1		
S-T	20	20	250	1	1	4141-D	4141-S
D-P	10	10	125	½	1		
D-T	5	5	250	½	1	4142-D	4142-S
S-P	15	15	125	½	1		
D-T						4143-D	4143-S
	10	10	250	½	1		
D-P	15		115	1	1		
S-T	15		230	2	1	4151-D	4151-S
	5		575	2	1		
Three	15		115-230	2	3		
Pole	5		575	2	3	4351-D	4351-S

Safety guard available for all above models.

The LINEMASTER COMPACT

Amazingly versatile—amazingly low-priced!



Small, lightweight — and instantly responsive to the slightest pressure of foot, finger, knee or elbow! Substantially built to insure long life, with an actuating mechanism superior to any other on the market today.

Available in a wide variety of wiring plans. Strong steel housing, black crackle finish. 2¾" long, 2½" wide, ⅞" high. Weight, 6½ ozs. Momentary contact only.

Cat. No.	DESCRIPTION	RATING
491-S	Single Pole, Double Throw A.C. only	10A at 115V 10A at 230V
492-S	Single Pole, Double Throw A.C. only	20A at 115V 20A at 230V
493-S	Single Pole, Single Throw A.C. only, double break	10A at 115V 5A at 230V
494-S	2 interiors so arranged as to simulate D-P-D-T	10A at 115V 5A at 230V
495-S	Single Pole, Double Throw A.C.	15A at 125V 15A at 250V 15A at 460V
496-S	Foto with cord & light. Single Pole, Double Throw A.C.	20A at 115V 20A at 230V

Special cord sets available to your specifications.

The LINEMASTER TREADLITE

Trim, small, lightweight, instantaneous!

MODEL T-51-S — Accurate control in a modern, minute, treadle switch! Single pole, double throw, momentary contact interior, that can be wired open or closed. Rubber base pad and rubber-ribbed treadle, formed steel casing with black crackle finish. Interior rated at 5 amps., 110 volts and 250 volts A.C. Weight 7 ozs.; 3½" long, 2⅝" wide, 1" high. (Supplied on order, wired with 6' cord and series plugs.)

MODEL T-52-S — ONE treadle activates TWO switching operations! A partial downward stroke opens or closes one circuit, added pressure actuates the second circuit. Both interiors, as well as exterior, meet specifications for single-switching Model T-51-S.

Special cord sets available to your specifications.

LINEMASTER® "NAUTILUS" FOOT SWITCH

waterproof • dustproof oilproof • rustproof

A truly great development by Linemaster. The Nautilus is waterproof, dustproof, oilproof, rustproof. Rugged Aluminum casting for long life. Piston type actuator sealed with "O" ring. Electrical interior "well" sealed with "O" ring.

Size: 8" x 4" x 2¼" Wt.: 2 lbs., 8½ ozs.

The LINEMASTER LEKTRO-LOK SWITCH

#L-2-S

Small, sensitive, automatically safe Particularly ideal for transmission equipment!

Mechanical Interlock allows only one circuit to function at a time—and you can depend on it! LEKTRO-LOK operates on the teeter-totter system, with selective circuits. Pressure on one side actuates one circuit, release of pressure automatically returns switch to normal "off" position. Pressure on the other side is required before second switch is actuated, independent of first. Yet LEKTRO-LOK requires only a single cord—eliminates costly harness assemblies! Rugged stamped metal housing, black crackle finish. Weight, 10 ozs. 5" long, 2¾" wide, 1¼" high. Single pole, double throw. Rating (A.C. only) 15 amps at 125 volts, 15 amps. at 250 volts.*

*LEKTRO-LOK is available, and can be supplied to your specifications, in many electrical combinations, such as:

Single pole, single throw, A.C. only..... 10 A at 115V
Double break ..... 5 A at 230V
Interiors so arranged as to simulate..... 10 A at 115V
Double pole, double throw..... 5 A at 230V

Special cord sets available to your specifications.

LINEMASTER SWITCH CORPORATION

WOODSTOCK, CONNECTICUT

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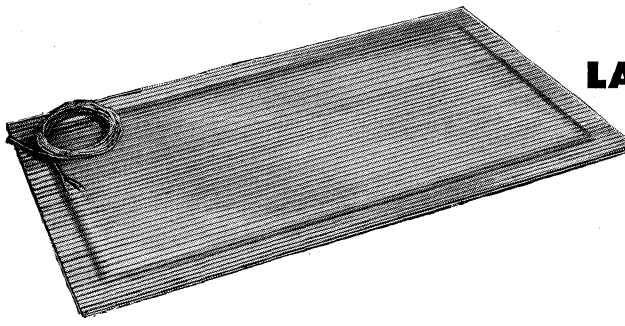
Net

RECORA® ELECTRICAL SWITCHES



RECORA® LAMINATED Switchmat®

Model 18304 (Bare floor type)
18" x 30" corrugated vinyl plastic mat, 5/16" thick, Weight 10¼ lbs.

Model RSE-18 Edging Kit* (Designed for Model 18304)
Hardened bevelled aluminum molding of measured and mitered lengths to enclose mat on all edges. Weight 2½ lbs.

Model 18303 (Under carpet type)
18" x 30" smooth vinyl plastic mat, ¼" thick. Weight 9¾ lbs.

Model 14234 (Bare floor type)
14" x 23" corrugated vinyl plastic mat, 5/16" thick. Weight 6 lbs.

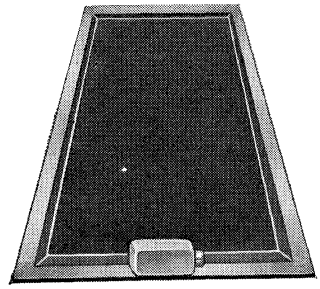
RSE-14 Edging Kit* (Designed for Model 14234)
Hardened bevelled aluminum molding of measured and mitered lengths to enclose mat on all edges. Weight 2 lbs.

Model 14233 (Under carpet type)
14" x 23" smooth vinyl plastic mat, ¼ thick. Weight 5¾ lbs.

* Edging kits optional

Electrical switch actuators for automatic door operators, safety devices, traffic control and numerous other interplant operations. Actuated by 5 lbs. pressure or greater. Designed for low voltage operation. Power capacity 100 watts.

Mats available in sizes from 8" x 10" up to 36" x 144".



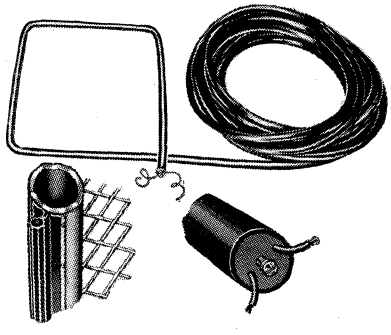
RECORA® MOLDED Switchmat®

Extra durable — molded to a heavy sheet of steel an completely waterproof. Smooth top constructon. Can be mounted directly to roads, walks, car wash lanes, plant entrances and on public highways to actuate automatic doors, counting devices, traffic signals, etc. Designed for low voltage operation. Power capacity 100 watts.

Model 24-M7
Single pole, single throw electrical switch. Smooth brown plastic top. 7" wide x 24" long, ¼" thick. Weight 13 lbs.

Model 72-M7
Same as Model 24-M7, except 3½" wide x 72" long, ¼" thick. Weight 25 lbs.

Other sizes and types available from ¼ square inch up to 14 square feet.

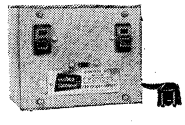


Hydratube® ELECTRICAL SWITCHES
T. M.

Hydraulically operated switch within a flexible vinyl plastic tube. Switch can be actuated at any point along plastic tube. For safety and alarm switches on electrically powered machines and doors. Rubber extrusion with split leg available for universal mounting on conveyors, gates, elevators and overhead doors. Conforms to any shape, can be bent around 90° corners. Waterproof and impervious to weather, oil, soops and most acids. Adjustable operating pressure.

Without rubber extrusion	With rubber extrusion
Model HT-101-6 (6 ft. long)	**Model HT-500-6** (6 ft. long)
Model HT-101-8 (8 ft. long)	**Model HT-500-8** (8 ft. long)
Model HT-101-10 (10 ft. long)	**Model HT-500-10** (10 ft. long)
Model HT-101-12 (12 ft. long)	**Model HT-500-12** (12 ft. long)

Other lengths available on special order.

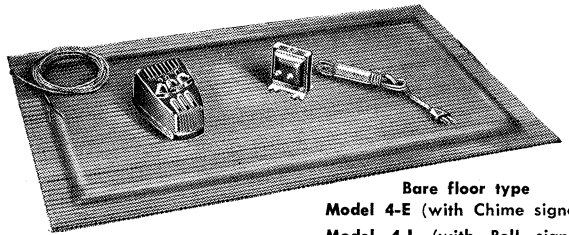


RECORA® CONTROLS

For use with above switches to permit actuation of electrical devices drawing up to 1000 watts. Provide 6 volt supply for switch circuit. Operate on 110 volt 60 cycle AC.

Model CB-1R
Size 3" x 4" x 5". Double outlet 110 volt sockets to provide normally off and normally on operation. Weight 2 lbs.

Other controls designed for special applications at low cost.



Announcemat*

Signal and alarm systems. Operated by an 18" x 30" vinyl plastic mat switch. Boxed complete with 18" x 30" mat, transformer with 6 ft. cord and plug, 25 ft. low voltage cable, and with chime, bell or buzzer.

Bare floor type	Under carpet type
Model 4-E (with Chime signal) Weight 12½ lbs.	**Model 3-E** (with Chime signal) Weight 10½ lbs.
Model 4-L (with Bell signal) Weight 12 lbs.	**Model 3-L** (with Bell signal) Weight 10 lbs.
Model 4-R (with Buzzer signal) Weight 12 lbs.	**Model 3-R** (with Buzzer signal) Weight 10 lbs.

* Trademark

Manufactured and guaranteed by

THE RECORA CO., INC. SUMMIT, ILLINOIS

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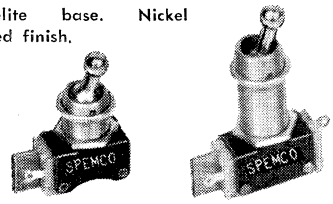
SPEMCO H & H SWITCHES

BALL LEVER TOGGLE SWITCHES

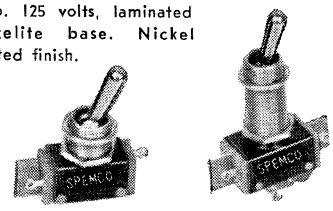
Underwriters' approved, 3 amp. 125 volts. Laminated bakelite base. Nickel plated finish.



No.	Description	Sleeve	List Price
1120	SPST	15/32"	$0.90 ea.
1122	SPDT	15/32"	1.15 ea.
1124	DPST	15/32"	1.65 ea.
1126	DPDT	15/32"	1.90 ea.
1121	SPST	1"	1.15 ea.
1123	SPDT	1"	1.35 ea.
1125	DPST	1"	1.90 ea.
1127	DPDT	1"	2.10 ea.

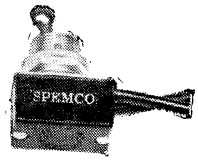
BAT LEVER TOGGLE SWITCHES

Underwriters' approved. 3 amp. 125 volts, laminated bakelite base. Nickel plated finish.



No.	Description	Sleeve	List Price
1135	SPST	15/32"	$0.90 ea.
1136	SPDT	15/32"	1.15 ea.
1137	DPST	15/32"	1.65 ea.
1138	DPDT	15/32"	1.90 ea.
1121-B	SPST	1"	1.15 ea.
1123-B	SPDT	1"	1.35 ea.
1125-B	DPST	1"	1.90 ea.
1127-B	DPDT	1"	2.10 ea.

BALL LEVER TOGGLE SWITCH

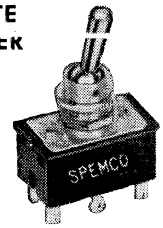


Underwriters' approved 3A 250V, 6A 125V, molded bakelite base. Nickel plated finished. WITH 6" WIRE LEADS size of case, 7/8" long, 1/2" wide, 9/16" high.

No.	Description	Sleeve	List Price
1154	SPST	3/8"	$1.35 ea.

MOLDED BAKELITE SWITCH, BAT LEVER

Underwriters' approved, 6 amp. 125 volts, 3 amp. 250 volts. Back connected, slotted sleeve.

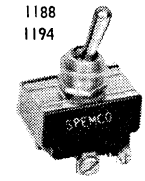


No.	Description	Sleeve	List Price
1142	SPST	15/32"	$1.25 ea.
1143	SPDT	15/32"	1.45 ea.
1144	DPST	15/32"	1.85 ea.
1145	DPDT	15/32"	2.15 ea.

UTILITY SWITCHES—Toggle Type For AC Uses

1185
1186

1188
1194



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	List Price
1185	SPST	15/32"	$1.15 ea.
1186	SPDT	15/32"	1.40 ea.
1188	DPST	15/32"	1.80 ea.
1194	DPDT	15/32"	2.15 ea.

PUSH BUTTON DOUBLE ACTION SWITCH

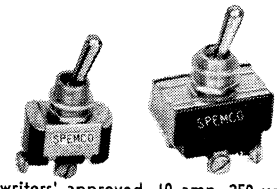
Underwriters' approved, 6 amp. 125 volts. Press lever to make contact, press lever to break contact. Nickel plated finish.

No.	Description	Sleeve	List Price
1156	SP	17/32"	$1.35 ea.

MOMENTARY BAT LEVER TOGGLE SWITCHES

Underwriters' approved, 3 amp. 125 volts, laminated bakelite base. Nickel plated finished.

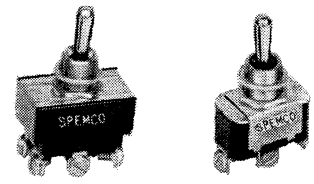
No.	Description	Sleeve	List Price
1166	SPST	15/32"	$1.75 ea.
1167	SPDT	15/32"	1.80 ea.
1155	DPST	15/32"	2.20 ea.
1150	DPDT	15/32"	2.50 ea.



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	List Price
1196	SPST	15/32"	$1.40 ea.
1197	DPST	15/32"	2.35 ea.

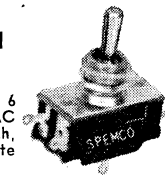
NEUTRAL CENTER MOMENTARY BOTH ENDS



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	List Price
1193	DPDT	15/32"	$2.65 ea.
1195	SPDT	15/32"	1.65 ea.

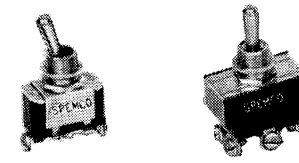
BAT LEVER TOGGLE SWITCH Neutral Center



Underwriters' approved, 6 amp. 125 volts, either AC or DC. A 3 position switch, on-off-on. Black bakelite case.

No.	Description	Sleeve	List Price
1175	SPDT	13/32"	$2.35 ea.
1176	DPDT	13/32"	2.65 ea.

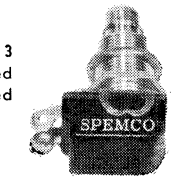
NEUTRAL CENTER



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	List Price
1187	SPDT	15/32"	$1.40 ea.
1189	DPDT	15/32"	2.15 ea.

MIDGET MOMENTARY PUSH BUTTON SWITCHES



Underwriters' approved, 3 amp. 125 volts, AC. Molded bakelite base, nickel plated finish.

No.	Description	Sleeve	List Price
1141	SP Normally Closed	19/32"	$0.85 ea.
1141-A	SP Normally Open	19/32"	0.85 ea.

Underwriters' approved, 3 Amp. 125V, AC, Nickel plated finish, Molded bakelite base, Single Pole, slow make and slow break with bakelite snap-On button in red or black.

No.	Description Normally	Sleeve	List Price
1157-A	Open Red	19/32"	$1.50 ea.
1157-B	Open Black	19/32"	1.50 ea.
1157-C	Closed Red	19/32"	1.50 ea.
1157-D	Closed Black	19/32"	1.50 ea.

Two circuit slow make and slow break, momentary switch. One circuit normally on, the other off, with snap-on plastic button, in red or black. (Pushing the button reverses the contact.) 1 Amp. 125 Volts AC.

No.	Description	Sleeve	List Price
1158-A	Red	7/16"	$1.70 ea.
1158-B	Black	7/16"	1.70 ea.

HARDWARE

No.	Description	List Price
1132	On and Off Plate	$0.06 ea.
1132-H	Hex Nut	0.04 ea.
1132-K	Knurled Nut	0.04 ea.

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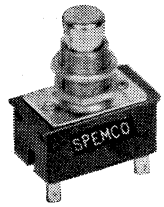
SPEMCO H & H SWITCHES

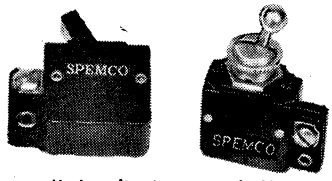
INTERMEDIATE MOMENTARY PUSH SWITCH NORMALLY OFF



Underwriters' approved, 6 amp. 125 volts, 3 amp. 250 volts. Back connected, slotted sleeve.

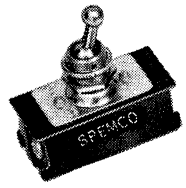
No.	Description	Sleeve	List Price
1146	SPST	1/2"	$2.20 ea.
1147	SPDT	1/2"	2.40 ea.
1148	DPST	1/2"	2.65 ea.
1149	DPDT	1/2"	2.90 ea.

POWER SWITCHES



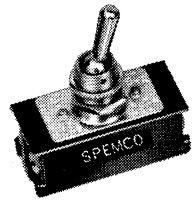
Underwriters' approved, 10 amp. 125 volts. Size of case 1 1/16", long 17/32" wide, 1 5/16" high.

No.	Description	Sleeve	List Price
1133	SPST	11/32"	$1.60 ea.
1133-B	Bakelite lever		1.10 ea.



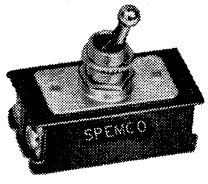
Underwriters' approved, 12 amp. 125 volts. Size of case, 1¾" long, ¾" wide, 25/32" high.

No.	Description	Sleeve	List Price
1159	DPST	15/32"	$1.90 ea.



Underwriters' approved, 12 amp. 125 volts. Size of case, 1¾" long, ¾" wide, 25/32" high.

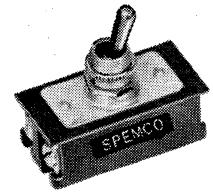
No.	Description	Sleeve	List Price
1159-B	DPST	15/32"	$1.90 ea.



Underwriters' approved, 15 amp. 125 volts. Size of case, 2" long, 1" wide, 25/32" high.

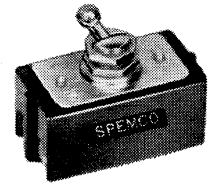
No.	Description	Sleeve	List Price
1134	DPST	15/32"	$3.10 ea.

POWER SWITCHES



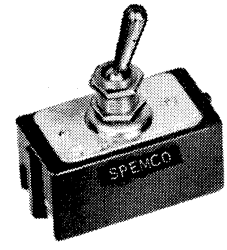
Underwriters' approved, 15 amp. 125 volts. Size of case, 2" long, 1" wide, 25/32" high.

No.	Description	Sleeve	List Price
1134-B	DPST	15/32"	$3.10 ea.



Fully enclosed tumbler switch, 20 amp. 250 volts, 1½ horsepower, 250 volts. Size of case, 2¼" long, 1⅛" wide, 1 5/32" high.

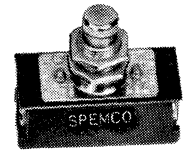
No.	Description	Sleeve	List Price
1170S	DPST	15/32"	$4.85 ea.



Fully enclosed tumbler switch, 20 amp. 250 volts, 1½ horsepower, 250 volts. Size of case, 2¼" long, 1⅛" wide, 1 5/32" high.

No.	Description	Sleeve	List Price
1170	DPST	15/32"	$4.85 ea.

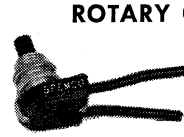
MOMENTARY PUSH BUTTON SWITCH, NORMALLY OFF



Rated at 12 amp. 125 volts. 1 horsepower, 250 volt AC. Size of case, 1¾" long, ¾" wide, 25/32" high.

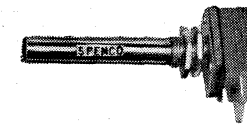
No.	Description	Sleeve	List Price
1160	DPST	15/32"	$2.70 ea.

ROTARY CANOPY SWITCH With Fixed Plastic Handle



No.	Stem	Wire Lead	List Price
1179	7/16"	8"	$0.65 ea.

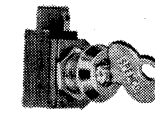
ROTARY SWITCHES



Underwriters' approved, 3 amp. 125 volts. Nickel plated finish. Laminated bakelite base.

No.	Description	Shaft	Sleeve	List Price
1128	SPST	1¼"	¼"	$1.20 ea.
1129	SPDT	1¼"	¼"	1.45 ea.
1130	DPST	1¼"	¼"	1.90 ea.
1131	DPDT	1¼"	¼"	2.10 ea.

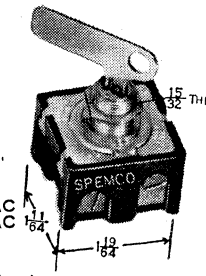
ROTO-LOCK SWITCH



Underwriters' approved, 3 amp. 250 volts.

No.	Description	Sleeve	List Price
1128-K	SPST (with key)	15/32"	$1.95 ea.
	(above key removable in off position only)		
1128-KA	Key only for above		.30 ea.
1128-KE	SPST (with key)	15/32"	1.95 ea.
	(above key removable in either position)		
1128-KEA	Key only for above		.30 ea.

ROTO-LOCK SWITCH



Underwriters' approved.
20 amp. 120 volts, 240 volts AC.

1 H.P.....120 volts AC
2 H.P.....240 volts AC

(with key)
(above key removable in off position only)

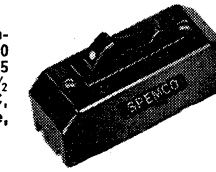
No.	Description	Sleeve	List Price
1130-K	DPST	15/32"	$4.25 ea.
1130-KA	Key Only for Above		.30 ea.

FEED THROUGH CORD SWITCH

Underwriters' approved, black bakelite case sliding lever, 10 amp. 125 volts, 5 amp. 250 volts. 5/16" cord hole.

No.	Description	Sleeve	List Price
1163	SP		$1.85 ea.

PORTABLE TOOL HANDLE SWITCHES



Approved by Underwriters' at 10 amp. 250 volts, 15 amp. 125 volts, ½ H.P. 110V-220V AC, 2¼" long, ⅞" wide, 15/16" high.

No.	Description	List Price
1172	DP	$4.10 ea.

SPECIALTIES MANUFACTURING CO. • Detroit 38, Michigan

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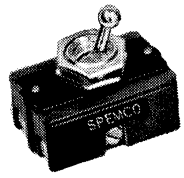
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

SPEMCO H & H SWITCHES

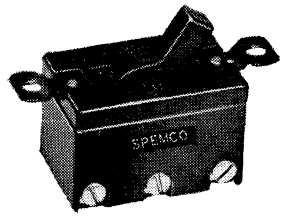
EXTRA HEAVY DUTY SWITCH NEUTRAL CENTER



Used in heavy current circuits, such as transmitters, power amplifiers, motors, etc. Contacts have fast "break" which reduces the tendency to arc. Rated at 10 amp. 125 volts. Size of case 2" long, 1¼" wide, 1" high.

No.	Description	Sleeve	List Price
1161	DPDT	11/32"	$6.75 ea.
*1161-A	DPDT	11/32"	6.75 ea.

(*Straight thru, no off-center)



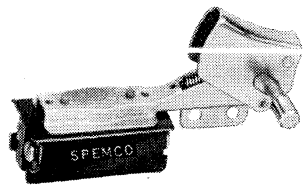
Size of Case: 2½" long, $1\frac{19}{32}$" wide, $1\frac{21}{32}$" high, $3\frac{9}{32}$" counting centers. 10 amp., 250 volts; 20 amp., 125 volts; 5 amp., 600 volts. 1½ H.P., 250 volts DC. 2 H.P., 230 volts DC.

No.	Description	List Price
1161-B	DPDT	$10.50 ea.

Size of Case: $2\frac{5}{16}$" long, 2" wide, 1⅛" high. Rated 10 amp. 125 volts, ½ horsepower, 115-230 volt AC.

No.	Description	Sleeve	List Price
1177	3PDT	$\frac{13}{32}$"	$10.50 ea.
1178	4PDT	$\frac{13}{32}$"	13.50 ea.

PORTABLE TOOL HANDLE SWITCHES



Tool handle switch, fully enclosed, normally OFF with locking latches. Rated and approved by the Underwriters' for 6 amp. 250 volts, 12 amp. 125 volts, 1 H.P. 250 volts, 1¾" long, $\frac{25}{32}$" wide, ⅝" high.

No.	Description	List Price
1168	DPST	$3.35 ea.

This switch is arranged with momentary contacts, normally OFF. Approved by the Underwriters' at 10 amp. 250 volts, 15 amp. 125 volts, 2⅞" long, $\frac{25}{32}$" wide, $1\frac{1}{16}$" high.

No.	Description	List Price
1173	DP Trigger Lever	$4.25 ea.

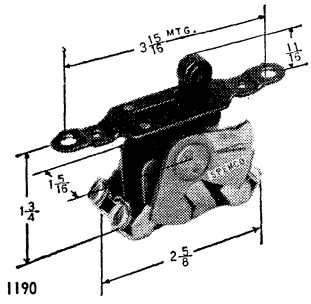
HEAVY DUTY SWITCHES

Toggle Type

Underwriters' approved, 30 amp. 250 volts, 2 H.P., 115V-230V AC only; 1 H.P., 46V AC only.

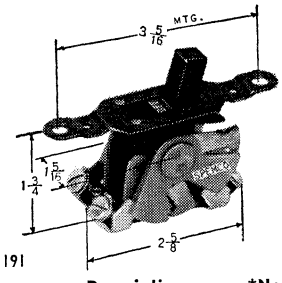
For use on Food Machines, Grinders, Sanders, Machine Tools, Gasoline Pumps, etc.

Roller Type Lever



1190

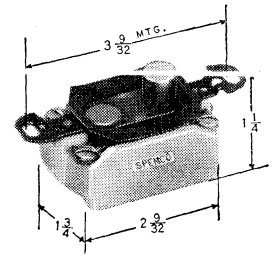
Square Bakelite Lever



1191

No.	Description	*Net Price
1190	DPST	$2.85 ea.
1191	DPST	2.85 ea.

METAL PUSH BUTTON TYPE NORMALLY OPEN

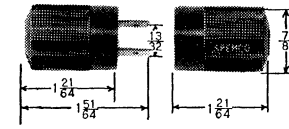


Underwriters' approved, 20 amp. 250 volts, 2 H.P. 230V AC, 2 H.P. 250V DC.

For use on Floor Sander, as a foot switch, etc.

No.	Description	NET PRICE
1192	DPST	$2.85 ea.

CORD CONNECTORS



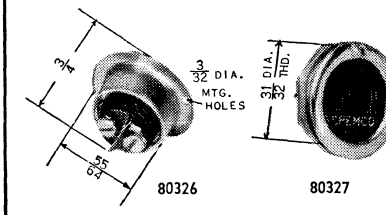
Brown Bakelite Cord Connector Complete, ⅞" O.D. x 2½" long, 10 amps. 250 volts. End opening for wire size up to ⅝" O.D.

No.	Description	List Price
1162	Complete	$2.20 ea.
1162-F	Female Part	1.10 ea.
1162-M	Male Part	1.10 ea.

RECEPTACLES

Underwriters' approved, 10 amp. 250 volts AC.

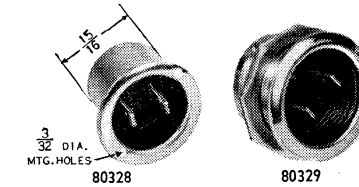
Short Female Flush Receptacle



80326 80327

No.	Description	List Price
80326	2 Screw Mounting	$1.60 ea.
80327	Lock Nut Mounting	2.35 ea.

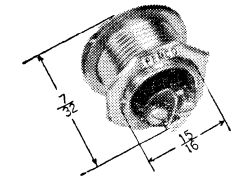
Recessed Male Receptacle



80328 80329

No.	Description	List Price
80328	2 Screw Mounting	$1.85 ea.
80329	Lock Nut Mounting	2.35 ea.

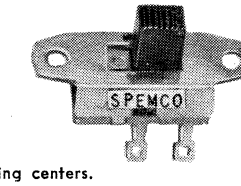
Recessed Female Receptacle



No.	Description	List Price
80331	Lock Nut Mounting	$2.35 ea.

All aforementioned switches are manufactured by H. & H. for S.M.C.

SLIDE SWITCHES



Housings are made of steel and are cadmium plated. $1\frac{13}{32}$" long, 35/64" wide and 1⅛" mounting centers.

No.	Description	List Price
1180	SPST .75A-125V AC-DC	$0.31 ea.
1181	SPDT .75A-125V AC-DC	0.37 ea.
1182	DPST .50A-125V AC-DC	0.44 ea.
1183	DPDT .50A-125V AC-DC	0.55 ea.

SPECIALTIES MANUFACTURING CO.
DETROIT 38, MICHIGAN

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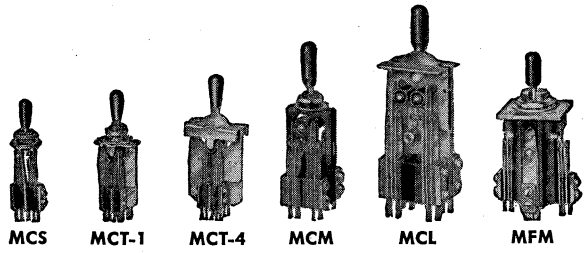
A complete line of LEVER SWITCHES by GENERAL CONTROL COMPANY



RATINGS

Type	Amps.*	High	Wide	Long**
MCS	1	7/8"	3/4"	2-1/16"
MCT-1	1	1 1/4"	3/4"	2-5/16"
MCT-4	1	1 1/2"	3/4"	2-17/32"
MCM	5	1 1/4"	1 1/4"	2-25/32"
MCL	10	1 3/4"	1 3/8"	3-15/16"
MFM	5	1 3/4"	1 3/4"	3"

**125 volts, 60 cycles, non-inductive.*
***From back panel to end of terminals.*

Write for data Sheet CLRM

MCS Light-weight, miniature switch. Two contact sections. Single-hole mounting. Especially suited for Instruments and communications systems.

MCT Small switch for multiple-circuit control. Four contact sections. Frames available for either single-hole or four-hole screw type mounting.

MCM Widely used switch with multiple-position, ball-bearing detents. Four contact sections. Contact assemblies easily removed for wiring. Single-hole mounting.

MCL Heavy-duty switch for constant use in electrical control. Rugged cam. Four contact sections; easily removed contact assembly. Four-hole mounting.

MFM Versatile five-position switch with four contact sections—one neutral and four switch positions. Single-hole mounting.

LEVER OPERATION

Symbol: Lock (Stays put)	Symbol: Non-lock Spring return	Three-Position			Two-Position Half Throw		Two-Position Full Throw	
Designation	MCS	S1	*S2	S3	*S4	*S5		
	MCT	T1	*T2	T3	*T4	*T5		
	MCM	M1	*M2	M3	*M4	*M5	M6	*M7
	MCL	L1	*L2	L3	*L4	*L5		

*Lock and non-lock positions may be reversed. To reverse designate as RS2, RM4, RL5, etc.

SPECIAL MCM LEVERS

(A) waterproof lever $3.30 EACH, LIST

(B) rotary lever $2.75 EACH, LIST

(C) right angle lever $2.60 EACH, LIST

MFM

Description	Lock	Non-lock	Four-Position		
SYMBOL					
OPERATION					
Operation No.	F8	F9	F10	F11	F12

CONTACTS

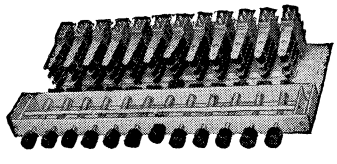
To obtain list price:— add contact prices to frame price.

Frame Types and Prices		Contact Forms / Circuit	A	B	C	D	E	F	G	H	O
MCS	$1.35	MCS	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
MCT-4	$1.60	MCT-4	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
MCT-1	$2.00	MCT-1	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
MCM	$3.00	MCM	.60	.60	.75	.95	1.20	.75	.75	.75	—
MCL	$4.00	MCL	.95	.95	1.05	1.30	2.00	1.05	1.05	1.05	—
MFM	$13.75	MFM	.60	.60	.75	.95	1.20	.75	.75	.75	—

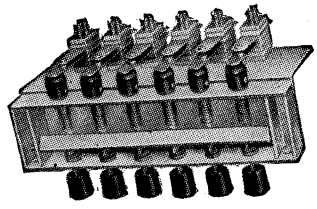
NOTE: Add 20% to MCS and MCT contact prices for contacts of palladium-silver alloy.

PUSH-BUTTON SWITCHES by GENERAL CONTROL COMPANY

A complete heavy duty push button switch with either 1 amp. or 5 amp. ratings at 110/60 AC. Furnished in two or twelve positions. A right-angle MPB is also available where back-of-panel depth is limited, incorporating all of the operating features of the standard MPB. 1 amp. switches are available with palladium silver contacts. It is possible to obtain the standard MPB switch stacked and/or intercoupled, providing all of the features of a single switch. Other variations of the standard MPB switch are also obtainable. Contact the factory with your requirements.



STANDARD MPB SWITCH



RIGHT-ANGLE MPB SWITCH

STANDARD and RIGHT-ANGLE FRAME PRICES

① FRAME TYPES / CONTACT POSITIONS		MPB-2 2	MPB-3 3	MPB-4 4	MPB-5 5	MPB-6 6	MPB-7 7	MPB-8 8	MPB-9 9	MPB-10 10	MPB-11 11	MPB-12 12
*Accumulative Lock	B-13	See note	6.70	8.65	10.60	12.55	14.50	16.45	18.40	20.35	22.30	24.85
No Two Interlock	B-14	5.50	5.95	7.40	8.85	10.30	11.75	13.20	14.65	16.10	17.55	19.60
Lock Release	B-15	5.00	5.20	6.40	7.60	8.80	10.00	11.20	12.40	13.60	14.80	16.60
Non-Lock	B-16	5.00	5.20	6.40	7.60	8.80	10.00	11.20	12.40	13.60	14.80	16.60

*Reset button requires one position in addition to standard contact positions. Reset button is on right-hand side unless otherwise specified.
*Reset button normally actuates no contacts but *can* be used to actuate *momentary* contacts if required.

CONTACTS

② CONTACT FORMS		A	B	C	D	E	H	O
Circuit								No Contacts
PRICE	*5 Amps.	.60	.60	.75	.95	1.20	.75	—
	*1 Amp.	.40	.40	.50	.60	.70	.50	—

*Ratings at 125 volts A-C, N.I.

PUSH BUTTON OPERATION

③ OPERATION	ACCUMULATIVE LOCK	NO TWO INTERLOCK	LOCK RELEASE	NON-LOCK
Description	Buttons pushed in remain locked in position until released by pushing reset button.	Only one button can be pushed in at one time, and releases any other button.	Any button pushed in releases any previously pushed in button.	Has no locking action; returns to normal position on release of finger pressure.
Designation	B-13	B-14	B-15	B-16

Write for data sheet PBRM

ORDERING INFORMATION

When ordering, specify: ① Frame Type Standard MPB-6 Price: $8.80 — ② Push Button Operation B-15 — ③ Contacts C1, C2, C3, etc A-A-A-B-B-C +.60 +.60 +.60 + .60+.60 +.75 — ④ Contact Rating 5-amperes — ⑤ Panel Thickness 1/8" panel — =$12.55

NOTICE: All prices and specifications subject to change without prior notice. **General Control Company, Boston 34, Mass.**

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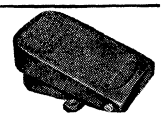
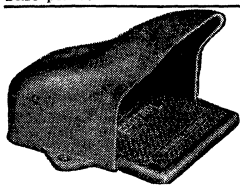
"Footrol" FOOT SWITCHES by GENERAL CONTROL COMPANY

TYPE MA A new light weight foot switch with an actuating treadle built into its top to permit operation with unusually light foot pressure. A long-life SPDT "du·op" Limit Switch forms the internal switch action. Especially recommended for fast operation where minimum fatigue is important. Access to the internal "du·op" switch terminals is greatly facilitated by simply removing the front end of the casting.

TYPE MC Especially adapted for unusual applications and hard use. Easily operated for foot, knee, hand, or elbow. Non-slip-tread top may be operated at any point of its surface.



TYPE MI An ideal treadle-type foot switch, especially convenient for many applications. Inclined, non-slip tread has an adjustable throw and includes a heel rest. Two operating pressures: 5 lbs. and 10 lbs. Mounting ears are provided on each side. A BX connector is mounted in the base, and terminal access is by a removable base plate.



TYPE MB Heavy-duty switch, especially designed for industrial and machine tool applications where thoroughly safe, rugged, and dependable operation is required. Boot top prevents false operation.

FOOTROL® GENERAL CONTROL

Since 1934, General Control Company has been a foremost manufacturer of Foot Switches. These are products of the highest quality; built for rugged industrial applications. The great number of GENERAL CONTROL foot switches now in everyday use throughout the world provides substantial evidence of their acceptance for all types of applications.

Write for data sheet FSRM

TYPES				CONTACT TYPES	CONTACT OPERATION
MA-3 $4.60	MC-13 $6.50	*MI-23 $9.80	MB-33 $13.65		Double throw Spring return (ONE NORMALLY OPEN, ONE NORMALLY CLOSED)
—	—	MI-25 $11.25	MB-35 $16.25		First press transfers switch contacts. Second press restores switch contacts (ONE NORMALLY OPEN, ONE NORMALLY CLOSED)
—	—	MI-26 $13.65	—		1st half-throw closes 1st switch. 2nd half-throw closes 2nd switch. Spring Return
—	—	MI-27 $15.00	—		Double pole Double throw Spring return (TWO NORMALLY OPEN, TWO NORMALLY CLOSED)

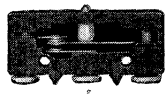
*Add $2.50 to price shown, for foot switch with heavy duty 20-ampere rating.

Standard Foot Switches are available with mounting holes to accommodate special connectors used on shielded cable.

Precise LIMIT SWITCHES by GENERAL CONTROL COMPANY

PRECISE MACHINE CONTROL depends upon PRECISE LIMIT SWITCHING

BASIC du . op SWITCH



CUT-AWAY VIEW

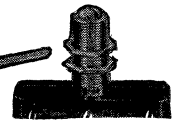
The type DU-S "du · op" is a precise action limit switch. The centrally-located plunger acts *directly* on the wide phosphor-bronze blade to insure instantaneous contact at each point of repetitive plunger travel. Delays of pre-travel blade action are eliminated — an important factor at high switching speeds.

ACTUATORS

DU-S...Standard Type

DU-O... Heavy-Duty Plunger

DU-L...3 Position Leaf Actuator



DU-B...Ball Actuator

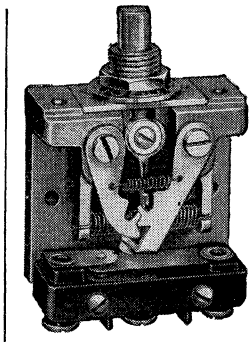
DU-E...Stainless Steel Plunger

TYPES AND PRICES	STANDARD SPDT CONTACT ARRANGEMENT	CONTACT OPERATION SPDT-S/R	ACTUATING FORCE	CONTACT GAP	ACTUATOR TRAVEL TO CLOSE CONTACT	OVER-TRAVEL
DU-S $1.90		Single Pole Double Throw Spring Return	2-6 oz.	.020"	.020"	.015"
DU-O $2.10	SPDT	SPDT-S/R	2-6 oz.	.020"	.020"	.015"
DU-L $3.80	SPDT	SPDT-S/R	① ¾-1¼ oz. ② ½-¾ oz. ③ ¼-½ oz.	.020"	① .250" ② .375" ③ .625"	① .218" ② .187" ③ .125"
DU-B $3.65	SPDT	SPDT-S/R	2-6 oz.	.020"	.020"	.062"
DU-E $4.65	SPDT	SPDT-S/R	2-6 oz.	.020"	.020"	.075"

LIGHTER OR HEAVIER ACTUATING FORCE SWITCHES ARE AVAILABLE.

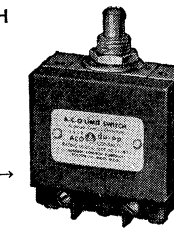
RATINGS—10 amperes 125 volts a-c; non-inductive; 5 amperes 230 volts a-c; non-inductive

A-C-O LIMIT SWITCH



←COVER REMOVED

ENCLOSED SWITCH→



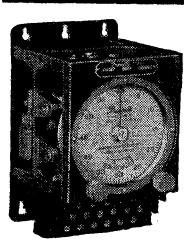
The **A-C-O** is a new development in off-on Limit Switches . . . an innovation for use on machine tools, and other Limit Switch applications. Operation is such that the first press transfers the contacts; the second press restores them. Contacts are maintained at the completion of each plunger stroke.

BASIC TYPE AND PRICE	STANDARD CONTACT ARRANGEMENT	MAINTAINED CONTACT OPERATION	STANDARD ACTUATING FORCE	CONTACT GAP	PLUNGER TRAVEL TO CLOSE CONTACT	OVER-TRAVEL
ACO $10.00 WITH COVER		First press transfers contact; Second press restores contact	3-4 lbs.	.020"	.218"	.113"

RATINGS—10-20 amperes 125 volts a-c, non-inductive, 10 amperes 230 volts a-c; non-inductive

Write for data sheet ADRM

"Promatic" CONTROLS by GENERAL CONTROL COMPANY



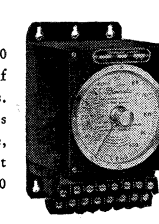
SYNCHRONOUS-MOTOR TIMERS

The Series II, Type SY, Synchronous-motor Timers has time ranges from 1 second up to 24 hours, available to match the Type ET Timer. Redesigned to incorporate the latest production and quality improvements. A new patented O-Ring clutch eliminates gears and costly maintenance problems. Time period easily adjusted and continuously indicated on large dial. Prices from $55.00 each, list.

ELECTRONIC TIMERS

Type ET, Electronic Timers with ranges from .060 seconds to 60 seconds, are available in a variety of frame types, terminal arrangements, and mountings. The enclosed type or chassis model have back plates punched with universal mounting holes. Double pole, double throw auxiliary load contacts are rated at 10 amps., 125 volts a-c, n.i. Prices from $35.00 each, list.

Write for data sheets SERM



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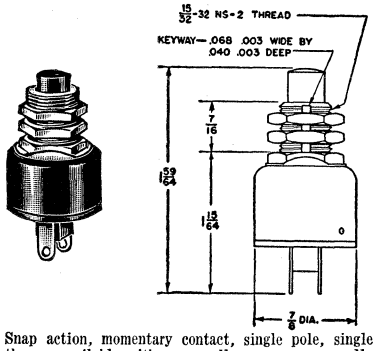
Grayhill PUSH BUTTON SWITCHES for Manual Operation

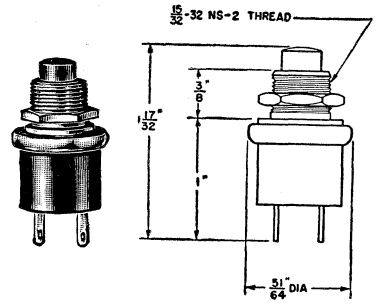
SERIES 2000



Snap action, momentary contact, single pole, single throw; available either normally open or normally closed. Rated 10 amps 115 V.A.C. resistive load. Housing and button are molded phenolic. Solder type terminals. A distinct click accompanies actuation.

No. 2201 Norm. Open (Red Button).....**$1.65 ea.**
No. 2202 Norm. Closed (Black Button)....**$1.65 ea.**

SERIES 4000



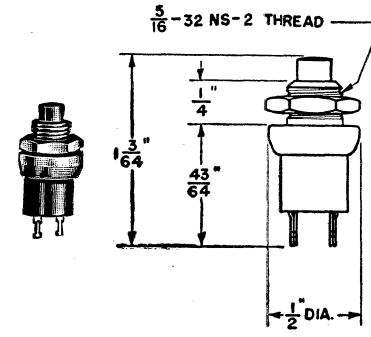
Momentary contact, single pole, single throw, non-snap action; available either normally open or normally closed. Rated conservatively at ½ amp 115 V.A.C. resistive load. Housing and button are molded phenolic. Solder type terminals.

No. 4001 Norm. Open (Red Button).....**$0.60 ea.**
No. 4002 Norm. Closed (Black Button)....**$0.60 ea.**

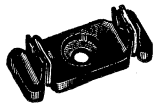
SERIES 23

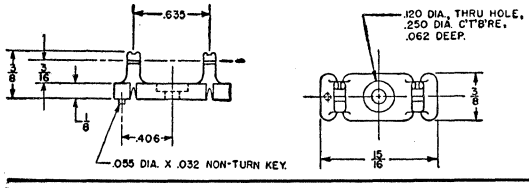
Designed for miniaturization. Rated at ¼ amp 115 V.A.C. resistive load. Momentary contact, single pole, single throw, non-snap action. Housing and button are molded phenolic. Solder type terminals.

No. 23-1 Normally Open (Red Button)....**$0.75 ea.**



GERMANIUM DIODE HOLDER





Gives tight snap fit within the spring tension clips. Terminal and spring clip formed as one piece from phosphor bronze wire. Gold plated for ease of soldering and corrosion resistance.

No. 17-1.....**$0.33 ea.**

BINDING POST

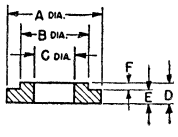
Only ½" O.D. Insulation is thermo-setting phenolic. All metal parts cadmium plated .0003" to .0005" thick. Accepts standard banana plug, wire lead through hole, wire loop, spade lug, clip lead. Lead can be soldered to turret lug at rear of panel or clamped between nuts.

No. 29-IR (Red).....**$0.40 ea.**
No. 29-IB (Black).....**$0.40 ea.**

MOLDED PHENOLIC INSULATING WASHERS

Either washers of black electrical grade phenolic or natural mica-filled phenolic are available as standard items. The black is suitable for general applications while the mica-filled is exceptionally good for high frequencies and any equipment destined for environmental conditions.

21B1001 through 21B1005 and 21B1021.....**$0.05 ea.**
21B1006 .....**$0.06 ea.**

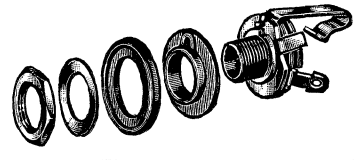


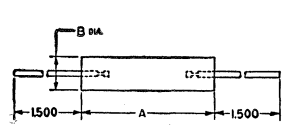
Part No. Natural Mica Filled	Part No. Black Elec. Grade	Screw Size	Dia. "A"	Dia. "B"	Dia. "C"	Dim. "D"	Dim. "E"	Dim. "F"
21B1001-1	21B1001-2	#6	.500"	.375"	.145"	.094"	.063"	.031"
21B1002-1	21B1002-2	#8	.500"	.375"	.171"	.094"	.063"	.031"
21B1003-1	21B1003-2	#10	.500"	.375"	.198"	.094"	.063"	.031"
21B1004-1	21B1004-2	¼"	.500"	.375"	.258"	.094"	.063"	.031"
21B1005-1	21B1005-2	5/16"	.500"	.375"	.319"	.094"	.063"	.031"
21B1006-1	21B1006-2	3/8"	.625"	.500"	.384"	.094"	.063"	.031"
21B1021-1	21B1021-2	#6	.375"	.250"	.145"	.094"	.063"	.031"

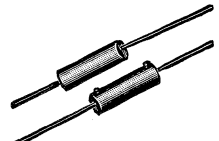
MATING INSULATING WASHER UNIT

Designed for use on jacks with a ⅜" dia. bushing to insulate them from the mounting panel. Equipped with hole for non-turn tab of jack and boss to fit a panel cutout giving a non-turn feature to the assembly. The shoulder is dimensioned for a 1/16" minimum panel thickness. Molded of mica-filled phenolic. Sold in mating pairs only.

21B1007 and 21B1008.....**$0.12 pair**







MICA-FILLED PHENOLIC COIL FORMS

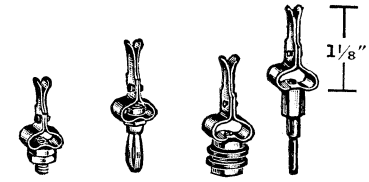
Ideal for high frequency applications because of low loss, low in moisture absorption, high dielectric strength, and will not support fungus growth.

Type 48XX1024 .....**$0.15 ea.**
Type 48XX1010 with anchoring posts.....**$0.15 ea.**
(Pat. No. 2,653,992)

TEST CLIPS

Completely insulated! The hinge pin is covered with nylon tubing preventing all possibility of shorting through side contact. Finger grips are molded phenolic and enclose the contact and spring members. Low contact resistance of approximately .0015 ohms. Silver overlay at point of contact is .008" thick.

No. 16 R (Red).....**$0.75 ea.**
No. 16 B (Black) .....**$0.75 ea.**



No. 2-0 **$0.15 ea.** Threaded Stud

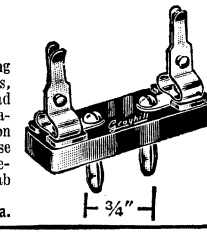
No. 2-1 **$0.30 ea.** Banana Plug

No. 2-4 **$0.30 ea.** Threaded Stud with Insulating Washers

No. 2-6 **$0.30 ea.** Pin Plug

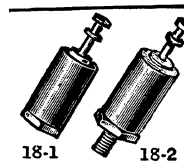
The basic clip is available on four different mountings as illustrated. Ideal for rapid testing as leads are simply slipped in without any jaws to open or clamps to adjust.

PLUG-IN ADAPTER

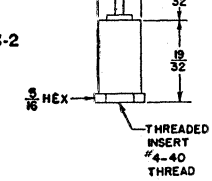


Simplifies the testing of resistors, capacitors, and similar wire lead type components. Banana plugs spaced on ¾" centers for use with type of jacks predominantly used on lab test equipment.

No. 2-2.....**$1.25 ea.**



STAND OFFS



Bodies molded of mica-filled phenolic. Ideal for high frequency applications. Solder terminals are brass, silver plated.

No. 18-1..**$0.30 ea.**
No. 18-2..**$0.35 ea.**

Grayhill **La Grange, Illinois**

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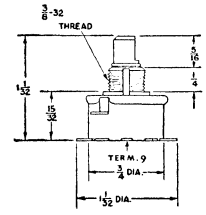
Grayhill MINIATURE TAP SWITCHES

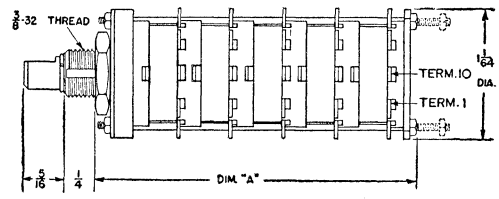
Miniature, quality, tap switches designed to conserve panel space. Rated to break 1 amp 115 V.A.C. resistive load. Will carry 5 amps. Available either non-shorting (break before make) or shorting (make before break). Maximum of 10 positions per deck gives continuous rotation. Nine positions or less equipped with stops. Up to 6 decks as stock item and can be up to 10 decks on special order. See illustrations for difference in construction between single and multi-deck units. Contact positions are spaced at 36°. The studs on switches of 5 decks or more extend ¼" at the rear to allow double ended mounting necessary to eliminate twisting action of rear decks due to torque.

SERIES 5000

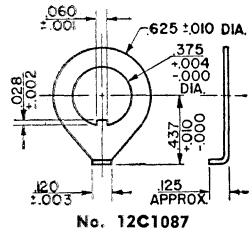
Multi-Deck Construction

Single Deck Construction





Number of Decks or Poles	DIM. "A"	NUMBER OF POSITIONS PER DECK OR POLE — To Designate "Shortening" An "S" Follows Switch Number								
		2	3	4	5	6	7	8	9	10
1	*See Single Deck Drawing*	5002 $1.30	5003 $1.35	5004 $1.40	5005 $1.45	5006 $1.50	5007 $1.55	5008 $1.60	5009 $1.65	5010 $1.70
2	1-1/4	5202 $3.00	5203 $3.10	5204 $3.20	5205 $3.30	5206 $3.40	5207 $3.50	5208 $3.60	5209 $3.70	5210 $3.80
3	1-21/32	5302 $3.65	5303 $3.80	5304 $3.95	5305 $4.10	5306 $4.25	5307 $4.40	5308 $4.55	5309 $4.70	5310 $4.85
4	2-1/16	5402 $4.30	5403 $4.50	5404 $4.70	5405 $4.90	5406 $5.10	5407 $5.30	5408 $5.50	5409 $5.70	5410 $5.90
5	2-15/32	5502 $4.95	5503 $5.20	5504 $5.45	5505 $5.70	5506 $5.95	5507 $6.20	5508 $6.45	5509 $6.70	5510 $6.95
6	2-7/8	5602 $5.70	5603 $6.00	5604 $6.30	5605 $6.60	5606 $6.90	5607 $7.20	5608 $7.50	5609 $7.80	5610 $8.10

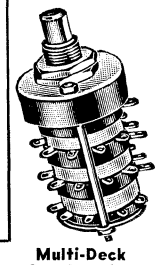


No. 12C1087

Non-turn Washer $0.02
Available as extra hardware.

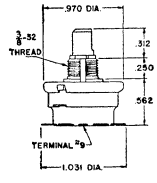
SERIES 24

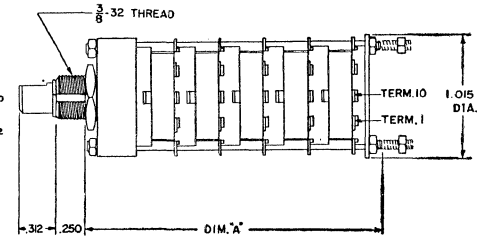
Features more POSITIVE DETENT ACTION and better "feel" for precision requirements. Something that has been desired in miniature switches for years and now finally accomplished without sacrificing the miniature characteristics. Suitable for both commercial and military equipment.



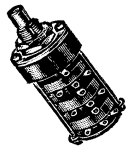
Multi-Deck Construction

Single Deck Construction





Number of Decks or Poles	DIM. "A"	NUMBER OF POSITIONS PER DECK OR POLE								
		2	3	4	5	6	7	8	9	10
1	(See Diag.)	24YY2100-2 $2.88	24YY2100-3 $2.99	24YY2100-4 $3.10	24YY2100-5 $3.21	24YY2100-6 $3.32	24YY2100-7 $3.43	24YY2100-8 $3.54	24YY2100-9 $3.65	24YY2100-10 $3.76
2	1.391	24YY2032-2 $4.27	24YY2032-3 $4.38	24YY2032-4 $4.49	24YY2032-5 $4.60	24YY2032-6 $4.71	24YY2032-7 $4.82	24YY2032-8 $4.93	24YY2032-9 $5.04	24YY2032-10 $5.15
3	1.766	24YY2033-2 $4.96	24YY2033-3 $5.12	24YY2033-4 $5.29	24YY2033-5 $5.45	24YY2033-6 $5.62	24YY2033-7 $5.78	24YY2033-8 $5.95	24YY2033-9 $6.12	24YY2033-10 $6.28
4	2.141	24YY2034-2 $5.65	24YY2034-3 $5.87	24YY2034-4 $6.09	24YY2034-5 $6.31	24YY2034-6 $6.53	24YY2034-7 $6.75	24YY2034-8 $6.97	24YY2034-9 $7.19	24YY2034-10 $7.41
5	2.516	24YY2035-2 $6.33	24YY2035-3 $6.60	24YY2035-4 $6.88	24YY2035-5 $7.15	24YY2035-6 $7.43	24YY2035-7 $7.70	24YY2035-8 $7.98	24YY2035-9 $8.25	24YY2035-10 $8.53
6	2.891	24YY2036-2 $7.04	24YY2036-3 $7.37	24YY2036-4 $7.70	24YY2036-5 $8.03	24YY2036-6 $8.36	24YY2036-7 $8.69	24YY2036-8 $9.02	24YY2036-9 $9.35	24YY2036-10 $9.68



SPRING RETURN ROTARY SWITCH

A version of the Series 24 which gives momentary contact on either side of the center position. Available up to three decks.

No. 24YY2101—1 Deck .....$3.81 ea.
No. 24YY2102—2 Decks ..... 4.50 ea.
No. 24YY2103—3 Decks ..... 5.24 ea.

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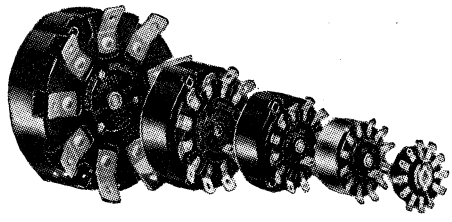
BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

POWER TAP SWITCHES NON-SHORTING TYPE



Each switch is a non-shorting, single pole, rotary, multi-position unit, but switches can be ordered assembled 2 or 3 in tandem (2 maximum, for Model 111) to form multipole assemblies. All ceramic insulation, large, solid silver-to-silver contacts, and "slow-break" action especially designed for alternating current use establish new standards of dependability and performance. Switch shafts are electrically "dead"—insulated by strong ceramic hubs. Contacts and mechanism are entirely enclosed and protected (except for the Model 111).

MODEL 111 TAP SWITCH

Alternating Current Rating *10 Amps. 150 Volts* — Diameter 1¾" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, by means of ⅜"-32 threaded bushing and hex. nut.

Depth Behind Panel		Single Unit		2 in Tandem	
		1⅛"		2¾"	
No. of Taps	Total Rotation	Stock Number	List *Price	Stock Number	List *Price
11	300°	111-11	$5.15	111-11-T2	$19.75
10	270°	111-10	5.00	111-10-T2	19.30
9	240°	111- 9	5.00	111- 9-T2	19.30
8	210°	111- 8	4.80	111- 8-T2	18.60
7	180°	111- 7	4.80	111- 7-T2	18.60
6	150°	111- 6	4.60	111- 6-T2	17.85
5	120°	111- 5	4.60	111- 5-T2	17.85
4	90°	111- 4	4.50	111- 4-T2	17.50
3	60°	111- 3	4.50	111- 3-T2	17.50
2	30°	111- 2	4.50	111- 2-T2	17.50
Recommended Knobs		Stock No. 5150 or 4516		Stock No. 4509 or 4510	

*Without Knob.

MODEL 212 TAP SWITCH

Alternating Current Rating *15 Amps. 150 Volts* — Diameter 2¼" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, by means of ⅜"-32 threaded bushing and hex. nut. Tandem Mounting: For ¼" panel maximum, three No. 10-32 flat-head machine screws ⅜" long.

Depth Behind Panel		Single Unit		2 in Tandem		3 in Tandem	
		1¾"		4 3/16"		6 3/16"	
No. of Taps	Total Rotation	Stock No.	List *Price	Stock No.	List *Price	Stock No.	List *Price
12	330°	212-12	$12.90	212-12-T2	$34.65	212-12-T3	$51.50
11	300°	212-11	12.90	212-11-T2	34.65	212-11-T3	51.50
10	270°	212-10	12.45	212-10-T2	33.85	212-10-T3	50.20
9	240°	212- 9	12.45	212- 9-T2	33.85	212- 9-T3	50.20
8	210°	212- 8	12.05	212- 8-T2	33.00	212- 8-T3	48.90
7	180°	212- 7	12.05	212- 7-T2	33.00	212- 7-T3	48.90
6	150°	212- 6	11.60	212- 6-T2	32.10	212- 6-T3	47.60
5	120°	212- 5	11.60	212- 5-T2	32.10	212- 5-T3	47.60
4	90°	212- 4	11.15	212- 4-T2	31.20	212- 4-T3	46.35
3	60°	212- 3	11.15	212- 3-T2	31.20	212- 3-T3	46.35
2	30°	212- 2	11.15	212- 2-T2	31.20	212- 2-T3	46.35
Recommended Knobs		Stock No. 5150 or 4516		Stock No. 4509 or 4510		Stock No. 4509 or 4510	

*Without Knob.

MODEL 312 TAP SWITCH

Alternating Current Rating *25 Amps. 300 Volts*, 150 V. A.C. between taps — Diameter 3 5/16" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, three No. 10-32 flat-head machine screws ⅜" long.

Depth Behind Panel		Single Unit		2 in Tandem		3 in Tandem	
		2¼"		4⅝"		7"	
No. of Taps	Total Rotation	Stock No.	List *Price	Stock No.	List *Price	Stock No.	List *Price
12	330°	312-12	$18.00	312-12-T2	$46.90	312-12-T3	$71.00
11	300°	312-11	18.00	312-11-T2	46.90	312-11-T3	71.00
10	270°	312-10	17.60	312-10-T2	46.00	312-10-T3	69.50
9	240°	312- 9	17.60	312- 9-T2	46.00	312- 9-T3	69.50
8	210°	312- 8	17.20	312- 8-T2	45.10	312- 8-T3	68.30
7	180°	312- 7	17.20	312- 7-T2	45.10	312- 7-T3	68.30
6	150°	312- 6	16.70	312- 6-T2	44.25	312- 6-T3	66.90
5	120°	312- 5	16.70	312- 5-T2	44.25	312- 5-T3	66.90
4	90°	312- 4	16.30	312- 4-T2	43.40	312- 4-T3	65.70
3	60°	312- 3	16.30	312- 3-T2	43.40	312- 3-T3	65.70
2	30°	312- 2	16.30	312- 2-T2	43.40	312- 2-T3	65.70
Recommended Knobs		Stock No. 4509 or 4510		Stock No. 4511 or 4512		Stock No. 4511 or 4512	

*Without Knob.

MODEL 412 TAP SWITCH

Alternating Current Rating *50 Amps. 300 Volts*, 150 V. A.C. between taps — Diameter 4 1/16" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum three No. 10-32 flat-head machine screws ⅜" long.

Depth Behind Panel		Single Unit		2 in Tandem		3 in Tandem	
		2 7/16"		5 1/32"		7 5/8"	
No. of Taps	Total Rotation	Stock No.	List *Price	Stock No.	List *Price	Stock No.	List *Price
12	330°	412-12	$24.00	412-12-T2	$58.85	412-12-T3	$88.90
11	300°	412-11	24.00	412-11-T2	58.85	412-11-T3	88.90
10	270°	412-10	23.00	412-10-T2	56.80	412-10-T3	85.80
9	240°	412- 9	23.00	412- 9-T2	56.80	412- 9-T3	85.80
8	210°	412- 8	22.55	412- 8-T2	55.95	412- 8-T3	84.50
7	180°	412- 7	22.55	412- 7-T2	55.95	412- 7-T3	84.50
6	150°	412- 6	21.50	412- 6-T2	53.90	412- 6-T3	81.30
5	120°	412- 5	21.50	412- 5-T2	53.90	412- 5-T3	81.30
4	90°	412- 4	21.00	412- 4-T2	52.80	412- 4-T3	79.80
3	60°	412- 3	21.00	412- 3-T2	52.80	412- 3-T3	79.80
2	30°	412- 2	21.00	412- 2-T2	52.80	412- 2-T3	79.80
Recommended Knobs		Stock No. 4511 or 4512		Stock No. 4511 or 4512		Stock No. 4511 or 4512	

*Without Knob.

MODEL 608 TAP SWITCH

Alternating Current Rating *100 Amps. 300 Volts* — Diameter 6" —Shaft Diameter ⅜"—Standard Mounting: For 1" panel maximum, three flat-head machine screws ¼"-20 x 1¼".

Depth Behind Panel		Single Unit		2 in Tandem		3 in Tandem	
		3 5/16"		6 13/16"		10 5/16"	
No. of Taps	Total Rotation	Stock No.	List *Price	Stock No.	List *Price	Stock No.	List *Price
8	280°	608-8	$51.50	608-8-T2	$119.80	608-8-T3	$176.15
7	240°	608-7	51.50	608-7-T2	119.80	608-7-T3	176.15
6	200°	608-6	49.75	608-6-T2	116.40	608-6-T3	171.00
5	160°	608-5	49.75	608-5-T2	116.40	608-5-T3	171.00
4	120°	608-4	48.05	608-4-T2	112.90	608-4-T3	165.85
3	80°	608-3	48.05	608-3-T2	112.90	608-3-T3	165.85
2	40°	608-2	48.05	608-2-T2	112.90	608-2-T3	165.85
Recommended Knobs		Stock No. 4508 or 4515 or 4517		Stock No. 4508 or 4515 or 4517		Stock No. 4515	

*Without Knob.

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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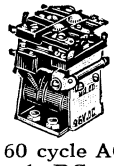
BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE "AMRECON®" ALL-PURPOSE RELAYS



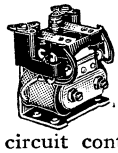
MODEL DO RELAY

AC or DC OPERATION

Ideal for mobile equipment applications where severe shock and vibration is encountered. Coil drain: 3-watts DC, 6 watts 60 cycle AC. Contact ratings: 10 amps. at 115 v. AC; 32 volt DC non-inductive load. Insulation tested at 1500 v. AC. Size, (4 pole) 2¼ x 2 $\frac{1}{16}$ x 1 $\frac{13}{16}$"; (3 pole) 2¼ x 1⅝ x 1 $\frac{13}{16}$".

Stock No.	Type	Coil Data †V.A.C.	Coil Data Amps.	Net Price	Stock No.	Type	Coil Data V.D.C.	Coil Data Amps.	Net Price
DOX-50T	3PDT	6	2.10	$8.65	**DOX-145T**	3PDT	6	.487	$7.47
DOX-183T	4PDT	6	2.10	9.85	**DOX-186T**	4PDT	6	.487	8.65
DOX-49T	3PDT	12	1.13	8.65	**DOX-51T**	3PDT	12	.231	7.47
DOX-184T	4PDT	12	1.13	9.85	**DOX-102T**	4PDT	12	.231	8.65
DOX-181T	3PDT	24	.57	8.65	**DOX-141T**	3PDT	24	.105	7.47
DOX-185T	4PDT	24	.57	9.85	**DOX-137T**	4PDT	24	.105	8.65
DOX-226T	‡DPST*	115	.110	8.60	**DOX-93T**	3PDT	110	.022	7.47
DOX-227T	‡3PST	115	.110	7.84	**DOX-187T**	4PDT	110	.022	8.65
DOX-46T	3PDT	115	.110	8.65	**DOX-182T**	3PDT	220	.014	8.15
DOX-228T	‡4PST	115	.110	8.80	**DOX-188T**	4PDT	220	.014	9.33
DOX-53T	4PDT	115	.110	9.85					
DOX-61T	3PDT	230	.060	8.65					
DOX-130T	4PDT	230	.060	9.85					

‡ Normally open
† AC Voltage is 60 cycle
* Double Break Contacts



MODEL DOSY RELAY

FOR PLATE CIRCUIT OPERATION

The high operating sensitivity makes the DOSY relay adaptable to a wide range of electronic control circuits, such as plate circuit controls, etc. Other industrial applications may be as an overload or underload control where the relay would be used in a DC circuit in which it is desirable to obtain a signal indication when the control current increases above a predetermined maximum or drops below a predetermined minimum.

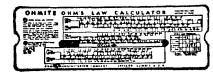
The insulation is of high grade, molded phenolic material. At 115 v. AC or 32 v. DC, non-inductive load, Model DOSY relay has a contact rating of 15 amperes.

There are two DPDT types, one having 10,000 ohms coil resistance (maximum pull-in current of 8 ma. DC); the other having 5,000 ohms coil resistance.

Stock No.	Type	Coil Data D.C. Ohms	Coil Data Max. Pull-in Current	Net Price
DOSYX-67T	DPDT	10,000	8 MA	$6.09
DOSYX-68T	DPDT	5,000	11 MA	6.09
DOSYX-69T	SPDT	10,000	5 MA	5.62
DOSYX-70T	SPDT	5,000	7 MA	5.62

NEW OHM'S LAW CALCULATOR

Redesigned! This new, improved version of the famous Ohmite Ohm's Law Calculator — popular the world over with servicemen, engineers and students — now has scales for solving parallel resistance problems, AND a standard slide rule. More useful than ever! With one setting of the slide the calculator gives the answer to any Ohm's Law problem—reading directly in ohms, volts, amperes, and watts. Three of the new scales on the back provide a quick, one-setting means of solving parallel resistance problems. The slide rule scales will multiply, divide, find squares, and square roots.



Ohm's Law Calculator (Cardboard).....**Net Price $0.25**
Ohm's Law Calculator (Plastic).....**Net Price 1.50**

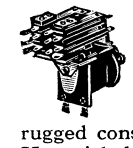
MODEL DOS RELAY

AC or DC OPERATION

Quality, general-purpose relays originally designed to meet rigorous aircraft specs. Extremely compact yet rugged. Coil drain: 2.5 watts DC, 3 watts at 60 cycles AC. Contact ratings: DP, 15 amps. at 115 v. AC or 32v. DC non-inductive load; SP, 25 amps. Molded phenolic insulation; tested at 1500 v. AC. 1⅞ x 1⅝ x 1 $\frac{13}{32}$".

Stock No.	Type	Coil Data †V.A.C.	Coil Data Amps.	Net Price	Stock No.	Type	Coil Data V.D.C.	Coil Data Amps.	Net Price
DOSX-229T	‡SPST*	6	.650	$4.84	**DOSX-158T**	DPDT	6	.550	$4.96
DOSX-230T	‡DPST	6	.650	4.94	**DOSX-66T**	DPDT	12	.210	4.96
DOSX-30T	DPDT	6	.650	5.46	**DOSX-9T**	DPDT	24	.105	4.96
DOSX-16T	DPDT	12	.380	5.46	**DOSX-237T**	‡SPST*	110	.022	4.39
DOSX-231T	‡SPST*	24	.166	4.84	**DOSX-238T**	‡DPST	110	.022	4.49
DOSX-232T	‡DPST	24	.166	4.94	**DOSX-59T**	DPDT	110	.022	4.96
DOSX-162T	DPDT	24	.166	5.46	**DOSX-177T**	DPDT	220	.013	5.54
DOSX-233T	‡SPST*	115	.043	4.84					
DOSX-234T	‡DPST	115	.043	4.94					
DOSX-7T	DPDT	115	.043	5.46					
DOSX-235T	‡SPST*	230	.030	4.84					
DOSX-236T	‡DPST	230	.030	4.94					
DOSX-12T	DPDT	230	.030	5.46					

‡ Normally open
† AC Voltage is 60 cycle
* Double Break Contacts



MODEL CRU RELAY

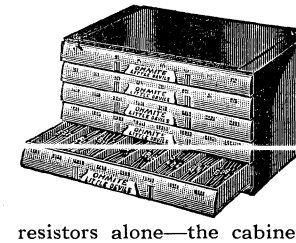
AC or DC OPERATION

Precision-engineered, general-application relays. Used in recorders, vending machines, etc. Features small size and extremely rugged construction. Designed for long life performance. Has nickel-silver springs and pure silver contacts. Coil drain: 2.75 watts DC, 5.6 watts 60 cycle AC. Contact ratings: 5 amps. at 115 v. AC; 32 v. DC non-inductive load. Insulation tested at 750 v. AC between all insulated metal parts and between insulated metal parts and ground. 2 $\frac{7}{16}$ x 2 x 1 $\frac{3}{32}$".

Stock No.	Type	Coil Data †V.A.C.	Coil Data Amps.	Net Price	Stock No.	Type	Coil Data V.D.C.	Coil Data Amps.	Net Price
CRUX-192T	SPDT	6	1.20	$3.02	**CRUX-198T**	SPDT	6	.40	$2.82
CRUX-193T	DPDT	6	1.20	3.55	**CRUX-199T**	DPDT	6	.40	3.33
CRUX-171T	4PDT	6	1.20	4.62	**CRUX-133T**	4PDT	6	.40	4.34
CRUX-194T	SPDT	24	.38	3.02	**CRUX-200T**	SPDT	24	.10	2.82
CRUX-195T	DPDT	24	.38	3.55	**CRUX-201T**	DPDT	24	.10	3.33
CRUX-196T	4PDT	24	.38	4.62	**CRUX-165T**	4PDT	24	.10	4.34
CRUX-197T	SPDT	115	.075	3.02	**CRUX-202T**	SPDT	110	.022	3.66
CRUX-175T	DPDT	115	.075	3.55	**CRUX-145T**	DPDT	110	.022	4.17
CRUX-163T	4PDT	115	.075	4.62	**CRUX-137T**	4PDT	110	.022	5.18

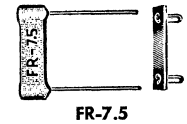
†AC Voltage is 60 cycle

LITTLE DEVIL® RESISTOR ASSORTMENTS FOR SERVICE USE



Serviceman's assortments of 150 Ohmite "Little Devil," ½-watt, or 125, 1-watt or 2-watt insulated composition resistors, in the 40 values (10 ohms to 10 megohms) most frequently used by servicemen. The assortment is offered at the price of the resistors alone—the cabinet is furnished without extra cost! Cabinet is only 9" long, 4¾" high, and 5¼" deep.

Assortment	Stock No.	Quantity of Resistors	Wattages	Net Price
SERVICE ±10% tolerance (40 resistance values)	**CAB-10**	150	½ watt	$15.00
	CAB-2	125	1 watt	18.75
	CAB-3	125	2 watt	25.00



FR-7.5
List Price $0.65

OHMITE FUSE RESISTOR

Designed for replacement in all television receivers, the FR-7.5 Fuse Resistor is provided with 1½" tinned lead wires for easy installation directly in the TV circuit. May also be soldered to the plug-in terminal strip which is provided. 7.5 ohms.

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TRIMM

PLUGS • PATCH CORDS • JACK PANELS

STANDARD PHONE PLUGS

The standard radio phone plug, widely used on P. A., etc. equipment. Designed to fit all standard jacks and available in both two and three conductor types. The "511" series, the two conductor plugs, are provided with binding head screws in terminal, handles of molded bakelite or metal when shielded plugs are required. The "513" series are three conductor types. The "515" adapter couples Amphenol type mike plug to standard phone jack.

No. 511	—Black plastic shell	$ .72
No. 511-1	—Red plastic shell	.72
No. 511-2	—Shielded, single piece shell	1.22
No. 511-3	—Shielded, two piece shell	1.87
No. 511-4	—Shielded, stubby shell	1.03
No. 511-5	—Two circuit, shielded, stubby shell. Has long tip to sleeve insulator which leaves "ring" spring open when inserted in three circuit jack	1.12
No. 513	—Three circuit, black plastic shell	1.12
No. 513-1	—Three circuit, red plastic shell	1.12
No. 513-2	—Three circuit, shielded, single piece shell	1.62
No. 513-3	—Shielded, two piece shell	2.27
No. 513-4	—Three circuit, shielded, stubby shell	1.43
No. 515	—Adapter	.57

"514" MIN-A-PLUG

Developed especially for shielded microphone cable. Wing type terminal clamps directly onto cord shield. Center conductor solders to lug. Also widely used for ordinary cords.

No. 514	—Black plastic shell	$ .72
No. 514-1	—Red plastic shell	.72
No. 514-2	—Shielded, single piece shell	1.13
No. 514-3	—Shielded, stubby shell	.97

"512" FLAT TYPE PLUG

Compact, non-protruding design. Ideal for group hearing aid systems, centralized radio systems, etc. Body molded of black plastic. All exposed edges rounded. Provision for stay cord anchorage. Fits standard jacks.

No. 512	—Black	$ .90
No. 512-1	—Red	.90

"518" PLUG — "562" JACK

Two circuit miniature disconnect plug and jack series. Ideal for small size cordage. Plugs have two grooved, parallel pins which engage with multi-leafed contact springs in jack. No. 518 and 562 have acetate half shells cemented together. No. 518-7 and 562-7 have molded bakelite shells held together with screws.

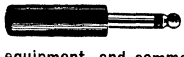
No. 518	—Plug	$ .72
No. 518-7	—Plug	.80
No. 562	—Jack	.80
No. 562-7	—Jack	1.00

"525" CONNECTORS

The "525" series provides means of attaching headset cords, or any two wires, to single contact mike plugs (Amphenol 75-MC series of plugs). Main body of connector is similar to handle of "511" series plug. Connector held to receptacle by threaded retaining ring.

No. 525—Connector ..... $ .82

"501" PLUG



Widely used for high quality communication equipment, and commonly known as PL-55 type. Features a one piece tip-rod construction molded as an insert within plug body using blue diallyl phthalate molding compound. Parts cannot shift due to interlocking of plastic material with body and rod.

No. 501	—Black plastic shell	$1.25
No. 501-1	—Red plastic shell	1.25
No. 501-2	—Shielded shell	1.65
No. 501-8	—Two conductor, black plastic shell, short sleeve (PJ-054)	1.75

Other modifications available in quantity orders.

"509" PLUG

Tip, ring, and sleeve three circuit plug used on microphone circuits and usually identified as type PL-68. Looks essentially like No. 501 type illustrated above.

No. 509—Black plastic shell $4.15

PATCH CORDS and PLUGS

Widely used by majority of radio stations. "840" series cord assembly uses TRIMM No. 506 twin plug and high quality shielded cord. Plug self-aligning. Number following "840" represents length.

No. 506	—Plug	$ 4.65
No. 840-1-PP	—Cord Assembly	12.00
No. 840-2-PP	—Cord Assembly	12.50
No. 840-3-PP	—Cord Assembly	13.00

No. "841" series patch cords use a single triple circuit plug No. 517. Two program circuits connect to tip and ring, shield of cord going to sleeve of plug.

No. 517	—Plug	$ 4.15
No. 841-1-PP	—Cord Assembly	11.28
No. 841-2-PP	—Cord Assembly	11.55
No. 841-3-PP	—Cord Assembly	11.99

In addition to the lengths of both types of patch cords listed lengths of 4, 5, 6 and 10 ft. are available. Also replacement cords carrying code No. 840-1 etc. and No. 841-1 etc. are available. See TRIMM Bulletin R-33 for complete listing.

OTHER TYPES OF PATCH CORDS

In addition to the two types listed there are a number of special types produced both for audio and video work.

No. 842 SERIES Uses TRIMM No. 500 two circuit type plugs. Assemblies correspond with W. E. type 2P1B, 2P2A etc.

No. 846 SERIES Similar applications to "842" series but uses cordage jacketed with rubber-like material and TRIMM No. 501 plugs.

JACK PANELS and ACCESSORIES

TRIMM "96" series. Most widely used, and intended for use with standard twin type patch cords. Mounts on standard 19" racks. Constructed of bakelite panel, reinforced with steel. Designation strip, TRIMM No. 96-30, included on panel. Spacing of jacks prevents cross connection of adjacent circuits with double plug. Uses "90" series jacks (Normally No. 90-02, see description of jacks).

No. 96-01	—Single row, 12 pair jacks, 1¾" wide	$45.00
No. 96-02	—Double row, 24 pair jacks, 2⅛" wide	78.50
No. 96-03	—Double row, 24 pair jacks, 3½" wide	91.00

SPECIAL JACK PANELS

In addition to the types listed a large variety of other types are in production. These include panels with different jacks; panels with a steel mat around the panel; panels with special jack spacing; panels with 24, 25 or 26 jacks per row spaced ⅝" c. to c. etc. Finally, facilities for the manufacture of custom-built panels involving special arrangements of jacks, special engraving etc. are available. Your inquiry will receive individual attention.

DESIGNATION STRIPS. Several types are available.

No. 96-30	—Standard type has individual windows for each pair of jacks	$4.00
No. 96-35	—Alternate type, has one long window	4.00

STANDARD TELEPHONE TYPE PLUGS

Below are listed the more common of the many different types produced by TRIMM and being mechanically and electrically interchangeable with types widely used in telephone service.

TRIMM No.	EQUIVALENT W.E. No.	DESCRIPTION	
500	347	Standard two circuit	$2.50
504	327	Twin, four circuit	4.70
505	289B	Twin, four circuit	4.70
508	309	Tip, ring, and sleeve, 0.206 diameter	4.40
516	310	Tip, ring, and sleeve, 0.250 diameter	4.40

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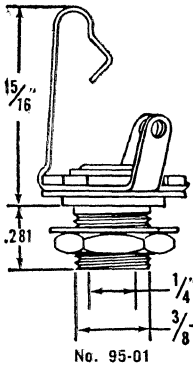
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TRIMM

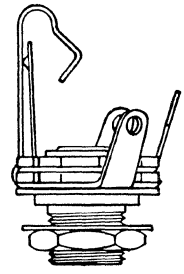
PLUGS • PATCH CORDS • JACK PANELS

"95" SERIES JACKS

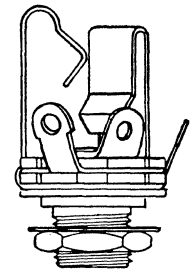
Widely used on P. A. amplifiers, tape recorders, short wave radios, servicemen test instruments, etc. Used where space behind panel is limited. Jack is panel mounted by means of threaded bushing upon which contact springs are directly assembled although adequately insulated from it. Bushing fits through ⅜" diameter hole. Spring contact of nickel silver, held in place by notched interlocking insulators. Drawing gives basic dimensions and arrangements.



No. 95-01



No. 95-02



No. 95-25
No. 95-50

No. 95-01—Open circuit, two conductor ..... $ .47

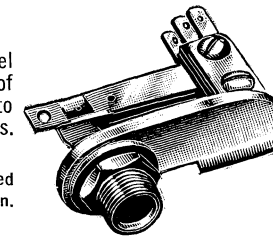
No. 95-02—Closed circuit, two conductor ..... .56

No. 95-25—Open circuit, three conductor (for 0.250" diameter plugs) ..... .66

No. 95-50—Open circuit, three conductor (for 0.206" diameter plugs) ..... .80

"93" SERIES JACK

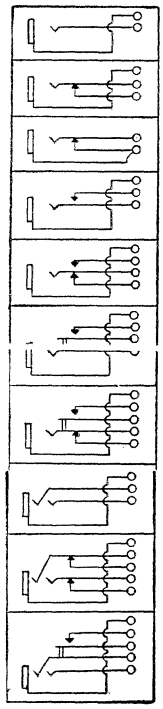
A short frame jack with springs mounted parallel to panel. Used particularly where depth behind panel is limited, on such applications as intercom systems, P. A. amplifiers, etc. Mounting is by means of threaded bushing ⅜" diameter, rigidly attached to a steel frame. May be mounted on panels up to $\frac{3}{16}$" thick. Contact springs of nickel silver, terminals hot tinned. See diagrams below for circuits.



No. 93-01 ..... $ .60
No. 93-02 ..... .75
No. 93-25 ..... .75
No. 93-26 ..... 1.00

In addition a number of other circuits can be produced on order. Your inquiry will be given immediate attention.

All TRIMM jacks have a standardized coding consisting of the jack series number plus a dash number indicating spring arrangement, a few of which are shown below.



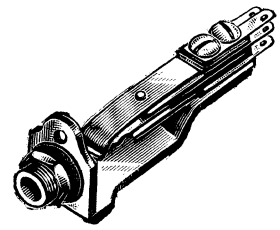
—01
—02
—03
—04
—05
—06
—07
—25
—26
—27

"91" SERIES JACK

A long frame jack having a threaded mounting bushing and which can be attached to panel by this alone, or by a mounting screw as is done on the "90" series jacks. May be mounted on panels up to about ¼" thick, having ⅜" hole. Depth behind panel 3⅛".

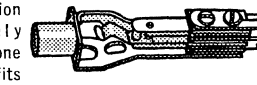
Frame is of very heavy gauge steel, zinc plated with dichromate finish. Springs of nickel silver. See diagrams below for circuits. Most circuits listed for "90" series can be supplied in "91" series. Those listed are the more commonly produced.

No. 91-01 ..... $ .70
No. 91-02 ..... .90
No. 91-25 ..... .95
No. 91-26 ..... 1.20



"90" SERIES JACKS

Extensively used in jack panels and other high quality communication equipment. Commonly known as the telephone type jack. Bushing fits 29/64" diameter hole. Available in two modifications of the frame referred to as the "A" and "C" frame. These differ only in the orientation of the mounting plate with respect to the plane of the springs. Unless specified otherwise the "A" frame is supplied.



Frame of steel, heavily zinc plated with dichromate finish. Bushing of brass, natural finish standard (nickel plated or other finishes available on production orders). Springs of nickel silver, terminal ends hot tinned for ease in soldering. Contacts are of palladium-silver alloy. The circuits listed below represent those most commonly produced, but about forty circuits are available. Write for specific information.

No. 90-01 ..... $1.15
No. 90-02 ..... 1.25
No. 90-03 ..... 1.25
No. 90-04 ..... 1.25
No. 90-05 ..... 1.40
No. 90-06 ..... 1.40
No. 90-07 ..... 1.80
No. 90-25 ..... 1.30
No. 90-26 ..... 1.80
No. 90-27 ..... 1.90

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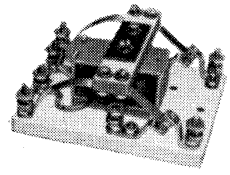
ADVANCE RELAYS

ANTENNA TYPES

AT SERIES *(antenna type)*

For heavy-duty RF transmitter antenna changeover applications. Primarily designed for fixed-station usage, with a conservative 1-kilowatt RF rating. These relays are insulated with ceramic Steatite. Excellent wiping action of the contacts assures flow of the most minute currents for receiving positions. The efficiency of these relays is very high. Available with auxiliary single-pole, normally open contacts.

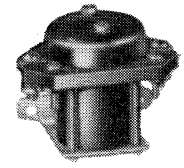


Dimensions:
H. 1 1/16" W. 2 3/16" L. 3 9/16"

Mounting Data:
4 holes .157 dia.; clearance for 6-32 screws.

Type	Coil Resistance	Coil Voltage	Contacts*
AT/2C/115VA	450 ohms	115VAC	DPDT 10 amps

SOLENOID CONTACTOR TYPES



ES SERIES

For heavy-duty DC contactor applications. Unit is widely used in aircraft for controlling actuating motors, landing lights, dynamotors, etc.

The unit employs an unusually powerful solenoid with spring loading, to insure positive high-pressure contact and release.

Dimensions:
H. 2 1/2" W. 1 5/16" L. 2 3/4"

Mounting Data:
2 holes .218 dia.; 1 1/4" centers.

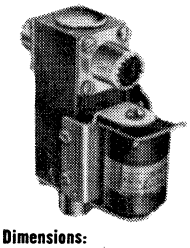
Type	Coil Resistance	Coil Voltage	Contacts*
ES/1A/12VD	28 ohms	12VD	SPST-NO 50 amps
ES/1A/24VD	112 ohms	24-28VD	SPST-NO 50 amps

COAXIAL TYPES

CB SERIES *(coaxial type)*

These relays are unsurpassed for meeting the problems of coaxial cable switching. Designed for performance on 52-ohm coaxial lines. Low standing-wave ratios permit usage on frequencies up to 300 megacycles. The units operate equally well in any position.

External auxiliary contacts are available up to DPDT for controlling extra circuits.



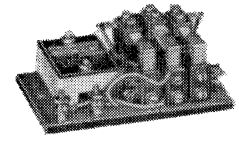
Dimensions:
H. 1 7/8" W. 3 1/16" L. 3 7/8"

Mounting Data:
2 tapped holes 6-32 NC-2; 1 7/16" centers.

Type	Coil Resistance	Coil Voltage	Contacts*
CB/1C/6VD	18 ohms	6VDC	SPDT 5 amps
CB/1C/115VA	280 ohms	115VAC	SPDT 5 amps
CB/1C2C/6VD	18 ohms	6VDC	SPDT (int) DPDT (aux) 5 amps
CB/1C2C/115VA	280 ohms	115VAC	SPDT (int) DPDT (aux) 5 amps
CB/1C2C/12VD	70 ohms	12VDC	SPDT (int) DPDT (aux) 5 amps

TIME DELAY TYPES

DB & DM SERIES



With their adjustable time-delay range, these relays are excellent for use in preheating tube-filaments, for specialized lighting circuits, photographic controls, protection applications, etc.

The DB Series provides a time-delay before break. The DM Series provides a delay before make. Both series utilize bimetal thermal units which can be adjusted for delays from 5 to 60 seconds. Cooling of the thermal units for proper re-cycling requires 8 to 10 times the delay period.

Dimensions:
H. 1 7/8" W. 2 5/8" L. 3 3/4"

Mounting Data:
2 holes .152 dia.; 3 9/16" centers.

Type	Coil Resistance	Coil Voltage	Contacts*
DB/2C/115VA	450 ohms	115VAC	DPDT 15 amps
DM/2C/115VA	450 ohms	115VAC	DPDT 15 amps
DM/1C/115VA	450 ohms	115VAC	SPDT 15 amps
DM/2C/220VA	1600 ohms	220VAC	DPDT 15 amps

***Contacts: rated at 115 VAC or 26.5 VDC resistive loads.**

ELECTRONICS DIVISION, ELGIN NATIONAL WATCH COMPANY, Burbank, California

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ADVANCE RELAYS

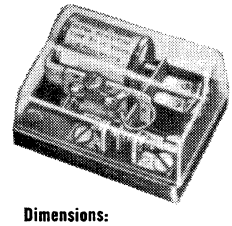
SENSITIVE TYPES

SV SERIES *(very sensitive type)*

For use in any DC circuit restricted to a few thousandths of a watt power consumption.

Transparent, molded plastic cover prevents inadvertent operation, and guards against dust or dirt reaching the contacts or other working parts.

Adjustments are quickly made with the vernier screws which vary relay sensitivity from the 5-milliwatt factory setting. Both the two stationary contacts and the spring tension can be accurately and permanently set – yet easily changed!

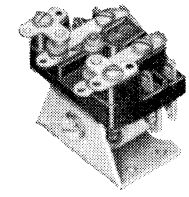


Dimensions:
H. 1½" W. 2" L. 2⁹⁄₁₆"

Mounting Data:
2 holes .152 dia.

Type	Coil Resistance	Coil Current	Contacts*
SV/1C/1000D	1000 ohms	2.25 MA	SPDT 2 amps
SV/1C/1600D	1600 ohms	1.8 MA	SPDT 2 amps
SV/1C/2200D	2200 ohms	1.5 MA	SPDT 2 amps
SV/1C/3500D	3500 ohms	1.2 MA	SPDT 2 amps
SV/1C/5500D	5500 ohms	.95 MA	SPDT 2 amps
SV/1C/8700D	8700 ohms	.75 MA	SPDT 2 amps
SV/1C/14000D	14000 ohms	.6 MA	SPDT 2 amps
SV/1C/20000D	20000 ohms	.5 MA	SPDT 2 amps
SV/1C/30000D	30000 ohms	.4 MA	SPDT 2 amps
SV/1C/40000D	40000 ohms	.35 MA	SPDT 2 amps

POWER TRANSFER TYPES



PG SERIES *(general purpose)*

Efficient coil structure provides the high magnetic strength necessary for high-pressure contacts on short blades, and excellent wiping action. You'll find these to be excellent double-pole relays for general industrial power-control circuits.

Vibration and shock are withstood easily by these relays due to the special armature and frame design. PG types can be built to meet Army-Navy specifications.

Dimensions:
H. 1⅞" W. 1⅝" L. 1½"

Mounting Data:
4 tapped holes 6-32 NC-2;
½" x 1⁵⁄₁₆" centers.

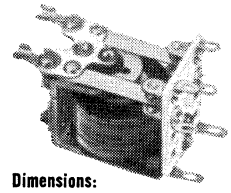
Type	Coil Resistance	Coil Voltage	Contacts*
PG/2C/6VA	1.4 ohms	6VAC	DPDT 15 amps
PG/2C/115VA	400. ohms	115VAC	DPDT 15 amps
PG/2C/220VA	1600. ohms	220VAC	DPDT 15 amps
PG/2C/24VD	160. ohms	24-28VDC	DPDT 15 amps

ANTENNA TYPES

AM SERIES *(midget antenna type)*

These space-saving "transmit-receive" antenna relays are ideally suited for hundreds of different low-power RF applications. These units fill the need for 300-ohm circuit switching in mobile, marine, aircraft, television, communication and fixed-station service.

Conically-shaped silver contacts assure low resistance paths for either "receive" or "transmit" positions.



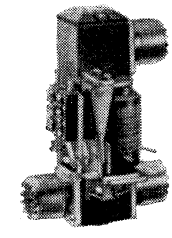
Dimensions:
H. 1⁹⁄₁₆" W. ¹⁵⁄₁₆" L. 1¹⁵⁄₁₆"

Mounting Data:
Relay supplied with single 6-32 NC-2 mounting stud with hex nut.

Type	Coil Resistance	Coil Voltage	Contacts*
AM/2C/6VA	4 ohms	6VAC	DPDT 2 amps
AM/2C/115VA	1600 ohms	115VAC	DPDT 2 amps
AM/2C/6VD	25 ohms	6VDC	DPDT 2 amps
AM/2C/12VD	100 ohms	12VDC	DPDT 2 amps

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.

COAXIAL TYPES



CE SERIES *(small coaxial type)*

The CE Series is designed for coaxial line switching in small space. Standing-wave ratio is extremely low, for efficient transfer of RF energy. Excellent for use in mobile, aircraft, marine, experimental and fixed-station communications equipment.

The CE type is designed for performance on 52-ohm coaxial lines, and may also be used on lines with other impedances. The relay has internal SPDT contacts, and external contacts up to DPDT are available.

Dimensions:
H. 1¹³⁄₁₆" W. 2¹⁄₁₆" L. 2¹⁵⁄₁₆"

Mounting Data:
2 tapped holes 6-32 NC-2;
.750" centers.

Type	Coil Resistance	Coil Voltage	Contacts*
CE/1C2C/6VD	20 ohms	6VDC	SPDT (int) DPDT (aux) 2 amps
CE/1C2C/115VA	750 ohms	115VAC	SPDT (int) DPDT (aux) 2 amps

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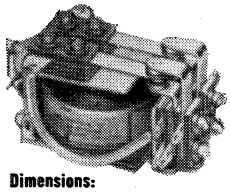
ADVANCE RELAYS

POWER CONTROL TYPES

PC SERIES *(1, 2, 3 & 4 pole)*



These are compact and positive-acting relays for either AC or DC. They are used in air conditioning and lighting systems, small motor starting, transformers, garage door openers — wherever dependable circuit switching is necessary.

Rugged components give long life to these relays. High gram pressure is maintained by a heavy spring tension, permitting operation in any position.

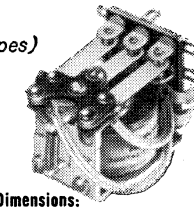
Dimensions:
H. 1 9/16" W. 1 5/8" L. 2 5/8" — 1 & 2 pole.
H. 1 9/16" W. 2 3/4" L. 3 1/16" — 3 & 4 pole.

Mounting Data:
2 tapped holes 6-32 NC-2; 2" centers.

Type	Coil Resistance	Coil Voltage	Contacts*
PC/1C/6VA	1.6 ohms	6VAC	SPDT 15 amps
PC/1C/24VA	25. ohms	24VAC	SPDT 15 amps
PC/1C/115VA	450. ohms	115VAC	SPDT 15 amps
PC/1C/220VA	2500. ohms	220VAC	SPDT 15 amps
PC/1C/6VD	16. ohms	6VDC	SPDT 15 amps
PC/1C/24VD	250. ohms	24-28VDC	SPDT 15 amps
PC/2C/6VA	1.6 ohms	6VAC	DPDT 15 amps
PC/2C/24VA	25. ohms	24VAC	DPDT 15 amps
PC/2C/115VA	450. ohms	115VAC	DPDT 15 amps
PC/2C/220VA	2500. ohms	220VAC	DPDT 15 amps
PC/2C/6VD	16. ohms	6VDC	DPDT 15 amps
PC/2C/12VD	63. ohms	12VDC	DPDT 15 amps
PC/2C/24VD	250. ohms	24-28VDC	DPDT 15 amps
PC/2C/110VD	4000. ohms	110VDC	DPDT 15 amps
PC/3C/6VA	1.6 ohms	6VAC	3PDT 15 amps
PC/3C/115VA	450. ohms	115VAC	3PDT 15 amps
PC/3C/220VA	2500. ohms	220VAC	3PDT 15 amps
PC/3C/6VD	16. ohms	6VDC	3PDT 15 amps
PC/3C/24VD	250. ohms	24-28VDC	3PDT 15 amps
PC/4C/115VA	450. ohms	115VAC	4PDT 15 amps
PC/4C/220VA	2500. ohms	220VAC	4PDT 15 amps
PC/4C/6VD	16. ohms	6VDC	4PDT 15 amps
PC/4C/24VD	250. ohms	24-28VDC	4PDT 15 amps

MIDGET TYPES

MF & MG SERIES *(midget types)*



These ADVANCE design originals are general-purpose midgets engineered for high efficiency and low price. 2-ampere contact ratings.**

These relays employ a beryllium copper armature hinge to insure operation in any position. Adequate wiping action assures positive contact. High quality, electrical-grade, linen-base, laminated phenolic insulation is used.

MG Series illustrated

Dimensions:
H. 1 5/8" W. 1 1/4" L. 1 13/16"

Mounting Data:
Relay supplied with single 6-32 NC-2 mtg. stud with hex nut.

Type	Coil Resistance	Coil Voltage	Contacts*
MG/1C/6VA	4 ohms	6VAC	SPDT 2 amps
MG/1C/115VA	1600 ohms	115VAC	SPDT 2 amps
MG/1C/220VA	6300 ohms	220VAC	SPDT 2 amps
MG/1C/6VD	25 ohms	6VDC	SPDT 2 amps
MG/1C/24VD	250 ohms	24-28VDC	SPDT 2 amps
MG/2C/6VA	4 ohms	6VAC	DPDT 2 amps
MG/2C/24VA	63 ohms	24VAC	DPDT 2 amps
MG/2C/115VA	1600 ohms	115VAC	DPDT 2 amps
MG/2C/6VD	25 ohms	6VDC	DPDT 2 amps
MG/2C/12VD	100 ohms	12VDC	DPDT 2 amps
MG/2C/24VD	250 ohms	24-28VDC	DPDT 2 amps
MG/2C/10000D	10000 ohms	10000VDC	DPDT 2 amps
MG/3C/6VD	25 ohms	6VDC	3PDT 2 amps
MG/3C/24VD	250 ohms	24-28VDC	3PDT 2 amps
MG/3C/115VA	1600 ohms	115VAC	3PDT 2 amps

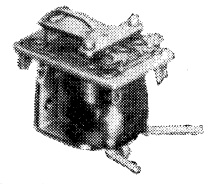
**For 2-amperes use MG relay; for 5-amperes use MF.

MINIATURE TYPES

MK SERIES *("Tiny Mite")*

Ultra-small and feather-light, these direct current devices require less than ½ cubic inch mounting space! Peanut-sized hermetically-sealed enclosures are available.

All switching is entirely above ground . . . insulation material is silicone glass. Beryllium copper armature hinges assure stable performance under vibration and shock. Operate time is 5 milliseconds maximum. Contacts rated .5 amps.



Dimensions:
H. 51/64" W. 41/64" L. 53/64"

Mounting Data:
Relay supplied with single 2-56 NC-2 machine screw.

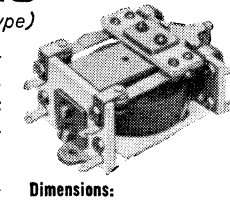
Type	Coil Resistance	Coil Voltage	Contacts*
MK/1C/6VD	30 ohms	6VDC	SPDT .5 amps
MK/2C/24VD	500 ohms	24-28VDC	DPDT .5 amps
MK/2C/5000D	5000 ohms	40-60VDC	DPDT .5 amps

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.

ANTENNA TYPES

AH SERIES *(small antenna type)*

A changeover relay designed specifically for RF operation. The small size of this relay makes it ideal for use in compact sets where the load does not exceed ½ KW.



Low-loss handling of RF energy is assured by the Steatite insulation used throughout, and by adequate spacing between contacts. Units are fast and positive in action, and will operate in any position.

Dimensions:
H. 1 7/16" W. 1 5/8" L. 2 3/4"

Mounting Data:
2 tapped holes; 6-32NC-2; 2" centers.

Type	Coil Resistance	Coil Voltage	Contacts*
AH/2C/115VA	450 ohms	115VAC	DPDT 10 amps
AH/2C/6VD	16 ohms	6VDC	DPDT 10 amps
AH/2C1C/115VA	450 ohms	115VAC	DPDT (int) SPDT (aux) 10 amps

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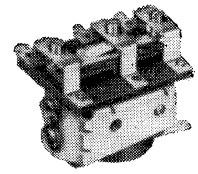
ADVANCE RELAYS

SENSITIVE TYPES

SO SERIES *(miniature)*



Here for the first time is a sensitive relay small enough for use in the tiniest spaces, and weighing only 1½ ounces. Yet it's adjustable by fine screw contacts to a close differential between pick-up and drop-out. A balanced armature on the relay provides extremely sensitive operation.

"SO" relays are available in open types as illustrated . . . in dust tight, or hermetically sealed enclosures.

Dimensions:
H. 1$^{7}/_{32}$" W. 1⅛" L. 1¼"

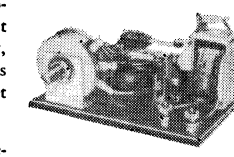
Mounting Data:
2 tapped holes; 4-40 NC-2; ½" centers

Type	Coil Resistance	Coil Voltage	Contacts*
SO/1C/4000D	4000 ohms	6.4VDC	SPDT 1.5 amps
SO/1C/6500D	6500 ohms	8.1VDC	SPDT 1.5 amps
SO/1C/10000D	10000 ohms	10.0VDC	SPDT 1.5 amps

OVERLOAD TYPES

OE & OF SERIES *(electrical reset)*

Especially applicable to radio transmitters and other D.C. uses. Set the potentiometer to provide the desired current limit – any overload will actuate the relay, opening the circuit. The circuit remains open until electrically reset by reset mechanism.



The OE Series is adjustable for any desired overload current between 250 and 500 milliamperes, and the OF Series ranges from 500 to 1000 milliamperes. OH & OJ Series, manual reset, also available.

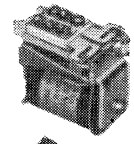
Dimensions:
H. 2⅜" W. 3½" L. 4¼"

Mounting Data:
2 holes $^{5}/_{32}$" dia. clearance for 6-32 screws.

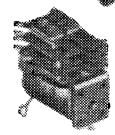
Type	Coil Resistance	Coil Voltage	Contacts*
OE/2B	. . .	24-28VDC	DPST-NC 15 amps
OF/2B	. . .	24-28VDC	DPST-NC 15 amps

TELEPHONE TYPES

TA & TQ SERIES *(miniature)*



TA



TQ

Power consumption in the two TA telephone relays listed below is minimized through the use of bifurcated blades, short armature travel, and highly efficient magnetic structure. Contacts are platinum–silver alloy.

The TQ relay occupies only .94 cu. in. of space. The conventional hinge pin is replaced by a beryllium copper retaining spring, hence no hinge pin to wear out.

Mechanical failure is minimized as the relay is secured mechanically throughout. Spacers between contact blades are silicone glass, and fastening screws are encased in "KEL-F" tubing.

Dimensions:
TA—H. 1½" W. 1$^{1}/_{16}$" L. 1⅜"
TQ—H. 1⅝" W. ¾" L. 1$^{3}/_{32}$"

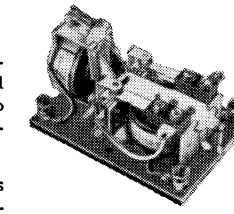
Mounting Data:
TA—2 tapped holes; 6-32 NC-2
TQ—4 tapped holes; 3-48 NC-2; ⅜" centers.

Type	Coil Resistance	Coil Voltage	Contacts*
TA/2C/115VA	900 ohms	115VAC	DPDT 2 amps
TA/4C/115VA	900 ohms	115VAC	SPDT 2 amps
TQ/2C/24VD	600 ohms	24-28VDC	DPDT 3 amps
TQ/4C/24VD	300 ohms	24-28VDC	4PDT 3 amps

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.

LATCHING TYPES

LE & LH SERIES *(electrical & manual reset)*



The LE and LH Series relays are employed in industrial and power control applications where it is desirable to eliminate continuous use of current consumption by the duty coil.

The latching mechanism in these relays is positive, and assures consistent performance. The units are assembled on a heavy bakelite base.

Dimensions:
H. 2⅜" W. 2½" L. 3⅝"

Mounting Data:
2 holes .152 dia.; clearance for 6-32 NC-2 screws; 2" centers.

Type	Coil Resistance	Coil Voltage	Contacts*
LE/2C/115VA	250 ohms	115VAC	DPDT 15 amps
LE/2C/24VD	160 ohms	24-28VDC	DPDT 15 amps
LH/2C/115VA	250 ohms	115VAC	DPDT 15 amps

ELECTRONICS DIVISION
ELGIN NATIONAL WATCH COMPANY
Burbank, California

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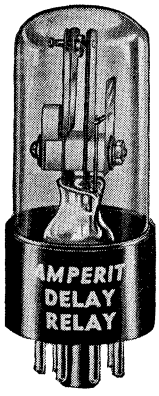
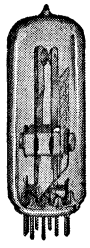
THERMOSTATIC **AMPERITE** DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT

AMPERITE THERMOSTATIC DELAY RELAYS



STANDARD



MINIATURE

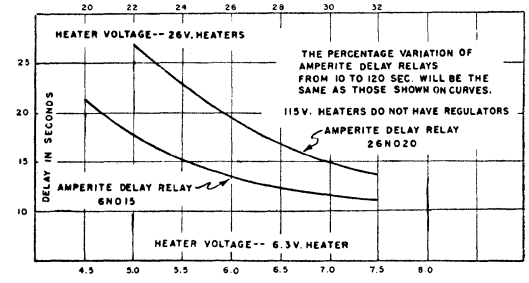
Amperite Thermostatic Delay Relays are actuated by a heater . . . can therefore be used on A.C., D.C., or pulsating current. Being hermetically sealed, Amperite Relays are not affected by altitude, moisture, or other atmospheric conditions.

CIRCUITS: At the present time only SPST is available — normally open or normally closed.

HEATER VOLTAGES: Relays are available with heater voltages from 2.5 to 115 V. For short delays (1 to 10 seconds) a low voltage heater, preferably 6.3 V. is recommended. STANDARD HEATER VOLTAGES: 6.3, 26 (for 22-30 V.), 115 V. Other voltages available are 2.5, 5.0, 12.0 and 50 V. For 220 V., use a 115 V. relay with a dropping resistor.

EFFECT OF HEATER VOLTAGE VARIATION ON DELAY

FIGURE 1 — Effect of change in heater voltage on delay in seconds. Only low voltage heaters (2.5 to 26 V.) incorporate heater voltage regulations as shown in this diagram.



For 22 to 30 V. supply: We recommend Amperite Delay Relays with 26 V. heaters for airplanes and similar power supplies. These heaters are regulated for battery variation of 22 to 30 V. as shown in this diagram.

STANDARD HEATER VOLTAGES: Amperite Delay Relays with low voltage heaters such as 2.5, 5.0, 6.3, 12 and 26 V. are designed with automatic voltage regulation of the heater to compensate for line voltage variation. The effect of voltage variation on a typical relay is shown in Fig. 1. Without regulation, the delay would vary as the square of the supply voltage variation. 115 V. heaters CANNOT be supplied with heater voltage regulation.

HEATER WATTAGE: The wattage consumed by the heater is approx. 2 W. Flashers approx. 1 W.
All Heaters may be operated continuously. Life, 5000 hours minimum.

CONTACT RATING

	Delay	Contract Rating Non-Inductive	Voltage Breakdown Contact-to-Contact	Heater-to-Contact
STANDARD	2 to 10 Sec.	115V — 3a AC	250V	500V
RELAYS	15 to 180 Sec.	115V — 3a AC	1000V	1500V
		220V — 1a AC	1000V	1500V
MINIATURE	2 to 10 Sec.	115V — 2a AC	250V	500V
RELAYS	15 to 180 Sec.	115V — 2a AC	1000V	1500V
		220V — 1a AC	1000V	1500V

FLASHERS have contact rating of 115V — ½a AC, non-inductive.

AMBIENT TEMPERATURES: Relays are compensated for temperatures of −55° to +70°C. Tolerances given are 20°C. Ambient temperature tolerances depend on type. Low voltage heaters 26V or less have much better ambient compensation than high voltage heaters.

DELAYS AVAILABLE: From 2 to 180 seconds. Relays can be used in series to obtain longer delays. The delay of any individual relay can be increased up to 30% by using a resistor in series with the heater. Relays with short delays such as 2 to 5 seconds can be increased 150%.

LIFE of any individual relay will depend on the service the contacts are subjected to. With a 115 V. — 2A A.C. non inductive load the contacts will withstand at least 250,000 operations. The heater can be operated continuously. Heaters will not be damaged by a 50% overload in voltage for short durations.

FLASHERS: Normally closed relays are supplied as flashers. They are available from 30 to 90 flashes per minute, and are furnished in 6, 26, and 115V heaters, as standard types.

INDUCTIVE A.C. LOADS: When breaking an inductive A.C. load, use a condenser of .01 to .1 mfd. across contacts.

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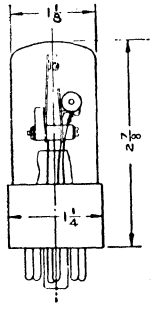
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

THERMOSTATIC AMPERITE DELAY RELAYS

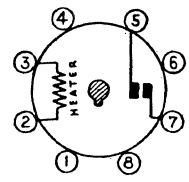
GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT

BREAKING D.C. CURRENT: When Relay contacts open D.C. Current above 50 volts, a condenser with a resistor in series with the condenser must be connected across the contacts. The following condenser values are approximate.

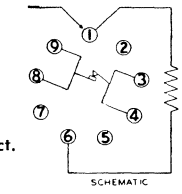
	50 V. D.C.	115 V. D.C.	230 V. D.C.
0 to .5 Amps.	None	.1 MF	.25 MF
.5 to 1.5 Amps.	"	.25 "	.25 "
1.5 to 3 Amps.	.25 MF	1 "	.5 "



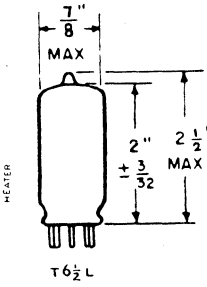
BASE WIRING:



Standard Radio Octal:
Prongs 2-3-heater;
Prongs 5-7-contacts.



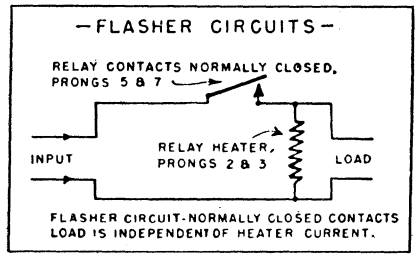
9-Pin Miniature:
Prongs 1-6-heater; Prongs 3-4-1 contact; Prongs 8-9-2nd contact.



STANDARD AND MINIATURE TYPES OF AMPERITE DELAY RELAYS AND FLASHERS....List $4.00 ea.

MINIATURE TYPES: Designated by letter T. (e.g. 6NO5T) Types shown in Bold Type are the more popular types, and are more readily available.

Delay-Seconds	Tolerance Seconds at 20°C	NORMALLY OPEN CONTACTS — HEATER VOLTAGES						NORMALLY CLOSED CONTACTS — HEATER VOLTAGES					
		2.5 V.	5.0 V.	6.3 V.	12 V.	26 V. (22-30)	115 V.	2.5 V.	5.0 V.	6.3 V.	12 V.	26 V. (22-30)	115 V.
2	± 1	2N02	5N02	6N02	12N02	26N02	115N02	2C2	5C2	6C2	12C2	26C2	115C2
3	± 1	2N03	5N03	**6N03**	12N03	**26N03**	**115N03**	2C3	5C3	**6C3**	12C3	**26C3**	**115C3**
5	± 2	2N05	5N05	**6N05**	12N05	**26N05**	**115N05**	2C5	5C5	**6C5**	12C5	**26C5**	**115C5**
8	± 3	2N08	5N08	**6N08**	12N08	**26N08**	**115N08**	2C8	5C8	**6C8**	12C8	**26C8**	**115C8**
10	± 3	2N010	5N010	**6N010**	12N010	**26N010**	**115N010**	2C10	5C10	**6C10**	12C10	**26C10**	**115C10**
15	± 3	2N015	5N015	**6N015**	12N015	**26N015**	**115N015**	2C15	5C15	**6C15**	12C15	**26C15**	**115C15**
20	± 4	2N020	5N020	**6N020**	12N020	**26N020**	**115N020**	2C20	5C20	**6C20**	12C20	**26C20**	**115C20**
30	± 8	**2N030**	**5N030**	**6N030**	**12N030**	**26N030**	**115N030**	2C30	5C30	**6C30**	12C30	**26C30**	**115C30**
45	± 10	2N045	5N045	**6N045**	12N045	**26N045**	**115N045**	2C45	5C45	**6C45**	12C45	**26C45**	**115C45**
60	± 12	**2N060**	5N060	**6N060**	12N060	**26N060**	**115N060**	2C60	5C60	**6C60**	12C60	**26C60**	**115C60**
75	± 15	2N075	5N075	**6N075**	12N075	**26N075**	**115N075**	2C75	5C75	**6C75**	12C75	**26C75**	**115C75**
90	± 15	2N090	5N090	**6N090**	12N090	**26N090**	**115N090**	2C90	5C90	**6C90**	12C90	**26C90**	**115C90**
120	± 30	2N0120	5N0120	**6N0120**	12N0120	**26N0120**	**115N0120**	2C120	5C120	**6C120**	12C120	**26C120**	**115C120**
150	± 30	2N0150	5N0150	**6N0150**	12N0150	**26N0150**	**115N0150**	2C150	5C150	**6C150**	12C150	**26C150**	**115C150**
180	± 40	2N0180	5N0180	**6N0180**	12N0180	**26N0180**	**115N0180**	2C180	5C180	**6C180**	12C180	**26C180**	**115C180**



Flashers operate approximately ⅓ on, ⅔ off. The percentage time on can be increased by reducing the voltage of the heater.

Normally closed flashers are standard, and are indicated by the letter "F." The number following letter "F" denotes flashes per minute. *For example a 6F30 flasher,* has 6.3V heater, normally closed for 30 flashes with a ± 10 flashes per minute tolerance. A 6F30T, would be the same type but in 9-pin miniature. Flashers are available from *30 to 90 Flashes per minute* with tolerances as shown in the chart below:

Tolerance FPM — 20°C	Standard Flashers Available		
± 10	6F30	26F30	115F30
± 12	6F45	26F45	115F45
± 15	6F60	26F60	115F60
± 15	6F75	26F75	115F75
± 20	6F90	26F90	115F90

FLASHERS have contact rating of 115V — ½a AC, non-inductive.

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Potter & Brumfield PRINCETON, INDIANA inc.

Subsidiary of AMERICAN MACHINE & FOUNDRY COMPANY

RELAYS

ORDERING INSTRUCTIONS — *File-O-Matic Sec. 23*

NOTE: Relays shown in this bulletin are standard relays in stock and ready for immediate shipment. From them a type can be chosen to meet the needs of most Electrical or Electronic applications.
All relay contacts are rated at 115 volt-60 cycle, non inductive load.

When ordering specify relay type and coil voltage or resistance.

Example: PR5A, 115 Volts AC, 60 cycles or LB5—2500 ohms resistance.

To operate 110V DC relays on 220V DC put a 5 watt wire-wound resistor of a value approximately the relay coil resistance in series with the relay coil.

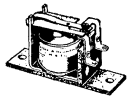
CONTACT LEGEND: S-Single; D-Double; P-Pole; T-Throw; N-Normally; O-Open; C-Closed; B-Break; M-Make.

Prices and Specifications subject to change without notice. For latest prices refer to United Pricing Service.

PLATE CIRCUIT AND SENSITIVE RELAYS

(See Also Telephone Type Relays)

Relays for use in photo-electric, counting, bridge circuits and all similar general control applications requiring fast acting sensitive operation.



LB Series

Low cost (Sensitivity — 200 Milliwatts) SPDT 5 amp. silver contact relays. Pull in adjustable by bending tail spring. Size: 2⅝" x 1" x 1⅜" high. Mounting: Two 3/16" holes on 2¼" centers. Weight: Approx. 2 oz.

TYPE	OHMS	PULL IN MA	NET
LB5	2500	9.0	$2.35
LB5	5000	6.3	2.55
LB5	10000	4.5	2.70

LM Series:

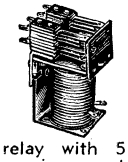
(See KL for similar voltage actuated relays.) Sensitivity 100 milliwatts for single pole and 200 milliwatts for double pole. Medium cost, high quality relay with 5 amp silver contacts. Pull-in adjustable by bending tail spring hook. Size: 2-3/16" x 2-5/32" x 2½". Mounting: Two holes on 1-13/16" centers. Weight: Approx. 5 oz. DC Coils only.

TYPE	CONTACTS	OHMS	PULL IN	NET
LM-5	SPDT	2500	6.3 MA	$3.30
LM-5	SPDT	5000	4.5 MA	3.50
LM-5	SPDT	10000	3.2 MA	3.80
LM-11	DPDT	2500	9.0 MA	5.05
LM-11	DPDT	5000	6.3 MA	5.25
LM-11	DPDT	10000	4.5 MA	5.75

PW Series

(In both voltage & Current actuated models.) (Sensitivity 40 MW for current actuated models. 100 milliwatts for voltage actuated models.) Precision, light weight, hermetically sealed relay for aircraft and missile applications. Will withstand 10G vibration to 500 cps and 10G shock. Size: ¾" diameter x 1-11/16" high (above socket). Mounting: Standard 7-pin miniature tube socket. Wt: Approx. 1 oz. SPDT 2 amp. silver contacts only.

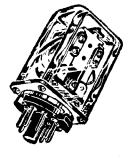
TYPE	VOLT	OHMS	PULL-IN	NET
PW5DS	6 V	202	4.5 V	$10.75
PW5DS	12 V	810	9.0 V	11.00
PW5DS	24 V	3240	18.0 V	11.25
PW5LS		5000	2.8 MA	11.30
PW5LS		10000	2.0 MA	11.75



GB Series

(See GA series for similar voltage actuated relays.) Sensitivity 115 Milliwatts for single pole and 275 milliwatts for 4 pole. Medium cost, high quality relay with 5 amp silver contacts, U/L spacing, up to 4 PDT. Pull-in is not adjustable. Size 1-1/16" wide x 1-23/32" long. Max. Height 2-13/32". Mounting: 4 No. 6/32 tapped holes on ⅞" x ¾" centers. Weight: Approx. 5 oz.

TYPE	CONTACT ARRANGE-MENTS	COIL RES. OHMS	STD. PULL IN MA	NET
GB5	SPDT	2500	6.8	$3.30
GB5	SPDT	5000	4.8	3.45
GB5	SPDT	10000	3.4	3.90
GB11	DPDT	2500	7	4.60
GB11	DPDT	5000	5	4.70
GB11	DPDT	10000	3.53	5.25
GB17	4 PDT	2500	10.	5.50
GB17	4 PDT	5000	7.4	5.65
GB17	4 PDT	10000	4.45	6.10



KCP Series

Low Cost plate circuit relay enclosed in polystyrene case. ⅛" silver contacts rated 2 amps. Sensitivity 125 MW single pole-250 MW double pole-375 MW three pole. Size 1-12/32" square base x 2" high above socket. Mounting: Standard octal type. Eight pin for KCP 5 and 11. Eleven pin for KCP-14 Max. Weight: 3 oz.

TYPE	CONTACT ARRANGE-MENTS	COIL RES. OHMS	STD. PULL IN MA	NET
KCP5	SPDT	2500	7.2	$5.60
KCP5	SPDT	5000	5.0	5.70
KCP5	SPDT	10000	3.0	6.15
KCP11	DPDT	2500	10.0	6.00
KCP11	DPDT	5000	7.2	6.10
KCP11	DPDT	10000	5.0	6.50
KCP14	3PDT	2500	12.3	7.40
KCP14	3PDT	5000	8.7	7.50
KCP14	3PDT	10000	6.1	7.90

RS Series

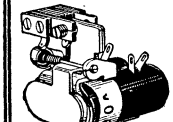
(In both voltage and current actuated models (60 M.W. sensitivity). Low cost, small, light weight, sensitive relay for radio-sonde, light dimmer and model applications withstands 25G vibration 5-55 cycles and 25G shock. Size: 1" x 1-5/32" x 29/32" high. Mounting: 2 No. 4-40 tapped holes on diagonal ¾" x ⅝" centers. Weight: Approx. 1½ oz. SPDT Silver Contacts rated at 2 amp.

TYPE	VOLT	OHMS	PULL IN	NET
RS5D	6	335	4.5 V	$2.10
RS5D	12	1350	8.9 V	2.20
RS5D		2500	5 MA	2.30
RS5D		5000	3.5 MA	2.45
RS5D		10000	2.5 MA	2.75

SM Series

(In both voltage and current actuated models.) (Sensitivity 75 M.W. for current actuated models.) Medium cost, light weight, hermetically sealed relay for light contact load applications such as computers, model airplanes and similar applications. Extremely long mechanical life because of reed bearing. Size: ¾" diameter 1-11/16" high (above socket). Mounting: Standard 7-pin miniature tube socket. Weight: Approx. 1 oz. SPDT silver-rhodium contacts rated at ¼ amp.

TYPE	VOLT	OHMS	PULL IN	NET
SM5DS	6	80	4.5 V	$5.80
SM5DS	12	360	9.0 V	5.80
SM5DS	24	900	18.0 V	5.80
SM5LS		5000	2.8 MA	6.10
SM5LS		10000	2 MA	6.55



SS Series

Ultra Sensitive precision relay. (10 M.W. Sensitivity.) Dual series coils with balanced armature on needle-point bearings, for all low energy circuits such as instruments, bridge balancing, etc. May also be used as a differential relay by connecting the two coils in separate circuits. Contacts and pull-in adjustable by screws. Size: 1-11/16" x 1-5/16" x 1-11/16". Mounting: 2 No. 6/32 tapped holes on 23/32" centers. Weight: Approx. 3½ oz. SPDT model only with 2 amp silver contacts.

TYPE	COIL OHMS	PULL-IN	NET
SS5D	10000 (2@ 5000 ea.)	1.0 MA	$11.25

Potter & Brumfield RELAYS

Telephone Type Relays — (BS, MH, MC and MB)

These relays are types and variations as commonly used in the telephone industry. The size, sensitivity and ability to carry a large number of poles, plus the wide variety of coils available make them ideal for automation, computers or any other control application not requiring power type contacts.

MH Series Miniature Type

Extremely fast acting and long life. Ideal for aircraft, computer and any other applications where space and weight are a factor. DC models withstand 10G vibration 10—55 cycles. Open AC models for intermittent duty only. Sealed AC models operate with a built-in rectifier. Size: Open — 1⅝" x 25/32" x 1-9/16" high; Sealed — 1-11/16" x 1-1/32" x 2-1/2" high. Mounting: MH11L Model has a No. 6/32 tapped stud 11/32 long plus a locating boss. All other open models have four No. 3-48 holes on ⅜" x ⅜" centers. Contacts: Fine silver rated 5 amperes. Weight: Open model 2 oz. Sealed model 4 oz.

VOLTAGE ACTUATED

60 CYCLE AC RELAYS 6-24-115 V		DC RELAYS 6-12-24V	
TYPE	NET	TYPE	NET
MH17A open	$6.15	MH17D open	$5.30
*MH17AMR sled	19.00	MH17DM sled	11.60

*Not available 6 V AC

CURRENT ACTUATED

CONTACTS	TYPE	COIL RES. OHMS	FACT. Adj. PI-MA	NET
DPDT	MH11L open	10000	4.5	$5.05
DPDT	MH11LM sealed	10000	4.5	9.70

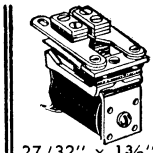
BS Series

Standard long coil telephone type. The relatively large size provides high sensitivity and simplifies maintenance. Particularly suited for computer and automatic test equipment applications requiring large numbers of poles. Tinned solder type terminals for rear of panel wiring so desirable where a large quantity of relays are to be mounted on a small panel. Size: 4⅛" x 1⅛" x 2-5/16" high for 4 poles, 2-13/16" high for 6 poles. Mounting: Two No. 8/32 tapped holes on ¾" centers. Contacts: Twin palladium rated at 4 amperes. Weight: Approx. 9 oz.

4PDT MODELS

TYPE	COIL VOLTS	COIL RES.	NET
BS17A	115 AC		$10.45
BS17D	6 DC	40 ohm	8.40
BS17D	12 DC	200 ohm	8.75
BS17D	24 DC	750 ohm	8.75
BS17L	*110 DC	10,000 ohm	9.85
6PDT MODELS			
BS23A	115 AC		$12.90
BS23D	6 DC	40 ohm	11.20
BS23D	12 DC	125 ohm	11.20
BS23D	24 DC	500 ohm	11.20
BS23L	*110 DC	10,000 ohm	12.20

*Minimum pull in 5.5 MA for 4 pole and 7.6 for 6 pole. Commonly used as plate circuit relays.

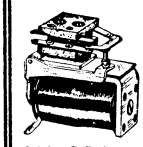


MB Series

Miniature DC contactor. Designed for very high current applications. Contact arms heavy brass with large silver contacts, solder terminals. Size 1⅝" x 27/32" x 1⅜" high. Mounting: Four No. 3-48 holes on ⅜" x ⅜" centers. Available only as SPST—NO—DB, rated 60 amperes. Weight: 2 oz.

TYPE	COIL VOLTS	COIL RES.	NET
MB3D	6 V DC	13.3 ohms	$4.60
MB3D	12 V DC	62.3 ohms	4.70
MB3D	24 V DC	245 ohms	4.70
MB3D	110 V DC	*5000 ohms	5.00

*Operates on 20 MA or less and may be used for plate circuit operation.



MC Series

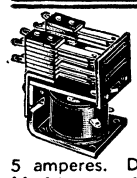
Built with ceramic contact spacers to minimize losses at high frequencies. Inter-contact capacitance 1.5 mmfd. D.C. types withstand 10 G vibration up to 300 C.P.S. and 25G shock. Size: 25/32" x 1-5/16" x 1-9/16" high. Mounting: Four No. 3-48 holes on ⅜" x ⅜" centers. Weight: 2 oz. Contacts: All Models have SPDT Palladium contacts rated 1 Amp.

60 CYCLE AC RELAYS 6-115 V		DC RELAYS 6-12-24V	
TYPE	NET	TYPE	NET
MC5A	4.10	MC5D	3.65

AC Models for 60 cycle power intermittent duty only.

GENERAL PURPOSE RELAYS

Wherever relays are used, automation, machine tool control, counters, ham radio, single and multiple contact versions are a must. These types will fill any need you may have for either plug-in or wired applications.



GA Series Multiple leaf

Multiple leaf, all purpose relays permitting a wide range of contact combinations. Contacts: rated 5 amperes. Dimensions: 1-1/16" W x 1-11/16" L x 1-25/32 H Max. Mounting: Std. No. 8-32 tapped core with locating half punch. Weight: 3½ oz.

60 CYCLE AC RELAYS 6, 12, 24, 115V			230 V
TYPE	CONTACTS	NET	NET
GA11A*	DPDT	$3.15	——
GA14A*	3PDT	3.75	——
GA17A	4PDT	4.35	$4.75

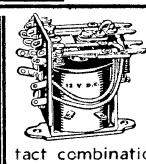
* No 12V AC

DC RELAYS		6-12-24V	110V
GA11D	DPDT	$3.15	$3.65
GA14D**	3PDT	3.75	——
GA17D	4PDT	4.35	4.85

** No 24V DC

Coil Bobbin Kit—75A047

Twenty-four assorted molded phenolic (85° C rise — 1000 V-RMS) bobbins — three each of 8 different sizes; core diameters from 7/32" to 7/16". For industrials, experimenters and amateurs. **NET** $2.50.



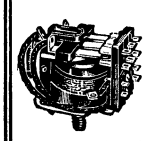
KL Series

Multiple contact Relays. Varied contact combinations and high di-electric phenolic insulation affords extreme versatility and utility. Dimensions: All contact combinations 2-1/32 deep and 1-15/16 Max. height. KL5 1-7/32 W KL11 1⅜" W, KL14 1½" W. KL17 1-23/32 W. Mountings: All models — Two No. 6-32 tapped holes on 1-7/16" centers. Max. Weight. 5 oz.

60 CYCLE AC RELAYS 6-12-24-115 V		
TYPE	CONTACTS	NET
KL5A*	SPDT	$3.40
KL11A	DPDT	4.45
KL14A**	3PDT	4.85
KL17A	4PDT	5.90

* No 12 or 24V AC ** No 12V AC

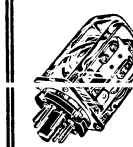
DC RELAYS		6-12-24V	110V
KL5D	SPDT	$3.20	——
KL11D	DPDT	4.10	$4.70
KL14D	3PDT	4.55	5.15
KL17D	4PDT	5.60	6.20



KA Series

A small, low cost, highly efficient general purpose relay for handling light power loads such as small motors (1/20 H.P.), solenoids and other relays, and general automation work. Insulated to meet U/L requirements. Size: 1-1/16" x 1-27/32 x 1⅜. Mounting: One No. 6/32 stud. Weight: 2 oz. Max. Contacts: Up to 3PDT silver rated 5 amps.

60 CYCLE AC RELAYS 6-12-24-115V			
TYPE	CONTACTS	NET	
KA5A	SPDT	$2.95	
KA11A	DPDT	3.45	
KA14A	3PDT	3.80	NET
DC RELAYS		6-12-24V	110V
KA5D	SPDT	$2.70	$3.30
KA11D	DPDT	3.15	3.75
KA14D	3PDT	3.50	4.15



KRP Series

Versatile, multi-contact arrangements. Enclosed in polystyrene dust cover. Contacts: rated 5 Amperes. Standard octal type plug 8 pin for KRP5 and KRP11, 11 pin for KRP14. Dimensions: 1-13/32 x 1-13/32 x 2" high (above socket). Weight: 3 oz.

60 CYCLE AC RELAYS 6-12-24-115V			
TYPE	CONTACTS	NET	
KRP5A*	SPDT	$5.20	
KRP11A	DPDT	5.75	
KRP14A	3PDT	7.15	
* No 12V AC.			NET
DC RELAYS		6-12-24V	110V
KRP5D	SPDT	$5.15	$5.75
KRP11D	DPDT	5.70	6.30
KRP14D	3PDT	7.10	7.70

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Potter & Brumfield RELAYS

POWER TYPE RELAYS
Light, Medium and Heavy Duty
(Also see MB series under telephone types)

These relays are used in automation, motor starting, clutch operation, signaling, etc., wherever power from 5 to 20 amps 115V AC non-inductive must be handled.

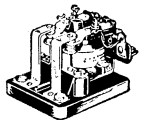
MR Series

A medium duty power relay for loads that can handle small motors, home appliances, transmitters, etc. Insulation to meet U/L requirements. Size: Single Pole 2-21/32" x 1-5/16" x 1⅝" high. 2 and 3 pole 2-31/32" x 2-5/32" x 1-11/16" high. Mounting: Two holes 5/32" dia. on 2⅝" centers for 1 and 3 pole and 2¼" centers for 2 pole. Weight: 4 oz. Max. Contacts: Up to 3PDT silver rated 8 amps.

60 CYCLE AC RELAYS			
		6,12,24,115V	230V
TYPE	CONTACTS	NET	NET
MR3A*	SPST-NO-DB	$3.20	—
MR5A	SPDT	2.90	$3.30
MR11A	DPDT	4.10	4.50
MR14A	3PDT	4.95	5.35

*No 12V AC

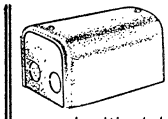
DC RELAYS		6,12,24V	110V
TYPE	CONTACTS	NET	NET
MR3D	SPST-NO-DB	$2.95	—
MR5D	SPDT	2.65	$3.15
MR11D	DPDT	3.90	4.40
MR14D	3PDT	4.60	5.10



PR Series

Heavy duty relay for all industrial control applications requiring a rugged, long life, fast action. Heavy duty screw type terminals. All AC models carry U/L label. Size: 2½" wide x *2½" long x 2-7/16" high (*PR11 is 3⅜" long). Mounting: Two holes 3/16" dia. on 1⅞" centers. Contacts: Capacity, 15 amperes single break and 20 amps double break. Weight: 11 oz. Max.

60 CYCLE AC RELAYS			
		6,12,24,115V	230V
TYPE	CONTACTS	NET	NET
PR3AY	SPST-NO-DB	$3.95	$4.35
PR5AY	SPDT	4.15	4.55
PR7AY	DPST	4.65	5.05
PRAY11A	DPDT	6.15	6.55
DC RELAYS		**6,12,24V**	**110V**
TYPE	CONTACTS	NET	NET
PR3D	SPST-NO-DB	$3.95	$4.55
PR5D	SPDT	4.15	4.75
PR7D	DPST	4.65	5.25
PR11D	DPDT	6.15	6.75



PR Cover

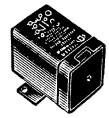
A sheet steel base with aluminum cover all finished in gray hammertone baked enamel with 4 knockouts for ½" conduit. Dimensions: 5⅜" x 3⅜" x 3⅛" H. Mounted: Three No. 10 holes on 1⅞" x 4⅛" ctrs.

Type: 35D013. **Net: $3.50.**

MW Series

Low cost power relay, long life design. Clip on solder or screw terminals. Contacts: All relays have SPDT silver, rated 5 amperes. Dimensions: 2⅝" W x 2-3/16" L x 1½" high. Mounting: Two holes clear No. 6 screw on 1⅝" centers. Weight: 3 oz.

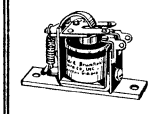
60 CYCLE AC RELAYS			DC RELAYS		
6,24,115V		230V	6,12,24V		110V
TYPE	NET	NET	TYPE	NET	NET
MW5A	$2.90	$3.35	MW5D	$2.85	$3.40



AG Series

Shock proof relay enclosed in dust proof cover. Screw terminals molded in Phenolic base. Dimensions: 2¾" W x 3-5/32" L x 2-11/32" H. Mounting: Welded bracket with two 3/16" holes on 2⅜" centers. Contacts: All relays have DPDT silver, rated 5 amperes. Weight: 9½ oz.

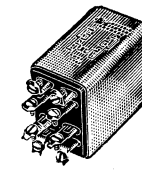
60 Cycle AC RELAYS			DC RELAYS		
115V			24V		
TYPE	NET		TYPE	NET	
AG11A	$8.25		AG11D	$8.25	



CA Series

Low cost, high capacity power relay. Small overall dimensions. Solder terminals. Contacts: Fine silver, SPST, rated 10 amperes. Dimensions: 1¼" W x 2⅝" x 1-11/16" H. Mounting: Two 3/16" Dia. holes on 2-7/32" centers. Weight: 3 oz.

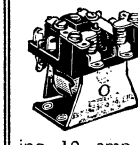
60 Cycle AC RELAYS			DC RELAYS		
6-115V			12-24V		
TYPE	NET		TYPE	NET	
CA3A	$2.75		CA3D	$2.50	



ABC Series

Medium duty power relay with dust cover. For small motor, industrial control and similar applications. All equipped with terminals to fit arc-less connectors and may also be applied in printed circuit technique using dip soldering. Snap on Screw or solder terminal packed with each relay. Designed to meet U/L requirements. Size: 1-7/16" x 3" x 2-3/32" high above chassis. Mounting: One No. 8/32" stud ⅜" long. Weight: 7 oz. Contacts: All relays have DPDT silver rated 10 amps.

60 Cycle AC RELAYS			DC RELAYS		
6-24-115V		230V	6-12-24V		110V
TYPE	NET	NET	TYPE	NET	NET
ABC11A	$6.00	$6.40	ABC11D	$6.00	$6.10



PS Series

Extremely compact long life medium duty relay. Ideal for mobile communication, appliances and similar applications requiring 10 amp silver contacts. Solder type terminals. Mounting: Four No. 6/32 tapped holes on ½" x 1-5/16" centers. Weight: 4 oz. Contacts: All relays have DPDT silver rated 10 amperes.

60 Cycle AC RELAYS			DC RELAYS		
6, 24, 115V		230V	6-12-24V		110V
TYPE	NET	NET	TYPE	NET	NET
PS11A	$5.90	$6.30	PS11D	$5.50	$6.10

SP Series

Medium duty shock proof relays. General uses in industrial equipment, control circuits, transmitter keying circuits or any application requiring fast and positive operation and high resistance to shock and vibration. Size: 2-7/16" x 1⅝" x 1-21/32" high. Mounting: Two No. 6-32 tapped holes on 13/16" centers. Weight: 4 oz. Contacts: All relays have DPDT silver, rated at 5 amperes.

60 Cycle AC RELAYS		DC RELAYS	
6, 24, 115V		6, 12, 24V	
TYPE	NET	TYPE	NET
SP11A	$5.95	SP11D	$5.70

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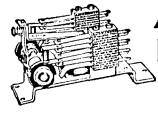
Potter & Brumfield RELAYS

SPECIAL PURPOSE RELAYS

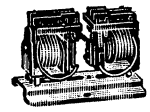
Listed on this page are a number of relays designed for specific types of applications. Each with enough variation in contact arrangement to meet a variety of specifications.



AP Series Rachet, Impulse

A reliable compact unit for applications requiring on-off or reversing action for successive operations of the control lead. Positive operation at all speeds on impulses as short as 20 MS. Phenolic cams and nylon wear resistant ratchet and pawl. Intermittent operation only. Size: 3-25/32" x 2-9/32" x 2-5/16" high. Mounting: Three 5/32" holes on 3⅜" x ⅞" triangular centers. Contacts: 2 and 4 pole fine silver, rated 5 amperes. Weight: 7 oz.

60 CYCLE AC RELAYS 6,12,24,115V			230V
TYPE	CONTACTS	NET	NET
AP11A*	DPDT	$7.90	$ 8.30
AP17A	4PDT	9.50	—
*No 12V AC			
DC RELAYS	6, 12, 24V		110V
AP11D	DPDT	$7.90	$ 8.50
AP17D	4PDT	9.50	10.10



KB Series Latching Relay

Both release and trip coils must be for the same voltage. One coil operates relay to set latch and other coil releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. Size: 2-15/16" x 1-25/32" x 2-3/32" high. Mounting: Two 5/32" holes on 1⅜" centers. Weight: 6 oz. Max. Contacts:- rated 5 amperes.

60 CYCLE AC RELAYS 6,12,24,115V			230V
TYPE	CONTACTS	NET	NET
KB17A	4PDT	$ 9.90	$10.70
KB23A*	6PDT	11.90	12.70
DC RELAYS	6, 12, 24V		110V
KB17D	4PDT	$ 9.00	$10.20
KB23D	6PDT	10.90	12.10

*No 12V AC

AF Series 400 Cycle Relay

Used in governmental or industrial experimental laboratories and aircraft applications requiring 400 cycle AC coil power. Size: 1⅜" x 1-9/16" x 1⅞". Mounting: Two No. 6/32 tapped holes on 7/16" centers. (Contacts:) DPDT Fine Silver rated 5 amperes.

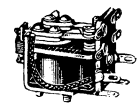
TYPE	COIL VOLTAGE	NET
AF11A	(115V 400 cycle coil)	$7.95

MS Series Motor Starting Relays

For hermetically sealed, explosion-proof or other capacitor start, induction-run motors. Operates on back EMF of running winding. Armature gap can be altered to change pull-in; 115-volt relay pulls in at 140 volts, releases at 40 volts; 230-volt relay pulls in at 255 volts, releases at 80 volts. Meets all Underwriter requirements. Dimensions: Mox. 2-1/16" x 2½" x 2⅛" high. Mounted: Two 5/32" dia. holes on 1-9/16" ctrs. Weight: 5 oz. Max.

Type MS2AY: SPST-NC (1 Form B) pure silver contacts for motors up to 1 HP.	
For 115V 60 cyc. motor	NET $3.25
For 230V 60 cyc. motor	3.65

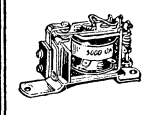
Type MS4AY: SPST-NC-DB (1 Form Y) silver cadmium oxide cont. for motors up to 3 HP.	
For 115V 60 cyc. motor	NET $3.75
For 230V 60 cyc. motor	4.15



KT Series Antenna Switching Relay

Glass base insulation for minimum RF losses to Switch 300 ohm line. Size: 1¼" x 15/16" x 1⅞". Mounting: 1 No. 6/62 stud. Weight: 1½ oz. Contacts: DPDT Fine Silver, rated 4 amperes.

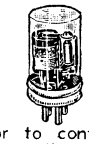
6-115V 60 Cycle AC		6-12V DC	
TYPE	NET	TYPE	NET
KT11A	$3.35	KT11D	$3.35



FR Series Photo Flash Relays

A special variation of the MR5 Relay contacts and insulation to handle photo flash surge currents without sticking or pitting. Intermittent duty coils for high repetitive accuracy. Size: 2-21/32" x 1-7/16" x 1⅝". Mounting: Two holes 5/32" dia. on 2⅝" centers. Weight: 3½ oz.

TYPE	CONTACTS	COIL VOLTAGE	NET
FR5A	SPDT	6 volts, AC	$3.60
FR5D	SPDT	2 volts, DC	3.60

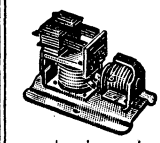


TR Series

Frequency selective relay used in remote control applications where several functions are to be controlled over one wire line or to control a function over a circuit normally used for other purposes. Size: 1-5/32" dia., 1-29/32" high above socket. Mounting: Plug in to fit cinch No. 11632 or equivalent socket is furnished. Weight: 1 oz. SPST/NO silver, Contacts: rated 50 MA at 60V DC Max. Suggested circuit packed with each relay.

TYPE	FREQUENCY	NET
*TR1D - 400 ohms	Adj. 90-170 cyc.	$6.40

*(An LB5 5000 ohm or similar relay for operation from the TR relay contacts is required to switch a control circuit.)

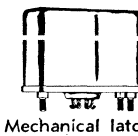


GC Series Overload Relay

Equipped with a 6 V 60 cycle AC reset coil and a 50 MA DC trip coil for overload protection of expensive tubes, instruments or other apparatus.
An externally mounted rheostat (not furnished) may be employed to remotely adjust the trip current over the range 100-1000 MA (see table) circuit and complete instructions packed with each relay. Weight: 6½ oz.

TYPE	Description	NET
GC11A	6 V AC reset coil	$6.50

Rheostat* ohms	Range M.A.	*Use 4 watt for intermittant duty and 25 watt for continuous duty.
200	100-400	
25	370-1000	



LK Series

Hermetically sealed latching relay. Fitted with glass insulated solder terminal header. Mechanical latch, electric release. Contacts: rated 5 amperes. Dimensions: 1-3/16" x 3-1/16" x 2-5/32" H. above chassis. Mounting: Three No. 8-32 studs on 2½" x ½" centers. Weight: 6½ oz.

60 Cycle AC RELAYS 115V		
TYPE	CONTACTS	NET
LK17AH	4PDT	$19.00
DC RELAYS 24V		
LK17DH	4PDT	$18.50

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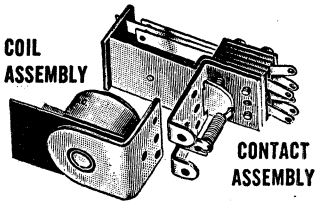
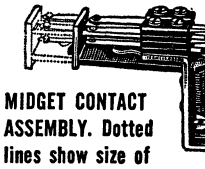
GUARDIAN® Industrial Controls

— Available Now from your Distributor —



SERIES 200 INTERCHANGEABLE

Coil and contact assemblies for building your own relays. Many possible combinations are available, covering most electrical and electronic applications. Select the two basic parts, a coil assembly and a contact switch assembly, from the listing below. The coil assembly consists of the coil and the field piece; the contact assembly consists of switch blades, armature, return spring and mounting bracket. Use contact switch parts to add poles. All contacts rated at 60 cycles A.C., non-inductive. Shipping weight, 4 oz., each unit. Standard contact assembly is 2⅞" long, 1¾" high, 1" wide. Midget assembly is 1⅝" long.



MIDGET CONTACT ASSEMBLY. Dotted lines show size of STANDARD unit.

CONTACT SWITCH ASSEMBLIES

	Net Price ea.
Type 200-1—Standard, SPDT, 8 Amps.	$1.33
Type 200-2—Standard, DPDT, 8 Amps.	1.81
Type 200-4—Standard, DPDT, 12.5 Amps	2.10
Type 200-5—Standard, 4PDT, 8 Amps.	3.28
Type 200-M1—Midget, SPDT, 8 Amps.	1.24
Type 200-M2—Midget, DPDT, 8 Amps.	1.63
Type 200-M5—Midget, 4PDT, 8 Amps.	2.70

A.C. COILS

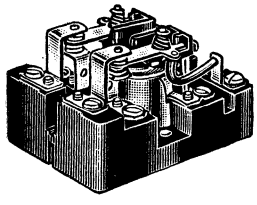
	Net Price ea.
6 Volts	$1.63
12 Volts	1.63
24 Volts	1.63
115 Volts	2.04
230 Volts	2.69

D.C. COILS

	Net Price ea.
6 Volts	$1.63
12 Volts	1.63
24 Volts	1.63
32 Volts	1.63
110 Volts	2.04
5000 for current type operation	2.10

Type 200-3. Contact switch parts for adding poles to types 200-1 and 200-2. Net ea. $1.34

Type 200-M3. Midget contact switch parts for adding poles to types 200-M1 and 200-M2. Net ea. $1.34

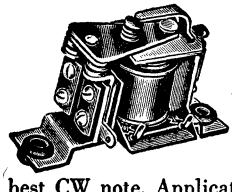


POWER RELAY

New 25 Ampere A.C. Relay has DPDT contacts and a variety of completely interchangeable coil assemblies. By removing two easily accessible screws, coil can be replaced by another, from 6 V. to 230 V., A.C. Unit has screw terminals; contacts rated 25 amps., cont. duty at 230 V., A.C. with 75% power factor. Operating power requirement, 9.5 VA. Coil drain, approx. .080 amps. Applications: motor starting, heater loads, heavy duty controls. Size, 3⅜" x 2½" x 2 3/16". Shpg. wt., 11.5 oz.

P-2200 (specify 6 V., 24 V., 115 V. or 230 V.) ..... **Net ea. $6.00**

Replacement Coils (specify 6 V., 24 V., 115 V., or 230 V.) ..... **Net ea. $2.05**

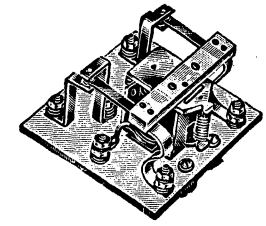


KEYING RELAY

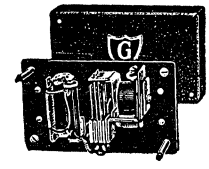
Low voltage relay controlling high voltage transmission. Unit will follow key or bug at highest WPM rate obtainable. High speed of response, plus strong magnet and return spring, gives clean "make" and "break," producing best CW note. Applications—Control of transmitters using filament center tap keying of any stage having up to 2000 volts on plate, primary keying or control of power supplies up to and including 1000 watts and grid controlled rectifier keying of 3000 volts power supplies. Contact points can handle 2500 watts or 20 amperes at 115 volts or 230 volts, 60 cycles, non-inductive AC Size, 3" l. x 1-15/16" h. x 1½" w. Shpg. wt., 4 oz.

K-320 6 volts, 60 cycles A.C. ..... **Net ea. $3.25**

ANTENNA RELAY



The A-300 Relay is designed for low loss antenna changeover operation. The straight line positioning of screw terminals and contact springs maintains equal spacing through the relay from transmission line to transmitter. This reduces impedance mismatch to a minimum. Silver contacts, low loss Mycalex insulation; Mycalex base, contact bar. Will withstand 3000 volts to ground. Coil operates on 110 volt, 60 cycles A.C. Consumes 7 V.A. Applications: Radio—used in circuits of any transmitter having up to 1 KW input power; Industrial—widely used for high frequency heat treating and short wave therapy control. Size, 3" l. x 2-1/16" h. x 3" w. Shpg. wt., 7 oz. **A-300** ..... **Net ea. $6.58**



TIME DELAY

Thermostatically controlled unit. Time delay adjustable between 10 and 60 seconds on operating cycle. Contact capacity, 1250 on 115 volts, 60 cycles, non-inductive A.C. Can also be used in A.C. primary, inductive power up to 1 KW. Single pole, single throw. Power requirements, approximately 12.5 VA. during thermostat operation, 6 VA. after closing. Applications: Radio—in transmitter circuits to prevent damage of rectifiers and tube filaments by application of plate current before filaments are sufficiently heated; Industrial—any control problem requiring the changing of circuits after a predetermined interval. Unit enclosed in metal box, size 5¼" l. x 2½" h. x 3" w. Shpg. wt., 8 oz.

T-210 ..... **Net ea. $9.33**

Engineer's CONTACT SWITCH KIT

Indispensable to those who design, build, repair or test electrical controls. Contains large assortment of switch blades, contacts, separators, adapters, fish papers, bushings, etc. All standard high-quality Guardian parts.

Engineer's Switch Kit ..... **Net ea. $9.95**

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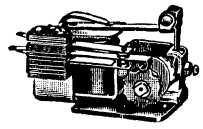
GUARDIAN® *Highest Quality*

RELAYS • SOLENOIDS • STEPPERS

RATCHET RELAYS



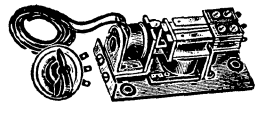
Remote control locking relays, momentary impulse type. Coil circuit requires energization only long enough to close armature; contacts lock automatically. Each impulse reverses position of contacts. Heavy ¼" silver contacts carry 1500 watts, non-inductive; 1000 watts, inductive. High test bakelite insulation. All ratings at 60 cycles A.C., non-inductive. Applications: Break-in control; phone to CW switching. Any circuit control where locking and on-off circuits are required. Size (SPST) 3¼" l. x 1⅞" h. x 2-3/16" w. Shpg. wt., 8 oz.

RC-100-AR	**4PST**	**115 volt**	**Net ea. $5.18**
RC-100-BR	**SPDT & DPST**	**115 volt**	**Net ea. 5.40**
RC-100-GR	**DPDT**	**115 volt**	**Net ea. 5.07**

MIDGET STEPPER

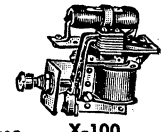
Mechanical lock of this Electrical Reset Stepper keeps the reset magnet open allowing the ratchet to reset freely on a slight electrical pulse of 10 ms. The stepping magnet releases the lock mechanism on the first step and the unit is ready for re-cycle. Disc has 24 points, 21 active. Rated up to 10 steps per second. Contacts "make" and "break" at 1 amp., 115 volts, 60 cycles A.C., non-inductive. Size, 3¼" l. x 2-3/16" h. x 3¼" w. Shpg. wt., 13 oz.

MS-115 ..... **Net ea. $11.07**



X-300-ER

OVERLOAD RELAYS



X-100

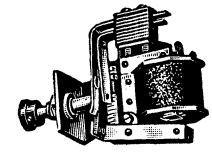
X-300-ER gives positive protection against current surges or continuous overloads when coil is used in series with high voltage plate supply leads. Relay contacts open to break primary circuit of high voltage power supply and remain open until reset. This model operates on any current value from 250 to 750 ma. Auxiliary contacts for pilot light indicate "overload" or "clear" position. Reset relay can be operated from any position. Applications—excellent for industrial panel installation for remote protection of machines and replacing fuses. Size, 4¾" l. x 1" h. x 1-15/16" w. Shpg. wt., 12 oz.

X-300-ER ..... **Net ea. $6.69**

X-100 relay replaces expensive, time-wasting fuses, provides flexible control of current flow. Large, fine silver contacts rated for 1500 watts on 115 volts, 60 cycles, non-inductive A.C. and in A.C. primary circuits of any inductive power supply up to 1 KW. Coil is adjustable to operate on any current flow from 250 to 650 mils. Applications: Overload protection in circuits with varying current demand, such as oscillators, amplifiers, induction welders and electronic computers. Size, 4" l. x 3½" h. x 2½" w. Shpg. wt., 12 oz.

X-100 ..... **Net ea. $10.30**

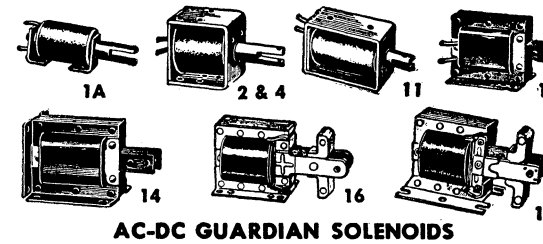
OVERLOAD RELAYS



These rugged units provide accurate, fixed circuit protection. Oversized silver contacts can take severe overloads without damage. Rated for 1500 watts on 115 volts, 60 cycles, A.C., non-inductive or 1 KW in A.C. primary circuits. L-250 is set to act at 250 ma. overload current; L-500 at 500 ma. overload. Applications: Radio—fixed overload protection against surges and overloads (where current values are constant, this removes possibility of accidental misadjustment); Industrial—wherever completely mechanical reset that has to be reset at point of operation is desired. Size, 3¾" l. x 1¾" h. x 2½" w. Shpg. wt., 11 oz.

L-250 ..... **Net ea. $7.76**

L-500 ..... **Net ea. 7.76**



AC-DC GUARDIAN SOLENOIDS

Available in both intermittent and continuous duty types. Intermittent types should not be energized for more than 5 consecutive minutes, or be permitted to rise more than 85° C. above 24° C. ambient rating without giving sufficient time to cool between operation cycles. Continuous duty types are designed so they will not rise more than 85° C. above the 24° C. ambient temperature rating when operated at rated load. Plunger has slotted end with ⅛" diameter hole for coupling. In chart, (I) indicates intermittent duty type, (C) indicates continuous duty type.

Type	Volts	Duty	Ohms	Amps.	Adj. Stroke (Inches)	Max. Lift (Ozs.) ⅛" Stroke	NET
Type 1A. Size: 1⅝ x 1⅛ x 1¾"							
1A	117 AC	I	300	.17	⅛— ½	8	$2.16
1A	117 AC	C	675	.076	⅛— ½	3	2.16
Type 2. Size: 1⅞ x 1⅝ x 1⅛"							
2	117 AC	I	60	.50	⅛— ⅞	27	2.52
2	117 AC	C	166	.155	⅛— ⅞	10.5	2.52
Type 4. Size: 1⅞ x 1⅝ x 2"							
4	117 AC	I	37	.64	⅛—1⅛	24	2.72
4	117 AC	C	133	14	⅛—1⅛	6	2.72
Type 11. Size: 1²⁷⁄₃₂ x 1⅜ x 1⅝"							
11	6 DC	C	3.54		⅛—1	21	2.68
11	24 DC	C	32		⅛—1	21	2.68
Type 12. 1⅜ x 1⅞ x 1⅝"							
12	117 AC	I	100	.27	⅛—1	32	3.37
12	117 AC	C	150	.155	⅛—1	22	3.37
Type 14. Size: 1⅞ x 2⅛ x 2⅞"							
14	117 AC	I	11	1.4	⅛—1½	110	4.88
14	117 AC	C	18	.52	⅛—1½	65	4.88
Type 16. Size: 1⅛ x 1⅝ x 1⅞"							
16	117 AC	I	41	.540	⅛— ⅝	80	3.03
16	117 AC	C	85.2	.21	⅛— ⅝	60	3.03
Type 18. Size: 1¹³⁄₁₆ x 2½ x 2⅛"							
18	117 AC	I	8.8	1.45	⅛—1	183	4.24
18	117 AC	C	19.7	.39	⅛—1	145	4.24

GUARDIAN ELECTRIC MANUFACTURING COMPANY

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LINE ELECTRIC RELAYS

NEWARK, N. J.

LR SERIES - Medium - Duty Power Relays

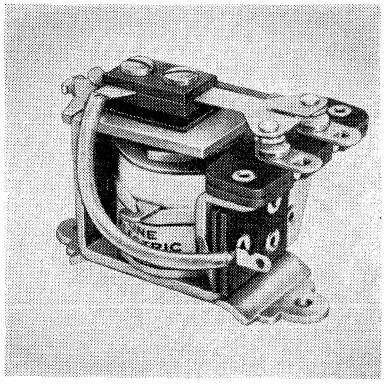
Dependability was built into this series of Relays through skillfull design, careful workmanship, the use of quality materials and thorough testing of the completed unit. These rugged relays can be applied to innumerable industrial control problems. They are used in lighting systems, signal devices, motor starting, heater loads, photographic applications, or any load circuit requiring fast positive switching of A.C. or D.C. power.

All coils are formvar wound, baked varnish impregnated for protection against mechanical and moisture damage.

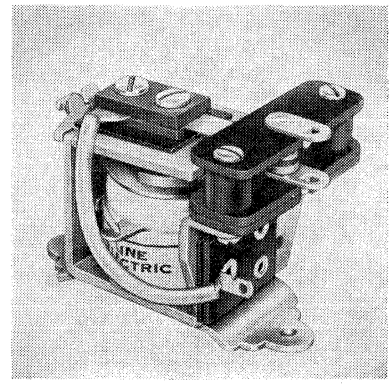
Pure silver contacts, ¼ inch diameter, rated at 10 amps. Rated 15 amps. on double break contacts. 115 volts 50-60 cycles, non-inductive load. Contact pressure, factory adjusted, minimum of 25 grams.

Dimensions: 2-3/8 L. 1-1/2 W. 1-11/116 H.

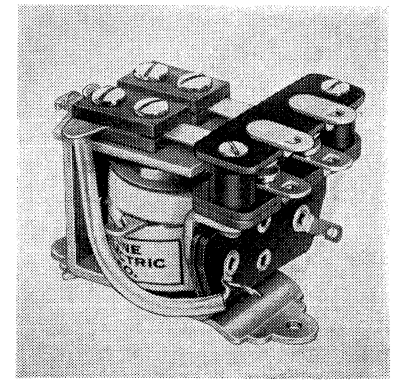
Mounting: 2, 6-32 tapped holes on 2" centers.



SPST — NO — DB



SPDT



DPDT

CONTACTS	A.C. RELAYS 6 - 12 - 24 - 115 - 230 Volts 50 - 60 Cy. TYPE	NET	D.C. RELAYS 6 - 12 - 24 - 115 Volts TYPE	NET
SPST - NO - DB	LRAX	$3.60	LRAY	$3.60
SPST - NO	LRBX	3.50	LRBY	3.50
SPDT	LRCX	3.75	LRCY	3.75
DPST - NO	LRDX	3.80	LRDY	3.80
DPDT	LREX	4.00	LREY	4.00
	Add 40 C. to above prices for 230 Volt Coil		Add 40 C. to above prices for 115 Volt Coil	

S = Single
D = Double
P = Pole

T = Throw
N = Normally
O = Open

C = Closed
B = Break

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PIC ELECTRIC COUNTERS

PRODUCTION INSTRUMENT COMPANY, Chicago 6.

PIC-600 ELECTRIC COUNTERS

Rugged, compact industrial type counters of medium size. Developed to give greater reliability and longer count life than heretofore obtainable in counters of their size and price range. Extensively used by manufacturers for a great range of factory application.

Fifty million count life, conservative rating. One thousand counts per minute (all counters are tested at this speed). Speeds to 1600 cpm obtainable with electronic actuation. Only 7 watts power consumption. Quiet operation—no AC hum when energized. Lubrication not required. Balanced armatures (for reliable performance on airborne equipment).

Dust-resistant tamper-proof housing—one-piece die-cast enclosure with close fitting cover secured with concealed screws. Operate in any position. Continuous duty coils—unharmed when current remains on. Large white figures on black number wheels. May be actuated by any type of switch, relay, photoelectric or other circuit breaking device that makes and breaks without chatter. Minimum "ON" time, .024 sec.; minimum "OFF" time, .036 sec.

MODELS AND PRICES

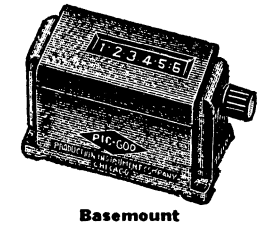
PIC-600 Basemount

Volts	Alternating Current 60 Cy.	40-50 Cy.	25 Cy.	Direct Current	Net Each
12	612A	612B	612C	612D	$18.50
24	624A	624B	624C	624D	18.50
30	630A	630B	630C	630D	18.50
48	648A	648B	648C	648D	18.50
115	6115A	6115B	6115C	6115D	18.50
150	6150A	6150B	6150C	6150D	18.50

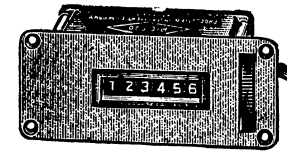
PIC-600 Panelmount

12	P612A	P612B	P612C	P612D	$19.00
24	P624A	P624B	P624C	P624D	19.00
30	P630A	P630B	P630C	P630D	19.00
48	P648A	P648B	P648C	P648D	19.00
115	P6115A	P6115B	P6115C	P6115D	19.00
150	P6150A	P6150B	P6150C	P6150D	19.00

For actuation by a photoelectric relay, please specify (a) make and model of photoelectric unit, (b) voltage and (c) AC or DC. For plate circuit actuation please send make and number of electronic tube, also information about the circuit.



Basemount



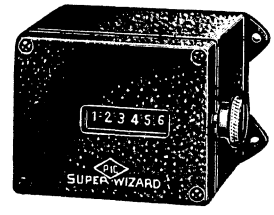
Panelmount

PIC SUPER-WIZARD ELECTRIC COUNTERS

The outstanding leader in reliability and long life for more than a quarter century. The most economical electric counter for long run counting. Purchase cost only 18c per million counts; less than half the cost with other electric counters.

Eliminates interruptions and delays caused by frequent breakdown and replacement of short-lived counters. Reduces maintenance—man-hours lost in inspecting, repairing and replacing short-lived counters are saved.

Increases accuracy—undetected miscounts that creep in when short-lived counters become worn are avoided.



Dustproof

Panelmount

Basemount

Two hundred million count life.
One thousand cpm—speeds to 1600 cpm with direct electronic actuation.
Five Watts Input—May be operated in the plate circuit of photoelectric or other electronic tubes.
Balanced Armatures—for reliable operation on airborne equipment.
Continuous Duty Coils—Unharmed when current remains on.
Large white figures on black wheels.
Attractive, light gray wrinkle finish.
May be actuated by any type of switch, relay, photoelectric unit or other circuit breaking device that opens and closes without chatter. Minimum "ON" time, .024 second; minimum "OFF" time, .036 second.
In ordering for actuation by a photoelectric relay please specify (a) make and model of photoelectric unit; (b) voltage and (c), AC or DC.
Actuation in the plate circuit of electronic tubes avoids maintenance of contact points and permits speeds to 1600 counts per minute.
In ordering for plate circuit actuation please furnish make and number of the electronic tube, also complete information about the circuit.

Basemount Models. Counter mechanism with all operating parts enclosed mounted on a base of molded bakelite. Used on individual machines such as punch presses, folding machines, etc.

Dustproof Enclosed Models. Has case of diecast aluminum with cement-sealed plastic window and gasket-sealed cover. Widely used for industrial applications. Also furnished with small built-in heating element to prevent condensation inside the case where dampness and temperature change are excessive. To order add letter "H" to model number and $3.00 to price.

Panelmount Models. Have plate for mounting on instrument panel or other flat surface. May be wired and installed from the front. Widely used for built-in application on instruments and machines; also for centralized counting installations. Dustproof cabinets for group mounting of panelmount models available. Send for catalog.

Basemount

Volts	Cy.	6-Digit Models Model	Net	4-Digit Models Model	Net
115	60	ECS-9	$38.50	ECS-94	$36.50
230	60	ECS-10	38.50	ECS-104	36.50
115	DC	ECS-7	38.50	ECS-74	36.50
230	DC	ECS-8	38.50	ECS-84	36.50

Dustproof Enclosed

115	60	DP1A-ECS9	47.25	DP1A-ECS94	$45.25
230	60	DP1A-ECS10	47.25	DP1A-ECS104	45.25
115	DC	DP1A-ECS7	47.25	DP1A-ECS74	45.25
230	DC	DP1A-ECS8	47.25	DP1A-ECS84	45.25

Panelmount

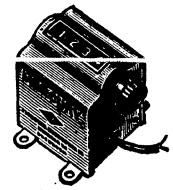
115	60	PECS-9	$38.50	PECS-94	$36.50
230	60	PECS-10	38.50	PECS-104	36.50
115	DC	PECS-7	38.50	PECS-74	36.50
230	DC	PECS-8	38.50	PECS-84	36.50

Available for 12, 24, and 48 volts, 60 cycles; for 115 and 230 volts, 25, 40, or 50 cycles; and for 6, 12, 16, 24, 30, 48, 64, 80, 90, 100 and 150 volts, DC, at above prices. To order specify 6 or 4 digit; basemount, dustproof enclosed or panelmount; voltage; AC cycles or DC.

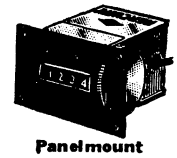
PIC MERCURY RESET COUNTERS

Four-digit, reset counters, small, compact, dependable for built-in service on office, laboratory, coin-operated and industrial equipment where counting duty is light to moderately heavy.

Six million count life. Tested at 600 counts per minute. Operates at higher speeds with electronic actuation. Approx. 3 watts power consumption. Completely enclosed in tight fitting case with plastic window closure. Operate in any position. Large white figures on black number wheels. Actuated by any type of switch, relay or photoelectric unit giving a minimum closed period of .040 second and a minimum open period of .060 second. Also operable in plate circuit of electronic tubes.



Basemount



Panelmount

MDA-S4-115A—Basemount, 116 v., 60 cycles. Net Each..... **$11.50**

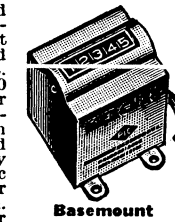
MDA-S4-115D—Basemount, 115 v., DC. Net Each..... **$11.50**

MDB-S4-115A—Panelmount, 115 v., 60 cycles. Net Each..... **$13.50**

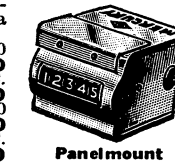
MDB-S4-115D—Panelmount, 115 v., DC. Net Each..... **$13.50**

PIC MERCURY NON-RESET COUNTERS

Five-digit non-reset (count to 99,999 and repeat). Extensively used on coin-operated, office and laboratory equipment where reset to zero is not required and where counting duty is moderately light. Three million count life. Tested at 600 counts per minute. Operate at higher speeds with electronic actuation. Tamper-proof construction—cover clinches through bottom of frame and cannot be removed without dismantling counter. Completely enclosed in tight fitting case with plastic window closure. Only three watts power consumption. Operate in any position. Large white figures on black number wheels. Actuated by any type of switch, relay or photoelectric unit giving a minimum closed period of .040 second and a minimum open period of .060 second.



Basemount



Panelmount

MEA-N5-115A—Basemount, 115 v., 60 cycles. Net..... **$5.00**

MEA-N5-115D—Basemount, 115 v., DC. Net..... **$5.00**

MEB-N5-115A—Panelmount, 115 v., 60 cycles. Net..... **$5.40**

MEB-N5-115D—Panelmount, 115 v., DC. Net..... **$5.40**

SEND FOR CATALOG

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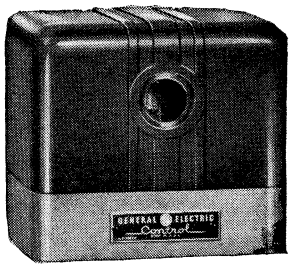
Net

PHOTOELECTRIC RELAYS AND ACCESSORIES

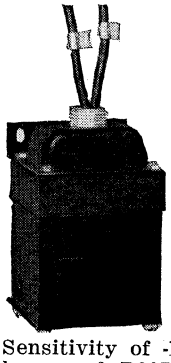


CR7505-K100G3 Relay

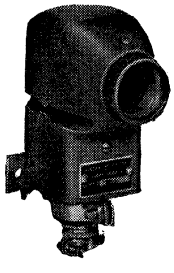
The CR7505-K100G3 photoelectric relay and accessories provide a complete line of inexpensive, but thoroughly reliable, apparatus for general-purpose indoor applications which include counting, diverting, controlling, signaling, limiting, and protecting. Underwriters' Laboratories listed.

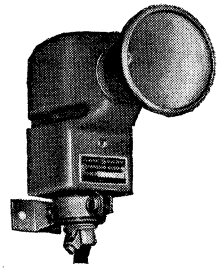
The CR7505-K100G3 includes phototube and thyratron, has a contact rating of 10 amp a-c, may be used to start f-hp motors directly, and can operate all motor starters up to and including NEMA Size 4.

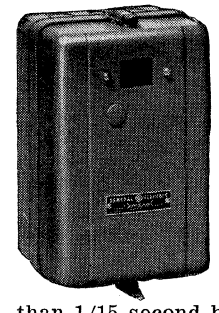
Accessories for Use with -K100G3



Model No. 9T53Y8025 light-source transformer, rated 115 volts, 50/60 cycles, primary; 4.8 volts secondary; lens-barrel assembly CR7505-B207G1, 3 in. in diameter, for mounting directly on relay; two light sources, -C201G1 with 1½-in. lens and -C203G1 with 3-in. lens; two phototube holders with six feet of special phototube cable and a plug for connecting to tube socket in the relay, -P211G1 with 1½-in. lens, and the -P212G1 with 3-in. lens. With 1½-in. lens, maximum operating distance is 12 ft; with 3-in. lens, maximum operating distance is 30 ft. Sensitivity of -K100G3 may be increased five times by use of -B207G1 lens-barrel assembly.





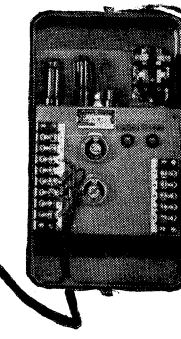


CR7505-K201, -K202 Relays

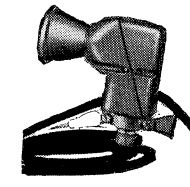
These photoelectric relays will perform the same type of functions as the -K100 with greater speed and sensitivity. These relays operate on either light increase or decrease, depending on connections. The relays will operate from light flashes on interruption of 1/15 second between impulses, with not less than 1/15 second between flashes. The d-c phototube circuit permits remote location of phototube with no loss in sensitivity.

CR7505-N210, -N211, -N212 Relays

These three relays are similar in circuit design and are especially adapted for photoelectric applications where a device must respond to rapid light changes or high operating rates.



A time-delay feature, adjustable up to ½ second by means of a potentiometer dial, is provided to delay the dropout of the magnetic delay in cases where the relay would be energized for such a short time that the period would not be sufficient to perform the external control operation desired.



The relays will respond to light changes as small as ½ foot-candle, providing there is sufficient light on the phototube.

Separate phototube holders are required for these units.

Maximum Distance between Light Source and Phototube, Feet	Maximum Operating Rate per Min	Type of Relay Contacts	Minimum Light Level to Operate Relay, Foot-candles*	Nominal Voltage	Line Frequency	Self-contained Phototube	Enclosure, NEMA Type	Minimum Required Duration Light Change (Seconds)	Volt-amperes Required (Excluding Light Source)	Nomenclature, CR 7505-
30	150	DPDT	40 fc	115	50/60	Yes†	I	0.2	10	K100
70	450	DPDT	2 fc	115/230	50/60	Yes†	III/V	0.07	10	K201
70	450	DPDT	2 fc	115/230	50/60	Yes†	IV or VII	0.07	10	K202
210	600	DPDT	1 fc	115/230	50/60	No	III/V	0.001‡	60	N210
210	600	DPDT	1 fc	115/230	25/50/60	No	IV or VII	0.001‡	60	N211
210	600	DPDT	1 fc	115/230	25	No	III/V	0.001‡	60	N212

*Light level measured in foot-candles at the phototube lens with a standard light meter, with entire lens illuminated. †May use separate phototube holder. ‡Relay will respond 0.015 sec after light change. Internal timing circuit permits operation on pulses as short as 0.001 sec and may be adjusted to keep relay energized up to 0.5 sec.

NEMA ENCLOSURE TYPES: I—Protection only, III—Weather-resistant, IV—Watertight, V—Dust-tight, VII—Explosion-proof.

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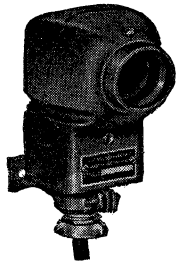
ELECTRONIC TIMERS AND DEVICES

Photoelectric Accessories for Use with -K201 and -N210 Series

The light sources are of die-cast aluminum construction. The -C201G1 light source has a 1½-in. lens, focusable from 2 feet to infinity. The -C202G1 has a double lens for short focus, for a concentrated spot approximately ¼ in. in diameter at a distance of 2½ - 4 in. in front of the lens. The -C203G1 light source has a 3-in. lens, with high-intensity beam for long-distance operation. The -C201G2, -C202G2, and -C203G2 are identical in operation with the G1 group, but have rubber gaskets between the front and back covers which makes them weather-resistant and dust-tight in accordance with NEMA Standards.

4.8 volts is required for all the above light sources and the following transformers are recommended:

Light-source transformers. The 9T53Y8047 is enclosed in a conduit box with knockouts for conduit connections. It is rated 115/230 volts, 50/60 cycles. The 9T53Y8036 is of open-type construction, but has same rating as 9T53Y8047. The 9T53Y8058 for 25/50/60 cycles is of weather-resistant construction; except for size and type of construction, rating is identical with 9T53Y8047.

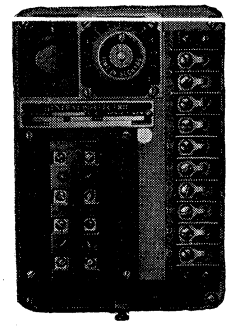


The -C208 light source is explosion-proof and can be made watertight by applying a rubber gasket which is furnished. It has a 3-in. lens and a self-contained step-down transformer for 115/230-volt operation.

The **phototube holders** are similar in construction to the light sources. The -P202G2 has a 1½-in. lens and the -P203G2 has a 3-in. lens. Both come with a 9-ft phototube cable with spade terminals.

CR7504-A142 Electronic Timer

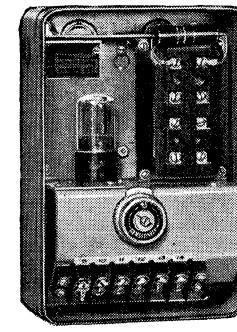
The -A142 timer is for timing applications of short time duration (-A142G1, 0.06 to 1.2 sec; -A142G2, 0.6 to 12 sec; and -A142G3, 6 to 120 sec) where long life, low maintenance, and high repetitive accuracy is required.



The -A142 has double-pole, double-throw contacts; can be used to start f-hp motors directly. Time-range dials read directly in seconds.

Two different types of operation available; immediate-start for timing operations or delayed-start for providing a time delay. Power supply, 115/230 volts, 50/60 cycles; power consumption, 15 watts.

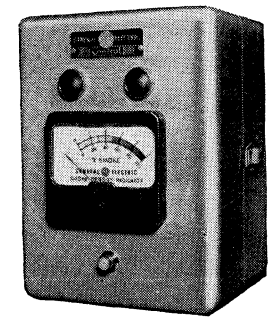
CR7511-A126 Resistance-sensitive Relay



This relay is used to obtain a reliable contact from the touch of two conductors through which only small currents flow. It will operate motors, lights, contactors, and solenoids whenever there is sufficient change in the resistance of a circuit, including liquid-level-control applications. In this way, large amounts of power can be controlled from a low-current high-resistance input.

It has 10-amp a-c contact rating, two single-pole, double-throw, contacts for controlling two independent circuits. Enclosure is weather-resistant and dust-tight.

CR7505-R201G1 Smoke-density Indicator



This control and associated equipment can be used to indicate smoke density, gas density, or the density of any fluid where density is directly related to the light transmission through the fluid. It can be used to warn furnace operators of excessive smoke conditions, to turn on blowers or relevant equipment at any smoke-density level, and when used with a suitable recorder, a continuous permanent record of smoke density is always available.

The indicator has a semi-dust-tight enclosure (NEMA Type 1A) and an industrial-type relay, 45 amp make-break and 10 amp carry, at 115 or 230 volts, a-c. Simple calibration adjustments are made with four locking-type knobs on the panel, while indicating lights and a smoke-density instrument are on the front cover of a panel.

For complete information, consult your nearest G-E Apparatus Sales Office or Distributor, or write direct to Section 640-443, General Electric Company, Schenectady 5, New York.

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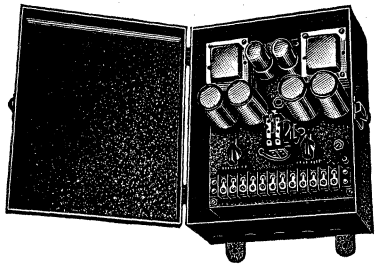
ELECTRONICALLY OPERATED RELAYS MODEL 63



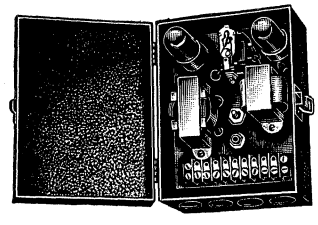
Especially designed for use with a correct combination of the standardized Worner Photo-Cell and Exciter Lamp units shown at right. However, this Electronically Operated Relay will operate also from light sources such as daylight, artificial lights, radiant energy from metallic processing, etc.

Model 63 Electronically Operated Relay is a specially engineered, highest quality unit. It enjoys wide preference as it efficiently meets exacting requirements and replaces the need of costly individually engineered equipment. Technical details on request.

ELECTRONICALLY OPERATED RELAYS

	Price, Each
Model 63, Described Above	$125.00
Model 63-A, combines Model 63 and Time Delay Circuit giving delay from zero to 45 seconds	$150.00
Model 63-B, same as Model 63 with additional amplification to operate on less active change of light	$150.00

ELECTRONICALLY OPERATED RELAY MODEL 64



An economical unit for practically any industrial application where cost is a factor. Designed for use with a combination of standardized Worner Photo-Cell and Exciter Lamp units shown at right.

Model 64 Electronically Operated Relay....each **$81.60**

EXCITER LAMP & PHOTO-CELL RECEIVER UNITS

For Use With Models 63, 63-A, 63-B and 64 Electronically Operated Relays

Model 33

Model 23

Model 31

Model 21

The Exciter Lamp unit is designed to project the light beam and the Photo-Cell Receiver is designed to pick up the beam and convert its light into electrical energy through the Electronically Operated Relay unit.

Model 33 Exciter Lamp is "standard" for general applications and is most generally recommended. Its light beam covers a distance from a few inches to 10 feet from Exciter Lamp to Photo-Cell. Heavy duty cast iron unit with ½-inch conduit fittings. Gray finish.

Model 23 Photo-Cell Receiver is engineered for use with Model 33 Exciter Lamp. Same case specifications.

For use in damp surroundings, Models 33 and 23 can be made moisture-proof at slight additional cost.

Model 31 Exciter Lamp is "standard" where a lighter weight case is practical. Its light beam covers a distance from a few inches to 15 feet from Exciter Lamp to Photo-Cell. Case is 18 gauge steel, gray wrinkle finish. Has ½-inch knockout.

Model 21 Photo-Cell Receiver is engineered for use with Model 31 Exciter Lamp. Same case specifications.

Model No.	Description	Size, Inches	Price, Each
33	Exciter Lamp	4¼ x 2¾ x 2¾	$19.20
23	Photo-Cell Receiver	4¼ x 2¾ x 2¾	24.60
31	Exciter Lamp	6⅝ x 2 x 1¾	13.20
21	Photo-Cell Receiver	6⅝ x 2 x 1¾	19.00

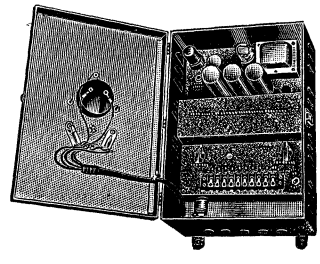
FOTOLECTRIC COMBUSTION SUPERVISOR

A three-piece set: consisting of Exciter Lamp, Photo-cell Receiver and a choice of three Electronically Operated Relay units. Operates on the smoke detection principle. Dependably sets into operation the controls that maintain combustion efficiency.

MODEL 71A. Used as alarm, and to actuate combustion control equipment.

MODEL 71B. Has input time delay to prevent needless operation from voltage drop, etc.

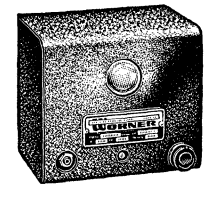
MODEL 71C. Same as 71B plus additional time delay holding circuit.



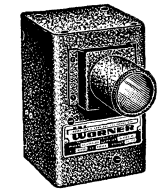
FOTOLECTRIC FIRE PROTECTION

The Worner Fan Motor Stop installed on ventilating ducts detects smoke, gives alarm, stops fan to prevent fan-driven fire to a succession of outbreaks. Approved by Underwriters Laboratories. Write for Bulletin 650.

MODEL 62 R & L ELECTRONICALLY OPERATED RELAY AND EXCITER LAMP SET



Model 62-R Electronically Operated Relay



Model 62-L Exciter Lamp

This "two-unit" set has specially designed Exciter Lamp Unit and an Electronically Operated Relay unit that includes the Photo-Cell Receiver, Relay and other electrical components. This combination has proved efficient for countless simple applications for distances from a few inches to 75 feet or where Relay is not required to operate in excess of 300 times a minute. Supervises efficiently on simple applications such as: Counting or sorting large objects; limit switches; start and stop operations; opening doors, etc.

Model 62 R & L "Two-Unit Set".....per set **$92.00**
Model 62-R Electronically Operated Relay..each **76.80**
Model 62-L Exciter Lamp.....each **25.20**

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FOTOLECTRIC BURGLAR ALARM SYSTEMS

An invisible light beam is projected by the Exciter Lamp to the Photo-cell contained in the Electronically Operated Relay. These two units constitute the "Fotolectric Set." These units are illustrated below.

MODEL 9000 SERIES The Worner Master Control System consists of a Master Control Panel used in combination with 1, 2, 3, or 4 Fotolectric Sets. Operates alarms the user installs. May be used with foil systems, etc. Sets off alarm if wiring of Fotolectric Set is tampered with.

Model 9000-R Master Control Panel prevents false alarm if power fluctuates 5 volts or more. If power fails completely, the unit automatically resets supervision when power is restored.

Relays controlled by a key-switch. For 110-120 V. Panels are supplied with plate relays for the number of Fotolectric Sets ordered. Should Fotolectric Sets be added later, plate relays are supplied with Fotolectric Sets ordered. **9000-R** Master Control Panel..ea. **$74.00**

Sets for 150', 250', and 500' have unwanted light rejector which increases day-light range. Ranges listed are for infra-red light.

Model No.	Fotolectric Set	Range	Per Set
9100	Master Trespass Trap.....	100 ft.	$ 94.00
9150	Master Trespass Trap.....	150 ft.	114.00
9250	Master Trespass Trap.....	250 ft.	145.00
9500	Master Trespass Trap.....	500 ft.	195.00

MODEL 7000 SERIES operates with burglar alarm company's central office control, police signal or local alarm. The Relay may be connected either in series or parallel to meet circuit requirements. One or more Fotolectric Sets (illustrated below) can be used and can be operated by an existing control panel. Can be used with foil systems, etc. For 110-120V or 24V.

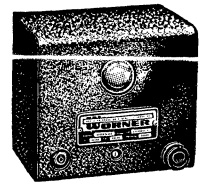
Model No.	Fotolectric Set	Range	Per Set
7100	Remote Cont. Trespass Trap..	100 ft.	$ 94.00
7150	Remote Cont. Trespass Trap..	150 ft.	114.00
7250	Remote Cont. Trespass Trap..	250 ft.	145.00
7500	Remote Cont. Trespass Trap..	500 ft.	195.00

MODEL 5000 SERIES for 100' range and 150' range for interior use where a single beam is ample protection. Not intended for use with foil systems, etc. The Electronically Operated Relays of this series are equipped with lock and key. 110V. Illustrated below.

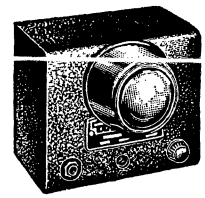
Model No.	Fotolectric Set	Range	Per Set
5100	Single Beam Trespass Trap....	100 ft.	$ 98.00
5150	Single Beam Trespass Trap....	150 ft.	118.00

FOTOLECTRIC SETS FOR ABOVE SYSTEMS

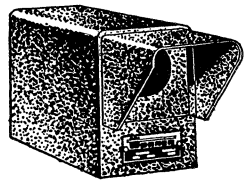
Exciter Lamp. For 100' and 150' range.



Electronically Operated Relay for 100 ft. Range.

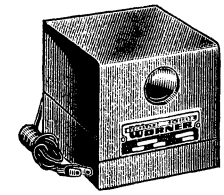


Electronically Operated Relay for 150 ft. Range.



Exciter Lamps and Electronically Operated Relays for 250' and 500' ranges are externally the same and are weatherproof.

THE TWO-UNIT WORNER WATCHMAN



Operation is activated by the interruption of an "invisible" light beam as the Exciter Lamp is equipped with removable infra-red filter. Range up to 35 feet for black light, 50 feet for white light.

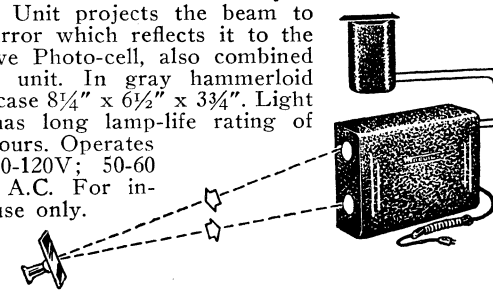
The Electronically Operated Relay combines Photocell and electrical components. Equipped with toggle switch for either continuous alarm or to sound only while light beam is broken. Has extraneous light rejector to maintain daylight range. Two-piece case construction enables removal of cover for easy installation; also for accessibility to interior without unmounting. Identical cases 5" x 5" x 5½" welded steel, mahogany hammerloid finish. For indoor use; 110-120V. 60 cycle A.C.

MODEL 4000 Two-Unit Watchmen.....per set **$64.00**

THE ELECTRONIC RECEPTIONIST

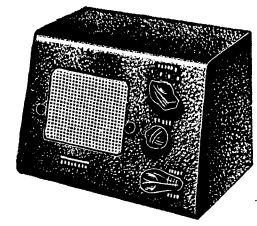
This complete three-piece set is designed to project a beam of light across any entrance to any room or building. Breaking of this light beam by person entering activates a pleasant chime, which can be located remotely wherever the signal is desired.

The unit has efficient grid controlled rectifier circuit which insures maximum stability. The Exciter Lamp in the Unit projects the beam to the mirror which reflects it to the sensitive Photo-cell, also combined in the unit. In gray hammerloid metal case 8¼" x 6½" x 3¾". Light bulb has long lamp-life rating of 1000 hours. Operates on 110-120V; 50-60 cycle, A.C. For indoor use only.

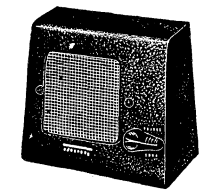


MODEL 61 Fotolectric Announcer, three-piece set including Unit, Mirror and Chime.....Set, each **$38.80**

WORNER COMMUNICATING SYSTEMS



Models P-359, P-353



Model P-360

All units operate up to 2000 feet apart. Persons at Sub-stations may answer without leaving work, from as far away as 25 feet. "Silent feature" shuts out noise in vicinity at Station. 110-120, A.C. or D.C. — Metal cabinets, hammered walnut lacquer finish.

MODEL P-359 Selective Master Station. Handles 1 to 5 Sub-stations. Contains 5-inch speaker for maximum input without talking directly into unit. Size 9 x 6¼ x 6 in. .....each **$34.75**

MODEL P-353 Combination Master Station. 2 to 5 units may be used, in any combination of Masters to Masters, or Masters to Sub-stations. 5-inch speaker. each **$47.50**

MODEL P-360 Sub-station. Has 5-inch speaker. Talk-listen switch used by Sub to originate call. Size: 7½ x 4 x 6 in. .....each **$11.50**

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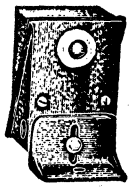
Prices slightly higher West of Rockies

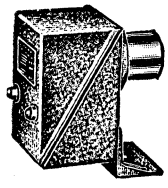
AUTOTRON Photoelectric Controls

The AUTOTRON Co. DANVILLE, ILL.



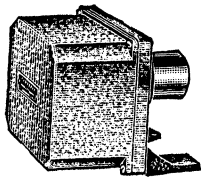
S SERIES PHOTOELECTRIC CONTROLS

Rugged, industrial quality controls preadjusted for use with 100% light beam interruption. Used for counting and control applications where phototube dark time and phototube light time each is .060 second or more.
Plate Relay: Energized when light beam is interrupted. Contacts SPDT, rated 5 amps. at 115 v., AC, noninductive load.
Splashpr of cast aluminum case with adjustable mounting bracket, tapped for ½" conduit. Power consumption 10 watts.



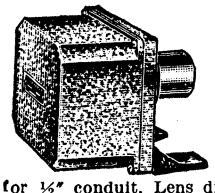
S1A Photoelectric Control—Requires 20 foot-candle minimum light. Lens diameter ¾". 115/230 v. 50-60 cycles. Net Each. **$38.75**
S1AR—S1A with built-in Safety Relay*. 115 or 230 v. 50-60cycles (specify). Net. **$50.75**
S2A Photoelectric Control—Requires 10 foot-candles minimum light. Lens diameter 1½". 115/230 v., 50-60 cycles. Net Each. **$45.00**
S2AR—S2A with built-in Safety Relay*. 115 or 230 v., 50-60 cycles (specify). Net **$57.00**

F SERIES PHOTOELECTRIC CONTROLS



"Fail Safe", sensitive, high speed. Widely used where "safe" relay action is required in case of tube failure, where light change is limited, and where phototube dark time or light time is short. Special, quick response DC circuit permits speeds to 1200 operations (cycles) per minute. Sensitivity adjustment inside case inhibits tampering. Shaftlock secures setting.
Minimum light, 5 foot-candles. Minimum phototube dark time, .025 second; minimum phototube light time, .025 second.
Plate Relay: Contacts DPDT, rated 8 amps. at 115 v., AC, noninductive load. Splashproof cast aluminum case tapped for ½" conduit. Rigid mounting feet. Lens dia. 1½". 115/230 v. 50-60 cycles. Power consumption, 20 watts.
F1A Photoelectric Control.# Plate Relay energizes when the light beam is on the phototube and all tubes are operating. De-energizes when light beam is interrupted, when a tube filament fails or any tube loses emission.
Used where the phototube normally sees light, such as high level bin control, travel-limit, SAFETY controls, combustion controls, smoke detection, and for repetitive type applications. **$67.50**
Net Each.....
F1ARW#—F1A with built-in SAFETY RELAY and warm-up protection† (prevents operation before tubes warm-up).
Net Each..... **$79.50**
F2A Photoelectric Control#. Plate Relay energizes when the light beam is interrupted. De-energizes when the light beam is on the phototube, when a tube filament fails or the power or rectifier tube loses emission.
Used for counting, or where the phototube is normally dark, such as web breakage detection, low level bin control, certain types of die protection. Net Each..... **$67.50**
F2ARW#—F2A with built-in Safety Relay and warm-up protection. Net Each..... **$79.50**

T SERIES TIMING CONTROLS



For photoelectric Control applications requiring delayed plate relay response to light change, such as conveyor jam-up, merging conveyors, paint spraying, processing and counting where phototube dark time or light time is too short.

Plate Relay: Contacts DPDT, rated 8 amps. at 115 v., AC, noninductive load. Time delay adjustment has shaft lock to secure setting.

Splashproof cast aluminum case tapped for ½" conduit. Lens diameter 1½". 115/230 v., 50-60 cycles. Power consumption, 20 watts.
T2A Photoelectric Timing Control: Plate relay energizes when light is on the phototube, de-energizes when the light beam is interrupted and the timing period expires. Timing accuracy 3%. Minimum light, 20 foot-candles.

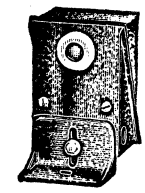
Adjustable Timing Ranges (specify)	Minimum Phototube Light Time
No. 1. .25 to 3 seconds	.25 second
No. 2. 1.25 to 10 seconds	.5 second
No. 3. 3.0 to 20 seconds	1.0 second

T2A Photoelectric Timing Control#— **$72.50**
Net Each.....
T2ARW#—T2A with SAFETY Relay and warm-up protection†. Net Each..... **$84.50**
T3A Photoelectric Timing Control. Plate relay energizes when light is on the phototube and timing period expires. De-energizes when the light beam is interrupted. Timing accuracy, 2%. Minimum light, 10 foot candles.

Adjustable Timing Ranges (specify)			
No. 0.1	.03 second	to	0.1 second
No. 0.5	.25 second	to	8.0 seconds
No. 1.	.5 second	to	15 seconds
No. 2.	1 second	to	30 seconds
No. 3.	5 seconds	to	10 minutes

T3A Photoelectric Timing Control#— **$72.50**
Net Each.....
T3AR, T3A with Safety Relay*#—Net Each..... **$84.50**

L1A LIGHT SOURCE



Has ¾" OD straight, fixed beam conservatively rated as follows—

Foot-Candles	20	10	5	2
Distance in feet	8	12	15	18

Dustproof, cast aluminum case. Adjustable bracket. Tapped for ½" conduit. 115/230 v., 50-60 cycles.

Model	Features	Net
L1A	Light Source only	$14.30
L1AY	Y feature (beam int. adj.‡)	21.80
L1AR	R feature (safety relay**)	26.30
L1ARY	R and Y features	33.80

L2A LIGHT SOURCE

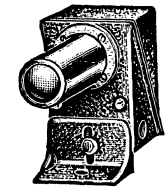
Has 1½" OD straight, fixed beam conservatively rated as follows—

Foot-Candles	20	10	5	2
Distance in feet	13	20	30	45

Splashproof, cast aluminum case. Adjustable bracket. Tapped for ½" conduit. 115/230 v., 50-60 cycles.

Model	Features	Net
L2A	Light Source only	$21.80
L2AY	Y feature (beam int. adj.‡)	29.30
L2AR	R feature (safety relay**)	33.80
L2ARY	R and Y features	41.30

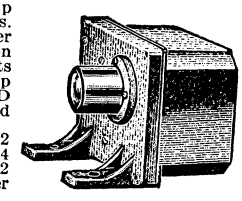
L3A ADJUSTABLE FOCUS LIGHT SOURCE



Light beam adjustable from a minimum focal length of 4¾" and corresponding focal size of 1/16" x ¼" to a straight light beam of 1½" OD. Light input at twice the focal distance exceeds 30 foot-candles.
Increasing the focal length increases the focal size. For example, at 6" focal length the focal size is ½" x 3/16"; at 9" focal length the focal size is 1/8" x 3/8" and at 12" focal length the focal size is 1½" (straight light beam).
Splashproof, cast alum. case; adjustable bracket, tapped for ½" conduit. 115/230 v., 50-60 cycles.

Model	Features	Net
L3A	Light Source only	$29.30
L3AY	Y feature (beam int. adj.‡)	36.80
L3AR	R feature (safety relay**)	41.30
L3ARY	R and Y features	48.80

L4 DUAL FILAMENT LIGHT SOURCE

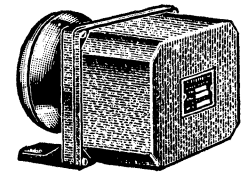


Has a prefocused two-filament lamp for protection against shutdowns. When one filament fails, the other "comes on" automatically—operation is not interrupted—and a signal lights up in the case, indicating the lamp should be replaced. Has 1½" OD straight, fixed beam, with normal and low voltage connections.

Foot-Candles	20	10	5	2
Distance in feet–Normal	7	12	17	24
–Low*	2	4	6	12

*Used at short distances to further increase lamp and tube life.
Splashproof, cast alum. case; rigid mounting, tapped for ½" conduit. 115/230 v., 50-60 cycles. **$49.50**
L4 Dual Filament Light Source—Net Each.....

L6 HIGH INTENSITY LIGHT SOURCE



Developed for extremely adverse conditions such as steam, vapor, fog, heavy rainfall and other applications where extra light intensity is needed.
Has high intensity spot beam with normal and low voltage connections affording two foot-candle-distance ratings as follows:

Foot-Candles	20	10	5	2
Distance in ft.–Normal	30	42	57	85
–Low	18	25	31	40

The lamp assembly is swivel-mounted in the case for convenient directional adjustment of the beam.
The lamp is a No. 4515 sealed-beam spot; average life, 3000 hours at normal 10,000 hours at low voltage, replacement cost, $1.95. Case is splashproof, cast aluminum; rigid mounting, tapped for ½" conduit. 115/230 v., 50-60 cycles, standard. **$36.00**
L6 High Intensity Light Source—Net Each.....

FOOTNOTES

*The Safety Relay may be used to control a machine, operate a signal or other safety circuit when a tube filament burns out. Energizes when power comes on the photoelectric control; de-energizes when power goes off or a tube fails. Contacts are SPDT, rated at 5 amperes, 115 v. AC, noninductive load.
†The Safety Relay with warm-up protection **energizes after the photoelectric control tubes warm up to operating temperature.** Otherwise same as 1 above.
#Available with built-in heating element at $7.50 extra. Heats inside case during shut down periods. Used where humidity and temperature change are excessive.
‡Safety Relay energizes when the lamp comes on, de-energizes when the lamp fails or goes off. Otherwise same as * above.
**Has a built-in adjustable resistor. Permits adjustment to minimum intensity required for reliable operation—thus prolonging life of tube and lamp.

SEND FOR CATALOG

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Superior . . . RIPLEY COMPANY, INC. RIPLEY ESTABLISHED 1936 through Research MIDDLETOWN, CONN.

ELECTRONIC CONTROLS & DEVICES

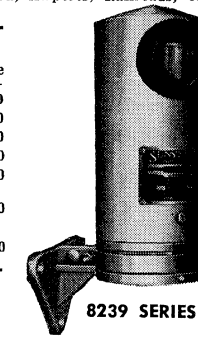
SUNSWITCH LIGHT CONTROLS

The SUNSWITCH uses an amplifier and phototube that responds to the foot candle value of daylight. When illumination falls below a pre-determined value, the lights are turned on. When the illumination has increased to the correct value, the lights are automatically turned off. Applications are numerous — Street Lights, Radio and TV Towers, Signs, Factories, Construction Work, Airports, Railroads, etc. Mounted in standard watt-hour meter case or in extruded aluminum housing.

8500 SERIES

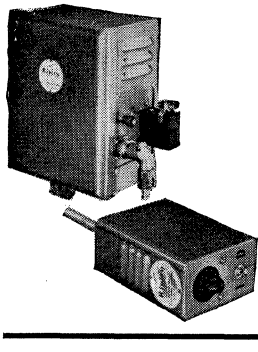
Model No.	Voltage 50/60 Cy.	Setting F.C.	Turn-on Range in F.C.	Load Relay*	Rated Load (Watts)	List Price
8239-A	110-220	1	1-10	SP ST DB	3000 WTS.	$60.00
8239-B	110-220	1	1-10	SP ST	500 WTS.	52.50
8500-M	110	1	1-10	SP ST DB	3000 WTS.	44.00
8500-M1	220	1	1-10	SP ST DB	3000 WTS.	44.00
8500-M2	110	1	1-10	SP ST DB (2 circuit ea.)	3000 WTS.110V (ea. circuit)	57.00
8500-M3	220	1	1-10	SP ST DB (2 circuit ea.)	3000 WTS.110V (ea. circuit)	57.00
8500-CM	110	1	1-10	SP DT DB	3000 N/C 3000 N/O	46.00

* SP—Single Pole; ST—Single Throw; DT—Double Throw; DB—Double Break N/C—Normally Closed; N/O—Normally Open; FC—Foot Candle



8239 SERIES

REGISTRATION CONTROLS



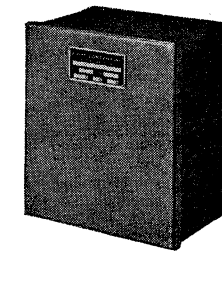
This highly sensitive Registration Control responds to all colors — insures accurate control of register in printing, packaging, wrapping, cutting, etc. No change in method of scanning required to switch from opaque to translucent or transparent wrapping material.

High Speed — 500 operations per minute . . . sensitive to hairline registration. Ruggedly built, compact and simple to install.

Model No. 102 ....List Price **$275.00**

ELECTRONIC SWITCHES

Engineered for exceptional reliability, long life with minimum maintenance. These Switches are highly sensitive and utilize no coaxial cable. Designed for applications needing a very short or medium impulse . . . as short as .0005 seconds.

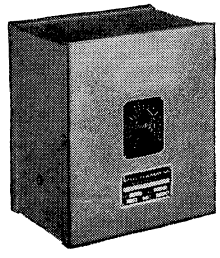


List Price

Model ES-15 SPDT relay-contacts 3 amp., non-inductive, at 110 V A.C. **$33.00**

Model ES-15MS SPDT relay-contacts 10 amp., non-inductive, at 110 V A.C. **37.40**

ELECTRONIC TIMERS



The Ripley Timers are of the short interval period, stop cycle, type. Built to control industrial processes, they meet the most exacting requirements by delivering dependable, accurate, and long-lived performance. Basic models cover the ranges of from .05 to .5, .1 to 10., and 1. to 100. sec.

List Price

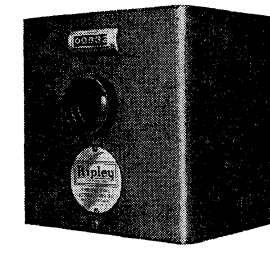
Model 52 SPDT relay-contacts 3 amp., non-inductive, at 110V A.C.-Range .05 to .5 sec..**$43.00**

Model 54 SPDT relay-contacts 3 amp., non-inductive, at 110V A.C.-Range .1 to 10. sec... **45.20**

Model 56 SPDT relay-contacts 3 amp., non-inductive, at 110V A.C.-Range 1. to 100. sec... **44.10**

ELECTRONIC Phototube COUNTERS

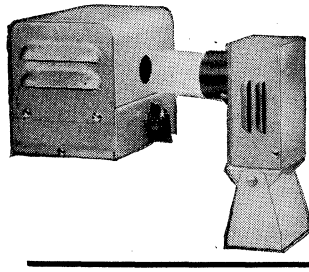
These sturdy, well built Electronic Counters are furnished with 5-digit counters. Available with outside light source as well as a built-in light source. The model with built-in light source incorporates a reflector mirror which directs the beam back into the Phototube, thus eliminating the need for an extra pair of wires. Operates on 110 volts, 60 cycles. Dimensions: 5¼" x 6" x 6¼" high.



Model 151 with external light source .....List Price **$61.60**

Model 153 with built-in light source .....List Price **$58.30**

PHOTO-ELECTRIC CONTROL

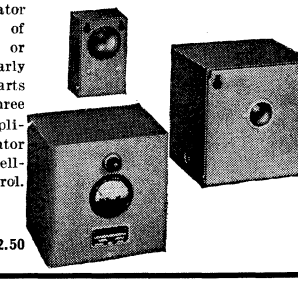


Here's an accurate, efficient, automatic control that anyone can install. Simply plug into your current supply and you are ready to count, control, start, stop, signal or measure objects as they interrupt the beam of light. Housed in hammertone gray finished steel case. Only 4" high. Operates on 110 volts, 60 cycles A.C. Contact rating 10 amps. A.C. Complete with Light Source and plug-in wire connections.

Model PE-150 .....List Price **$49.50**

SMOKE DENSITY INDICATOR

The Ripley Smoke Density Indicator will indicate small quantities of smoke in an air exhaust, duct or other location, thus giving early warning of fire even in remote parts of the building. Composed of three principal parts: the "eye" and amplifier, light source, and the Indicator unit consisting of a meter, red tell-tale lamp and sensitivity control. Operates on 110 volts, 60 cycles.



Model 1510 (Complete — three units) .....List Price **$132.50**

FOR MORE DATA ON RIPLEY'S QUALITY PRODUCTS SEE THE FOLLOWING PAGES

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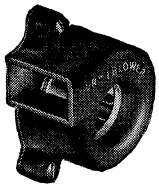
Superior . . . RIPLEY COMPANY, INC. RIPLEY ESTABLISHED 1936 through Research MIDDLETOWN, CONN.

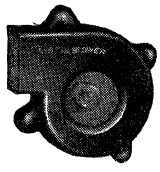
L-R BLOWERS—"Mighty-Mites"



No. 1

High impact Phenolic Housing. Weight 1 ounce. Wheel is 1" in dia. Standard shaft bores, 1/8" or 3/16". Overall height 2-5/16". Overall width 2-1/8". Depth 63/64". Blower outlet 63/64" wide by 11/16" high.

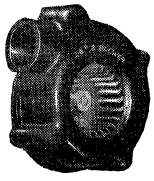
List Price $3.64 ea.



No. 1½

High impact Phenolic Housing. Weight 2-1/2 ounces. Wheel is 1-1/2" dia. Standard shaft bores, 3/16" or 1/4". Overall height 3". Overall width 2-7/8". Depth 1". Blower outlet 1" wide by 1-3/16" high.

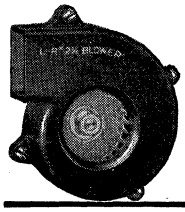
List Price $4.44 ea.



No. 2

High impact Phenolic Housing. Weight 5 ounces. Wheel is 2" dia. Standard shaft bores, 3/16" or 1/4". Overall height 3-3/4". Overall width 3-1/2". Depth 1-3/8". Blower outlet 1-1/8" diameter.

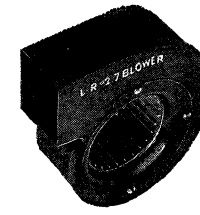
List Price $4.53 ea.



No. 2½

High impact Phenolic Housing. Weight 5-1/2 ounces. Wheel is 2" in dia. Standard shaft bores, 3/16" or 1/4". Overall height 4-3/8". Overall width 3-7/8". Depth 1-7/16". Blower outlet 1-7/16" wide by 1-19/32" high.

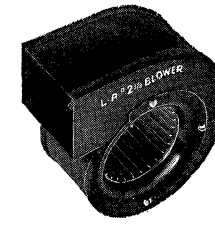
List Price $4.65 ea.



No. 2.7

Rigid Steel Housing. Weight 8-1/2 ounces. Wheel is 2-1/2" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 4-5/8". Overall width 4-13/32". Depth 1-33/64". Blower outlet 1-33/64" wide by 1-3/4" high.

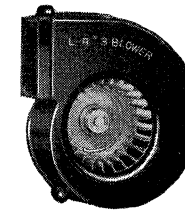
List Price $4.90 ea.



No. 2¾

Rigid Steel Housing. Weight 10 ounces. Wheel is 2-1/2" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 4-5/8". Overall width 4-13/32". Depth 2-5/64". Blower outlet 2-5/64" wide by 1-3/4" high.

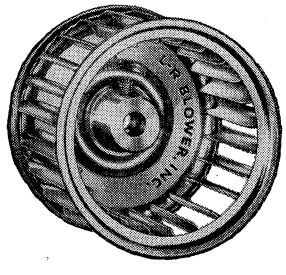
List Price $4.90 ea.



No. 3

High impact Phenolic Housing. Weight 12-1/2 ounces. Wheel is 3" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 6-7/16". Overall width 5-1/2". Depth 2-3/8". Blower outlet 2-3/8" wide by 2-1/2" high.

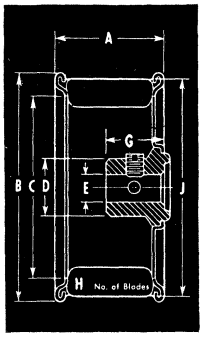
List Price $5.36 ea.



L-R *Whirlwind* BLOWER WHEELS

A key factor in the superior efficiency of any blower is the wheel utilized in the housing. The Ripley Company provides the utmost in equipment and engineering "know-how" to produce small blower wheels of the highest standard and quality. Manufactured from the finest material available, precision engineered and rigidly inspected to meet your most exacting requirements. Standard wheels are cadmium plated steel. Other material and finishes available. Available for CW or CCW Rotation.

DIMENSIONS AND SPECIFICATIONS



ROTATION is determined viewing closed end of wheel

Wheel Dia.	Size Width	Used in Blower No.	A Width (± 1/32)	B Dia. (± 1/32)	C Dia. (± 1/64)	D Dia. (± .005)	E* (+.001 —.000)	F Set Screw	G (± .010)	H Number of Blades	J Dia. (± 1/32)
1	x 2 0/32	1	5/8	1	1 1/16	.3125	.125, .1875	5-40	.3125	10	5 9/64
1 16/32	x 2 0/32	1½	5/8	1½	1 3/16	.5625	.1875, .250	8-32	.5156	16	1 15/32
2	x 3 1/32	2, 2½	3 1/32	2	1 39/64	.5625	.1875, .250	8-32	.5156	24	1 29/32
2 16/32	x 3 1/32	2.7	3 1/32	2½	2 1/8	.750	.250, .3125	8-32	.6562	31	2 15/32
2 16/32	x 1 15/32	2¾	1 15/32							28	
3	x 1 28/32	3	1 7/8	3	2 29/64	.750	.250, .3125	10-32	.6562	24	2 15/16
3 26/32	x 1 28/32		1 7/8	3 13/16	3 3/8	.9375	.250, .3125	¼-28	.750	30	3¾

* Standard Bore—Other Sizes Available

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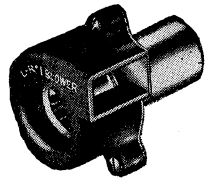
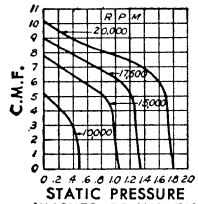
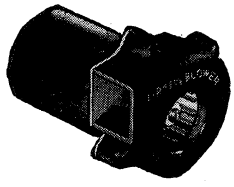
L-R MOTOR & BLOWER ASSEMBLIES

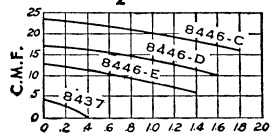


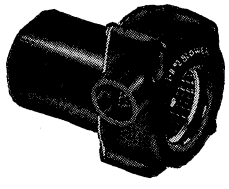
NO. 1



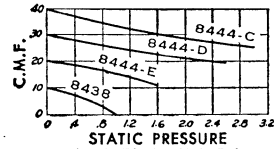


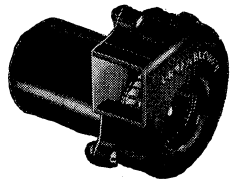
NO. 1½





NO. 2





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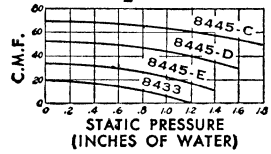
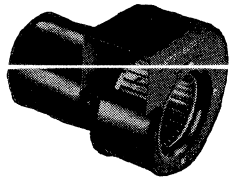
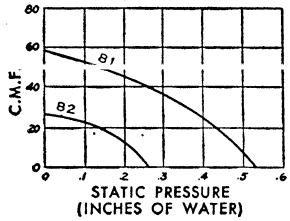
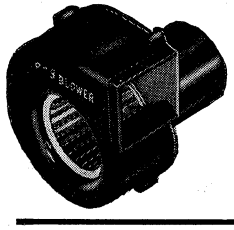




NO. 2¾





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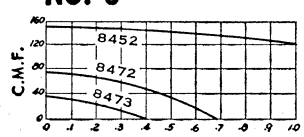
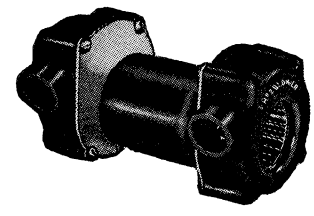
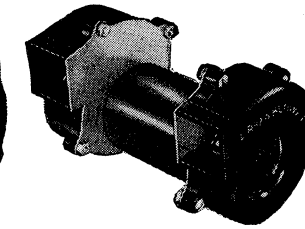


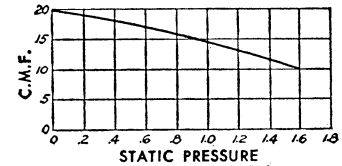
Model No.	Type	Input Voltage	Watts	Duty Cycle	Output Free Air R.P.M.	Output Free Air C.F.M.	Dimensions Length O.A.	Dimensions Motor Dia.	List Price
8474	1	27.5V. D.C.	8	Continuous	18,000	9	2 21/64	7/8	49.00
8437	1½	115V. AC-60 Cycle	15	Continuous	3,150	4	4 9/16	2¼	13.29
8446-E	1½	115V. AC/DC	25	Intermittent	8,000	12	4 7/16	2 7/32	17.96
8446-D	1½	115V. AC/DC	45	Intermittent	11,000	17	4 7/16	2 7/32	17.96
8446-C	1½	115V. AC/DC	70	Intermittent	15,000	23	4 7/16	2 7/32	17.96
8438	2	115V. AC-60 Cycle	16	Continuous	3,100	10	4½	2¼	13.48
8444-E	2	115V. AC/DC	27	Intermittent	6,500	20	4 9/16	2 7/32	18.14
8444-D	2	115V. AC/DC	53	Intermittent	10,000	30	4 9/16	2 7/32	18.14
8444-C	2	115V. AC/DC	90	Intermittent	13,000	40	4 9/16	2 7/32	18.14
8433	2½	115V. AC-60 Cycle	17	Continuous	2,800	17	4½	2¼	13.60
8445-E	2½	115V. AC/DC	30	Intermittent	6,000	35	4 27/32	2 7/32	18.26
8445-D	2½	115V. AC/DC	55	Intermittent	9,000	53	4 27/32	2 7/32	18.26
8445-C	2½	115V. AC/DC	105	Intermittent	12,000	70	4 27/32	2 7/32	18.26
82	2¾	115V. AC-60 Cycle	35	Continuous	1,550	28	5 51/64	2 13/16	17.40
81	2¾	115V. AC-60 Cycle	40	Continuous	3,100	58	5 51/64	2 13/16	16.50
8473	3	115V. AC-60 Cycle	35	Continuous	1,550	40	6 5/64	2 13/16	16.95
8472	3	115V. AC-60 Cycle	40	Continuous	3,100	77	6 5/64	2 13/16	16.05
8452	3	115V. AC/DC	120	Intermittent	6,000	150	6¾	2¾	22.40

L-R BLOWERS DUAL ASSEMBLY

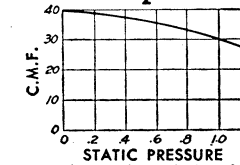




NO. 2 Dual



NO. 2½ Dual



Model No.	Type	Input Voltage	Watts	Duty Cycle	Output Free Air R.P.M.	Output Free Air C.F.M.	Dimensions Length O.A.	Dimensions Motor Dia.	List Price
8442	2 Dual	115V. AC-60 Cycle	18	Continuous	3,000	10-10	6⅛	2¼	19.52
8434	2½ Dual	115V. AC-60 Cycle	20	Continuous	2,800	20-20	6⅛	2¼	20.59

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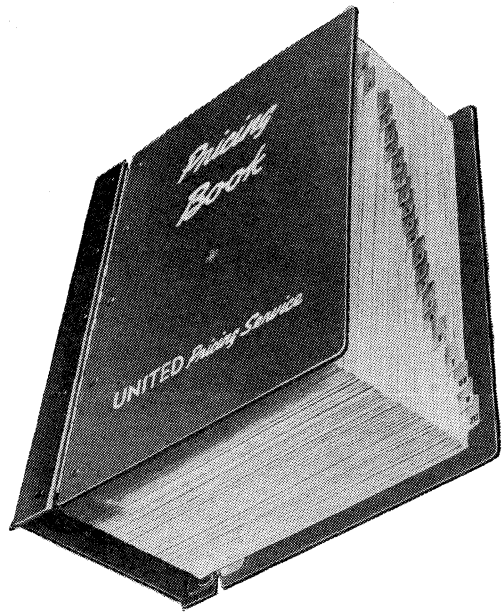

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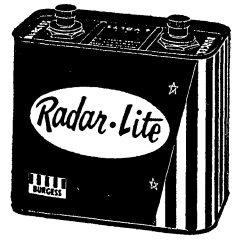
BURGESS BATTERIES

AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES



TW1

F4H

No. 2

No. 1

Z

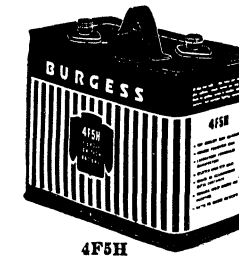
No. 7

No. N

BURGESS FLASHLIGHT AND LANTERN BATTERIES

No. 1.	1½ volts. Size, 6⅜4" x 1 15⁄16". Standard package 12	List price,	$ .15
No. 2.	1½ volts. Size, 1 21⁄64" x 2⅜". Standard package 48	List price,	.15
No. Z.	1½ volts. Size, 35⁄64" x 1 31⁄32". Standard package 24	List price,	.125
No. 7.	1½ volts. Size, 13⁄32" x 1¾". Standard package 24	List price,	.125
F4H.	6 volts. Size, 2⅝" x 2⅝" x 3 15⁄16". Standard package 12	List price,	.90
4F2H.	3 volts. Size, 3 29⁄32" x 2 11⁄16" x 5 13⁄32". Standard package 1	List price,	1.85
No. 210	1½ volts. Size, 1 21⁄64" x 2⅜". Standard package 50	List price,	.175
N (Bare)	1½ volts. Size, 7⁄16" x 1 11⁄64". Standard package 24	List price,	.10
530	45 volts. Size, 4 1⁄16" x 2 17⁄32" x 5 5⁄16". Standard package 2	List price,	3.40
***TW1**	6 volts. Size, 5⅜" x 2⅞" x 4 15⁄16". Standard package 1	List price,	2.45

*For use with Radar-Lites.



4F5H

BURGESS IGNITION—TELEPHONE AND PROTECTIVE SYSTEM BATTERIES

4FH.	1½ volts. Size, 2⅝" x 2⅝" x 4". Standard package 12	List price,	.98
4F2H.	3 volts. Size, 3 29⁄32" x 2 11⁄16" x 5 13⁄32". Standard package 1	List price,	1.85
4F4H.	6 volts. Size, 8 5⁄16" x 2 13⁄16" x 5 13⁄16". Standard package 1	List price,	3.95
4F5H.	7½ volts. Size, 7 1⁄16" x 3 31⁄32" x 5 13⁄16". Standard package 1	List price,	4.98
4F6H.	9 volts. Size, 8½" x 3 31⁄32" x 5 13⁄16". Standard package 1	List price,	5.85
No. 6 R. R. and Ind.	1½ volts. Size, 2½" Diam. 6⅝". Standard package 12	List price,	1.05
No. 6 IGN.	1½ volts. Size, 2½" Diam. 6⅝". Standard package 12	List price,	.98
No. 6 TEL.	1½ volts. Size, 2½" Diam. 6⅝". Standard package 12	List price,	.95
S 461.	6 volts. Size, 10½" x 2¾" x 7 13⁄32". Standard package 6	List price,	3.95
No. 6 Alarm	1½ volts. Size, 2½" Diam. 6⅝". Standard package 12	List price,	1.05
2Z2PI	3 volts. Size, 1 5⁄32" x 1 5⁄32" x 2 13⁄32". Standard package 12	List price,	.75

4FH

6 Ign.

6 Tel.

BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR BATTERIES ("A" Types)

No. 2F2H.	3 volts. Size, 2⅝" x 2⅝" x 4 1⁄16". Standard package 1	List price,	1.30
No. 2FBP.	1½ volts. Size, 2 21⁄32" x 1⅜" x 4 1⁄32". Standard package 1	List price,	.95
No. B2BP.	3 volts. Size, 1⅝" x 13⁄16" x 2 11⁄16". Standard package 1	List price,	1.40
No. F2BP.	3 volts. Size, 2 5⁄32" x 1⅜" x 4 1⁄32". Standard package 1	List price,	.95
No. F4BP.	6 volts. Size, 2⅝" x 2⅝" x 4". Standard package 1	List price,	.90
No. Z.	1½ volts. Size, 35⁄64" x 1 31⁄32". Standard package 24	List price,	.125
No. 7.	1½ volts. Size, 13⁄32" x 1¾". Standard package 24	List price,	.125
No. 2R.	1½ volts. Size, 1 21⁄64" x 2 25⁄64" diameter. Standard package 48	List price,	.15
5R	1½ volts. Size, 49⁄64" (Diam.) 2 15⁄64". Standard package 12	List price,	.125
8R	1½ volts. Size, 1 3⁄32" (Diam.) 3 15⁄16". Standard package 1	List price,	.50
9R	1½ volts. Size, 35⁄64" (Diam.) 1 63⁄64". Standard package 12	List price,	.17
2Z	1½ volts. Size, 1⅛" x 1⁄32" x 1 63⁄64". Standard package 10	List price,	.34
422	3 volts. Size, 1 11⁄32" x 23⁄32" x 2 5⁄16". Standard package 1	List price,	.60
432	4½ volts. Size, 1 31⁄32" x 21⁄32" x 2¼". Standard package 1	List price,	.70
532	4½ volts. Size, 2 15⁄32" x 13⁄16" x 2 23⁄32". Standard package 1	List price,	.60
2F4FL	6 volts. Size, 4⅛" x 2 11⁄16" x 5½". Standard package 1	List price,	2.13

F2BP

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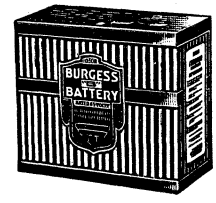
BURGESS BATTERIES

AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES

5308

5540

2370



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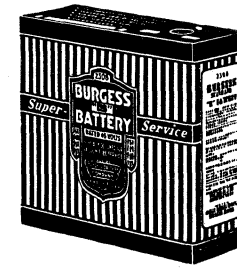

2308

F4BP

D6

4D4

2R

4F

BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR BATTERIES ("B" Types)

No. W30.	45	volts. Size, 3" x 1¼" x $3^{25}/_{32}$". Standard package 1	List price, $3.15
W30PBX.	45	volts. Size, 3" x 1¼" x $3^{25}/_{32}$". Standard package 6	List price, 2.73
No. Z30NX.	45	volts. Size, $3^{1}/_{32}$" x 1⅞" x $4^{19}/_{32}$". Standard package 1	List price, 3.10
K10	15	volts. Size, 1¼" x ⅞" x $1^{17}/_{32}$". Standard package 1	List price, 1.50
K15	22½	volts. Size, 1¼" x ⅞" x $2^{9}/_{32}$". Standard package 1	List price, 1.65
K20	30	volts. Size, 1¼" x $1^{5}/_{16}$" x $2^{23}/_{32}$". Standard package 1	List price, 1.95
U10	15	volts. Size, 1" x $^{39}/_{64}$" x $1^{7}/_{16}$". Standard package 1	List price, 1.10
U15	22½	volts. Size, 1" x $^{39}/_{64}$" x $1^{31}/_{32}$". Standard package 1	List price, 1.40
U20	30	volts. Size, 1" x $^{39}/_{64}$" x $2^{17}/_{32}$". Standard package 1	List price, 1.65
XX15	22½	volts. Size, $1^{11}/_{32}$" x $^{15}/_{16}$" x 3⅞". Standard package 1	List price, 1.80
XX22	33	volts. Size, $2^{17}/_{32}$" x $3^{1}/_{32}$" x 3⅛". Standard package 1	List price, 2.05
XX30PI	45	volts. Size, $2^{17}/_{32}$" x $3^{1}/_{32}$" x $4^{1}/_{32}$". Standard package 1	List price, 2.30
Y10	15	volts. Size, $^{19}/_{32}$" x $^{19}/_{32}$" x $1^{23}/_{64}$". Standard package 1	List price, 1.10
Y15	22½	volts. Size, $^{19}/_{32}$" x $^{19}/_{32}$" x $1^{31}/_{32}$". Standard package 1	List price, 1.40
Y20	30	volts. Size, $^{19}/_{32}$" x $1^{3}/_{16}$" x $1^{13}/_{32}$". Standard package 1	List price, 1.75
Y20S	30	volts. Size, $^{19}/_{32}$" x $^{19}/_{32}$" x $2^{9}/_{16}$". Standard package 1	List price, 1.75
No. 4156.	22½	volts. Size, $3^{17}/_{32}$" x 2⅛" x $2^{29}/_{32}$". Standard package 5	List price, 1.97
No. 5156SC.	22½	volts. Size, 4⅛" x 2½" x 2¾". Standard package 5	List price, 2.30
No. 5156PI.	22½	volts. Size, $4^{7}/_{64}$" x 2⅜" x $2^{55}/_{64}$". Standard package 5	List price, 2.30
No. 5308.	45	volts. Size, $4^{1}/_{16}$" x $2^{9}/_{16}$" x 5⅛". Standard package 5	List price, 3.35
U200.	300	volts. Size, 2¾" x $2^{9}/_{32}$" x 3⅞". Standard package 1	List price, 11.00

BURGESS INDUSTRIAL AND ELECTRONIC "C" BATTERIES

No. A8BP.	12	volts. Size, $2^{25}/_{32}$" x $1^{25}/_{64}$" x $2^{15}/_{32}$". Standard package 1	List price, 3.29
No. W5BP.	7½	volts. Size, $2^{31}/_{32}$" x $^{23}/_{32}$" x 1¾". Standard package 1	List price, 1.93
No. 2156.	22½	volts. Size, $6^{21}/_{32}$" x $4^{1}/_{16}$" x $2^{31}/_{32}$". Standard package 1	List price, 3.95
No. 2370.	4½	volts. Size, $3^{15}/_{16}$" x 1⅜" x 2⅞". Standard package 1	List price, 1.25
No. 2370PI.	4½	volts. Size, $4^{1}/_{64}$" x $1^{27}/_{64}$" x $2^{63}/_{64}$". Standard package 1	List price, 1.40
No. 5360.	4½	volts. Size, $2^{13}/_{32}$" x $^{27}/_{32}$" x $2^{21}/_{32}$". Standard package 1	List price, .75
No. 5540.	7½	volts. Size, 4" x ⅞" x 2¾". Standard package 1	List price, 1.35

BURGESS ACTIVATORS FOR TRANSISTOR CIRCUITS

NE	1½	volts. Size, $^{7}/_{16}$" (diam.) x $1^{11}/_{64}$". Standard package 48	List price, .10
XX9	9, 13½	volts. Size, $1^{9}/_{32}$" x $^{29}/_{32}$" x $2^{7}/_{32}$". Standard package 1	List price, 1.25
D6	9	volts. Size, $2^{17}/_{32}$" x $1^{31}/_{32}$" x $3^{33}/_{32}$". Standard package 1	List price, 1.65
2N6	9	volts. Size, 1⅜" x 1⅜" x 2¾". Standard package 1	List price, 1.70
4D4	6	volts. Size, $2^{17}/_{32}$" x 2" x $7^{5}/_{16}$". Standard package 1	List price, 3.95
2U6	9	volts. Size, 1" x $^{39}/_{64}$" x 1⅞". Standard package 1	List price, 1.50

BURGESS PORTABLE RADIO "A" BATTERIES

No. 2F.	1½	volts. Size, $2^{19}/_{32}$" x 1⅜" x 4¼". Standard package 1	List price, .75
No. 2F4.	6	volts. Size, 4" x $2^{13}/_{16}$" x $5^{7}/_{16}$". Standard package 1	List price, 2.75
No. 2R.	1½	volts. Size, $1^{21}/_{64}$" diameter x $2^{25}/_{64}$". Standard package 48	List price, .15
No. 4F.	1½	volts. Size, 2⅝" x 2⅝" x $4^{3}/_{32}$". Standard package 6	List price, 1.25
No. 4FL.	1½	volts. Size, 4⅞" x 1⅜" x $5^{9}/_{16}$". Standard package 1	List price, 1.93
No. 6F.	1½	volts. Size, $4^{3}/_{32}$" x 2¾" x $4^{1}/_{16}$". Standard package 1	List price, 1.85
No. 8F.	1½	volts. Size, $3^{29}/_{32}$" x $2^{23}/_{32}$" x 5½". Standard package 1	List price, 2.25
No. F4PI.	6	volts. Size, $2^{21}/_{32}$" x $2^{21}/_{32}$" x 4⅛". Standard package 6	List price, 1.25
No. G3.	4½	volts. Size, $4^{1}/_{16}$" x 1⅞" x $4^{11}/_{16}$". Standard package 6	List price, 1.05
No. T5.	7½	volts. Size, $2^{17}/_{32}$" x $2^{19}/_{32}$" x $3^{29}/_{32}$". Standard package 3	List price, 1.38
No. D3.	4½	volts. Size, 3⅞" x $1^{5}/_{16}$" x $2^{15}/_{16}$". Standard package 6	List price, .85

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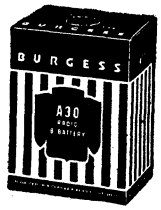
BURGESS BATTERIES

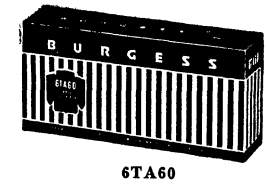
AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES



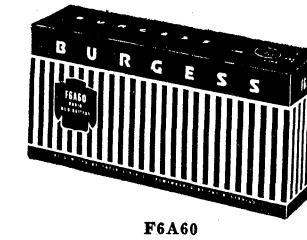
A30

F3

F4PI



6TA60



F6A60

BURGESS PORTABLE RADIO "A" BATTERIES (Continued)

No. 2D.	1½ volts. Size, 2 9/16" x 1 1/32" x 2 31/32". Standard package 1	List price,	$ .75
No. Z4.	6 volts. Size, 1 3/16" x 1 3/16" x 2 7/32". Standard package 1	List price,	.85
No. B5	7½ volts. Size, 3 29/32" x 7/8" x 2 27/32". Standard package 6	List price,	1.25
No. C5.	7½ volts. Size, 2 7/32" x 1 15/16" x 3 1/32". Standard package 6	List price,	1.25
No. F3.	4½ volts. Size, 4" x 1 7/16" x 4 1/8". Standard package 6	List price,	1.00
No. 21R.	1½ volts. Size, 1 21/64" (diam.) 4 1/8". Standard package 1	List price,	.35
No. 37	1½ volts. Size, 1 5/16" (diam.) 6 1/8". Standard package 1	List price,	.85

N60

BURGESS PORTABLE RADIO "B" BATTERIES

No. A30.	45 volts. Size, 3 9/16" x 2 1/4" x 4 5/16". Standard package 2	List price,	2.50
No. B30.	45 volts. Size, 4 1/16" x 2 17/32" x 5 5/16". Standard package 2	List price,	3.85
No. M30.	45 volts. Size, 3 9/16" x 1 3/4" x 5 1/2". Standard package 6	List price,	2.95
No. XX30.	45 volts. Size, 2 17/32" x 3 1/32" x 3 21/32". Standard package 6	List price,	2.25
No. XX45.	67½ volts. Size, 2 3/4" x 1 11/32" x 3 43/64". Standard package 6	List price,	3.25
No. XX50.	75 volts. Size, 1 27/32" x 1 5/16" x 6 5/16". Standard package 6	List price,	3.95
No. Z30.	45 volts. Size, 3" x 2 5/16" x 4 1/16". Standard package 2	List price,	3.75
No. U200.	300 volts. Size, 2 3/4" x 2 9/32" x 3 7/8". Standard package 1	List price,	11.00
No. N60.	90 volts. Size, 3 11/16" x 1 9/32" x 3 19/32". Standard package 6	List price,	3.95
No. K45.	67½ volts. Size, 2 11/16" x 1 5/16" x 2 1/4". Standard package 6	List price,	2.95
No. XX69.	103½ volts. Size, 1 11/32" x 1 11/32" x 11 23/32". Standard package 1	List price,	5.38
No. P45.	67½ volts. Size 1 29/32" x 1" x 5 9/32". Standard package 6	List price,	2.85
No. U30.	45 volts. Size 1 3/32" x 19/32" x 3 17/32". Standard package 1	List price,	2.50
P45M	67½ volts. Size 1 29/32" x 1" x 5 9/32". Standard package 6	List price,	3.70
P60	90 volts. Size, 1 29/32" x 1" x 7 13/32". Standard package 6	List price,	3.50

M30

XX45

BURGESS PORTABLE RADIO "A & B" BATTERIES

2TXX40.	1½A, 60B volts. Size, 2 13/32" x 1 11/32" x 7 5/32". Std. package 1	List price,	5.04
4GA42.	1½A, 63B volts. Size, 9 1/16" x 2 1/8" x 4 3/4". Std. package 1	List price,	6.70
6TA60.	1½A, 90B volts. Size, 9 3/32" x 2 1/4" x 4 7/16". Std. package 1	List price,	6.25
F4A50.	6A, 75B volts, Size, 9 3/32" x 2 23/32" x 3 21/32". Std. package 1	List price,	7.24
F6A60.	7½, 9A, 90B volts, Size, 9 5/16" x 2 21/32" x 4 5/16". Std. package 1	List price,	6.85
F6A60P.	9A, 90B volts. Size, 9 7/16" x 2 3/4" x 4 11/32". Std. package 1	List price,	6.50
T5Z50.	6, 7½A, 75B volts. Size, 8 1/2" x 3 11/32" x 2 3/8". Std. package 1	List price,	5.95
T5Z50P.	7½A, 75B volts. Size, 8 1/2" x 3 11/16" x 2 3/8". Std. package 1	List price,	5.95
G6B60.	9A, 90B volts. Size, 13 29/32" x 2 13/16" x 4 21/32". Std. package 1	List price,	7.25
G6M60.	7½, 9A, 90B volts. Size, 10 3/16" x 3 1/8" x 4 1/32". Std. package 1	List price,	7.50
T6Z60P.	9A, 90B volts. Size, 8 15/16" x 2 3/16" x 3 13/16". Std. package 1	List price,	6.50
4TZ60.	1½A, 90B volts. Size, 7 5/8" x 2 1/8" x 3 3/4". Std. package 1	List price,	5.50
T6Z60.	7½, 9A, 90B volts. Size, 8 15/16" x 2 13/16" x 3 13/16". Std. package 1	List price,	6.50

XX30

BURGESS FARM RADIO "A" BATTERIES

No. 20F.	1½ volts. Size, 7 5/8" x 2 9/16" x 6 15/16". Standard package 1	List price,	5.50
No. 20F2.	3 volts. Size, 11½" x 4" x 6 1/8". Standard package 1	List price,	9.30

BURGESS FARM RADIO "B" BATTERIES

No. 10308SC or Pl.	45 volts. Size, 8 1/32" x 4 1/32" x 7 3/16". Standard package 1	List price,	4.80
No. 21308SC or Pl.	45 volts. Size, 8 1/8" x 4 15/32" x 7 9/32". Standard package 1	List price,	5.22
No. 2308 SC or Pl.	45 volts. Size, 8 3/32" x 2 31/32" x 7 1/4". Standard package 1	List price,	3.95

P45M

21R

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BURGESS BATTERIES

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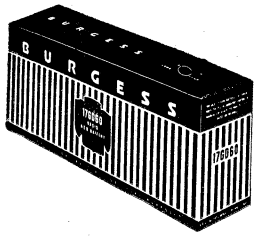


17GD60

BURGESS FARM RADIO "A & B" BATTERIES

No. 17GD60. 1½ volt "A", 90 volt "B". Size 15 11/16" x 4 3/8" x 7 1/16". Standard package 1. List price, $8.95

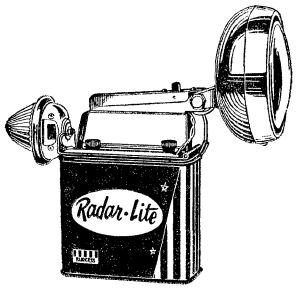
No. 4SD60. 1½ volt "A", 90 volt "B". Size 10 11/16" x 4 5/16" x 6 13/16". Standard package 1. List price, $8.95

No. S6D60. 7½ volt "A", 9 "A" 90 volt "B". Size 9 7/8" x 4 1/8" x 7 13/16". Std. package 1. List Price, $10.95

220

BURGESS PHOTO-FLASH BATTERIES

120	1½ volts. Size, 1" (diam.) 1 15/16". Standard package 12	List price, .20
220	1½ volts. Size, 1 1/32" (diam.) 2 25/64". Standard package 12	List price. .20
920	1½ volts. Size, 35/64" (diam.) 1 31/32". Standard package 24	List price, .15
U15PF	22½ volts. Size, 3 1/32" x 9/16" x 1 31/32". Standard package 1	List price, 1.40
U10	15 volts. Size, 1" x 39/64" x 1 1/16". Standard package 20	List price, .95
U20	30 volts. Size, 1" x 39/64" x 2 17/32". Standard package 20	List price, 1.50
Y10	15 volts. Size, 19/32" x 19/32" x 1 23/64". Standard package 1	List price, 1.10
Y15	22½ volts. Size, 19/32" x 19/32" x 1 31/32". Standard package 1	List price, 1.40
XX45	67½ volts. Size, 2¾" x 1 1/32" x 3 43/64". Standard package 6	List price, 3.25
N60	90 volts. Size, 3 11/16" x 1 9/32" x 3 19/32". Standard package 6	List price, 3.95
D3	4½ volts. Size, 3 7/8" x 1 5/16" x 2 15/16". Standard package 6	List price, .85
XX150	225 volts. Size, 4¼" x 2 5/8" x 4¼". Standard package 1	List price, 11.16
U160	240 volts. Size, 2 9/16" x 1 5/16" x 4 13/32". Standard package 1	List price, 7.95
N150	225 volts. Size, 3 9/16" x 2¾" x 4¾". Standard package 1	List price, 7.95
U340	510 volts. Size, 2 15/16" x 1 17/32" x 5 7/16". Standard package 1	List price, 15.95
K45	67½ volts. Size, 2 11/16" x 1 5/16" x 2¼". Standard package 6	List price, 2.95
M30	45 volts. Size, 3 9/16" x 1¾" x 5½". Standard package 6	List price, 2.95



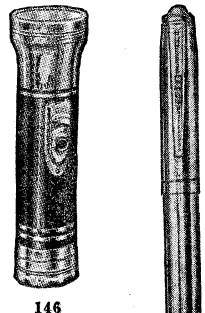
TW3

BURGESS RADAR-LITE LANTERNS (less batteries)

TW3.	RADAR-LITE (with flasher) Spotlight Beam. Stand. package 1	List price, 9.50
TW4.	RADAR-LITE (without flasher) Spotlight Beam. Stand. pack. 1	List price, 6.95
TW5.	RADAR-LITE (with flasher) Diffused Beam. Stand. package 1	List price, 9.50
TW6.	RADAR-LITE (without flasher) Diffused Beam. Stand. pack. 1	List price, 6.95

BURGESS RADAR-LITE BATTERY AND ACCESSORIES

TW1	6 volts. Size, 5 3/8" x 2 7/8" x 4 15/16". Standard package 1	List price, 2.45
RL11	Lens Guard for Radar-Lite. Standard package 1	List price, 1.25
RL22	Storage Bracket for Radar-Lite. Standard package 1	List price, 1.50
RL33	Bracket Hanger for Radar-Lite. Standard package 1	List price, 2.50



146 152

BURGESS FLASHLIGHT CASES (less batteries)

146.	2 cell prefocused Maroon & Chrome. Standard package 6	List price, 1.89
152.	New slim Penlight—Duo-Tone Colors. Std. package 12	List price, .88
248.	5 cell Prefocused Chrome. Standard package 1	List price, 4.25
250.	Rangefinder 2 cell focusing Chrome. Standard package 4	List price, 2.25
251.	Zebra Light with cells. Standard package 12	List price, .69
252.	3 cell prefocused Maroon & Chrome. Standard package 1	List price, 2.95
346	2 cell Baby Prefocused Maroon & Chrome. Standard package 6	List price, 1.70
350	2 cell Tough Industrial Light. Stand. package 6	List price, 1.90
P92	Penlight Maroon Chrome. Standard package 6	List price, .88
953	Key Chain Zebra Light with Cells. Std. pkg. 12	List price, .79
450	3 Cell Tough Industrial. Standard package 1	List price, 2.15
452	2 Cell Prefocused—Chrome. Standard package 6	List price, 1.45
453	2 Cell Industrial—Safety Light. Std. package 1	List price, 5.00
553	2 Cell—Chrome. Standard package 6	List price, 1.75
653	2 Cell Chrome Bullet End. Standard package 1	List price, 1.55
753	2 Cell Baby, Chrome Bullet End. Std. package 1	List price, 1.40
853	3 Cell Chrome—Bullet End. Std. package 1	List price, 1.75
LD34	Lens Display Kit (32 Popular Lenses). Standard package 1	List price, 3.20

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RCA BATTERIES

FOR RADIOS • FLASHLIGHTS • INDUSTRIAL APPLICATIONS

PORTABLE "A" TYPES

PORTABLE 'B" TYPES

PORTABLE "A-B" TYPES

FLASHLIGHT AND LANTERN TYPES

FARM "AB" AND "B" TYPES

INDUSTRIAL AND SPECIAL-PURPOSE TYPES

Servicing 99% of portable and farm radio requirements.

RCA radio trade distribution means repeat radio battery business for radio dealers and service technicians.

The RCA monogram on an attractive package assures customer acceptance.

RCA Type No.	Dist. Resale Each*	List Each*	Volts	Interchangeability Guide Eveready	Neda	Burgess	Unit Pkge. Qty.	Wt. (lbs.)	Socket or Terminals	Max. Dimen. (in.) L.	W. or Diam.	Ht.
VS002	.74	1.05	4½	746	7	G3	6	7	2-Hole Socket	4	1⅜	4 15/16
VS001	.88	1.25	1½	742	4	4F	6	8	2-Hole Socket	2⅝	2⅝	4 1/16
VS005	1.27	1.86	1½	—	12	4FL	5	7	2-Hole Socket	3 13/16	1⅜	5⅝
VS009	.88	1.25	6	744	6	F4PI	6	8	2-Hole Socket	2⅝	2⅝	4¼
VS010	1.93	2.75	6	718	1	2F4	5	14	2-Hole Socket	3⅞	2 13/16	5½
VS011	2.07	2.95	6	747	16	2F4L	6	17	2-Hole Socket	3⅞	1 7/16	10¾
♦VS035	.0975	.15	1½	935	14	1	25	2½	Flashlight	—	1	1 15/16
♦VS036	.0975	.15	1½	950	13	2R	48	10½	Flashlight	—	1 5/16	2⅜
VS065	.88	1.25	7½	717	9	C5	12	7	2-Hole Socket	2 5/16	2	3 1/16
VS067	.70	1.00	4½	736	3	F3	6	6	2-Hole Socket	4	1⅜	4⅛
VS068	.60	.85	6	724	2	Z1	12	2	Flashlight	1 5/16	1 5/16	2⅜
VS069	.53	.75	1½	720	18	2D	6	3	2-Hole Socket	2 5/16	1 5/16	2⅞
VS072	.60	.85	4½	726	19	D3	12	9	2-Hole Socket	3 15/16	1 5/16	2 15/16
VS129	.88	1.25	7½	713	8	B5	12	6	2-Hole Socket	4 1/16	15/16	3
♦VS236	.25	.35	1½	964	20	21R	12	5	Flashlight	—	1 5/16	4 1/16
VS300	.94	1.35	9	—	1600	—	6	1¾	2-Snap Fasten.	—	13/16	1 13/16
VS301	1.05	1.50	3-6-9	—	1601	—	1	1¾	4-Hole Socket	8	1 5/16	2¾
VS304	.87	1.25	9-13½	—	1900	—	1	¼	3-Hole Socket	1⅜	1 1/16	2¾
VS305	1.19	1.70	9	—	1602	—	—	—	2-Snap Fasten.	1⅜	1⅜	2¾
VS306	1.16	1.65	9	—	1603	—	—	—	2-Snap Fasten.	2 5/16	2 1/16	3 5/16
VS307	.77	1.10	5½	—	1402	—	6	1/16	2-Snap Fasten.	—	13/16	1 13/16
VS308	.67	.95	4	—	1302	—	6	1/16	2-Snap Fasten.	—	13/16	1 1/16
VS309	.84	1.12	9	—	1606	—	6	1/16	2-Snap Fasten.	—	15/16	1 13/16
VS310	.70	1.00	5½	—	1401	—	6	1/16	2-Snap Fasten.	—	15/16	1 13/16
VS311	.57	.80	4	—	1301	—	6	1/16	2-Snap Fasten.	—	15/16	1 1/16
VS100	1.72	2.45	4	—	—	—	10	2½	Flashlight	—	1 1/16	1 13/16
VS012	2.70	3.85	45	484	207	B30	6	17	6-Hole Socket	4⅛	2⅝	5 1/16
VS013	2.07	2.95	45	482	202	M30	6	11	5-Hole Socket	3 1/16	1 13/16	5½
VS014	1.97	2.82	45	W359	206	A30	6	10	6-Hole Socket	3 1/16	2¼	4 5/16
VS015	2.63	3.75	22½-45	738	205	Z30	10	16	6-Hole Socket	3	2¼	4
VS016	2.28	3.25	67½	467	200	XX45	6	6	2-Snap Fasten.	2¾	1⅜	3¾
VS055	1.58	2.25	45	455	201	XX30	6	4	2-Snap Fasten.	2 1/16	1	3 11/16
VS082	2.07	2.95	67½	457	203	K45	6	4	2-Snap Fasten.	2 3/16	1⅜	2½
VS084	.98	1.40	22½	412	215	U15	20	2	Flashlight	1 1/16	5/8	2
VS086	1.75	2.50	45	415	213	U30	6	1½	2-Snap Fasten.	1 1/16	7/8	3 1/16
VS090	2.77	3.95	90	490	204	N60	6	6	2-Snap Fasten.	3 1/16	1⅜	3¾
VS215	2.28	3.25	67½	477	211M	P45M	6	5	2-Snap Fasten.	1 13/16	1	5 1/16
VS216	2.71	3.95	67½	477	211M	P45M	6	5	2-Snap Fasten.	1 1/16	1 1/16	5 1/16
VS217	2.77	3.95	75	437	212	XX50	6	5	2-Snap Fasten.	1 13/16	1⅜	6¼
VS218	2.00	2.85	67½	477	211P	P45	6	4	2-Snap Fasten.	1 13/16	1	5 1/16
VS219	2.45	3.50	90	479	214	P60	6	12	2-Snap Fasten.	1 13/16	1 5/16	7 15/16
VS019	4.80	6.85	7½-9-90	753	401	F6A60	1	5	8-Hole Socket	9 1/16	2¾	4⅜
VS038	5.16	7.70	7½-63	W367	408	G5A42	1	5	8-Hole Socket	8⅝	2¾	4 1/16
VS013	4.26	6.13	1½-90	—	409	5DA60	1	5	4-Hole Socket	5½	2 1/16	7⅛
VS046	4.17	5.95	6-75	—	422	G4B50	1	6½	4-Pr. Rec. Plug	12⅝	2¾	4⅛
VS047	5.08	7.25	9-90	752	400	G6B60	1	8	4-Pr. Rec. Plug	13⅝	2¾	4 1/16
VS050	4.17	5.95	6-7½-75	755	403	T5Z50	1	4	8-Hole Socket	8 1/16	2 1/16	3 11/16
VS052	3.40	4.86	1½-61½	—	423	4GA41	1	4	4-Hole Socket	9⅜	2 1/16	3 1/16
VS053	4.50	6.70	1½-63	W366	407	4GA42	1	4	4-Hole Socket	9 1/16	2	4¾
VS054	4.36	6.25	1½-90	W369	410	6TA60	1	5	4-Hole Socket	10	2 1/16	4 13/16
VS057W	4.55	6.50	7½-9-90	756	405	T6Z60	1	4	8-Hole Socket	8 1/16	2 1/16	3¾
VS058	4.55	6.50	9-90	757	406	F6A60P	1	5½	4-Pr. Rec. Plug	9½	2¾	4⅜
VS059	4.55	6.50	9-90	—	—	T6Z60P	1	4	4-Pr. Rec. Plug	8 1/16	2 1/16	3¾
VS060	4.17	5.95	6-7½-75	—	431	T5Z50P	6	21	5-Pr. Rec. Plug	8 1/16	2 1/16	3 11/16
VS064	3.85	5.50	1½-90	—	—	4TZ60	1	4	4-Hole Socket	7¾	2 1/16	3 5/16
VS034	.08	.125	1½	915	15	Z	12	4	Flashlight	—	1/16	2
♦VS035	.0975	.15	1½	935	14	1	25	3	Flashlight	—	1	1 15/16
♦VS036	.0975	.15	1½	950	13	2R	48	14	Flashlight	—	1 5/16	2⅜
VS040C	.61	.90	6	409	908	F4H	10	14	2-Coil Spring	2 1/16	2 1/16	4 5/16
VS040S	.61	.90	6	510S	915	F4BP	10	14	2-Screw	2 1/16	2 1/16	4 5/16
VS073	.065	.10	1½	—	910	N	24	4	Flashlight	—	1/16	1 5/16
VS074	.08	1.25	1½	912	24	7	24	½	Flashlight	—	1/16	1¾
VS138	1.09	1.55	3	W357	901	4F2H	5	13	2-Spring Clip	3⅞	2 1/16	5⅞
VS022	6.71	8.95	1½-90	759	413	17GD60	1	20	4-Hole Socket	15¾	4¼	6 13/16
VS026	2.80	3.73	22½-45	W365P	717	2308PI	6	44	3-Hole Socket	8 1/16	3 1/16	7 1/16
VS045	5.96	7.95	1½-90	—	426	18GD60	1	20	4-Hole Socket	12 3/16	5⅜	6 13/16
VS119	8.21	10.95	7½-9-90	S6D60	415	—	1	20½	4-Pr. Rec. Plug 8-Hole Socket	8¼	4½	13⅞
VS006C	.65	.98	1½	6 Ign. C	914	6 Ign. C	12	26	2-Spring Clip	—	2⅝	6⅝
VS006S	.65	.98	1½	61GN	905	61GN	12	26	2-Screw	—	2⅝	6 1/16
VS026	2.80	3.73	22½-45	W365P	717	2308PI	6	44	3-Hole Socket	8 1/16	3 1/16	7 1/16
VS028	.53	.75	4½†	781	714	5360	5	2	2-Screw	2 3/16	13/16	2⅞
VS029	.95	1.35	7½§†	773	713	5540	5	3	5-Scr., 1-Pigtl.	3⅞	13/16	2 15/16
VS030	.98	1.40	3-4½†	771	718	2370PI	5	3½	3-Hole Socket	3 1/16	1⅜	2⅞
VS031	1.65	2.35	3-4½-16½-22½†	768	721	5156PI	5	6½	5-Hole Socket	4	2½	3
VS039	2.63	3.95	6	1461	907	S461	4	41	2-Screw (Insul.)	10⅜	2⅞	7 3/16
VS070	.35	.50	1½	960P	23	8R	20	7	2-Hole Socket	—	1 5/16	4 1/16
VS033	.77	1.10	15	411	208	U10	20	1½	Flashlight	1 3/16	5/8	1 7/16
VS085	1.16	1.65	30	413	210	U20	20	2	Flashlight	1 3/16	5/8	2 1/16
VS087	1.52	2.20	21	—	759	—	1	1	Metal Caps	—	13/16	3 3/16
VS088	2.06	2.95	21	—	760	—	1	2	Metal Cans	—	15/16	3 7/16
VS093	7.70	11.00	300	493	722	U200	1	1	2-Fl.-Pin Jack	2⅝	2⅜	3 13/16
VS100	.65	.95	3	W352	701	F2BP	1	4¼	2-Screw (Insul.)	2⅝	1⅜	4 1/16
VS101	.65	.96	1½	W354	700	2FBP	5	4	2-Screw (Insul.)	2⅝	1⅜	4⅛
VS102	1.54	2.20	22½	763	710	4156	5	4½	2-Screw	3⅜	2 1/16	2¾
VS103	2.76	3.95	6	706	902	4F4H	6	39	2-Screw (Insul.)	8 1/16	2 13/16	6 1/16
VS106	.65	.98	1½	735	900	4FH	10	14	2-Screw	2 13/16	2 13/16	4 5/16
VS112	2.31	3.35	22½-45	W376	709	5308	5	13	3-Screw (Insul.)	4⅛	2⅝	5 7/16
VS114	2.14	3.07	22½-45	W350	711	Z30NX	5	6½	3-Screw (Insul.)	3	1 7/16	4 13/16
VS126	2.77	3.95	22½-45	W365F	723	2308SC	5	37	3-Spring Clip	8 1/16	3 1/16	7 1/16
VS127	3.55	4.80	22½-45	W363F	734	10308SC	5	53½	3-Spring Clip	8	4	7 3/16
VS127W	3.88	5.79	22½-45	—	724	10308SC	5	55	3-Spring Clip	8	4	7 3/16
VS130	.88	1.25	1½-3-4½†	761T	712	2370ST	5	5½	4-Screw	3 13/16	1⅜	3
VS131	1.89	2.70	22½▲†	778	708	5156SC	5	9	8-Spring Clip	4⅛	2½	3 5/16
VS132	1.88	2.81	9	—	909	D6BP	5	8	2-Screw	4 1/16	2 13/16	3
VS133	.39	.60	4½	703	706	532	5	1½	2-Flat Spring	2⅜	13/16	2 7/16
VS134	.42	.60	3	750	704	422	10	3	2-Flat Spring	1 7/16	¾	2 5/16
VS136	.87	1.30	3	W356	703	2F2H	5	8	2-Screw (Insul.)	2 11/16	2 13/16	4 5/16
VS139	3.35	4.98	7½	715	903	4F5H	1	8	2-Screw (Insul.)	7¼	4	6 5/8
VS140	4.09	5.85	9	716	904	4F6H	1	10	2-Screw (Insul.)	8½	4⅛	6 7/16
VS141	.52	.75	1½	W353	11	2F	6	5	2-Hole Socket	2 1/16	1⅜	4¼
VS142	.49	.70	4½	751	765	432	10	4	2-Flat Spring	2	¾	2 5/16
VS157	3.90	5.22	22½-45	W364F	715	21308SC	5	61	3-Spring Clip	8½	4⅝	7 13/16

♦Sealed-in-Steel. §Other voltage taps: 1½, 3, 4½, 6. • Wax coated. ▲Other voltage taps, 3, 4½, 6, 9, 10½, 16½.
*Optional. †C battery; voltages shown are negative.

PRICES EFFECTIVE JULY 1, 1956

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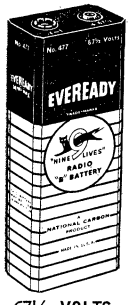
Net

EVEREADY
TRADE-MARK

BATTERIES FOR RADIO
ELECTRONIC AND OTHER APPLICATIONS

PORTABLE "B" TYPES



67½ VOLTS
No. 477

90 VOLTS
No. 490

45 VOLTS
No. 415

67½ VOLTS
No. 467

NEW
Specially designed
heavy duty radio "A" battery
heavy duty "A" battery

1½ VOLT No. A100 →

PORTABLE "A" TYPES

7½ VOLTS
No. 717

4½ VOLTS
No. 964

1½ VOLTS
No. 635

PORTABLE "A-B" PACKS

6 - 7½ - 75 VOLTS
No. 755

7½ - 9 - 90 VOLTS
No. 753

FARM PACKS

1½ - 90 VOLTS
No. 759

LANTERN BATTERIES

6 VOLTS

510-S SCREW TERMINAL
Available with Spring Clip

No. 509

DRY CELL

1½ VOLT
No. 6 IGNITOR

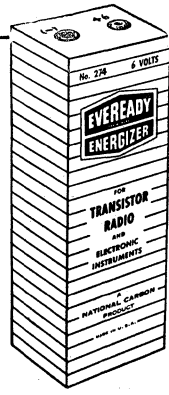
HOT-SHOT BATTERY

6 VOLTS No. 1461
1462 6 VOLTS
1562 7½ VOLTS
1662 9 VOLTS

SPECIAL BATTERY TYPES

45 VOLTS
No. W376

45 VOLTS
No. W350



6 VOLTS
No. 274

TRANSISTOR TYPES

9 VOLTS
No. 226

9 - 13½ VOLTS
No. 239

9 VOLTS
No. 276

FOR COMPLETE BATTERY SPECIFICATIONS SEE PAGES M-8 AND M-9

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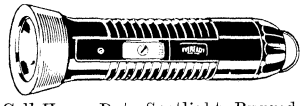
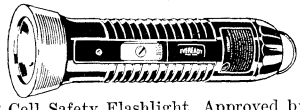
EVEREADY TRADE-MARK

FLASHLIGHTS and BATTERIES

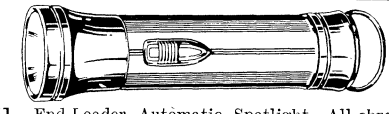
D99 950 935 915 912



No 1251A—2-Cell Heavy Duty Spotlight. Rugged Insulated Case. Will not shatter, crack or dent. Unbreakable safety-glow lens-guard. Streamlined to slip in and out of pocket without snagging. Ring-hanger.
List price each (Without Batteries).....**$2.50**
Also available in 3 cell sizes.

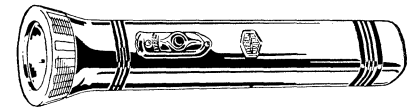


No. 1259A—2-Cell Safety Flashlight. Approved by United States Bureau of Mines and listed with Underwriters Laboratories Inc.
List price each (Without Batteries).....**$4.15**
Also available in 3 cell sizes.

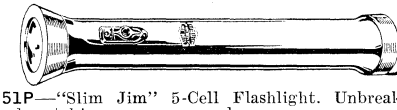


No. 8251—End-Loader Automatic Spotlight. All-chrome finish. Removable bottom cap. Ring-hanger.
List price each (Without Batteries).....**$1.59**

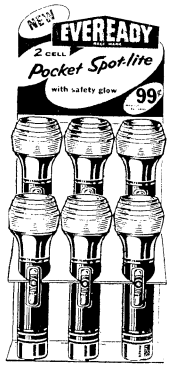
No. 7231P—2-Cell Small Square Spotlight. Easy grip. Smart styling. All-chrome finish. Unbreakable "safety-glow" lens-guard.
List price each (Without Batteries).....**$1.85**



No. 7351P—3-Cell Square Spotlight. Easy grip. All-chrome finish. Unbreakable "safety-glow" lens-guard.
List price each (Without Batteries).....**$2.35**



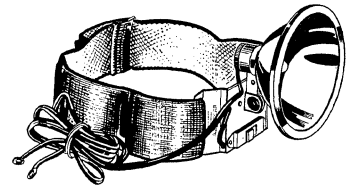
No. 7551P—"Slim Jim" 5-Cell Flashlight. Unbreakable lens-guard and matching rear cap guard.
List price each (Without Batteries).....**$3.50**



Display Package No. 133

Pocket Spot-lites. Slender, seamless metal case, slips easily into pocket. Uses "Eveready" No. 935 batteries.

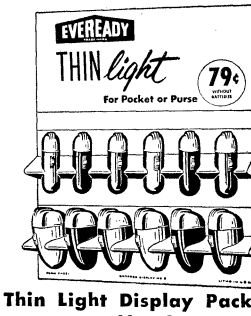
List price ea....$0.99
(Without Batteries)



Head • Lite No. 3452

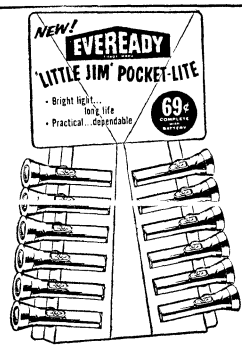
Long-range beam, leaves both hands free for work around the home and on the job. Uses No. 510S lantern battery.

List price each.....$2.75
(Without Batteries)



Thin Light Display Package No. 8

For pocket or purse — dependable switch, concentrated bright light. Uses two No. 912 batteries.
List price each.....$0.79
(Without Batteries)

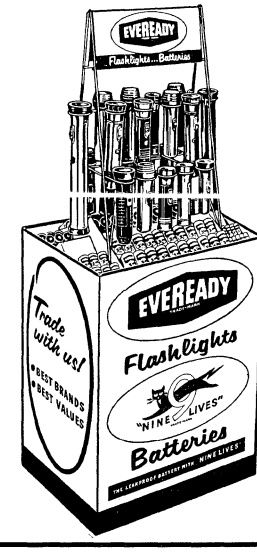


Display Package No. 15

"Little Jim" Miniature Pocket-Lite. Replica of famous "Eveready" "Masterlite" Square Flashlight. Unbreakable lens-guard glows red for greater light and safety.
List price each.....**$0.69**
(With Batteries)

Display Package No. 128

"Eveready" Masterlite Flashlights. Exclusive square case. Unbreakable "safety-glow" lens-guard.
List price each (Without batteries)..**$1.85 to $2.35**



Display Package No. 132

"Walkaround" island display for both flashlights and batteries. 36 flashlights, ten different types.

List price each from **$1.59 - $3.50**
(Without Batteries)

FOR COMPLETE BATTERY SPECIFICATIONS SEE PAGES M-8, M-9

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COMPLETE LINE SPECIFICATIONS

"A" BATTERIES FOR PORTABLE RADIO, INSTRUMENT & OTHER APPLICATIONS

"Eveready" Battery Number	NEDA Number	List Price Each	Overall Dimensions In Inches L W H	Voltages and Terminals	Battery Weight lbs.	Battery Weight oz.	Unit Pkg. Quan.	Wt. of Unit Pkg. lbs.
A100	—	$ 0.25	1-21/64 Diam. x 2-13/32	Flashlight—, +1½	—	3-1/3	48	10
E233	—	2.45	1-1/64 Diam. x 1.968	Flat Contact—, +4	—	3.1	1	5 oz.
635	—	0.20	1-1/64 Diam. x 1-31/32	Flashlight—, +1½	—	1-2/5	12	1-1/8
713	8	1.25	3-29/32 x 53/64 x 2-27/32	Socket—, +7½	—	6-1/3	1	3/8
717	9	1.25	2-7/32 x 1-15/16 x 3-1/32	Socket—, +7½	—	8	6	3
††718	1	2.75	3-29/32 x 2-3/4 x 5-7/16	Socket—, +6	2	4	1	2-3/4
720	18	0.75	2-25/32 x 1-13/32 x 3-1/32	Socket—, +1½	—	6-1/2	6	2-5/8
724	2	0.85	1-7/32 x 1-7/32 x 2-11/32	Flashlight—, +6	—	2-1/2	1	1/4
726	19	0.85	3-15/16 x 1-5/16 x 2-15/16	Socket—, +4½	—	10-1/2	6	4
736	3	1.00	3-15/16 x 1-5/16 x 4-3/32	Socket—, +4½	1	—	6	6-1/4
††741	17	2.25	3-7/8 x 2-11/16 x 5-3/8	Socket—, +1.5	2	10	1	2-3/4
742	4	1.25	2-9/16 x 2-9/16 x 3-31/32	Socket—, +1.5	1	5	6	8
††743	5	1.85	3-13/16 x 2-5/8 x 4-1/32	Socket—, +1.5	1	15	3	6
744	*	1.25	2-21/32 x 2-21/32 x 3-31/32	Socket—, +6	1	5	6	8-1/4
††745	21	2.50	3-7/8 x 1-7/16 x 10-25/32	Socket—, +1.5	2	10-1/2	2	5-1/2
746	7	1.05	3-15/16 x 1-5/16 x 4-21/32	Socket—, +4.5	1	3-2/5	6	7-1/4
††747	16	2.95	3-7/8 x 1-7/16 x 10-25/32	Socket—, +6	2	11	2	5-1/2
†912	24	0.125	0.4 Diam. x 1-3/4	Flashlight—, 1½	—	3/10	12	1/4
†915	15	0.125	35/64 Diam. x 1-31/32	Flashlight—, 1½	—	3/5	12	7/16
†935	14	0.15	1-1/64 Diam. x 2	Flashlight—, 1½	—	1-2/5	12	1-1/8
†950	13	0.15	1-21/64 Diam. x 2-13/32	Flashlight—, 1½	—	3	48	9-1/2
†D-99	—	0.20	1-21/64 Diam. x 2-13/32	Flashlight—, 1½	—	3-1/3	48	10
960-P	23	0.50	1-11/32 Diam. x 4-1/16	Socket—, +1.5	—	5	1	5/16
964	20	0.35	1-3/8 Diam. x 4-11/64	Flashlight—, +1½	—	5-9/10	12	4-1/2

"B" BATTERIES FOR PORTABLE RADIO, INSTRUMENT & ELECTRONIC APPLICATIONS

411	208	1.10	1-1/32 x 5/8 x 1-29/64	Flat Contact—, +15	—	4/5	1	1-1/16
412	215	1.40	1-1/32 x 5/8 x 2	Flat Contact—, +22½	—	1-1/5	1	1-1/2
413	210	1.65	1-1/32 x 5/8 x 2-9/16	Flat Contact—, +30	—	1-2/5	1	1-1/10
415	213	2.50	1-3/64 x 5/8 x 3-43/64	Snap Type—, +45	—	2-1/2	6	7/8
417	—	1.50	1-5/16 x 31/32 x 1-9/16	Flat Contact—, +15	—	1-4/5	6	4/5
420	—	1.65	1-5/16 x 31/32 x 2-3/16	Flat Contact—, +22½	—	2-1/2	6	1-1/10
430	—	1.95	1-5/16 x 1 x 2-13/16	Flat Contact—, +30	—	3-1/5	1	5-1/2
437	212	3.95	1-15/16 x 1-15/32 x 6-15/32	Snap Type—, +75	—	14-3/4	3	3
455	201	2.25	2-21/32 x 1 x 3-11/16	Snap Type—, +45	—	7-4/5	6	3-1/4
457	203	2.95	2-13/16 x 1-3/8 x 2-1/2	Snap Type—, +67½	—	7-2/5	6	3
467	200	3.25	2-13/16 x 1-3/8 x 3-45/64	Snap Type—, +67½	—	12	6	4-3/4
477	211P	2.85	1-29/32 x 63/64 x 5-7/16	Snap Type—, +67½	—	8-3/5	6	3
479	214	3.50	1-31/32 x 1-1/32 x 7-15/32	Snap Type—, +90	—	12	6	4-3/4
482	202	2.95	3-19/32 x 1-27/32 x 5-1/2	Socket—, +45	1	15	6	12-1/2
484	207	3.85	3-31/32 x 2-17/32 x 5-5/16	Socket—, +45	3	2	1	3-1/4
490	204	3.95	3-23/32 x 1-3/8 x 3-45/64	Snap Type—, +90	—	15	6	6-1/2
504	—	1.10	5/8 x 19/32 x 1-3/8	Flat Contacts—, +15½	—	3/5	1	1/16
505	—	1.40	5/8 x 19/32 x 1-63/64	Recessed—, +22½	—	4/5	1	1/16
506	—	1.75	1-13/64 x 5/8 x 1-27/64	Flat Contacts—, +30	—	9/10	1	1/16
507	—	1.75	5/8 x 19/32 x 2.605	Flat Contact—, +30	—	9/10	1	1/16
738	205	3.75	3 x 2-5/16 x 4-1/8	Socket—, +22½, +45	1	3-2/5	2	2-1/2

TRANSISTOR ENERGIZER BATTERIES FOR PORTABLE RADIO & ELECTRONIC APPLICATIONS

216	1604	1.50	1-1/32 x 11/16 x 1-29/32	—, +9 Snaps	—	1-1/8	1	3/16
226	*	1.00	1 x 1 x 1-15/16	Snap Type—, +9	—	1-4/5	1	1/8
239	1900	1.25	1-21/64 x 1-1/32 x 2-11/16	Socket—, +9, +13½	—	3	1	3/16
246	1602	1.70	1-13/32 x 1-11/32 x 3-3/16	Snap Type—, +9	—	5-1/2	1	3/8
266	1605	1.45	1-13/16 x 1-13/16 x 2-7/16	—, +9 Snaps	—	7	1	1
274	1400	3.95	2-9/16 x 2-1/32 x 7-29/32	Snap Type—, +6	2	7	1	2-3/4
276	1603	1.65	2-9/16 x 2-1/32 x 3-5/32	Snap Type—, +9	—	15	1	15/16
2314	2400	1.85	1-21/64 x 1-1/32 x 2-7/8	—, —12, —21 Socket	—	3	1	1/4
2506	1601	1.50	8 x 1-9/16 x 2-13/16	—, +3, +6, +9 Socket	1	8	1	1-1/2

"A-B" PACKS FOR PORTABLE RADIO

727 (756P)	428	6.50	8-7/8 x 2-1/8 x 3-25/32	Recessed Plug—"A" +9 "A," —"B", +90 "B"	2	14	1	3
††729	*	5.50	7-13/16 x 2-7/32 x 3-27/32	Socket—"A" +1½ "A" —"B" +90 "B"	2	7	1	2-1/2
752	400	7.25	14-1/16 x 2-11/16 x 4-1/16	Recessed Plug—"A" +9 "A", —"B", +90 "B"	6	2	1	6-1/4
752W	416	7.65	14-1/16 x 2-11/16 x 4-1/16	Recessed Plug—"A" +10½ "A", —"B" +90 "B"	6	8	1	7
753	401	6.85	9-7/32 x 2-23/32 x 4-5/16	Socket—"A" +7½ "A", +9 "A"—"B" +90 "B"	4	12	1	5
754	402	7.50	10-15/32 x 3-1/4 x 4	Socket—"A" +7½ "A"", +9 "A"—"B" +90 "B"	6	1	1	6-1/4
755	403	5.95	8-9/16 x 2-7/16 x 3-3/4	Socket—"A", +6 "A", +7½ "A" —"B", +75 "B"	3	9	1	3
756	*	6.50	8-7/8 x 2-1/8 x 3-25/32	Socket—"A" +7½ "A", +9 "A"—"B" +90 "B"	2	14	1	3
757	*	6.50	9-7/32 x 2-23/32 x 4-7/32	Recessed Plug—"A" +9 "A", —"B" +90 "B"	4	12	1	5
776	*	10.85	7-27/32 x 4-1/8 x 9-7/8	Socket & Recessed Plug—"A" +7½ "A", +9 "A"—"B" +90 "B"	14	12	1	15-1/4
785	431	5.95	8-3/8 x 3-5/8 x 2-1/4	Socket—, +7½ "A", —"B", +75 "B"	2	12	1	2-7/8

"A-B" PACKS FOR FARM RADIO

758	414	8.95	10-11/16 x 4-1/8 x 6-13/16	Socket—"A", +1.5 "A" —"B", +90 "B"	14	4	1	14-3/4
759	*	8.95	15-11/16 x 4-5/32 x 6-15/16	Socket—"A", +1.5 "A" —"B", +90 "B"	16	4	1	17

*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping. ††Shipped from factory only.

Continued on next page

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COMPLETE LINE SPECIFICATIONS

SPECIAL BATTERY TYPES FOR RADIO, ELECTRONIC EQUIPMENT, TEST INSTRUMENTS

"Eveready" Battery Number	NEDA Number	List Price Each	Overall Dimensions In Inches L	W	H	Voltages and Terminals	Battery Weight lbs.	oz.	Unit Pkg. Quan.	Wt. of Unit Pkg. lbs.
W350	711	$3.10	3-1/32 x	1-7/8 x	4-31/32	Screw—, +22½, +45	—	14-1/2	5	4-7/8
W351	—	6.75	3-5/8 x	2-1/4 x	3-11/16	Screw—, +22½, +45	1	5-1/2	1	1-3/4
W352	701	0.95	2-21/32 x	1-11/32 x	4-9/16	Screw—, +3	—	12-1/2	5	4-1/4
W353	11	0.75	2-19/32 x	1-3/8 x	4-1/4	Socket—, +1½	—	12-1/2	1	7/8
W354	700	0.95	2-21/32 x	1-11/32 x	4-3/8	Screw—, +1½	—	12-1/4	5	4-3/16
W355	—	1.40	1-9/16 x	13/16 x	2-15/16	Screw—, +1½	—	3	5	1-5/16
W356	*	1.30	2-5/8 x	2-5/8 x	4-9/16	Screw—, +3	1	6	5	1-15/16
W357	901	1.55	3-7/8 x	2-11/16 x	5-13/16	Spring Clip—, +3	2	12	1	3
W358	—	2.70	2-15/16 x	1-3/16 x	4-1/8	Ins. Screw—, +45	—	8-3/4	1	3/4
W359	203	2.85	3-9/16 x	2-1/4 x	4-1/2	Socket—, +45	1	11-3/4	1	2
W360	10	1.35	2-9/16 x	2-9/16 x	4-1/32	Socket—, +7½	1	3	3	3-3/4
W361	—	5.35	1-11/32 x	1-11/32 x	11-23/32	Contact—, +16½	1	4	1	1-5/8
W362	—	1.90	2-15/16 x	11/16 x	1-3/4	Screw+, —4½, —7½	—	1-1/2	5	13/16
W363F	*	4.80	△8-1/32 x	4-1/16 x	7-5/8	Spring Clip—, +22½, +45	10	5	1	10-13/16
W364F	*	5.22	△8-1/8 x	4-7/16 x	7-11/16	Spring Clip—, +22½, +45	11	14	1	12-3/8
W365F	723	4.35	△8-1/16 x	2-15/16 x	7-5/8	Spring Clip—, +22½, +45	7	7-1/2	1	8
W366	407	6.70	9-1/32 x	2-1/32 x	4-23/32	Socket—"A", +1½ "A", —"B", +63 "B"	4	4	1	4-5/8
W367	408	7.70	9-1/8 x	2-3/4 x	4-7/16	Socket—"A", +7½ "A", —"B", +63 "B"	4	5	1	4-11/16
W368	*	6.25	9-1/32 x	2-23/32 x	3-9/16	Recessed Plug—"A", +6 "A", —"B", +75 "B"	4	—	1	4-3/8
W369	*	6.25	9-15/16 x	2-1/4 x	4-23/32	Socket—"A", +1½ "A", —"B", +90 "B"	4	5	1	4-11/16
W370	*	4.45	2-13/32 x	1-11/32 x	7-5/32	Socket—"A", +1½ "A", —"B", +60 "B"	1	1-1/2	1	1-9/16
W371	—	0.75	1-5/32 x	1-5/32 x	2-9/16	Socket—, +3	—	2-1/4	12	2-1/16
W376	709	3.35	4-3/32 x	2-9/16 x	5-7/16	Screw—, +22½, +45	2	12	1	3
487	—	3.95	5-1/8 x	2-1/16 x	7-1/4	—, +22½, +45 Socket	4	2	6	26-3/5

MERCURY ENERGIZER BATTERIES FOR RADIO, ELECTRONIC & INDUSTRIAL APPLICATIONS

E1	—	0.50	.625	Diam. x	.650	Flat Contact—, +1.34	—	.43	4	1-3/4 oz.
E3	—	0.70	.985	Diam. x	.660	Flat Contact—, +1.34	—	.93	4	4-1/4 oz.
E4	—	0.95	1.195	Diam. x	.660	Flat Contact—, +1.34	—	1.6	4	6-1/4 oz.
E12	—	1.10	.625	Diam. x	1.968	Flat Contact—, +1.34	—	1.4	2	3-1/4 oz.
E132	—	1.20	.662	Diam. x	1.315	Flat Contact—, +2.69	—	.9	2	1-3/4 oz.
E133	—	1.65	.662	Diam. x	1.965	Flat Contact—, +4.03	—	1.4	2	2-3/4 oz.
E134	—	2.15	.662	Diam. x	2.620	Flat Contact—, +5	—	1.85	2	3-3/4 oz.
E233	—	2.45	1-1/64	Diam. x	1.968	Flat Contact—, +4	—	3.1	1	5 oz.
E400	—	0.38	.455	Diam. x	.130	Flat Contact—, +1.3	—	.04	5	1/4 oz.
E401	—	0.50	.465	Diam. x	1.110	Flat Contact—, +1.34	—	.4	2	3/4 oz.
E502	—	0.85	.546	Diam. x	1.968	Flat Contact—, +1.3	—	1.05	2	2-1/4 oz.
E625	—	0.40	.610	Diam. x	.235	Flat Contact—, +1.34	—	.14	4	3/4 oz.
E302157	—	14.00	2-3/16 x	1-7/16 x	4-5/16	Socket—, +1.3	—	13	1	16 oz.
E302158	—	33.00	3-1/4 x	1-3/8 x	4-1/4	Socket—, +45, —, +22½ —, +2.6, +5	1	2	1	22 oz.
E302351	—	3.30	1-1/8	Diam. x	2-5/8	Flat Contact—, +5.2	—	4	1	6 oz.
E302478	—	5.00	1.245	Diam. x	3-5/8	Flat Contact—, +9	—	9	1	12 oz.
E302642	—	4.35	1-1/16	Diam. x	2-9/16	Flat Contact—, 6½	—	5	1	6 oz.

LANTERN BATTERY

509	916	0.90	2-5/8 x	2-5/8 x	3-27/32	Spring & Coil—, +6	1	5	12	16

No. 6 DRY CELLS

"Ignitor" & Gen. Purpose	905	0.98	2-5/8	Diam. x	6-5/8	**Screw—, +1½	2	2	12	27
"Gray Label" & Telephone	906	0.95	2-5/8	Diam. x	6-5/8	***Spring—, +1½	2	2	12	26-1/4
6 Railroad & Industrial	911	1.05	2-5/8	Diam. x	6-5/8	**Screw—, +1½	2	2	12	27-1/2

"HOT SHOT" BATTERIES

1461	907	3.95	10-3/8 x	2-3/4 x	7-1/4	Ins. Sc.—, +6	9	9	6	58-1/4
1462	—	3.95	5-3/8 x	5-3/8 x	7-1/4	Ins. Sc.—, +6	9	7	4	39-1/4
1562	*	4.98	7-7/8 x	5 x	7-1/4	Ins. Sc.—, +7½	11	10	4	50-1/2
1662	913	5.85	7-13/16 x	5-1/4 x	7-1/4	Ins. Sc.—, +9	14	1	4	60-1/4

HIGH VOLTAGE BATTERY

493	722	11.00	2-11/16 x	2-7/32 x	3-29/32	Pin Jacks—, +300	—	14-1/2	1	1

TYPES FOR EMERGENCY LIGHTING, EXIT LIGHTS, IGNITION

510-F	917	0.90	2-5/8 x	2-5/8 x	4-9/32	Spring—, +6	1	6	1	1-1/4
510-S	*	0.90	2-5/8 x	2-5/8 x	4-5/32	Screw— +6	1	6	1	1-1/4
706	902	3.95	8-5/16 x	2-13/16 x	6-7/16	Ins. Sc.—, +6	5	14	1	6-3/8
715	903	4.98	7-1/4 x	4-1/16 x	6-7/16	Ins. Sc.—, +7½	7	10	1	8
716	904	5.85	8-37/64 x	4-1/16 x	6-7/16	Ins. Sc.—, +9	8	8	1	9
735	900	0.98	2-5/8 x	2-5/8 x	4-9/32	Screw—, +1½	1	4	12	15-1/2

"C" BATTERIES & TYPES USED IN INSTRUMENTS, TELEPHONE & OTHER APPLICATIONS

709	—	0.60	2-7/16 x	27/32 x	3-1/16	Spring—, +4½	—	3	1	3/16
714	—	0.95	3-31/32 x	1-11/32 x	3-13/32	Screw—, +4½	—	14-1/2	1	1
750	*	0.60	1-11/32 x	11/16 x	2-11/16	Spring—, +3	—	2	10	1-1/2
751	*	0.70	2 x	11/16 x	2-21/32	Spring—, +4½	—	3	10	2
760	—	0.75	2-7/16 x	27/32 x	2-19/32	Wire—, +4½	—	4-1/2	6	1
761T	*	1.25	4-1/16 x	1-15/32 x	3-1/2	Screw+, —1½, —3, —4½	—	14	5	5
763	*	2.20	3-1/2 x	2-3/32 x	2-15/16	Screw—, +22½	—	14	1	1
766T	*	3.95	6-3/4 x	4-1/8 x	3-15/16	Spring—, +16½, +18, +19½, +21, +22½	4	10	6	32
768	721	2.35	4-1/8 x	2-17/32 x	2-31/32	Socket+, —3, —4½, —16½ —22½	1	8-1/2	1	1-1/2
771	*	1.40	3-29/32 x	1-3/8 x	3-1/16	Socket+, —3, —4½	—	13	5	4-1/2
773	*	1.35	3-29/32 x	7/8 x	3-1/8	5 Screw; 1 wire+, —1½, —3, —4½, —6, —7½	—	9	5	3
774	—	1.75	4-1/32 x	1-13/32 x	3	Socket+, —7½	—	8-1/2	5	3
778	*	2.70	4-1/8 x	2-17/32 x	3-7/16	Fahnestock+, —3, —4½, —6, —9, —10½, —16½, —22½	1	8	4	6-1/2
781	*	0.75	2-15/32 x	55/64 x	3-1/4	Screw+, —4½	—	5	5	1-3/4
789	—	1.90	5-9/32 x	1-7/16 x	3-1/4	Flat—, +3	1	1-1/2	1	1-1/2
799	—	9.50	8-5/32 x	4-1/4 x	8-19/32	Spring—, +22½, +45, +49½	13	5	6	93-1/2

△Furnished with Fahnestock spring terminals. If socket terminals required, specify W-363P, W-364P, W-365P.
*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping.
**Equipped with screw terminals unless Fahnestock spring terminals are specified.
***Equipped with Fahnestock spring terminals unless screw terminals are specified.
††Shipped from factory only.

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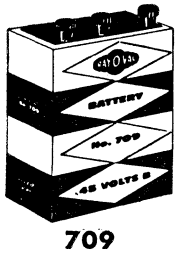
Rely on RAY-O-VAC Batteries

SUPPORTED BY A COMPLETE MERCHANDISING PROGRAM

A B BATTERIES

A400*

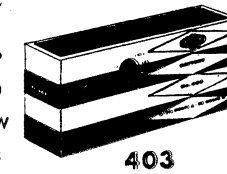
401



709

6 Ign. SC.

STOCK NO.	VOLT-AGE	DIMENSIONS L	W	H	TERMINALS	COMPARATIVE GUIDE EVEREADY	BURGESS	RCA
A400*	9—90	13 3/8	2 3/4	4 9/16	4 Prong Recessed Plug	752	G6B60	VS047
401	7½, 9—90	9 1/16	2 23/32	4 3/8	RETMA 116	753	F6A60	VS019
403	6, 7½—75	8 9/16	3 11/16	2 7/16	RETMA 116	755	T5Z50	VS050
405	7½, 9—90	8 11/16	2 3/16	3 3/4	RETMA 116	756	T6Z60	VS057W
406	9—90	9½	2 23/32	4 3/8	4 Prong Recessed Plug	757	F6A60P	VS058
407	1½—63	9 1/8	2	4 3/4	4 Hole Socket	W366	4GA42	VS053
408	7½—63	8 5/8	2 3/4	4 1/16	RETMA 116	W367	G5A42	VS038
409	1½—90	5½	2 11/16	7 1/8	RETMA 115	—	5DA60	VS043
410	1½—90	10	2 5/16	4 13/16	RETMA 115	W369	6TA60	VS054
413	1½—90	15 3/4	4 1/4	6 13/16	RETMA 115	759	17GD60	VS022
415	7½, 9—90	8 1/4	4 1/2	13 7/8	RETMA 116 & 4 Prong Plug	776	S6D60	VS119
422	6—75	12 5/8	2 3/4	4 1/8	4 Prong Recessed Plug	—	G4B50	VS046
423	1½—61½	9 3/8	2 11/16	3 7/16	4 Hole Socket	—	—	VS052
425	1½—90	3 5/8	2 3/16	7 3/4	RETMA 115	729	4TZ60	VS064
426	1½—90	12 5/16	5 3/8	6 13/16	RETMA 115 & 8 Hole Socket	—	18GD60	VS045
428	9—90	8 11/16	2 3/16	3 3/4	4 Prong Recessed Plug	756P	T6Z60P	VS059
431	7½—75	8 9/16	3 11/16	2 7/16	5 Prong Recessed Plug	—	75Z50P	VS060



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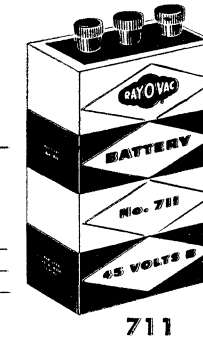

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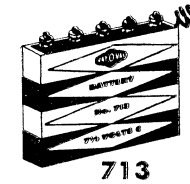

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941

INDUSTRIAL AND SPECIAL PURPOSE BATTERIES (INCLUDING TRANSITOR APPLICATIONS)

STOCK NO.	VOLT-AGE	DIMENSIONS L	W	H	TERMINALS	COMPARATIVE GUIDE EVEREADY	BURGESS	RCA
700	1½	2 5/8	1 3/8	4 9/16	2 Screw	W354	2FBP	VS101
701	3	2 5/8	1 3/8	4 9/16	2 Screw	W352	F2BP	VS100
703	3	2 11/16	2 11/16	4 3/16	2 Screw	W356	2F2H	VS136
704	3	1 7/16	3/4	2 5/16	2 Flat Spring	750	422	VS134
705	4½	2	3/4	2 5/8	2 Flat Spring	751	432	VS142
706	4½	2 3/8	13/16	3 1/16	2 Flat Spring	703	532	VS133
708	—3, —4½, —6, —9, —10½, —16½, —22½	4 1/8	2 1/2	3 5/16	8 Spring Clip	778	5156SC	VS131
709	22½, 45	4 1/8	2 5/8	5 7/16	3 Screw	W376	5308	VS112
A710*	—22½	3 3/8	2 1/8	2 3/4	2 Screw	763	4156	VS102
711	22½, 45	2 31/32	1 27/32	4 15/16	3 Screw	W350	Z30NX	VS114
712	—1½, —3, —4½,	3 15/16	1 3/8	3	4 Screw	761T	2370ST	VS130
713	—1½, —3, —4½, —6, —7½	3 7/8	13/16	2 15/16	5 Screw 1 Pigtail	773	5540	VS029
714	—4½	2 13/32	2 7/32	2 7/8	2 Screw	781	5360	VS028
715	22½, 45	8 1/8	4 5/8	7 11/16	3 Spring Clip	W364F	21308SC	VS157
A716*	22½, 45	8	4	7 3/8	3 Spring Clip	W363F	10308SC	VS127
717	22½, 45	8 1/16	3 3/16	7 3/16	RETMA 107	W365P	2308PI	VS026
718	—3, —4½	3 15/16	1 3/8	2 7/8	RETMA 112	771	2370PI	VS030
721	—3, —4½, —16½, —22½	4	2 1/2	3	RETMA 113	768	5156PI	VS031
722	300	2 3/8	2 5/32	3 13/16	2 Flush Pin Jack	493	U200	VS093
723	22½, 45	8 1/8	3 1/4	7 9/16	3 Spring Clip	W365F	2308SC	VS126
724 (Wax Coated)	22½, 45	8	4	7 3/8	3 Spring Clip	—	10308SC(P)	VS127W
1600	9	31/32 Diam.	—	1 31/32	2 Snap Fasteners	—	—	VS300
1601	3, 6, 9	8	2 13/16	1 5/16	4 Hole Socket	—	—	VS301

* Prefix A added to NEDA number to eliminate duplication of existing Ray-O-Vac number.

Copyright by U. C. P., Inc.

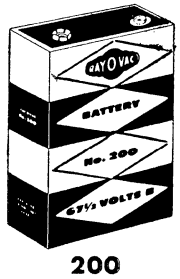
Rely on RAY-O-VAC TRADE MARK Batteries

FOR ALL RADIO, ELECTRONIC, LIGHTING AND HOBBY NEEDS
A NEW COMPLETE LINE OF POWERFUL BATTERIES

2LP

1LP

7R



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213

A BATTERIES

STOCK NO.	VOLT-AGE	DIMENSIONS L	W	H	TERMINALS	COMPARATIVE GUIDE EVEREADY	BURGESS	RCA
A1*	6	3 7/8	2 13/16	5 1/2	RETMA 104	718	2F4	VS010
A2*	6	1 5/32	1 5/32	2 11/32	Flashlight	724	Z4	VS068
A3*	4 1/2	4	1 3/8	4 1/8	RETMA 103	736	F3	VS067
A4*	1 1/2	2 5/8	2 5/8	4 1/16	RETMA 101	742	4F	VS004
A6*	6	2 5/8	2 5/8	3 15/16	RETMA 104	744	F4PI	VS009
A7*	4 1/2	4	1 3/8	4 11/16	RETMA 103	746	G3	VS002
8	7 1/2	4 1/16	15/16	3	RETMA 105	713	B5	VS129
9	7 1/2	2 5/16	2	3 1/16	RETMA 105	717	C5	VS065
11	1 1/2	2 9/16	1 5/16	4 1/4	RETMA 101	W353	2F	VS141
12	1 1/2	3 13/16	1 3/8	5 5/8	RETMA 101	—	4FL	VS005
2LP (NEDA 13)	1 1/2	1 11/32 Diam.	—	2 13/32	Flashlight	950	2R	VS036
1LP (NEDA 14)	1 1/2	1 1/32 Diam.	—	1 31/32	Flashlight	935	1	VS035
7R (NEDA 15)	1 1/2	9/16 Diam.	—	1 31/32	Flashlight	915	Z	VS034
7LP	1 1/2	9/16 Diam.	—	1 31/32	Flashlight	915	Z	VS034
16	6	3 7/8	1 7/16	10 3/4	RETMA 104	747	2F4L	VS011
18	1 1/2	2 9/16	1 5/16	2 27/32	RETMA 101	720	2D	VS069
19	4 1/2	3 15/16	1 5/16	2 15/16	RETMA 103	726	D3	VS072
20	1 1/2	1 3/8 Diam.	—	4 5/32	Flashlight	964	21R	VS236
23	1 1/2	1 5/16 Diam.	—	4 1/16	RETMA 101	960P	8R	VS070
400 (NEDA 24)	1 1/2	7/16 Diam.	—	1 3/4	Flashlight	912	7	VS074

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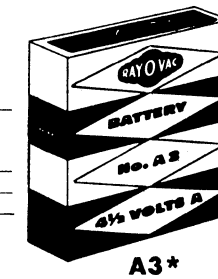


A3*

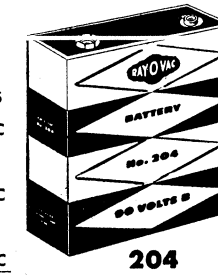
B BATTERIES

STOCK NO.	VOLT-AGE	DIMENSIONS L	W	H	TERMINALS	COMPARATIVE GUIDE EVEREADY	BURGESS	RCA
200	67 1/2	2 23/32	1 11/32	3 3/4	RETMA 119	467	XX45	VS016
201	45	2 21/32	31/32	3 11/16	RETMA 119	455	XX30	VS055
202	45	3 9/16	1 11/16	5 1/2	RETMA 110	482	M30	VS013
203	67 1/2	2 23/32	1 31/32	2 1/2	RETMA 119	457	K45	VS082
204	90	3 11/16	1 3/8	3 3/4	RETMA 119	490	N60	VS090
205	22 1/2, 45	3	2 1/4	4	RETMA 111	738	Z30	VS015
206	45	3 7/16	2 1/4	4 9/16	RETMA 111	W359	A30	VS014
207	45	4 1/8	2 5/8	5 5/16	RETMA 111	484	B30	VS012
208	15	1 1/32	5/8	1 7/16	RETMA 120	411	U10	VS083
A210*	30	1 1/32	5/8	2 9/16	RETMA 120	413	U20	VS085
211M	67 1/2	1 15/16	1	5 9/16	2 Snap Fasteners	—	P45M	VS216/215
211P	67 1/2	1 7/8	1	5 9/16	2 Snap Fasteners	477	P45	VS218
212	75	1 13/16	1 3/8	6 1/4	2 Snap Fasteners	437	XX50	VS217
213	45	1 1/16	9/16	3 9/16	2 Snap Fasteners	415	U30	VS086
214	90	1 7/8	1	7 15/16	2 Snap Fasteners	479	P60	VS219
215	22 1/2	1 1/32	5/8	2	RETMA 120	412	U15	VS084

211M

IGNITION AND LANTERN BATTERIES

STOCK NO.		DIMENSIONS L	W	H	TERMINALS	COMPARATIVE GUIDE EVEREADY	BURGESS	RCA
900	1 1/2	2 11/16	2 11/16	4 3/16	2 Screw	735	4FH	VS106
901	3	3 7/8	2 11/16	5 7/8	2 Spring Clip	W357	4F2H	VS138
902	6	8 9/16	2 25/64	6 3/4	2 Screw	706	4F4H	VS103
903	7 1/2	7 1/4	4	6 5/16	2 Screw	715	4F5H	VS139
904	9	8 1/2	4 1/16	6 7/16	2 Screw	716	4F6H	VS140
6 Ign. SC. (NEDA 905)	1 1/2	2 5/8 Diam.	—	6 9/16	2 Screw	6 Ign.	6 Ign.	VS006S
6 Tel. (NEDA 906)	1 1/2	2 5/8 Diam.	—	6 5/8	2 Spring Clip	6 GL	6 Tel.	VS042C
641 (NEDA 907)	6	10 3/8	2 13/16	7 3/8	2 Screw	1461	S461	VS039
941 (NEDA 908)	6	2 11/16	2 11/16	4 5/16	2 Coil Spring	509	F4H	VS040C
716 (NEDA 910)	1 1/2	29/64 Diam.	—	1 13/64	Flashlight	W468	N	VS073
6 Ign. Clip (NEDA 914)	1 1/2	2 5/8 Diam.	—	6 5/8	2 Spring Clip	6 Ign. Clip	6 Ign. Cl.	VS006C



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* Prefix A added to NEDA number to eliminate duplication of existing Ray-O-Vac number.

RAY-O-VAC FIRST WITH NEDA NUMBERING

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Mueller Electric Co.

CLEVELAND, OHIO

MUELLER BATTERY AND TEST CLIPS

U.S. PATENTS: 1,521,903; 1,686,842; 1,779,442; 1,794,976; 1,965,151; 1,994,251; 1,999,613; 2,074,324; 2,136,814; 2,416,113; 2,549,589; 2,593,130

For use in making quick, temporary electrical connections. Screw connections.

WEE-PEE-WEE No. 88

Entirely Non-ferrous. Smaller Than Ever! An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; spring-temper phosphor bronze. Ideal for close-wound coils. 1 1/16" long; jaw spread 5/32".

EACH NET.....$0.22 LOTS OF 10.....$0.15

Use No. 93 R.F. Insulator.

No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1 1/2" long. Jaw spread 5/16". Steel, cadmium plated.

EACH NET.....$0.07 LOTS OF 10.....$0.05

No. 45-C Solid Copper R.F. Test Clip

No. 45-C Clip
No. 47 Insulator

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1 1/2" long.

EACH NET.....$0.12 LOTS OF 10.....$0.08

Use No. 47 Insulator for clips 45 and 45-C.

No. 48-B

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread 1/16". Steel, cadmium plated.

EACH NET....$0.09 LOTS OF 10....$0.06

No. 48C—Solid Copper. Same size as 48-B.

EACH NET.....$0.14 LOTS OF 10.....$0.095

No. 50-C Needle Clip

Solid bronze. Needle pierces insulation of wire for quick test contact. 2 1/4" long.

EACH NET $0.25 LOTS OF 10 $0.18

No. 51-C—Large crocodile clip. Same as 50-C but without needle.

EACH NET $0.19 LOTS OF 10 $0.13

Use No. 49 insulator for Clips 48-B, 48-C, 50-C and 51-C.

No. 27

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work 2 7/16" long. Jaw spread 1/2". Steel, cadmium plated.

EACH NET.....$0.11 LOTS OF 10.....$0.08

No. 27-C—Solid copper. Same size as No. 27.

EACH NET.....$0.20 LOTS OF 10.....$0.14

Use No. 29 Insulator for clips 27 and 27-C.

CROCODILE CLIPS

U.S. Patent No. 1,999,613

No. 85 or 85-C Clip with No. 87 Insulator

No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. 2 1/8" long.

EACH NET.....$0.08 LOTS OF 10.....$.055

No. 85-C—Same as No. 85, except solid copper. A radio frequency, entirely non-ferrous test clip.

EACH NET.....$0.16 LOTS OF 10.....$0.11

No. 85-T—New Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removable heads. 2 5/8" long.

EACH NET.....$0.20 LOTS OF 10.....$0.14

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protect against short and shock. Help to distinguish leads.

NEW *MINI-GATOR

(Smallest Insulated Clip Ever Made)

*Patent Pending Trademark Reg.

Mini-Gator

Mini-Gator with Insulator

A truly miniaturized clip—the only one of its kind. Indispensable for testing or incorporation into miniaturized equipment. Skin-tight flexible Vinyl insulator (sold separately) covers completely—has slotted "lip action" tip. Clip weighs 1/20th oz., has tiny 1 1/64" O.D. nose, but ample 3/16" jaw spread. Crimping ears. Solder connection. Surprisingly strong bite penetrates corrosion and coatings.

No. 30 (Steel, cadmium plated)

EACH NET.....$0.07 LOTS OF 10.....$0.046

No. 30-C (Solid Copper)

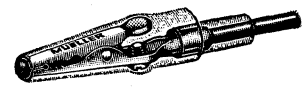
EACH NET.....$0.08 LOTS OF 10.....$0.056

No. 32 (Insulator for Nos. 30 and 30-C)

EACH NET.....$0.11 LOTS OF 10.....$0.076

NEW INSULATED ALLIGATOR CLIPS

Patent Pending



No. 63 or 63-C Clip

Sold only as a unit, with factory-applied insulators.

A radically new development that doubles the usefulness of Alligator Clips! Completely insulated right down to the nose. Flexible 2-piece skin-type vinyl insulator of high dielectric strength, with "lip action" slotted nose that permits opening of clip without exposing metal. Insulator nose is only 15/64" O.D. The tight fitting sheath preserves all the slimness of the Alligator Clip, still giving complete protection against shorts in even the tightest spots. These clips could be bunched together—touching all around—without danger of shorting. Screw connection easily made by slipping insulator forward.

No. 63 INSULATED ALLIGATOR CLIP (STEEL)

Composed of Mueller No. 60-S Alligator Clip steel, cadmium plated, screw connection, complete with 2-piece vinyl insulator. Shipped half with red insulators, half black.

EACH NET.....$0.30 LOTS OF 10.....$0.21

No. 63-C INSULATED ALLIGATOR CLIP (COPPER)

Composed of Mueller No. 60-CS Alligator clip, solid copper, brass screw connection. Shipped half with red insulators, half black.

EACH NET.....$0.33 LOTS OF 10.....$0.23

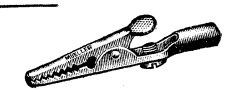
ALLIGATOR CLIPS

No. 60—CONVENTIONAL TYPE

Accurately made, slim jaws, fine meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Cadmium plated. 2" long.

EACH NET.....$0.07 LOTS OF 10.....$0.05

No. 60-S—SCREW CONNECTION



Eliminates necessity for soldering. Otherwise same as No. 60.

EACH NET $0.08 LOTS OF 10 $0.058

No. 60-CS—COPPER R.F. ALLIGATOR CLIP

Solid copper version of No. 60-S. Brass screw connection. Will not heat in HF circuits. 2" long.

EACH NET.....$0.13 LOTS OF 10.....$0.088

No. 62 FLEXIBLE VINYL INSULATOR

New! Red and black insulators for Alligator Clips 60S, 60CS and 60.

EACH NET.....$0.07 LOTS OF 10.....$0.05

No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. 2 11/32" long. Shipped half red, half black.

EACH NET.....$0.14 LOTS OF 10.....$0.095

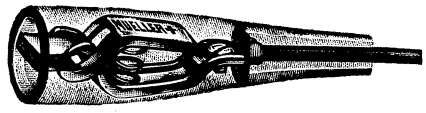
No. 60-CHS—COPPER ALLIGATOR CLIP, INSULATED HANDLE

Solid copper version of No. 60-HS. Brass screw. Shipped with half red, half black insulating sleeves.

EACH NET.....$0.18 LOTS OF 10.....$0.12

Mueller Electric Co.

FLEXIBLE INSULATORS FOR CLIPS



A convenient protection against short circuit and electric shock. Packed half red and half black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13	11-A, 11-C	$0.77	$0.54
23	21-A, 21-C	.42	.29
26*	24-A, 24-C	.25	.18
29*	27, 27-C	.17	.12
32	30, 30-C	.11	.076
35	33-C	2.12	1.50
47*	45, 45-C	.07	.05
49*	48-B, 48-C, 50-C, 51-C	.10	.07
62*	60S, 60CS, 60	.07	.05
87*	85, 85-C, 85-T	.07	.05
93	88	.10	.07

*Also available in yellow, blue and white.

LARGER SIZES OF CLIPS

No. 24-A

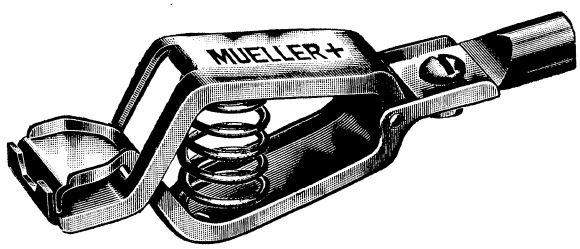
A medium sized battery clip. Stands erect on battery post. Lead coated, copper shunt protects spring. 2⅞" long. Jaw spread ¾". Steel, lead plated.

EACH NET $0.18
LOTS OF 10 .....$0.12

No. 24-C—Solid copper. Same size as No. 24-A.
EACH NET.....$0.31 LOTS OF 10.....$0.22
Use No. 26 Insulator for Clips 24-A and 24-C.

No. 21-A—Steel, Lead Plated—4" Long

	Each Net	Lots of 10
No. 21-A—Heavy Duty Steel, lead plated, 4" long	$0.36	$0.25



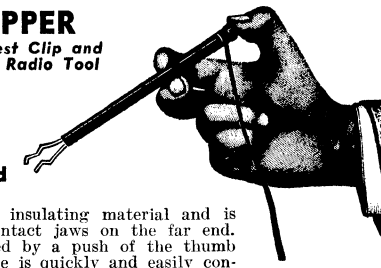
No. 21-C—100 Amp. Solid Copper, 4½" long	$0.83	$0.58
No. 11-A—100 Amp. Steel, lead plated, 6" long	.88	.62
No. 11-C—200 Amp. Solid Copper, 6" long	1.54	1.08
No. 33-C—300 Amp. Solid Copper, 7¾" long	3.00	2.10

(Furnished with detachable lug connection for easy securing to large cables.)

THE SNAPPER

A Long Insulated Test Clip and A "Triple Threat" Radio Tool

U. S. Patent
No. 2,074,324

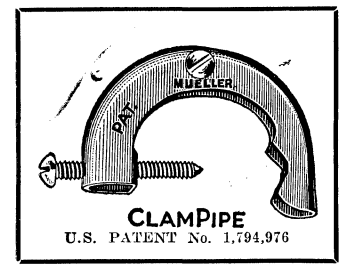


No. 99
7" Long Insulated

The long tube is of insulating material and is fitted with spring contact jaws on the far end. The jaws are operated by a push of the thumb on the near end. Wire is quickly and easily connected in a hole in the insulator knob binding post on the near end. May be used as **(1) A "Deep Sea" Electric Test Clip**—test contacts with ease, deep in the recesses of radio chassis with no danger of short circuits; **(2) An Electric Contact Prod**—clip jaws may be used to make quick prod contacts, or clip one Snapper on ground circuit and prod with another; **(3) A Retriever**—start small screws and nuts or pick up odds and ends that may accidentally be dropped into inaccessible places.

PRICE.....$1.20 EACH Dealers' Wholesale Price, each....$0.72 Net
Snappers are generally used in pairs—1 red and 1 black.

CLAMPIPE GROUND CLAMP



No. 58

The exclusive patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClamPipe that cannot be found in any other make.

The ClamPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.

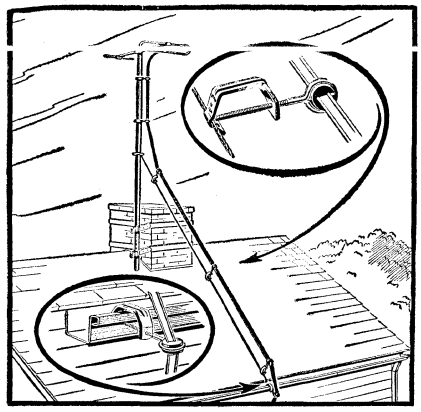
The best ground clamp value on the market. Applicable to pipe ⅜" to 1⅜" outside diameter.

Packed 10 in a box
EACH NET.....$0.18 LOTS OF 10.....$0.125

THE "TENNA-CLAMP"

A New 3-in-1 Stand-off Insulator Clamp!

Supports TV and FM Lead-ins on MASTS, PIPES, GUTTERS and GUY-WIRES

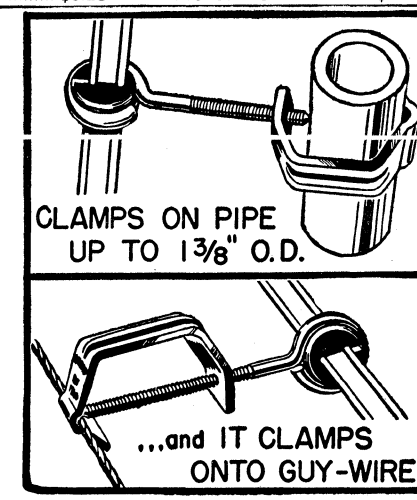


Has same general features and specifications as Tenna-ClamPipe described above except different type clamp channeled on end to take standard guy-wire in addition to pipes.

HAS THESE USEFUL FEATURES —

- One standard size solves many lead-in problems — far more useful than straps or wire bands.
- Brings lead-in to edge of roof — right where you want it — no more "draping" of wire across the roof.
- On those high jobs, come right down a guy-wire — and get around the gutter in the clear.

LOW PRICES!
All packed 100 in a carton
No. 135—For all types of Cables.
EACH NET, $0.14 LOTS OF 10, $0.10
LOTS OF 100, $0.084



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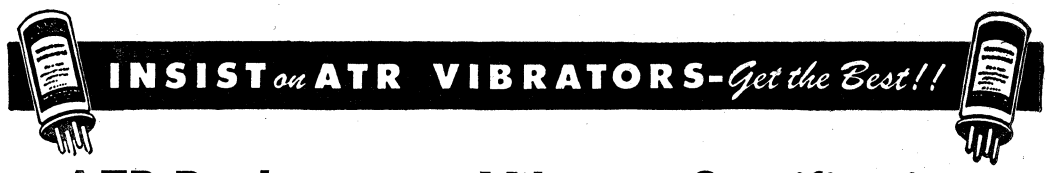
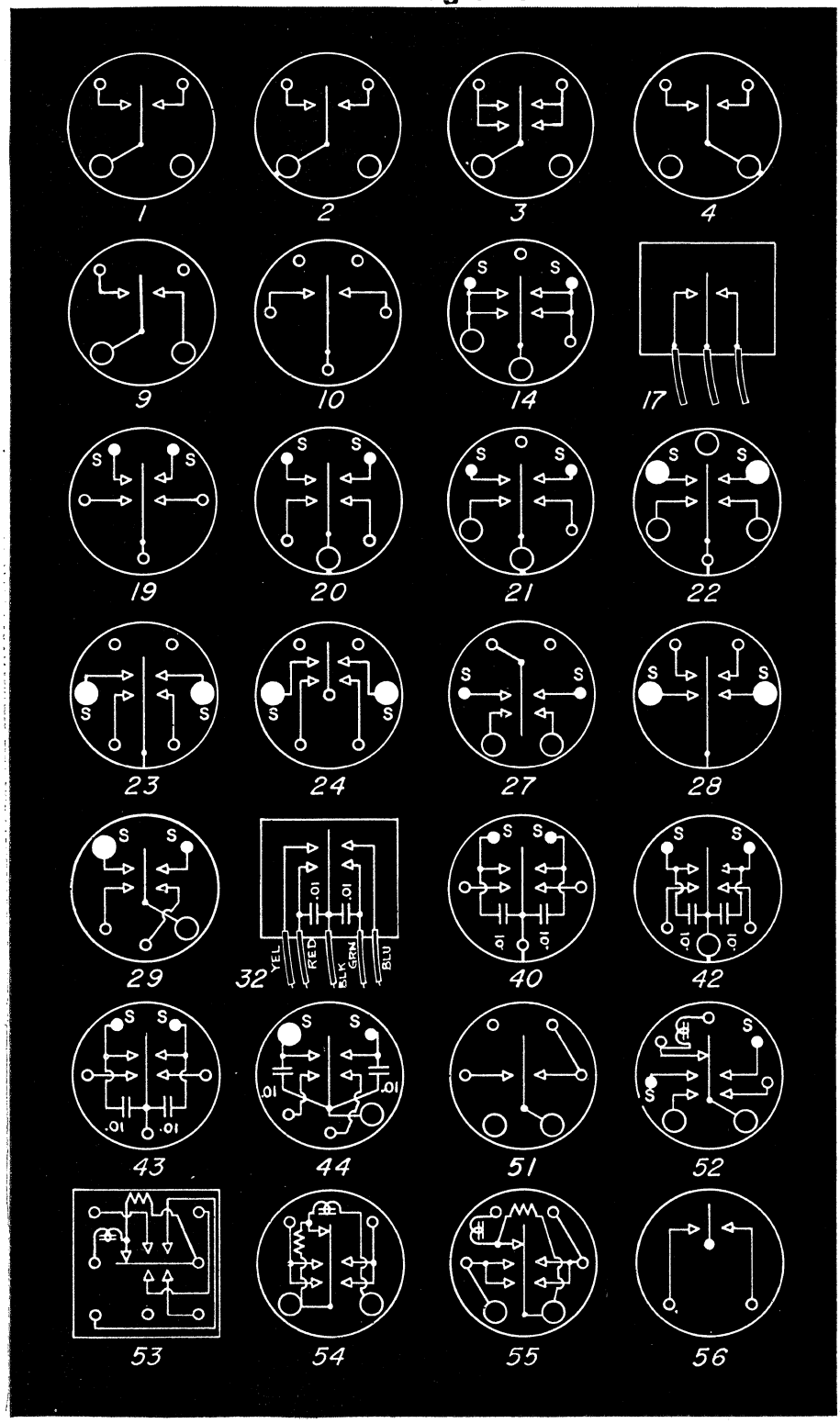
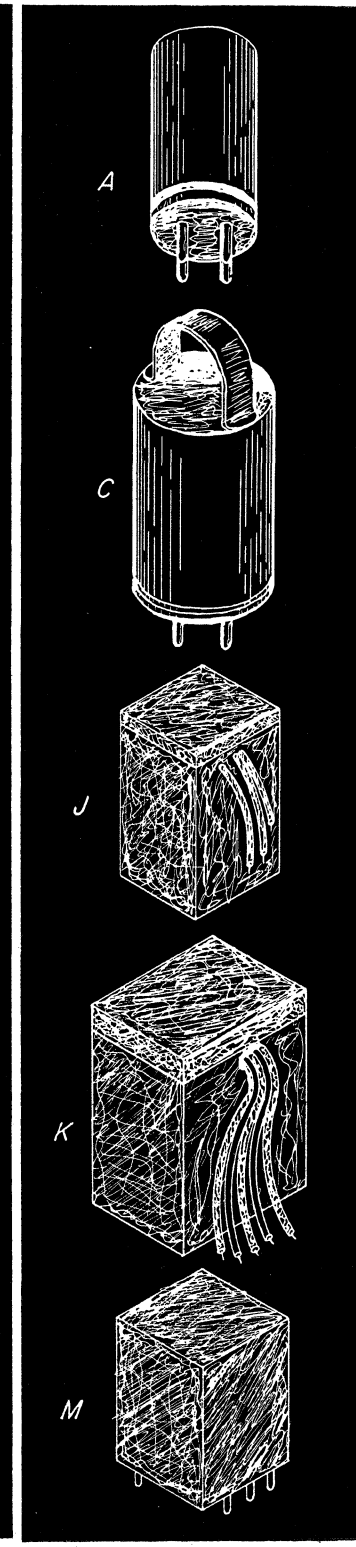


ATR Replacement Vibrator Specifications

Base Diagrams



External Views



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ATR Replacement Vibrator Specifications

Frequency: 115 Cycles except as noted. N.S.—Non Synchronous S.—Synchronous

Type No.	Voltage	Type	Base Dia.	Can Style	Dimensions	List Price	Type No.	Voltage	Type	Base Dia.	Can Style	Dimensions	List Price
303	6	N.S.	17	J	1½" x 1⅜" x 2½"	$6.35	**523**	6	S.	22	A	1½" x 3⅛"	$7.70
320	6	N.S.	10	A	1¼" x 3⅛"	6.35	**524**	6	S.	23	A	1½" x 3⅛"	7.70
324	6	N.S.	1	A	1½" x 3⅛"	4.90	**525**	6	S.	24	A	1½" x 3⅛"	7.70
324A	6	N.S.	2	A	1⅝" x 3⅝"	4.90	**529**	4	S.	21	A	1½" x 3⅛"	7.70
324B	6	N.S.	1	A	1 15/16" x 3½"	4.90	**540**	6	S.	27	A	1½" x 3⅛"	7.70
324C	6	N.S.	2	A	1⅝" x 4¾"	4.90	**541**	4	S.	19	A	1½" x 3⅛"	8.25
325	6	N.S.	51	A	1½" x 2⅞"	6.35	**541A**	4	S.	19	A	1 15/16" x 3½"	8.25
328	6	N.S.	4	A	1½" x 3⅛"	4.90	**544‡**	6	S.	28	A	1⅜" x 2⅞"	7.70
335	6	N.S.	9	A	1⅝" x 3⅝"	4.90	**545‡**	6	S.	28	A	1½" x 3⅛"	7.70
337	6	N.S.	14	A	1 15/16" x 3½"	6.35	**547**	6	S.	29	C	1 15/16" x 3½"	7.70
338	6	N.S.	9	C	1½" x 3⅛"	4.90	***548**	6	S.	24	A	1½" x 3⅛"	8.55
340	6	N.S.	1	A	1½" x 2⅞"	4.45	***549**	6	S.	21	A	1½" x 3⅛"	8.95
***344**	6	N.S.	3	A	1½" x 3⅛"	8.55	**550**	6	S.	32	K	4⅞" x 1¾" x 1¾"	9.15
345	6	N.S.	9	A	1½" x 2⅞"	4.90	**561**	6	S.	24	A	1½" x 2⅞"	7.70
347†	6	N.S.	1	A	1½" x 3⅛"	6.35	**562**	6	S.	21	A	1¼" x 3⅛"	7.70
***348**	6	N.S.	54	A	1½" x 2⅞"	8.95	**564#**	6	S.	23	A	1½" x 2⅞"	7.70
***349**	6	N.S.	55	A	1½" x 2⅞"	8.95	***574**	6	S.	23	A	1½" x 3⅛"	8.95
350	6	N.S.	1	A	1¼" x 2⅜"	4.90	***575**	6	S.	24	A	1½" x 3⅛"	8.95
380	4	N.S.	1	A	1½" x 2⅞"	4.90	**900**	2	S.	52	A	1⅝" x 2⅛"	9.80
503	6	S.	43	A	1 15/16" x 4½"	9.15	**902**	2	S.	53	M	1½" x 2⅛" x 1½"	10.70
ADAPTER	.....	.....	.....	.....	.....	1.50	**1340**	12	N.S.	1	A	1½" x 2⅞"	5.50
506	6	S.	40	A	1 15/16" x 4½"	9.15	**1343**	12	N.S.	56	A	1½" x 3⅛"	4.90
507	6	S.	44	A	1 15/16" x 4½"	9.15	***1344**	12	N.S.	3	A	1½" x 3⅛"	9.95
508	6	S.	42	A	1 15/16" x 4½"	9.15	***1348**	12	N.S.	54	A	1½" x 2⅞"	9.95
520	6	S.	19	A	1½" x 3⅛"	7.70	**1520**	12	S.	19	A	1½" x 3⅛"	9.95
520A	6	S.	19	A	1 15/16" x 3½"	7.70	**1524**	12	S.	23	A	1½" x 3⅛"	8.55
521	6	S.	20	A	1½" x 3⅛"	7.70	***1548**	12	S.	24	A	1½" x 3⅛"	9.95
522	6	S.	21	A	1½" x 3⅛"	7.70	**2324**	32	N.S.	1	A	1½" x 3⅛"	7.15
522A	6	S.	21	A	1 15/16" x 3½"	7.70	**2401**	32	S.	22	A	1½" x 3⅛"	8.55

#140 Cycles ‡180 Cycles †With 5 Ohm Resistors *Communications Type Vibrator for Super Service.

Recommended Substitutions for Discontinued Vibrators

Discontinued Type	Recommended Replacement	Discontinued Type	Recommended Replacement	Discontinued Type	Recommended Replacement
305	305	330	324C	542	522A (Refer Note 3)
307	303 (Refer Note 1)	332	522 (Refer Note 8)	543A	522A (Refer Note 3)
314	324	342	325	546	522 (Refer Note 6)
316	324	504	503	551	550 (Refer Note 14)
317	324	505	503 (Plus Adapter)	553	550 (Refer Note 11)
323	340	531	550 (Refer Note 13)	591	524 (Refer Note 9)
326	325	536	524 (Refer Note 10)	2327	2324 (Refer Note 12)
327	325	537	525	2403	2324

The Installation Notes listed above are shown in Section I.

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ATR Vibrator Equivalent Charts

by Vibrator Manufacturers' Replacement Part Number

Part No.	ATR Part No.
CORNELL-DUBILIER	
C00.	340
COO-32.	2324
C01.	340
C03.	345
C04.	324
C07.	No Rep.
C08.	347
C09.	328
C14.	350
C20P.	324B
C21.	340
C23P.	340
C26P.	340
C28P-32.	No Rep.
C21.	328
C33.	338
C35.	345
C42M.	340
C43M.	324
C63.	303
C66.	325
C67-32.	2324
CS03-12.	1344
CS03-32.	1344
CS04P.	337
CS06.	No Rep.
CS10.	No Rep.
CS11-12.	No Rep.
CS15.	344
D00.	524
D04.	540
D06.	525
D07.	545
D08.	564
D09.	520
D09-4.	No Rep.
D10.	521
D11.	522
D13.	520A
D13-4.	No Rep.
D16.	503
D21.	522
D22.	No Rep.
D25.	508
D26.	547
D29.	507
D31.	No Rep.
D34.	522
D35.	522
D35-4.	No Rep.
D36.	No Rep.
D37.	545
D38.	524
D40.	524
D43.	523
D43-32.	2401
D54.	561
D63.	550
D64.	503
DS04.	506
DS05.	548
DS05-12.	1548
DS05-32.	No Rep.
DS07.	No Rep.
DS07-12.	No Rep.
DS07-32.	No Rep.
DS09-12.	1520
DS10.	562
DS10-12.	No Rep.
DS14-12.	No Rep.
DS15-12.	No Rep.
DS15-24.	No Rep.
DS16.	No Rep.
DS16-12.	No Rep.
DS20.	524
6VL10-2.	No Rep.
5300.	324
5300-32.	2324
5301.	340
5303.	345
5307.	No Rep.
5308.	340
5309.	328
5314.	350
5320.	324B
5321.	340
5323.	340
5326.	340
5331.	328
5333.	338
5335.	345

Part No.	ATR Part No.
CORNELL-DUBILIER (Cont.)	
5342.	340
5343.	324
5363.	303
5366.	325
5367-32.	2324 (Refer Note 12)
5370.	380
5400.	524
5404.	540
5406.	525
5407.	545
5408.	564
5409.	520
5409-4.	541
5410.	521
5411.	522
5413-4.	541A
5425.	508
5426.	547
5429.	507
5431-4.	No Rep.
5434.	522 (Refer Note 3)
5435.	522
5435-4.	No Rep.
5436.	No Rep.
5437.	545
5438.	524
5440.	524 (Refer Note 10)
5443.	523
5443-32.	No Rep.
5454.	561
5463.	550
5464.	503 (Refer Note 2)
5468-2.	902
5469-2.	900
5503-12.	1344
5504.	337
5506.	No Rep.
5510.	No Rep.
5511-12.	No Rep.
5513-12.	No Rep.
5514-4.	No Rep.
5515.	344/348
5516.	324
5517-12.	No Rep.
5518.	349
5519.	348
5560.	No Rep.
5604.	506
5605.	548
5605-12.	1548
5605-32.	No Rep.
5607.	No Rep.
5607-12.	No Rep.
5607-32.	No Rep.
5609-12.	1520
5610.	562
5610-12.	No Rep.
5614-12.	1548
5615.	545
5615-12.	No Rep.
5615-24.	No Rep.
5616.	No Rep.
5616-12.	No Rep.
5620.	574
5621.	549
5622.	No Rep.
5623.	575
6330.	1343
6370.	340
DELCO - GM	
8500.	No Rep.
8501.	No Rep.
8502.	No Rep.
8503.	303
8504.	324
8505.	324
8506.	324
8507.	303
8508.	324
8509.	315
8510.	328
8511.	325
8512.	325
8513.	325
8514.	No Rep.
8515.	No Rep.
8516.	324C
8517.	324A
8518.	303
8519.	522 (Refer Note 7)

Part No.	ATR Part No.
DELCO - GM—(Cont.)	
8520.	324B
8521.	324B
8522.	324C
8523.	340
8524.	340
8525.	344
8526.	340
8527.	340
8528.	345
8529.	340
8530.	328
8531.	338
8532.	340
8533.	340
8534.	340
8538.	522
8539.	347
8540.	340
8541.	340
8542.	340
8543.	350
8544.	325
8550.	1343
8601.	No Rep.
8602.	550
8603.	550 (Refer Note 11)
8604.	550 (Refer Note 13)
8605.	No Rep.
8606.	550 (Refer Note 14)
8607.	No Rep.
8608.	No Rep.
8609.	No Rep.
8610.	520
8611.	520A
8612.	521
8613.	522
8614.	562
8615.	523
8616.	524
8617.	525
8618.	503
8619.	503
8620.	506
8621.	508
8622.	507
8623.	No Rep.
8624.	524 (Refer Note 9)
8625.	No Rep.
8626.	522 (Refer Note 6)
8627.	524 (Refer Not, 10)
8628.	525
8629.	547
8630.	547
8631.	522 (Refer Note 3)
8632.	548
8633.	522A (Refer Note 3)
8634.	522
8635.	545
8636.	545
8637.	540
8638.	345
8639.	345
8642.	561
8643.	524
8701.	No Rep.
8702.	No Rep.
8703.	No Rep.
8704.	2324
8705.	No Rep.
8706.	2324
8707.	2324 (Refer Note 12)
8708.	No Rep.
8709.	No Rep.
8710.	2324
8731.	No Rep.
8732.	No Rep.
8733.	2401
8751.	No Rep.
8752.	541
8753.	No Rep.
8754.	No Rep.
8757.	1548
605664.	335
605665.	550
605666.	508
1206048.	303
1207758.	303
1207849.	303
1208000.	550
1208115.	No Rep.
1208152.	550

Part No.	ATR Part No.
DELCO - GM—(Cont.)	
1208174.	No Rep.
1208239.	550
1208920.	2401
1209280.	508
1209282.	508
1209810.	340
1209811.	340
1209812.	340
1209813.	340
1211375.	520A
1211573.	520A
1211594.	345
1211595.	345
1212660.	345
1212966.	340
1213446.	525
1213655.	340
1213671.	345
1213732.	345
1213881.	340
1214832.	561
1215198.	340
1215909.	340
1220155.	1343
5035120.	550
5037400.	508
5037916.	550
5038055.	508
5039661.	508
5039757.	508
5040000.	324
5040700.	508
5041125.	520A
5041245.	508
5041376.	507
5042240.	340
5042703.	324B
5043025.	324
5050050.	547
5050498.	547
5050651.	520
5050673.	335
5051301.	335
5052370.	503 (Refer Note 2)
5052374.	325
5052378.	324
5052525.	522
5052538.	324
5052869.	524
5053141.	503
5053179.	523
5053181.	521
5053183.	525
5053185.	520
5053501.	524
5053699.	303
5054500.	547
5057220.	340
5059777.	345
5060845.	345
5061036.	340
7232741.	547
7233419.	547
7233427.	335
7235951.	547
7236066.	547
7237244.	345
7237245.	345
7237246.	345
7237247.	345
7237499.	338
7237500.	338
7237501.	338
7237600.	338
7237663.	338
7237664.	338
7237665.	338
7237666.	338
7238525.	547
7238685.	345
7238829.	345
7239123.	340
7239124.	340
7239439.	347

Note:—For recommended replacement refer to listings by receiver name and model number in Section A.

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ATR Vibrator Equivalent Charts

by Vibrator Manufacturers' Replacement Part Number

Part No.	ATR Part No.
ELECTRONICS	
491	No Rep.
1703	340
1824	No Rep.
2041	350
2088	345
2089	522
2090	328
2092	547
2107	524
2507	No Rep.
2605	340
2606	No Rep.
2682	508
2685	324B
2687	525
2688	520
2689	338
2715	No Rep.
JAMES	
J1	340
J1A	308
J2	347
J2A	340
J2H	324B
J2S	340
J2SM	340
J2SP	340
J2SX	No Rep.
J2SZ	No Rep.
J3SP	340
J5S	No Rep.
J6S	325
J8S	328
J8SP	328
J9	345
J9S	338
J9SA	345
J15ST	324B
J16	337
J19S	325
J21	350
J22	324
J23	340
J24	349
J25	348
J50	550
J52	545
J54	508
J55	503
J58	522
J58A	522
J58P	522
J58W	No Rep.
J59	523
J60	508
J61	520
J61A	520A
J61C	503
J62	507
J63	525
J63NC	525
J63SP	561
J65	524
J65M	524
J65SP	564
J66	547
J67	524
J68N	522
J69	540
J73	523
PJ1	340
PJ2	340
PJ3	324
PJ3S	324
PJ4	325
PJ4S	325
PJ5	No Rep.
PJ6	325
PJ6S	325
PJ7	345
PJ8	328
PJ8S	328
PJ9	335
PJ10S	522 (Refer Note 7)
PJ11	324
PJ12	324
PJ14S	325
PJ15S	340

Part No.	ATR Part No.
JAMES—(Cont.)	
PJ16	340
PJ17	340
PJ18	340
PJ19	325
PJ50	550
PJ51	550 (Refer Note 11)
PJ54	508
PJ55	503
PJ56	524 (Refer Note 9)
PJ57	525
PJ58	522
PJ59	523
PJ60	521
PJ61	520
PJ62	507
PJ63	525
PJ64	522 (Refer Note 6)
PJ65	524
PJ66	547
PJ67	524 (Refer Note 9)
PJ68	522 (Refer Note 3)
PJ69	540
2J70	902
2J71	900
4J2SW	No Rep.
4J58	No Rep.
4J61	541
4J61A	541
12J15ST	1344
12J2	1344
12J22	1524
12J24W	No Rep.
12J58W	No Rep.
12J61	1520
12J63	1548
12J72W	No Rep.
12PJ21	1344
24J58W	No Rep.
32J2	2324
32J15ST	2324
32J19S	2324
32J50	2324
32J63	No Rep.
32PJ3S	2324
32PJ19	2324 (Refer Note 12)
32PJ50	No Rep.
MALLORY	
F247	2401
F251	2324
F294	2224
F297	2324 (Refer Note 12)
F826C	2324
G245	1520
G248	1524
G249	1548
G253	1344
G725C	1548
G749C	1520
G826C	1344
G850	1344
G859	1340
G874	1343
G1501	1348
T4000	900
T4002	902
T4003	900
W245	541
W245A	541
W246	No Rep.
W858	523
W859	380
221	303
222	550
223	550 (Refer Note 11)
224	550 (Refer Note 13)
226	550 (Refer Note 14)
245	520
245A	520A
245C	521
245SW	520
246	522
246A	522
246P	562
247	523
248	524
249	525
253	324
253T	324

Part No.	ATR Part No.
MALLORY—(Cont.)	
253Y	324
264	522
270B	503
271	503
271HD	506
273C	508
273D	507
275	503
277S	524 (Refer Note 9)
286S	524 (Refer Note 10)
287M	524
289Y	525
292	303
294	324
294C	345
294SW	328
296	325
297	325
298	325
299	325
500P	340
501P	340
503	303
504	522 (Refer Note 8)
505P	324B
506P	337
507P	340
508P	340
509P	340
510P	340
514	547
716	547
722A	522 (Refer Note 3)
725C	548
742	561
743	562
748	564
825	324
826C	344
839	347
850	340
852	345
853	340
854	328
859	340
860	338
863	345
866	340
868	345
869	340
870	345
901M	340
902M	340
903M	340
951P	522
952W	545
953W	545
954	540
1100	350
1501	348
1502	349
4501	348
4502	349
4546	549
4548	574
4549	575
MEISSNER	
306	524 (Refer Note 10)
310	540
311	1344
400	303
401	No Rep
402	324
403	324
405	340
407	340
409	324
413	345
414	340
415	340
435	345
436	345
440	328
441	522 (Refer Note 7)
442	325
449	325
450	340

Part No.	ATR Part No.
MEISSNER—(Cont.)	
452	325
454	340
464	324B
495	340
500	No Rep.
542	No Rep.
549	2324 (Refer Note 12)
554	2324
561	2401
571	2324
572	No Rep.
573	No Rep.
574	2324
575	No Rep.
700	550 (Refer Note 14, 11)
702	503 (Refer Note 2)
704	508
705	503
706	524 (Refer Note 9)
708	523
710	No Rep.
712	522
714	521
715	520
717	No Rep.
718	507
719	525
720	522 (Refer Note 6)
722	550 (Refer Note 13)
723	524
726	547
727	No Rep.
728	524 (Refer Note 10)
731	522 (Refer Note 3)
734	540
780	545
781	525
782	No Rep.
785	522
786	562
787	520A
800	541
801	No Rep.
815	No Rep.
NATIONAL UNION	
400	350
402	345
404	340
406	340
408	328
500	547
600	522
602	524
OAK	
D-7	522
35ZH	562
2098	No Rep.
V5011	No Rep.
V5064	522
V5105	340
V5107	328
V5108	No Rep
V5118	522
V5123	No Rep.
V5124	522
V5133	340
V5142	No Rep.
V5179	340
V5193	340
V5208	522
V5247	No Rep.
V5259	522
V5337	340
V5359	340
V5369	522
V5392	328
V5410	340
V5413	522
V5416	No Rep.
V5447	No Rep.
V5491	No Rep.
V5495	325
V5522	No Rep.
V5527	340
V5530	340

Note:—For recommended replacement refer to listings by receiver name and model number in Section A.

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ATR Vibrator Equivalent Charts

by Vibrator Manufacturers' Replacement Part Number

Part No.	ATR Part No.
OAK—(Cont.)	
V5570	340
V5608	No Rep.
V5624	No Rep.
V5641	340
V5645	522
V5670	522
V5704	No Rep.
V5709	No Rep.
V5745	340
V5770	328
V5868	522
V6027	No Rep.
V6087	1344
V6248	1344
V6270	522
V6347	No Rep.
V6605	No Rep.
V6633-32	No Rep.
V6763	No Rep.
ZW-37216	328
RADIART	
2742	303
2743	303
2747	303
2819	303
2864	303
2867	303
3200	303
3223	325
3225	No Rep.
3226	No Rep.
3227	303
3260	340
3261	325
3262	340
3263	325
3264	324
3283	503
3290	No Rep.
3299	325
3300	303
3302	325
3308	550 (Refer Note 14)
3310	No Rep.
3311	No Rep.
3312	No Rep.
3313	303
3314	No Rep.
3315	550
3316	No Rep.
3317	550 (Refer Note 11)
3318	No Rep.
3319	503 (Refer Note 2)
3320	340
3356	325
3375	303
3395	2324
3397	2324 (Refer Note 12)
3398	303
3399	324
3407	2324 (Refer Note 12)
3417	324
3442	No Rep.
3443	No Rep.
3444	No Rep.
3445	No Rep.
3460	No Rep.
3461	508
3462	No Rep.
3463	No Rep.
3481	2324 (Refer Note 12)
3503	2324 (Refer Note 12)
3588	No Rep.
3607	No Rep.
3608	No Rep.
3651	No Rep.
3679	521
3741	340
3774	1344
3782	340
3786	No Rep.
3789	523
3806	340
3815	324
3818	340
3842	324
3848	550 (Refer Note 14)

Part No.	ATR Part No.
RADIART—(Cont.)	
3850	524 (Refer Note 9)
3865	340
3880	303
3883	524 (Refer Note 10)
3888	340
4251H	324
4253	344
4253-32	2324
4254	No Rep.
4254-12	No Rep.
4254-32	No Rep.
4255	548
4255-12	1548
4255-32	No Rep.
4255H	548
4256	No Rep.
4256-12	1344
4256-32	2324
4257	No Rep.
4257-12	No Rep.
4257-32	No Rep.
4258	No Rep.
4258-12	1548
4258-32	No Rep.
4260	340
4301	324
4306	No Rep.
4306-12	No Rep.
4306-24	No Rep.
4313	324
4314	2324 (Refer Note 12)
4318	522 (Refer Note 7)
4319	No Rep.
4320	325
4332	No Rep.
4402	520
4403	520A
4404	2401
4414	525
4415	550 (Refer Note 13)
4415-12	No Rep.
4416	522
4417	541
4500	550
4501	524
4502	503
4504	507
4505	506
4607	No Rep.
4608	No Rep.
4610	No Rep.
4611	507
4612	522
4613	508
4614	508
4631	340
5300	324
5300-12	1344
5300-32	2324
5301	340
5303	345
5304-32	No Rep.
5305	340
5306	325
5307	No Rep.
5308	340
5309	328
5310	340
5312	325
5313	324
5314	350
5320	324B
5320P	324B
5321	340
5322	340
5322P	340
5323	340
5323P	340
5324	337
5324P	337
5325P	340
5326P	340
5327P	340
5328P-32	No Rep.
5330	340
5331	328
5333	338
5334	345
5335	345
5339	345
5340M	340

Part No.	ATR Part No.
RADIART—(Cont.)	
5341M	340
5342	340
5342M	340
5343M	324
5355	No Rep.
5355-14	No Rep.
5356-14	No Rep.
5356-28	No Rep.
5363	303
5365	325
5366	325
5367-32	2324 (Refer Note 12)
5370	380
5400	524
5404	540
5405	521
5406	525
5406-12	1548
5407	545
5408	564
5409	520
5409-4	541
5409-12	1520
5409-32	No Rep.
5410	521
5411	522
5413	520A
5413-4	541A
5415	541
5416	503
5418	520
5418-12	520
5420P	522
5421	522
5422	No Rep.
5425	508
5426	547
5427	529
5428	522 (Refer Note 6)
5429	507
5430	522 (Refer Note 3)
5431	No Rep.
5431-4	No Rep.
5434	522 (Refer Note 3)
5435	522
5435-4	No Rep.
5437	545
5438	524
5439	562
5439-12	No Rep.
5440	524 (Refer Note 10)
5443	523
5443-32	No Rep.
5454	561
5463	550
5464	503 (Refer Note 2)
5467	900
5468-2	902
5469-2	900
5500	324
5501	324
5503	244
5503-12	1344
5503-32	2324
5504	337
5504P	337
5506	No Rep.
5510	No Rep.
5511-12	No Rep.
5513-12	No Rep.
5514-4	No Rep.
5515	344/348
5516	344
5517-12	No Rep.
5518	349
5519	348
5560	No Rep.
5604	506
5605	548
5605-12	1548
5605-32	No Rep.
5607	No Rep.
5607-12	No Rep.
5607-32	No Rep.
5609-12	1520
5610	562
5610-12	No Rep.
5614-12	1548
5615	545
5615-12	No Rep.

Part No.	ATR Part No.
RADIART—(Cont.)	
5615-24	No Rep.
5616	No Rep.
5616-12	No Rep.
5620	574
5621	549
5622	No Rep.
5623	575
6330	1343
6370	340
TURNER	
T1	340
T1A	303
T3	324
T3S	324
T3SP	340
T4S	325
T5	No Rep.
T6S	325
T8S	328
T9	345
T9S	345
T10S	522 (Refer Note 7)
T11	324
T12	324
T14S	325
T15S	340
T19S	325
T50	550
T51	550 (Refer Note 11)
T54	508
T55	503
T56	524 (Refer Note 9)
T58	522
T59	523
T60	521
T61	520
T62	507
T63	525
T64	522 (Refer Note 6)
T65	524
T66	547
T67	524 (Refer Note 10)
T69	540
TU3S	324
12T21	1344
12T63	1548
32T1A	No Rep.
32T3S	2324
32T8S	2324
32T19S	2324 (Refer Note 12)
32T50	No Rep.
32T59	No Rep.
32T61	No Rep.
UTAH	
NL3	303
NL3M	No Rep.
NP4	324
NP6	325
NP40	324
NP41	340
NP42	324
NP43	328
NP44	340
NP45	345
NP46	340
NP47	324
NP48	324
NP49	324B
NP51	No Rep.
NP61	325
NP62	522 (Refer Note 7)
NP63	325
NP64	324B
NP65	325
NP476	340
NP480	345
NP481	324
NP482	324
NP483	340
NP484	340
NP485	340
NP487	345
NP489	324
NP490	350
SLH	No Rep.

Note:—For recommended replacement refer to listings by receiver name and model number in Section A.

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INSIST on ATR VIBRATORS-Get the Best!!

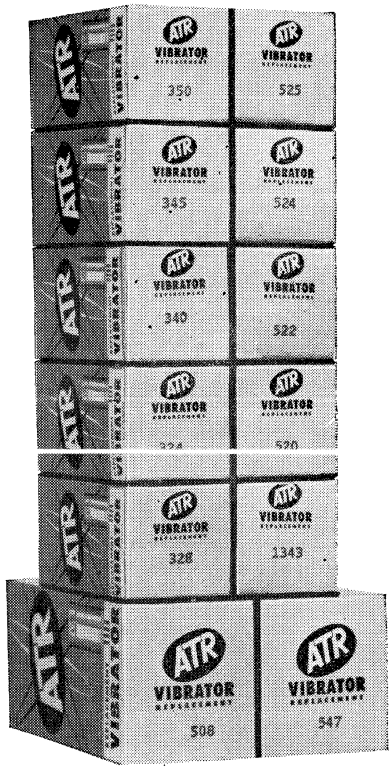
ATR Vibrator Equivalent Charts

by Vibrator Manufacturers' Replacement Part Number

Part No.	ATR Part No.	Part No.	ATR Part No.	Part No.	ATR Part No.	Part No.	ATR Part No.
UTAH —(Cont.)		**UTAH** —(Cont.)		**UTAH** —(Cont.)		**UTAH** —(Cont.)	
SL4H	No Rep.	SP63	524 (Refer Note 9)	12NP42	No Rep.	32SP5	No Rep.
SL5	550 (Refer Note 11)	SP64	522 (Refer Note 3)	12NP48	No Rep.	32SP5H	No Rep.
SL51	503 (Refer Note 2)	SP65	No Rep.	12NP482	1344	32SP6	No Rep.
SL52	No Rep.	SP66	522	12NP489	1344	32SP56	No Rep.
SP5	520	SP67	No Rep.	12SL52	No Rep.	32SP71	No Rep.
SP5H	No Rep.	SP68	No Rep.	12SP5	1520	32SP72	No Rep.
SP6	523	SP69	524 (Refer Note 10)	12SP61	No Rep.		
SP7	No Rep.	SP71	548	12SP66	No Rep.		
SP50	503	SP72	525	12SP71	1548		
SP51	508	SP633	540	12SP72	No Rep.	**VOKAR**	
SP52	507	SP640	545	32NL3	No Rep.	NP6V	325
SP53	503	SP641	545	32NL3M	No Rep.	NP42V	340
SP54	547	SP644	562	32NP6	2324 (Refer Note 12)	NP43V	328
SP55	521	SP645	545	32NP42	2324	NP44V	340
SP56	520A	SP646	522	32NP48	2324	NP487V	345
SP57	520	4SP5	No Rep.	32NP61	2324 (Refer Note 12)	SP51V	508
SP60	522 (Refer Note 6)	4SP56	541	32NP489	2324	SP54V	547
SP61	550 (Refer Note 13)	4SP65	No Rep.	32SL5	No Rep.	SP66V	522
SP62	524	4SP66	No Rep.	32SL52	No Rep.	SP71V	525

Section F

THESE 12 POPULAR ATR VIBRATORS MEET 90% of Your Service Needs



N.S.—Non Synchronous S.—Synchronous

Type No.	Voltage	Type	Base Diameter	Can Style	Dimensions
324	6	N.S.	1	A	1½" x 3⅛"
328	6	N.S.	4	A	1½" x 3⅛"
340	6	N.S.	1	A	1½" x 2⅞"
345	6	N.S.	9	A	1½" x 2⅞"
356	6	N.S.	1	A	1¼" x 2⅜"
508	6	S.	42	A	1 1/16" x 4½"
520	6	S.	19	A	1½" x 3⅛"
522	6	S.	21	A	1½" x 3⅛"
524	6	S.	23	A	1½" x 3⅛"
525	6	S.	24	A	1½" x 3⅛"
547	6	S.	29	C	1 1/16" x 3¼"
1343	12	N.S.	56	A	1½" x 3⅛"

THE BIG 12 ATR VIBRATOR TEAM, as listed above, meets 90% of your replacement needs. Give your customers quick service and real satisfaction by keeping on hand at least one each of these 12 popular ATR vibrators.

ATR Vibrator are precision built, featuring Ceramic Stack Spacers, and are backed by more than 23 years of vibrator design and research, development and manufacturing—**ATR Pioneered in the Vibrator Field.**

Let THE BIG 12 ATR VIBRATOR TEAM Help You Win Satisfied Customers.

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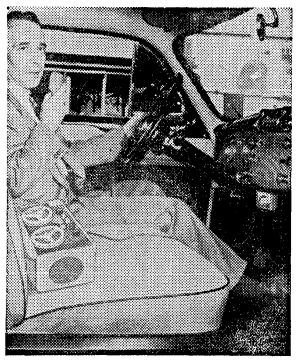
TAPE RECORDER INVERTERS

Specially Designed for Operating Standard A.C. Tape Recorders, Wire Recorders, Dictating Machines, Radios, Public Address Systems, Amplifiers, Electric Razors, Record Players, Mixmasters, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, and Planes. Ideal for Emergency Lighting.

This group of ATR Inverters is especially recommended for use with standard A.C. operated tape or wire recorders, dictating machines, radios, amplifiers, and similar electronic equipment, being exceptionally well filtered to insure interference free radio reception. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life operation. All models indicated are equipped with ATR plug-in Inverter Vibrators. These Inverters also come equipped with four-point voltage regulators which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is in excess of 75%. To figure approximate current consumption from storage battery, divide the rated input wattage of the recorder (or load) being operated by the storage battery voltage and further divide this answer by .75 which will give the actual current consumption based on the actual load and efficiency. The battery current consumption required for a tape recorder is normally less than that drawn by ordinary automobile headlight(s). These Tape Recorder Inverters are recommended only for use with loads having power factors in excess of 70%. ATR Inverters should be used only for the applications as outlined above.



Above illustrates operation of tape recorder in car utilizing Inverter Remote Control Unit as shown below.

Let your car be a ROLLING OFFICE — dictate your reports promptly and accurately in the field — on the spot.

TYPE	INPUT D.C. VOLTS	A.C. OUTPUT 60 CYCLES	OUTPUT WATTAGE		SHIPPING WEIGHT	LIST PRICE
			INTERMITTENT	CONTINUOUS		
6-RSE	6	110 volts	80	65	19 lbs.	$ 69.95
6-RHF	6	110	125	100	25	79.95
6-HSH	6	110	150	125	34	119.50
12-RSE	12	110	125	100	19	69.95
12-RHF	12	110	150	125	25	79.95
*28-RSE	28	110	125	100	19	85.00
*28-RHF	28	110	150	125	25	105.00
32-RSE	32	110	150	100	19	79.50

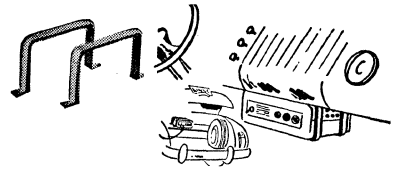
Radio frequency interference completely suppressed. *Recommeded for 24 Volt Battery Systems. Any of the above type Inverters are available with 220 volt A.C. output at prices slightly higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D.C. Inverter having a 220 volt A.C. output is desired, this would be ordered as Type 110S covered by code word, "GRSET."

All models designated above are housed in attractively finished grey-hammerloid metal cabinets. Dimensions of Standard (RSE) Model Inverters, 8⅜" x 9" x 5¼"; shipping weight, 19 lbs. Dimensions of Heavy Duty (RHF) Model Inverters, 6½" x 11⅛" x 8½"; shipping weight, 25 lbs. Dimensions of Super Heavy Duty (HSH) Model Inverters, 6½" x 12⅞" x 8½"; shipping weight, 34 lbs.

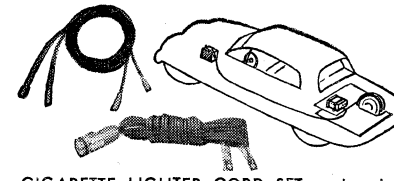
For correct replacement vibrator, consult Inverter Vibrator Guide.

ACCESSORIES

REMOTE CONTROL UNIT — for under-dash mounting permitting installation of Inverter in auto-trunk compartment. List Price $7.95



MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated. List Price $4.95 pr.



CIGARETTE LIGHTER CORD SET — to plug into cigarette lighter receptacle on dash. List Price $3.95

EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment. List Price $11.95 Pr.

JOBBERS ATTENTION: *See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!*

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

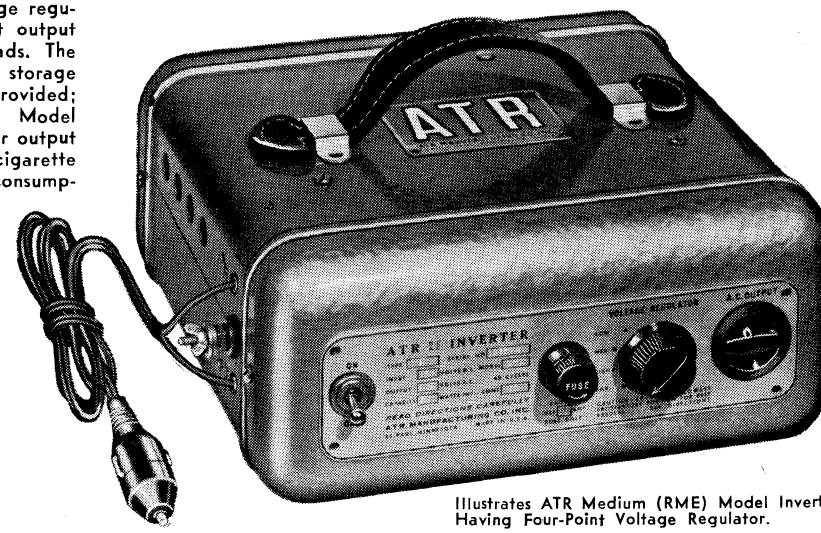
ATR

‡DICTATING MACHINE INVERTERS

Specially Designed for Operating Standard A.C. Dictating Machines, Small Radios, Record Players, Mix-masters, Food Blenders, Electric Razors, Electronic Test Equipment, and Most Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes, and Trains.

This group of ATR Inverters is especially recommended for use with standard A.C. dictating machines, small radios, record players, mix-masters, food blenders, electric razors, and other similar small electronic or electrical equipment. The Inverters are filtered to suppress radio frequency interference. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life operation. All ATR models indicated are equipped with ATR plug-in Inverter Vibrators. Models RME and RSE come equipped with a four-point voltage regulator which makes possible the correct output voltage for minimum to maximum loads. The RSE Inverter Models connect to the storage battery by means of the heavy cables provided; whereas, ATR Mighty Midget (DME) Model and RME Model Inverters, being smaller output capacity units, plug directly into the cigarette lighter receptacle of car. The battery consumption required is normally less than that drawn by one ordinary automobile headlight. The operating efficiency is approximately 75%. These Inverters are recommended only for use with loads having power factors in excess of 70% and should be used only for the applications as outlined above.

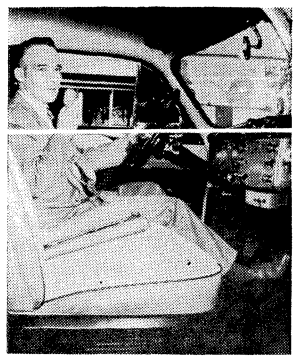
Illustrates ATR Mighty Midget (DME) Model Inverter Having Cigarette Lighter Plug Attachment.



Illustrates ATR Medium (RME) Model Inverter Having Four-Point Voltage Regulator.

EASY TO INSTALL

EASY TO OPERATE



Illustrates Under-Dash Mounting for ATR Models RME and RSE. See Page M-28 for available accessories.

TYPE	INPUT D.C. VOLTS	OUTPUT WATTAGE		SHIPPING WEIGHT	LIST PRICE
		INTER-MITTENT	CON-TINUOUS		
6-DME	6	40	30	5 lbs.	$19.95
6C-DME	6/12	40	30	5	23.50
6H-DME	6	75	60	7	29.95
6-RME	6	60	50	12	39.50
6C-RME	6/12	60	50	12	45.00
6-RSE	6	80	65	19	69.95
12-DME	12	50	40	5	19.95
12-DME-D	12	60	50	6	22.50
12H-DME	12	100	80	7	29.95
12-RME	12	100	80	12	39.50
12-RSE	12	125	100	19	69.95
* 28-RME	28	100	80	12	65.00
* 28-RSE	28	125	100	19	85.00
32-RSE	32	150	100	19	79.50

For Inverters having larger or smaller capacities, or for operation on other D.C. input voltages, please consult available ATR Inverter catalog sheets. *Recommended for 24-volt Battery Systems.

All models designated above are housed in attractively finished grey-hammerloid metal cabinets. Dimensions of Standard (RSE) Model Inverter, 8⅜" x 9" x 5¼"; shipping weight, 19 lbs. Dimensions of Medium (RME) Model Inverters, 8⅜" x 8" x 3¾"; shipping weight, 12 lbs. Dimensions of Mighty Midget (DME) Model Inverters, 5¼" x 4¾" x 2¾"; shipping weight, 5 lbs. For correct replacement vibrator, consult Inverter Vibrator Guide.

‡ DME and RME Models not recommended for Tape Recorders.

JOBBERS ATTENTION: *See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!*

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ATR RADIO INVERTERS

Specially Designed for Operating Standard A.C. Radios, Radio-Phonographs, Tape Recorders, Wire Recorders, Record Players, Dictating Machines, Public Address Systems, Amplifiers, Radio Transmitters, Mix-masters, Food Blenders, Electric Razors, and Electronic Test Equipment from D.C. Voltages in Trains, Rural Areas, and in D.C. Districts.

This group of ATR Inverters is especially recommended for use with standard AC radios, record players, tape or wire recorders, dictating machines, amplifiers, and similar electronic equipment being exceptionally well filtered to insure interference free radio operation. With ATR Inverters the need for special equipment is eliminated. They are designed for quiet, long-life, radio operation. All models indicated are equipped with ATR plug-in Inverter Vibrators. These Inverters also come equipped with four-point voltage regulators which make possible the correct output voltages which are lower or higher than normal. The operating efficiency is in excess of 85%. To figure approximate current consumption from D.C. voltage source, divide the rated input wattage of the radio set (or load) being operated by the D.C. voltage and further divide this answer by .85 which will give the actual current consumption based on the actual load and efficiency. These Radio Inverters are recommended only for use with loads having power factors in excess of 70%. ATR Radio Inverters should be used only for the applications as outlined above.

ATR Inverters are not recommended for operating refrigerators, washing machines, or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.

Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage		SHIPPING WEIGHT	LIST PRICE
			Intermittent	Continuous		
32-RME	32	110	100	80	12 lbs.	$57.50
32-RSE	32	110	150	100	19	79.50
32B-RHF	32	110	200	180	30	99.50
50-RSE	50	110	150	100	19	89.50
110-RME	110	110	150	100	12	47.50
110-RSE	110	110	250	150	19	69.95
220-RSE	220	110	250	150	19	79.50

Radio Frequency Interference Completely Suppressed

For Inverters having larger or smaller output capacities or operating on other D.C. input voltages, please consult available ATR Inverter Catalog Sheets.

Any of the above type Inverters are available with 220 volt A.C. output at prices slightly higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D.C. Inverter having a 220 volt A.C. output is desired, this would be ordered as Type 110S covered by code word, "NRSET."

ATR Medium, Standard, and Heavy Duty Radio Inverters having designations RME, RSE, and RHF respectively, are housed in attractively finished grey-hammerloid metal cabinets.

Dimensions of Medium (RME) Model Radio Inverters, 8 3/8" x 9" x 3 3/4"; shipping weight, 12 lbs.

Dimensions of Standard (RSE) Model Radio Inverters, 8 3/8" x 9" x 5 1/4"; shipping weight, 19 lbs.

Dimensions of Heavy Duty (RHF) Model Radio Inverters, 6 1/2" x 11 1/8" x 8 1/2"; shipping weight, 30 lbs.

For correct ATR replacement vibrator, consult ATR Inverter Vibrator Guide.

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ATR TELEVISION INVERTERS

IDEAL FOR PORTABLE TV!!

Featured cut above illustrates Model 12TRHF

Specially Designed and Carefully Adjusted for Operating Television Receivers from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Suitable for Use with All Types of Electronic Equipment where Precise Output Frequency is Required.

This group of ATR Inverters has been selected from the ATR line of Standard and Heavy Duty Radio Inverters and Super Heavy Duty Inverters and have specially adjusted ATR Vibrators installed in them to provide the precisely adjusted output power frequency required for the operation of Television Sets. They are exceptionally well filtered to insure interference-free reception. They are equipped with four-point voltage regulators. The operating efficiency is in excess of 85 percent. They are recommended for use with loads having power factors in excess of 70 percent.

ATR Inverters should be used only for the applications as outlined above.

ATR Inverters are not recommended for operating refrigerators, washing machines or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.

ATR Standard (RSE), Heavy Duty (RHF), and Super Heavy Duty (HSH) Television Inverters are housed in attractively finished grey-hammerloid metal cabinets.

† Dimensions of Medium (RME) Model Television Inverters, 8⅜"x8"x 3¾". Shipping Weight 12 lbs. This unit plugs into cigar lighter receptacle. Not recommended for tape recorder operation.

Dimensions of Standard (RSE) Model Television Inverters, 8⅜" x 9" x 5¼"; Shipping weight, 19 lbs.

Dimensions of Heavy Duty (RHF) Model Television Inverters, 6½" x 11⅛" x 8½"; Shipping weight, 30 lbs.

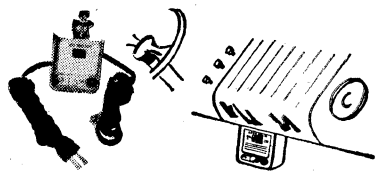
Dimensions of Super Heavy Duty (HSH) Model Television Inverters, 6½" x 12⅞" x 8½"; Shipping weight, 34 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

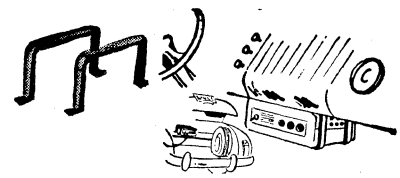
Type	Input DC Volts	A.C. Output 60 Cycles	Output Watt. Int.	Output Watt. Cont.	Shipping Weight	List Price
†6T-RHF	6	110 volts	125	100	25 lbs.	$84.95
6T-HSH	6	110	150	125	34	129.50
*12T-RME	12	110	125	90	12	42.50
†12T-RSE	12	110	125	100	19	72.95
12T-RHF	12	110	150	125	25	84.95
12T-HSH	12	110	250	200	34	129.50
28T-RSE	28	110	125	100	19	88.00
28T-RHF	28	110	150	125	25	110.00
*28T-HSH	28	110	250	200	34	155.00
32T-RSE	32	110	150	100	19	82.50
32BT-RHF	32	110	200	180	30	105.75
32T-HSH	32	110	325	225	34	145.00
110T-RSE	110	110	250	150	19	72.00
110AT-RHF	110	110	325	250	25	79.75
110BT-RHF	110	110	500	350	30	105.75
110T-HSH	110	110	600	400	34	145.00
220T-RSE	220	110	250	150	19	85.00
220T-HSH	220	110	500	300	34	155.00

* Recommended for 24 volt systems. † These inverters may be optionally equipped with cigarette lighter cord sets.

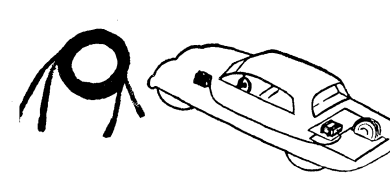
ACCESSORIES for 6, 12, and 28 Volt D.C. Input Inverters.



REMOTE CONTROL UNIT — for under-dash mounting permitting installation of Inverter in auto-trunk compartment. List Price $7.95



MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated. List Price $4.95 pr.



EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment. List Price $11.95 pr.

JOBBERS ATTENTION: See *Pages M-28 and M-29 in this ATR Section for your Catalog Needs!*

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"A" BATTERY ELIMINATORS

. . . FOR DEMONSTRATING AND TESTING AUTO RADIOS

6 VOLT OR 12 VOLT!

Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Apparatus on Regular A.C. Lines, 105-125 Volts, 50-60 Cycles.

SUGGESTED USES:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D.C. voltages.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

- ✓ **Eliminates Storage Batteries and Battery Chargers.**
- ✓ **Operates the Equipment at Maximum Efficiency at All Times.**
- ✓ **Delivers Filtered Direct Current at the Correct Voltage for Proper Operation.**
- ✓ **Fully Automatic and Fool-Proof.**

Featured cut illustrates Heavy Duty "A" Battery Eliminator, Model 620C-ELIR; equipped with Voltmeter, Ammeter and Voltage Control.

Illustrates Standard "A" Battery Eliminator, Model 610C-ELID; equipped with Voltmeter, Ammeter and Voltage Control.

Equipped with Full-Wave Dry Disc Selenium Rectifier, Assuring Noiseless, Interference-Free Operation and Extreme Long Life and Reliability.

TYPE 610-ELID—Rated output 6 volts at 10 amperes continuous. Size 6½" x 9⅛" x 8½". Shipping weight 22 lbs. Code word "SELIE." Similar to illustration on left but with Voltmeter only. LIST PRICE $59.40

TYPE 610C-ELID—Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size 6½" x 9⅛" x 8½". Shipping weight, 22 lbs. Appearance similar to 20C-ELIR, above. Code word "SELIF." LIST PRICE $66.58

TYPE 620C-ELIR—Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Size 6½" x 12⅞" x 8½". Shipping weight, 33 lbs. Code word "HELIR." LIST PRICE $93.90

Either 6 or 12 volt output obtainable by means of simple output toggle switching arrangement having locking device to prevent accidental switching.

All ATR Eliminators have as standard equipment: On-Off Switch, 8-Position Voltage Control, Meter(s), Fuse Protection, Rubber Mounting Feet, 6-ft. All-Rubber Cord Set and Cabinet of heavy gauge metal having attractive grey-hammerloid finish.

JOBBERS ATTENTION: *See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!*

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

‡ INDUSTRIAL INVERTERS

For Operating Small A.C. Motors, Electronic Apparatus, Electrical Testing Equipment, and A.C. Electrical Appliances from D.C. Lines.

These units are specially designed for applications as indicated, permitting the use of standard A.C. equipment on D.C. lines. These Inverters operate at an efficiency in excess of 75% and are carefully built and equipped to give the longest possible life and operating satisfaction. All models indicated are equipped with an ATR plug-in Inverter Vibrator of new design and construction, insuring increased long life and reliable service. All Inverters (except LIG) come equipped with four-point voltage regulators, which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. These Industrial Inverters are recommended for use with loads having power factors as low as 60%, and as low as 50% for the "P" Inverters indicated. These Inverters should not be used with Neon signs.

ATR Inverters should be used only for the applications as outlined above.

ATR Inverters are not recommended for operating refrigerators, washing machines or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.

TYPE	VOLTS INPUT D.C.	A.C. OUTPUT 60 CYCLES	OUTPUT WATTAGE INTERMITTENT	OUTPUT WATTAGE CONTINUOUS	SHIPPING WEIGHT	LIST PRICE
6-LIG	6	110 volts	50	40	8 lbs.	$35.75
6-ISR-F	6	110	80	65	19	79.95
12-LIG	12	110	65	50	8	35.75
12-ISR-F	12	110	125	100	19	79.95
*28-LIG	28	110	65	50	8	47.50
*28-ISR-F	28	110	150	100	19	89.50
32-LIG	32	110	65	50	8	47.50
32-ISR-F	32	110	150	100	19	89.50
32P-ISR-F	32	110	150	125	19	99.50
32B-IHS-F	32	110	200	180	30	115.50
50-ISR-F	50	110	150	100	19	99.50
110-LIG	110	110	80	65	8	39.50
220-LIG	220	220	80	65	8	47.50
110-ISR-F	110	110	250	150	19	79.50
110P-ISR-F	110	110	250	150	19	89.50
110A-IHS-F	110	110	325	250	25	105.00
110B-IHS-F	110	110	500	350	30	125.00
220-ISR-F	220	110	250	150	19	89.50
220P-ISR-F	220	110	300	150	19	99.50

* Recommended for 24 volt battery systems.

‡Radio frequency interference suppressed.

All models designated above are housed in attractively finished grey hammerloid metal cabinets. The feature cut above illustrates Heavy Duty (IHS) Model Inverters. Dimensions of Standard Model (ISR) Inverters 8⅜" x 9" x 5¼"; shipping weight, 19 lbs.

Dimensions of Heavy Duty Model (IHS) Inverters, 6½" x 11⅛" x 8½"; shipping weight, 30 lbs. Dimensions of Low Power Model (LIG) Inverters, 5⅝" x 4" x 6¾"; shipping weight, 8 lbs.

*"P" Inverters are corrected for loads having power factors as low as 50%. For correct replacement vibrator, consult Inverter Vibrator Guide.

JOBBERS ATTENTION: See *Pages M-28 and M-29 in this ATR Section for your Catalog Needs!*

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GERMICIDAL LAMP INVERTERS

Specially Designed for Operating Standard A.C. Germicidal Lamps from Storage Battery Voltages in Trucks, Buses, Boats, Trains, and Planes.

This group of ATR Inverters is especially recommended for use with standard A.C. operated germicidal lamps providing protection against bacteria and mold spores in perishable food areas or hospital-like areas in trucks, boats, planes, and trains. Bacteria and mold spores cause losses of millions of dollars each year through spoilage, contamination, and added maintenance costs. Effective control of air-borne germs, bacteria and mold spores by use of germicidal lamps is widely used in processing and packaging of fresh food products. This same protection against contamination during delivery is now possible using germicidal lamps operating from an ATR Inverter connected to D.C. Storage Battery Power. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet long-life operation. These rugged, efficient, little power houses are self-maintaining — require no warm-up. They change your D.C. battery power to 110 volt A.C. (household type) power instantly and quietly. ATR Inverters are fully protected and are big enough to do a proper job and small enough to fit most anywhere. All models indicated are equipped with ATR plug-in Inverter Vibrators. These Inverters (except Model LIG) also come equipped with four-point voltage regulators which make possible the correct output voltage for minimum to maximum loads, and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is in excess of 75%. The battery current consumption required is normally less than that drawn by ordinary automobile headlight(s). These ATR Inverters should be used only for the application as outlined above.

Illustrates ATR Standard (ISR) Model.

EASY TO INSTALL
EASY TO OPERATE

TYPE	INPUT D.C. VOLTAGE	A.C. OUTPUT 60 CYCLES	OUTPUT WATTAGE INTERMITTENT	OUTPUT WATTAGE CONTINUOUS	RECOMMENDED GERMICIDAL LAMP LOAD	SHIPPING WEIGHT	LIST PRICE
6-LIG-L	6	115 volts	50	40	1 †WL-782H-30 Sterilamp or equivalent	8 lbs.	$45.00
6-ISR-FL	6	115	80	65	1 or 2 †WL-782H-30 Sterilamp or equivalent	19	89.50
12-ISR-FL	12	115	125	100	1 or 2 †WL-782H-30 Sterilamp or equivalent	19	89.50
12-LIG-L	12	115	50	40	1 WL-782H-30 Sterilamp or equivalent	8	45.00
*28-ISR-FL	28	115	125	100	1 or 2 †WL-782H-30 Sterilamp or equivalent	19	99.50
*28-LIG-L	28	115	50	40	1 WL-782H-30 Sterilamp or equivalent	8	55.00
32-ISR-FL	32	115	150	100	1 or 2 †WL-782H-30 Sterilamp or equivalent	19	99.50

Radio frequency interference completely suppressed. *Recommended for 24-volt battery systems.

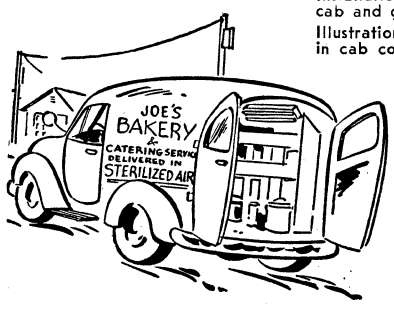
†The WL-782H-30 Westinghouse Sterilamp should be used with Westinghouse type SB-30 fixture S #1371936 having ballast S #1371900.

All models designated above are housed in attractively finished grey hammerloid metal cabinets. Dimensions of Standard (ISR) Model Inverters, 8⅜" x 9" x 5¼"; shipping weight, 19 lbs. Dimensions of Low Power (LIG) Model Inverters, 5⅝" x 4" x 6¾"; shipping weight, 8 lbs.

For correct replacement vibrators, consult Inverter Vibrator Guide.

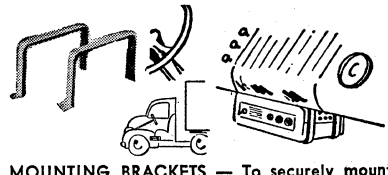
Installation accessories are indicated below. In truck installations, Inverter will be installed usually in the cab and germicidal lamp operation will be controlled OFF and ON by means of the Inverter switch.

Illustration on right hand side below shows Germicidal Lamps mounted in truck van with Inverter installed in cab compartment.

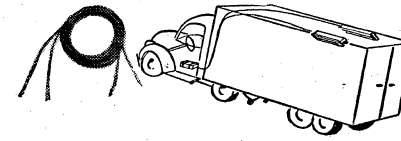


Illustrating Small Panel Perishable Food Truck Having Germicidal Lamp Installation Operating from ATR Inverter. Protects Perishable Foods During Delivery.

ACCESSORIES



MOUNTING BRACKETS — To securely mount Inverter under seat or under dash in cab compartment, as illustrated. List Price $4.95 pr.



EXTENSION CABLES — To provide additional cable lengths for installation of Inverter in cab compartment to connect with storage battery. List Price $11.95 pr.

JOBBERS ATTENTION: *See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!*

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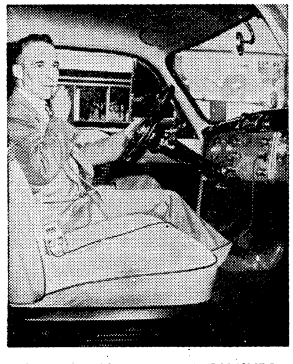
ATR SHAV-PAKS

Specially Designed for Operating Standard A.C. Electric Shavers in Automobiles, Buses, Trucks, Boats, and Planes.

ATR SHAV-PAKS are miniature DC-AC Inverters designed especially for the operation of standard A.C. electric shavers from 6 or 12-volt storage batteries in automobiles, buses, trucks, boats, and planes. They are ideally suitable for traveling salesmen, executives, sportsmen, and all owners of electric shavers. The ATR SHAV-PAK very simply plugs into the cigarette lighter receptacle on the dash and changes the D.C. battery power to standard 110-volt A.C. electricity for the operation of electric shavers anywhere! The ATR SHAV-PAK may also be used for operating other small A.C. devices having a wattage requirement of not more than 15 watts such as flea power timing motors. ATR SHAV-PAKS are equipped with ATR plug-in type vibrators which will give many years of satisfactory and dependable service.

Plug into Cigarette Lighter Receptacle on Dash



Keep in Glove Compartment

SALESMEN AND EXECUTIVES —"Be Neat," have your electric razor handy! Shave in the comfort of your own car, boat, or plane.

Features—

- Small Size
- Plug-in ATR Vibrator
- Fuse Protection
- Rubber Mounting Feet
- Steel Case
- Rugged Construction

TYPE	INPUT D.C. VOLTS	A.C. OUTPUT 60 CYCLES	OUTPUT WATTAGE	SHIPPING WEIGHT	LIST PRICE
6-SPB	6	115 volts	15	2½ lbs.	$11.95
12-SPB	12	115	15	2½	11.95

Radio frequency interference not suppressed.

For Inverters having larger or smaller output capacities, or for operation on other D.C. input voltages, please consult available ATR Inverter Catalog Sheets.

All ATR SHAV-PAKS are housed in attractively finished grey hammerloid steel cabinets. Dimensions 4" x 2⅝" x 2¾"; shipping weight, 2½ lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

JOBBERS ATTENTION: *See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!*

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ATR PRODUCTS

AMERICAN TELEVISION & RADIO CO. *Quality Products Since 1931*

ALL ATR INVERTER PRODUCTS CHANGE D.C. STORAGE BATTERY CURRENT TO STANDARD 110 VOLT A.C. *Household* ELECTRICITY *Anywhere!*

TAPE RECORDER INVERTERS

IDEAL FOR EMERGENCY LIGHTING

Specially Designed for Operating Standard A.C. Tape Recorders, Wire Recorders, Dictating Machines, Radios, Public Address Systems, Amplifiers, Electric Razors, Record Players, Mix-masters, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, and Planes.

TYPE	INPUT D.C. VOLTS	OUTPUT WATTAGE		SHIPPING WEIGHT	LIST PRICE
		INTERMITTENT	CONTINUOUS		
6-RSE	6	80	65	19 lbs.	$ 69.95
6-RHF	6	125	100	25	79.95
6-HSH	6	150	125	34	119.50
12-RSE	12	125	100	19	69.95
12-RHF	12	150	125	25	79.95
*28-RSE	28	125	100	19	85.00
*28-RHF	28	150	125	25	105.00
32-RSE	32	150	100	19	79.50

All ATR Inverters deliver 110 Volts A.C. 60 Cycles Current.
Radio frequency interference completely suppressed.
*Recommended for 24 Volt Battery System.

SHAV-PAKS

EASY to OPERATE

PLUGS INTO CIGARETTE LIGHTER RECEPTACLE ON DASH

Keep in Glove Compartment

Specially Designed for Operating Standard A.C. Electric Shavers in Automobiles, Buses, Trucks, Boats, and Planes.

TYPE	INPUT D.C. VOLTS	OUTPUT WATTAGE	SHIPPING WEIGHT	LIST PRICE
6-SPB	6	15	2½ lbs.	$11.95
12-SPB	12	15	2½	11.95

ATR SHAV-PAKS deliver 115 Volts A.C. 60 Cycles Current.

Features —

- Small Size
- Plug-in ATR Vibrator
- Fuse Protection
- Rubber Mounting Feet
- Steel Case
- Rugged Construction

Illustrates ATR Mighty Midget (DME) Model Inverter Having Cigarette Lighter Plug Attachment.

Illustrates ATR Medium (RME) Model Inverter Having Four-Point Voltage Regulator.

†DICTATING MACHINE

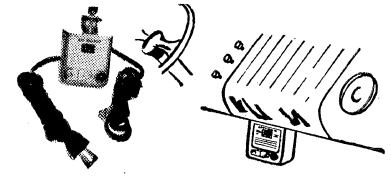
INVERTERS

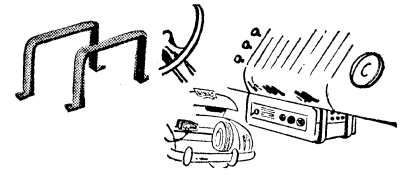
Specially Designed for Operating Standard A.C. Dictating Machines, Small Radios, Record Players, Mix-masters, Food Blenders, Electric Razors, Electronic Test Equipment, and Most Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes, and Trains.

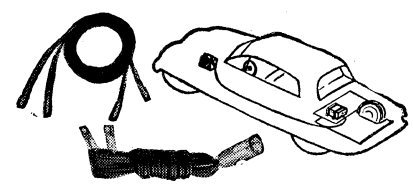
TYPE	INPUT D.C. VOLTS	OUTPUT WATTAGE		SHIPPING WEIGHT	LIST PRICE
		INTERMITTENT	CONTINUOUS		
6-DME	6	40	30	5 lbs.	$19.95
6C-DME	6/12	40	30	5	23.50
6H-DME	6	75	60	7	29.95
6-RME	6	60	50	12	39.50
6C-RME	6/12	60	50	12	45.00
6-RSE	6	80	65	19	69.95
12-DME	12	50	40	5	19.95
12-DME-D	12	60	50	6	22.50
12H-DME	12	100	80	7	29.95
12-RME	12	100	80	12	39.50
12-RSE	12	125	100	19	69.95
28-RME	28	100	80	12	65.00
28-RSE	28	125	100	19	85.00
32-RSE	32	150	100	19	79.50

All ATR Inverters deliver 110 Volts A.C. 60 Cycles Current.
*Recommended for 24 Volt Battery Systems.
†DME AND RME MODELS NOT RECOMMENDED FOR TAPE RECORDS.

ACCESSORIES For all Mobile INVERTERS







REMOTE CONTROL UNIT — for under-dash mounting permitting installation of Inverter in auto trunk compartment.
List Price $7.95

MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated.
List Price $4.95 pr.

EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment.
List Price $11.95 pr.

CIGARETTE LIGHTER CORD SET — to plug into cigarette lighter receptacle on dash.
List Price $3.95

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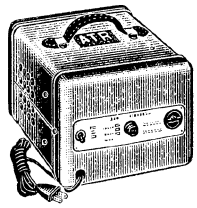
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

ATR PRODUCTS

AMERICAN TELEVISION & RADIO CO. *Quality Products Since 1931*

ALL ATR INVERTER PRODUCTS CHANGE D.C. STORAGE BATTERY CURRENT TO STANDARD 110 VOLT A.C. *Household* ELECTRICITY *Anywhere!*



ATR TELEVISION INVERTERS

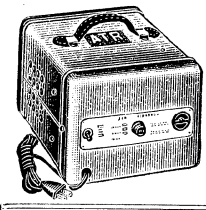
IDEAL FOR PORTABLE TV!!

Specially Designed and Carefully Adjusted for Operating Television Receivers from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Suitable for Use with All Types of Electronic Equipment where Precise Output Frequency is Required.

Type	Input DC Volts	A.C. Output 60 Cycles	Output Int.	Watt. Cont.	Shipping Weight	List Price
†6T-RHF	6	110 volts	125	100	25 lbs.	$84.95
6T-HSH	6	110	150	125	34	129.50
*12T-RME	12	110	125	90	12	42.50
†12T-RSE	12	110	125	100	19	72.95
12T-RHF	12	110	150	125	25	84.95
12T-HSH	12	110	250	200	34	129.50
28T-RSE	28	110	125	100	19	88.00
28T-RHF	28	110	150	125	25	110.00
**28T-HSH	28	110	250	200	34	155.00
32T-RSE	32	110	150	100	19	82.50
32BT-RHF	32	110	200	180	30	105.75
32T-HSH	32	110	325	225	34	145.00
110T-RSE	110	110	250	150	19	72.00
110AT-RHF	110	110	325	250	25	79.75
110BT-RHF	110	110	500	350	30	105.75
110T-HSH	110	110	600	400	34	145.00
220T-RSE	220	110	250	150	19	85.00
220T-HSH	220	110	500	300	34	155.00

All ATR Inverters deliver 110 Volts A.C. 60 Cycle Current.

** Recommended for 24 volt battery systems.
* Equipped with cigarette lighter cord set.
† These inverters may be optionally equipped with cigarette lighter cord sets.



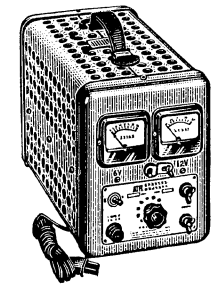
ATR INDUSTRIAL INVERTERS

For Operating Small A.C. Motors, Electronic Apparatus, Electrical Testing Equipment, and A.C. Electrical Appliances from D.C. Lines.

TYPE	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage Int.	Cont.	Shipping Weight	List Price
6LIG	6	110 volts	50	40	8 lbs.	$ 35.75
6-ISR-F	6	110	80	65	19	79.95
12-LIG	12	110	65	50	8	35.75
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
*28-LIG	28	110	65	50	8	47.50
*28-ISR-F	28	110	150	100	19	89.50
32-LIG	32	110	65	50	8	47.50
32-ISR-F	32	110	150	100	19	89.50
32P-ISR-F	32	110	150	125	19	99.50
32B-IHS-F	32	110	200	180	30	115.50
50-ISR-F	50	110	150	100	19	99.50
110-LIG	110	110	80	65	8	39.50
220-LIG	220	220	80	65	8	47.50
110-ISR-F	110	110	250	150	19	79.50
110P-ISR-F	110	110	250	150	19	89.50
110A-IHS-F	110	110	325	250	25	105.00
110B-IHS-F	110	110	500	350	30	125.00
220-ISR-F	220	110	250	150	19	89.50
220P-ISR-F	220	110	300	150	19	99.50

All ATR Industrial Inverters deliver 110 Volts A.C. 60 Cycle Current.

*Recommended for 24 volt battery systems.
†"P" Inverters are recommended for loads having power factors as low as 50%.



Featured cut illustrates Heavy Duty "A" Battery Eliminator, Model 620C-ELIR; equipped with Voltmeter, Ammeter and Voltage Control.

ATR "A" BATTERY ELIMINATORS

for . . .

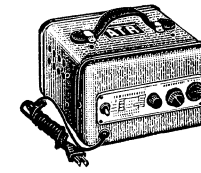
DEMONSTRATING AND TESTING AUTO RADIOS 6 VOLT OR 12 VOLT

Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Apparatus on Regular A.C. Lines, 105-125 Volts, 50-60 Cycles.

TYPE 610-ELID—Rated output 6 volts at 10 amperes continuous. Size 6½" x 9⅛" x 8½". Shipping weight 22 lbs. Similar to illustration on left but with Voltmeter only. LIST PRICE $59.40

TYPE 610C-ELID—Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size 6½" x 9⅛" x 8½". Shipping weight 22 lbs. Appearance similar to 620C-ELIR, left. LIST PRICE $66.58

TYPE 620C-ELIR—Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Size 6½" x 12⅞" x 8½". Shipping weight 33 lbs. LIST PRICE $93.90



ATR RADIO INVERTERS

EASY TO INSTALL . . . EASY TO OPERATE

Specially Designed for Operating Standard A.C. Radios, Radio-Phonographs, Tape Recorders, Wire Recorders, Record Players, Dictating Machines, Public Address Systems, Amplifiers, Radio Transmitters, Mix-masters, Food Blenders, Electric Razors, and Electronic Test Equipment from D.C. Voltages in Trains, Rural Areas, and in D.C. Districts.

TYPE	INPUT D.C. VOLTAGE	OUTPUT WATTAGE INTER-MITTENT	OUTPUT WATTAGE CON-TINUOUS	SHIPPING WEIGHT	LIST PRICE
32-RME	32	100	80	12 lbs.	$57.50
32-RSE	32	150	100	19	79.50
32B-RHF	32	200	180	30	99.50
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
110-RME	110	150	100	12	47.50
110-RSE	110	250	150	19	69.95
220-RSE	220	250	150	19	79.50

All ATR Radio Inverters deliver 110 Volts A.C. 60 Cycles Current.

ADDITIONAL ATR PRODUCTS

- **ATR Germicidal Lamp Inverters**
- **ATR Phono Inverters**
- **ATR Sine-Wave Inverters**
- **ATR Charga-Verters**
- **ATR Battery Chargers**
- **ATR Rectifier Packs**
- **ATR Vibrator Packs**
- **ATR Inverter Vibrators**

Write for literature covering all additional ATR products.

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ATR INVERTER-RECORDER SELECTION CHART

Showing Proper ATR Inverter Model For Operating Given Standard AC Tape Recorder in Automobiles, Buses, Trucks, Boats, Planes, and DC Districts.

EXPAND TAPE RECORDER SALES WITH ATR INVERTERS

60-80 Watt — As Shown on Unit Name Plates

Make and Model Recorder	ATR Inverter Model and DC Input Voltage: 6 V	12 V	28 V	32 V	115 V
Air King 750					
Ampex 600					
Ampro 730-731					
Bell Record-O-Fone, Models RT-50, RT-65B					
Brown Model By53X					
Crescent #907, H22A1					
Crestwood CP201					
•Dictaphone Timemaster					
Dictorel					
Dukane					
•Edison Voice Master, Model 86000					
Elcor 1000-15-115					
Gen. Industries Foundation Unit					
•Gray Audograph					
Knight Wire Recorder(or Tape)					
Leeds & Northrup Speedomax Recorder					
Masco D37, LD37, DC37					
Masco LD37R					
•Pierce 55B					
Pentron Models 9T3, 9T3C					
Pentron T-3					
Pentron H-225					
Pentron 748, C2					
RCA Recordio-Tape-Disc Recorder Model 1C-10					
Revere TR-100					
Revere TR-100					
Revere TR-200, TR-600					
Sonograph Tapewriter, Model C3A					
Sales-O-Matic Tapemaster Foundation Unit PT-125, LR1					
•Soundscriber					
Ultratone PT-9					
•Voicewriter (Edison) VP					
•Web-Cor 80					
Web-Cor 180, 288, 18					
Web-Cor 228-1					
Wilcox-Gay Model 3A10					
Wilcox-Gay Model 3F10					
Wilcox-Gay Models 8, U, 12					
Wilcox-Gay Models 1-C10, 2-C-10					
Wiretone MR-6					
Wireway					

Essential Applicable Data - 6-RSE (6 V)
Input DC Volts 6 — Output Wattage Continuous 65 W
A.C. Output 60 Cycles 110 V — Shipping Weight 19 lbs
Output Wattage Intermittent 80 W — List Price .. $69.95

Essential Applicable Data - 12-RSE (12 V)
Input DC Volts 12 — Output Wattage Continuous 100 W
A.C. Output 60 Cycles 110 V — Shipping Weight 19 lbs
Output Wattage Intermittent 125 W — List Price .. $69.95

Essential Applicable Data - 28-RSE (28 V)
Input DC Volts 28 — Output Wattage Continuous 100 W
A.C. Output 60 Cycles 110 V — Shipping Weight 19 lbs
Output Wattage Intermittent 125 W — List Price .. $85.00

Essential Applicable Data - 32-RSE (32 V)
Input DC Volts 32 — Output Wattage Continuous 100 W
A.C. Output 60 Cycles 110 V — Shipping Weight 19 lbs.
Output Wattage Intermittent 150 W — List Price .. $79.50

Essential Applicable Data - 110-RSE (115 V)
Input DC Volts 110 — Output Wattage Continuous 150 W
A.C. Output 60 Cycles 110 V — Shipping Weight 19 lbs.
Output Wattage Intermittent 250 W — List Price .. $69.95

The above ATR Inverter Models are recommended for permanent installations where top performance and reliability is required. For light duty 6 V & 12 V applications of the above Tape Recorder and Dictating Machine Models, there are available ATR Inverters equipped with cigarette lighter cord sets to plug into the dash receptacle for utmost portability.

*ATR 110-WSD Inverter has output rating of 60 Watts especially designed for use with Dictating Machines and Tape Recorders having extremely sensitive amplifiers similar to those noted by asterisk. (*)
Shipping Wt 20 lbs. List Price .. $87.50

90-125 Watt — As Shown on Unit Name Plates

Make and Model Recorder	ATR Inverter Model and DC Input Voltage: 6 V	12 V	28 V	32 V	115 V
Bell, Model RT-65-B					
Crestwood No. 401					
Ekotape No. 205					
Ekotape No. 114					
Movievox-Ercor Model 230					
Pentron 9T3C					
Pierce					
Revere T-70163					
Revere T-700					
Revere TR20					
Revere T-500					
Silvertone Tape Recorder					
Web-Cor No. 2030					
Web-Cor No. 210-1B					
Web-Cor No. 2010					
Web-Cor No. 210-1					
Web-Cor No. 210-9C					
Web-Cor No. 210-16					
Web-Cor No. 228					
Web-Cor No. 2040					

Essential Applicable Data - 6-RHF (6 V)
Input DC Volts 6
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 125 W
Output Wattage Continuous 100 W
Shipping Weight 25 lbs
List Price .. $79.95

Essential Applicable Data - 12-RSE (12 V)
Input DC Volts 12
Output 60 Cycles 110 V
Output Wattage Intermittent 125 W
Output Wattage Continuous 100 W
Shipping Weight 19 lbs
List Price .. $69.95

Essential Applicable Data - 28-RSE (28 V)
Input DC Volts 28
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 125 W
Output Wattage Continuous 100 W
Shipping Weight 19 lbs
List Price .. $85.00

Essential Applicable Data - 32-RSE (32 V)
Input DC Volts 32
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 150 W
Output Wattage Continuous 100 W
Shipping Weight 19 lbs
List Price .. $79.50

Essential Applicable Data - 110-RSE (115 V)
Input DC Volts 110
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 250 W
Output Wattage Continuous 150 W
Shipping Weight 19 lbs
List Price .. $69.95

125-150 Watt — As Shown on Unit Name Plates

Make and Model Recorder	ATR Inverter Model and DC Input Voltage: 6 V	12 V	28 V	32 V	115 V
Brush BK-411, 414, BK-442, BK-401, BK-403					
Concertone 1401-1501					
Crescent H19A1					
Du Kane No. 11855					
Magnecord PT6, PT63, Voyager					
Pierce 260, 265, 270					
Reelest					
Revere T-800					
Ekotape 101, 109, 111, 114					
Magnecord PT7					
Presto PT900					
Sound Projectors (Amplifier only)					
Ampro Premier 20, 30					
Bell & Howell 179					
DeVry Super 16					
Victor Lite Weight					
Victor Triumph 60					
Victor Sonomaster					

Essential Applicable Data - 6-HSH (6 V)
Input DC Volts 6
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 150 W
Output Wattage Continuous 125 W
Shipping Weight 34 lbs.
List Price .. $119.50

Essential Applicable Data - 12-RHF (12 V)
Input DC Volts 12
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 150 W
Output Wattage Continuous 125 W
Shipping Weight 25 lbs
List Price .. $79.95

Essential Applicable Data - 28-RHF (28 V)
Input DC Volts 28
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 150 W
Output Wattage Continuous 125 V
Shipping Weight 25 lbs
List Price .. $105.00

Essential Applicable Data - 32B-RHF (32 V)
Input DC Volts 32
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 200 W
Output Wattage Continuous 180 W
Shipping Weight 30 lbs
List Price .. $99.50

Essential Applicable Data - 110-RSE (115 V)
Input DC Volts 110
A.C. Output 60 Cycles 110 V
Output Wattage Intermittent 250 W
Output Wattage Continuous 150 W
Shipping Weight 19 lbs
List Price .. $69.95

SEE ATR CATALOG PAGES THIS SECTION COVERING ATR TAPE RECORDER INVERTERS AND ATR DICTATING MACHINE INVERTERS.

FOR ANY ADDITIONAL RECOMMENDATIONS PLEASE WRITE THE FACTORY.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Communication Vibrators for SUPER SERVICE

As introduced in the 1954 May-June issues of many leading radio magazines, ATR COMMUNICATION VIBRATORS are truly THE WORLD'S FINEST. See reprint of ad on this page for feature specifications.

ATR COMMUNICATION VIBRATORS eliminate the problem of short-life call-backs on those tough two-way communication rigs. Yes, Sir! these ATR COMMUNICATION VIBRATORS deliver SUPER SERVICE.

For additional specifications pertaining to ATR SUPER SERVICE COMMUNICATION VIBRATORS, see page M-15.

ATR VIBRATORS FEATURE:

CERAMIC STACK SPACERS with Two-Bolt Stack Construction — for adjustment permanency under any operating condition.

INSTANT STARTING — as a result of highly efficient magnetic circuit with formed base for more uniform operation on both high and low voltages.

LARGE OVERSIZED TUNGSTEN CONTACTS having Full Wiping Action—for greater reliability and longer life.

PERFORATED REED of Highest Quality Swedish Spring Steel—for uniform flexibility and prevention of reed breakage.

HIGHEST PRECISION CONSTRUCTION AND WORKMANSHIP — Practically all parts used are held to within a tolerance of 0.0005 of an inch.

VALUE PLUS — as readily evidenced by the Larger Contacts, Ceramic Spacers and Precision Construction and Workmanship.

ATR INTRODUCES

The World's Finest Communication VIBRATORS

featuring:

- CERAMIC STACK SPACERS
- ¼" DIAMETER POWER CONTACTS
- DRIVER-TYPE COIL CONSTRUCTION
- SPECIAL REED HINGE and WIRING
- POWER CAPABILITY UP TO 15 AMPERES

A COMPLETE LINE OF REPLACEMENT

ATR VIBRATORS

FOR AUTOMOTIVE, HOUSEHOLD and TWO-WAY COMMUNICATION SETS

ATR VIBRATORS are proven units of the highest quality, engineered to perfection. They are backed by more than 23 years of vibrator design and research, development and manufacturing.
ATR pioneered in the vibrator field.

FREE - ATR VIBRATOR MASTER MANUAL

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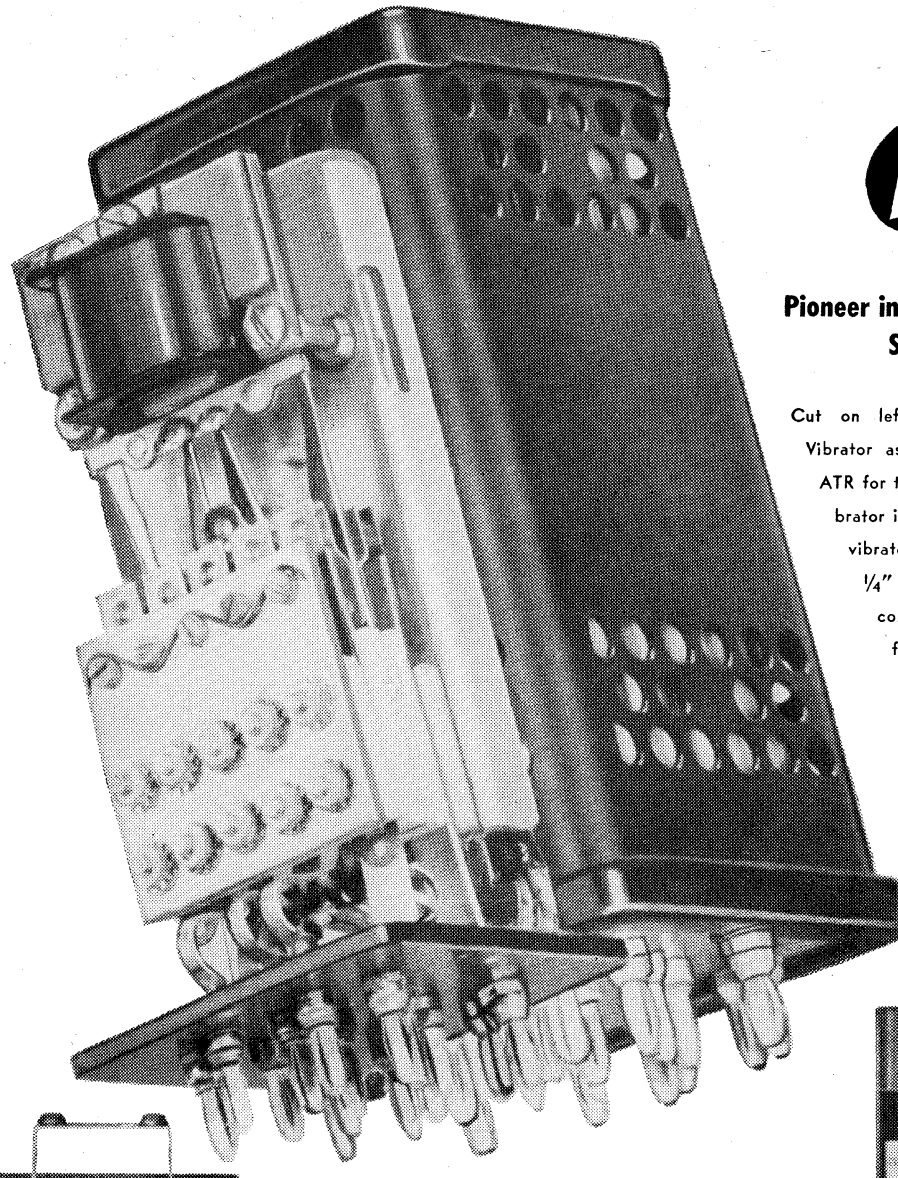
INTRODUCING THE WORLD'S LARGEST VIBRATOR

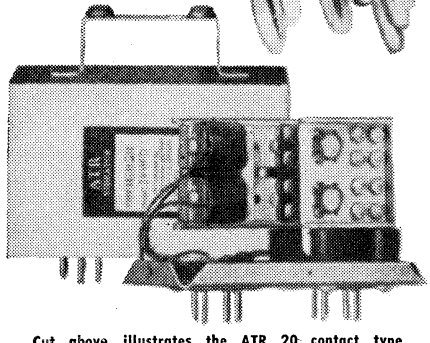


BY

ATR

Pioneer in the Vibrator Field Since 1931

Cut on left illustrates the ATR VB-16 Vibrator as developed and produced by ATR for the Army Signal Corps. This vibrator is considered the world's largest vibrator and is equipped with twenty 1/4" power contacts and two driver contacts and is normally available for operation in 6 or 12 volt circuits with a power capability of approximately 200 watts, the frequency being 200 cycles plus or minus 2%.



Cut above illustrates the ATR 20 contact type vibrator as used in ATR Model RHF and HSH Inverters.

For World's Smallest Vibrator
See Page M-33

Illustrates ATR 10 contact vibrator as utilized in ATR RSE and RME model Inverters.

BIG OR SMALL ATR MAKES THEM ALL!

WRITE FOR FREE COPY OF THE NEW ATR HEAVY DUTY INVERTER VIBRATOR MANUAL

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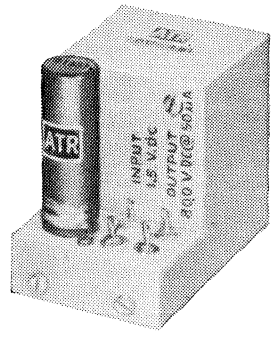
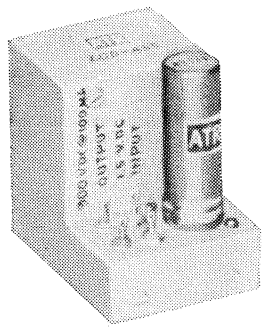
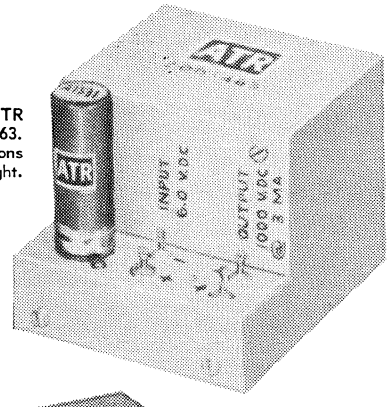
ATR *MINIATURE HIGH VOLTAGE-LOW CURRENT* POWER SUPPLIES



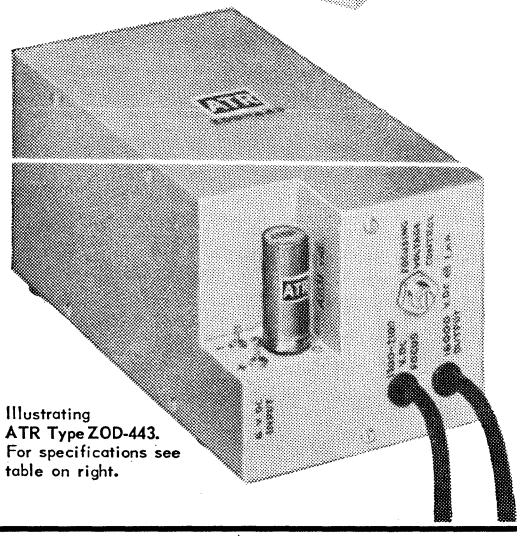
Illustrating ATR Type ZOD-451. For specifications see table below.



Illustrating ATR Type ZOD-455. For specifications see table below.



Illustrating ATR Type ZOD-463. For specifications see table on right.



Illustrating ATR Type ZOD-443. For specifications see table on right.

ATR INTRODUCES

Miniature HIGH Voltage - LOW Current POWER SUPPLIES

Developed by ATR in cooperation with Squier Signal Laboratory, Signal Corps Engineering Laboratories, Fort Monmouth, New Jersey.

The ATR HIGH Voltage - LOW Current Power Supplies utilize ATR miniature vibrators and are ideally suited for flash-light cell operation in conjunction with:

- **RADIATION MEASURING DEVICES.**
- **PHOTO-MULTIPLIER CELLS.**
- **INFRA-RED DETECTION EQUIPMENT.**

SPECIFICATIONS

Five (5) basic ATR HIGH Voltage - LOW Current flash-light cell operated Power Supplies are available as follows:

ATR TYPE NO.	DC INPUT VOLTAGE	DC OUTPUT VOLTAGE	DC OUTPUT CURRENT
ZOD-451	1.5 VDC	800 VDC	50 ua.
ZOD-455	1.5 VDC	900 VDC	100 ua.
ZOD-471*	1.5 VDC	10,000 VDC	1 ua.
ZOD-463	6 VDC	1,000 VDC	3 ma.
ZOD-443	6 VDC	10,000 VDC	1 ua.

*AS FEATURED ABOVE

QUOTATIONS ON REQUEST ONLY TO ACCREDITED ORGANIZATIONS.

ATR manufactures a complete line of Auto Radio Type Vibrators, Heavy Duty Inverter Type Vibrators, DC-AC Inverters, and Rectifier Power Supplies.
Literature Available On Request.

ATR AMERICAN TELEVISION & RADIO CO.
Quality Products Since 1931
SAINT PAUL 1, MINNESOTA — U.S.A.

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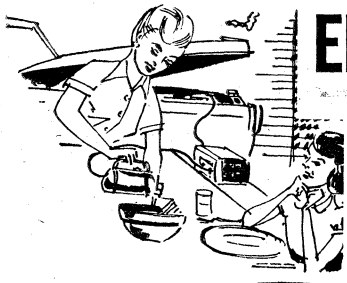


ENJOY *Household* ELECTRICITY

Anywhere! Anytime!

In your CAR, BOAT or PLANE!

WITH

ATR PORTABLE INVERTERS

for changing your storage battery current to A.C.

Household ELECTRICITY Anywhere . . .

IN YOUR CAR, BOAT OR PLANE!

ATR PORTABLE INVERTERS . . . especially designed to change 6 or 12 volt D.C. to 110 volt A.C. 60 cycles.

for
- EXECUTIVES
- SALESMEN
- PUBLIC OFFICIALS
- POLICEMEN
- FIREMEN
- OUTDOOR MEN
- REPORTERS
- FIELD INSPECTORS
- DOCTORS
- LAWYERS, ETC.

NO INSTALLATION

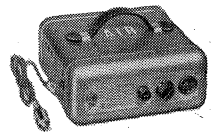
JUST PLUG INTO CIGARETTE LIGHTER RECEPTACLE!

ATR TAPE RECORDER INVERTERS

Operates Standard A.C.

- TAPE RECORDERS
- Dictating Machines
- Business Machines
- Radios
- Public Address Systems
- Electric Shavers
- Record Players
- Mix-masters
- Electronic Test Equipment
- Emergency Lighting, etc.

MODELS	List Price
6-RSE-P (6 volts) 65 to 80 watts	$69.95
12-RSE-P (12 volts) 100 to 125 watts	69.95



ATR DICTATING MACHINE INVERTERS

Operates Standard A.C.

- DICTATING MACHINES
- Small Radios
- Record Players
- Electric Shavers
- Electronic Test Equipment
- Heating Pads, etc.

MODELS	List Price
6C-RME (6 volts) 50 to 60 watts	$45.00
6-RME (6 volts) 50 to 60 watts	39.50
12-RME (12 volts) 80 to 100 watts	39.50

ATR MIGHTY MIDGET DICTATING MACHINE INVERTERS

Operates Standard A.C.

- DICTATING MACHINES
- Small Radios
- Record Players
- Electric Shavers
- Electronic Test Equipment
- Heating Pads, etc.

MODELS	List Price
6-DME (6 volts) 30 to 40 watts	$19.95
6C-DME (6/12 volts) 30 to 40 watts	23.50
12-DME (12 volts) 40 to 50 watts	19.95

ATR SHAV-PAKS

Operates Standard A.C.

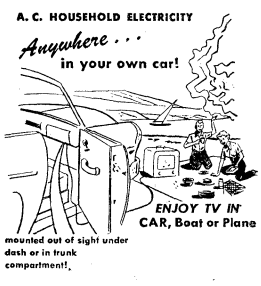
- ELECTRIC SHAVERS
- Small Timing Devices . . . in CARS, BUSES, TRUCKS, BOATS and PLANES.

MODELS	List Price
6-SPB (6 volts) 15 watts	$11.95
12-SPB (12 volts) 15 watts	11.95

ALL ATR PORTABLE INVERTERS FEATURE

• Small Size • Rubber Mounting Feet • Plug-in ATR Vibrator • Steel Case • Fuse Protection • Rugged Construction

PLUS MANY OTHERS!



ATR TV INVERTERS FOR USE WITH PORTABLE TV SETS!

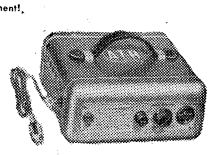
ATR TYPE 12T-RME TELEVISION INVERTER

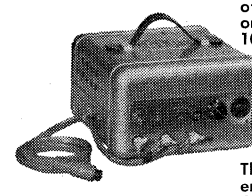
NO INSTALLATION

JUST PLUG INTO CIGARETTE LIGHTER RECEPTACLE

The ATR Type 12T-RME Television Inverter is equipped with cigar lighter cord set and plugs directly into cigarette lighter receptacle on the dash. This Inverter has ample output capacity to handle nicely the RCA 8½" portable television set rated 90 watts or equivalent operating from a 12-volt storage battery system.

List Price $42.50





ATR TYPE 12T-RSE-P TELEVISION INVERTER

The ATR Type 12T-RSE-P Television Inverter is equipped with cigarette lighter cord set and plugs directly into the cigarette lighter receptacle on the dash of the automobile. This Inverter will handle most of the new small portable TV Sets presently on the market with screen size of 8½" to 10⅜" such as those sold by Emerson, Admiral, GE, Motorola, Sylvania, Crosley, and others. The ATR 12T-RSE-P Inverter operates from a 12-volt storage battery system.

List Price $72.95

ATR TYPE 6T-RHF-P TV INVERTER

This Inverter equipped with cigarette lighter cord set to plug into dash receptacle for 6-volt operation and has possible use for most of small portable TV sets to operate from 6-volt storage battery system; however, caution must be observed to make certain that cigarette receptacle wiring is adequate to carry required current.

List Price $84.95

For other ATR Television Inverters, Tape Recorder Inverters, Dictating Machine Inverters, etc., of smaller or larger capacities for operation from 6 or 12-volts DC as well as from other DC input voltages such as 28 volts, 32 volts, 110 volts, and 220 volts DC, please consult complete ATR descriptive literature which is available directly from the factory.

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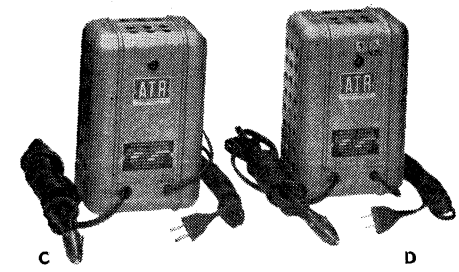
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

AUTO Plug-In Type — Portable
BATTERY CHARGERS

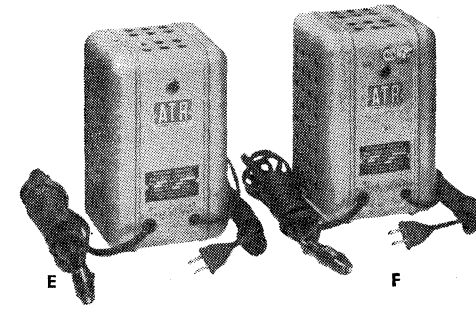
NO INSTALLATION — JUST PLUG INTO CIGARETTE LIGHTER RECEPTACLE

For keeping the storage battery fully charged right in the car, truck, boat, or plane! A storage battery necessity — needed more now than ever before — makes motor starting easy!

The additional appliances — such as auto radios, spotlights, motors, heaters, fans, cigarette lighters, etc. — operated from the storage battery impose a severe drain on the battery making the normal "hard starting", especially in cold weather, still more difficult. The ATR Automatic Tapering Battery Charger solves this problem by charging the storage battery right in the car, truck, boat, or plane conveniently and economically. No need to remove the battery! Simply plug special charger cable into dash receptacle of the vehicle; or, if truck type charger, clip charger cable leads to the storage battery and flip the charger toggle switch "on". Danger of over-charging battery is minimized due to automatic tapering charge feature.



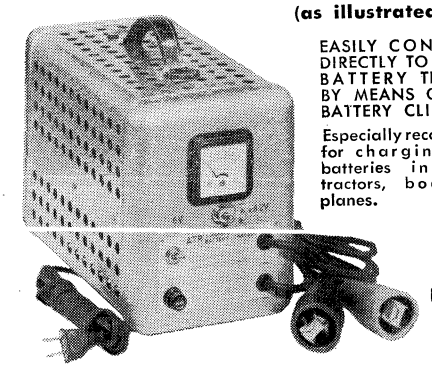
- **Light in Weight**
- **Portable**
- **Rugged**
- **Economical**
- **No Radio Interference**
- **Noiseless**
- **Long Life**



ATR CHARGER MODEL NUMBER	AS ILLUSTRATED RIGHT	NOMINAL BATTERY DC VOLTAGE	MAXIMUM CHARGE RATE DC AMPS.	APPROX. TAPERED RATE DC AMPS.	APPROX. SHIPPING WT. IN POUNDS	LIST PRICE
6CA4	A	6	4	2	5	$14.95
6CA6	C	6	6	3	7	19.95
6CA10	E	6	10	5	9	27.95
12CA4	A	12	3	1	5	15.95
12CA6	C	12	6	2	7	23.95
12CA10	E	12	10	4	9	32.95
612CA4	B	6 or 12	4	2	6	18.95
612CA6	D	6 or 12	6	3	8	27.95
612CA10	F	6 or 12	10	4	10	36.95
612CT20	G	6	20 (Hi)	9	18	49.95
			14 (Lo)	5		
		and				
		12	10 (Hi)	4		
			9 (Lo)	1		
612CT40	H	6	40 (Hi)	17	24	65.95
			27 (Lo)	10		
		and				
		12	20 (Hi)	6		
			15 (Lo)	1		

All Prices Subject to Change Without Notice.

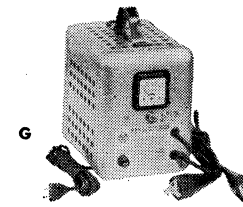
TRUCK Clamp Type—Portable
BATTERY CHARGERS
(as illustrated below)



EASILY CONNECTED DIRECTLY TO STORAGE BATTERY TERMINALS BY MEANS OF LARGE BATTERY CLIPS.

Especially recommended for charging storage batteries in trucks, tractors, boats, and planes.

ATR Plug-In and Truck clamp type battery chargers, as above illustrated, operate from any 110-120 volt 50-60 cycle AC line. ATR chargers utilize a full-wave dry-disc type selenium rectifier, assuring extreme long life and reliability. ATR Charger models protected with automatic reset circuit breaker eliminating need for fuses. All of the above chargers equipped with charger indicators such as pilot light or meter as above illustrated with the exception of the 4 ampere grouping. The cigarette lighter plug-in chargers have a simple reversible polarized plug arrangement for negative-grounded vehicles or positive-grounded vehicles. Models, as illustrated, are housed in attractively finished grey hammerloid steel cabinets. Charger illustrations A and B have dimensions 5⅜" x 4⅞" x 2¾"; C and D, dimensions 8½" x 5½" x 3⅞"; E and F, dimensions 8½" x 5½" x 5¼"; G, dimensions 6½" x 9⅛" x 8½"; H, dimensions 6½" x 12⅞" x 8½".



For additional information on ATR Battery Chargers or Inverters, consult ATR catalog sheets which are available directly from the factory.

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Vibrators

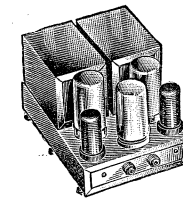
Mallory Vibrators are engineered to exacting specifications. Their superior action is a result of more than 20 years' research. Pure, natural rubber liners deaden sound and assure quiet operation. Special, tough-spring steel eliminates reed breakage. Heavy framing insures correct and exact alignment. Extra size and quality of contact points assure longer life. Each Mallory Vibrator is tested individually for correct output, starting voltage and wave form.

Type No.	Notes*	Volt	Type	Base Dia.	Can Type	Size A B C	List Price
F294	1	32	Int.	8	1	1½ x 3¼	**$ 7.15**
F826C	1, 2	32	Int.	8	1	1½ x 3¼	**7.70**
G567C		12	Int.	38	1	1½ x 3¼	**9.95**
G725C	1, 2	12	Syn.	32	1	1½ x 3¼	**9.95**
G749C	1, 2	12	Syn.	21	1	1½ x 3¼	**9.95**
G826C	1, 2	12	Int.	8	1	1½ x 3¼	**7.70**
G859		12	Int.	8	1	1½ x 2⅞	**4.70**
G883		12	Int.	55	9	1½ x 2⅞	**4.70**
G4501	1	12	Int.	53	1	1½ x 2⅞	**6.90**
G4546		12	Syn.	33	1	1½ x 3¼	**8.55**
G4548		12	Syn.	44	1	1½ x 3¼	**8.55**
G4549		12	Syn.	32	1	1½ x 3¼	**8.55**
M4501		24	Int.	53	1	1½ x 2⅞	**6.90**
T4002		2	Syn.	52	8	1½ x 2⅛ x 1½	**10.70**
T4003		2	Syn.	50	1	1 5/16 x 2⅛	**9.80**
W759	3	4	Syn.	21	1	1½ x 2⅞	**8.25**
W859	3	4	Int.	8	1	1½ x 2⅞	**4.90**
245	1	6	Syn.	21	1	1½ x 3¼	**7.70**
247		6	Syn.	46	1	1½ x 3¼	**7.70**
271HD		6	Syn.	24	1	2 x 4½	**9.15**
273C		6	Syn.	29	1	2 x 4½	**9.15**
294		6	Int.	8	1	1½ x 3¼	**4.90**
298		6	Int.	51	1	1½ x 2⅞	**6.35**
576		6	Syn.	32	1	1½ x 3¼	**7.70**
509P		6	Int.	8	1	1½ x 2⅞	**4.15**
716		6	Syn.	30	7	1 15/16 x 3½	**7.70**
725C	1, 2	6	Syn.	32	1	1½ x 3¼	**8.55**
742		6	Syn.	32	1	1½ x 2⅞	**7.70**
743		6	Syn.	38	1	1¼ x 3¼	**7.70**
748		6	Syn.	44	1	1½ x 2⅞	**7.70**
825C	1, 2	6	Int.	8	1	1½ x 3¼	**6.90**
826C	1, 2	6	Int.	8	1	1½ x 3¼	**6.35**
854		6	Int.	11	1	1½ x 3¼	**4.90**
859	1	6	Int.	8	1	1½ x 2⅞	**4.70**
870		6	Int.	14	1	1½ x 3	**4.90**
903M		6	Int.	8	1	1½ x 2⅞	**3.60**
953W		6	Syn.	16	1	1½ x 3 5/16	**7.70**
954		6	Syn.	39	1	1½ x 3 5/16	**7.70**
1604		6	Int.	8	1	1 5/16 x 2 3/16	**4.90**
1701		6/12	Int.	57	1	1½ x 2⅞	**9.60**
1751		6	Int.	58	1	1½ x 2⅞	**9.80**
1852		6	Syn.	59	1	1½ x 2⅞	**9.70**
4501	1	6	Int.	53	1	1½ x 2⅞	**6.35**
4512		6	Int.	54	1	1½ x 2⅞	**6.90**
4513		6/12	Int.	56	1	1½ x 2⅞	**6.90**
4514		6	Int.	53	1	1½ x 2⅞	**6.90**
4546		6	Syn.	38	1	1½ x 3¼	**7.70**
4548		6	Syn.	44	1	1½ x 3¼	**7.70**
4549		6	Syn.	32	1	1½ x 3¼	**7.70**

Int.—Interrupter Syn.—Synchronous

*** Notes:**

1. Use only these types in design of new equipment. Other types are for replacement purposes only.
2. Hermetically Sealed Construction.
3. Designed for photo flash applications.
4. A grounding cup for 1½" dia. vibrators which makes a low r.f. ground connection between vibrator can and power supply chassis.
5. Will be discontinued when present stocks are exhausted.
6. Five special sockets for Practical Vibrator Tester. Supplied as complete kit only.
7. For 1½" diameter vibrators. See next column for Vibrator Base Diagrams.



VP-555H
VP-557

Vibrapacks

Mallory Vibrapacks are the ideal vibrator power supplies designed to provide at low cost, dependable, high-voltage, direct current from low-voltage, storage batteries. Mallory Vibrapacks offer high efficiency, dependability, low maintenance cost and long life because of years of field testing. Added features are; light weight, compactness and simplicity of installation.

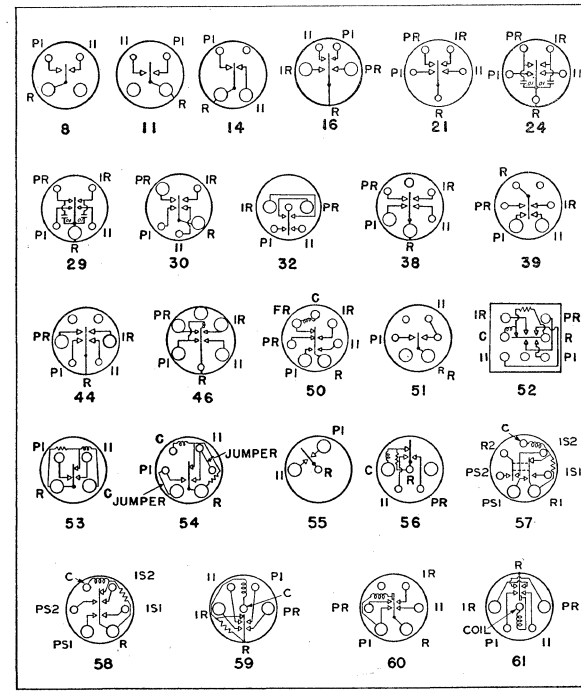
Catalog Number	Nominal Operating Voltage	Nominal Output Voltage	Maximum Output Current	Type	List Price
VP-552	6	225–250–275–300	50–60–80–100 ma.	Self-Rectifying	**$55.00**
VP-G556	12	225–250–275–300	50–60–80–100 ma.	Self-Rectifying	**55.00**
VP6-260	6	200–260	60 ma.		**28.95**
VP12-260	12	200–260	60 ma.		**28.95**
VP24-260	24	200–260	60 ma.		**30.95**
VP6-325	6	325	100 ma.		**29.95**
VP12-325	12	325	100 ma.		**29.95**
VP24-325	24	325	100 ma.		**32.95**
VP-557†	6	400	150 ma.	Tube Rectifier	**79.95**

* Includes complete audio filter.

† Maximum ratings are for mobile transmitter service. For continuous duty with radio receivers where longer vibrator life is essential. Reduces maximum output watts ratings to 75% of listed values.

‡ Will be deleted when present stock is exhausted.

Vibrator Base Diagrams



C=Coil IF=Inertia Interrupter IS=Inertia Spring PS=Pull Spring R=Reed
FR=Frame IR=Inertia Rectifier PI=Pull Interrupter PR=Pull Rectifier

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

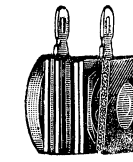
RECTIFIER STACKS

P. R. MALLORY & CO., INC. • INDIANAPOLIS

P. R. MALLORY & CO. Inc. MALLORY

Selenium Rectifier Stacks

Mallory Selenium stacks are conservatively rated to provide long dependable service and good voltage regulation at high efficiency. Rectification is immediate—no warm-up period is required. 5-volt average drop across stack results in cooler operation.



Recommended Minimum Capacity in Mfd.

Catalog Number	AC Input Volts		Max. DC MA.	Approximate Dimensions In Inches See Outline Drawing			Min. Resistor R1* Ohms	Recommended Capacitor (Minimum Value)				List Price
	Design Center	Max. Rated		A*	B*	C*		Mfd.	WV DC	Mfd.	WV DC	
8S20	117	130	20	½	½	½	47	20	150	30	150	**$1.50**
8S35	117	130	35	½	.67	.67	47	30	150	40	150	**1.50**
6S65	117	130	65	21/64	1	1	33	30	150	40	150	**1.50**
6S75	117	130	75	21/64	1	1	22	40	150	50	150	**1.70**
6S100	117	130	100	37/64	1.2	1.2	22	50	150	80	150	**2.05**
6S100A	117	130	100	21/64	1	1	22	50	150	80	150	**1.80**
6S150	117	130	150	37/64	1.2	1.2	15	80	150	150	150	**2.15**
6S200	117	130	200	⅜	1.6	1.6	5	100	150	150	150	**2.85**
6S250	117	130	250	⅜	1.6	1.6	5	150	150	200	150	**2.85**
6S300	117	130	300	⅜	1.6	1.6	5	150	150	250	150	**2.95**
6S300A	117	130	300	⅜	1.6	1.6	5	150	150	250	150	**2.85**
6S350	117	130	350	9/16	1.75	1.75	5	250	150	300	150	**3.35**
6S350A	117	130	350	9/16	1.75	1.75	5	250	150	300	150	**3.35**
6S400	117	130	400	7/16	2	2	5	250	150	300	150	**3.75**
6S450	117	130	450	7/16	2	2	5	300	150	400	150	**4.05**
6S500	117	130	500	7/16	2	2	5	300	150	400	150	**4.75**
6S500A	117	130	500	7/16	2	2	5	300	150	400	150	**4.05**
6S600	117	130	600	9/16	2.4	2.4	5	300	150	400	150	**5.60**
6S750	117	130	750	9/16	2.4	2.4	5	400	150	600	150	**5.00**
8S75	155	170	75	21/64	1	1	22	40	250	50	250	**2.10**
8S100	155	170	100	21/64	1	1	22	50	250	80	250	**3.40**
8S150	155	170	150	37/64	1.2	1.2	15	80	250	150	250	**3.60**
8S200	155	170	200	⅜	1.6	1.6	5	100	250	150	250	**3.75**
8S250	155	170	250	⅜	1.6	1.6	5	150	250	200	250	**4.05**
8S350	155	170	350	9/16	1.75	1.75	5	250	250	300	250	**4.30**
8S450	155	170	450	7/16	2	2	5	300	250	400	250	**5.70**
8S500	155	170	500	7/16	2	2	5	300	250	400	250	**6.25**
9S750	175	195	750	9/16	2.4	2.4	5	400	250	600	250	**8.05**

A*—Terminal Extension Beyond Plate. B*—Dimension of Plate. C*—Overall Length.

Chart of Replacement Magnesium-Copper Sulfide Rectifier Stacks

New Catalog Number	List Price	Maximum AC Volts (Normal Line)		Approx. DC Volts			Max. DC† Amperes		Approximate Overall Dimensions in Inches		
		No Load	Full Load	Inductive Load	Resistive Load	Capacitive-Battery Load	Continuous Duty§	Intermittent Duty	Length	Width	Height
IB4R	**$2.40**	3.6	3.2	1.5	1.7	2.5	1.5	5.0	1	9/16	⅞
IB8R	**2.85**	7.2	6.4	3.1	3.4	5.1	1.5	5.0	1⅜	9/16	⅞
IB12R	**3.25**	10.8	9.7	4.8	5.2	7.8	1.3	5.0	1¾	9/16	⅞
IB12L5	**5.85**	10.8	9.7	4.5	5.0	7.6	4.5	15.0	2½	2⅛	2⅝
IB12C1J	**6.55**	10.8	9.8	4.6	5.1	7.7	3.2	24	2¾	1¼	1⅝
IB12C3	**6.80**	10.8	9.7	4.5	5.0	7.6	4.5	24	2¾	1¾	2⅛
~~IB12C5~~	~~7.40~~	~~10.8~~	~~9.7~~	~~4.5~~	~~5.0~~	~~7.6~~	~~5.3~~	~~24.0~~	~~3~~	~~2¼~~	~~2⅝~~
F16C3	**8.85**	14.4	13.0	6.1	6.8	10.2	3.9	24	3	1¾	2⅛
IF16CB7M	**10.20**	14.4	12.8	5.9	6.6	9.9	6.0	24	3	2½	3 3/16
IS16CB7	**10.20**	14.4	12.8	5.9	6.6	9.9	6.0	24	3¾	2½	3
IS16B7	**11.25**	14.4	12.8	5.8	6.5	9.8	8.3	24	5½	2½	3
IS16B9	**12.80**	14.4	12.7	5.7	6.4	9.7	11.6	24	5½	3½	4¼
F20C7	**12.75**	18.0	16.2	7.6	8.4	12.6	4.8	24	4⅜	2½	3 3/16
IS24C7J	**12.80**	21.6	19.4	9.0	10.1	15.1	4.0	24	4¾	2½	3 3/16
IS24B9	**17.95**	21.6	19.1	8.5	9.6	14.4	11.0	24	7½	3½	4¼
IS28C7J	**15.30**	25.2	22.7	10.7	11.7	17.8	4.3	24	6	2½	3

NOTE: All rectifiers are single phase, full wave, bridge type.

Mounting Prefix: IB=Insulated Bolt; F=Grounded Foot; IF=Insulated Foot; IS=Insulated Stud.

P suffix designates reverse polarity stacking. Center terminal is DC positive.

J suffix designates universal construction with loose mounting feet for foot, bolt or stud mounting replacement.

† To determine AC Amps: Multiply the DC amps by the following factors: Inductive load by 1.1; resistive load by 1.2; capacitive load by 1.4.

§ Ratings given are for resistive and inductive loads. To determine the Max. continuous DC amp. rating for capacitive and battery loads multiply these ratings by 0.82.

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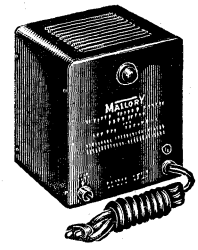
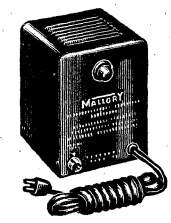
Rectifier Battery Chargers— Power Supplies • UL Approved

Mallory Automotive, Marine and Aviation Battery Chargers provide convenient, efficient and economical charging of any storage battery used in automobiles, buses, trucks, tractors, taxicabs, small boats, airplanes and on the farm. Taper charging (an automatically decreasing charging rate) is designed into all Mallory chargers to prevent damage to battery plates and to insure maximum battery life. These chargers also are ideal for charging any 6 or 12-volt storage battery used in industrial, engineering and research laboratories.

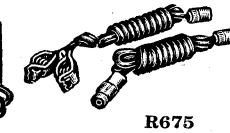


6SAC10



6SAC6

6SAC4



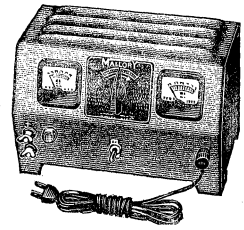
R670

R675

Mallory Charger Model Number	Nominal Battery DC Volts	Maximum Charging Rate DC Amps.	Tapered Rate DC Amps.	Maximum Continuous DC Amps. as Power Supply	DC Output Termination	Type of Charging Indicator	Approx. Overall Dimensions in Inches			Approx. Shipping Wt. in Pounds	List Price
							Height	Width	Depth		
6SAC4*	6	4	2	3	Universal	None	4⅝	4¼	4⅜	5¼	**$16.95**
6SAC6*	6	6	4	5	Universal	Light	6⅞	4⅞	4¾	6	**19.95**
6SAC10*	6	10	7	8	Universal	Light	7⅞	6½	5¾	9	**29.95**
6AC75	6	75 (fast)	60	60	8′ Clamps	Meter	15	7½	6½	34	**109.50**
		10 (slow)	9	10							
12SAC5*	12	5	3	4	Universal	Light	7⅞	6½	5¾	9	**29.95**
12SAC10D	6	20	15	16	6′ Clamps	Meter	9⅛	6½	5¾	15½	**54.95**
	12	10	8	8							
12AC60D	6	80 (fast)	60	80							
	and	15 (slow)	8	8-25	8′ Clamps	Meter	15	7½	6½	38	**149.50**
	12	40 (fast)	30	40							
		7 (slow)	3	3-12							

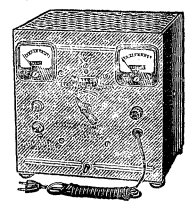
* These chargers are equipped with a Universal DC Output Socket. No DC Cable Assemblies are packaged with Charger. Purchase either R670 or R675 Cable Assembly.

Mallory 12RS6D Bench Power Supply



The Mallory 12RS6D is a dual purpose bench power supply designed for use on the radio service bench for operating conventional 6 and 12 volt automobile and truck radio sets. Fully AC-operated from the 115V/60 cycle line, the 12RS6D supplies rectified and filtered DC in either of 2 ranges. Range "A" supplies 0 to 16 volts at 6 amperes continuously, or 12 amperes intermittently. Range "B" supplies 0 to 8 volts at 10 amperes; or 20 amperes intermittently. Both ranges are infinitely variable from zero to maximum output to permit precise adjustment of bench test voltages. The 12RS6D is equipped with a DC voltmeter, a DC ammeter, infinitely variable voltage control, a range switch, an on-off toggle switch, automatic overload protection, primary fuse and rubber-covered line cord and plug. The rectifying system employs a full-wave metallic rectifier. The cabinet is sheet steel finished in blue enamel and measures 6¾″ high, 10⅜″ wide and 5½″ deep. Shipping weight approximately 8 lbs. Catalog No. **12RS6D $42.95** Net

Mallory Service Bench Rectopower Supplies

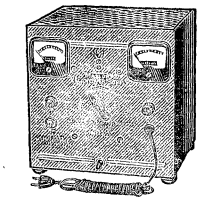


Model 28RS15D is designed to operate from 110-120 volts, 60-cycles, and is equipped with accurate reading DC voltmeters and ammeters, self-reclosing overload circuit breakers in the DC circuit, fuse protection in the AC circuit and an "on-off" switch. Both models are equipped with a continuously adjustable transformer-rotor system to provide precise adjustment of the output voltage to any value from 0 to rated output voltage. Both models are filtered by high-capacity electrolytic capacitors.

These models are also equipped with a new, simplified automatic voltage regulating system (no relays) which keeps the output voltage relatively constant as the load changes from no-load to full load. Model 28RS15D will supply 0-16VDC @ 30A or 0-32VDC @ 15A.

Model **28RS15D $224.50** Net.

Mallory 12RS14D Heavy Duty Six Volt DC Power Supply



The Mallory 12RS14D 6/12 volt, 25 ampere rectifier type power supply is designed to replace storage battery-charger combinations for bench testing medium power 2-way mobile-phone equipment. It may also be utilized for non-radio uses requiring well-filtered low voltage DC in the 25 ampere range. Heavy sheet-steel housing makes it adaptable for use in garages as mobile radio bench equipment.

The 12RS14D operates from a standard 115 volt 60 cycle source to supply DC voltage from 0 to 8 volts at continuous or variable loads of 0 to 25 amperes. Intermittently, it will supply a maximum of 40 amperes at 6 volts.

An adjustable variable control allows quick selection of any voltage from 0 to 8 at 0 to 25 amperes. Three capacitors totaling 30,000 mfd. filter the output to less than 1 volt ripple and suppress RF and power line interference. A 0-10 volt DC voltmeter and a 0–40 ampere DC ammeter are included.

Conduction cooling of the full-wave Selenium Rectifier Cells, automatic overloading protection, and a self resetting circuit breaker insure long life.

Overall dimensions—11″ high, 10½″ wide, 8¾″ deep. Shipping weight—26 lbs. Catalog No. **12RS14D $139.50** Net

Accessories

Catalog Number		List Price
R670	Polarized Battery Clip D.C. Cord Assembly for 6SAC4, 6SAC6, 6SAC10 and 12SAC5.	**$1.95**
R675	Universal Cigarette Lighter Plug D.C. Cord Assembly for 6SAC4, 6SAC6, 6SAC10 and 12SAC5	**2.25**
R653	Extra Battery Clip	**.25**

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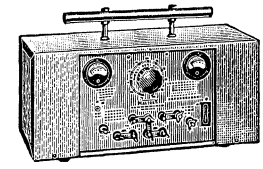
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

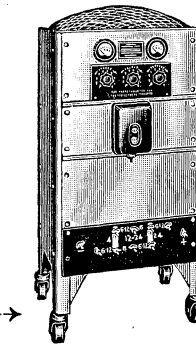
Mallory VA Series Rectopower® Rectifier DC Power Supplies

Seven models are contained in the line of general utility filtered rectifier DC power supplies for designing, building, testing and repairing electrical and electronic equipment for the automotive, aviation and military equipment industries. The models may also be used for battery charging and electrolytic processes such as plating, anodizing, electrocleaning and electropolishing. These units incorporate voltmeter, ammeter, isolating-type transformer and many other features which make them desirable for production or laboratory use.

The four independent filtered output circuits may be paralleled, series-paralleled, seriesed, used independently or connected in several different combinations to provide simultaneous outputs as required. Delivery information and more detailed specifications on special Rectostarters® for aircraft engine starting and industrial electric truck battery charging, may be had by writing to P. R. Mallory & Co., Inc., Box 1558, Indianapolis, Ind.



VA400
VA800



VA1500
VA3000
VA4500
VA6000

MODEL	VA400	VA800	VA1500	VA3000	VA4500	VA6000
AC Input						
Volts ± 10%	115	208–230 or 115	208–230 or 460	208–230 or 460	208–230 or 460	208–230 or 460
Phase*	1	1	3	3	3	3
Cycles	60	60	60	60	60	60
KVA	1.2	2.4	3.0	6.0	9.0	12.0
DC Output Rating						
Max. Amperes at Nominal Volts of different Circuit Combinations.	Amps.	Amps.	Amps.	Amps.	Amps.	Amps.
6 volts (all paralleled)	50	100	200	400	600	800
12 (series-paralleled)	25	50	100	200	300	400
24 (all seriesed)	12½	25	50	100	150	200
DC Output Adjustment						
Voltage Adjustment Range at Max. Rated Ampere Output.	Volts	Volts	Volts	Volts	Volts	Volts
6 volt nominal	0– 8	0– 8	4– 8	4– 8	4– 8	4– 8
12 volt nominal	0–16	0–16	8–16	8–16	8–16	8–16
24 volt nominal	0–32	0–32	16–32	16–32	16–32	16–32
Number of Voltage Controls	1	1	1	1	1	1
Number of Voltage Control Positions	Infinite	Infinite	28	28	28	28
DC Output Ripple—At Rated Output Less Than	2%	2%	2%	2%	2%	2%
DC Output Regulation From 0 to Rated Amps. at Max. DC Volts and Constant AC Volts	15%	15%	25%	25%	25%	25%
Overall Dimensions—Width	22	25½	25½	25½	25½	25½
Depth	9	12½	19	19	19	19
Height	14	15½	55	55	55	55
Weight in Pounds—Net	90	175	300	370	415	480
Shipping	95	175	415	485	530	600
List Price	**$360.00**	**$575.00**	**$740.00**	**$900.00**	**$995.00**	**$1100.00**

* 25 and 50 cycle Rectopower supplies are available at additional cost.

For a Better Battery — Make It Mercury . . . Make It Mallory

A series of new standard size Mercury Batteries has been added to the Mallory Line. Designed as direct replacement for the ordinary batteries now in use in existing electronic and radio applications.

The Mallory Mercury Batteries provide **two to three times** the shelf and service life and at lower cost to the user.

For listing of Mallory Transistor Batteries see page **5.**

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Mercury "A" Batteries

Provide up to 4 times energy-volume ratio of other types of batteries. Ideal for use in portable electronic equipment, etc. Perform under wide range of adverse weather and humidity conditions. No need for rotation or rest periods. Uniform and optimum discharge voltage throughout long service life. 1.34 volts. Button height .058".

Catalog Number	Capacity MAH	Diameter (Inches)	Overall Height (Inches)	Max. Drain (Ma.)	No Load Voltage	List Price
RM-1R	1000	.620	.650	100	1.34	$0.50
RM-3R	2200	.980	.650	60	1.34	.70
RM-4R	3400	1.190	.650	80	1.34	.95
RM-4RT	3400	1.190	.650	80	1.34	1.00
RM-4ZR	2400	1.190	.500	80	1.34	.75
RM-12R	3600	.620	1.950	250	1.34	1.10
RM-42R*	14,000	1.190	2.375	1000	1.34	2.50
RM-42RT	14,000	1.190	2.375	1000	1.34	2.55
RM-400R	80	.450	.125	10	1.34	.38
RM-401R	800	.455	1.130	100	1.34	.50
RM-450R*	400	.450	.560	40	1.34	.42
RM-502R	2400	.530	1.950	200	1.34	.85
RM-601R*	1800	.620	1.125	150	1.34	.75
RM-625R	250	.610	.233	20	1.34	.40
RM-625RT	250	.610	.233	20	1.34	.45
RM-630R	350	.610	.233	20	1.40	.42
RM-640R	500	.620	.430	50	1.34	.44

Transistor Batteries

Mallory Mercury Batteries are preferred by original equipment manufacturers of transistor radios. The batteries marked(*) above and those on page 3 are especially recommended for replacement purposes. See also recommended replacement chart on page 4.

Catalog Number	Capacity MAH	Length (Inches)	Diameter (Inches)	Overall Height (Inches)	Max. Drain (Ma.)	No Load Voltage	List Price
TR-113R**	250		.650	.844	20	4.0	$1.35
TR-114R**	250		.650	1.060	20	5.0	1.75
TR-115R	250		.650	1.295	20	6.5	2.10
TR-120R**	800	.980	.505	1.227	100	2.5	1.60
TR-132R	1000		.655	1.305	100	2.5	1.20
TR-133R	1000		.655	1.960	100	4.0	1.65
TR-134R	1000		.655	2.605	100	5.0	2.15
TR-135R	1000		.655	3.218	100	6.5	2.65
TR-136R	1000		.655	3.906	100	8.0	3.25
TR-140R	1600	.980	.505	1.227	200	1.3	1.65
TR-145R	350		.650	1.050	20	7.5	2.00
TR-146R	400	1.000	.531	1.938	40	9.0	2.45
TR-152R	400		.480	1.125	40	2.5	1.05
TR-153R**	400		.480	1.687	40	4.0	1.30
TR-162R**	500		.655	.875	50	2.5	1.10
TR-163R**	500		.655	1.350	50	4.0	1.55
TR-164R**	500		.655	1.780	50	5.0	1.95
TR-165R**	500		.655	2.185	50	6.5	2.35
TR-233R	2200		1.015	1.969	60	4.0	2.45

**Available on special order.

Mallory Military Batteries

Catalog Number	Description	Nominal Voltage	Capacity (MAH)	Max. Drain (Ma.)
BA-1277/U	SU-10 Military Radiation... For civilian use, substitute 302157	1.34	38,400	
BA-1278/U	SU-10 Military Radiation... For civilian use, substitute 302158	†	650	
BA-1293/U	Military Bias Battery.....	4	650	JAN Spec.

Mallory Power-Pak Batteries

Multi-cell power-pak batteries are available in various standard and special sizes for applications in geophysical, radiation detection, recording instruments, transceivers and other approved applications requiring batteries of various capacities and voltages to meet specialized power supply requirements.

Catalog Number	Description	Nominal Voltage	Capacity MAH	Suggested Industrial Prices
302108	See 302904.....			
302125-M	Fire Alarm.....	5.3	2400	$ 2.60
302157	SU-10 Radiation Detector "A"	1.3	28000	8.25
302158	SU-10 Radiation Detector "B"	45.0-22.5	500	19.50
302227*	P. H. Meter.....	4.0	250	1.15
302229*	P. H. Meter.....	5.3	250	1.38
302240	Aircraft Instrument.....	24.0	2400	15.50
302249	Radiation Detector.....	6.7	250	1.65
302250	Radiation Detector.....	9.4	250	1.85
302257*	Aircraft Test Equipment.....	1.3	14400	5.30
302351-M	Home Fire Alarm Battery.....	5.3	2200	2.00
302354*	Radiation Detector.....	5.3	250	1.30
302358*	Radiation Detector.....	10.4	250	2.25
302360*	Radiation Detector.....	13.0	250	3.10
302362*	Radiation Detector.....	15.6	250	3.30
302424	Automotive Test Meter.....	6.7	1000	1.70
302425	Standard "B" Battery.....	45.0	250	12.50
302435	Radiation Detector.....	6.7	250	1.65
302437	Radiation Detector.....	9.4	250	1.85
302462	Transmitter "B" Supply.....	96.0	1000	28.00
302463	New Style Geophysical.....	1.3	18000	4.95
302464	New Style Geophysical.....	6.7	3600	4.95
302465	New Style Geophysical.....	45.0	1000	13.00
302467*	Test Meter.....	5.3	1000	1.35
302478-M	Minifon Recorder.....	9.0	2300	3.00
302497*	Test Meter.....	6.5	2200	3.45
302499	Missile Equipment.....	64.0	500	22.75
302502	Geophysical Amplifier.....	90.0	250	20.50
302506*	Telemetering Equipment....	16.0-4.0	250	7.20
302510*	Voltage Reference for Computor.....	1.3	36000	13.00
302519*	Aircraft Test Equipment.....	10.4	3600	7.70
302527	Standard "B" Battery.....	90.0	250	22.50
302530*	Nike Equipment.....	10.4	14000	30.50
302540*	Aircraft Test Equipment.....	1.3	14000	1.70
302554	Standard "B" Battery.....	90.0	250	22.50
302558*	Missile Equipment.....	64.0-35.0	500	19.50
302579*	Aircraft Test Equipment.....	30.0	250	9.20
302599-M*	Portable Radio.....	4.0	2200	1.45
302642-M	Fire Alarm.....	6.5	2400	2.55
302702*	Geophysical Equipment.....	2.6	2200	1.95
302904	Aircraft Meter.....	5.3	3400	3.00
302905	Aircraft Test Equipment.....	6.5	3400	4.35
302908	Radiation Detector.....	10.6	3400	6.50

*Available on special order.

New Mercury Batteries for Radio and Instrument Applications

A series of new standard size Mercury Batteries recently added to the Mallory line is now available. They are suitable for the direct replacement of zinc-carbon types now used in existing electronic and radio applications. These new Mallory Mercury Batteries provide two to three times the service and shelf life of the ordinary type, and at a lower operating cost to the user.

Catalog Number	Capacity MAH	Length (Inches)	Width (Inches)	Overall Height (Inches)	Max. Drain (Ma.)	No Load Voltage	List Price
RM-411R	130	1.000	17/32	1 13/32	10	15.0	$1.40
RM-412R	130	1.000	17/32	1 15/16	10	22.5	1.85
RM-413R	130	1.000	17/32	2½	10	30.0	2.10
RM-415R	130	1.000	17/32	3½	10	45.0	3.25
RM-42R	14,000		1.190	2.375	1000	1.34	2.50
ZM-9	2400		.530	1.950	200	1.5	.70
TR-145R	350		.650	1.050	20	7.5	2.00
TR-146R	400	1.000	.531	1.938	40	9.0	2.45
TR-233R	2200		1.015	1.969	60	4.0	2.45

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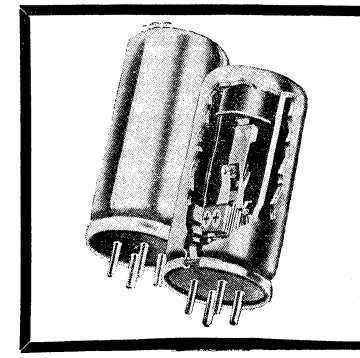
CORNELL DUBILIER

VIBRATORS

- **AUTO RADIO REPLACEMENT**
- **COMMUNICATIONS**
- **SPECIAL PURPOSE**



AUTO-RADIO OR SPECIAL PURPOSE VIBRATORS

INTERRUPTER

6 Volt		6 Volt		12 Volt	
Type No.	Price	Type No.	Price	Type No.	Price
5300	**$4.70**	**5342**	**$3.60**	**6301**	**$4.90**
5301	**4.70**	**5363**	**6.35**	**6326**	**4.50**
5303	**4.90**	**5366**	**6.35**	**6330**	**4.90**
5304	**6.35**	**5370**	**4.90**	**6370**	**4.70**
5307	**4.90**	**5506**	**7.15**	**6511**	**7.70**
5314	**4.90**	**5510**	**7.15**	**6513**	**7.70**
5320	**4.90**	**5513**	**7.70**	**6514**	**9.95**
5321	**4.90**	**5516**	**6.90**	**6517**	**7.70**
5323	**4.15**	**5560**	**8.55**		
5326	**4.15**			Other Voltages	
5331	**4.90**			**5300-32**	**7.15**
5333	**4.90**			**5314-4**	**4.90**
5335	**4.90**			**5513-4**	**7.70**
				5514-4	**7.70**

SYNCHRONOUS

6 Volt		6 Volt		12 Volt	
Type No.	Price	Type No.	Price	Type No.	Price
5400	**$7.70**	**5607**	**$8.55**	**6607**	**$9.95**
5404	**7.70**	**5610**	**7.70**	**6609**	**9.95**
5406	**7.70**	**5616**	**8.55**	**6610**	**8.55**
5407	**7.70**	**5620**	**7.70**	**6614**	**8.55**
5408	**7.70**			**6615**	**8.55**
5409	**7.70**			**6616**	**9.95**
5410	**7.70**				
5411	**7.70**			Other Voltages	
5425	**9.15**			**5468-2**	**10.70**
5426	**7.70**			**5469-2**	**9.80**
5429	**9.15**			**5615-24**	**8.55**
5437	**7.70**				
5438	**7.70**				
5454	**7.70**				

COMMUNICATIONS VIBRATORS

INTERRUPTER

6 Volt		12 Volt for 6/12*		12 Volt Only**	
Type No.	Price	Type No.	Price	Type No.	Price
5715	**$6.90**	**6715**	**$6.90**	**6715S**	**$6.90**
5718	**6.90**	**6718**	**6.90**		
5721	**6.90**	**6721**	**6.90**		
5722	**8.55**	**6722**	**8.55**		
5725	**6.90**	**6725**	**6.90**		

SYNCHRONOUS

6 Volt		12 Volt for 6/12*		12 Volt Only**	
Type No.	Price	Type No.	Price	Type No.	Price
5805	**$7.70**	**6805**	**$7.70**	**6820S**	**$7.70**
5820	**7.70**	**6820**	**7.70**		
5821	**6.90**	**6821**	**6.90**		
5822	**8.55**	**6822**	**8.55**		
5824	**9.95**	**6824**	**9.95**		

Vibrators as produced by different manufacturers employ driving circuits which require more or less power. Such power is applied by either series or shunt driving means. Where SHUNT drive is employed, a given vibrator must be used at its design voltage only. Where SERIES drive is used, an external resistor may be used to drop a higher voltage for use of a PARTICULAR vibrator. These considerations apply to many 6/12 Mobile Communications equipment.

* Cornell-Dubilier vibrators have always used an exceptionally strong driving coil to obtain long and dependable service. When a **6** volt Cornell-Dubilier series drive vibrator is used for **12** volt operation in a 6/12 equipment, the provided resistor may not pass enough power to drive it properly. To avoid any dependence at all upon the coil resistor, Cornell-Dubilier provides similarly numbered shunt drive vibrators for use when 6/12 equipment is used on 12 volts.

In addition to insuring proper drive, the practice of using a 6 volt vibrator at 6 volts and a 12 volt vibrator on 12 volts, permits the factory to provide an adjustment and selection of contact that is best for each application.

** Where 12 volt operation only is involved, a choice of either shunt drives such as 6715 or series drive such as (6715 S) is available.

SUBSTITUTION GUIDE

COVERING C-D TYPES NOT LISTED IN TABLES ABOVE

For Type	Use	For Type	Use	For Type	Use	For Type	Use
5300-12	6715	**5341-M**	5300	**5501**	5516	**5605**	5805
5308	5300	**5343**	5321	**5503**	5715	**5605-12**	6805
5309	5314	**5365**	5610	**5503-12**	6715	**5607-12**	6607
5312	5366	**5406-12**	6605	**5503-32**	5300-32	**5609-12**	6609
5313	5715	**5409-12**	6609	**5504**	5718	**5610-12**	6610
5322-P	5323	**5413**	5409	**5511-12**	6511	**5614-12**	6614
5324-P	5718	**5420-P**	5411	**5513-12**	6513	**5615-12**	6615
5325-P	5326	**5421**	5411	**5514-12**	6514	**5616-12**	6616
5327-P	5301	**5428**	5411	**5515**	5715	**5621**	5821
5334	5335	**5439**	5610	**5517-12**	6517	**5622**	5822
5339	5303	**5440**	5400	**5518**	5718	**5622S**	5822
5340-M	5342	**5500**	5715	**5519**	5301	**5623**	5805
						6503	6715
						6605	6805

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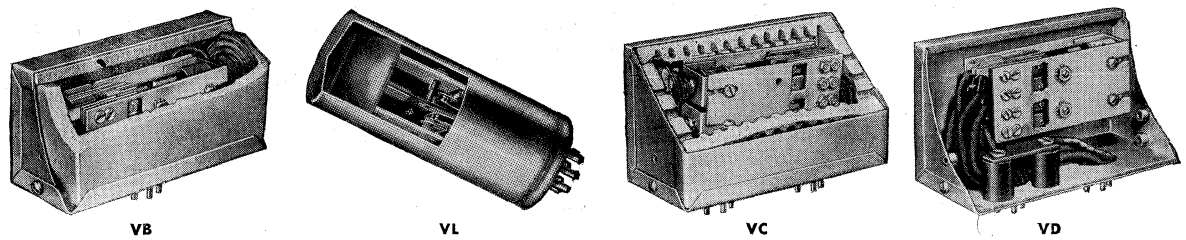
CORNELL DUBILIER

STANDARD HEAVY-DUTY SINGLE AND TANDEM VIBRATORS



VB	VL	VC	VD
$5\frac{9}{16} \times 2\frac{5}{32} \times 2\frac{9}{16}$	$4\frac{9}{16} \times 1\frac{31}{32}$	$5\frac{15}{16} \times 2\frac{23}{32} \times 3\frac{3}{8}$	$5\frac{15}{16} \times 2\frac{23}{32} \times 3\frac{3}{8}$

SINGLE (CROSS SECTION VIEWS) TANDEM

CORNELL-DUBILIER HEAVY DUTY VIBRATORS are available in the above four styles for operation at 60 or 100 cycles with regular or close frequency adjustment in any of 6 standard operating voltages — 6, 12, 28, 32, 64 and 110. Although these combinations result in 96 "standard" vibrators, only those models which are generally used are listed below for Jobber distribution.

All heavy duty vibrators have separate driving circuits with provision for external suppression. Two or four sets of power contacts are brought out individually. Center reeds are common.

Precision ground ceramic spacers, micrometrically selected Swedish steel center reeds, and precision oscillographic adjustments combine to insure uniform reliable service life.

Coding of the heavy duty vibrators is meaningful. In a typical part number such as 110VB6, the prefix 110 denotes operating voltage, V denotes vibrator, B denotes the style, and 6 denotes 60 cycles with regular frequency tolerance. Close frequency adjustment as desired for television is denoted by a final H suffix. A typical close frequency vibrator is 110VB6H.

HEAVY-DUTY VIBRATOR SPECIFICATIONS

Type No.	Voltage	Frequency	List Price
6VB6	6	60 ± 2	**$12.25**
6VB6H	6	60 ± ½	**14.10**
6VD6	6	60 ± 2	**17.10**
6VD6H	6	60 ± ½	**19.40**
6VL6	6	60 ± 2	**12.25**
6VL10	6	100 ± 3	**12.25**
12VB6	12	60 ± 2	**12.25**
12VB6H	12	60 ± ½	**14.10**
12VD6	12	60 ± 2	**17.10**
12VD6H	12	60 ± ½	**19.40**
12VL6	12	60 ± 2	**12.25**
12VL10	12	100 ± 3	**12.25**
28VB6	28	60 ± 2	**12.25**
28VB6H	28	60 ± ½	**14.10**
28VD6H	28	60 ± ½	**19.40**
28VL6	28	60 ± 2	**12.25**
28VL10	28	100 ± 3	**12.25**

Type No.	Voltage	Frequency	List Price
32VB6	32	60 ± 2	**$12.25**
32VB6H	32	60 ± ½	**14.10**
32VD6H	32	60 ± ½	**19.40**
32VL6	32	60 ± 2	**12.25**
32VL10	32	100 ± 3	**12.25**
64VL10	64	100 ± 3	**12.25**
110VB6	110	60 ± 2	**12.25**
110VB6H	110	60 ± ½	**14.10**
110VC6H	110	60 ± ½	**19.40**
110VL6H	110	60 ± ½	**14.10**
110VL10	110	100 ± 3	**12.25**

Old Types Replaced by Above

2989	Replaced by	**32VB6**
3047	Replaced by	**12VD6**
3079	Replaced by	**110VC6H**
3087	Replaced by	**12VB6**
3103	Replaced by	**6VB6**
4123	Replaced by	**6VD6**

Type No.	Voltage	Frequency	List Price
Popular Old Types in Stock			
427	6	60 ± 2	**$12.25**
490	6	60 ± 3	**17.10**
491	6	60 ± 2	**17.10**
1315	110	60 ± 2	**12.25**
1315H	110	60 ± ½	**14.10**
1684	6	120 ± 5	**21.35**
3077	110	60 Adj	**14.55**
11028	110	60 ± 2	**12.25**
Auto Radio Types—Small Powercons			
2522	110	60 ± 3	**8.65**
2529	6	60 ± 5	**4.15**
2530	12	60 ± 5	**4.15**
2531	6	60 ± 3	**7.70**
2532	12	60 ± 3	**7.70**
2533	110	60 ± 3	**7.70**
2563	6	60 ± 3	**10.35**
2564	24	60 ± 3	**10.35**
2565	110	60 ± 3	**10.35**
5301	6	115 ± 7	**4.70**
5725	6	115 ± 7	**6.90**
6301	12	115 ± 7	**4.90**

VIBRATOR REPLACEMENTS — CURRENT MODEL POWERCONS

For Powercon	Use Vibrator	For Powercon	Use Vibrator	For Powercon	Use Vibrator
6DC3	5301	**12DC3**	6301	**32H18**	32VB6H
6H10	6VD6	**12H15**	12VD6H	**32L8**	2564
6L6	2563	**12L8**	2563	**32S12**	32VB6
6LM3	2529	**12LM4**	2530	**32SH22**	32VD6H
6M4	2531	**12M6**	2532		
6S8	6VB6	**12S10**	12VB6	**110H25**	110VB6H
6SH15	6VD6H	**12SH20**	12VD6H	**110H35**	110VD6H
6SP2	2529	**12SP2**	2530	**110L10**	110VB6
6SW8	6VB6	**12SW10**	12VB6	**110LM5**	2533
6SW15	6VD6H	**12SW20**	12VD6H	**110M7**	2565
				110S15	110VB6H
				110SH40	110VC6H
6/12D6	2563	**28H15**	28VB6H	**110SW15**	110VB6H
6/12DC6	5725	**28L8**	2564	**110SW40**	110VC6H
6/12DC12	(2) 5725	**28S10**	28VB6	**220H25**	110VB6H
		28SH20	28VD6H	**220S15**	110VB6H
				220SH40	110VC6H

OLD POWERCONS

For Powercon	Use Vibrator	Old Listing
6/110DH6	6VB6	3103
6R5	6VB6	3103
6R10	6VD6	4123
12R8	12VB6	3087
12RU15	12VD6	3047
32R8	32VB6	2989
32RU15	32VB6	2989
110PA5	2522	2522
110PB5	2522	2522
110R10	1315	1315
110RA15	1315	1315
110RT15	3077	3077
110RT25	1315H	1315H
110RT25DL	1315H	1315H
110RT35	110VC6H	3079
110WR15A	1315	1315
110WR15B	1315	1315

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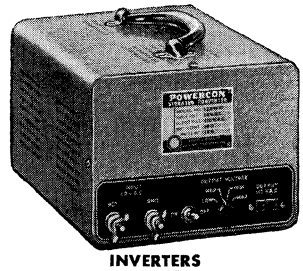
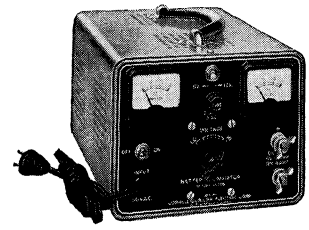
CORNELL DUBILIER

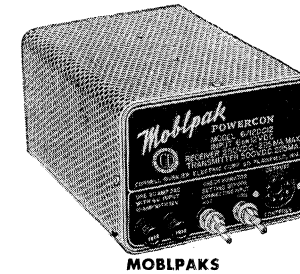
POWERCON LINE



INVERTERS
DC-AC



BATTERY ELIMINATORS
AC-DC



MOBLPAKS
DC-DC

- COMPLETE COVERAGE — Each inverter applicable to widest variety of uses. Good inventory turnover.
- SIMPLIFIED SERVICING — All components individually and readily accessible. No potted assemblies.
- SINE-WAVE-REGULATED — Models hold output steady as input or load varies.
- INTERFERENCE SUPPRESSION — Built-in for best performance on TV, radio, dictation and recording.
- SINE-WAVE-REGULATED — Models give commercial wave form for best operation of sensitive equipment.
- POWER FACTOR CORRECTION — Auxiliary packs available to handle low PF loads with standard inverters.
- MOBLPAK POWERCONS — Supply up to 500 V. DC — 225 MA from 6 or 12 volt sources for mobile radio service.
- BATTERY ELIMINATORS — Compact, well filtered, conveniently styled power package for test bench.

REGULAR POWERCONS
(DC to 110 V.AC)

Model	Input Volts	Output Watts	Class	List Price
6SP2	6	20	SP	**$13.40**
6LM3	6	30	LM	**23.95**
6M4	6	40	M	**35.75**
6L6	6	60	L	**64.50**
6S8	6	80	S	**77.50**
6H10	6	100	H	**89.95**
6SH15	6	150	SH	**124.50**
12SP2	12	20	SP	**13.40**
12LM4	12	40	LM	**23.95**
12M6	12	60	M	**34.50**
12L8	12	80	L	**44.95**
12S10	12	100	S	**72.50**
12H15	12	150	H	**99.50**
12SH20	12	200	SH	**129.50**
28L8	28	80	L	**74.50**
28S10	28	100	S	**89.95**
28H15	28	150	H	**112.95**
28SH20	28	200	SH	**167.50**
32L8	32	80	L	**69.50**
32S12	32	125	S	**83.95**
32H18	32	180	H	**118.00**
32SH22	32	225	SH	**162.50**
110LM5	110	50	LM	**28.50**
110M7	110	70	M	**44.50**
110L10	110	100	L	**57.50**
110S15	110	150	S	**72.00**
110H25	110	250	H	**89.50**
110H35	110	350	H	**135.00**
110SH40	110	400	SH	**170.00**
220S15	220	150	S	**91.50**
220H25	220	250	H	**139.50**
220SH40	220	400	SH	**199.50**

SINE-WAVE-REGULATED POWERCONS
(DC to AC)

Model	Input Volts	Output Watts	Class	List Price
6SW8	6	80	H	**$134.50**
6SW15	6	150	SH	**144.50**
12SW10	12	100	H	**139.50**
12SW20	12	200	SH	**154.50**
110SW15	110	150	H	**139.50**
110SW40	110	400	SH	**199.50**

DICTATOR POWERCON
(6/12 V.DC to 110 V.AC)

6/12D6	6/12	60	L	**$50.00**

MOBLPAK POWERCONS
(Low DC to High DC)

6DC3	6	300 V.DC 100 MA	M	**$39.95**
12DC3	12	300 V.DC 100 MA	M	**39.95**
6/12DC6	6/12	300 V.DC 200 MA	S	**74.85**
6/12DC12	6/12	500 V.DC 225 MA	S	**119.80**

BATTERY ELIMINATOR POWERCONS
(110 V.AC to 6/12 V.DC)

110B6	110	6A-12V.DC 10A- 6V.DC	H	**$ 99.50**
110B12	110	10A-12V.DC 20A- 6V.DC	H	**127.50**

POWERCON ACCESSORIES

Model No.	Explanation	List Price
LEAD KITS		
LK-605	Dual #6 — 5 feet	**$8.95**
LK-612	Dual #6 — 12 feet	**16.50**
LK-805	Dual #8 — 5 feet	**6.25**
LK-812	Dual #8 — 12 feet	**10.75**
LK-1005	Dual #10 — 5 feet	**5.25**
LK-1012	Dual #10 — 12 feet	**8.50**
MOUNTING KITS		
MK-3544-1	For L and S cases	**$5.50**
MK-3544-2	For H case only	**6.00**
MK-3544-3	For SH case only	**7.50**
REMOTE CONTROL KITS (For 6 and 12 volts models in L, S, H and SH cases)		
RK-105	5' extension cable	**$9.00**
RK-112	12' extension cable	**11.00**
MASTER FUSE KITS (2" cartridge)		
FK-220	20 ampere	**$3.50**
FK-230	30 ampere	**3.50**
FK-240	40 ampere	**4.50**
FK-250	50 ampere	**4.50**
FK-260	60 ampere	**4.50**
POWER FACTOR CORRECTORS		
PF-2	30% PF loads 10- 25 watts 60% PF loads 150-300 watts; 30% PF loads 50- 75 watts	**$19.95** **39.95**
PF-3	60% PF loads 350-500 watts; 30% PF loads 100-150 watts	 **49.95**

1. Standard models deliver 110 volts, 60 cycle, AC power. Output watt ratings are based on continuous operation on high power factor loads. They should be reduced by the percent of power factor where inductive loads are involved.

2. All models are housed in cases of similar design and appearance. The class designations signify approximate size and weight as follows:

   SP — Shaver Pack—$2\frac{5}{8}$ x $2\frac{1}{2}$ x $3\frac{7}{32}$..... 2 lbs.
   LM — Light Midget—3 x $3\frac{1}{2}$ x $4\frac{13}{16}$..... 4 lbs.
   M — Midget—$3\frac{15}{16}$ x $4\frac{5}{8}$ x $5\frac{15}{16}$..... 6 lbs.
   L — Lightweight—$5\frac{1}{2}$ x $6\frac{1}{4}$ x 8..... 12 lbs.
   S — Standard—$5\frac{1}{2}$ x $6\frac{1}{4}$ x 9..... 14 lbs.
   H — Heavy—$6\frac{1}{2}$ x $7\frac{1}{2}$ x 11..... 20 lbs.
   SH — Super Heavy—8 x $9\frac{1}{2}$ x 13..... 35 lbs.

3. For complete information, refer to Cornell-Dubilier Bulletins EB-3006 for 6, 12 volts; EB-3007 for Power Factor Correctors; EB-3008 for 28, 32 volts; EB-3009 for Moblpak series; EB-3010 for 110, 220 volts; EB-3011 for Dictator Model only; EB-3012 for Battery Eliminators; EB-3013 for Accessories and installation procedures.

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THE RADIART CORPORATION
CLEVELAND 2, OHIO

- ROTATORS
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RADIART Seal-Vent RED SEAL VIBRATORS

There are many reasons for the nation-wide preference for Radiart Vibrators! One is the absolutely complete selection of types manufactured . . . there is a CORRECT Radiart replacement vibrator for most every need, to original specifications. In addition, the precision engineering behind the design of each type is backed up by highest standards of manufacture that assure peak performance . . . always!

The Radiart Vibrator Guide is the Standard of the Industry — Ask your jobber for your copy today!

Subject to change without notice.

AUTO-RADIO OR SPECIAL PURPOSE VIBRATORS

INTERRUPTER

6 Volt		6 Volt		12 Volt	
Type No.	Price	Type No.	Price	Type No.	Price
5300	$4.70	5342	$3.60	6301	$4.90
5301	4.70	5363	6.35	6326	4.50
5303	4.90	5366	6.35	6330	4.90
5304	6.35	5370	4.90	6370	4.70
5307	4.90	5506	7.15	6511	7.70
5314	4.90	5510	7.15	6513	7.70
5320	4.90	5513	7.70	6514	9.95
5321	4.90	5516	6.90	6517	7.70
5323	4.15	5560	8.55	Other Voltages	
5326	4.15			5390-32	7.15
5331	4.90			5314-4	4.90
5333	4.90			5513-4	7.70
5335	4.90			5514-4	7.70

SYNCHRONOUS

6 Volt		6 Volt		12 Volt	
Type No.	Price	Type No.	Price	Type No.	Price
5400	$7.70	5607	$8.55	6607	$9.95
5404	7.70	5610	7.70	6609	9.95
5406	7.70	5616	8.55	6610	8.55
5407	7.70	5620	7.70	6614	8.55
5408	7.70			6615	8.55
5409	7.70			6616	9.95
5410	7.70			Other Voltages	
5411	7.70			5468-2	10.70
5425	9.15			5469-2	9.80
5426	7.70			5615-24	8.55
5429	9.15				
5437	7.70				
5438	7.70				
5454	7.70				

Section II contains additional listings of many vibrators now out of Production.

COMMUNICATIONS VIBRATORS

INTERRUPTER

6 Volt		12 Volt for 6/12*		12 Volt only**	
5715	$6.90	6715	$6.90	6715S	$6.90
5718	6.90	6718	6.90		
5721	6.90	6721	6.90		
5722	8.55	6722	8.55		
5725	6.90	6725	6.90		

SYNCHRONOUS

6 Volt		12 Volt for 6/12*		12 Volt only**	
5805	$7.70	6805	$7.70	6820S	$7.70
5820	7.70	6820	7.70		
5821	6.90	6821	6.90		
5822	8.55	6822	8.55		
5824	9.95	6824	9.95		

Vibrators as produced by different manufacturers employ driving circuits which require more or less power. Such power is applied by either series or shunt driving means. Where shunt drive is employed, a given vibrator must be used at its design voltage only. Where series drive is used, an external resistor may be used to drop a higher voltage for use of a particular vibrator. These considerations apply to many 6/12 Mobile Communications equipment.

* Radiart vibrators have always used an exceptionally strong driving coil to obtain long and dependable service. When a 6 volt Radiart series drive vibrator is used for 12 volt operation in a 6/12 equipment, the usual resistor may not pass enough power to drive it properly. To avoid any dependence at all upon the coil resistor, Radiart provides similarly numbered shunt drive vibrators for use when 6/12 equipment is used on 12 volts.

In addition to insuring proper drive, the practice of using a 6 volt vibrator at 6 volts and a 12 volt vibrator on 12 volts, permits the factory to provide an adjustment and selection of contact that is best for each application.

** Where 12 volt operation only is involved, a choice of either shunt drives such as 6715 or series drive such as (6715 S) is available.

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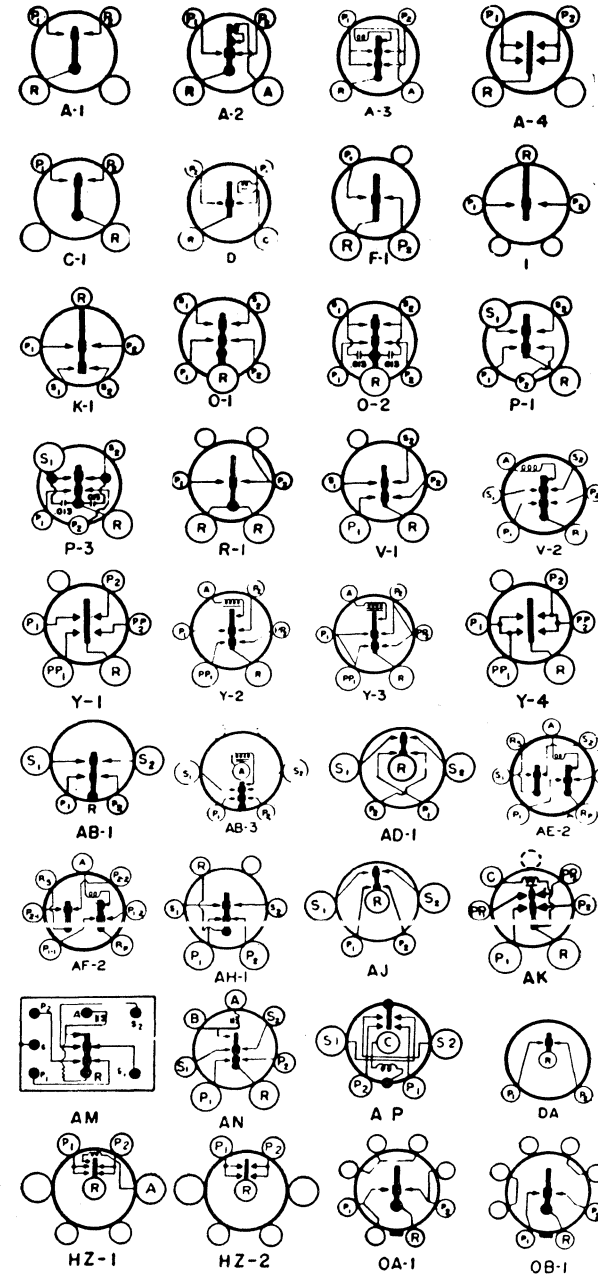
STANDARD OF COMPARISON — RADIART

THE RADIART CORPORATION
CLEVELAND 2, OHIO

Cross Index by Base Diagrams

Diagram	Number	Voltage	Frequency	Maximum Load, Amps	Diameter*	Height*	†Use or Characteristic
A-1	5300	6	115	6	1½	3⅛	Std. 4 prong
	5300-32	32	115	1.4	1½	3⅛	32 v.
	5301	6	115	6	1½	2⅞	Shorter height
	5307	6	150	6	1½	3⅛	Spl. freq.
	5314	6	115	6	1¼	2⅜	Small size
	5314-4	4	115	6	1¼	2⅜	Photoflash
	5320	6	115	6	1 15/16	3½	Philco Dup.
	5321	6	115	6	1⅝	3 9/16	Larger Can
	5323	6	115	6	1⅝	4¾	Philco Dup.
	5326	6	115	6	1½	2⅞	Late Philco
	5342	6	115	6	1½	2⅞	Late Motorola
	5370	6	115	6	1½	3⅛	Autronic Eye
	5514-4	4	180	5	1½	2⅞	Photoflash
	5516	6	115	9	1½	3⅛	H.D. with handle
	6301	12	115	4	1½	2⅞	12v. Standard
	6326	12	115	4	1½	2⅞	Philco 12v.
	6370	12	115	4	1½	3⅛	Autronic Eye
	6514	12	180	3	1½	2⅞	Photoflash
A-2	5560	6	60	5	1½	3⅛	Phono Inverter
A-3	5715	6	115	9	1½	2⅞	Heavy Duty
	6715-S	12	115	5	1½	2⅞	Communications
A-4	6715	12	115	5	1½	2⅞	Communications
C-1	5331	6	115	6	1½	3⅛	Stewart-Warner
D	5506	6	115	10	1½	3⅛	Radiart Vipowers
F-1	5303	6	115	6	1⅝	3 9/16	Larger Size
	5333	6	115	6	1½	3⅛	Puller Handle
	5335	6	115	6	1½	2⅞	Standard
I	5304	6	115	6	1¼	3⅛	Setchell-Carlson
K-1	5409	6	115	6	1½	3⅛	Standard
	6609	12	115	3	1½	3⅛	Aviation Spl.
O-1	5410	6	115	6	1½	3⅛	Delco base
O-2	5425	6	115	6	1 15/16	4½	Internal buffers
P-1	5426	6	115	6	1 15/16	3½	Buick Dup.
P-3	5429	6	115	6	1 15/16	4½	Internal Buffers
R-1	5366	6	115	6	1½	2⅞	Spl. Base wiring
V-1	5411	6	115	6	1½	3⅛	Standard
	5435	6	115	6	1⅜	3⅛	Smaller diameter
	5610	6	115	6	1¼	3⅛	Motorcycle sets
	5615-24	24	180	1.4	1½	2⅝	Bendix Spl.
	6517	12	180	3	1½	3⅛	Aviation Spl.
	6610	12	115	3	1¼	3⅛	Aviation Spl.
	6615	12	180	3	1½	2⅝	Bendix Spl.
	6821	12	115	5	1½	2⅞	Communications
V-2	5821	6	115	10	1½	2⅞	Cab and Police
Y-1	6718	12	115	6	1½	2⅞	Communications
Y-2	5718	6	115	10	1½	2⅞	Cab and Police
Y-3	5721	6	115	10	1½	2⅞	Cab and Police
Y-4	6721	12	115	6	1½	2⅞	Communications
AB-1	5400	6	115	6	1½	3⅛	Std. reversible
	5407	6	180	5	1½	3⅛	180 cycles
	5408	6	140	6	1½	2⅞	140 cycles, short
	5437	6	180	5	1⅜	2¾	Small 180 cycles
	5438	6	140	6	1½	3⅛	Std. 140 cycles
	5620	6	115	6	1½	2⅞	Cab and Police
	6820	12	115	5	1½	2⅞	Communications
AB-3	5820	6	115	6	1½	2⅞	Cab and Police
	6820-5	12	115	5	1½	2⅞	Communications
AD-1	5406	6	115	6	1½	3⅛	Std. reversible
	5454	6	115	6	1½	2⅞	Short reversible
	5805	6	115	10	1½	2⅞	Heavy Duty
	6805	12	115	5	1½	2⅞	Communications
	6614	12	115	4	1½	2⅞	Aviation Spl.
AE-2	5822	6	100	5	1⅜	2¾	Cab and Police
	6822	12	100	4	1½	2⅞	Communications
AF-2	5722	6	100	5	1½	2⅞	Cab and Police
	6722	12	100	4	1½	2⅞	Communications
AH-1	5404	6	130	6	1½	3⅛	Spl. base wiring
AJ	5607	6	180	5	1⅜	2¾	Small 180 cycle
	5616	6	180	3	1½	2⅞	Std. 180 cycle
	6607	12	180	3	1⅜	2¾	Small 180 cycle
	6616	12	180	3	1½	2⅞	12v. std. 180 cycle
AK	5513	6	180	5	1½	3⅛	Photoflash
	5513-4	4	180	6	1½	3⅛	Photoflash
	6513	12	180	3	1½	3⅛	Aviation
AM	5468-2	2	115	2	1½	2⅛	Sq. 2 v. portable
AN	5469-2	2	115	2	1 5/16	2⅛	Round 2 v. port.
AP	5824	6	115	10	1½	2⅞	Communications
	6824	12	115	5	1½	2⅞	Communications
DA	6330	12	115	4	1½	2⅞	Delco 12 v.
HZ-1	5725	6	115	5	1½	2⅞	Communications
HZ-2	6725	12	115	5	1½	2⅞	Communications
OA-1	5510	6	115	10	1½	3⅛	Aviation Spl.
OB-2	6511	12	115	6	1½	3⅛	12 v. aviation

Symbols Used in Vibrator Base Diagrams
A—A hot line into vibrator.
B—By-pass for driving point.
C—External coil lead in shunt vibrator.
P1—Primary contact, usually, but not necessarily connected to the magnet coil in shunt vibrators.
PP1—Dual primary contact, closed when P1 is closed.
P2—Primary contact, may be the magnet coil connection instead of P1.
PP2—Dual primary contact, closed when P2 is closed.
R—Vibrating reed in single-reed vibrators.
RP—Primary vibrating reed in split-reed vibrators.
RS—Secondary vibrating reed in split-reed vibrators.
S1—Secondary contact, closed when P1 is closed.
S2—Secondary contact, closed when P2 is closed.
*All dimensions given are in inches.



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THE RADIART CORPORATION
CLEVELAND 2, OHIO

Heavy-Duty Vibrator Specifications

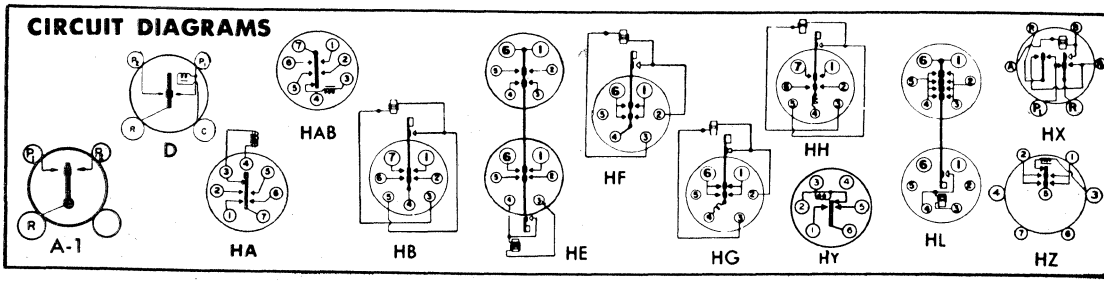
Vibrator	Voltage	Frequency	*D.C. Amps.	Base	Type	Size
POPULAR TYPES IN STANDARDIZED SERIES						
6VB6	6	60 ± 2	15	HB	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
6VD6	6	60 ± 2	30	HE	Horiz. Tandem	2 23/32 x 5 13/16 x 3 3/8
6VL6	6	60 ± 2	12	HA	Vert. Single	1 31/32 Dia. x 4 5/16
6VL10	6	100 ± 3	10	HA	Vert. Single	1 31/32 Dia. x 4 5/16
12VB6	12	60 ± 2	10	HB	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
12VD6	12	60 ± 2	20	HE	Horiz. Tandem	2 23/32 x 5 13/16 x 3 3/8
12VL6	12	60 ± 2	9	HA	Vert. Single	1 31/32 Dia. x 4 5/16
12VL10	12	100 ± 3	8	HA	Vert. Single	1 31/32 Dia. x 4 5/16
28VB6	28	60 ± 2	8	HB	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
28VD6H	28	60 ± 1/2	15	HE	Horiz. Tandem	2 23/32 x 5 13/16 x 3 3/8
28VL6	28	60 ± 2	7	HA	Vert. Single	1 31/32 Dia. x 4 5/16
28VL10	28	100 ± 3	6	HA	Vert. Single	1 31/32 Dia. x 4 5/16
32VB6	32	60 ± 2	6	HB	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
32VD6H	32	60 ± 1/2	12	HE	Horiz. Tandem	2 23/32 x 5 13/16 x 3 3/8
32VL6	32	60 ± 2	6	HA	Vert. Single	1 31/32 Dia. x 4 5/16
32VL10	32	100 ± 3	5	HA	Vert. Single	1 31/32 Dia. x 4 5/16
110VB6	110	60 ± 2	3	HB	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
110VB6H	110	60 ± 1/2	3	HB	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
110VC6H	110	60 ± 1/2	6	HE	Horiz. Tandem	2 23/32 x 5 13/16 x 3 3/8
110VL6H	110	60 ± 1	3	HA	Vert. Single	1 31/32 Dia. x 4 5/16
POPULAR OLD TYPES (Not directly replaceable by Standardized Series)						
427	6	60 ± 2	12	HF	Vert. Single	2 3/16 Dia. x 4 11/16
490	6	60 ± 3-0	25	HL	Horiz. Tandem	2 23/32 x 5 13/16 x 3 3/8
491	6	60 ± 2	20	HL	Horiz. Tandem	2 3/32 x 5 3/8 x 2 5/16
1315	110	60 ± 2	3	HH	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
1315H	110	60 ± 1/2	3	HH	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
1684	6	120 ± 5	8	HB	Single-Sync.	2 3/32 x 5 5/16 x 2 5/16
3077	110	60 Adj.	2	HH	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
11028	110	60 ± 2	3	HF	Horiz. Single	2 3/32 x 5 5/16 x 2 5/16
SMALL VIBRATORS USED IN VIPOWERS						
2522	110	60 ± 3	5	HX	Vert. ARV	1 1/2 dia. x 2 7/8
2529	6	60 ± 5	5	None	Wire-in	1 x 1 x 2 3/8
2530	12	60 ± 5	3	None	Wire-in	1 x 1 x 2 3/8
2531	6	60 ± 3	10	A-1	Vert ARV	1 1/2 Dia. x 2 7/8
2532	12	60 ± 3	5	A-1	Vert ARV	1 1/2 Dia. x 2 7/8
2533	110	60 ± 5	6	A-1	Wire-in	1 x 1 x 3/8
2563	6	60 ± 3	15	HZ	Vert ARV	1 1/2 Dia. x 2 7/8
2564	28	60 ± 3	5	HZ	Vert ARV	1 1/2 Dia. x 2 7/8
2565	110	60 ± 3	8	HY	Vert ARV	1 1/2 Dia. x 2 7/8
5301	6	115 ± 7	6	A-1	Vert ARV	1 1/2 Dia. x 2 7/8
5725	6	115 ± 7	9	HZ	Vert ARV	1 1/2 Dia. x 2 7/8
6301	12	115 ± 7	4	A-1	Vert ARV	1 1/2 Dia. x 2 7/8

POPULAR OLD TYPES (Directly replaceable by Standardized Series)

Old	New	Old	New	Old	New
2989	32VB6	3079	110VC6H	3103	6VB6
3047	12VD6	3087	12VB6	4123	6VD6

*D.C. Ampere rating is based upon measurement made with a D.C. ammeter in primary lead. Circuit must be properly designed for load being handled. Technical advice is available through Jobber Service Department.

CIRCUIT DIAGRAMS



OBSOLETE TYPES

It is entirely impractical to continue to stock the hundreds of different heavy-duty vibrators that have been supplied in past years for a large variety of uses. Every attempt is made to maintain equipment in service, even though it originally used vibrators which have generally become obsolete. Some obsolete vibrator types are still carried in limited stock at the factory. In a great many cases, simple instructions are available so that a radio technician can change wiring, sockets, or other minor features in an old design to adapt it for use with new standard vibrators.

For information regarding a possible replacement for obsolete vibrators, send details including model number of equipment, original vibrator type number, voltage and frequency to the Jobber Service Department.

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THE RADIART CORPORATION
CLEVELAND 2, OHIO

- ROTATORS
- VIBRATORS
- AUTO AERIALS
- TV ANTENNAS
- POWER SUPPLIES

RADIART VIPOWERS

SPECIFICATIONS—6, 12, and 28 VDC TO 110 VAC VIPOWERS

(See Engineering Bulletin EB3006 for 6 and 12 volt models and EB-3008 for 28 volt models)

MODEL	INPUT VDC	INPUT AMPS.	OUTPUT VAC	OUTPUT WATTS CONT.	OUTPUT WATTS INT.	REPL. VIB.	REPL. FUSE	CLASS	PRINCIPAL USES
6SP2	6	5	110	20	20	2529	10A-3AG	SP	SH
6LM3	6	7	110	30	40	2529	15A-3AG	LM	SH, PH, A
6M4	6	10	110	40	50	2531	20A-3AG	M	SH, DI, PH, A
6L6	6	15	110	60	80	2563	25A-3AG	L	SH, DI, PH, A, IN
6S8	6	20	110	80	100	6VB6	30A-3AG	S	RA, DI, TR, A, IN
6H10	6	25	110	100	125	6VD6	40A-2 in.	H	RA, DI, TR, PA, IN
6SH15	6	38	110	150	175	6VD6	50A-2 in.	SH	RA, DI, TR, PA, IN
6SW8	6	20	110	80	100	6VB6	30A-2 in.	H	RA, DI, TR, PA, IN
6SW15	6	38	110	150	175	6VD6	50A-2 in.	SH	RA, DI, TR, TV, IN
12SP2	12	2½	110	20	20	2530	5A-3AG	SP	SH
12LM4	12	5	110	40	50	2530	10A-3AG	LM	SH, PH, A
12M6	12	7½	110	60	80	2532	10A-3AG	M	SH, DI, RA, PH, A
12L8	12	10	110	80	100	2563	15A-3AG	L	RA, DI, TR, A, IN
12S10	12	12½	110	100	125	12VB6	15A-3AG	S	RA, DI, TR, PA, IN
12H15	12	20	110	150	175	12VD6	20A-2 in.	H	RA, DI, TR, TV, IN
12SH20	12	26	110	200	250	12VD6H	30A-2 in.	SH	TV, DI, TR, RA, IN
12SW10	12	12½	110	100	125	12VB6	20A-2 in.	H	RA, DI, TR, PA, IN
12SW20	12	26	110	200	250	12VD6H	30A-2 in.	SH	TV, DI, TR, RA, IN
28L8	28	4	110	80	100	2564	10A-3AG	L	RA, DI, PA, PH, SHR IN
28S10	28	5	110	100	125	28VB6	10A-3AG	S	RA, TR, DI, PA, PH, IN
28H15	28	7½	110	150	175	28VB6	15A-3AG	H	RA, TR, DI, TV, PH, IN
28SH20	28	10	110	200	250	28VD6H	20A-3AG	SH	TV, RA, TR, DI, PA, IN

SPECIFICATIONS—32, 110 and 220 VDC TO 110 VAC VIPOWERS

(See Engineering Bulletin EB-3008 for 32 volt models and EB-3010 for 110 or 220 volt models)

32L8	32	3½	110	80	100	2564	10A-3AG	L	RA, DI, PA, PH, SH, IN
32S12	32	5	110	125	150	32VB6	10A-3AG	S	RA, TR, DI, PA, PH, IN
32H18	32	7½	110	180	200	32VB6H	15A-3AG	H	RA, TR, DI, PA, PH, IN
32SH22	32	10	110	225	275	32VD6H	20A-3AG	SH	TV, RA, TR, DI, PA, IN
110LM5	110	.6	110	50	60	2533	2A-3AG	LM	PH, DI, A
110M7	110	.8	110	70	90	2565	2A-3AG	M	RA, DI, PH, PA, A
110L10	110	1.1	110	100	150	110VB6	3A-3AG	L	RA, TR, DI, PA, IN
110S15	110	1.7	110	150	200	110VB6H	5A-3AG	S	TV, RA, TR, DI, PA, IN
110H25	110	2.8	110	250	325	110VB6H	10A-3AG	H	TV, RA, TR, DI, PA, IN
110H35	110	4.0	110	350	450	110VC6H	10A-3AG	H	TV, RA, TR, DI, PA, IN
110SH40	110	4.5	110	400	600	110VC6H	10A-3AG	SH	TV, RA, TR, DI, PA, IN
110SW15	110	1.7	110	150	200	110VB6H	5A-3AG	H	TV, RA, TR, DI, PA, IN
110SW40	110	4.5	110	400	500	110VC6H	10A-3AG	SH	TV, RA, TR, DI, PA, IN
220S15	220	.85	110	150	200	110VB6H	2A-3AG	S	TV, RA, TR, DI, PA, IN
220H25	220	1.4	110	250	325	110VB6H	3A-3AG	H	TV, RA, TR, DI, PA, IN
220SH40	220	2.2	110	400	600	110VC6H	5A-3AG	SH	TV, RA, TR, DI, PA, IN

SPECIFICATIONS—MOBLPAK VIPOWERS—LOW DC TO HIGH DC

(See Sales Bulletin for Dictator model)

6DC3	6	8	300VDC - 100MA	5301	15A-3AG	M	A, RA, PA
6/12DC6	6/12	16/8	300VDC - 200MA	5725	20/10A-3AG	S	A, MT, PA
12DC3	12	4	300VDC - 100MA	6301	10A-3AG	M	A, RA, PA
6/12DC12	6/12	30/15	500VDC - 225MA	5725(2)	(2) 20/10A-3G	S	A, MT, PA

SPECIFICATIONS—DICTATOR VIPOWERS—6/12 VDC TO 110 VAC

(See Sales Bulletin EB-3009 for Mobipak line)

6/12D6	6/12	15/7	110	60	75	2563	25A-3AG	L	DI, PH, A

SPECIFICATIONS—BATTERY ELIMINATOR VIPOWERS—110 VAC TO 6/12 VDC

(See Engineering Bulletin EB-3012 for Battery Eliminators)

110B6	110 VAC to 6VDC-10A or 12VDC-6A	3A-3AG	H	BE
110B12	110 VAC to 6VDC-20A or 12VDC-10A	5A-3AG	H	BE

NOTES ON SPECIFICATIONS

Note 1: Continuous ratings are based on operation of nameplate rating indefinitely at ambient temperatures not to exceed 100° F. with free air circulation. Intermittent ratings are based on 25% duty cycle, with on-time not in excess of 15 minutes. Up to 30 minutes operation at the intermittent maximum is not detrimental, provided it can be followed with approximately two hours of cooling time.

Note 2: Output watts ratings are based upon 70%-100% Power Factor loads.

Note 3: Classes of Models indicate case size and approximate weight as follows:

SP—Shaver Pack	2-5/8 x 2-1/2 x 3-7/32	— 2 Lbs.
LM—Light Midget	3-1/2 x 3 x 4-13/16	— 4 Lbs.
M—Midget	4-5/8 x 3-15/16 x 5-5/16	— 6 Lbs.
L—Lightweight	5-1/2 x 6-1/4 x 8	—12 Lbs.
S—Standard	5-1/2 x 6-1/4 x 9	—14 Lbs.
H—Heavy Duty	6-1/2 x 7-1/2 x 11	—20 Lbs.
SH—Super Heavy	8 x 9-1/2 x 13	—35 Lbs.

Note 4: RADIART VIPOWERS contain added components required to make them universally applicable to various kinds of loads within their name-plate rating. For example, the same unit may be used for television, radio, dictating service, office machines, and even for industrial purposes. Principal uses are coded in Specifications as follows. Any model is suitable for uses coded for models of lower output rating.

RA—Radio	BE—Battery Eliminator	IN—Industrial
TV—Television	MT—Mobile Transmitters	SH—Shaver
DI—Dictation	A—Amplifiers	PA—Public Address
TR—Tape Recorder	PH—Phonomoters	

Note 5: Power Factor Correctors are available for use with highly inductive loads, so that they may be handled by Regular VIPOWERS. Model PF1 corrector used on 60% PF loads handles up to 100 watts; On 30% loads, to 25 watts. PF2 on 60% PF loads handles 150-300 watts; on 30% loads, 50-75 watts. PF3 on 60% loads handles 350-500 watts; on 30% loads 100-150 watts. See Engineering Bulletin EB-3007 for details.

Note: See Engineering Bulletin EB-3013 for mounting kits for all models, and for leads, master fuse kits and remote control kits for 6 or 12 volt models.

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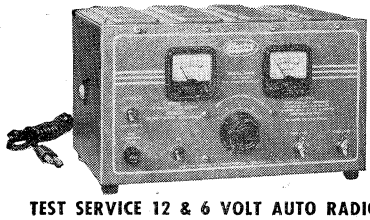
famous for moderate price premium quality

Electro ELECTRONIC EQUIPMENT DC POWER SUPPLIES and BATTERY ELIMINATORS

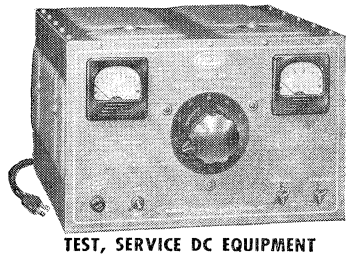
New Model "D-612T"



TEST SERVICE 12 & 6 VOLT AUTO RADIOS

Switch selects 12 or 6 V. output. 2 ranges: 0-8 and 0-16 V. continuously variable. 0-10 amps. continuous duty up to 12 V. 20 amps. intermittent current rating. Unequalled quality and performance at lowest cost.

Model "NF"



TEST, SERVICE DC EQUIPMENT FROM AC LINES

Choke input and Pi type filters with 1 choke, 2000 mfd. condenser plus 1 choke, 4000 mfd. condenser. D'Arsenval-type voltmeter 0-50 volts; ammeter 0-25 amperes, 2% accuracy. Bridge type selenium rectifiers. Superior Powerstat for incremental voltage adjustment.

New Model "EF"

DUAL RANGE FOR TESTING, SERVICING RADIOS AND ELECTRONIC EQUIPMENT

115 volt 50/60 cycle input, 265 watts at 28 volts, 5 amperes. Choke input and Pi type filters with 2 chokes and 2-2000 mfd. condensers. D'Arsenval-type voltmeter 0-50 volts 2% accuracy. D'Arsenval-type ammeter 0-6 amperes 2% accuracy. Bridge-type selenium rectifiers. Heavy duty control transformer for incremental voltage adjustment.

For Servicing New Transistor Auto Radios, also Tube Sets

Less than 2% Ripple for Transistor Radio Operation

MODEL "D-612T"—0-8 and 0-16 V. Cont. Variable

10 amperes continuous duty up to 12 volts

20 amperes intermittent current rating

An unmatched combination of unequalled performance, low price, and quality makes this a must for service technicians. Operates all auto radios. For relays, phone circuits, low voltage devices, electro-plating and battery charging. Patented EPL conduction cooling. Withstands high overloads for lifelong service. Changes from 6 to 12 volts at the flick of a switch. Same top quality as other EPL models.

MODEL "H"—For LPI and 10 watt 6/12 volt mobile communications equipment. 6 volts to 20 amperes or 12 volts to 10 amperes. 30 ampere intermittent rating. More current instantly available from standby to transmission. Less than 5% ripple.

MODEL "C-12"—0-16 volts, 0-8 amperes continuous duty, rated to 12 amperes at intermittent loads. Completely variable output. Superior Powerstat gives finest voltage adjustments. Less than 2% ripple.

Less than 1% Ripple at Top Load

MODEL "NF"—0-32 VOLTS, 0-15 amperes continuous rating, 25 amperes intermittent rating

Serves broadest uses in industry, research and servicing. Only moderately priced heavy duty power supply with less than 1% ripple at this output. Exclusive "EPL" selenium rectifier application increases power rating, lowers cost per ampere output. Finest components, trouble-free operation. Peak instantaneous current rating of 25 amperes (from 50/60 cycle 115 volt source). 0-36 volts up to 6 amperes.

MODEL "N"—Same rating and specifications except for: 5% ripple at 10 amperes, 8% at 15 amperes, less 1 choke and 2 condensers, lower cost.

Less than 1% Ripple at Top Load

MODEL "EF"—Dual Range: 0-28 VOLTS, 0-14 VOLTS, 0-5 amperes continuous rating, 10 amperes intermittent rating

Virtually unlimited in operation and testing of electronic equipment that requires DC power. Completely variable voltage feature makes it possible to test all equipment under almost any voltage input condition. Single control offers continuous voltage adjustment for different load conditions over the specified range. Patented conduction cooling gives longer rectifier life, increased power capacity. Attractively priced — high quality construction.

MODEL "E"—Same rating and specifications, except for: 5% AC ripple at 5 amperes; 1 choke and 1-2000 mfd., 50 volt condenser.

MODEL "GF"—0-125 volts up to 10 amperes continuous duty, up to 20 amperes intermittent duty. Less than 1% ripple at top load. 230 volt input or 115 volt 50/60 cycle input available. Bridge type selenium rectifiers and forced air cooling lengthen rectifier life and increase current capacity. Heavy duty line isolation transformer.

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JAMES

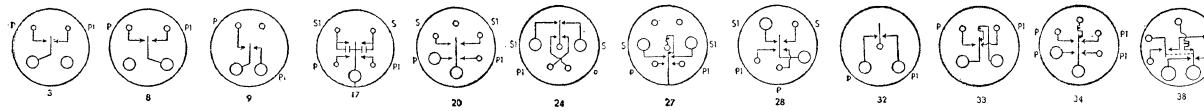
AUTO REPLACEMENT VIBRATORS

JAMES	TYPE	CAN	DIA.	DESCRIPTION	MALLORY	RADIART
J2S	Intr.	1½ x 3⅛	3	4 prong std. — Medium height	294	5300
J2SP	"	1½ x 2⅞	3	4 prong std. — Short height	859	5301
J2SF	"	1½ x 2⅞	3	4 prong std. — Philco	509P	5326
J2SM	"	1½ x 2⅞	3	4 prong std. — Motorola	903M	5342
12J2	"	1½ x 2⅞	3	4 prong, 12 volt	G859	6301
12J7	"	1½ x 2⅞	32	3 prong-12 volt — GM	G-874	6330
J8S	"	1½ x 3⅛	8	4 prong std. — special wiring	854	5331
J9SA	"	1½ x 2⅞	9	Delco base, small can	870	5335
J21	"	1 5/16 x 2⅜	3	4 prong std. small can, Ford	1100	5314
J54	Syn.	1¾ x 4½	17	Large can, Pontiac	273C	5425
J66	"	1 5/16 x 3½	28	Large can, with handle, Buick	716	5426

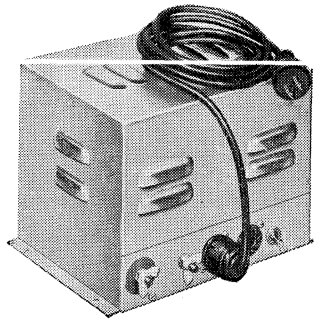
COMMUNICATION REPLACEMENT VIBRATORS

JAMES	TYPE	CAN	DIA.	DESCRIPTION
J22	Intr.	1½ x 3⅛	3	8 contact, heavy duty, Motorola, Link receiver service.
J23	"	1½ x 2⅞	33	Heavy duty for transmitter service, Motorola, Link.
J24	"	1½ x 2⅞	34	6 prong, 8 contact, Motorola Unichannel, Bendix.
J28	"	1½ x 2⅞	38	7 prong, Split Reed.
J58	Syn.	1½ x 3⅛	20	6 prong, Karr.
J63	"	1½ x 3⅛	24	Reversible, Link, RCA, G.E.
J65M	"	1½ x 3⅛	27	Reversible, Motorola.
J74	Intr.	1½ x 2⅞	38	7 prong — Ratheyon

BASE DIAGRAMS



JAMES MOBILE POWER SUPPLIES



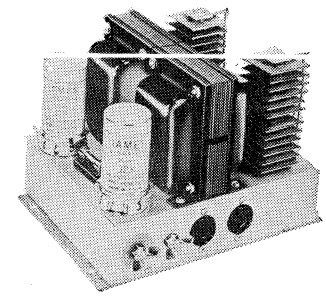
Model C-1450

Complete power for Mobile / Fixed Transmitter and Receiver.

INPUT: 6 or 12 volt DC
117 volts, 60cps AC

OUTPUT: 500 volts
@ 200 MA
250 volts @ 100 MA

User Net $69.95



Model C-1050

Complete power for Mobile Transmitter and Receiver.

INPUT: 6 or 12 volts DC
OUTPUT: 500 volts
@ 200 MA
250 volts @ 100 MA

User Net,
Wired (C1050) $49.95
User Net,
Kit (C1051) 39.95

JAMES VIBRAPOWR COMPANY • CHICAGO ILLINOIS

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TODAY'S OUTSTANDING D. C. POWER SUPPLIES...

in performance! in reliability! in dollar-for-dollar value!

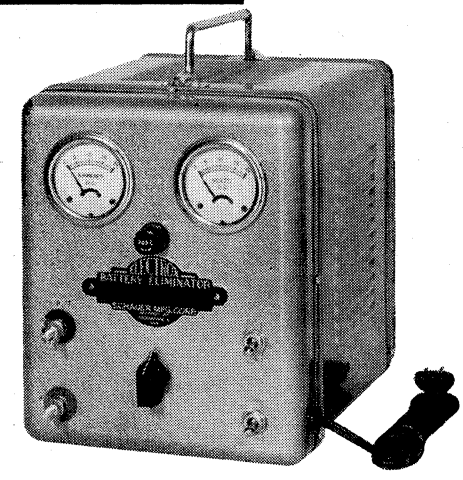
SCHAUER BATTERY ELIMINATORS FOR SERVICING BOTH 6 and 12 VOLT AUTO RADIOS

Again Schauer leads the field! Here are streamlined, new Battery Eliminators specifically engineered to meet the growing needs of auto radio service men. In one compact unit, quality-built D.C. Power Supplies which more than meet manufacturers' specifications for the operation and servicing of any 6- or 12-volt auto radio equipped with signal-seeking, push-button or manual tuners.

SCHAUER MODEL AR 5612 — Output adjustable by means of a rugged, silver contact tap switch. Toggle switch changes unit from 6-volt to 12-volt operation. Low range output: 7½ volts at 12 amps., continuous; 20 amps., intermittent. High range: 15 volts at 6 amps., continuous; 11 amps., intermittent. Components include Selenium rectifiers, transformer, condenser-type filters, accurate 0-20 V. and 0-20 A. meters, heavy wing-nut binding posts and carrying handle. Housed in sturdy steel case 7½" wide x 9½" deep x 9" high.

SCHAUER MODEL AR 4612 — Non-adjustable 6-volt and 12-volt Battery Eliminator. Built to same high-quality standards as Model AR 5612, above. Equipped with high-low switch to change from nominal 6-volt to nominal 12-volt operation.

Own SCHAUER Battery Eliminators — they're the choice of leading service men. Specifications and illustrations of these units are found in Bulletin No. 1469. Write for your free copy.



SCHAUER MODEL AR 5612

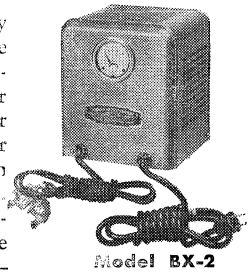
ALSO AVAILABLE:

SCHAUER MODEL AR-5 — Adjustable 6-volt Battery Eliminator. Delivers 6 volts D.C. with output adjustable for any load current between 3 and 15 amps., indicated by 0-15 A. and 0-8 V. meters.

SCHAUER MODEL AR-4 — A practical, low-cost, non-adjustable 6-volt Battery Eliminator. Delivers 6-volts at approx. 15 amps.

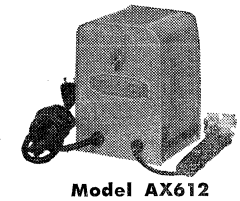
SCHAUER BATTERY CHARGERS

A complete line of battery chargers designed for safe recharging of storage batteries. Available in models for charging 6-volt batteries, for 12-volt batteries, and other models for charging both 6-volt and 12-volt batteries. Four to 20 ampere capacities. Equipped with exclusive Schauer "Charger Guard" — an automatic corrector which acts instantly in case of an overload or short circuit. No manual resetting of the circuit breaker, and fuses are eliminated. Approved by Underwriters' Laboratories, Inc. Write for Bulletin 2477.



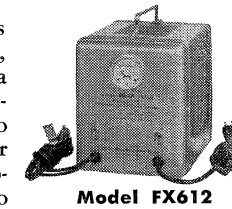
Model BX-2

Schauer 4-ampere capacity charger for both 6 and 12-volt batteries. Selector switch changes the unit from 6-volt to 12-volt operation. Small, rugged, thoroughly reliable.



Model AX612

With a charging rate of 20 amperes for both 6-volt and 12-volt batteries, the Model FX612 will deliver a complete charge to a run-down battery within 1½ to 2½ hours. Also equipped with a trickle charge for maintaining the battery in peak operating condition. May be used to trickle charge from 50 to 60 batteries at a time when connected in parallel. Equipped with accurate ammeter to show actual charge entering the battery.



Model FX612

Many other models.

RECTIFIER MSCO **DIVISION**

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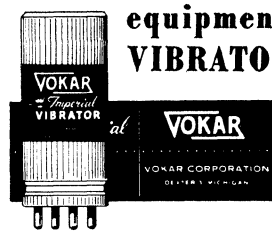
to be SURE!

buy VOKAR

the original-equipment VIBRATOR



WHY BUY 80 WHEN 8 WILL DO?

Only 8 Vokar Imperial Vibrators are needed for 95% of all replacements. Over 90% of requirements can be filled with only three Imperials!*

Leading manufacturers of original-equipment auto-radios specify Vokar vibrators as components for installation on the production-line. Why? They're *sure* Vokar quality never varies—will always contribute to top performance demanded of today's radios.

You too can depend on Vokar vibrators—for sure starts, longer life, silent operation. For all replacements, buy Vokar Imperial or Quality Brand vibrators to be *sure* of satisfied customers.

RETMA MEMBER

Imperials are also available for mobile communications equipment.

Base Diagrams	Imperial No.	Base	Voltage	Frequency	Dimensions (Seated)
			NON-SYNCHRONOUS		
No. 4	* 464	No. 4	6	115	1½" x 2⅞"
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
No. 5	665	No. 5	6	115	1½" x 3⅛"
No. 6	466	No. 6	6	115	1½" x 3⅛"
No. 8	468	No. 8	6	115	1½" x 2⅞"
	* 3129	No. 9	12	115	1½" x 2⅞"
			SYNCHRONOUS		
No. 9	561	No. 1	6	115	1½" x 2⅞"
No. 1	662	No. 2	6	115	1½" x 3⅛"
No. 2					

VOKAR CORPORATION • DEXTER, MICHIGAN

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Perma-Power Equipment----made better!

PERMA-POWER RADIO-CONTROL GARAGE DOOR OPENER

Just a touch of your finger . . . . . opens and closes your garage door

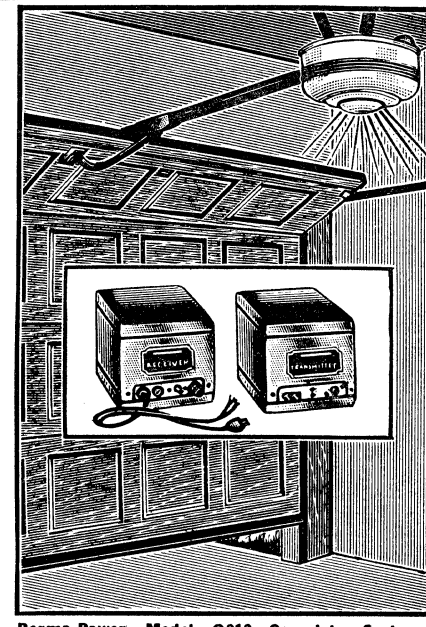
The Perma-Power Garage Door Opener embodies novel design features providing maximum convenience and safety to the user. Styling, too, was given important consideration. All mechanism is contained in a modern spun-aluminum fixture that illuminates as well as beautifies the garage interior.

The concealed motor is a ¼ HP, 117 volt, capacitor-start type with ample power to operate the largest of modern, residential, garage doors. Also in the fixture is the radio receiver which turns on the motor when it gets a signal from the transmitter in the car.

- When button is pressed, door automatically opens and turns on fixture light, illuminating garage. When button is pressed again, door automatically closes and light turns off.
- Door locks securely when shut. No conventional key lock required.
- New automatic shut-off gives extra protection. If door hits an obstacle, power shuts off instantly. When started again, door reverses, pulling away, so object cannot be trapped.
- Sensitive safety clutch is easily adjusted by a knob to exert just enough force to move door reliably. This vital safeguard makes door travel gentle and, consequently, easy to arrest.
- A detachable door arm permits unlatching for manual operation of the door in case of power failure.
- A push-button with wire is supplied for wall mounting in garage or other location to operate door from inside. This control circuit is only 24 volts and safely isolated from the main service line. Additional buttons may be easily installed at auxiliary points. A key operated switch is available for outside mounting.
- Electrical overload devices protect the entire installation. The radio-control receiver is individually fused.
- The radio-control transmitter is crystal-controlled, sending out its signal on an FCC authorized frequency of 27.255 mcs. Being small, it mounts under the hood and operates directly from the 6 or 12 volt car battery. When door operation from more than one car is desired, a separate transmitter is installed in each additional car.
- The radio-control receiver is contained inside the aluminum fixture in the garage. It plugs into the main assembly and is constantly ready to obey the car signal to open or close the door.
- An exclusive, coded channel is set up in each radio control system upon installation. Ten different factory-sealed plug-in channel units are available, requiring no adjustment at the point of use. This allows interference-free operation to and from neighboring installations and other electrical devices.
- One easy-to-get tube type, the 6U8, is used in the radio-control equipment —one in the transmitter, two in the receiver.
- Illumination of garage from operator fixture may be had even with door closed. Suitable terminals are provided for wiring to a wall switch.

DOOR REQUIREMENTS—The Perma-Power Garage Door Opener will operate all one-piece tilt-up or sectional roll-up residential doors that travel on horizontal or curved roller tracks. Doors may be up to 18′ wide and 8′ high and of metal or wood construction. As little as 2″ of headroom (space between high-arc of door and ceiling) in garage is adequate for installation.

INSTALLATION—Entire system was designed to make installation an easy one-man job. Simplified step-by-step instruction manual assures fast, professional results using common hand tools. Every part required is supplied, including mounting materials.



Perma-Power Model G212 Complete System—Including operator mechanism, radio-control, antennae, mtg. hardware, wall and dash buttons, etc. Shipping Weight, 95 lbs. Net Each..... **$139.50**

Perma-Power Model G412 Operator Only—Including motor mechanism, mtg. hardware, wall button, etc. Shipping Wt., 85 lbs. Net Each.... **$98.00**

Perma-Power Model G314 Radio-Control Only—Including receiver, transmitter (6/12 v.), antennae, dash button, etc. Shipping Weight, 10 lbs. Net Each..... **$56.00**

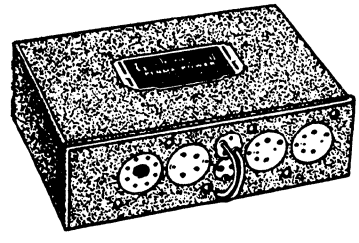
Perma-Power Model G315 Extra Transmitter (6/12 v.)—For additional car, including antenna, dash button, etc. Shipping Wt., 7 lbs. Net Each..... **$24.50**

Perma-Power Model G511 Key Switch—For electrical operation from outdoor jamb or driveway post. Shipping Weight ¼ lb. Net Each..... **$4.20**

Perma-Power Model G512 Extra Wall Button—For electrical operation from additional indoor position. Shipping Weight ¼ lb. Net Each..... **36c**

PERMA-POWER BATTERY ELIMINATORS

CONVERT BATTERY RADIOS TO ALL-ELECTRIC OPERATION



MODEL "A" 1½ VOLT SUPPLY

For 1½ volt radios with 4, 5 or 6 tubes. Designed to give nearly constant power from varying line voltages. Maintains rated output under varying tube loads. Universal sockets for all battery plugs. Fits in back of battery radios as well as battery compartments of most portables. **"A" Voltage:** 1.45 volts DC at 200 to 350 ma. **"B" Voltage:** 90 volts DC at 13 ma. **Size:** 2⅛″ x 4½″ x 6¾″. Weight, 4 lbs.

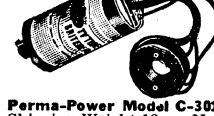
Perma-Power Model A-101—Net Each..... **$11.90**

manufactured by
Perma-Power® COMPANY
CHICAGO 25, ILL.
Manufacturers of electronic equipment since 1928

PERMA-POWER TV COMPONENTS

PERMA-POWER TV TUBE BRITENERS

MODEL C-301 LOW-COST UNIVERSAL UNIT



Isolation transformer gives normal 6.3 v. to filament to relieve cathode-filament short problems or 7.8 v. to increase cathode emission. Simple switch allows quick selection, unique design allows operation as constant voltage (par. wired sets), or constant current (series wired sets) transformer. Powered from set.

Perma-Power Model C-301—Shipping Weight 10 oz. Net Each..... **$2.49**

MODEL C201 "GOLDEN C-BRITE"

Dual purpose autoformer Britener. Adaptable to parallel or series wired filaments by a self-contained reversible plug. Provides 7.8 volts output. Works on both electrostatic and magnetic focus tubes.

C201 C401

Perma-Power Model C201—Net Each..... **$1.92**

MODEL C401 "VU-BRITE"

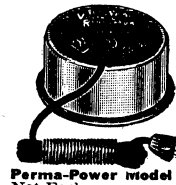
Economy model for use in sets having parallel-wired filaments to give 7.8 volts. Shipping Weight, 8 ounces.

Perma-Power Model C401—Net Each..... **98c**

MODEL C101 DELUXE BRITENER (NOT ILLUS.)

Finest Britener available. Has three boost positions on selector for correct brilliance for particular tube. Powered by line . . . does not rob set circuitry of power. Most sturdily constructed unit . . . will far outlast TV set. **Isolation type transformer** will relieve cathode-filament short problems. Use on any set. 110-120 volts, 60 cycles. Shipping Weight, 1¼ lbs.

Perma-Power Model C101—Net Each..... **$5.86**



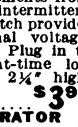
PERMA-POWER TV VOLTAGE REGULATOR

Returns full height and width of picture caused by low line voltage. Rated at 300 watts, handles most requirements from 90-135 volts. Eliminates intermittent sync and oscillator drift. Switch provides boosted, lowered or normal voltage. Turns on and off with set. Plug in to install. Demonstrates night-time low voltage effects. 4¾″ dia., 2¼″ high.

Perma-Power Model D-101—Shpg. Wt. 2¼ lbs. Net Each..... **$3.97**

PERMA-POWER HORIZONTAL BAR GENERATOR

A Neon tube Relaxation Oscillator that plugs onto picture tube to provide a series of equally spaced horizontal lines. Installs quickly; completely self-contained. Permits precise setting and adjustments of yoke, focus coil and magnet and adjustment of vertical linearity, height and centering.



Perma-Power Model B-101—Net Each..... **$1.95**

Net

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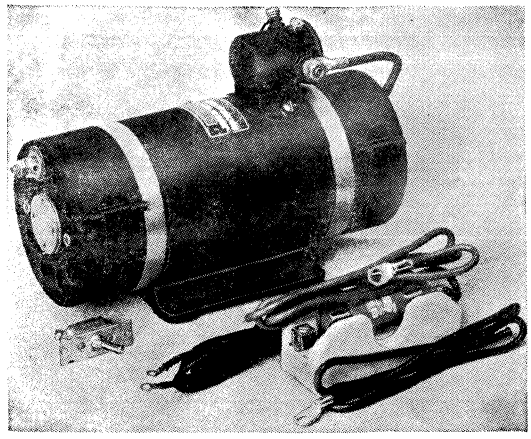
Dynamotors Carter Genemotors

Trade CHANGE A VOLT Mark

DYNAMOTOR



Operates 6 v. Radios from 12 v. Batteries

NOW . . . 2 CARTER CHANGE-A-VOLT DYNAMOTORS FOR 10-20-30 WATT TWO-WAY RADIOS

Now it is possible to operate 6 volt two-way radio equipment from 12 volt systems without any rewiring or modifications. The Change-A-Volt Dynamotor is supplied complete with starting relay and switch, fuse block, and wiring to directly convert a higher voltage battery to a 6 or 12 volt radio supply.

Designed for long life, this slow speed Dynamotor is equipped with low copper content Line-O-Life brush grades for operating radio receivers continuously. Most models operate less than 3000 RPM. 615V and 128V models are designed for 30 watt transmitters and deliver 3 times rated current for intermittent transmit service. 610V and 125V are designed for 10 to 20 watt transmitters and deliver two times rated current on intermittent transmit service. High efficiency. Voltage regulation from 15 amperes to 45 amperes is approximately 1.3 volts. Also available in 24, 28, 32, and 70 volt inputs to change directly to 6 or 12 volt. Change-A-Volt can also serve as a battery equalizer when operating low voltage equipment on several cells of a higher voltage battery system. A double pole switch or relay must be used when operating the dynamotor as a battery equalizer.

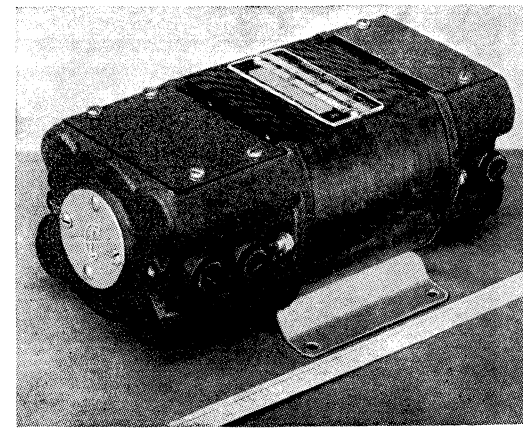
Size 11⅛" long, 7 1/16" high, 4½" wide. Weight approx. 25 lbs.

FOR 10 TO 20 WATT SYSTEMS

Change-A-Volt Model	Input Volts	Input Amps	Output Volts	Output Amps	Duty	Temp. Rise °C.	List Price
B610V	12	8	6	10	Con.	50	$112.50
E610V	24	4	6	10	Con.	50	112.50
J610V	28	3.4	6	10	Con.	50	112.50
C610V	32	3	6	10	Con.	50	112.50
HS610V	70	1.4	6	10	Con.	50	112.50
D610V	115	.9	6	10	Con.	50	112.50
E125V	24	4	12	5	Con.	50	112.50
J125V	28	3.5	12	5	Con.	50	112.50
C125V	32	3.1	12	5	Con.	50	112.50
HS125V	70	1.5	12	5	Con.	50	112.50
D125V	115	1	12	5	Con.	50	112.50
FOR 30 WATT SYSTEMS							
B615V	12	11.5	6	15	Con.	50	$112.50
E615V	24	5.7	6	15	Con.	50	112.50
J615V	28	5.0	6	15	Con.	50	112.50
C615V	32	4.3	6	15	Con.	50	112.50
HS615V	70	2.1	6	15	Con.	50	112.50
D615V	115	1.2	6	15	Con.	50	112.50
E128V	24	6.0	12	8	Con.	50	112.50
J128V	28	5.3	12	8	Con.	50	112.50
C128V	32	4.6	12	8	Con.	50	112.50
HS128V	70	2.2	12	8	Con.	50	112.50
D128V	115	1.3	12	8	Con.	50	112.50

OTHER MODELS AVAILABLE ON ORDER

Now TWO DUO(6)/(12)VOLT Trade mark GENEMOTORS



Operates from either 6 or 12 v. Battery

Now, Carter engineering solves the 6/12 volt changeover problem in mobile radio installations. With Carter 6/12 v. DUOVOLT power, standard communications equipment can be used in ANY automobile . . . in NEW cars with 12 volt batteries or in older cars with 6 volt circuits.

For everyone who buys, sells, uses or services mobile radio, it's **important to specify** DUOVOLT power. Then, you're sure of 6/12 versatility, plus the proven dependability of rotary dynamotor power.

Carter 6/12 v. DUOVOLT Genemotors draw minimum current, operate at high efficiency. Low r.p.m. speed makes for longer life, cuts maintenance cost. **Standard** and **Super** models provide adequate capacity for even the most powerful 60 watt sets.

STANDARD DUOVOLT . . . For 30-50 Watt Transmitters

(Size 8" x 4¾" x 3½" high, weight 11½ pounds)

Code	Input V.	Input A.	Output V.	Output A.	Duty	Temp. Rise °C.	List Price
420VBN	5.5	26	11	13	400	.200	Con.	50	$97.50
450ABNS	6	29	12	14.5	400	.250	Int.	50	98.50
4030VBNS	5.2	39.8	10.4	19.9	400	.300	Int.	50	99.00
4037ABNS	6	41	12	20.5	400	.375	Int.	50	99.25
4228VBNS	5.8	33	11.6	16.5	420	.280	Int.	50	99.00
4432VBNS	5.8	42	11.6	21	430	.325	Int.	50	99.50
520ABNS	6	28	12	14	500	.200	Int.	50	98.50
520VBNS	5.5	31	11	15.5	500	.200	Int.	50	99.50
617VBNS	7.7	30	11	17	600	.175	Int.	50	100.50
620VBNS	5.5	40	11	20	600	.200	Int.	50	100.50
624VBNS	5.7	46	11.4	23	600	.240	Int.	50	101.00
6427VBNS	5.7	51	11.4	25.5	640	.275	Int.	50	103.00
6825VBNS	5.7	47	11.4	24	685	.263	Int.	50	106.00

SUPER DUOVOLT . . . For 50-60 Watt Transmitters

(Size 8⅜" x 5⅝" x 4⅜" high, weight 16¾ pounds)

Code	Input. V.	Input A.	Output V.	Output Ma.	Duty	List Price
TAB430	6	32	12	16	400	300	Con.	$123.00
TVBS6027	5.7	48	11.4	24	600	265	Int.	132.00
TVBS630	5.5	52	11	26	600	300	Int.	125.00
TABS6228	6	52	11	36	620	300	Int.	126.00
TVBS6237	5.8	62	11.6	31	620	375	Int.	128.00
TVBS6537	5.8	66	11.6	33	657	370	Int.	128.00
TABS7826	6	56	12	28	780	265	Int.	135.00

(Other ratings within frame capacity, available on order)

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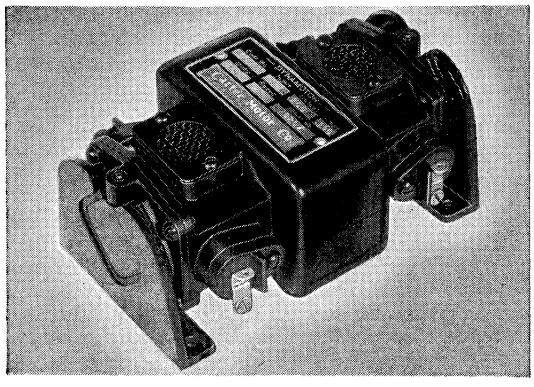
Magmotor Carter Genemotor

THE CARTER MAGMOTOR FOR POLICE - TAXICAB - MARINE AND AIRCRAFT RADIO RECEIVERS GEOPHYSICAL AND RESEARCH ELECTRONIC EQUIPMENT



5⅝" x 3-11/16" x 2½" HIGH, WEIGHT 4¾ LBS.

Furnished with Rigid Mounting.
Shock Mounting Illustrated, $1.00 List Extra.

Code No.	DC Input Volts	DC Input Amps	DC Output Volts	DC Output MA	Duty	List Price
MV1865	5.5	5	180	65	Con.	$68.50
MC2190	32	1	210	90	Con.	$69.00
MD2190	115	.4	210	90	Con.	$70.00
MA2550	6	4.3	250	50	Con.	$69.00
MV280	5.5	5.8	200	80	Con.	$69.00
MA2565	6	5.4	250	65	Con.	$69.50
MA251	6	8	250	100	Con.	$69.50
MB251	12	3.8	250	100	Con.	$69.50
MJ251	28	1.5	250	100	Con.	$69.50
MBS2525	12	8	250	250	Int.	$74.00
MA301	6	9.5	300	100	Con.	$69.50
MB301	12	4.6	300	100	Con.	$70.50
MA351	6	10.3	350	100	Con.	$71.00
MVS3215	5.5	18.5	325	150	Int.	$72.00
MAS320	6	19	300	200	Int.	$73.00

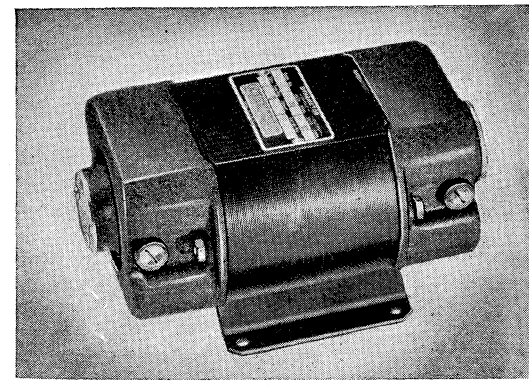
AC AND DC GENERATORS—

The Magmotor is available on special order for AC output up to 220 volts at 120 cycles. DC output up to 400 volts 30 watts continuous, 50 intermittent, depending upon armature speed.

EXTENDED SHAFTS—

Available on all Magmotor models add "S" to end of code number and $5.00 to list.

THE ORIGINAL CARTER GENEMOTOR FOR POLICE - TAXICAB - MARINE AND SMALL AIRCRAFT MOBILE COMMUNICATIONS



3" FRAME—7⅛" x 4⅛" x 3½" HIGH, WEIGHT 10 LBS.

Code No.	DC Input Volts	DC Input Amps	DC Output Volts	DC Output MA	Duty	List Price
325A	6	21	300	250	Con.	$74.00
420A	6.0	23.4	400	200	Con.	$74.00
420V	5.5	25	400	200	Con.	$75.00
425BS	12.0	12.8	400	225	Int.	$75.00
450AS	6.0	28	400	250	Int.	$75.00
4037AS	6.0	41	400	375	Int.	$79.00
4228VS	5.5	35	420	280	Int.	$76.00
4228VSC	5.8	33	420	280	Int.	$78.00
4228BSC	11.8	17	420	280	Int.	$78.00
520AS	6.0	28	500	200	Int.	$75.00
520VS	5.5	31	500	200	Int.	$76.00
5925AS	6.0	42	590	250	Int.	$79.00
617V	5.5	30	600	170	Int.	$77.00
620AS	6.0	29.5	600	200	Int.	$78.00
624VS	5.5	46	600	240	Int.	$79.00
624BS	12	18	600	240	Int.	$79.00
650AS	6.0	39.0	600	250	Int.	$79.00
6030BSM	12	23	600	300	Int.	$83.00
6040BSM	12	28	600	400	Int.	$84.00
6040CSM	32	10.5	600	400	Int.	$84.00
6050DSM	115	4	600	500	Int.	$86.00
2" Frame—6⅛" x 4⅛" x 3½" high, weight 8 lbs.						
3515VB	5.5	18.0	350	150	Con.	$68.00
415VB	5.5	20.0	400	150	Con.	$70.00
415AB	6.0	18.2	400	150	Con.	$69.00
1½" Frame—5 9/16" x 4⅛" x 3½" high, weight 7 lbs.						
210AB	6	6	200	100	Con.	$66.50
251AB	6	7.9	250	100	Con.	$67.00
351AB	6	10.9	350	100	Con.	$68.00

MANY OTHER STANDARD INPUT AND OUTPUT RATINGS AVAILABLE.

FILTERS — STARTING RELAYS

FILTERS—

Any of the above Carter Genemotors or Magmotors can be furnished with complete filter mounted in metal box mounted below unit. Add "X" to end of code number and following prices. 1½" and 2" Frame Genemotor models and Magmotors, $31.00 list, 3" Frame Genemotor Models, $33.00 list.

STARTING RELAYS—

Heavy Duty solenoid contactor starting relays are available for 5.5, 6, 12, 24, 28, 32 and 115 volt DC input. Add "R" to end of code number and $8.00 to list price (Relay draws 1.3 amps at 6 volts). Seldom required on low power Magmotors.

DUTY RATINGS

Intermittent duty shall be considered 10 seconds on 20 seconds off. Continuous duty is considered 24 hours per day.

INPUT VOLTAGES—

Any Carter Genemotor or Magmotor can be supplied for special input voltages other than 6 volts. For 5.5, 12, 24, 28, 32 or 64 volt input add $2.50 to list. For 115 volt DC input add $3.50 to list.

LINE-O-LIFE* BRUSHES—

All Carter products equipped with exclusive "LINE-O-LIFE" Brushes Takes guess work out of brush replacements.

*TRADE MARK REG.

See replacement parts reference chart page for other special models, parts and prices.

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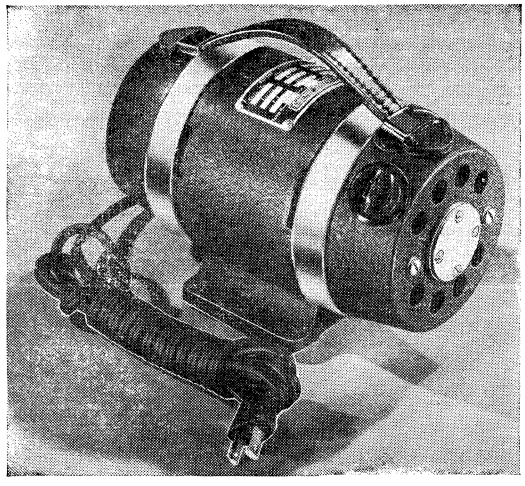
Carter Super Converter

The oldest name in Rotary Power Supplies for Mobile Radio

CARTER SUPER CONVERTER—Changes DC to AC for Amplifiers - Radios - High Power Factor equipment



CARTER SUPER CONVERTER, LESS FILTER, 8¼" LONG, 4½" WIDE, 5" HIGH, WEIGHT 13 LBS.

Wherever DC to AC Conversion is necessary, the Carter Super Converter provides an efficient and reliable source of AC power. Standard models are designed for high power factor, non-inductive AC loads such as amplifiers, radio receivers, (requires filtered converter), etc. Ball bearing equipped, 3600 RPM. CAUTION: Standard Super Converters will not satisfactorily operate inductive loads such as AC motors, low power factor transformers, etc.

Manually operated frequency controlled Converters available on special order. Maintain 60 cycle output with a + or — 10% input voltage fluctuation.

Special custom-matched Converters are also available for Wire and Tape Recorders, Sound Projectors, Television Receivers, etc. See Carter Selector Chart

HEAVY DUTY SUPER CONVERTER

10¼" long, 4½" wide, 5" high, weight 19 lbs.

Overall efficiency 60% AC voltage regulation 25%.

Code No.	*DC Input Volts*	*Amps*	*AC Output 60 cy. Volts*	*(Watts)*	*Type Duty*	*List Price*
K1020C	230	1.3	115	200	Con.	$112.00
K1025C	230	1.6	115	250	Con.	$117.00
D1020C	115	2.6	115	200	Con.	$102.00
D1025C	115	3.2	115	250	Con.	$107.00
H1020C	64	4.8	115	200	Con.	$102.00
H1025C	64	5.3	115	250	Con.	$107.00
C1020C	32	10	115	200	Con.	$102.00
C1025C	32	12	115	250	Con.	$107.00
J1020C	28	12	115	200	Con.	$102.00
J1025C	28	14	115	250	Con.	$107.00
E1020C	24	15	115	200	Con.	$102.00
E1025C	24	19	115	250	Con.	$107.00
B1020C	12	30	115	200	Con.	$102.00
B1025C	12	34	115	250	Con.	$107.00

OUTSTANDING FEATURES

SMALL SIZE—Smallest Rotary Converter. Lightweight.

CARRYING HANDLE
Easier to carry, no more "juggling" with a hot unit.

OUTPUT RECEPTACLE—Convenient plug-in AC outlet.

ARMATURE
Double wound, insulated ungrounded winding. Built-in cooling fan.

BALL BEARINGS
Sealed ball bearings require no lubrication or attention.

SPECIFICATIONS

Carter Super Converter, 40 to 150 watts models 8¼" long, 4½" wide, 5" high, weight 13 lbs. High power factor, 85 to 100%. Less filter.

Code No.	*DC Input Volts*	*Amps.*	*AC Output 60 cy. Volts*	*Volt-Amps (Watts)*	*Type Duty*	*List Price*
K1040C	230	.36	115	40	Con.	$98.00
K1060C	230	.5	115	60	Con.	$98.50
K1080C	230	.6	115	80	Con.	$99.00
K1010C	230	.8	115	100	Con.	$99.50
K1015C	230	1.	115	150	Con.	$100.00
D1040C	115	.7	115	40	Con.	$88.00
D1060C	115	1	115	60	Con.	$88.50
D1080C	115	1.1	115	80	Con	$89.00
D1010C	115	1.7	115	100	Con.	$89.50
D1015C	115	2.0	115	150	Con.	$90.00
H1040C	64	1.5	115	40	Con.	$89.00
H1060C	64	2	115	60	Con.	$89.50
H1080C	64	2.2	115	80	Con.	$90.00
H1010C	64	2.5	115	100	Con.	$90.50
H1015C	64	3.4	115	150	Con.	$91.00
C1040C	32	3	115	40	Con.	$89.00
C1060C	32	4	115	60	Con.	$89.50
C1080C	32	5	115	80	Con.	$90.00
C1010C	32	5.5	115	100	Con.	$90.50
C1015C	32	7.4	115	150	Con.	$91.00
J1040C	28	3	115	40	Con.	$89.00
J1060C	28	4	115	60	Con.	$89.50
J1080C	28	5.2	115	80	Con.	$90.00
J1010C	28	7	115	100	Con.	$90.50
J1015C	28	9	115	150	Con.	$91.00
E1040C	24	3.5	115	40	Con.	$89.00
E1060C	24	4.3	115	60	Con.	$89.50
E1080C	24	6	115	80	Con.	$90.00
E1010C	24	8.3	115	100	Con.	$90.50
E1015C	24	10	115	150	Con.	$91.00
B1040C	12	8	115	40	Con.	$89.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
B1080C	12	14	115	80	Con.	$90.00
B1010C	12	15	115	100	Con.	$90.50
B1015C	12	23	115	150	Con.	$91.00
A1040C	6	15	115	40	Con.	$89.00
A1060C	6	19	115	60	Con.	$89.50
A1080C	6	25	115	80	Con.	$90.00
A1010C	6	27	115	100	Con.	$90.50
A1015C	6	40	115	150	Con.	$91.00

FILTERS—Available on all Super Converters. Eliminates Converter noise on most frequencies from 560 KC to 54 MC. Filter mounted in cast aluminum housing below Converter. Add "X" to Code Number and $30.00 to list.

FREQUENCY CONTROL—Manually operated frequency control available on all models. Complete with vibrating reed meter, and rheostat control in aluminum housing. Add $60.00 to list.

FOR LOW COST—"Change-a-Cycle" Frequency Control, add "A" to end of Code No. and $10.00 to list.

VOLTAGE-FREQUENCY—Add $5.00 to list for 50 cycle output. Add $10.00 to list for 230 volt D.C. input.

See Carter Selector Chart for Wire and Tape recorder, Television receivers, etc., recommended Converters.

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New Carter Custom Converters

CUSTOM CONVERTER 300-400-500 WATT, 115 V. 60 CYCLE AC OUTPUT

The Custom is the latest addition to the Carter line of small DC to AC rotary converters. Created to meet the demands for a compact and highly efficient two pole rotary converter, the Custom has been designed especially for amplifiers, office business machine, marine and mobile communications and high quality tape recorder requirements.

The Custom is the only small rotary converter manufactured in recent years that has been expressly created to incorporate in its design all of the new materials and technical improvements developed in the past few years.

HIGH POWER FACTOR—85 TO 100% LESS FILTER

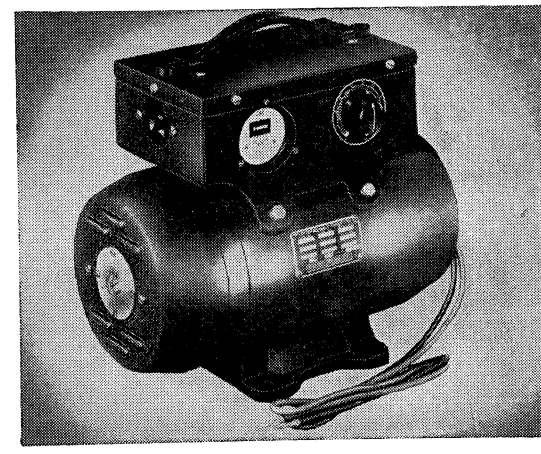
Cast aluminum base with rubber feet supplied, as illustrated.
Average efficiency, 60% all models listed less filter single phase output only.
Regulation approximately 20% from no load to full load.

300 watt, 11⅝" long, 6¹¹⁄₁₆" wide, 7¼" high — Weight 38 lbs.
400 and 500 watt, 12⅝" long, 6¹¹⁄₁₆" wide, 7¼" high — Weight 44 lbs.

	Code No.	DC Input Volts	DC Input Amps.	AC Output Volts	AC Output 60 Cy. Watts	Type Duty	Temp. Rise °C	List Price
230 Volt	K1030CP	230	2.3	115	300	Con.	50°	$200.00
	K1040CP	230	2.8	115	400	Con.	50°	$220.00
	K1050CP	230	3.5	115	500	Con.	50°	$225.00
115 Volt	D1030CP	115	4.6	115	300	Con.	50°	$190.00
	D1040CP	115	5.6	115	400	Con.	50°	$210.00
	D1050CP	115	7	115	500	Con.	50°	$215.00
64 Volt	H1030CP	64	8.2	115	300	Con.	50°	$190.00
	H1040CP	64	10	115	400	Con.	50°	$213.50
	H1050CP	64	12.5	115	500	Con.	50°	$218.50
32 Volt	C1030CP	32	19	115	300	Con.	50°	$190.00
	C1040CP	32	21	115	400	Con.	50°	$213.50
	C1050CP	32	25	115	500	Con.	50°	$218.50
28 Volt	J1030CP	28	20	115	300	Con.	50°	$190.00
	J1040CP	28	24	115	400	Con.	50°	$213.50
	J1050CP	28	28	115	500	Con.	50°	$218.50
24 Volt	E1030CP	24	22	115	300	Con.	50°	$190.00
	E1040CP	24	28	115	400	Con.	50°	$213.50
	E1050CP	24	33	115	500	Con.	50°	$218.50
12 Volt	B1030CP	12	45	115	300	Con.	50°	$185.00

300 Watt Largest Continuous Duty Output Available for 12 Volt Input.

FREQUENCY CONTROLLED CUSTOM FOR PROFESSIONAL AND BROADCAST TAPE RECORDING



The new Custom Converter with manual frequency control has been developed to provide a portable DC to AC power source for professional and broadcast tape recorders, heavy duty electronic measuring devices, and Tape recorder-AC motor driven camera combinations. Now for the first time, sufficient frequency constant AC power is available to operate this type of equipment from DC lines or battery source.

The rheostat control and the frequency meter are mounted in the attractive aluminum housing. A noise filter is also available in the same housing, although it is not usually necessary for operating recorders, amplifiers or other audio devices. Filtering is required when radios or other RF circuits are operated from the converter.

Convenient recessed DC male plug is furnished for 32, 64, 115 and 230 volt DC input models. 12, 24 and 28 models are equipped with heavy stranded input leads for battery connections, as shown. A flush AC mounted receptacle is supplied on all models for quick AC connections. The sturdy carrying handle allows the converter to be moved immediately after its operation, a life-saver for taping remote broadcasts.

Each model must be designed to properly match the power factor, voltage, frequency, and load requirements. Any of the Custom models can be furnished with frequency control. Model listed below has been laboratory tested and is matched to provide perfect operation. Kindly send your special requirement to the factory for prompt and careful consideration.

Frequency Controlled Custom Converters

Recorder Model	CUSTOM CONVERTER MODEL		
	12V	28V	115V
Ampex 400A-401A	BR1021CP	JR1021CP	DR1021CP
Magnecord	**$260.00**	**$260.00**	**$260.00**
Binaural			
TDC Sterotone 130			

300 watt with Frequency Control, 11⅝" long, 6¹¹⁄₁₆" wide, 10¼" high, Weight 44 lbs.
400 and 500 watt, 12⅝" long, 6¹¹⁄₁₆" wide, 10¼" high — Weight 54 lbs.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Carter Selector Chart

Converters for Popular Wire and Tape Recorders

Converter AC output frequency and Converter Power Factor must be perfectly matched to the recorder load to assure proper recording and play back performance. Most wire and tape recorders are of medium Power Factor design, approximately 70%. Standard high power factor (85 to 100%) Rotary Converters therefore *will not operate* the recorders properly as this type Converter will produce higher AC voltage and frequency because of the inductive recorder load.

The equipment listed below has been laboratory-tested and the correct Carter Converter recommended for each model. Use this chart for your recorder Converter requirements. If the equipment is not listed on this chart, please write to the factory.

MAKE & MODEL EQUIPMENT		CARTER CONVERTER MODEL AND DC INPUT 6 Volt	12 Volt	115 Volt	Size & Weight
60 WATT	Air King 750, Ampro 730-731 Crescent H22A1, 903-907, Knight Wire Web-Cor 80-180-228-18 Wilcox-Gay 8U12, Wireway Edison Voicewriter, VP (for 115 Volt DC only) Dictorel, Pierce 560	A1060CW (29 amps drain) $89.50 A1060C	B1060CW (14 amps drain) $89.50 B1060C	D1060CW (1 amp drain) $88.50 D1060C	8¼" L, 4½" W, 5" H Wt. 13 lbs.
80 WATT	Bell Record-O-Fone RT50-RT65B-RT75 Crestwood CP201, 402, FME 37B Gray Audograph, Elcor 1000-15-115-400-230 General Industries Foundation Unit* Knight Tape, Peirce 55B Masco D37, LD37, DC37 Pentron T3-9T3-9T3C-CT1-TR4-HT225 Revere T100, T500, LR-1, T900, T1100, T1400, Web-Cor 210-1 Wilcox-Gay 1C10-2C10-3F10-3A10-4A10-4B10-4C10 Dictaphone Time-Master	A1080CW (31 amps drain) $90.00 A1080C	B1080CW (15 amps drain) $90.00 B1080C	D1080CW (1.5 amps drain) $89.00 D1080C	8¼" L, 4½" W, 5" H Wt. 13 lbs.
FREQ. CONTROL	Ampex 600, 610, 612	AR1080C $150.00	BR1080C $150.00	DR1080C $149.00	8¼" L, 4½" W, 7½" H Wt. 15 lbs.
WITH FILTER	Revere TR-200, TR-600, TR-800, TR-20 Masco LD37R Ultratone PT-9	A1080CWX $120.00	B1080CWX $120.00 (Equipped with filter to operate radio section also)	D1080CWX $119.00	8½" L, 4½" W, 7½" H Wt. 15 lbs.
100 WATT FREQ. CONTROL	Ampex 620A with 600 Berlant BR-1	AR1010C (27 amps drain) $150.00	BR1010C (15 amps drain) $150.00	DR1010C (1.7 amps drain) $149.00	8¼" L, 4½" W, 7½" H Wt. 15 lbs.
130 WATT	Brush BK411-BK414 BK-442-BK443P-BK455 RCA-SRT-301, Webcor 2010-2030	A1090CW4 (35 amps drain) $102.00	B1090CW4 (17 amps drain) $102.00	D1010CW (2 amps drain) $89.50	
	VM700	AX1090CW4 $103.00	BX1090CW4 $103.00	DX1090CW $90.50	
	Ampro Celebrity 755, 756, 757, 758 (not recommended for 6 Volts) Berlant Concertone Model 1401 - 1501 Brush BK401-BK403, Crescent H19A1 Magnacord PT6-PT*-JA-PT63, F35B, S36B Magnecord Voyager, M30, M33, M34 Peirce 260-265-270, Reelest Revere T700, T700D, T10, T11 Webster Ekotape 101-109-111-114-205	A1010CW4 (35 amps drain) $104.00	B1010CW4 (17 amps drain) $104.00	D1010CW (2 amps drain) $89.50	6 & 12 Volt 10¼" L, 4½" W, 5" H Wt. 18 lbs. 115 Volt 8¼" L, 4½" W, 5" H Wt. 13 lbs.
	Berlant 20/20	ARS-1016CP $260.00	BR1016CP $260.00	DR1016CP $260.00	
160-210 WATT	Ampex 400A-401A Magnecord Binaural TDC Stereotone 130	6 Volt not recommended	BR1021CP (20 amps) $260.00	DR1021CP (2.5 amps) $260.00	11⅝" L, 6¾" W, 7¼" H Wt. 38 lbs.
300-500 WATT FREQ. CONTROL	Magnecord M80, M81, M90 Ampex 350	not recommended	†BRS1040CP $288.50	DR1030C5P $285.00	12⅝" L, 6¾" W, 10¼" H Wt. 54 lbs.

*Including average recorder amplifier †1 hour continuous duty cycle

SOUND PROJECTORS AND PHONO MOTOR CONVERTERS

Ampro Premier 20 & 30, Bell & Howell No. 179, DeVry Super No. 16, Victor Lite Weight*, Victor Triumph No. 60*, Victor Sonomaster*, General Industries RM4, Green Flier Dual Speed ..... D1015C $90.00

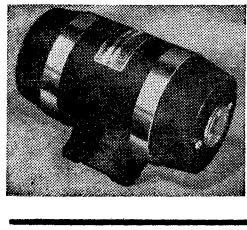
*Victor Animatograph Co.

CONVERTER OPERATES SOUND AMPLIFIER ONLY, NOT PROJECTOR LAMP OR MOTOR. WILL NOT OPERATE PROJECTORS FROM BATTERY INPUT. 115 OR 230 VOLT D.C. INPUT ONLY

CARTER TELEVISION CONVERTERS

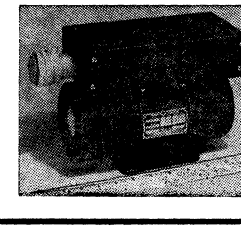
	6 V.	12 V.		28 V.		115 V.	
100 to 130 WATTS	A1013CT	B1013CT	$101.00	J1013CT	$101.00	D1013CT	$100.00
130 to 160 WATTS (some 17" - 20" - 21" models)	$101.00	B1016CT	117.00	J1016CT	117.00	D1016CT	116.00
160 to 190 WATTS (most 17" to 21" models)	Not	B1019CT	118.00	J1019CT	118.00	D1019CT	117.00
190 to 250 WATTS (larger sets)	Available	B1025CPT	195.00	J1025CPT	195.00	D1025CPT	195.00
250 to 300 WATTS (larger sets)	for 6 V.	B1030CPT	200.00	J1030CPT	200.00	D1030CPT	200.00

CARTER SUPER DYNAMOTOR ★

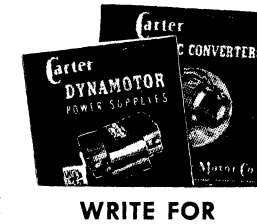


For aircraft, marine, police and railroad communications. Input voltages range from 5.5 v. DC to 115 v. DC . . . outputs from 400 v. to 1000 v. DC. Specified by leading airlines, marine, and mobile radio manufacturers. Size 8¼" x 4½". Weight 11¾ lbs.

CARTER INDUCTOR ALTERNATOR



Provides mobile high frequency AC power (400 to 800 cycles), up to 150 watts, from DC source. Perfect for aircraft, geophysical, Government and laboratory research. Can also supply up to 400 v. DC plate voltage if necessary.



WRITE FOR NEW CATALOGS

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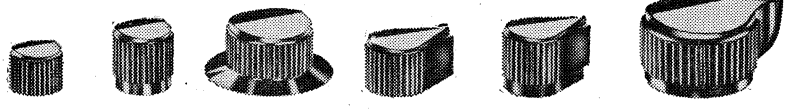
RAYTHEON STANDARD CONTROL KNOBS

6 styles in 5 sizes



ROUND | SKIRTED ROUND | DIAL SKIRTED ROUND | POINTER | SKIRTED POINTER | CRANK KNOB

Important Features

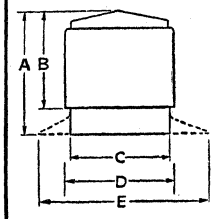
- Conform to Government Specifications
- Required type and number of set screws
- Greater design flexibility • Rugged construction • Molded of Tenite II
- Integrated styling • Distinctive finishes

AVAILABLE MODELS

Description	70 Series		90 Series		125 Series		175 Series		225 Series	
Style	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.
Round	70-1-2	12	90-1-2	12	125-1-2	6	175-1-2	6	225-1-2	4
Skirted Round	70-2-2	12	90-2-2	12	125-2-2	6	175-2-2	6	225-2-2	4
Dial Skirted Round	70-3-2	12	90-3-2	6	125-3-2	6	175-3-2	2	225-3-2	2
Pointer	70-4-2	12	90-4-2	12	—	—	—	—	—	—
Skirted Pointer	70-5-2	12	90-5-2	12	—	—	—	—	—	—
Crank	—	—	—	—	125-6-2	4	175-6-2	2	225-6-2	2

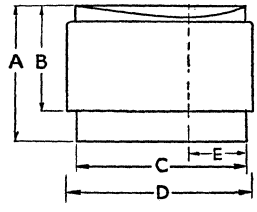
NOTE: Catalog numbers above indicate Mirror finish.
For Matte finish add the suffix "G" to end of catalog number.
ALL KNOBS FOR ¼" SHAFTS

ROUND & DIAL



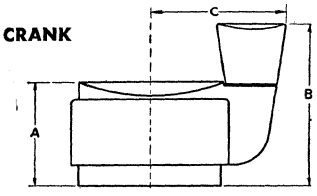
Series	A	B	C	D	E
70	.80	.62	.64	.71	1.14
90	1.03	.80	.83	.91	1.51
125	.87	.70	1.16	1.26	1.82
175	1.09	.85	1.67	1.76	2.45
225	1.11	.89	2.15	2.26	3.02

POINTER



Series	A	B	C	D	E
70	.80	.62	.94	1.04	.32
90	1.03	.80	1.22	1.34	.41

CRANK

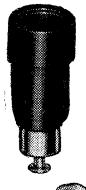


Series	A	B	C
125	.87	1.38	1.09
175	1.09	1.77	1.50
225	1.11	1.80	1.75

RAYTHEON PANEL COMPONENTS

Printed Circuit Test Jacks

Specially designed for printed circuit use • Accepts standard 0.080" test prod • Simple mounting—just insert and dip-solder • 8 brilliant insulator colors for circuit coding

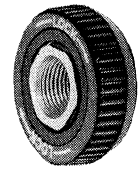


Subminiature Test Jack

Fixed or snap-in contact types available • Fast, easy expansion mounting • Accept standard 0.080" test prod • Colored insulators for circuit coding

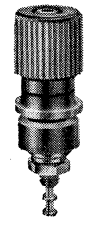
Terminal Board Bracket

Provides rigid support under shock or vibration • Mounts single or double panels • Meets military specifications • Cold-rolled carbon steel, cadmium plated



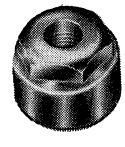
Knob Lock

Prevents control movement by shock or vibration • Replaces potentiometer mounting hardware • Neat appearance—matches standard Raytheon knobs • Available in Mirror or Matte finish



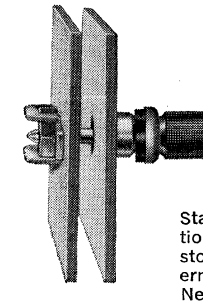
Binding Posts

Provides 5-way connection • High strength nylon and brass construction • Accept standard 0.080" test prod • Available in black or red



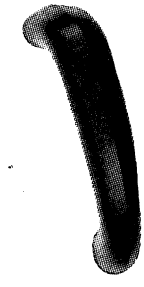
Shaft Lock

For use with screwdriver-adjusted controls • Constant friction drag prevents accidental rotation • Provides seal against dirt and moisture • Replaces standard mounting hardware



Captive Hardware

Stainless steel construction • Wide assortment of stock sizes • Meets government specifications • Neoprene gasket provides dirt and moisture seal



Pull Handles

Functional design—integrated with Raytheon Standard Control Knobs • Tenite II—anodized aluminum inserts • Mirror or Matte finish

RAYTHEON MANUFACTURING COMPANY

Equipment Marketing Department • Waltham 54, Mass.

Excellence in Electronics

District Offices: Atlanta, Baltimore, Boston, Chicago, Cleveland, Kansas City, Los Angeles, New Orleans, New York, Seattle

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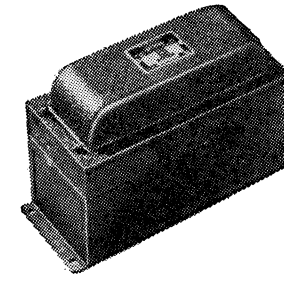
RAYTHEON
VOLTAGE STABILIZERS

Standard Catalog Models

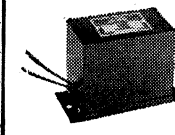
Catalog No.	Output Capacity Watts	Style	Dimensions in Inches: Overall L	Overall W	Overall H	Mounting L	Mounting W	Voltages: Input	Voltages: Output	Net Wt. Lbs.
VR-6110	15	F	6¼	2⅝	3	5 11/16	5⅛	95-130	115	4
VR-61F0	15	F	5¾	2⅜	4 1/16	5 1/64	4 11/16	95-130	6.3	4
VR-61D0	15	D	3 1/16	2⅝	4 11/16	2 19/64	1 55/64	95-130	6.3	6
VR-6710	25	W	7⅝	3⅛	3⅜	7 3/16	1½	95-130	6.0	4
VR-6101	30	E	7½	3⅜	4⅛	6⅞	2¼	95-130	6.0/7.5	5
VR-6111	30	E	7½	3⅜	4⅛	6⅞	2¼	95-130	115	5
VR-6111-CP	30	E	7½	3⅜	4⅛	6⅞	2¼	95-130	115	5
VR-6221	30	E	7½	3⅜	4⅛	6⅞	2¼	190-260	230	5
VR-6112	60	E	7½	3⅜	4 3/16	6⅞	2¼	95-130	115	8
VR-6112CP†	60	E	7½	3⅜	4 3/16	6⅞	2¼	95-130	115	8
VR-6222	60	E	7½	3⅜	4 3/16	6⅞	2¼	190-260	230	8
VR-6113	120	E	7½	3⅜	5 15/16	6⅞	2¼	95-130	115	14
VR-6113CP†	120	E	7½	3⅜	5 15/16	6⅞	2¼	95-130	115	14
VR-6223	120	E	7½	3⅜	5 15/16	6⅞	2¼	190-260	230	14
VR-6114	250	E	12⅜	5	7⅝	11 1/16	3½	95-130	115	25
VR-6224	250	E	12⅜	5	7⅝	11 1/16	3½	190-260	230	25
VR-6115	500	E	12⅜	5	7⅝	11 1/16	3½	95-130	115	45
VR-6225	500	E	12⅜	5	7⅝	11 1/16	3½	190-260	230	45
VR-6116	1000	H	13 3/16	14 1/16	9⅝	11 1/16	12⅞	95-130	115	92
VR-6226	1000	H	13 3/16	14 1/16	9⅝	11 1/16	12⅞	190-260	230	92
VR-6117	2000	H	36¼	14⅝	10⅛	34	12 7/16	95-130	115	185
VR-6227	2000	H	36¼	14⅝	10⅛	34	12 7/16	190-260	230	185
VR-7B	2000	C	16¼	14¾	11 3/16	9⅛	13⅝	115/230	115/230	200
VHF-6114*	250	E	14 1/16	13 3/16	9⅝	12⅞	11 9/16	95-130	115	49
VHF-6115*	500	E	14 1/16	13 3/16	9⅝	12⅞	11 9/16	95-130	115	75
VHF-6116*	1000	E	29¼	14⅜	10¼	27⅛	12 7/16	95-130	115	150

*Harmonic filtered models. Harmonic content less than 3%.
†Portable models, supplied with cord and plug and output receptacle.

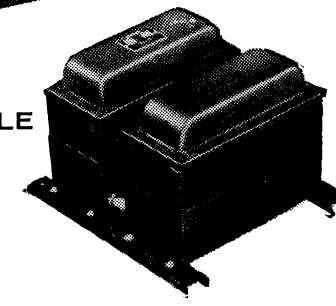
STYLE D



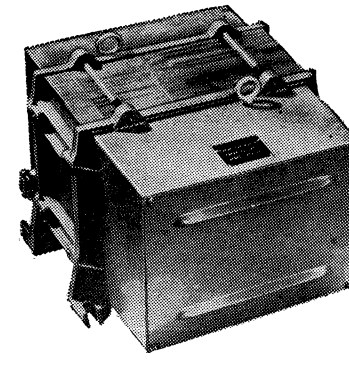
STYLE E



STYLE F



STYLE H



STYLE C

The complete line of Raytheon Voltage Stabilizers is available through 155 authorized distributors. Special custom-built units, ranging from 5 to 10,000 watts are also available to meet special needs. Write for complete information.

FEATURES

1. Deliver accurate AC voltage within ±½%
2. Stabilize output with more precision
3. Regulate better at full load
4. Hold up better under overload
5. Better no-load to full-load regulation
6. Accept wider input voltage range
7. Less voltage change as units heat up
8. Less change in output as frequencies fluctuate
9. Smaller, lighter, more compact; no moving parts
10. Cost less to operate

RAYTHEON

RAYTHEON MANUFACTURING COMPANY

Equipment Marketing Department • Waltham 54, Mass.

Excellence in Electronics

District Offices: Atlanta, Baltimore, Boston, Chicago, Cleveland, Kansas City, Los Angeles, New Orleans, New York, Seattle

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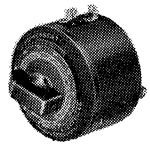
POWERSTAT VARIABLE TRANSFORMERS
FOR SINGLE PHASE DUTY

POWERSTAT variable transformers are auto-transformers of toroidal core design with a movable brush tap which is rotated to deliver any desired output voltage from zero to, or above, line voltage. Glass smooth commutator surfaces and advanced winding techniques assure smooth operation and permit adjustment to a fraction of a volt.

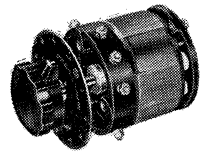
Other important features include: excellent regulation, high efficiency, conservative ratings, zero waveform distortion and rugged construction.

A wide range of standard POWERSTAT variable transformers are available for 120, 240 and 480 volt, single phase operation. Both manually-operated and motor-driven types are offered for air-cooled and oil-cooled duty.

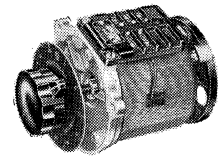
The rating chart lists some of the most-called-for standard POWERSTATS.



TYPE 10
For back-of-panel

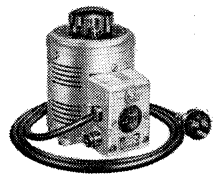


TYPE 20
For back-of-panel

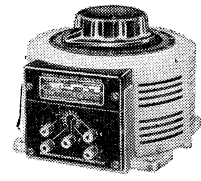


TYPE 116U
For back-of-panel

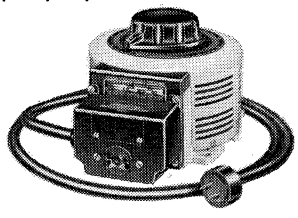
TYPE 116
Enclosed with cord-plug, receptacle, fuse, switch



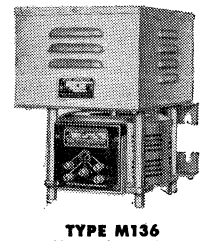
TYPE 3PN116
Third wire grounded



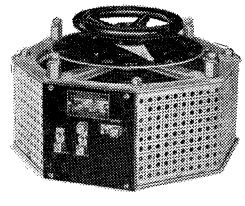
TYPE 136
Exposed terminal connections



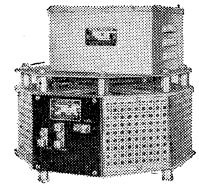
TYPE 2PF136
With cord-plug, fuse, receptacle



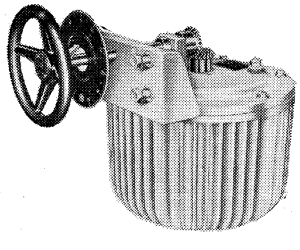
TYPE M136
Motor-driven for remote control



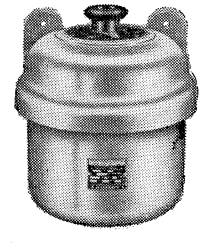
TYPE 1156
For heavy duty



TYPE M1156
Motor-driven for remote control



TYPE 0-1126
For oil-cooled operation



TYPE X-1126
Explosion-proof for hazardous locations

LINE VOLTS	LINE CYCLES	OUTPUT VOLTS	OUTPUT MAX. AMPERES	OUTPUT MAX. KVA	TYPE‡‡	WEIGHT NET	WEIGHT SHIPP.	MOTOR SPEEDS*
120	**60	0-132‡	1.25	.165	**10**	1.8	2.5	
120	**60	0-140‡	3.0	.42	**20**	4	6	
120	50/60	0-140‡	7.5	1.0	**116U**	10	11	
120	50/60	0-140‡	7.5	1.0	**116**	11	12	
120	50/60	0-140	7.5	1.0	**3PF116**	11	12	
120	50/60	0-140	7.5	1.0	**3PN116**	11	12	
120	50/60	0-140	7.5	1.0	**3TF116**	11	12	
120	50/60	0-140‡	20.0	2.8	**136**	22	25	5, 15, 30, 60
120	50/60	0-140‡	20.0	2.8	**F136**	22	25	5, 15, 30, 60
120	50/60	0-140‡	20.0	2.8	**2PF136**	23	26	
120	50/60	0-140‡	20.0	2.8	**2TF136**	23	26	
120	50/60	0-140‡	20.0	2.8	**3PF136**	23	26	
120	50/60	0-140‡	20.0	2.8	**3PN136**	23	26	
120	50/60	0-140‡	20.0	2.8	**3TF136**	23	26	
120	50/60	0-140‡	40.0	5.6	**136-2P**	47	53	5, 15, 30, 60
120	50/60	0-140	45.0	6.3	**1156**	73	80	W, X, Y, Z
120	50/60	0-140	45.0	6.3	**F1156**	74	81	W, X, Y, Z
120	50/60	0-140	90.0	12.6	**1156-2P**	150	170	W, X, Y, Z
120	50/60	0-140	135.0	18.9	**1156-3P**	225	295	W, X, Y, Z
120	50/60	0-140	180.0	25.2	**1156-4P**	330	420	W. X, Y
120	50/60	0-140	270.0	37.8	**1156-6P**	500	600	W, X, Y
240	**60	0-264‡	1.25	.33	**10-2E**	4.5	5	
240†	50/60	0-280‡	3.0	.84	**216U**	10	11	
240†	50/60	0-280‡	3.0	.84	**216**	11	12	
240	50/60	0-280	3.0	.84	**3PF216**	11	12	
240	50/60	0-280	3.0	.84	**3PN216**	11	12	
240	50/60	0-280	3.0	.84	**3TF216**	11	12	
240	50/60	0-280‡	7.5	2.1	**116U-2S**	17	22	
240	50/60	0-280‡	7.5	2.1	**116-2S**	18	23	
240†	50/60	0-280‡	9.0	2.5	**236**	22	25	5, 15, 30, 60
240	50/60	0-280‡	9.0	2.5	**F236**	22	25	5, 15, 30, 60
240†	50/60	0-280‡	9.0	2.5	**2PF236**	23	26	
240†	50/60	0-280‡	9.0	2.5	**2TF236**	23	26	
240†	50/60	0-280‡	9.0	2.5	**3PF236**	23	26	
240†	50/60	0-280‡	9.0	2.5	**3PN236**	23	26	
240†	50/60	0-280‡	9.0	2.5	**3TF236**	23	26	
240	50/60	0-280‡	20.0	5.6	**136-2S**	45	51	5, 15, 30, 60
240†	50/60	0-280	28.0	7.8	**1256**	73	80	W, X, Y, Z
240	50/60	0-280	28.0	7.8	**F1256**	74	81	W, X, Y, Z
240	50/60	0-280	45.0	12.6	**1156-2S**	144	164	W, X, Y, Z
240†	50/60	0-280	56.0	15.7	**1256-2P**	150	170	W, X, Y, Z,
240†	50/60	0-280	84.0	23.5	**1256-3P**	225	295	W, X, Y, Z
240†	50/60	0-280	112.0	31.4	**1256-4P**	330	420	W, X, Y.
240	50/60	0-280	168.0	47.0	**1256-6P**	500	600	W, X, Y
480†	50/60	0-560‡	3.0	1.7	**216U-2S**	17	22	
480†	50/60	0-560‡	3.0	1.7	**216-2S**	18	23	
480†	50/60	0-560‡	9.0	5.0	**236-2S**	45	51	5, 15, 30, 60
480†	50/60	0-560	28.0	15.7	**1256-2S**	144	164	W, X, Y, Z
480†	50/60	0-560	56.0	31.4	**1256-4PS**	330	420	W, X, Y
480†	50/60	0-560	84.0	47.0	**1256-6PS**	500	600	W, X, Y
OIL-COOLED POWERSTATS								
120	50/60	0-140	15.0	2.1	**0-116**	44	85	
120	50/60	0-140	30.0	4.2	**0-1126**	70	100	
240	50/60	0-280	6.0	1.7	**0-216**	44	85	
240	50/60	0-280	18.0	5.0	**0-1226**	74	105	
EXPLOSION-PROOF POWERSTATS								
120	50/60	0-140	7.5	1.0	**X-116**	35	47	
120	50/60	0-140	12.0	1.7	**X-1126**	125	142	
240	50/60	0-280	3.0	.84	**X-216**	35	47	
240	50/60	0-280	6.0	1.7	**X-1226**	130	152	

†Unit has terminals for operating at ½ this input voltage if desired

‡Unit has terminals for limiting maximum output voltage to line voltage if desired. Other units must be ordered "L" connected.

*For all motor-driven models prefix the speed designation to the type number. Time given is time for full range travel:

136-236 Series:
For 5 seconds, prefix 5M; for 15 seconds prefix 15M; for 30 seconds, prefix 30M; for 60 seconds prefix 60M. (For example: 30M136)

1156-1256 Series:
For 6 seconds prefix MZ; for 14 seconds, prefix MY; for 19 seconds, prefix MX; for 45 seconds, prefix MW. (For example: MW1156)

‡‡**Letters in type numbers designate as follows:**

Prefixes:
F — Enclosed terminal box with cartridge type fuse
O — Oil-Cooled
X — Explosion-Proof
2PF — 2-prong parallel-blade plug and receptacle, enclosed terminal box with cartridge type fuse
2TF — Same as 2PF except twist-lock plug and receptacle
3PF — 3-Prong "Crow-Foot" plug and receptacle, 3rd wire grounded to frame. Enclosed terminal box with cartridge type fuse
3PN — Same as 3PF except NEMA type connections
3TF — Same as 3PF except twist-lock connections

Suffixes:
U — Supplied without protective screening, terminal enclosure, etc.
Numbers (2, 3, 4 or 6) indicate number of units in assembly
D — Units open-delta connected (3-Phase)
E — Units electrically independent (1- or 3-Phase)
L — Connected so maximum output voltage cannot exceed input voltage
P — Units parallel connected (1-Phase)
PS — Units series-parallel connected (1-Phase)
S — Units series connected (1-Phase)
Y — Units wye connected (3-Phase)

**If the maximum output voltage is limited to the input voltage ("L" connection) the frequency range is 50/60 cycles.

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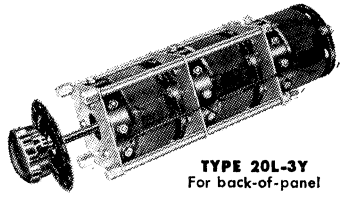
THE
SUPERIOR ELECTRIC
COMPANY

VOLTAGE CONTROL EQUIPMENT

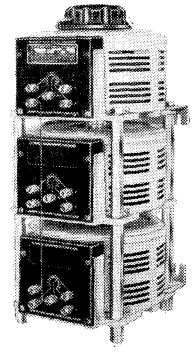
POWERSTAT VARIABLE TRANSFORMERS
FOR THREE PHASE DUTY

POWERSTATS are available in numerous ratings for three phase operation. Standard assemblies for back-of-panel and floor mounting are offered. To suit individual requirements, both manually-operated and motor-driven POWERSTATS are obtainable as standard assemblies.

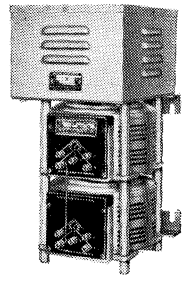
All POWERSTATS have inherent features of excellent regulation, high efficiency, conservative ratings, zero waveform distortion and rugged construction and ease of operation.



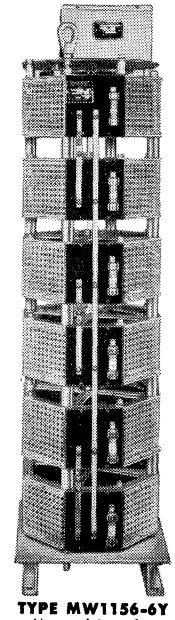
TYPE 20L-3Y
For back-of-panel



TYPE 136-3Y
Manually-operated



TYPE M136-2D
Motor-driven

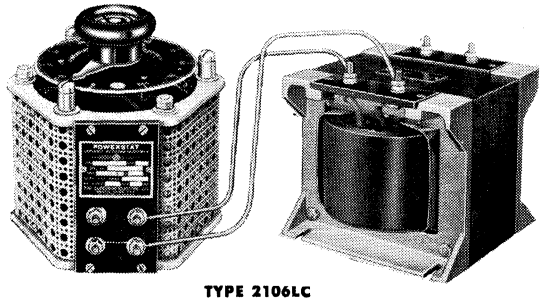


TYPE MW1156-6Y
Motor-driven for easy operation

LINE VOLTS	LINE CYCLES	OUTPUT VOLTS	OUTPUT MAX. AMPERES	OUTPUT MAX. KVA	TYPE‡‡	WEIGHT NET	WEIGHT SHIPP.	MOTOR SPEEDS*
120	**60	0-132‡	1.25	.29	**10-2E**	4.5	5.0	
120	**60	0-140‡	3.0	.73	**20-2D**	9	12	
120	50/60	0-140‡	7.5	1.8	**116U-2D**	17	22	
120	50/60	0-140‡	7.5	1.8	**116-2D**	18	23	
120	50/60	0-140‡	20.0	4.8	**136-2D**	45	51	5, 15, 30, 60
120	50/60	0-140	45.0	10.9	**1156-2D**	144	164	W, X, Y, Z
120	50/60	0-140	90.0	21.8	**1156-4D**	320	410	W, X, Y
120	50/60	0-140	135.0	32.7	**1156-6D**	490	590	W, X, Y
240	60	0-240	1.25	.52	**10-3E**	7	8	
240	60	0-240	3.0	1.2	**20L-3Y**	14	17	
240†	50/60	0-280‡	3.0	1.5	**216U-2D**	17	22	
240†	50/60	0-280‡	3.0	1.5	**216-2D**	18	23	
240	**60	0-280‡	7.5	3.6	**116U-3Y**	26	36	
240	**60	0-280‡	7.5	3.6	**116-3Y**	27	37	
240†	50/60	0-280‡	9.0	4.4	**236-2D**	45	51	5, 15, 30, 60
240	**60	0-280‡	20.0	9.7	**136-3Y**	68	77	5, 15, 30, 60
240†	50/60	0-280	28.0	13.6	**1256-2D**	144	164	W, X, Y, Z
240	**60	0-280	45.0	21.8	**1156-3Y**	215	280	W, X, Y, Z
240†	50/60	0-280	56.0	27.2	**1256-4D**	320	410	W, X, Y
240†	50/60	0-280	84.0	40.7	**1256-6D**	490	590	W, X, Y
240	**60	0-280	90.0	43.6	**1156-6Y**	500	600	W, X, Y
480†	**60	0-560‡	3.0	2.9	**216U-3Y**	26	36	
480†	**60	0-560‡	3.0	2.9	**216-3Y**	27	37	
480†	**60	0-560‡	9.0	8.7	**236-3Y**	68	77	5, 15, 30, 60
480†	**60	0-560	28.0	27.2	**1256-3Y**	215	280	W, X, Y, Z
480†	**60	0-560	56.0	54.3	**1256-6Y**	500	600	W, X, Y

For footnotes see single phase chart.

POWERSTAT LINE CORRECTORS



TYPE 2106LC

A POWERSTAT Line Corrector functions as its name implies — it corrects line voltage variations to maintain a constant output voltage. It consists of two components. A POWERSTAT variable transformer, appropriately tapped, controls the primary of a fixed ratio step-down transformer. Although a POWERSTAT Line Corrector is generally employed to correct line voltage variations, it can also be used to supply a limited output voltage range from stable a-c power sources. At the sacrifice of a wide output voltage range, relatively large amounts of current can be controlled.

POWERSTAT Line Correctors are offered in a multitude of models and ratings for single and three phase applications; as manually-operated and motor-driven assemblies.

LINE VOLTAGE	OUTPUT VOLTAGE	MAX. OUTPUT AMPERES	OUTPUT KVA	FREQ'Y	TYPE	APPROX. WEIGHT (LBS.) NET	APPROX. WEIGHT (LBS.) SHIPP.	*ST'D MOTOR SPEEDS
SINGLE PHASE								
95-135	115	52.0	6.0	50/60	**2106LC**	65	80	W, X, Y, Z
95-135	115	130.0	15.0	50/60	**2115LC**	175	200	W, X, Y, Z
195-255	230	32.5	7.5	50/60	**2207LC**	75	90	W, X, Y, Z
195-255	230	120.0	27.5	50/60	**2228LC**	180	205	W, X, Y, Z
400-520	460	15.0	6.6	50/60	**2407LC**	70	85	W, X, Y, Z
400-520	460	40.0	17.6	50/60	**2418LC**	180	205	W, X, Y, Z
THREE PHASE								
195-255	230	25.0	10.0	50/60	**3210YLC**	185	210	W, X, Y, Z
195-255	230	38.0	15.0	50/60	**3215YLC**	200	225	W, X, Y, Z
195-255	230	50.0	20.0	50/60	**3220YLC**	215	240	W, X, Y, Z
195-255	230	113.0	45.0	50/60	**3245YLC**	535	615	W, X, Y, Z
195-255	230	175.0	70.0	50/60	**3270DLC**	685	795	W, X, Y
400-520	460	16.0	12.5	50/60	**3412YLC**	185	210	W, X, Y, Z
400-520	460	22.0	17.5	50/60	**3417YLC**	200	225	W, X, Y, Z
400-520	460	33.0	25.0	50/60	**3425YLC**	215	240	W, X, Y, Z
400-520	460	66.0	50.0	50/60	**3450YLC**	500	580	W, X, Y, Z
400-520	460	100.0	75.0	50/60	**3475YLC**	550	630	W, X, Y, Z
420-500	460	131.0	100.0	50/60	**34100YLC**	550	630	W, X, Y, Z

*When a motor drive is required, prefix the letter "M" together with the speed designation letter to the type number. Z-6 seconds, Y-14 seconds, X-19 seconds and W-45 seconds for full range travel.

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THE
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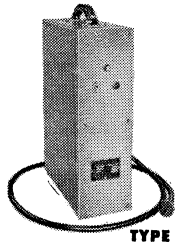
VOLTAGE CONTROL EQUIPMENT

STABILINE AUTOMATIC VOLTAGE REGULATORS

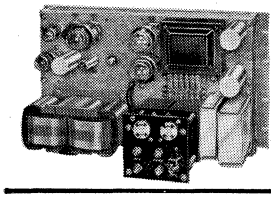
It is obviously impossible to produce any single type of electrical apparatus that will fulfill all requirements for every application. STABILINE Automatic Voltage Regulators are manufactured in three distinct types to meet individual needs. These three are: Type IE (Instantaneous Electronic) . . . for the most exacting control — Type EM (Electro Mechanical) . . . for controlling large industrial loads or for applications requiring zero waveform distortion — and Type TM (Tubeless Magnetic) . . . for unattended locations. All are designed and manufactured to assure precise correction and dependable operation over long periods of continuous use. They will meet the most rigid mechanical and electrical specifications. A wide range of standard models are available and are listed below.

TYPE IE (Instantaneous Electronic)



TYPE IE51002

TYPE IE5101R

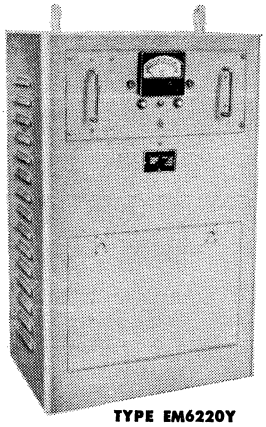


Type IE is completely electronic with no moving parts. Providing instantaneous correction, it is ideal for laboratories, test lines, as a component of other equipment . . . and everywhere that the most exacting automatic voltage regulation is required. At no load, full load or any intermediate stage, constant output voltage is maintained regardless of line fluctuations. The output voltage is held to within ±0.1 volts of nominal for wide line variations and within ±0.15 volts of nominal for any load current or load power factor change from .5 lagging to .9 leading. Waveform distortion never exceeds 3%.

RATINGS TYPE IE

INPUT VOLTAGE RANGE	OUTPUT VOLTAGE RANGE	FREQUENCY IN CYCLES	LOAD RANGE IN AMPERES	LOAD POWER FACTOR RANGE	RATED OUTPUT KVA	TYPE
95-135	110-120	60±10%	0-2.2		0.25	IE51002
95-135	110-120	60±10%	0-2.2		0.25	IE51002R
195-255	220-240	60±10%	0-1.1	.5 lagging	0.25	IE52002
195-255	220-240	60±10%	0-1.1		0.25	IE52002R
95-135	110-120	60±10%	0-4.5		0.5	IE51005
95-135	110-120	60±10%	0-4.5		0.5	IE51005R
95-135	110-120	50±10%	0-4.5		0.5	IEL51005
95-135	110-120	50±10%	0-4.5		0.5	IEL51005R
195-255	220-240	60±10%	0-2.2	to	0.5	IE52005
195-255	220-240	60±10%	0-2.2		0.5	IE52005R
195-255	220-240	50±10%	0-2.2		0.5	IEL52005
195-255	220-240	50±10%	0-2.2		0.5	IEL52005R
95-135	110-120	60±10%	0-8.5		1.0	IE5101
95-135	110-120	60±10%	0-8.5		1.0	IE5101R
95-135	110-120	50±10%	0-8.5		1.0	IEL5101
95-135	110-120	50±10%	0-8.5		1.0	IEL5101R
195-255	220-240	60±10%	0-4.5	.9 leading	1.0	IE5201
195-255	220-240	60±10%	0-4.5		1.0	IE5201R
195-255	220-240	50±10%	0-4.5		1.0	IEL5201
195-255	220-240	50±10%	0-4.5		1.0	IEL5201R
95-135	110-120	60±10%	0-22.0		2.5	IE5102
95-135	110-120	60±10%	0-22.0		2.5	IE5102R
195-255	220-240	60±10%	0-11.0		2.5	IE5202
195-255	220-240	60±10%	0-11.0		2.5	IE5202R
195-255	220-240	50±10%	0-11.0		2.5	IEL5202
195-255	220-240	50±10%	0-11.0		2.5	IEL5202R
95-135	110-120	60±10%	0-43.5		5.0	IE5105
195-255	220-240	60±10%	0-22.0		5.0	IE5205

TYPE EM (Electro Mechanical)



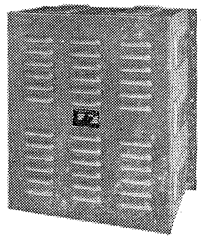
TYPE EM6220Y

Type EM is an electro-mechanical device with a very sensitive detector controlling a motor-driven POWERSTAT variable transformer and auxiliary transformer. While not instantaneous, Type EM corrects faster than most other automatic voltage regulators. Highly efficient in operation, it finds widest application in controlling large industrial loads and also in electronic equipment where zero waveform distortion is essential. Features include: complete insensitivity to the magnitude and power factor of the load, no effect on system power factor, no critical adjustments and adjustable output voltage.

RATINGS TYPE EM

NOMINAL OUTPUT VOLTAGE	INPUT VOLTAGE RANGE	OUTPUT VOLTAGE RANGE	OUTPUT CURRENT (AMPERES)	OUTPUT KVA	TYPE
SINGLE PHASE					
115	95-135	110-120	17.5	2.0	EM4102
			17.5	2.0	EM4102R
			52.0	6.0	EM4106
			130.0	15.0	EM4116
230	195-255	220-240	32.5	7.5	EM4207
			120.0	27.5	EM4228
460	400-520	420-460	15.0	6.6	EM4407
			40.0	17.6	EM4418
THREE PHASE					
230	195-255	220-240	25.0	10.0	EM6210Y
			38.0	15.0	EM6215Y
			50.0	20.0	EM6220Y
			113.0	45.0	EM6245Y
			175.0	70.0	EM6270D
460	400-520	420-460	16.0	12.5	EM6412Y
			22.0	17.5	EM6417Y
			33.0	25.0	EM6425Y
			66.0	50.0	EM6450Y
			100.0	75.0	EM6475Y
	420-500	420-460	131.0	100.0	EM64100Y

TYPE TM (Tubeless Magnetic)



TYPE TM7105

Type TM has no moving parts. It has no tubes to replace and no transistors. It is ideal for unattended locations where maintenance is not a possibility over long periods of time and for critical applications where failure at any time under the most adverse operating conditions cannot be tolerated.

RATINGS TYPE TM

NOMINAL OUTPUT VOLTAGE	INPUT VOLTAGE RANGE	OUTPUT VOLTAGE RANGE	FREQ'Y (CYCLES)	LOAD POWER FACTOR	MAX. OUTPUT KVA	MOUNTING	TYPE
115	95-135	110-120	55-65	.5	1.0	Rack	TM7101R
115	95-135	110-120	55-65	lagging	1.0	Cabinet	TM7101
115	95-135	110-120	57-63	to 1.0	5.0	Rack or Wall	TM7105

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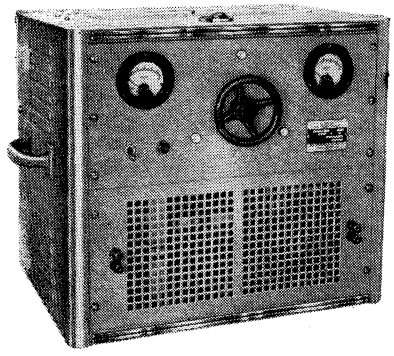
VOLTAGE CONTROL EQUIPMENT

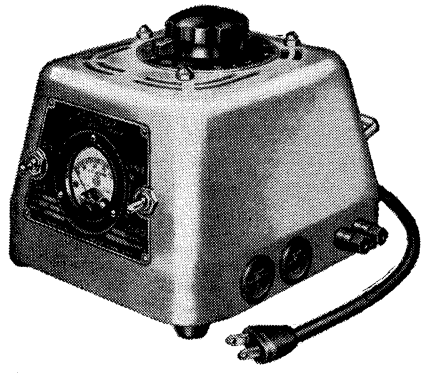
VARICELL D-C POWER SUPPLIES



A VARIABLE RANGE OF STABILIZED AND REGULATED D-C VOLTAGES FROM AN A-C SOURCE

The ideal source of low d-c voltages, the VARICELL is simply plugged into any convenient, single phase a-c outlet supplying a nominal 115 volts at 60 cycles and it is ready to operate. Turning the handwheel provides any desired output voltage from 0-30 volts. Its load rating is 15 amperes. Any setting from 6 to 30 volts is unaffected by changes in line or load current. For any setting from 6 to 30 volts, R.M.S. ripple voltage never exceeds 0.1 volts, and stabilization and regulation is ± 0.25 volts.

VOLTBOX A-C POWER SUPPLIES

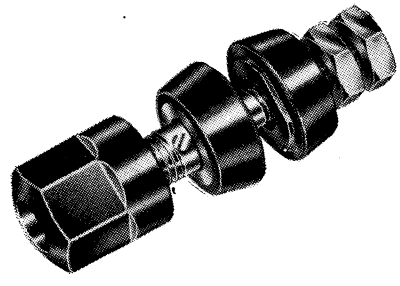


A COMPACT, PORTABLE SOURCE OF VARIABLE A-C VOLTAGE

This is a handy instrument widely used in chemical, physical, electrical and other laboratories and in inspection, testing and plant maintenance departments. It eliminates the need for collecting a variable transformer, voltmeter and connection leads when tests involve variable a-c voltages. All necessary components are housed in a compact case. By turning the "On-Off" switch to "On"; snapping the line-load switch to "Load" and rotating the knob; the desired voltage is available. Ratings to meet every requirement.

INPUT VOLTAGE	OUTPUT VOLTAGE	MAX. OUTPUT AMPERES	FREQ'Y	PHASE	TYPE	APPROX. WEIGHT (LBS.) NET	SHIPP.
120	0-140	7.5	50/60	1	**UC1M**	14	17
120	0-140	15.0	50/60	1	**U-2000**	65	105
240	0-280	3.0	50/60	1	**UC2M**	14	17
240	0-280	9.0	50/60	1	**U-2400**	69	110

SUPERIOR 5-WAY BINDING POSTS



ADDED VERSATILITY...SAFE, POSITIVE CONNECTIONS

This versatile binding post offers five different methods of connection . . . permanent clamping, spade lug, clip-lead, banana plug, or looping and clamping. Ruggedly built of the finest materials it provides complete insulation, a current capacity of 30 amperes and a working voltage of 1,000 volts. Five available colors, red, black, green, yellow and white, provide circuit identification where required.

THE SUPERIOR ELECTRIC COMPANY
BRISTOL, CONNECTICUT

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SANGAMO GENERATORS, INC.

ELEVENTH & CONVERSE STREETS • SPRINGFIELD, ILLINOIS

DYNAMOTORS · CONVERTERS

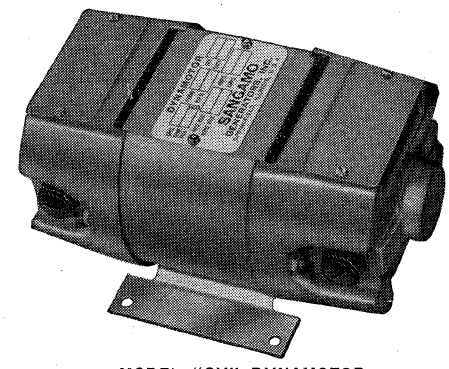
SANGAMO DYNAMOTORS

The SANGAMO Model "GY-25" is especially designed and built for Mobile Transmitter applications, intermittent duty.

INPUT Volts	INPUT Amps.	OUTPUT Volts	OUTPUT MA	Watts	Approx. Effic.	App. Reg.
5.6	24	400	200	80	60%	17%
5.6	31	620	170	105	61%	20%
6.0	40	400	375	150	63%	25%
11.5	30	630	375	237	68%	20%
12	28	600	400	240	70%	21%
11.5	31	600	400	240	67%	19%

Prices upon request. Submit your special requirements to our engineers.

Also supplied for 14, 28, or 32 Volt input.
For continuous duty applications, Models GY-12, GY-17 and GY-25 cover wattage ratings from 20 to 300 Watts. Input voltages 6, 12, 24, 32 or 115.
GY-12: Length 5 13/16", Height 3 1/2", Weight 5 1/2 lbs.
GY-17: Length 6 5/16", Height 3 1/2", Weight 7 1/4 lbs.
GY-25: Length 7 1/16", Height 3 1/2", Weight 8 1/2 lbs.
GY Models have steel mounting bases.



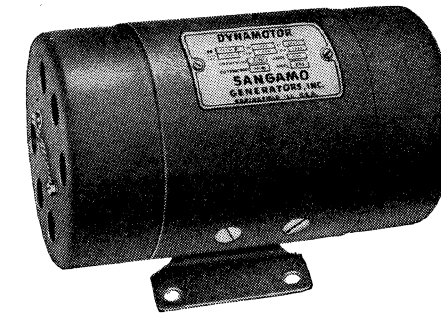
MODEL "GY" DYNAMOTOR

SANGAMO AIRCRAFT DYNAMOTORS

Frame Size	INPUT Volts	INPUT Amps.	OUTPUT Volts	OUTPUT MA	Length	Diam.	Weight Lbs.
SJF-14	27.5	1.5	250	50	5"	2 1/2"	2
SP-12	12	4.0	250	100	6"	3 1/2"	4 3/4
SP-17	12	5.2	300	125	6 1/2"	3 1/2"	5 5/8
SP-22	12	6.4	400	125	7"	3 1/2"	6 1/2
SF-20	12	8.4	400	150	6 3/4"	4"	8 1/2
SF-25	12	10.	500	150	7 1/4"	4"	9 3/4

Prices upon request. Submit your special requirements to our engineers.

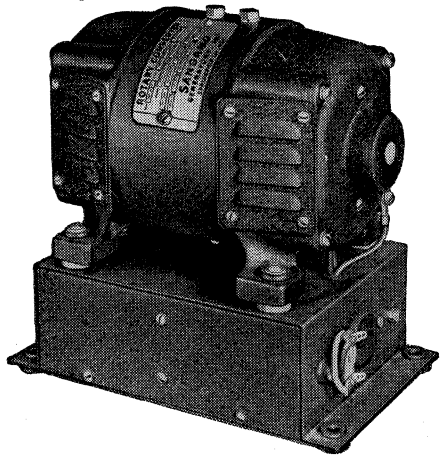
Above ratings are continuous duty with temperature of 40°C.
Also supplied for 6, 14, 24, 28, or 32 Volt input. "SP" and "SF" dynamotors may be supplied in fan-ventilated construction as types "SPF" and "SFF". Prices upon request.



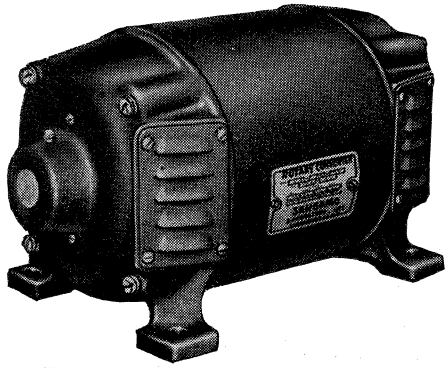
MODEL "SF" DYNAMOTOR

SANGAMO TWINVOLT FLATPAK DYNAMOTORS

INPUT Volts	INPUT Amps.	OUTPUT Volts	OUTPUT Milli-amps	Watts	DUTY	CODE No.	DYNAMOTOR Length	Width (Base)	Height	Net Wt. Lbs.
6/12	32/16	420	280	118	INT	57507	7 13/16"	4 3/4"	3 1/2"	9 3/4
6/12	50/25	600	300	180	INT	57506	7 13/16"	4 3/4"	3 1/2"	9 3/4
5.6/11.2	24/12	400	200	80	INT	57476	7 13/16"	4 3/4"	3 1/2"	9 3/4



MODEL "AK" CONVERTER (With Filter)



MODEL "BK" CONVERTER (Less Filter)

SANGAMO ROTARY CONVERTERS

TYPE "K" 3600 RPM Rated Output 115V AC 60 cycles 1 phase 0.90 p.f.

Model No.	Frame Size	Input Volts	Amps.	Output VA at 0.90 pf	Net Weights with Filter	Net Weights Less Filter	List Prices with Filter	List Prices Less Filter
6K11	AK-15	6	36	110	30	24	$175.60	$154.90
12K11	AK-15	12	18	110	30	24	175.60	154.90
12K16	AK-25	12	24	160	35	29	190.00	168.10
12K30	BK-22	12	39	300	48	43	226.20	182.50
24K11	AK-15	24	9	110	30	24	175.60	154.90
24K30	AK-25	24	19.4	300	48	43	226.20	182.50
24K50	BK-35	24	30.4	500	56	51	266.95	223.25
28K50	BK-35	28	26.6	500	56	51	266.95	223.25
28K65	CK-35	28	35.0	650	79	74	383.65	326.95
3K11	AK-15	32	6.2	110	30	24	164.10	144.80
3K20	AK-25	32	10.4	200	35	29	177.55	157.10
3K30	BK-22	32	14.5	300	48	43	211.40	170.55
3K50	BK-35	32	22.0	500	56	51	249.45	208.60
4K11	AK-15	48	4.4	110	30	24	175.60	154.90
4K20	AK-25	48	7.0	200	35	29	190.00	168.10
4K30	BK-22	48	9.7	300	48	43	226.20	182.50
4K50	BK-35	48	15.2	500	56	51	266.95	223.25
4K75	CK-35	48	22.7	750	79	74	383.65	326.95
1K11	AK-15	115	1.8	110	30	24	164.10	144.80
1K20	AK-25	115	3.0	200	35	29	177.55	157.10
1K30	BK-22	115	4.2	300	48	43	211.40	170.55
1K50	BK-35	115	6.6	500	56	51	249.45	208.60
1K75	CK-35	115	9.4	750	79	74	358.60	305.55
1K100	CK-35	115	12.4	1000	79	74	430.55	375.00
1K125	CK-45	115	15.4	1250	87	80	488.05	430.90
2K11	AK-15	230	.9	110	30	24	169.00	149.10
2K20	AK-25	230	1.5	200	35	29	182.90	161.80
2K30	BK-22	230	2.1	300	48	43	217.70	175.65
2K50	BK-35	230	3.3	500	56	51	256.90	214.90
2K75	CK-35	230	4.7	750	79	74	369.35	314.75
2K100	CK-35	230	6.2	1000	79	74	443.45	386.30

Ball Bearings and Filters are standard on all models. Unless ordered otherwise Converters are furnished with filter. Can be furnished with Marine Type Filter, 230V AC output, automatic frequency control, manual frequency control, 28, 48 or 64 volt input, 50 cycle output, other ratings not listed above. Prices and delivery on request.

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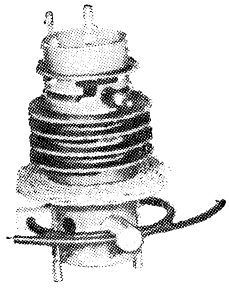
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

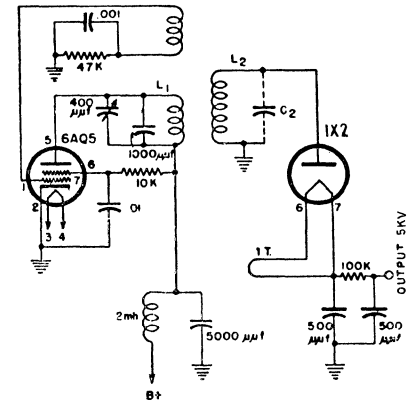
SPELLMAN HIGH VOLTAGE STEP-UP COILS

RF TYPE

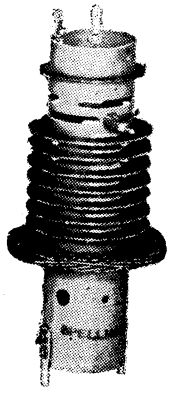
5 KV



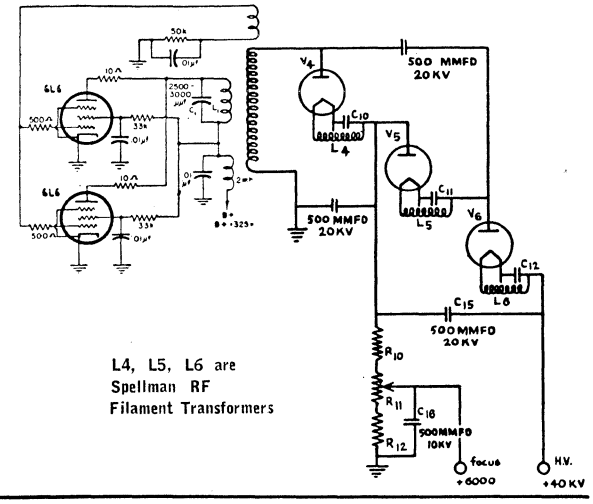
Secondary Height ..... 3½″
Secondary Windings ..... 1¾″
Consisting of 4 Pie Windings
Primary Diameter ..... 2¼″
Secondary Voltage Output.....5 KV
Secondary Current.....2 Milliamperes
Approx. Frequency.....300 KC
$4.80 Net



10-15 KV

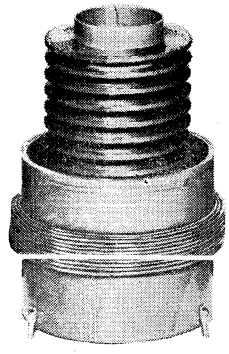


Secondary Height ..... 5¼″
Secondary Windings ..... 1¾″
Consisting of 7 Pie Windings
Diameter ..... 2½″
Secondary Voltage Output....10-15 KV
Secondary Current.....2 Milliamperes
Approx. Frequency.....175 KC
$12.00 Net



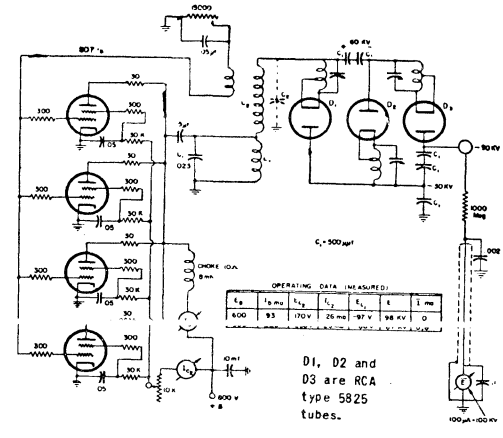
L4, L5, L6 are Spellman RF Filament Transformers

35 KV



Secondary Height ..... 7″
Secondary Windings .....3″ dia.
Consisting of 10 Pie Windings
Primary.....(separate from secondary)
Height ..... 4″
Diameter ..... 4¼″
Secondary Voltage Output.....35 KV
Secondary Current.....5 Milliamperes
Approx. Frequency.....70 KC
$42.00 Net

25KV—Same as 35 KV except
Secondary Height ..... 6″
$36.00 Net



D1, D2 and D3 are RCA type 5825 tubes.

RF FILAMENT TRANSFORMERS

A self-resonant auto transformer for use with type 1B3 Rectifier tube. Complete with instructions.
Will operate with Spellman HV coils.....$1.50
TUNING PADDER for Filament Transformer..... 0.58

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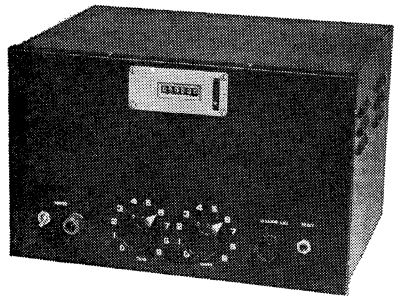
Net

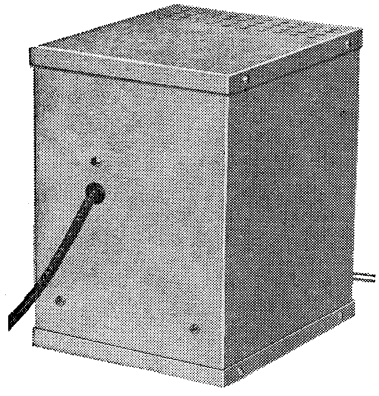
SPELLMAN HIGH VOLTAGE POWER SUPPLIES



MODEL 99
ELECTRONIC BATCH COUNTER

For use in production line predetermined counting in the range of 0 to 99 counts. Will count speeds up to 4000 per second. Unit incorporates on front panel a mechanical indicator which is limited to counts of 1000 per minute and shows batch counts up to 999,999. Unit also has spacing adjustment control on front panel which will control internal relay or external relays and solenoids with delays up to 60 seconds. Relay in unit has two sets of SPST contacts; one set normally open and one set normally closed.

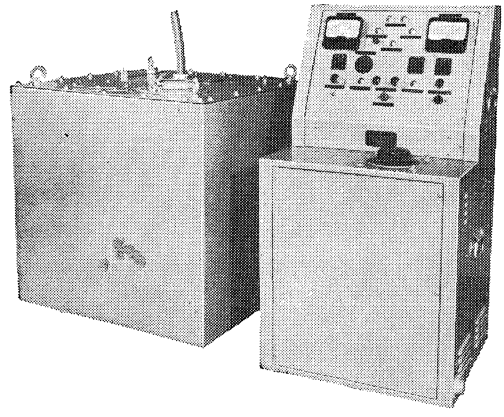
Send for Full Technical Information



MODEL 7512
7½ KV POWER SUPPLY

Model 7512 is an RF type power supply with a voltage output of approx. 7.5 to 12 KV. 1 ma. of current may be drawn throughout the voltage range. To obtain an output voltage of 7.5 KV at 1 ma., low voltage input requirement is 300 V DC at 50 ma. By varying the DC input, the output voltage can be increased. Maximum input voltage of 425 V at 100 ma. will give an output of 12 KV at 1 ma. 5¾″ W., 8¼″ H., 6¾″ D.

Net Price **$42.50**



MODEL 100
TWO SECTION 100,000 VOLT DC POWER SUPPLY

This constant duty supply is constructed in accordance with the highest electrical standards.

SAFETY FEATURES:

- Automatic output voltage starting mechanism that reduces the output voltage to zero.
- Zero start interlock ensuring zero output voltage upon initial application of high voltage to load.
- Series resistance in output circuit, limiting initial short circuit surges available from power supply.
- Automatic high voltage cut-off in the event of any external arcing.
- Unit incorporates many other safety and protective features not listed.

Send for Full Engineering Specifications

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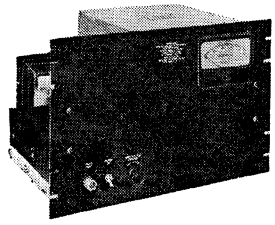
SPELLMAN HIGH VOLTAGE POWER SUPPLIES

RF TYPE

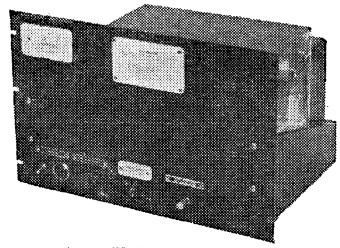


MODEL 2040

40 KV DC POWER SUPPLY

A ruggedly built power supply which is in constant use in laboratories and industrial plants throughout the world for condenser charging, electrostatic spraying and stress testing, etc. Nothing finer available at five times the price. Designed for constant use and will stand severe abuse. Available with either positive or negative 40 KV output. Voltage range of approx. 15 to 40 KV. The 15 to 40 KV variance in voltage is controlled through a knob on the front panel. If required for TV use, a voltage output of approx. 4 to 6 KV is available through a tap. Voltages supplied through a 4 ft. HV Safety Cable. 19½" wide x 12¼" high x 13" deep.

Specify desired polarity when ordering.....$136.90 Net
With HV meter installed in front panel.....$50 additional



MODEL LAB-30PN

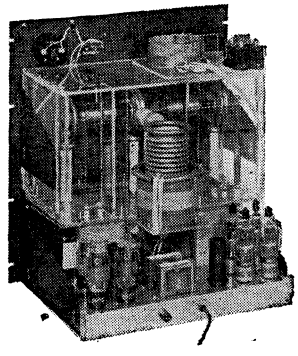
REVERSIBLE POLARITY
Continuously Variable 1 to 30 KV

Regulated DC Power Supply with regulations of 0.5% at 1 milliampere. Although rated at 1 ma., this unit is capable of 2 ma. operation within regulation specifications. This 16 tube unit is of the RF type consisting of a separate oscillator and buffer feeding the power oscillator into a doubler rectifier. Regulations accomplished through feed-back into a DC amplifier plus simultaneous output control of the buffer. Polarity reversible from front panel. Standard Rack Model—19" wide x 12" high x 13" deep. Standard Bench Model—21" wide x 14" high x 15" deep

With Meter $670 Net — Less Meter $595 Net

MODEL LAB-30 is a positive polarity output regulated High Voltage DC Power Supply with same electrical characteristics and dimensions as the LAB-30PN. Available in either positive or negative polarity.

With Meter $570 Net — Less Meter $495 Net

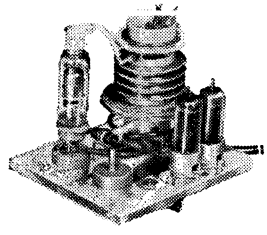


MODEL PN-60

REVERSIBLE POLARITY RF DC POWER SUPPLY

Polarity changes made on front panel. Continuously variable from 0 KV to 60 KV. Current output 1 milliampere at 60 KV. Overall dimensions 22½" x 21" x 15". Ideal for electrostatic paint spraying, capacitor charging and testing as well as many other uses.

PN-60 Complete with Meter
$675.00 Net



MODEL 4575

4½ KV POWER SUPPLY

This compact, well designed, ruggedly built DC supply utilizes two 6AQ5 tubes as a parallel oscillator feeding a 1X2 rectifier tube. For an output voltage of 4½ KV DC at 1 milliampere, the low voltage input requirement is 250 V at 50 milliamperes. By varying the DC input the output voltage can be varied from approx. 1 KV to 7½ KV. Dimensions: 5⅝" high x 5" deep x 4¼" wide. In completely enclosed metal housing (not shown). Less low voltage DC supply .....$32.50 Net

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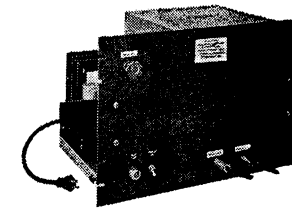
MODEL PN-30R

REVERSIBLE POLARITY
Continuously Variable 1-30 KV
Unregulated DC Power Supply



A light, compact unit in wide use for insulation testing, precipators and laboratory research. Polarity reversible from front panel. Current output — approx. 2 milliamperes at 20 KV; 250 microamperes at 30 KV. Input — 110V AC 60 cycles. Dimensions: 19" x 12¼" x 13" .....$205 Net

With meter installed on front panel.....$50 additional

MODEL LAB-40

Continuously Variable Regulated 25 to 40KV DC Power Supply

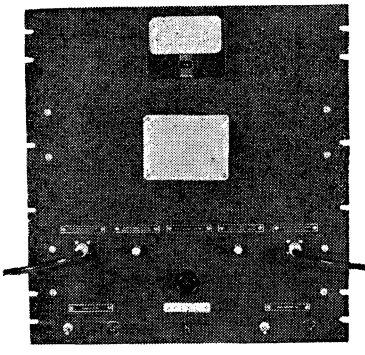
Unit has a 4 to 6 KV focus tap for use with flying spot kinescope recording tubes, etc. Regulations of 0.5% at 1 milliampere. Available either with locking controls or standard knob.

19½" wide x 12¼" high x 15" deep.

With Meter $620 Net — Less Meter $545 Net

MODEL LAB-60 RF TYPE

Continuously Variable 0-60 KV DC Regulated Power Supply



Current output 1 ma. at 60 KV, 2 ma. may be drawn from 50 KV to 0. Supplied with either positive polarity or negative polarity output. Regulation stability—1% at 1 ma. 21¾" wide x 22¾" high x 15¼" deep.

LAB-60 Complete with meter .....$695.00 Net
LAB-60 PN Reversible polarity model of above .....$745.00 Net

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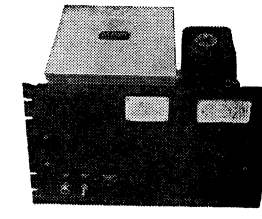
MODEL RG-30 —Continuously Variable 15-30 KV Regulated DC Power Supply with regulated focus



A high grade supply which incorporates a voltage tap in the range of 4 to 6 KV for use with 5WP15, 5TP4 and flying spot tubes. Regulations better than .5% at 1 milliampere. In wide use for color tube development work, transcription recording systems. Power supply also available with focus and convergence voltage taps for RCA Tri-Color tubes at slight additional cost. This model can be adjusted for 40 KV output at .5 milliampere for new 40 KV projection tubes.

19½" wide x 12¼" high x 13" deep .....$295 Net
With meter installed on front panel .....$345 Net

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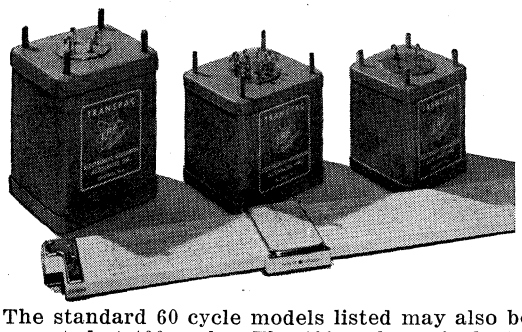
ELECTRONIC RESEARCH ASSOCIATES, INC.

NUTLEY, NEW JERSEY



The standard 60 cycle models listed may also be operated at 400 cycles. The 400 cycle equivalents, however, are smaller and lighter for the same power rating.

TRANSPACS®

Miniaturized Power Packs for Transistor, Vacuum Tube, and Standard Applications

SAVE SPACE, WIRING, AND WEIGHT

Tubeless, miniaturized, self-contained, AC operated DC power packs. Wired into circuits TRANSPAC supplies a rugged, reliable source of DC power for miniature or standard size electronic devices. Design features include line isolation, rectification using semi-conductor diodes, use of selenium, gas, or transistor amplifier regulators (dependent on model type) and high efficiency filtering. All units are in transformer type housings and specially potted to resist shock and vibration.

STANDARD MODEL TRANSPACS

LOW VOLTAGE TRANSPACS

Ideal for Magnetic Amplifier references, transistor and vacuum tube bias, and all types of regulated low voltage applications. Line and load regulated. Input 105-125 volts, 60 or 400 cycles. Input regulation better than ±2%. Output regulation better than ±2%. Ripple less than 0.2%.

Model No.	Output Volts	Current Ma-Max	Case Size 60 cps	Case Size 400 cps	Weight, Lbs. 60 cps	Weight, Lbs. 400 cps	Net Price 60 cps	Net Price 400 cps
CV5	5	15	B	A	1.2	0.7	$35.00	$40.00
CV10	10	15	B	A	1.2	0.7	35.00	40.00
CV15	15	15	B	A	1.2	0.7	35.00	40.00
CV20	20	15	B	A	1.2	0.7	40.00	45.00
CV25	25	15	B	A	1.2	0.7	40.00	45.00
CV30	30	15	B	A	1.2	0.7	40.00	45.00
CV40	40	15	B	A	1.3	0.7	40.00	45.00
CV50	50	15	B	A	1.3	0.7	40.00	45.00
CV60	60	15	B	A	1.3	0.7	40.00	45.00

UNREGULATED TRANSPACS

For general tube and transistor application. Input 115 volts 60 or 400 cycles. Low internal impedance. Ripple less than 0.5%.

Model No.	Output Volts	Current Ma-Max	Case Size 60 cps	Case Size 400 cps	Weight, Lbs. 60 cps	Weight, Lbs. 400 cps	Net Price 60 cps	Net Price 400 cps
V5	5	50	B	A	1.2	0.9	$28.00	$35.00
V10	10	50	B	A	1.3	0.9	28.00	35.00
V20	20	50	B	A	1.3	0.9	28.00	35.00
V30	30	50	B	A	1.3	0.9	28.00	35.00
V60	60	50	B	A	1.3	1.0	30.00	40.00
V135	135	50	C	B	2.0	1.3	35.00	40.00
V135-2	135	75	C	B	2.1	1.3	45.00	55.00
V150	150	70	C	B	2.2	1.3	40.00	50.00
V250	250	70	E	C	3.5	1.5	40.00	50.00
V300	300	100	E	C	5.0	1.5	50.00	60.00
V350	350	100	E	D	5.0	3.5	50.00	60.00
V500	500	1.0	C	B	3.5	1.5	40.00	50.00
V1K5	1500	1.0	F	D	5.7	4.2	55.00	65.00
V2K4	2400	1.5	F	D	6.0	4.3	65.00	75.00

CONSTANT VOLTAGE TRANSPACS

For general tube and transistor applications. Input 105-125 volts, 60 or 400 cycles. Line and load regulated. Input regulation better than ±1%. Output regulation better than ±1%. Ripple less than 0.1%.

Model No.	Output Volts*	Current Ma-Max	Case Size 60 cps	Case Size 400 cps	Weight, Lbs. 60 cps	Weight, Lbs. 400 cps	Net Price 60 cps	Net Price 400 cps
CV75	75	20	C	—	1.5	—	$30.00	$ .....
CV105	105	20	B	A	1.3	0.8	30.00	35.00
CV150**	150	20	B	A	1.3	0.8	35.00	40.00
CV150-2**	150	40	D	C	2.0	1.3	45.00	55.00
CV180	180	20	D	—	2.0	—	40.00	.....
CV210**	210	20	C	B	2.0	1.6	40.00	45.00
CV250**	250	20	C	B	2.0	1.3	40.00	45.00
CV250-2**	250	40	E	D	2.7	1.8	50.00	60.00
CV300**	300	20	D	B	2.0	1.6	40.00	45.00
CV350**	350	20	D	C	2.7	1.3	45.00	50.00
CV450**	450	20	E	D	4.5	2.0	55.00	60.00
CV600**	600	5	D	C	4.5	2.0	60.00	65.00
CV750**	750	5	E	D	4.5	2.0	60.00	65.00
CV900**	900	5	E	D	4.5	2.0	60.00	65.00

DUAL OUTPUT TRANSPACS

For AC operated transistor equipment. Supplies constant current emitter bias and regulated collector bias. Input 105-125 VAC, 60 or 400 cycles. Input regulation better than ±1%. Emitter internal impedance greater than 20,000 ohms. Ripple less than 0.2%. PNP or NPN (Specify type desired).

Model No.	Emitter Volts	Collector Ma-Max	Case Size 60 cps	Case Size 400 cps	Weight, Lbs. 60 cps	Weight, Lbs. 400 cps	Net Price 60 cps	Net Price 400 cps
DU1	2	5	AB	AA	0.6	0.5	$36.00	$45.00
DU2	3	10	AB	AA	0.6	0.5	36.00	45.00
DU3	5	20	A	AB	1.1	0.6	40.00	50.00
DU3V*	5	0-20	A	AB	1.1	0.6	45.00	55.00

*Variable, screwdriver adjustment.

CONSTANT CURRENT TRANSPACS

For transistor, solenoid, electro-chemical, medical research, and general applications. Input 105-125 volts, 60 or 400 cycles. Line and load regulated. Input regulation better than ±1%. Internal impedance approx. 250,000 ohms or greater. Ripple less than 0.1%.

Model No.	Output Volts	Current Ma-Max	Case Size 60 cps	Case Size 400 cps	Weight, Lbs. 60 cps	Weight, Lbs. 400 cps	Net Price 60 cps	Net Price 400 cps
CC1	—	1	A	AB	1.2	0.7	$26.00	$35.00
CC2	—	2	A	AB	1.2	0.7	28.00	35.00
CC5	—	5	B	A	1.3	1.2	30.00	35.00
CC10*	—	10	C	B	2.0	1.3	45.00	55.00
CC15**	—	0.5 to 5.0	B	A	1.4	1.2	30.00	35.00
CCP54**	—	0.25 to 2.0	B	A	1.3	1.2	26.00	35.00

*50,000 ohms internal impedance. **Multi-tap designs.

HIGH AMPERAGE TRANSPACS

For high power transistors, DC filament, solenoid and high amperage applications. Input 115 volts, 60 or 400 cycles. Ripple less than 5%. High voltage insulation greater than 2000 volts to case.

Model No.	Output Volts	Current Amps-Max	Case Size 60 cps	Case Size 400 cps	Weight, Lbs. 60 cps	Weight, Lbs. 400 cps	Net Price 60 cps	Net Price 400 cps
F2	2.5	3	F	C	7.0	2.0	$48.00	$55.00
F5	5.0	3	F	D	7.0	3.5	48.00	55.00
F6	6.3	3	F	D	7.0	3.5	48.00	55.00
F7	7.5	3	F	D	7.0	3.5	48.00	55.00
F10	10.0	3	F	D	7.0	3.5	48.00	55.00
F12	12.6	2	F	D	5.5	3.0	50.00	60.00
F25	25.2	1	F	D	6.5	3.4	50.00	60.00

TRANSISTORIZED REGULATED TRANSPACS

For all tube and transistor applications. Input 105-125 VAC, 60 or 400 cps. Uses transistor regulator. Input regulation better than 0.5%. Output regulation better than 0.5%. Ripple less than 0.05%.

Model No.	Output Volts	Current Ma-Max	Case Size 60 cps	Case Size 400 cps	Weight, Lbs. 60 cps	Weight, Lbs. 400 cps	Net Price 60 cps	Net Price 400 cps
TR5	5	200	C	—	1.5	—	$60.00	$ .....
TR10	10	200	C	—	1.5	—	60.00	.....
TR20	20	200	C	—	1.5	—	60.00	.....
TR30	30	150	D	C	2.7	1.7	65.00	75.00
TR40	40	150	D	C	2.7	1.7	65.00	75.00
TR50	50	150	D	C	2.7	1.7	65.00	75.00
TR100	100	100	E	D	4.5	2.7	80.00	90.00
TR150	150	100	E	D	4.5	2.7	80.00	90.00
TR200	200	100	F	E	5.7	4.5	95.00	105.00
TR300	300	100	F	E	5.9	4.5	95.00	105.00

CASE SIZES (Inches) W x D x H

AA	1¼ x 1¼ x 1¾	A	2⅛ x 2⅛ x 2¾	C	2¾ x 2⅜ x 3¾
AB	1½ x 1½ x 2⅜	B	2¾ x 2⅜ x 2¾	D	2⅝ x 3 x 4¼
				E	3 x 3½ x 3¾
				F	3⅞ x 3⅞ x 4⅞

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ELECTRONIC RESEARCH ASSOCIATES, INC.

NUTLEY, NEW JERSEY

TRANSISTORIZED REGULATED DC POWER SUPPLIES

ADJUSTABLE VOLTAGE, LABORATORY AND INDUSTRIAL TYPES

Types listed are intended for 105-125 VAC input, 60 cps. DC output is continuously adjustable zero-max. Line regulation is better than 0.5%. Load regulation is better than 0.5% or 4.0 ohms. Ripple less than 0.02%. Models numbered 100T and above include a 6.3 VAC, 2 amp. output.

Model No.	Voltage Range VDC	Current NA - MAX.	Size Inches	Price FOB Plant
50T	0-50	150	3½ x 6⅜ x 7	$110.00
50TM	0-50	150	3½ x 9½ x 7	125.00
100T	0-150	100	3½ x 6⅜ x 7	125.00
100TM	0-150	100	3½ x 9½ x 7	135.00
101T	0-300	100	3½ x 9½ x 8	170.00
101TM	0-300	100	3½ x 9½ x 8	185.00
200T	0-150	200	3½ x 9½ x 7	155.00
200TM	0-150	200	3½ x 9½ x 7	170.00
201T	0-300	200	3½ x 9½ x 9	220.00
201TM	0-300	200	3½ x 9½ x 9	235.00

Models designated "TM" incorporate voltage metering.

FIXED VOLTAGE, MINIATURIZED TYPES

Units listed are fixed voltage miniaturized TRANSPAC types. Input 105-125 VAC, 60 or 400 cycles. Input regulation better than 0.5%. Output regulation better than 0.5%. Ripple less than 0.05%.

TR5	5	200	2¼ x 2½ x 3¾	$60.00
TR10	10	200	2¼ x 2½ x 3¾	60.00
TR20	20	200	2¼ x 2½ x 3¾	60.00
TR30	30	150	2½ x 3 x 4¼	65.00
TR40	40	150	2½ x 3 x 4¼	65.00
TR50	50	150	2½ x 3 x 4¼	65.00
TR100	100	100	3 x 3½ x 4¾	80.00
TR150	150	100	3 x 3½ x 4¾	80.00
TR200	200	100	3¼ x 4 x 5¼	95.00
TR300	300	100	3¼ x 4 x 5¼	95.00

**Nominal Voltage, Specified within 5%

TUBELESS REGULATED DC/AC POWER SUPPLIES

TUBELESS GENERAL PURPOSE SUPPLY
MODEL 312

Specifications

Input..... 100-125 VA, 60 cps.
Output Voltage..... 0-3/30/300v DC or 0-130v AC variable
Output Current..... 250 ma DC or 1.0 amp. AC
Line Regulation..... ±0.5% change in output for 100-125v input
Internal Impedance..... DC, 10/15/75 ohms, AC (60 cps) 10 ohms
Ripple..... Less than 0.05% for DC output
Filament..... 6.3v AC @ 3 amps, line regulated
Size..... Bench and Rack mounting, 8¾" Panel

Other Models Same as Above Except as Follows:

Model 312H

Output Current..... 1 amp DC on 0-3/30 volt range
Internal Impedance..... DC Impedance, 2/4/75 ohms

Model 312..... **Price $235**
Model 312M (metered)..... **Price $270**
Model 312H..... **Price $265**
Model 312MH (metered)..... **Price $290**

TUBELESS HIGH CURRENT SUPPLY
MODEL 30

Specifications

Input..... 100-125 VAC, 60 cps.
Output Voltage..... 0-30 volts DC or 0-130 volts AC
Output Current..... 1.5 amperes max., 30 va capacity
Line Regulation..... ±1% change in output for 100-125 v input
Load Regulation..... Internal DC impedance less than 3 ohms
Ripple..... Less than 1% for DC output
Size..... Hardwood Cabinet, 8" x 11" sloping panel

Model 30..... **Price $135**
Model 30M (metered)..... **Price $155**

TUBELESS DUAL TRANSISTOR SUPPLY
MODEL 110

Specifications

Input..... 95-125 VAC, 60 cps
Dual Voltage Outputs..... #1, 0-1/10/100 VDC, #2, 0-100 VDC
Current (Max.)..... Either Output, 100 MA
Ripple..... Less than 0.01%
Regulation (Input)..... ±1% change in output for 95-125 VAC
Internal Impedance (DC).. Constant Voltage, 13/20/100 ohms, max.
Size..... 10" Rack and Bench Mounting, Panel 5¼"

Other Models Same as Above Except as Follows:

Model 110D..... Output #2, 0-1/10/100 VDC
Model 110C..... Additional Constant Current Output Dual 0-5 MA, 20,000 ohms impedance

Model 110..... **Price $175**
Model 110M (metered)..... **Price $225**
Model 110D..... **Price $185**
Model 110DM (metered)..... **Price $245**

Constant Current Models: 110C, 110MC, 110DC, 110DMC, Add $15 to above prices. All Prices F.O.B. Nutley, N. J.

TRANSISTOR TEST EQUIPMENT

TRANSISTOR COMPARISON TESTER

Compares a reference unit or equivalent circuit with the transistor under test and yields comparative measurements of re, rb, rc, gain, and stability characteristics.

Specifications

Types of Tests..... Bridge Comparison with Standard
Tests Performed..... Forward Diode (re+rb), Amplification (= α) Reverse Diode (rc+rb), Stability (Oscillation)
Sweep Voltage..... 120 cps
DC Bias..... NPN or PNP; I, 0-10 ma; E, 0-100 v
Indicating Meter..... 4½" meter reads bias and deviation
Size..... Hardwood Cabinet 8" x 11" sloping panel

Model TT11A..... **Price $279**

AUTOMATIC TRANSISTOR NF METER

Automatically measures Noise Figure of all types of transistors and transistor amplifiers on a continuous reading basis.

Specifications

Noise Figure Range..... 5 to 65 db
Measurement Freq..... 1000 cps center F.†
Type of Reading..... Direct Reading
Input Circuit..... 500 ohm emitter R.
Emitter Supply..... Ie, 0-1.0/10MA
Collector Supply..... Ec, 0-10/100 volts
Indicating Meters..... 4½" meters
Hardwood Case, 8¾" x 19" Panel, 14" Depth
† Other Frequencies on Special Order

Model NFT..... **Price $675**

Also Available: Noise Figure Calibrator—Supplies Reference Noise Figures values for calibration and reference. Noise Figure Range 5-60 db in 5 db steps. **Model NFC-1A**..... **Price $275**

TRANSISTOR ALPHA TESTER

Gives direct reading of the dynamic values of α, β, for all types of transistors, as a function of emitter and collector bias. Also, tests for α cut-off and value of α at high frequencies.

Specifications

Alpha Range..... 0-0.99 (β, 0-100)
Accuracy..... 5%, full scale
Alpha Frequency..... Internal, 240 cps. External Osc. 5 mc max.
Alpha Cut-off Range..... 5 mc max. (External Osc.)
DC Bias..... NPN or PNP; Ie, 0-10 ma; Ec, 0-100 volts
Indicating Meter..... 4¼" meter reads Alpha, DC bias
Size..... Hardwood Cabinet, 8" x 11" sloping panel

Model AT10..... **Price $325**

TRANSISTOR APPLICATION POWER SUPPLIES

TRANSISTOR LABORATORY SUPPLY
MODEL 210

Specifications

Input..... 95-125 VAC, 60 cps
Line Regulation..... ±1% change in output for 95-125 VAC
Dual Voltage Outputs..... #1, 0-1/10/100 VDC; #2, 0-100 VDC
Current (Max.)..... Either output 100 MA
Internal Impedance (DC).. 13/20/100 ohms max.
Dual Current Outputs..... #3, 2-30 MA; #4, 2-30 MA
Current Regulation..... Within ±1% for output 0-150 VDC
Ripple..... Less than 0.05%
Size..... 19" Rack and Bench Mounting, Panel 8¾"

Model 210H Same as above except as follows:

Dual Voltage Outputs..... #1, 0-30 VDC; #2, 0-30 VDC
Current (Max.)..... Either output 1.5 amps.
Internal Impedance (DC)... Less than 3 ohms

Model 210..... **Price $315**
Model 210H..... **Price $360**

All Models Dual Metered

TUBELESS DUAL TRANSISTOR SUPPLY
MODEL 310

Specifications

Input..... 100-125 VAC, 60 cps
Dual Volt. Outputs.... #1, 0-30 VDC, #2, 0-30 VDC
Current (Max.)..... Either output 1.5 amperes
Ripple..... Less than 0.05%
Regulation (Input)... ±1% change in output for 100-125 volts input
Intern. Imped. (DC).. Less than 3 ohms
Shunt Imped. (AC)... Less than 0.02 ohms at 60 cps
Size..... 19" Bench and Rack mounting, 8¾" Panel

Model 310..... **Price $265**
Model 310M (metered)..... **Price $305**

CONSTANT CURRENT GENERATOR
MODEL CC250

Specifications

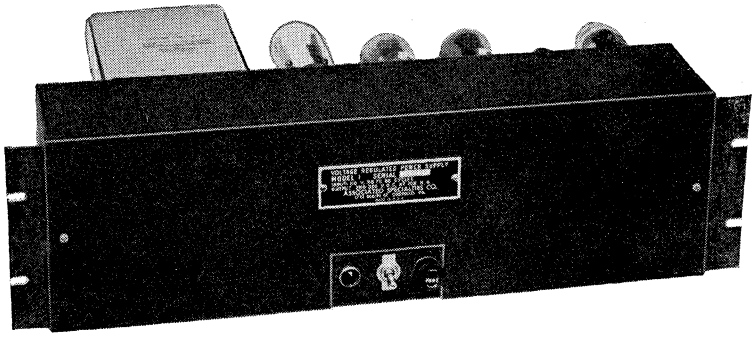
Input..... 100-125 VAC, 60 cps
Constant Current..... Adjustable 5-250 MA
Current Regulation... Constant within ±2% for 0-250 VDC output
Ripple..... Less than 0.05%
Line Regulation..... ±1% change in output for 100-125 VAC input
Metering..... 4½" current meter
Size..... 19" Rack & Bench Mounting, 8¾" panel
Also Model CC60 Constant Current Converter 0-60 MA..... **$79.50**

Model CC250..... **Price $325**

All Prices F.O.B. Nutley, N. J.

Associated Specialties Co.

OREFIELD, PA.



ELECTRONICALLY REGULATED D.C. CONSTANT VOLTAGE POWER SUPPLIES

MODEL 1 RELAY RACK MOUNTING $52.50

Input: 105-125 volts AC. 50-60 cycles.

DC Output Voltage: Continuously variable from 200 to 325 volts DC for load currents 0 to 100 ma.

Regulation of DC Voltage: Better than 1% for loads of 0 to 100 ma. and line voltage variations from 105 to 125 volts.

Ripple Output: Less than 10 millivolts rms.

Isolated Output: Both positive and negative sides of the output are isolated from ground. Either side may be grounded or the output may be left floating.

AC Output for Filaments: An isolated AC voltage of 6.3 volts AC at 3 amperes is available at the output terminal connections.

Overload Protection: A fuse mounted on the front panel protects supply against external overloads or internal failure.

Input and Output Connections: All input and output connections are made to a single terminal strip conveniently located on the rear of the chassis.

Dimensions: Standard 19″ relay rack mounting. Panel Width: 19 inches; Panel Height: 5¼ inches; Depth Behind Panel: 8½ inches.

Cabinet and Panel Finish: Standard Black ripple enamel.

Controls: Rear Chassis—DC output voltage control. Front Panel—Pilot light, input power switch, and fuse.

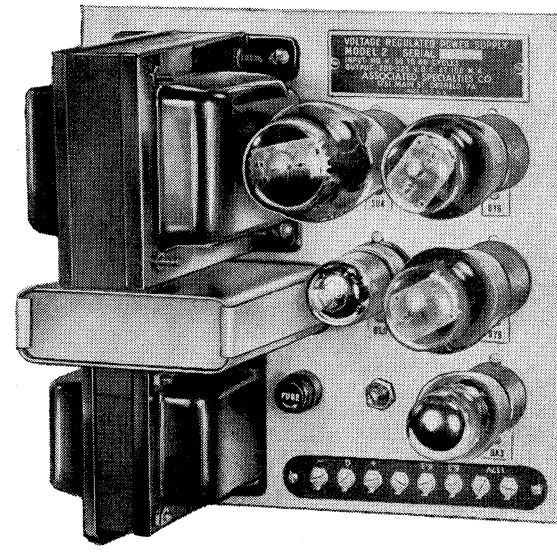
Weight: Net weight is approximately 20 pounds.

High Quality Components: Only components of the highest quality are used in this equipment insuring you years of trouble-free dependable operation.

Accessibility: By removing two small screws, the front panel may be removed while the supply stays mounted on a relay rack or cabinet. This allows quick and easy inspection.

MODEL 2 SUB-CHASSIS MOUNTING $49.50

Sub-chassis mounting type regulated power supplies are designed to save space and money. They can be mounted on a chassis along with other components and thereby save space which would be used by a relay rack mounting supply. Savings are made in the size and cost of the cabinet required for a job along with the lower cost of the sub-chassis mounting supplies.



SAME AS MODEL 1 EXCEPT

Dimensions: 9″ wide, 8¾″ long, 4¾″ high above chassis, 1¾″ clearance required below chassis. Size of cut-out required: 8⅛″ wide x 8″ high. Location of four mounting holes: 8⅝″ wide x 8$\frac{11}{32}$″ high.

Chassis Finish: Zinc plated or equivalent.

Controls: DC output voltage control adjustable from the top side of the chassis.

Weight: Net weight is approximately 14½ lbs.

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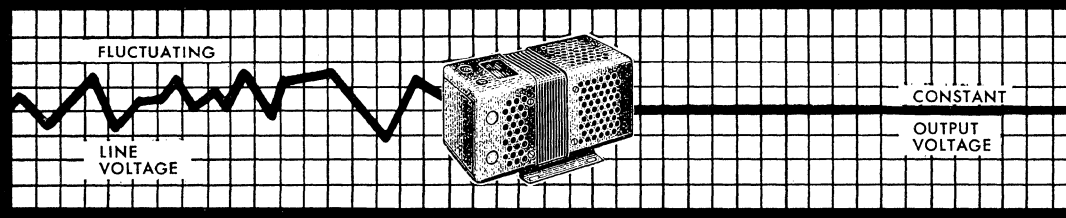
SOLA Constant Voltage TRANSFORMERS

SOLA Electric Co. • Chicago 50, Illinois



Automatic Instantaneous Voltage Regulation

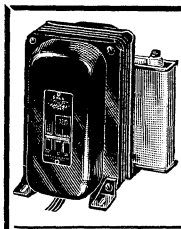
SOLA Constant Voltage Transformers are static-magnetic voltage regulators. They are designed to provide a constant output voltage which is unaffected by changes in input voltage. You will find, listed in the following pages, the widest range of ratings and types available from stock offered by any manufacturer.

In addition, CUSTOM DESIGNED UNITS can be manufactured in capacities from 1 V.A. to 25,000 V.A., to suit your individual specifications. When ordered in substantial quantities, they cost only slightly more than standard units of the same general size. Often, time and money can be saved by direct use or modification of a regulator from the several hundred special designs on file Custom designs can include: SPECIAL VOLTAGE RATIOS, SPECIAL FREQUENCIES, COMPENSATION FOR FREQUENCY VARIATION, MULTIPLE OUTPUT VOLTAGES, THREE-PHASE SERVICE, and MILITARY SPECIFICATIONS.

SOLA Constant Voltage Transformers have eight distinct advantages over regulators which depend solely upon saturation of core materials for their regulating action, or electronic type regulators:

1. Response time, 1.5 cycles or less.
2. No moving or renewable parts . . . no manual adjustments.
3. Completely automatic continuous regulation.
4. Self-protecting against short circuits.
5. Current limiting characteristic protects load equipment from excessive fault currents.
6. Can often be substituted for conventional non-regulating transformers.
7. Relatively compact.
8. Provide isolation between input and output circuits.

For complete operational data write for Bulletin 4M-CV-200



CONSTANT VOLTAGE TRANSFORMER FOR PLATE AND FILAMENT SUPPLY

TYPE CVE

A single, compact source of filament and plate supply voltages . . . regulated to within ±3% or less with line voltage variations of 100-130 volts. Supplied with separate capacitor.

ELECTRICAL AND MECHANICAL SPECIFICATIONS: Input 100-130 v, 60 cycle

Catalog Number	Typical Rectifier Tube	D.C. Input Volts to Filter	Filament Windings 6.3v	Filament Windings 5.0v	Overall Dimensions in Inches Length	Width	Height	Shipping Weight
7104	5Y3	275v D.C. @ 50 M.A.	2.5 amps C.T.	2.0 amps	4 13/16	3 1/8	3 5/16	5 lbs.
7106	5Y3	385v D.C. @ 110 M.A.	3.0 amps C.T.	2.0 amps	4 13/16	3 1/8	4 1/16	8 lbs.
7107	5U4	380v D.C. @ 250 M.A.	#1: 4.0 amps #2: 8.0 amps unregulated	3.0 amps	7	4 1/2	5	19 lbs.

DATA ON STANDARD "CV" AND OTHER TYPES ON FOLLOWING PAGES

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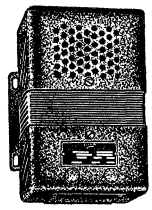
SPECIALIZED STANDARD TYPES

SOLA ELECTRIC CO.

TYPES	ELECTRICAL and MECHANICAL SPECIFICATIONS

CONSTANT VOLTAGE TRANSFORMER WITH HARMONIC NEUTRALIZER TYPE CVH



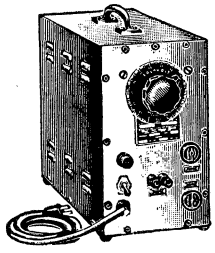
Incorporates harmonic neutralizer circuit . . . ±1% regulated . . . less than 3% harmonic distortion.

Input 95-125 v, Output 115 v on 60, 120 and 2000 va capacities
Input 95-130 v, Output 118 v on 250, 500 and 1000 va capacities

Cat. No.	Cap. V.A.	DIMENSIONS IN INCHES A	B	C	E	F	Ship'g Wght.
5003	60	11¾	4 3/16	4½	10¾	2 5/16	22
5004	120	11	7⅛	5⅞	8¾	6½	31
23-13-125	250	11¼	9	6 7/16	8⅛	5⅝	32
23-13-150	500	12⅝	9	6 7/16	8⅛	5⅝	47
23-13-210	1000	17 15/16	9	6 7/16	8⅛	5⅝	80
5010	2000	20⅜	26¼	9⅝	12¼	24¼	315

Transformers of catalog numbers 5003 and 5004 are now equipped with a primary cord and a secondary receptacle output for convenience in the laboratory. All other transformers are manufactured with knockout boxes.

ADJUSTABLE . . . REGULATED . . . A.C. VOLTAGE SUPPLY With Harmonic Neutralizer TYPE CVL



One outlet regulated ±1% and adjustable from 0 to 130 volts. One outlet for fixed value 115 volts regulated ±1%. Total harmonic distortion less than 3%. Regulating response 1.5 cycles or less. Self-protecting against short circuit. Portable for use in shop or laboratory.

Input 95-125 v; Output No. 1, 115 v; Output No. 2, 0-130 v

Cat. No.	Cap. V.A.	DIMENSIONS IN INCHES A	B	C	Ship'g Wght.
50106	500	15¾	7½	13⅝	75

CONSTANT VOLTAGE TRANSFORMER FOR TELEVISION RECEIVERS TYPE CVA

Voltage regulation for home TV Receivers eliminates flicker and distortion due to line voltage variations. Moderate price . . . plug-in type . . . regulation ±3% or less.

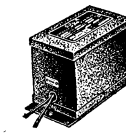
Input 95-130 v, Nominal Output Value in 115-120 v range.

Cat. No.	Cap. V.A.	DIMENSIONS IN INCHES A	B	C	Ship'g Wght.
7201	180	7¼	8¼	4¾	21
7202	300	7¼	9⅛	4¾	28

DIMENSIONS —
A: Overall Length; B: Overall Width; C: Overall Height; E & F: Mounting Dimensions

ILLUSTRATIONS FOR STANDARD TYPE "CV" UNITS ON RIGHT HAND PAGE

TYPE 1



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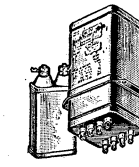

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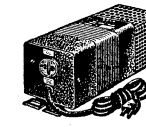
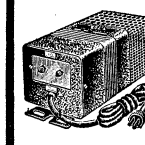
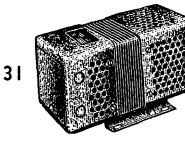


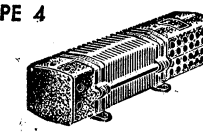


TYPE 21 TYPE 22

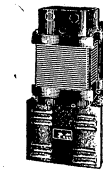
TYPE 31



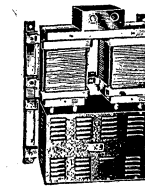
TYPE 4



TYPE 5



TYPE 6



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STANDARD TYPE "CV"

SOLA *Constant Voltage* TRANSFORMERS

ELECTRICAL AND MECHANICAL SPECIFICATIONS

60 CYCLE, SINGLE PHASE

Catalog Number	Output Capacity in VA	VOLTAGE		Dimensions in Inches					Approx. Shipping Weight
		Input Range	±1% Regulated Output	A	B	C	E	F	
TYPE 1									
30488	15	95-125	6.0	5 11/16	2 5/8	3 1/2	5 1/16	.....	6
30492	15	95-125	6.3	5 11/16	2 5/8	3 1/2	5 1/16	.....	6
30498	15	95-125	115.0	5 11/16	2 5/8	3 1/2	5 1/16	.....	6
TYPE 12									
301002	15	95-125	6.3	5 1/4	3 1/2	2 1/4	3	1 1/2	2 1/2
301003	15	95-125	115.0	5 1/4	3 1/2	2 1/4	3	1 1/2	2 1/2
TYPE 2									
30804	30	95-125	115.0	8 9/16	4 3/16	4 3/8	7 7/8	2 3/8	12
30805	60	95-125	115.0	8 13/16	4 3/16	4 3/8	8 1/8	2 3/8	13
30806	120	95-125	115.0	9 3/4	4 3/16	4 3/8	9	2 3/8	17
30888	150	95-125	115.0	10 1/4	4 3/16	4 3/8	9 1/2	2 3/8	18
TYPE 21									
30881	25	95-125	6.3	8 7/16	4 3/16	4 3/8	7 11/16	2 3/8	12
30882	50	95-125	6.3	8 13/16	4 3/16	4 3/8	8 1/8	2 3/8	13
TYPE 22									
30885	60	95-125	115.0	10 3/8	4 3/16	4 3/8	9 5/8	2 3/8	13
30886	120	95-125	115.0	11 1/4	4 3/16	4 3/8	10 1/2	2 3/8	17
30M705	120	190-250	230.0	9 3/8	4 5/16	4 3/8	9	2 3/4	14
TYPE 31									
20-13-125	250	95-125	115.0	11 1/8	6 15/16	6 7/16	3 1/4	6 1/8	24
20-20-125	250	190-250	115.0	11 1/8	6 15/16	6 7/16	3 1/4	6 1/8	24
20-13-150	500	95-125	115.0	12 1/2	6 15/16	6 7/16	4 5/8	6 1/8	36
20-20-150	500	190-250	115.0	12 1/2	6 15/16	6 7/16	4 5/8	6 1/8	36
20-24-150	500	190-380—250-500	230.0	12 1/2	6 15/16	6 7/16	4 5/8	6 1/8	36
20-13-210	1000	95-125	115.0	15 1/8	6 15/16	6 7/16	4 5/8	6 1/8	52
20-20-210	1000	190-250	115.0	15 1/8	6 15/16	6 7/16	4 5/8	6 1/8	52
TYPE 4									
30811	2000	95-125	115.0	31 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205
30M811	2000	190-250	115.0	30 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205
30968	2000	190-250	230.0	30 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205
TYPE 5									
301706	3000	95-190—125-250	115.0	27 11/16	16 1/4	12	23 1/8	14 1/4	345
301707	3000	190-380—250-500	230.0	27 11/16	16 1/4	12	23 1/8	14 1/4	345
301704	4000	95-190—125-250	115.0	32 11/16	16 1/4	12	28 1/8	14 1/4	415
301702	5000	95-190—125-250	115.0	39 1/16	16 1/4	12	34 1/2	14 1/4	485
301703	5000	190-380—250-500	230.0	39 1/16	16 1/4	12	34 1/2	14 1/4	485
TYPE 6									
301700	10,000	190-380—250-500	115.0	48 1/8	34 1/4	14	41 1/2	31 1/4	1025
301701	10,000	190-380—250-500	230.0	48 1/8	34 1/4	14	41 1/2	31 1/4	1025

DIMENSIONS — A: Overall Length; B: Overall Width; C: Overall Height; E & F: Mounting Dimensions

REGULATED DC POWER SUPPLY DATA ON NEXT PAGE

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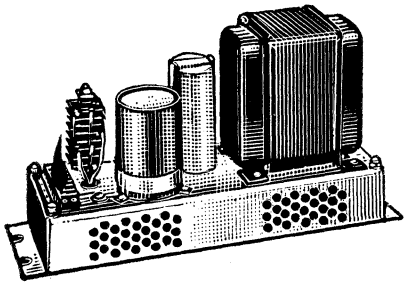
SOLA *Constant Voltage* DC POWER SUPPLIES

For intermittent . . . variable . . . pulse . . . or high amperage loads

This combination of Sola Constant Voltage Transformer, germanium power rectifier, and high-capacitance filter yields a dc power supply compact in size, low in weight, and with other important advantages.

1. Output regulation of ±1% or less with ±10% line voltage variations.
2. Minimum output voltage change with wide, rapid load changes.
3. Low input power, with resultant good efficiency.
4. Ability to withstand high, short-time overloads without damage to components.
5. Ripple voltage of approximately 1% (rms) or less.
6. High overall economy by eliminating overload capacity needed in other types of power supplies for certain applications.
7. Low ratio of size and weight to power output.
8. Freedom from routine adjustment and maintenance.
9. Exceedingly low output impedance.

In addition to its important function of correcting line voltage variations, the Sola CV's inherent current-limiting action permits safe, economical use of the efficient germanium rectifier with its low forward voltage drop and other advantages. This same current-limiting action also permits use of high-capacitance filter sections by controlling excessive charging currents which might damage rectifier junctions. The high-capacitance filter yields very low ripple voltage without need for heavy, bulky choke components, with their substantial and often-varying load voltage drops.



ELECTRICAL SPECIFICATIONS All Inputs 100-130 Volts, 60 cps

Catalog Number	Output Rating Watts	Volts	Amps	Efficiency Approx. %	Ripple Voltage (rms)- % of Total	Approx. Shipping Weight Each Pounds
28156	144	24	6.0	72	Less Than 1%	45
28120	192	48	4.0	77	Less Than 1%	45
28152	250	125	2.0	82	Less Than 1%	55
28106	300	150	2.0	80	Less Than 1%	50
28193	200	200	1.0	76	Less Than ½%	45
28192	250	250	1.0	81	Less Than ½%	55

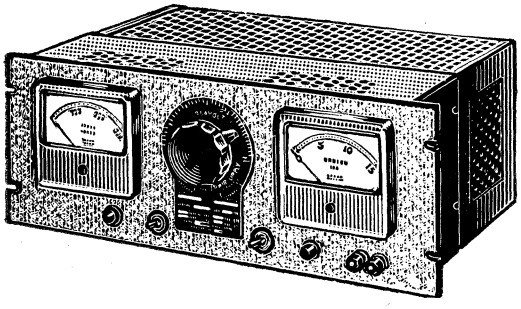
DIMENSIONS—Above six stock units have identical dimensions: Overall Length, 19″; Overall Width, 5¼″; Overall Height, 9¾″. All supplies furnished with drilling for standard relay rack mounting.

ADJUSTABLE, REGULATED DC POWER SUPPLY THE "DC SOLAVOLT"

. . . Gives all the advantages of the Sola DC Supply design plus an output adjustable over a considerable range of voltage.

Regulation over the entire range of adjustable output voltages is within ±1% at full load, with supply voltage variations up to ±15%. At 50% load and lowest voltage setting, regulation is within ±1.5%. Ripple voltage is held within 0.05% at full load and nominal input voltage.

This adjustable DC Power Supply design offers simplified operation and maintenance. There are no tubes to replace, no "compensating" or "zero" adjustments to make, no instruction sheet to refer to in normal daily operation. No routine maintenance is required. All components on rear of panel are enclosed by a perforated housing.



ELECTRICAL SPECIFICATIONS

ALL INPUTS 100-130 VOLTS, 60 cps

Catalog Number	Adjustable Output Voltage Range	Rated Loadings in Amperes At max. Voltage Setting	At min. Voltage Setting	Ripple Voltage % of Total Output	Approx. Shipping Weight in Lbs.
28520	25-60	4.0	6.0	0.05	84
28530	30-90	2.8	4.0	0.04	82
28540	60-180	1.4	2.0	0.03	76
28550	150-250	1.0	1.5	0.02	70
28560	250-400	0.6	0.75	0.02	78

DIMENSIONS—Above five stock units are for relay rack mounting on standard, 19″ frame. Front panel is 7″ high and chassis is 12¼″ deep. Removable handles, for portability, are available as an accessory.

SOLA Electric Co. • Chicago 50, Ill.

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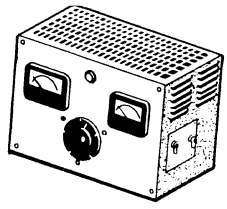
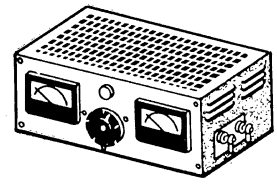
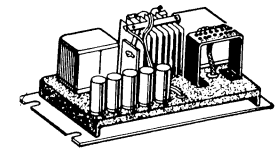
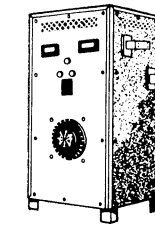
TECHNICAL APPARATUS BUILDERS

MANUFACTURERS OF "TABTRON" POWER SUPPLIES AND RECTIFIERS

packaged DC power engineered for

Automation - Aviation - Industry - Marine - Radar, Radio and Others

"TABTRON" Variable DC Power Supplies Completely Built. Designed for continuous service. Contains Selenium Rectifier—Full Wave Circuit, Variable and Isolation Transformers, Switch, Pilot Light, Fuse and Terminals. Housed in Sturdy Relay Rack Cabinet with Matched 2% Precision 4" Rectangular Volt and Amp. Meters. Convection Cooled, Rugged Design, Noiseless, Trouble Free. Standard Input Power single phase 60 cycle AC 115 or 220 Volt, specify. Other inputs to your specifications.

"TABTRON" SUPPLIES CARRY ONE YEAR GUARANTEE

Type No.	Description DC Volts and Current	Cabinet Height †	Net Price
T12V25A	0 to 12V @ 25 Amp	10½	$150.00
T12V50A	0 to 12V @ 50 Amp	10½	195.00
T8V150A	0 to 8V @ 150 Amp	19¼	300.00
T6V250A △	0 to 6V @ 250 Amp	36¾	445.00
T612V500A △	0 to 6 & 12V @ 500 & 250 A	43¼	620.00
T612V12A ○	0 to 6 & 12V @ 12 Amp		33.00

"TABTRON" Power Supplies for Aviation — Radar and Missile

T28V5A ○	0 to 28V @ 5 Amp		$ 50.00
T28V5ACC	5 Amp 1% Ripple	10½	85.00
T28V5A2C	5 Amp .01% Ripple	10½	145.00
T28V12A	0 to 28V @ 12 Amp	10½	125.00
T28V12ACC	12 Amp 1% Ripple	10½	160.00
T28V12A2C	12 Amp .01% Ripple	10½	220.00
T28V24A *	0 to 28V @ 24 Amp	10½	155.00
T28V24ACC *	24 Amp 1% Ripple	10½	225.00
T28V24A2C *	24 Amp .01% Ripple	19¼	310.00
T28V50A *	0 to 28V @ 50 Amp	19¼	285.00
T28V50ACC *	50 Amp 1% Ripple	36¾	410.00
T28V100A *	0 to 28V @ 100 Amp	36¾	500.00
T28V100ACC *	100 Amp 1% Ripple	43¼	700.00
T35V25ACC •	0 to 35V @25A 1% Ripple	19¼	325.00
T35V50ACC •	0 to 35V @ 50A 1% Ripple	36¾	585.00

"TABTRON" Variable DC Line 75 to 135 VDC Supplies

T120V5AC	75 to 135V @ 5 Amp	10½	$190.00
T120V5ACC	5 Amp 1% Ripple	10½	240.00
T120V10AC	75 to 135V @ 10 Amp	10½	245.00
T120V10ACC	10 Amp 1% Ripple	19¼	295.00

"TABTRON" Lo Priced DC Supplies for Industrial Applications. Contains Transformer, Rectifier, Terminals, Switch and Fuse. Completely Built on Chassis with Ventilated Grill Cover, Height 9".

Type No.	Description DC Volts and Current	Size	Net Price
B12V10ACC	12V @ 10 Amp 1% Ripple	12W8D	$ 69.00
B12V24A	12V @ 24 Amp	17W7D	87.00
B12V24ACC	24 Amp 1% Ripple	10½H †	125.00
B12V50A *	12V @ 50 Amp.	10½H †	125.00
B12V50ACC *	50 Amp 1% Ripple	19¼H †	255.00
B28V5A	28V @ 5 Amp	10W5½D	39.00
B28V5ACC	5 Amp 1% Ripple	12W8D	54.00
B28V12A	28V @ 12 Amp	12W8D	83.00
B28V12ACC	12 Amp 1% Ripple	17W7D	120.00
B28V24A	28V @ 24 Amp	17W7D	122.00
B28V24ACC	24 Amp 1% Ripple	10½H †	175.00
B115V5A	115V @ 5 Amp	17W7D	98.00
B115V10A	115V @ 10 Amp	17W7D	210.00
B220P5A	220V @ 5 Amp	10½H †	207.00
B220P10A	220V @ 10 Amp	19¼H †	310.00
B2-6-8P4A	Electroplating	10W5½D	27.00
B12V10A	Pinball	10W5½D	39.00
B18V5A	Jukebox	10W5½D	39.00
B24V12A	Games **	12W8D	75.00
B115V1.5A	Solenoids	10W5½D	65.00
B115V4A	Power takeoffs	10W5½D	95.00
B220V1.5A	Magnetic chucks	12W8D	125.00

"TABTRON" TV, Radio, Sound, Telephone Power Supplies. Designed for Relay Rack Mounting 19" wide, 10" Deep.

BF6V5ACC	Tube Filament **	5¼H ‡	$ 48.00
BF12V5ACC	Tube Filament **	5¼H ‡	59.00
BT48V3ACC	Telephone	7H ‡	108.00
BT72V3ACC	Telephone	7H ‡	147.00

"TABTRON" Battery Chargers for Auto — Farm — Marine and Aviation

BC2V4T2A °	Battery 2 Volt	5H3W4D	$ 5.95
BC6V4T2A °	Battery 6 Volt	5H3W4D	6.75
BC6VT12A ■	Battery 6 Volt	9H10W6D	18.50
BC6-12VT5A ■	Battery 6 & 12 Volt	9H10W6D	18.00
BC12-28VT5A ■	Battery 12 or 28 Volt	9H12W8D	39.00

"TABTRON" Power Supplies for Operating Gov't. Radio Sets

B28V5A ■	ARC5, BC312, 342, 348	10W5½D	$ 39.00
B28V24A ■	BC654 or BC375	17W7D	122.00
B12V50A	BC191	10½H †	125.00
B28V100A	ART13	36¾H †	435.00

Dimensions, Specifications and Prices are Subject to Change without Notice.

"Technical Apparatus Builders" specialists in Design, Manufacturers of "TABTRON"® DC Power Supplies, "REGOVAC"® Hi Current, Lo & Hi Voltages & Regulated DC Supplies. "TABTRON" Power Supplies to your specifications. Indicate DC output voltage, current, input AC voltage and phase required. We manufacture to Commercial, NEMA and Gov't. JAN Specifications.

△ Forced Air Cooled 115 or 220V Input.
○ 2" Sq. Amp & Volt Meters; Chassis & Grill 8¾H x 7W x 13D.
† Cabinet size 22" wide x 15" deep.
* Optional 115 or 22 Volt Input
• Meets JAN-Mil Specifications.
** Adjustable for exact filament volts.
‡ Includes Panel.
° Units housed in Minibox.
■ Built on chassis with ventilated grill cover, Height 9".
Dimensions shown are in inches.

Jobbers-Distributors, Write for Discounts — Dept. M-7

TECHNICAL APPARATUS BUILDERS — NEW YORK 6, N. Y.

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When ordering products shown in this book or writing for additional information, please be sure to mention the 1957 MASTER and the respective pages and catalog numbers. This will avoid confusion and expedite delivery.

The *Radio-Electronic* **MASTER**

CHICAGO STANDARD TRANSFORMER CORPORATION

STANCOR TRANSFORMERS

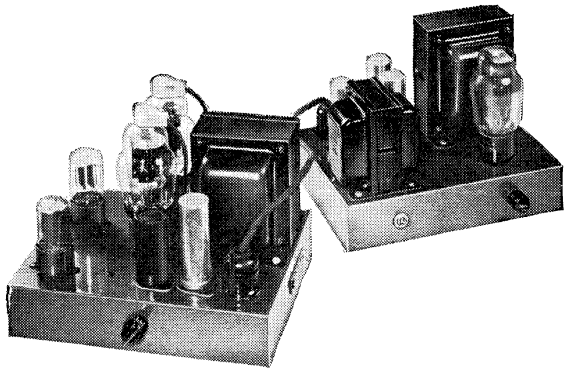
AND RELATED COMPONENTS

TELEVISION COMPONENTS

Almost 200 TV replacement transformers and related components, the most complete line in the industry, are available from Chicago Standard. These include over 50 exact replacement flybacks and almost 60 power transformers, as well as yokes, vertical outputs, width and linearity coils and many other popular TV replacement units.

Ask your distributor for a free copy of the latest edition of the Stancor TV Transformer Catalog and Replacement Guide listing these units and replacement data on thousands of television sets.

STANCOR ULTRA-LINEAR HIGH-FIDELITY AMPLIFIER

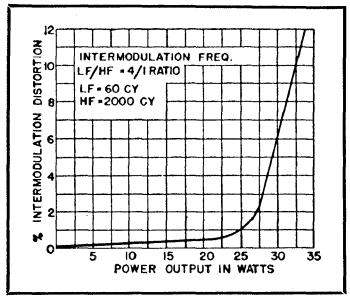


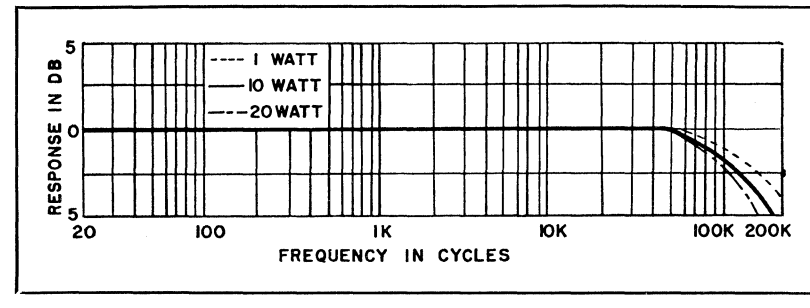
Now you can build an Ultra-Linear version of the famous Stancor-Williamson high fidelity amplifier, using Stancor Ultra-Linear Output Transformer A-8072. For complete construction details see Stancor Bulletin 479.

The original Stancor-Williamson amplifier can be converted to Ultra-Linear operation by a few simple circuit changes and the installation of the A-8072. Conversion instructions are included in Bulletin 479.

Stancor supplies a set of two completely punched and finished chassis for the Ultra-Linear Amplifier; Chassis Set WM-8, $5.75 net. In addition to Ultra-Linear Output Transformer A-8072, $15.00 net, this amplifier uses power transformer PC8412, $8.58 net and filter choke C-1411, $4.29 net. The other components used cost about $25.00. They are all stock parts and can be readily obtained from your Stancor distributor.

Write for your FREE copy of Bulletin 479.





HIGH FIDELITY OUTPUT TRANSFORMERS

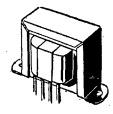
Better than ±1 db from 20 to 20,000 cps.

These Stancor output transformers combine the most advanced design and manufacturing practices to provide outstanding audio response at low cost. Maximum power level is conservatively rated at 50 watts. They are designed to match the most popular types of output tubes to speaker or line impedances.

Extensively interleaved "trifilar" windings, extremely tight coupling and careful electrical balance result in audio fidelity to please the most critical specialist. Inasmuch as elaborate shielding is not required at the audio output level, an inexpensive, but thoroughly practical, Type C mounting is used. Shipping weight is 6.5 lbs.

Part No.	Pri. Imp. (P-P) in Ohms	Sec. Imp.* in Ohms	Max. Pri. D.C. Per Side	Audio Watts	Height Overall	Base Area	List Price
A-8050	1500	8, 16	200	50	4 5/16"	3 9/16" x 4 1/4"	**$22.70**
A-8051	2500	8, 16	150	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8052	3000	8, 16	175	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8053	5000	8, 16	150	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8054	9000	8, 16	100	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8156	6600	8, 16	125	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8060	1500	500	200	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8061	2500	500	150	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8062	3000	500	175	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8063	5000	500	150	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8064	9000	500	100	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**
A-8072†	7600	4, 8, 16	100	25	4 5/16"	3 9/16" x 4 1/4"	**27.75**
A-8066	6600	500	125	50	4 5/16"	3 9/16" x 4 1/4"	**22.70**

*Where more than one secondary impedance is shown, only one value is to be used at any time.
†Primary provided with seven taps for Ultra-Linear application.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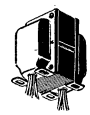
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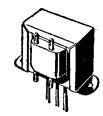
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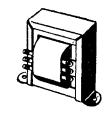
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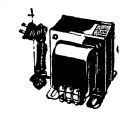
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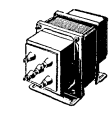
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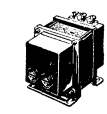
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DRIVER TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

SINGLE PLATE TO PUSH-PULL GRIDS

Part No.	Pri. Impedance in Ohms	Pri./½ Sec. Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4713	10,000	2:1	⅝″ x ⅝″	30 ma.	A	1⅝″	2⅞″ x 1⅛″	0.7	**$3.33**
A-4752	10,000	2/1.5/1:1	¾″ x ¾″	40 ma.	A	2″	3¼″ x 1¾″	1.2	**4.88**
‡A-4722	10,000	2:1	¾″ x 1″	30 ma.	TD	2 11/16″	2¾″ x 2 3/16″	1.7	**7.22**
A-4292	10,000	2.5:1	⅝″ x ⅝″	20 ma.	A	1⅝″	2⅛″ x 1½″	0.7	**3.50**
A-4723	10,000	3:1	⅝″ x ⅝″	30 ma.	A	1⅝″	2⅞″ x 1½″	0.7	**3.33**
A-4210	1,500 to 5,000	3:1	1″ x 1″	40 ma.	C	3 3/16″	2⅝″ x 2⅝″	2.4	**8.27**
A-4702	1,500 to 5,000	5:1	1″ x 1″	80 ma.	C	3 3/16″	2⅝″ x 2⅝″	2.5	**8.16**

PUSH-PULL PLATES TO PUSH-PULL GRIDS

Part No.	Pri. Imp. (P.P.) in Ohms	Pri./½ Sec. Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4208#	20,000 to 30,000	2.8:1	1″ x 1″	15 ma.	C	3 3/16″	2⅝″ x 2⅝″	2.5	**$ 9.27**
A-4701#	20,000	3:1	1″ x 1″	25 ma.	C	3 3/16″	2⅝″ x 2⅝″	2.7	**10.66**
A-4212	1,500 to 5,000	3.2:1	1″ x 1″	50 ma.	C	3 3/16″	2⅝″ x 2⅝″	2.5	**8.66**
A-4416#	3,000 to 10,000	5:1	1″ x 1″	40 ma.	C	3 3/16″	2⅝″ x 2⅝″	2.8	**9.66**
A-4703#	3,000 to 10,000	5:1	1⅛″ x 1⅛″	95 ma.	C	3⅝″	3″ x 3⅛″	3.7	**10.55**

POLY-PEDANCE DRIVER MULTI-TAPPED UNITS FOR USE IN CIRCUITS WHERE THE OPTIMUM RATIO CANNOT BE PREDETERMINED.

Driver circuit changes often require new transformers. Many times it is impossible to match correctly tubes involved with a specific transformer, with high distortion resulting. *Poly-Pedance* units solve that problem; three transformers with the maximum number of usable ratios will match the driver tubes to any Class B modulator grid circuit without exceeding the power capabilities of the driver tubes.

Part No.	Application and Ratio Pri./½ Sec.	Max. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4761	Driver to Class "B" Grids 1.25:1/ 1.4:1/ 1.6:1/ 1.8:1/ 2:1/ 2.2:1/ 2.4:1	Pri—150 ma. Sec—100 ma.	15	CD	3 3/16″	2⅝″ x 3⅝″	3.4	**$18.48**
A-4762	Driver to Class "B" Grids 2.6:1/ 3:1/ 3.2:1/ 3.4:1/ 4:1/ 4.5:1/ 5:1	Pri—150 ma. Sec—180 ma.	15	CD	3 3/16″	2⅝″ x 3⅛″	2.7	**17.43**
A-4763	Driver to Class "B" Grids 1.25:1/ 1.5:1/ 1.75:1/ 2:1/ 2.25:1/ 3.2:1	Pri—225 ma. Sec—280 ma.	30	CD	3⅝″	3″ x 4″	4.3	**21.59**

POLY-PEDANCE LINE DRIVER MULTI-TAPPED UNIT TO MATCH ALL COMMON LINE IMPEDANCES TO GRID CIRCUIT OF MODULATOR OR CLASS "B" AMPLIFIER.

Designed with pie wound coils to assure low leakage inductance, low resistance and low capacity, these two units will easily match all common line impedances to any modulator grid circuit. Individually boxed with complete instructions.

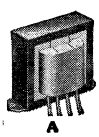
Part No.	Application and Ratio Pri./ ½ Sec.	Max. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4765	Line to Grid 1:0.75/ 1:0.85/ 1:1/ 1:1.25/ 1:1.45/ 1:1.75/ 1:2/ 1:2.25/ 1:2.5/ 1:2.75/ 1:3.15	Pri—180 ma. Sec—100 ma.	15	CD	3 3/16″	2⅝″ x 3⅜″	3.2	**$19.15**

AUDIO CHOKES

Audio reactors are rated at 2 volts, 200 cycles, with maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

Part No.	Rated Inductance	Max. D.C.	D.C. Res. in Ohms	Test Volts	Core	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1003	16 hy at 50 ma.	50 ma.	580	1500	¾″ x ¾″	A	2″	3¼″ x 1¾″	1.1	**$2.94**
C-2301	135 hy at 5 ma.	10 ma.	6500	1500	¾″ x 1″	TD	2 11/16″	2¾″ x 2 3/16″	1.7	**7.05**

#These units have split secondaries for individual bias adjustment and/or use of inverse feedback.
‡To be removed from next catalog.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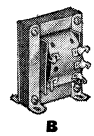
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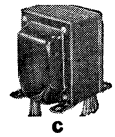
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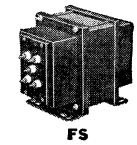
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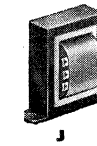
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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

INPUT-INTERSTAGE

CHICAGO STANDARD TRANSFORMER CORPORATION

MICROPHONE OR LINE TO LINE

Part No.	Impedance In Ohms	Mtg.	Height Overall	Base Area	Shpt. Wt. In Lbs.	List Price
A-4350#	Pri—500/333/200/125/50 Sec—500/333/200/125/50	Q	2″	3¼″ x 1¾″	1.0	**$ 7.22**
A-4407#†	Pri—500/333/200/125/50 Sec—500/333/200/125/50	D	3 3/16″	2⅝″ x 3¼″	2.4	**14.54**

MICROPHONE PICKUP OR LINE TO GRID

Part No.	Application	Impedance in Ohms	Turns Ratio	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4705	S. B. Mic. to S. Grid	Pri—200/70 Sec—80,000	1:20	A	1⅜″	2⅜″ x 1⅜″	0.4	**$3.55**
A-4706	S. B. Mic. to S. Grid	Pri—100 Sec—60,000	1:24.5	A	1⅜″	2⅜″ x 1½″	0.5	**3.61**
A-4708	D. B. Mic. to S. Grid	Pri—200 CT Sec—57,000	1:17	J	2″	2⅜″ x 1⅝″	0.7	**4.88**
A-4742	S. B. Mic. to P.P. Grids	Pri—100 Sec—400,000 CT	1:64	S	2 5/16″	2⅞″ x 1¾″	1.2	**5.22**
A-4747	S. B. Mic. or Low Imp. Line to S. Grid	Pri—10 Sec—1,300,000	1:137	VE	1 7/16″	1 5/16″ x 1¼″	1½″ 0.5	**4.00**
A-4351#	Mic. or Line to S. Grid	Pri—500/333/200/125/50 Sec—89,000	1:13.3	TD	2 11/16″	2¾″ x 2 3/16″	1.4	**7.71**
A-4352#	Mic. or Line to S. Grid	Pri—500/333/200/125/50 Sec—89,000	1:13.3	Q	2″	3¼″ x 1¾″	1.0	**6.71**
A-4709	Dynamic Mic. or Pickup to S. Grid	Pri—30/15/8/4 Sec—106,000	1:60	TD	2 11/16″	2¾″ x 2 3/16″	1.7	**8.66**

INTERCOMMUNICATOR AND TRANSCEIVER

Part No.	Application	Impedance in Ohms	Max. Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4744	Intercom. input	Pri—4 Sec—25,000		VE	1⅜″	2⅜″ x 1½″	0.5	**$3.11**
A-4748	Intercom. input	Pri—45 or 50 Sec—50,000		A	1 3/16″	2 3/16″ x 1¼″	1¾ 0.4	**3.44**
A-4749	Telephone Patch Circuit	Pri—10,000 Sec.—500 each (2 secs.)		TD	1 15/16″	1 17/32″ x 2¼″	1.0	**7.22**
A-8090	Line to Voice Coil	Pri.—45–50 Sec.—3–4, 6–8	3	QL	1⅜″	2⅜″ x 1½″	0.5	**2.83**
A-8091	Line to Voice Coil	Pri—45–50 Sec.—3–4, 6–8	8	QL	1⅝″	2⅞″ x 1⅝″	0.7	**3.11**
A-3833	Transceiver Input Mic. and Plate to Grid	Pri—200 and 5,000 Sec—60,000	5	A	1⅝″	2⅞″ x 1½″	0.7	**4.77**
A-3836	Transceiver Output. Plate to Low or High impedance phones	Pri—10,000 Sec—50 and 2,000	5	A	1⅝″	2⅞″ x 1½″	0.7	**4.66**
A-4749	Telephone Patch Circuit	Pri—10,000 Sec—500	—	TD	1 15/16″	1 17/32″ x 2¼	1.0	**7.22**

SINGLE PLATE TO SINGLE GRID—FOR 7,000-20,000 OHM PLATE IMPEDANCES

Part No.	Turns Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-53	1:3	½″ x ½″	10 ma.	A	1⅜″	2⅜″ x 1½″	0.5	**$2.94**

SINGLE PLATE TO PUSH-PULL GRIDS—FOR 7,000-15,000 OHM PLATE IMPEDANCES

A-52-C	1:2	½″ x ½″	10 ma.	A	1⅜″	2⅜″ x 1⅜″	0.4	**$3.05**
A-62-C	1:2	⅝″ x ⅝″	10 ma.	A	1⅝″	2⅞″ x 1½″	0.7	**3.44**
A-4745	1:2	¾″ x 1″	10 ma.	TD	2 11/16″	2¾″ x 2 3/16″	1.7	**9.44**
	Recommended for use in super-regenerative circuits. Has a static shield between pri. and sec. windings.							
A-53-C	1:3	½″ x ½″	10 ma.	A	1⅜″	2⅜″ x 1⅜″	0.5	**3.00**
A-63-C	1:3	⅝″ x ⅝″	10 ma.	A	1⅝″	2⅞″ x 1½″	0.7	**3.39**
A-73-C	1:3	¾″ x ¾″	10 ma.	A	2″	3¼″ x 1¾″	1.0	**4.22**
A-4719	1:3	¾″ x 1″	10 ma.	TD	2 11/16″	2¾″ x 2 3/16″	1.7	**8.27**
A-64-C	1:4	⅝″ x ⅝″	10 ma.	A	2″	2⅜″ x 1¾″	0.7	**4.05**

MULTI-PURPOSE INTERSTAGE—SPLIT SECONDARIES

May be used as a single plate to single grid, single plate to push-pull grid, or push-pull plate to push-pull grid interstate transformers. Overall ratios are 3:1, however, primaries are center-tapped and secondaries have split windings, thus providing ratios of 1:1, 3:1 and 6:1 in either step-up or step-down applications. § Has split secondary.

A-4774	1:3	¾″ x ¾″	10 ma.	S	2 5/16″	2⅛″ x 1¾″	1.2	**$5.11**
A-4773	1:3	¾″ x 1″	10 ma.	TD	2 11/16″	2¾″ x 2 3/16″	1.7	**8.66**

PUSH-PULL PLATES TO PUSH-PULL GRIDS—FOR 7,000-15,000 OHM PLATE IMPEDANCES

A-4711	1:1	⅝″ x ⅝″	10 ma.	A	1⅝″	2⅞″ x 1½″	0.7	**$4.05**

PUSH-PULL PLATES TO PARALLEL OR PUSH-PULL GRIDS—FOR 7,000-20,000 OHM PLATE IMPEDANCES

A-4208	1:1.4	1″ x 1″	15 ma.	C	3 3/16″	2⅝″ x 2⅝″	2.5	**$9.27**

#Has a dual primary—when properly connected the 500 and 200 ohm sections are center tapped. §Has split secondary.
†Has a static shield between primary and secondary windings. ‡Designates part numbers to be removed from next catalog.

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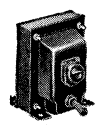
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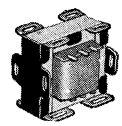
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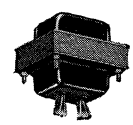
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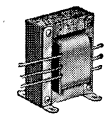
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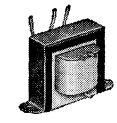
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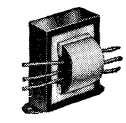
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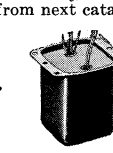
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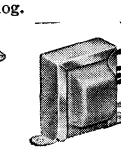
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OUTPUT TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

SINGLE PLATE TO VOICE COIL

Part No.	Application	Max. Pri. D.C.	Typical Output Tubes	Class	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
‡A-3865	1,500 ohms to 6/4/2 ohms	55 ma.	48, 25B6, 25L6, 50L6	A	5	A	1⅜″	2⅜″ x 1⅜″	0.4	$3.66
A-3332	2,000 ohms to 3.2 ohms	50 ma.	25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	3	A	1⅜″	2⅛″ x 1″	0.4	1.78
A-3876	2,000 ohms to 4 ohms	60 ma.	2A3, 6A3, 6B4, 6W6, 6Y6, 25AC5, 25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	5	A	1⅜″	2⅜″ x 1⅜″	0.4	2.11
A-3328	4,000 ohms to 3.5 ohms	10 ma.	1S4, 3S4	A	3	A	1⅜″	2⅛″ x 1″	0.4	2.28
A-2203	4,000 ohms to 8 ohms	40 ma.	43, 45, 48, 12A5, 25A6	A	5	A	1⅝″	2⅛″ x 1⅝″	0.7	4.11
A-3877	5,000 ohms to 4 ohms	40 ma.	43, 59, 6V6, 7C5, 25A5	A	5	A	1⅜″	2⅜″ x 1⅜″	0.4	2.22
A-3310	5,000 ohms to 500/15/8/4 ohms	55 ma.	45, 6L6, 6V6, 25A6, 25A7	A	20	C	3⅜″	2⅝″ x 2⅝″	2.5	8.94
A-3878	7,000 ohms to 4 ohms	30 ma.	20, 31, 33, 42, 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5	A	5	A	1⅜″	2⅜″ x 1⅜″	0.4	2.16
A-2313	7,000 ohms to 8 ohms	40 ma.	33, 41, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5	A	10	A	2″	3¼″ x 1¾″	1.0	3.77
A-8114	7,600 ohms to 3.2 ohms	32 ma.	33, 41, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5	A	5	A	1⅜″	2⅜″ x 1⅝″	0.4	2.94
A-3329	8,000 ohms to 3.5 ohms	10 ma.	1C5-GT, 1G5-G, 1Q5-GT/G, 1S4, 3S4	A	3	A	1⅜″	2⅛″ x 1″	0.4	2.11
A-3879	10,000 ohms to 4 ohms	30 ma.	1J6, 3C5, 6A4, 6G6, 6N7	A	5	A	1⅜″	2⅜″ x 1⅜″	0.4	2.11
A-3881	15,000 ohms to 4 ohms	10 ma.	1D8, 1E7, 1F4, 1F5, 1J5, 1T5, 6V7, 6Y7, 12A7	A	5	A	1⅜″	2⅜″ x 1⅜″	0.4	2.39
A-3327	25,000 ohms to 4 ohms	5 ma.	1A5, 1D8-GT, 1F4, 1F5-G, 1LA4, 1LB4, 1N6-G	A	5	A	1⅜″	2⅜″ x 1⅜″	0.4	2.72

PUSH-PULL PLATES TO VOICE COIL

A-3802	3,800/3,300 to 500/250/8/4 ohms	250 ma.	45, 6L6, Par. 6L6	AB2, AB1	75	C	4¾″	4″ x 3⅞″	7.9	$16.76
A-3851§	4,400 ohms to 500/250/15/8/4 ohms	70 ma.	6L6	AB1	30	C	3⅝″	3″ x 3⅛″	3.6	11.99
A-3872	5,000 ohms to 15/8/4 ohms	75 ma.	45, 2A3, 6A3, 6L6	AB	18	TD	2 11/16″	2¾″ x 2 3/16″	1.7	7.77
A-3800	5,000 ohms to 500/250/15/8/4 ohms	80 ma.	45, 2A3, 6A3, 6L6	AB	30	C	3⅝″	3″ x 3⅜″	3.7	10.27
A-3307	6,000 ohms to 500/15/8/4 ohms	100 ma.	46, 59, 42, 2A5, 6F6, Par. 53, 6A6, 6N7	B, AB2	30	C	3⅝″	3″ x 3⅛″	3.5	12.54
A-3801	6,600 ohms to 500/250/15/8/4 ohms	150 ma.	6L6	AB1	35	C	4″	3¼″ x 3⅜″	5.8	12.32
A-3885	9,000 ohms to 500/250/15/8/4 ohms	150 ma.	6L6	AB1	35	C	4″	3¼″ x 3⅜″	4.5	14.10
A-3304	10,000/7,000 ohms to 500/15/8/4 ohms	60 ma.	45, 6V6, 6AC5	AB	25	C	3⅜″	2⅝″ x 2⅝″	2.7	10.71
A-3311	10,000 ohms to 500/15/8/4 ohms	70 ma.	6F6, 6V6, 6AC5	AB	25	C	3⅝″	3″ x 3⅛″	3.5	10.10
A-3831	10,000 ohms to 8/4/2 ohms	40 ma.	30, 49	AB	5	A	1⅝″	2″ x 1½″	0.7	4.00
A-3335	10,000 ohms to 6-8/3.2-4 ohms	40 ma.	10	S	2 5/16″		2 15/16″ x 1¾″	2⅜″	1.0	4.88
A-2312	14,000 ohms to 4 ohms	40 ma.	33, 41, 42, 47, 49, 2A5, 6F6, 6K6, 7B5	AB	10	A	2″	3¼″ x 1¾″	1.0	3.89
A-3496	14,000 ohms to 4 ohms	25 ma.	33, 41, 42, 47, 49, 2A5, 6F6, 6K6, 7B5	AB	5	A	1⅜″	2⅜″ x 1⅜″	0.4	3.55
A-3303	14,000 ohms to 500/15/8/4 ohms	55 ma.	41, 42, 47, 59, 89, 2A5, 6F6, 6K6, 7B5	AB	20	C	3⅜″	2⅝″ x 2⅝″	2.7	10.88
A-3857	25,000 ohms to 4 ohms	10 ma.	1F4, 1F5, 1J5, 1T5, 6G6 12A7, 950	A	5	A	1⅜″	2⅜″ x 1⅜″	0.4	2.83

HUM-REDUCING TRANSFORMERS, Single Plate to Voice Coil

A-3330	†2,000 ohms to 3.5 ohms	60 ma.	5	A	1⅜″	2⅜″ x 1⅜″	2	0.4	$3.05
A-3336	#2,500 ohms to 3.5 ohms	50 ma.	5	A	1⅜″	2 7/16″ x 1⅜″	2	0.4	2.94

CRYSTAL RECORDER OUTPUT

Part No	Application	Max. Pri. D.C.	Audio Watts	Core Size	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3859	Push-pull 10,000 ohm plates to 70,000 ohm crystal cutter OR 4 ohm voice coil	30 ma. ea. ½	5	¾″ x ¾″	A	2″	3¼″ x 1¾″	1.0	$7.10
A-3860	Push-pull 10,000 ohm plates to 70,000 ohm crystal cutter AND 4 ohm voice coil	35 ma. ea. ½	10	⅞″ x ⅞″	A	2¼″	3¾″ x 2¼″	1.5	7.99

#Has tapped primary for use in hum-reducing circuit. §This unit has a tertiary winding to provide 10% inverse feedback.
‡Designates part number to be removed from next catalog. †Has a 4.5% primary tap.

LINE TO VOICE COIL—OUTDOOR TYPE

Part No.	Impedance in Ohms	Rated Watts	Mtg.	Mtg. Centers Can or Brkt.	Height Overall	Base Area†	Shpg. Wt. in Lbs.	List Price
‡A-3333	Pri—3,000/2,000/1,500/1,000/500 Sec—16/8/4	14	TW	2″ x 3 5/32″	3½″	3½″ x 3″	3.4	$16.26
‡A-3334	Pri—3,000/2,000/1,500/1,000/500 Sec—16/8/4	25	TW	2″ x 3 5/32″	3½″	3½″ x 3″	3.5	19.70

‡20-337 Adapter Hardware Set .61
For clamping Part Numbers A-3333 and A-3334 to the mounting bracket of a trumpet projector. Set consists of holding plate and four each of screws, nuts and lockwashers to secure transformer assembly to speaker bracket up to 2″ wide.

†Dimensions with bracket.

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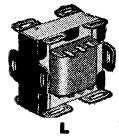
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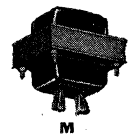
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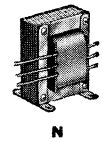
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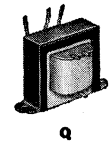
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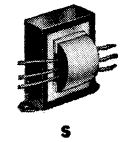
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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

OUTPUT TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

UNIVERSAL OUTPUT

Part No.	Application	Max. Pri. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3856	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	35 ma.	4	Q	1⅜″	2⅜″ x 1⅜″	0.4	**$3.61**
A-3822¶	Single plate (7,000 to 10,000 ohms) to voice coil	35 ma.	4	Q	1⅜″	2⅜″ x 1⅜″	0.4	**3.05**
A-3848§	Single plate (7,000 to 16,000 ohms) to voice coil	10 ma.	5	Q	1⅜″	2⅜″ x 1⅜″	0.4	**4.33**
A-3823	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma.	8	Q	1⅝″	2¾″ x 1½″	0.7	**3.89**
A-3850	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma.	8	J	2″	2⅜″ x 1½″	0.7	**4.38**
A-3825§	Single plate (1,500 to 4,500 ohms) to voice coil	75 ma.	8	Q	2″	3¼″ x 1⅝″	0.9	**4.38**
A-3824§	Single or Push-pull plates (6,000 to 10,000 ohms) to voice coil	75 ma.	8	Q	2″	3¼″ x 2″	1.4	**5.49**
A-3849	Single plate (1,500 to 10,000 ohms) to voice coil	55 ma.	10	Q	1⅝″	2⅞″ x 1½″	0.7	**3.72**
A-3880	Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma. ea. ½	15	Q	2¼″	3¾″ x 2¼″	1.7	**6.60**
A-2855	Push-pull plates (4,000 to 14,000 ohms) to voice coil	50 ma. ea. ½	15	L	2 1/16″	2⅝″ x 1¾″	1.0	**5.88**
A-3890	Push-pull plates (4,000 to 14,000 ohms) to voice coil	50 ma. ea. ½	15	TD	2 11/16″	2¾″ x 2 5/16″	1.5	**9.05**
A-3852	Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma. ea. ⅓	18	J	2 5/16″	2⅞″ x 2″	1.3	**4.83**
A-3870	Push-pull plates (4,000 to 14,000 ohms) to voice coil	50 ma. ea. ½	18	Q	2″	3¼″ x 2″	1.3	**5.49**
A-3830	Push-pull plates (3,000 to 10,000 ohms) to voice coil	60 ma. ea. ⅓	20	J	2 11/16″	3 5/16″ x 2¼″	1.8	**5.99**

¶Secondary impedance 0.7, 1, 1.4, 2, 2.8, 4 ohms. §Secondary impedance, 1, 2, 4 ohms.

TUBE TO LINE

Part No.	Application	Impedance in Ohms	Max. Pri. D.C.	Audio Watts	Mtg.	Heignt Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3841	Single plate to line	Pri—7,000/6,000/5,000/4,000/2,500 Sec—500	60 ma.	10	J	2 11/16″	3 5/16″ x 2¼″	1.5	**$8.33**
A-3842	Push-pull plates to line	Pri—14,000/12,000/10,000/8,000 CT Sec—500	55 ma.	10	J	2 11/16″	3 5/16″ x 2¼″	1.7	**8.66**
A-4770	Single plate to line	Pri—7,000/6,000/5,000/4,000/2,500 Sec—500	60 ma.	20	J	3⅛″	3⅝″ x 2¼″	2.4	**8.77**
A-3250	Single plate or Push-pull plates to line	Pri—20,000/10,000/5,000 Pri—20,000 CT Sec—500/333/200/125/50	15 ma.	—	Q	2″	3¼″ x 1¾″	1.0	**5.49**
A-3315	Single plate or Push-pull plates to line	Pri—20,000/10,000/5,000 Pri—20,000 CT Sec—500/333/200/125/50	35 ma.	—	D	3 3/16″	2⅝″ x 2⅝″	2.7	**12.54**

LINE TO VOICE COIL

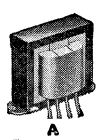
Part No.	Impedance in Ohms	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-8101	Pri—500 Sec—3.2/6-8	5	Q	1⅜″	2⅜″ x 1⅜″	0.4	**$2.61**
A-3883	Pri—500 Sec—15/8/6/4	25	J	2 5/16″	2⅞″ x 1¾″	1.1	**5.22**
A-3882	Pri—500/333/250 Sec—15/8/4	25	D	3 3/16″	2⅝″ x 3½″	2.4	**10.32**
A-3838	500/250/175/150/140/125/100/85/45/14/4/0.7 This Unit is designed to operate one or more speakers in series across a 500 ohm line or to match unequal lines.	30	B	3⅛″	2½″ x 2¼″	2.3	**8.16**
A-3818	Pri—1,500/1,000/500 Sec—15/8/4	25	J	3⅛″	3⅝″ x 2¼″	2.2	**6.05**
A-7947	Pri—2,000/1,500/1,000/500 Sec—6 ohms	8	Q	1⅝″	2 13/16″ x 1 9/16″	0.7	**3.55**
A-7949	Pri—2,000/1,500/1,000/500 Sec—6-8 ohms	12	J	2 5/16″	2⅞″ x 1 13/16″	1.1	**4.72**
A-3820	Pri—2,000/1,500/1,000/500 Sec—15/8/4	40	D	4 5/16″	3⅝″ x 4½″	5.0	**17.87**
A-8104	Pri—3,000/2,000/1,500/1,000/500 Sec—16/8/4	10	J	2 5/16″	2 15/16″ x 1¾″	2⅜″ 1.5	**6.77**
A-3837	Line to Line or V. C. (Autoformer) Pri—500 Sec—8/4/2.65/2.35/ 2/1.5/0.7/0.5/0.3/0.2/0.1/0.05 This Unit is designed to operate one or more speakers in parallel across a 500 ohm line.	15	J	2 5/16″	2⅞″ x 2″	1.4	**6.11**

70.7 VOLT LINE TO VOICE COIL

Part No.	Power Steps in Watts	Impedance in Ohms	Mtg. Type	Height Overall	Base Area	Mtg. Ctrs.	Shpg. Wt. in Lbs.	List Price
A-8102	8/4/2/1/0.5	Pri—625/1,250/2,500/5,000/10,000 Sec—4/8/16	J	2″	1⅝″ x 2⅞″	2″	0.7	**$5.00**
A-8103	16/8/4/2/1/0.5	Pri—312.5/625/1,250/2,500/5,000/10,000 Sec—4/8/16	J	2⅛″	2¼″ x 3¼″	2 1/16″	1.0	**6.55**
A-8105	5/2.5/1.25/.62/.31	Pri—1,000/2,000/4,000/8,000/16,000 Sec—4/8	J	1⅜″	2⅜″ x 1⅜″	2″	0.4	**3.61**

140 VOLT LINE TO VOICE COIL

Part No.	Power Steps in Watts*	Impedance in Ohms	Mtg. Type	Height Overall	Base Area	Mtg. Ctrs.	Shpg. Wt. in Lbs.	List Price
A-8106	1/2/4/8	Pri—2,500/5,000/10,000/20,000 Sec—4/8/16	J	2	1⅝″ x 2 7/16″	2	0.7	**5.00**
A-8107	1/2/4/8/16	Pri—1,250/2,500/5,000/10,000/20,000 Sec—4/8/16	J	2	3 3/16″ x 2″	2 13/16″	1.8	**6.99**
A-8108	0.625/1.25/2.5/5.0	Pri—4,000/8,000/16,000/32,000 Sec—4/8	Q	1⅜″	2⅜″ x 1⅜″	2	0.4	**3.61**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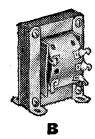
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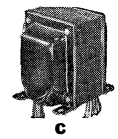
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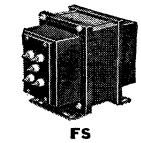
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POWER TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

COMBINATION PLATE AND FILAMENT SUPPLY

POWER TRANSFORMERS TO PROVIDE APPROXIMATELY 260 VOLTS D.C. TO CONDENSER INPUT FILTER

Type and Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Fil. Volts	Amps.	Other Windings Volts	Amps.	Base Area	Overall Height	Mtg. Centers	Shpg. Wt. in Lbs.	List Price
PC8401	235-0-235	40	5.0	2.0	6.3 CT	2.0	2⅝″ x 2⅝″	3 3/16″	2″ x 1 9/16″	2.2	**$ 7.49**
PM8401							2½″ x 3″	2⅝″	2″ x 2½″		
PC8402	240-0-240	55	5.0	2.0	6.3 CT	2.0	2⅝″ x 2¾″	3 3/16″	2″ x 1 11/16″	2.4	**8.33**
PM8402							2½″ x 3″	2¾″	2″ x 2½″		
PC8403	250-0-250	70	5.0	2.0	6.3 CT	2.5	2⅝″ x 3⅛″	3 3/16″	2″ x 2 1/16″	3.2	**9.32**
PM8403							2½″ x 3″	3⅛″	2″ x 2½″		
PC8404	260-0-260	90	5.0	2.0	6.3 CT	3.0	3″ x 3½″	3⅝″	2¼″ x 2¼″	4.0	**10.49**
PM8404							2⅞″ x 3⅜″	3⅝″	2¼″ x 2 13/16″		
PC8405	270-0-270	120	5.0	3.0	6.3 CT	3.5	3¼″ x 3½″	4″	2½″ x 2 3/16″	4.9	**11.60**
PM8405							3⅛″ x 3¾″	3½″	2½″ x 3⅛″		

POWER TRANSFORMERS FOR USE WITH CHOKE INPUT FILTER, VR-TUBE REGULATED SUPPLY, SPEAKER FIELD IN FILTER, OR HIGHER VOLTAGE WITH CONDENSER INPUT FILTER

PC8406	325-0-325	40	5.0	2.0	6.3 CT	2.0	2⅝″ x 2¾″	3 3/16″	2″ x 1 11/16″	2.4	**$ 7.66**
PM8406							2½″ x 3″	2¾″	2″ x 2½″		
PC8407	325-0-325	55	5.0	2.0	6.3 CT	2.0	2⅝″ x 3⅛″	3 3/16″	2″ x 2 1/16″	3.2	**8.44**
PM8407							2½″ x 3″	3⅛″	2″ x 2½″		
PC8422	325-0-325	50	5.0	3.0	6.3 CT	5.0	3¼″ x 3⅞″	4″	2½″ x 2 3/16″	5.8	**14.93**
PM8422							3⅛″ x 3¾″	3¾″	2½ x 3⅛″		
PC8408	340-0-340	70	5.0	2.0	6.3 CT	2.5	3″ x 3⅜″	3⅝″	2¼″ x 2⅛″	3.8	**9.55**
PM8408							2⅞″ x 3⅜″	3½″	2¼″ x 2 13/16″		
PC8409	350-0-350	90	5.0	2.0	6.3 CT	3.0	3″ x 3⅝″	3⅝″	2¼″ x 2⅜″	4.5	**10.66**
PM8409							2⅞″ x 3⅜″	3¾″	2¼″ x 2 13/16″		
PC8410	360-0-360	120	5.0	3.0	6.3 CT	3.5	3¼″ x 3¾″	4″	2½″ x 2 7/16″	5.5	**11.77**
PM8410							3⅛″ x 3¾″	3¾″	2½″ x 3⅛″		
PC8411	375-0-375	150	5.0	3.0	6.3 CT	4.5	3⅝″ x 4″	4 5/16″	2¾″ x 2 13/16″	5.8	**14.10**
PM8411							3½″ x 4⅛″	3⅞″	2¾″ x 3 7/16″		
PC8412	400-0-400	200	5.0	3.0	6.3 CT	5.0	4″ x 4″	4¾″	3″ x 2 13/16″	8.2	**15.87**
PM8412							3¾″ x 4½″	3⅞″	3″ x 3¾″		
PC8413	400-0-400	250	5.0	4.0	6.3 CT	5.0	4″ x 4½″	4¾″	3″ x 3 5/16″	10.0	**19.92**
PC8414	600-0-600	200	5.0	3.0	6.3 6.3	3.0 3.0	4″ x 4″	4¾″	3″ x 2 13/16″	8.3	**20.04**

POWER TRANSFORMERS FOR USE WITH 6AX5, 6X4, 6X5, OR SELENIUM RECTIFIERS

PS8415	125 ½-wave	15	...	...	6.3	0.6	2⅜″ x 1⅜″	2″	2″	0.7	**$ 3.50**
PS8416	125-0-125	25	...	...	6.3	1.0	2⅞″ x 1¾″	2 5/16″	2⅜″	1.0	**4.38**
***PA8421**	125 ½-wave	50	---	---	6.3	2.0	3¾″ x 2⅛″	2¼″	3⅛″	1.5	**5.83**
PC8417	220-0-220	50	6.3	0.6	25.2	0.5	2⅝″ x 2⅝″	3 3/16″	2″ x 1 9/16″	2.2	**8.21**
PC8418	230-0-230	50	...	...	6.3	2.5	2⅝″ x 2⅝″	3 3/16″	2″ x 1 9/16″	2.2	**7.27**
PM8418							2½″ x 3″	2⅝″	2″ x 2½″		
PC8419	240-0-240	70	...	...	6.3	3.0	2⅝″ x 2⅞″	3 3/16″	2″ x 1 13/16″	2.6	**8.33**
PM8419							2½″ x 3″	2⅞″	2″ x 2½″		
PC8420	260-0-260	90	...	...	6.3	4.0	3″ x 3½″	3½″	2″ x 2¼″	3.5	**9.27**
PM8420							2⅞″ x 3⅜″	3½″	2¼″ x 2 13/16″		

REPLACEMENT POWER TRANSFORMERS (Misc.)

Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Filament Volts—Amperes	Other Windings Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6001	325-0-325	40	5.0 CT–2.0	2.5 CT–4.0	M	2¾″	2½″ x 3″	2.5	**$ 9.99**
P-6348	240-0-240	60	———	6.3 CT-2.75	M	2¾″	2 3/16″ x 2 11/16″	2.3	**7.99**
‡P-6003	350-0-350	70	5.0 CT–2.0	2.5 CT–9.0	M	3⅛″	2⅞″ x 3⅜″	3.7	**14.21**
‡P-6005	350-0-350	70	5.0 CT–3.0	2.5 CT–9.0 2.5 CT–3.5	M	4¼″	2⅞″ x 3⅜″	4.8	**10.55**
P-4047	350-0-350	70	5.0–3.0	2.5 CT–9.0 6.3–3.0	G	4″	3¼″ x 3″	3.8	**14.10**
‡P-6004	350-0-350	90	5.0 CT–3.0	2.5 CT–12.5	M	3″	3⅛″ x 3¾″	4.2	**12.82**
P-6007	400-0-400	110	5.0 CT–3.0	2.5 CT–15.0 2.5 CT–3.5	M	3⅜″	3⅛″ x 3¾″	5.4	**16.43**

#Primary for 117/107 volts. ‡Designates part number to be removed from next catalog.

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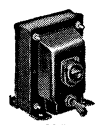
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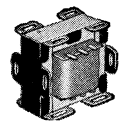
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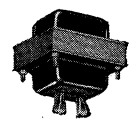
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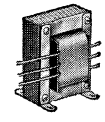
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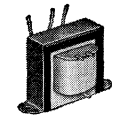
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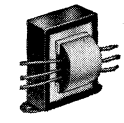
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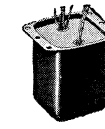
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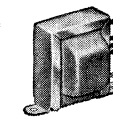
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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

POWER TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

REPLACEMENT POWER TRANSFORMERS (Misc.)

Part No.	Plate Supply A.C. Volts	Plate Supply D.C. Ma.	Rectifier Filament Volts—Amperes	Other Windings Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6143	440-0-440	130	5.0–3.0	6.3 CT–3.5	C	4 5/16″	3 5/8″ x 3 7/8″	7.0	**$16.93**
P-4004#	400-0-400 80 v. Bias	175	5.0 CT–3.0	2.5–1.75 6.3 CT–2.5 6.3 CT–2.5	C	4 3/4″	4″ x 3 7/8″	8.3	**21.03**
P-5059#	337.5-0-337.5	200	5.0 CT–3.0	6.3 CT–5.0	C	4 3/4″	4″ x 4 1/4″	9.6	**19.87**
P-6315	370-0-370	275	5.0 CT–3.0	6.3 CT–7.0	M	4 1/4″	3 3/4″ x 4 1/2″	9.3	**21.65**

#Primary for 117/107 Volts. ‡Designates part number to be removed from next catalog.

SELENIUM RECTIFIER TRANSFORMERS—See Page N-9

VIBRATOR TRANSFORMERS WITH 6 VOLT D.C. PRIMARY

Part No.	Secondary A.C. Volts	Secondary D.C. to Filter Volts	Milliamperes	Recommended Buffer Cap.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6301	210-0-210	150	40	0.008 mfd.	S	2 5/16″	2 7/8″ x 1 3/4″	1.2	**$5.77**
P-6491	188-0-188	200	40	0.003 mfd.	S	2 1/4″	3 1/8″ x 2 13/16″	1.5	**5.55**
P-4060	240-0-240	225	40	0.008 mfd.	N	3 1/8″	2 1/2″ x 2 5/8″	2.5	**7.49**
P-4061	290-0-290	250	50	0.006 mfd.	N	3 1/8″	2 1/2″ x 2 5/8″	2.5	**7.22**
P-4062	300-0-300	260	65	0.006 mfd.	N	3 1/8″	2 1/2″ x 2 3/8″	2.3	**7.94**
P-4063	320-0-320	285	75	0.006 mfd.	N	3 1/8″	2 1/2″ x 2 3/4″	2.8	**10.10**
P-6131	370-0-370	330	100	0.007 mfd.	N	3 1/2″	2 7/8″ x 2″ 7/8	3.5	**11.16**

VIBRATOR TRANSFORMER WITH 6 VOLT D.C. AND 117 VOLT A.C. PRIMARY

P-6166	350-0-350	—	135		C	4 3/4″	4″ x 3 5/8″	6.9	**$18.70**
		Filament—6.3 volts at 2.25 Amps.							

AUTO RADIO VIBRATOR TRANSFORMERS—EXACT DUPLICATE

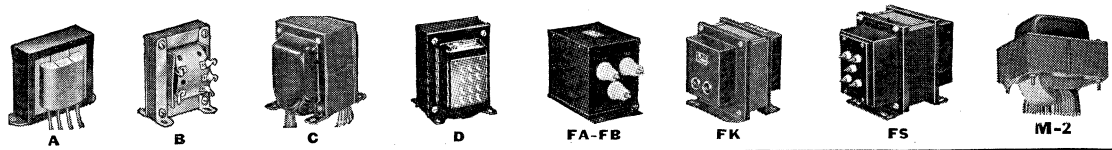
Write for FREE Stancor Auto Radio Transformer Replacement Guide listing detailed replacement information of 540 car radios.

Part No.	Original Part No.	Original Manufacture	D.C. Volts at Filter Input	D.C. Ma.	Recommended Buffer Cap.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-4064	7240519	United Motors (Delco)	280	65	0.015–0.015 mfd.	3 9/16″	2 9/16″ x 2 9/16″	2.5	**$13.04**
P-4065	7255881	United Motors (Delco)	265	56	0.006 mfd.	4 1/16″	2 3/8″ x 2 7/32″	2.6	**12.10**
P-6470	140-111	Regal (5-tube univ. series)	145	50	0.009 mfd.	2 11/16″	2 11/16″ x 2 3/16″	1.4	**8.49**
P-6471	25B472533	Motorola (408, 508, etc.)	235	70	0.006 mfd.	3″	3 3/8″ x 2 3/16″	2.0	**8.44**
P-6472	D 71014 C 217020 C 71014 25B70950	Colonial-Detrola No. 8072 Colonial-Bendix M1 Colonial-Motorola Motorola (405, 505, etc.)	270	56	0.007 mfd.	2 5/8″	2 27/32″ x 2 5/32″	2.0	**8.44**
P-6473	95-1073	Zenith	272	73	0.008 mfd.	3 1/32″	2 3/8″ x 2 1/2″	2.4	**9.60**
P-6474	95-1066	Zenith	240	52.5	0.008 mfd.	3 1/32″	2 3/8″ x 2 1/2″	2.2	**8.77**
P-6476	D 70267 C 70267	Colonial-Detrola No. 7070 Col.-Mot.-Det. No. 8030	220	53.5	0.008 mfd.	2 5/8″	2 27/32″ x 2 5/32″	2.0	**8.66**
P-6477	25C500189	Motorola	150	50	.03 mfd.	2″	1 7/8″ x 2 1/4″	1.0	**5.16**
P-6478	25C501644	Motorola	225	70	.02 mfd.	2 1/4″	2 3/16″ x 2 5/8″	1.5	**5.61**
P-6479	65-0358	Philco	260	60	.005 mfd.	2 1/2″	2 3/8″ x 3″	2.3	**6.99**
P-6480	65-0347	Philco	225	70	.0033 mfd.	2 3/16″	2 1/4″ x 2 5/8″	1.5	**5.94**
P-6481	32-8313-1	Philco	250	60	.0068 mfd.	2 1/4″	2 3/16″ x 2 5/8″	1.5	**6.33**
P-6483	VE-169	Farnsworth	240	50	.006	3 1/16″	2 1/2″ x 2 3/8″	2 1/2	**8.77**
P-6484	25B70950-E	Motorola	265	70	.007	3 1/16″	2 1/2″ x 2 3/8″	2 1/2	**9.32**
P-6485	95-1071	Zenith	240	70	.008	3 1/16″	2 1/2″ x 2 3/8″	2 1/2	**9.66**
P-6486	25C479586-C	Motorola	240	80	.007	3 1/4″	2 7/8″ x 2 3/4″	3 1/2	**10.27**
P-6487	25B-231303	Motorola	170	60	.007	2 11/16″	2 3/16″ x 2 3/32″	1 3/4	**7.83**
P-6488	25C-521454	Motorola	225	50	.007	2 7/8″	2 3/16″ x 2 3/8″	2	**5.55**
P-6490	C291787-1	Bendix (Ford Model 5B8F)	265	52	.006	2 1/8″	2 3/16″ x 2 5/8″	1.5	**5.55**

FOR 12 VOLT D.C. PRIMARY

P-6482	6064	United Motors (Delco)	250	60	.004 mfd.	3 1/4″	2 11/16″ x 2 11/16″	2.5	**9.71**
P-6489	6067	United Motors (Delco)	250	60	.004 mfg.	2 3/16″	2 3/16″ x 2 5/8″	2.0	**5.55**
P-6493	★25C535794	Motorola	275	75	(See Footnote)	2 3/4″	2 3/8″ x 2″	1.7	**5.16**
P-6494	32-8592-1	Philco	245	70	0.0047 mfd.	2 3/16″	2 5/8″ x 2 1/4″	1.5	**5.33**
P-6495	★25K535795	Motorola	275	75	(See Footnote)	2 3/4″	2 3/8″ x 2 1/8″	1.7	**5.33**

★2 Buffer capacitors used 0.5 mfd. and 0.04 mfd. as in original circuit.



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FILTER CHOKES

CHICAGO STANDARD TRANSFORMER CORPORATION

SMOOTHING CHOKES FOR D.C. POWER SUPPLIES.

Inductance varies with the amount of D C. flowing through the coil, therefore these units have been tested under uniform conditions. They are rated at 10 volts, 60 cycles, with maximum D.C. in winding. Tolerance of plus 15% is maintained on all ratings.

Part No.	Rating Induc. at Ma. D.C.	D.C. Res. in Ohms	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1515	20.0 hy. at 15 ma.	900	1500	A	1⅝″	2⅞″ x 1½″	0.7	**$2.44**
C-1706	4.5 hy. at 50 ma.	300	1500	A	1⅜″	2⅜″ x 1⅜″	0.4	**2.05**
C-1707	7.0 hy. at 50 ma.	550	1500	A	1⅜″	2⅜″ x 1⅜″	0.4	**2.16**
C-1003	16.0 hy. at 50 ma.	580	1500	A	2″	3¼″ x 1¾″	1.1	**2.94**
C-1708	13.0 hy. at 65 ma.	500	1500	A	2″	3¼″ x 1¾″	1.0	**3.39**
C-1355	8.0 hy. at 75 ma.	290	1500	L	2 1/16″	2 5/16″ x 1¾″	1.0	**3.39**
C-1002	15.0 hy. at 75 ma.	400	1500	A	2¼″	3¾″ x 2¼″	1.7	**3.61**
C-1420	16.0 hy. at 80 ma.	360	1500	C	3 5/16″	2⅝″ x 2⅝″	2.5	**5.99**
C-1709	8.0 hy. at 85 ma.	250	1500	A	2″	3¼″ x 2″	1.4	**3.77**
C-2305	5.0 hy. at 100 ma.	300	1500	TD	2 11/16″	2¾″ x 2 3/16″	1.5	**5.22**
C-1001	10.5 hy. at 110 ma.	225	3000	A	2⅝″	4″ x 2¼″	2.3	**4.94**
C-2303	2.5 hy. at 130 ma.	100	2000	A	2″	3¼″ x 1¾″	1.0	**3.44**
C-1421	7.0 hy. at 140 ma.	165	3000	C	3 5/16″	2⅝″ x 2⅝″	2.5	**6.83**
C-2304	2.3 hy. at 150 ma.	60	1500	A	2″	3¼″ x 1¾″	1.0	**3.55**
C-2309	3.0 hy. at 150 ma.	90	2000	A	2¼″	3¾″ x 2¼″	1.7	**4.27**
C-1710	7.0 hy. at 150 ma.	200	1500	A	2⅝″	4″ x 2¼″	2.2	**5.49**
C-1410	4.0 hy. at 175 ma.	100	3000	C	3 5/16″	2⅝″ x 2⅝″	2.4	**6.99**
C-2327	1.5 hy. at 200 ma.	85	1500	A	1⅝″	2⅞″ x 1½″	0.8	**2.72**
C-1646	5.0 hy. at 200 ma.	90	5000	C	4″	3¼″ x 3⅜″	4.5	**9.99**
C-1411	4.5 hy. at 200 ma.	80	3000	C	3⅝″	3″ x 3⅛″	3.5	**7.94**
C-1721	8.5 hy. at 200 ma.	120	3000	N	3⅞″	3⅛″ x 3″	4.4	**9.60**
C-1703	4.0 hy. at 250 ma.	60	3000	B	3½″	2⅞″ x 3⅛″	4.2	**10.10**
C-1412	4.0 hy. at 250 ma.	60	3000	C	3⅝″	3″ x 3½″	4.3	**11.60**
C-1722	8.0 hy. at 300 ma.	80	3000	N	4⅝″	3¾″ x 3½″	7.3	**15.93**
C-2308	8.0 hy. at 300 ma.	80	3000	C	4¾″	4″ x 3⅞″	7 8	**16.10**
C-1413	8.0 hy. at 300 ma.	80	5000	D	4¾″	4″ x 4⅛″	7.8	**16.10**
C-2328	0.8 hy. at 375 ma.	25	1500	A	2½″	3¾″ x 2″	1.5	**5.61**
C-1414	7.5 hy. at 400 ma.	60	5000	D	4¾″	4″ x 5⅛″	11.8	**23.25**
C-1415	6.0 hy. at 500 ma.	75	7500	FS	8⅛″	5⅝″ x 5½″	23.7	**53.89**

SWINGING CHOKES FOR INPUT SECTION OF D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. Swinging chokes are rated at 10 volts, 60 cycles, from maximum to 10% of maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

Part No.	Min. Swg. Induc.	D.C. Res. in Ohms	Approx. Range of Induc. at D.C. Ma.	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1718	10 hy.	130	13.5-3.5 hy. at 15-150	2000	C	3 3/16″	2⅝″ x 2½″	2.3	**$7.05**
C-1400	10 hy.	100	12-2 at 17.5-175	3000	C	3 3/16″	2⅝″ x 2⅝″	2.4	**7.88**
C-1401	10 hy.	80	12-2 at 20-200	3000	C	3⅝″	3″ x 3⅛″	3.5	**8.99**
C-1645	10 hy.	90	12-2 at 20-200	5000	C	4″	3¼″ x 3⅜″	4.5	**10.32**
C-1702	10 hy.	60	12-2 at 25-250	3000	B	3½″	2⅞″ x 3⅛″	4.3	**10.32**
C-1402	10 hy.	60	12-2 at 25-250	3000	C	3⅝″	3″ x 3½″	4.3	**11.60**
C-1720	16 hy.	80	20-4 at 30-300	3000	N	4⅝″	3¾″ x 3½″	7.2	**14.76**
C-2307	16 hy.	80	20-4 at 30-300	3000	C	4¾″	4″ x 3⅞″	7.9	**17.70**
C-1403	16 hy.	80	20-4 at 30-300	5000	D	4¾″	4″ x 4⅛″	7.7	**15.82**
C-1404	14 hy.	60	17-3 at 40-400	5000	D	4¾″	4″ x 5⅛″	11.7	**23.25**
C-1405	12 hy.	75	16-4 at 50-500	7500	FS	7⅝″	6⅛″ x 7″	24.3	**47.90**

SMOOTHING CHOKES FOR USE IN A.C.-D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. Filter chokes are rated at 10 volts, 60 cycles, with maximum D.C. in windings Tolerance of plus 15% is maintained on all ratings.

Part No.	Rating Induc. at Ma. D.C.	D.C. Res. in Ohms	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1080	3.5 hy. at 50 ma.	200	1500	A	1⅝″	2⅞″ x 1½″	0.7	**$2.39**
C-1325	5.0 hy. at 50 ma.	250	1500	A	1⅝″	2⅞″ x 1½″	0.7	**2.55**
C-1277	7.0 hy. at 50 ma.	300	1500	A	1⅝″	2⅞″ x 1½″	0.7	**2.83**
C-1723	4.5 hy. at 50 ma.	325	1500	A	1⅜″	2⅜″ x 1⅜″	0.4	**2.22**
C-1227	7.0 hy. at 50 ma.	350	1500	A	1⅝″	2⅞″ x 1½″	0.7	**2.78**
C-1279	8.5 hy. at 50 ma.	400	1500	A	1⅝″	2⅞″ x 1½″	0.7	**2.44**
C-1333	8.0 hy. at 50 ma.	450	1500	A	1⅝″	2⅞″ x 1½″	0.7	**2.50**
C-1215	9.0 hy. at 50 ma.	500	1500	A	1⅝″	2⅞″ x 1½″	0.7	**2.28**

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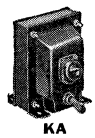
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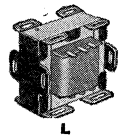
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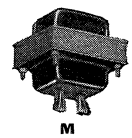
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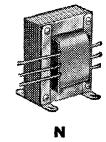
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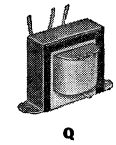
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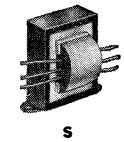
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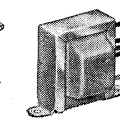
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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

MODULATION TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

PLATE MODULATION

Part No.	Impedance in Ohms	Max. Ma. D.C./Tube Pri.	Sec.	Typical Output Tubes	Class	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3812	Pri—10,000 CT Sec—4,000	32	50	Sgl.—37, 38, 41, 1G5, 6K6 Sgl.—19, 1G6, 1J6, 6E6, 6G6, 6Z7 P.P.—30, 49, 1H4	A B B	5	A	1⅝″	2⅞″ x 1½″	0.7	**$4.05**
A-3871	Pri—4,500 Sec—8,500 #Secondary used as primary.	60	50	Sgl.—6L6, HY69 #Sgl.—6B5, 6F6, 6N6	A A	10	TD	2 11/16″	2¾″ x 2 3/16″	1.4	**7.38**
A-3845	Pri—10,000 CT Sec—8,000/6,500/5,000/3,000	100	100	Sgl. 53, 79, 6A6, 6N7, 6Y7 P.P.—42, 2A5, 6F6, 6V6	B AB2	25	C	3 3/16″	2⅝″ x 2¾″	2.8	**9.27**
‡A-3835	Pri—5,000/3,000 CT Sec—10,000/8,350/5,350	80	100	P.P.—45, 50, 2A3, 6A3, 6A5, 6B4, 6L6	AB	25	C	4″	3¼″ x 3⅛″	4.0	**12.54**
A-3808	Pri—3,800/3,300 CT Sec—10,000/7,500/5,000/4,000	260	170	P.P.—6L6, 807, HY61, RK41 P.P. Par—6L6	AB2 AB1	60	D	4¾″	4″ x 2⅞″	7.7	**22.09**
A-3829	Pri—9,000/6,900 CT Sec—6,250/5,000/4,000/3,300	250	300	P.P.—RK12, HY25, 35T, HY40Z, T40, TZ40, 100TL, HK354, 756, 809, 830B	B	175	D	4¾″	4″ x 6⅛″	11.4	**28.03**

POLY-PEDANCE MODULATION MULTI-TAPPED UNITS TO PROPERLY MATCH THE OUTPUT OF THE MODULATOR STAGE TO THE MODULATED LOAD. WILL MATCH ALL COMMON IMPEDANCES OF CLASS "B" MODULATOR (2,000 to 20,000 OHMS) TO CLASS "C" LOAD IMPEDANCES OF 2,000 TO 20,000 OHMS.

The number of excellent transmitting tubes available is constantly increasing. R.F. applications, too, have increased and it is sometimes difficult to obtain the correct modulation transformer suitable for matching some given modulator tubes or R.F. load. These units give an almost unlimited range in power and impedance ratings to assure a correct impedance match in all cases.

Part No.	Max. Watts	Max. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3891	15	Pri—100 ma. Sec—100 ma.	D	3 3/16″	2⅝″ x 2⅞″	2.5	**$15.98**
A-3892	30	Pri—150 ma. Sec—150 ma.	D	4″	3¼″ x 3⅝″	4.3	**20.26**
A-3893	60	Pri—180 ma. Sec—180 ma.	D	4″	3¼″ x 4⅛″	6.2	**21.92**
A-3894	125	Pri—225 ma. Sec—225 ma.	D	4¾″	4″ x 4⅝″	9.4	**26.47**
A-3898	300	Pri—260 ma. Sec—260 ma.	FS	8⅛″	5¾″ x 7⅝″	37.9	**83.14**
A-3899	600	Pri—500 ma. Sec—500 ma.	FS	9⅛″	7¼″ x 10¼″	70.0	**165.39**

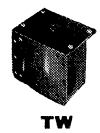
SELENIUM RECTIFIER TRANSFORMERS★

Part No.	Rectifier Circuit	Range of Applied A.C. Volts Under Load (Approx.)	Output Resistive or Inductive Load Max. D.C. Volts	Amps.	Output Capacitive Load* Max. D.C. Volts	Amps.	Mtg. Type	Overall Dimensions H W D	Shpg. Wt. (lbs.)	List Price
•RT-201	C. T.	11.7 to 29.4	11.2	2.0	13.8[1]	2.0	B	3⅛″ x 2½″ x 3⅜″	2.5	**$ 8.05**
•RT-201	Bridge	11.1 to 28.5	23.0	1.25	30.0[2]	1.25	B	3½″ x 2½″ x 3⅜″	2.5	**8.05**
•RT-202	C. T.	12.0 to 29.8	11.1	4.0	14.7[3]	4.0	B	3⅝″ x 2⅞″ x 3½″	3.8	**10.66**
•RT-202	Bridge	12.0 to 29.8	24.3	2.0	33.0[1]	2.0	B	3⅝″ x 2⅞″ x 3½″	3.8	**10.66**
•RT-204	C. T.	11.7 to 29.2	12.0	8.0	14.5[4]	8.0	B	4″ x 3¼″ x 4⅛″	6.1	**13.43**
•RT-204	Bridge	11.6 to 29.2	24.0	4.0	32.4[3]	4.0	B	4″ x 3¼″ x 4⅛″	6.1	**13.43**
•RT-206	C. T.	12.0 to 29.7	11.5	12.0	14.4[5]	12.0	B	4¼″ x 3 7/16″ x 5⅛″	9.1	**17.87**
•RT-206	Bridge	12.0 to 29.7	24.0	6.0	32.0[6]	6.0	B	4¼″ x 3 7/16″ x 5⅛″	9.1	**17.87**
•RT-208	C. T.	12.1 to 29.2	11.4	15.0	14.8[7]	15.0	B	4¾″ x 3¾″ x 5¼″	12.6	**21.15**
•RT-208	Bridge	12.1 to 29.2	23.7	8.0	32.5[4]	15.0	B	4¾″ x 3¾″ x 5¼″	12.6	**21.15**
•RT-2012	C. T.	12.1 to 29.0	11.4	22.5	14.3[8]	22.5	B	5⅜″ x 4⅜″ x 6⅜″	20.5	**32.80**
•RT-2012	Bridge	12.0 to 29.0	23.5	12.0	33.0[5]	12.0	B	5⅜″ x 4⅜″ x 6⅜″	20.5	**32.80**
•RT-408	Bridge	25.0 to 53.5	44.0	8.0	63.0[4]	8.0	B	5⅜ x 4⅜″″ x 7½″	26.5	**47.18**
•RT-4012	Bridge	25.0 to 53.0	43.5	12.0	60.0[5]	12.0	B	7⅛″ x 5⅝″ x 6¼″	33.5	**63.83**

*Transformers and Rectifiers will have a higher temperature rise when operating with a capacitive load as compared to a resistive or inductive load for a given load current. If this is undesirable extra ventilation should be provided or else the output current from the rectifier should be derated by approximately 20% from the values shown.

•New part number. ‡Designates part number to be removed from next catalog. ★Designed for a nominal input of 117 volts, 50-60 cycles.

RT Footnotes: MFD. Filter Capacitor: 1.1,000 2. 500 3. 2,000 4. 4,000 5.6,000 6. 3,000 7. 7,500 8. 12,000.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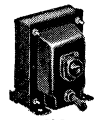
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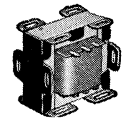
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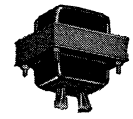
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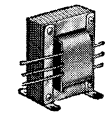
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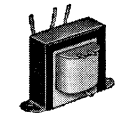
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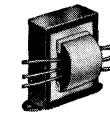
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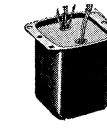
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FILAMENT TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

FILAMENT TRANSFORMERS WITH SINGLE SECONDARY

Part No.	Secondary Volts	Secondary Amperes	R.M.S. V. Insul.	Primary Volts#	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-4026	2.5	1.5	2,500	117	A	1 5/8"	2 7/8" x 1 1/8"	0.7	**$4.00**
P-4082	2.5 CT	2.5	2,500	117/107	TD	2 11/16"	2 3/4" x 2 3/16"	1.5	**8.05**
P-6133	2.5 CT	5.0	7,500	117	S	2 11/16"	3 5/16" x 2 1/4"	1.5	**6.33**
P-4083	2.5 CT	6.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 3/8"	2.2	**8.44**
P-3024	2.5 CT	10.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 5/8"	2.5	**8.33**
P-3060	2.5 CT	10.0	10,000	117	B	3 1/2"	2 7/8" x 2 1/2"	2.5	**7.94**
P-3026	5.0 CT	3.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 5/8"	2.4	**8.33**
P-4088	5.0 CT	3.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	1.8	**6.60**
***P-6467**	5.0 CT	3.0	2,500	117	A	2	3 5/16" x 2"	1.4	**5.33**
P-3062	5.0 CT	6.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	2.3	**7.05**
P-5000	5.0 CT	6.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 7/8"	3.1	**9.66**
P-6135	5.0 CT	10.0	2,500	117	N	3 1/8"	2 1/2" x 2 7/8"	3.0	**8.27**
P-4086	5.0 CT	14.0	10,000	117/107	FA	5 1/8"	4 1/4" x 8 1/2"	12.3	**29.14**
P-6302	5.0 CT	22.0	10,000	117/107	FA	5 1/8"	4 1/4" x 8 1/2"	13.5	**32.75**
P-6492	5.0 CT	30.0	2,500	117	C	4 3/4"	3 3/4" x 3 7/8"	7.5	**18.08**
P-6468	5.0 CT	30.0	2,500	117/107	D	4 5/16"	3 9/16" x 3 7/8"	4.3	**18.04**
P-6305	5.0 CT	30.0	10,000	117/107	FB	5 1/8"	4 1/4" x 10"	18.3	**40.79**
P-6137	5.25 CT	13.0	2,500	117	N	3 1/8"	3 1/16" x 3 1/4"	5.2	**12.88**
P-6134	6.3 CT	1.2	3,000	117	A	1 5/8"	2 7/8" x 1 5/8"	0.8	**3.22**
P-8190	6.3	1.2	5,000	117	A	2	3 1/4" x 1 3/4"	1.0	**4.22**
P-8191	6.3	1.2	5,000	6.3	A	2	3 1/4" x 1 3/4"	1.0	**4.55**
P-5014	6.3 CT	3.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	2.0	**6.05**
P-6466	6.3 CT	3.0	2,500	117	A	2	3 5/16" x 2"	1.4	**5.16**
P-4019	6.3 CT	4.0	2,500	117/107	C	3 5/16"	2 5/8" x 2 5/8"	2.7	**7.99**
P-3064	6.3 CT	6.0	2,500	117	B	3 1/8"	2 1/2" x 2 7/8"	2.4	**9.64**
P-4089	6.3 CT	6.0	2,500	117/107	C	3 5/8"	3" x 3 1/8"	3.5	**9.16**
P-6308	6.3 CT	10.0	2,500	117/107	N	3 1/2"	2 7/8" x 2 3/4"	3.4	**8.33**
P-6309	6.3 CT	20.0	2,500	117/107	N	4 5/8"	3 3/4" x 3"	6.7	**15.76**
P-5015	7.5 CT	4.0	2,500	117	B	3 1/8"	2 1/2" x 2 7/8"	2.7	**7.05**
P-4091	7.5 CT	5.0	2,500	117/107	C	3 5/8"	3" x 3"	3.4	**11.16**
P-6138	7.5 CT	8.0	2,500	117	N	3 7/8"	3 1/8" x 2 7/8"	4.7	**10.21**
P-5016	10.0 CT	4.0	2,500	117	B	3 1/2"	2 7/8" x 2 5/8"	3.3	**8.49**
P-4096	10.0 CT	5.0	2,500	117/107	C	4"	3 1/4" x 3 1/8"	4.0	**10.10**
P-6139	10.0 CT	8.0	2,500	117	N	3 7/8"	3 1/8" x 3 1/8"	4.9	**10.32**
P-4097	10.0 CT	8.0	2,500	117/107	C	4"	3 1/4" x 3 5/8"	5.2	**11.21**
P-5002	10.0 CT	12.0	7,500	117/107	FA	5 1/16"	4 1/4" x 8 1/2"	14.7	**31.47**
P-3020	11.0 CT	10.0	2,500	117/107	C	4 3/4"	4" x 3 1/2"	7.7	**16.59**
P-8130	12.6 CT	2.0	1,500	117	A	2"	3 1/4" x 2"	1.4	**5.72**
P-6469	25.2	1.0	1,500	117	A	2"	3 1/4" x 2"	1.4	**5.44**

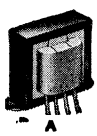
FILAMENT TRANSFORMERS WITH MULTIPLE SECONDARY

P-6144	2.5 CT 5.0 CT 6.3 CT	3.5 3.0 3.0	2,500 2,500 2,500	117	C	3 5/8"	3" x 3 1/8"	3.7	**$12.99**
P-6338	2.5 5.0 5.0 CT 6.3 CT	3.0 3.0 2.0 3.0	2,500 2,500 2,500 2,500	117	N	3 1/2"	2 7/8" x 2 3/4"	3.4	**12.32**
P-5009	5.0 CT 6.3 CT	3.0 6.0	2,500 2,500	117/107	C	4"	3 1/4" x 3 1/4"	4.5	**14.82**
P-5008	5.0 CT 6.3 CT	4.0 3.6	2,500 2,500	117/107	C	3 5/8"	3" x 3 1/4"	3.8	**13.04**
P-4022	5.0 CT 6.3 CT	6.0 6.0	2,500 2,500	117/107	C	4"	3 1/4" x 3 3/8"	4.8	**13.93**
P-6333	5.0 5.0 6.3 CT 7.5/6.3 CT	3.0 3.0 4.0 3.0	2,500 2,500 2,500 2,500	117	B	3 1/2"	2 7/8" x 3 7/8"	4.7	**14.32**

TUBE CHECKER MULTI-TAPPED FILAMENT TRANSFORMER

Part No.	Secondary Volts	Primary Volts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-1834-3	1.1/ 1.4/ 1.5/ 2.0/ 2.5/ 3.0/ 3.3/ 5.0/ 6.3/ 7.0/ 7.5/ 12/ 25/ 30/ 35/ 50/ 70/ 85/ 110/ 117	125/115/105	A	2 5/8"	4" x 2"	2.4	**$15.76**

#All primary windings for 60 cycle operation. ‡Designates part number to be removed from next catalog.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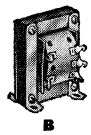
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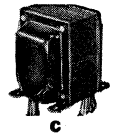
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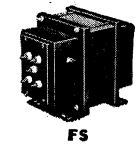
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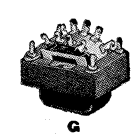
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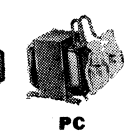
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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

PLATE TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

PLATE TRANSFORMERS

Part No.	D.C. Volts	Sec. A.C. Volts at Plate	D.C. Ma. CCS	D.C. Ma. ICAS	Pri. Volts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-8040	400 40	500/40–0–500	300	375	115	C	4¾″	4″ x 4½″	9.8	**$22.48**
P-8041	500 400 40	615/520/40–0–520/615	250	310	115	C	4¾″	4″ x 5⅛″	13.6	**24.31**
P-8042	600 400 40	770/510/40–0–510/770	300	375	115	C	4¾″	4″ x 6⅜″	18.0	**35.80**
P-8043	750 600 40	950/750/40–0–750/950	300	375	115	FS	7⅞″	6⅛″ x 8½″	29.0	**66.54**
P-8025	1000 750	1230/940–0–940/1230	400	500	115	FS	7⅝″	6⅛″ x 9½″	35.0	**84.64**
P-8026	1250 1000	1475/1175–0–1175/1475	300	375	115	FS	7¾″	7⅜″ x 8¼″	36.5	**80.48**
P-8027	1250 1000	1510/1210–0–1210/1510	500	625	115	FS	8″	5⅝″ x 8¼″	45.2	**95.18**
P-8028	1500 1250	1740/1460–0–1460/1740	300	375	115	FS	8⅛″	5⅝″ x 7⅞″	38.7	**85.19**
P-8029	1500 1250	1775/1500–0–1500/1775	500	625	115–230	FS	9⅞″	7¼″ x 8⅜″	65.0	**130.92**
‡P-8030	1750 1500	2100/1800–0–1800/2100	300	375	115	FS	7¾″	7⅜″ x 9″	45.8	**93.80**
‡P-8031	1750 1500	2075/1775–0–1775/2075	500	625	115–230	FS	10½″	7¼″ x 8⅛″	65.5	**129.81**
‡P-8032	2000 1750	2400/2100–0–2100/2400	300	375	115	FS	7¾″	7⅜″ x 9¼″	46.0	**110.45**
P-8033	2000 1750	2375/2065–0–2065/2375	500	625	115–230	FS	11¼″	7⅜″ x 9½″	77.0	**162.62**
P-8034	2500 2000	2900/2385–0–2385/2900	300	375	115–230	FS	11¼″	7⅜″ x 8¾″	62.8	**158.18**
P-8035	2500 2000	2950/2375–0–2375/2950	500	575	115–230	FS	11¼″	7⅜″ x 10¼″	80.0	**172.61**

PLATE TRANSFORMERS—NEW FUNCTIONAL UNITS

No exposed terminals. Insulated leads provide protected routing to circuits. Simplified design offers ease of mounting and neat, convenient circuit wiring. No difficult cutouts needed.

Each of these units is "all transformer," taking a minimum of chassis space. No bulky casing or protruding, "hot" terminals to increase mounting area.

D.C. output rated CCS at load terminals of single-section reactor-input filter, ICAS with single-section capacitor-input filter. Primaries for 117 volts, 60 cycles.

Type Part No.	Secondary A.C. Volts	D.C. Output Volts	D.C. Output Ma.	Type Filter	Rectifier	List Price
PC8301	415-0-415	300 425	200 160	Reactor Input Capacitor Input	5U4G 5U4G	**$13.38**
PC8302	515-0-515	385 500	235 200	Reactor Input Capacitor Input	5U4G 5R4GY	**17.15**
PC8303	665-0-665	500 750	250 200	Reactor Input Capacitor Input	5R4GY 5R4GY	**21.70**
PC8304	750-0-750	600 850	265 200	Reactor Input Capacitor Input	2-5R4GY 5R4GY	**24.31**
PC8305	920-0-920	750 1000	250 200	Reactor Input Capacitor Input	2-5R4GY 5R4GY	**25.36**
PC8306*	920-0-920	750 1100	150 125	Reactor Input Capacitor Input	5R4GY 5R4GY	**25.75**
	500-0-500	380 550	150 125	Reactor Input Capacitor Input	5U4G 5U4G	

D.C. output rated at load terminals of single-section, reactor-input filter with full-wave mercury-vapor rectification. Primaries for 117 volts, 60 cycles

Type and Part No.	Secondary A.C. Volts	D.C. Volts	D.C. Ma. CCS	D.C. Ma. ICAS	List Price
PT8311	1200-0-1200	1000	225	280	**$27.97**
PT8312	1200-0-1200	1000	325	405	**46.29**
PT8313	1475-0-1475	1250	250	310	**44.34**
PT8314	1790-0-1790	1500	225	280	**51.17**
PT8315	2065-0-2065	1750	200	250	**51.62**

BIAS SUPPLY TRANSFORMERS

Part No.	High Voltage Supply A.C. Volts at D.C. Milliamps.	Rectifier Fil. Volts	Rectifier Fil. Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6317	200/170/130/90/0/90/130/170/200 @ 200 ma.	5.0	3.0	CD	4″	3¼″ x 3⅝″	4.9	**$19.09**
P-6318	450/400/350/250/0/250/350/400/450 @ 200 ma.	5.0	3.0	CD	4⅝″	3⅝″ x 4⅛″	7.0	**21.70**

All Primary Windings for 60 cycle operation. ‡Designates part number to be removed from next catalog.
§Output changed by means of tap on primary winding. Rating is for a single section choke input filter using a 6 mfd. condenser.

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ISOLATION AND AUTOFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

STRAIGHT ISOLATION—125/115/105 VOLTS TO 115 VOLTS.†

Part No.	Wattage	Primary#	Secondary	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6160	100	125/115/105	115	KA	4¾″	4″ x 3⅝″	7.0	**$22.37**
P-6161	250	125/115/105	115	KA	4¾″	4″ x 5⅜″	14.2	**42.12**
P-6298	500	125/115/105	115	FK	7⅝″	6⅛″ x 7⅛″	28.0	**65.77**
P-6125	1000	125/115/105	115	FK	7¾″	5⅝″ x 7¾″	34.8	**86.30**
P-6123	1500	125/115/105	115	FK	7¾″	5⅝″ x 9″	49.8	**107.61**

STEP-DOWN ISOLATION—250/230/210 VOLTS TO 115 VOLTS.†

P-6383	100	250/230/210	115	KA	4¾″	4″ x 3⅝″	7.3	**$24.36**
P-6385	250	250/230/210	115	KA	4¾″	4″ x 5⅜″	14.2	**39.68**
P-6387	500	250/230/210	115	FK	7⅝″	6⅛″ x 7⅛″	29.5	**66.54**
P-6389	1000	250/230/210	115	FK	7¾″	5⅝″ x 8″	33.8	**87.41**
P-6390	1500	250/230/210	115	FK	7¾″	5⅝″ x 9⅜″	50.3	**120.93**

ISOLATION TESTING TRANSFORMER

P-6415	350	117	105/115/125	KC	5⅜″	4½″ x 5¾″	17.0	**$35.46**

Large enough to handle almost any television or radio receiver on test. Has three standard receptacles, providing output voltages of 105, 115 and 125, with 117 volts, A.C., from the line for testing purposes or for correction of high or low line voltage. Has electrostatic shield.

†Built-in electrostatic shields are grounded to core internally.

AUTOFORMERS

P-6287	40	230	115	—	4½″	3″ Diam. can	2.7	**$10.55**
P-5062	80	230	115	K	3⅝″	3″ x 3¼″	3.8	**11.99**
P-5063	100	230	115	K	4″	3¼″ x 3¼″	4.5	**13.32**
P-5064	150	230	115	K	4⅝″	3⅝″ x 3⅝″	5.2	**15.71**
P-5065	300	230	115	K	4¾″	4″ x 4⅛″	8.8	**20.70**
P-6141	500	230	115	K	4¾″	4″ x 5⅛″	13.7	**25.64**
P-6124	1000	230	115	FK	7⅛″	5⅝″ x 6¾″	24.5	**59.11**
P-6299	150	115	150/140/130/120/110/100/90	KA	4″	3¼″ x 4¾″	6.0	**21.15**

Testing Autoformer—Designed especially for various service and test application. Incorporates a convenient tap switch to permit variable voltages from 90 to 150 volts. It may be used to apply an overload voltage to amplifiers, radio receivers, or other electronic devices being serviced, which will indicate and cause suspected parts to break down. Primary equipped with 6 ft. approved cord and plug. Secondary connected to female receptacle.

LINE ADJUSTING AUTOFORMERS

Stancor Line Adjusters permit operation of electrical devices at 115 volts when the supplied voltage is 65, 75, 90, 100, 115, 130 or 145. They are also useful for altering a 115 volt line above or below that level. The line adjuster input is correctable in seven steps by means of a selector switch and is accurately indicated by an output voltmeter. The meter has a convenient red-line marker at 115 volts on a 150 volt scale.

Type and Part No.	Va.*	Input Voltage 50-60 Cycle	Output Voltage	Height	Base Area	Shpg. Wt. in Lbs.	List Price
PV-6441	150	65/75/90/100/115/130/145	115	5½″	3⅞″ x 5⅜″	6.4	**$24.36**
PV-6442	350	65/75/90/100/115/130/145	115	5½″	3⅞″ x 6⅛″	10.5	**30.97**
PV-6443	500	65/75/90/100/115/130/145	115	5½″	3⅞″ x 6⅞″	15.0	**38.57**
PV-6444	750	65/75/90/100/115/130/145	115	6⅝″	4½″ x 8⅛″	19.0	**58.16**

*Watts to pure resistive load. To other types of loads, multiply rating of line adjuster by power factor of load for actual wattage.
#All Primary Windings for 60 cycle operation.

CATHODE RAY TUBE POWER TRANSFORMERS

For use with type 2X2 rectifier tubes in a conventional half-wave voltage supply.

Part No.	Plate Supply A.C. Volts	D.C. Milliamperes	Rectifier Filament Volts—Amperes		Other Windings Volts—Amperes		Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-8150	1,550 half-wave	1.5	2.5	1.75	...	...	TD	3 1/16″	3″ x 2½″	1.8	**$12.21**
P-8151	2,400 half-wave	5.0	2.5	2.0	2.5	2.0	C	4 5/16″	3 9/16″ x 3⅞″	6.4	**18.09**

PHOTOFLASH POWER TRANSFORMER

Part No.	Application	Pri.	Sec.	Mtg. Type	Height Overall	Base Area	Mtg. Ctrs.	Shpg. Wt. in Lbs.	List Price
P-6425	For use in Sprague electronic flash circuits. See Sprague Electronic Flash Handbook C-703	105/115/125V. 60 cy.	Charges up to 1050 mfd. to 450 Volts D.C.	S	2 5/16″	2 15/16″ x 2″	2⅜″	1.4	**$5.83**
P-6426	Trigger coil for use with 450V. flashtube. Replaces G.E. 86G41				¾″	9/16″ diam.		0.2	**$2.78**

SPEAKER FIELD SUPPLY TRANSFORMER

Part No.	Plate Supply A.C. Volts	D.C. Milliamperes	Rectifier Filament Volts—Amperes		Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6146	120-0-120	250	5.0	3.0	C	4″	3¼″ x 3⅛″	4.2	**$13.04**

All Primary Windings for 117 V-60 cycle operation unless otherwise indicated.

CONDENSER TESTER POWER TRANSFORMER

Part No.	Plate Supply A.C. Volts	D.C.-M.A.	Fil. Wdgs. Volts	Amps.	Overall Dimensions L	W	D	Mtg.§ Type	Shpg. Wt. in Lbs.	List Price
P-6459	550	30	6.3	0.9	2⅝″	2 3/16″	2¼″	Coil and Iron	1.4	**$9.10**
	55	60	6.3	0.6						

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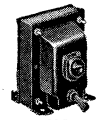
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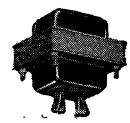
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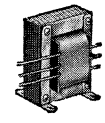
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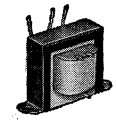
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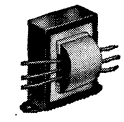
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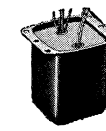
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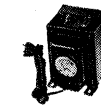
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CHICAGO

MILITARY and NEW EQUIPMENT

POWER TRANSFORMERS
FILTER REACTORS

CHICAGO STANDARD TRANSFORMER CORPORATION

POWER TRANSFORMERS—PLATE AND FILAMENT SUPPLY

For CAPACITOR INPUT SYSTEMS—Primary 117 Volts, 50-60 Cycles

High Voltage Secondary			Filaments				Wt.	H-Type Mounting			S-Type Mounting			C-Type Mounting		
Volts	Ma. Output		Rectifier		Others			Cat.	Case	List	Cat.	Case	List	Cat.	Case	List
A-C-	D-C	V.D-C	Volts	Amps.	Volts	Amps.	Lbs.	No.	No.	Price	No.	No.	Price	No.	No.	Price
250-0-250	10	320	6.3	1.2	6.3	0.6	1¼	PHC-10	14	$18.75	.....			.....		
250-0-250	20	300	6.3	1.2	6.3	0.6	1¾	PHC-20	15	19.00	.....			.....		
225-0-225	40	210	5	2	6.3CT	2	3¼	PHC-40	17	21.50	PSC-40	17	$12.00	PCC-40	16	$ 8.50
270-0-270	55	260	5	2	6.3CT	2	3½	PHC-55	17	21.90	PSC-55	17	14.10	PCC-55	16	9.15
300-0-300	60	285	5	2	6.3CT	3	4½	PHC-60	19	23.80	PSC-60	19	14.85	PCC-60	18	10.50
335-0-335	70	320	5	2	6.3CT	3	4½	PHC-70	19	24.25	PSC-70	19	16.20	PCC-70	18	11.25
330-0-330	85	320	5	2	6.3CT	3	6	PHC-85	20	26.00	PSC-85	20	18.65	PCC-85	20	13.00
345-0-345	105	320	5	2	6.3CT	3.5	6½	PHC-105	21	27.70	PSC-105	21	19.75	PCC-105	20	14.10
375-0-375	120	380	5	3	6.3CT	4	9½	PHC-120	21	29.30	PSC-120	22	20.80	PCC-120	22	15.85
370-0-370	150	390	5	3	6.3CT	4										
					6.3CT	1	11½	PHC-150	22	38.90	PSC-150	22	27.50	PCC-150	22	18.15
385-0-385	200	390	5	3	6.3CT	4.5										
					6.3CT	1	12¼	PHC-200	22	41.65	PSC-200	22	29.25	PCC-200	22	21.15
400-80-0-	250	410	5	6	6.3CT	7										
80-400					5	2	15	PHC-250	24	45.60	PSC-250	24	33.85	PCC-250	24	26.05
625-0-625	300	685	5	4	6.3	8										
					6.3	3										
					6.3	3	21				PSC-300	24	51.80	PCC-300	24	31.50

For REACTOR INPUT SYSTEMS—Primary 117 Volts, 50-60 Cycles

350-0-350	55	260	5	2	6.3CT	2	3¼	PHR-55	17	$21.65	PSR-55	17	$14.50	PCR-55	16	$ 9.50
425-0-425	70	320	5	2	6.3CT	3	4½	PHR-70	19	23.45	PSR-70	19	16.50	PCR-70	18	10.75
440-0-440	85	325	5	2	6.3CT	3	6	PHR-85	20	25.15	PSR-85	20	19.00	PCR-85	20	12.50
450-0-450	105	320	5	2	6.3CT	3.5	6½	PHR-105	21	27.70	PSR-105	21	20.00	PCR-105	20	13.35
500-0-500	120	390	5	3	6.3CT	4	9½	PHR-120	21	29.30	PSR-120	22	21.25	PCR-120	22	14.95
510-0-510	150	395	5	3	6.3CT	4										
					6.3CT	1	11½	PHR-150	22	36.30	PSR-150	22	27.85	PCR-150	22	19.75
520-0-520	200	390	5	3	6.3CT	4.5										
					6.3CT	1	12¼	PHR-200	22	38.20	PSR-200	22	29.75	PCR-200	22	21.50
550-370-75-	300	420	5	6	6.3CT	1										
0-75-370-550					6.3CT	5	17½	PHR-300	24	52.15	PSR-300	24	42.50	PCR-300	24	30.50
480-0-480	300	380	5	6	6.3	10	19				PSR-300A	24	37.90	PCR-300A	24	31.05

For REGULATED POWER SUPPLIES, CAPACITOR INPUT—Primary 117 Volts, 50-60 Cycles

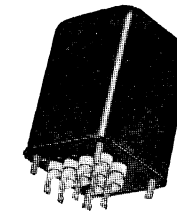
High Voltage Secondary			Filaments						Wt.	H-Type Mounting			S-Type Mounting		
Volts	Ma. Output		Rectifier		Others					Cat.	Case	List	Cat.	Case	List
A-C	D-C	V.D-C-	Volts	Amps.	Volts	Amps.	Volts	Amps	Lbs.	No.	No.	Price	No.	No.	Price
440-0-440	165	430	5	3	6.3	7.5	6.3	3	12	PHC-165	22	$47.65	PSC-165	22	$39.75
					6.3	0.6	6.3	3							
450-0-450	200	442	5	2	6.3	4	6.3	0.6	12	PHC-200A	22	42.95	PSC-205	22	34.75
					6.3	4									

FILTER REACTORS

Inductance in Henries	Max. Current Ma. D-C	D-C Resistance in Ohms	Insulation Test Volts	Wt. Lbs.	H-Type Mounting Cat. No.	Case No.	List Price	S-Type Mounting Cat. No.	Case No.	List Price	C-Type Mounting Cat. No.	Case No.	List Price
15	10	680	1,000	1	RH-1510	8	$9.75	.....			.....		
15	20	680	1,000	1	RH-1520	8	10.30	.....			.....		
15	40	475	2,500	1½	RH-1540	12	10.40	RS-1540	12	$ 6.00	RC-1540	12	$ 4.25
15	55	420	2,500	2	RH-1555	13	10.75	RS-1555	13	7.00	RC-1555	12	5.20
15	85	285	2,500	2¾	RH-1585	14	11.40	RS-1585	15	8.45	RC-1585	14	6.30
12	105	170	2,500	4	RH-12105	17	13.35	RS-12105	17	8.50	RC-12105	16	7.35
12	150	150	2,500	5½	RH-12150	19	15.30	RS-12150	19	11.35	RC-12150	18	9.75
12	200	140	2,500	7	RH-12200	20	18.00	RS-12200	21	13.30	RC-12200	20	11.50
10	55	230	2,500	1¾	RH-1055	13	10.75	RS-1055	13	6.65	RC-1055	12	4.95
10	85	175	2,500	2½	RH-1085	14	11.40	RS-1085	15	7.00	RC-1085	14	5.85
8	105	100	2,500	3¾	RH-8105	17	13.35	RS-8105	17	8.75	RC-8105	16	7.00
8	150	100	2,500	5¼	RH-8150	18	15.30	RS-8150	19	11.00	RC-8150	18	9.65
8	200	85	2,500	7	RH-8200	20	18.00	RS-8200	21	13.00	RC-8200	20	11.35
8	250	90	2,500	10½	RH-8250	22	21.70	RS-8250	22	15.75	RC-8250	22	12.90
8	300	55	3,500	12½	RH-8300	22	25.85	RS-8300	22	18.75	RC-8300	22	15.90

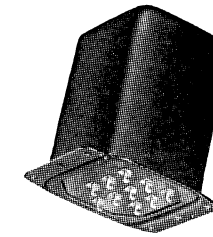
FILAMENT TRANSFORMERS—Primary 115-230 Volts, 50-60 Cycles

Secondary Volts	Secondary Amps.	Insulation Test Volts	Wt. Lbs.	H-Type Mounting Cat. No.	Case No.	List Price	S-Type Mounting Cat. No.	Case No.	List Price
2.5CT	5.25	3,500	2	FH-25	15	$15.45	F-25	14	$10.55
2.5CT	10.0	5,000	3	FH-210	15	22.15	F-210	17	15.15
2.5CT	10.0	9,000	4	FH-210H	19	25.75	F-210H	19	17.75
2.5CT	15.0	9,000	6	FH-215H	21	30.95	F-215H	20	21.25
5CT	4.0	2,500	2¼	FH-54	15	16.10	F-54	15	10.85
5CT	10.0	2,500	3½	FH-58	17	22.15	F-58	17	14.50
5CT	10	8,000	6	FH-510H	21	33.00	F-510H	21	22.50
5CT	26.0	2,500	6½	FH-516	21	32.00	F-516	21	21.85
5CT	20	10,000	13	FH-520HB	22	41.25	F-520HB	22	28.25
5CT	30	2,500	10½	FH-530	22	41.25	F-530	22	28.25
6.3CT	1.5	2,500	1	FH-615	12	11.75	F-615	12	6.25
6.3CT	3	2,500	2	FH-63	14	15.95	F-63	14	8.75
6.3CT	5.5	2,500	3	FH-65	16	18.55	F-65	17	12.75
6.3CT	10.0	2,500	5	FH-610	19	26.25	F-610	19	16.30
7.5CT	5.0	2,500	3¼	.....			F-75	17	12.25
7.5CT	12	2,500	6½	.....			F-712	21	21.25
7.5CT	25.0	2,500	12	.....			F-725	22	28.25
10CT	4.0	2,500	3¼	FH-104	17	19.05	F-104	17	13.00
10CT	6.5	2,500	5	FH-106	19	26.25	F-106	19	17.95
10CT	10.0	2,500	6½	FH-1010	21	30.95	F-1010	21	21.25
11CT	10.0	2,500	9½	FH-1110	21	32.95	F-1110	22	20.50

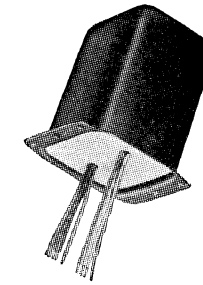


MEETS MIL-T-27 SPECS

H-Type. Steel base cover deep-seal soldered into case. Terminals hermetically sealed. Ceramic bushings. Stud-mounted unit.



S-Type. Steel base cover fitted with phenolic terminal board. Convenient numbered solder lug terminals. Flange-mounted unit.



C-Type. With 10" color-coded stripped and tinned leads brought out through fibre board base cover. Flange-mounted unit.

S-TYPE & C-TYPE CASE DIMENSIONS

(H-Type Dimensions on Page N-13)

Case No.	Depth	Width	Height
12	2¼	2⅛	2 11/16
13	2¼	2⅛	2 15/16
14	2½	2⅜	3 1/16
15	2½	2⅜	3 5/16
16	2⅞	2 11/16	3½
17	2⅞	2 11/16	3¾
18	3¼	3	3⅞
19	3¼	3	4¼
20	3 11/16	3⅝	4 5/16
21	3 11/16	3⅝	4 11/16
22	4 5/16	4⅛	5 5/16
24	5 5/16	4 13/16	6 1/16

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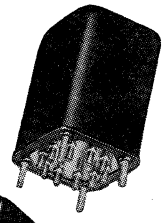
CHICAGO

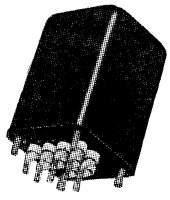
MILITARY and NEW EQUIPMENT

AUDIO TRANSFORMERS

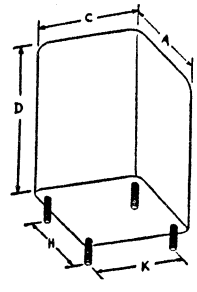
CHICAGO STANDARD TRANSFORMER CORPORATION

B-TYPE MOUNTING





H-TYPE MOUNTING

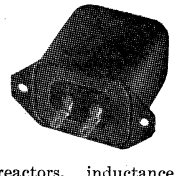


H & B TYPE MTG. DIMENSIONS

Case Size	Dimensions in Inches A	C	D	H	K
8	1½	1½	1 15/16	1	1
9	1½	1½	2 1/8	1	1
12	2 1/4	2 1/8	2 11/16	1 9/16	1 3/8
13	2 1/4	2 1/8	2 15/16	1 9/16	1 3/8
14	2½	2 3/8	3 1/16	1 13/16	1 11/16
15	2½	2 3/8	3 5/16	1 13/16	1 11/16
16	2 7/8	2 11/16	3 1/2	2	1 7/8
17	2 7/8	2 11/16	3 3/4	2	1 7/8
18	3 1/4	3	3 7/8	2 3/8	2 1/8
19	3 1/4	3	4 1/4	2 3/8	2 1/8
20	3 11/16	3 5/16	4 5/16	2 5/8	2 3/8
21	3 11/16	3 5/16	4 11/16	2 5/8	2 3/8
22	4 9/16	4 1/8	5 5/16	3 3/8	3
24	5 5/16	4 13/16	6 1/16	3 3/8	3

HIGH Q CHOKES

For Dynamic Noise Suppression Circuits (S-Type Mounting)



Two efficient reactors, inductance values .8 and 2.4 henrys respectively, are designed for noise suppression circuits, but can be used in any tuned circuit requiring the given inductances. Inductance values accurate within −5% with up to 15 ma. d-c. Minimum Q of 20. Mounted in drawn steel cases, 1 21/32" x 1 13/32" x 1 21/32" high.

Cat. No.	Inductance	List Price
NSI-1	.8 hy.	$9.75
NSI-2	2.4 hy.	9.75

(S-Type and C-Type Case Dimenisons on Page N-13.

FULL FREQUENCY RANGE AUDIO TRANSFORMERS

Frequency Response within ±½ db, 30 to 15,000 Cycles

INPUT TRANSFORMERS

H-Type (Cat. No. BIH) and B-Type (Cat. No. BI) Mountings

Application	Impedance Primary—Secondary	Max. Power Level	Hum Shielding	Case Size	Wt. Lbs.	Cat. No.	List Price
Line to Single or P-P Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	−70 dbm.	13	1½	BIH-1 BI-1	$45.40 28.75
Line to Single or P-P Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	−90 dbm.	13	1½	BIH-2 BI-2	59.85 36.75
Line bridging to P-P Grids	*Pri: 8,000/6,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	−70 dbm.	13	1½	BIH-3 BI-3	47.45 29.95
Line to Line	Pri: 600/150 ohms CT Sec: 600/150 ohms CT	+15 dbm.	−70 dbm.	13	1½	BIH-4 BI-4	43.35 27.35
Line to Line	*Pri: 600/150 ohms CT *Sec: 600/150 ohms CT	+30 dbm.	−90 dbm.	18	3¼	BIH-5 BI-5	61.95 39.15
Interstage: P-P Plates to Sgl. or P-P Grids	*Pri: 20,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	−70 dbm.	13	1½	BIH-6 BI-6	45.40 28.75
Low Imped. Mike, Pickup, or Multiple Line to Grid	Pri: 50/150/250/600 *Sec: 50,000 ohms CT	+15 dbm.	−70 dbm.	13	1½	BIH-7 BI-7	47.45 29.95
Single Plate to Push-Pull Grids	Pri: 10,000 ohms *Sec: 50,000 ohms CT	+15 dbm.	−70 dbm.	13	1½	BIH-8 BI-8	45.40 28.75
Single Plate to Push-Pull Grids**	Pri: 10,000 ohms *Sec: 50,000 ohms CT	+15 dbm.	−70 dbm.	18	3¼	BIH-9 BI-9	53.70 19.35

OUTPUT TRANSFORMERS

H-Type (Cat. No. BOH) and B-Type (Cat. No. BO) Mountings

Application	Impedance Primary—Secondary	Max. Power Level	Case Size	Wt. Lbs.	Cat. No.	List Price
Single Plate to Line	†Pri: 15,000 ohms *Sec: 600/150 ohms CT	+15 dbm. (22 mw)	14	2¼	BOH-1 BO-1	$26.80 16.95
P-P Plates to Line	*Pri: 20,000 ohms CT *Sec: 600/150 ohms CT	+30 dbm. (1 watt)	16	3	BOH-2 BO-2	39.20 22.50
P-P Plates to Line	Pri: 5,000 ohms CT *Sec: 600/150 ohms CT	+40 dbm. (10 watts)	20	5¾	BOH-3 BO-3	35.10 22.15
P-P Plates to Line	Pri: 7,500 ohms CT *Sec: 600/150 ohms CT‡	+43 dbm. (20 watts)	20	6	BOH-4 BO-4	37.10 23.50
P-P Plates to Line or Voice Coil	*Pri: 10,000 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+37 dbm. (5 watts)	18	4	BOH-5 BO-5	49.50 27.20
P-P Plates to Voice Coil	Pri: 7,500 ohms CT Sec: 8/20 ohms‡	+43 dbm. (20 watts)	20	6	BOH-6 BO-6	47.45 29.25
Line to Voice Coil	Pri: 600/150 ohms Sec: 8/20 ohms	+45 dbm. (30 watts)	20	6½	BOH-7 BO-7	45.40 23.30
P-P Parallel Pl. to Line or Voice Coil	Pri: 1500 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+45 dbm. (30 watts)	21	6½	BOH-8 BO-8	61.95 30.80
P-P Plates to Line or Voice Coil	*Pri: 5000/3000 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+42 dbm. (15 watts)	20	6	BOH-9 BO-9	45.40 28.75
P-P Low Level Plates to Line	Pri: 20,000 ohms CT *Sec: 600/150 ohms CT	+15 dbm. (22 mw)	13	1½	BOH-10 BO-10	43.35 27.50
P-P Plates to Line or Voice Coil	*Pri: 3000/2500 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+46 dbm. (40 watts)	22	9½	BO-11	41.45
P-P Plates to Line or Voice Coil	Pri: 10,000 ohms CT Sec: 600/16/8 ohms	+40 dbm. (10 watts)	22	9	BO-12	29.75
P-P Plates to Voice Coil	Pri: 10,000 ohms Sec: 16/8/4 ohms	+43 dbm. (20 watts)	21	7	BO-13	29.75
P-P Plates to VC, pentode, triode or Ult.-Lin. Circuits	Pri: 5000 phms CT Sec: 16/8 ohms: 70.7 volts	+50 dbm. (100 watts)	24	24	BO°14	66.25

*Split and balanced windings. †0 to 10 ma. D.C. ‡Has tertiary winding to provide 15% inverse feedback. **Has D.C. in primary; frequency response ±2 db, 30–15,000 cycles.

DETAILS OF NEW EQUIPMENT LINE MOUNTINGS

H-TYPE MOUNTING—Hermetic sealing meets all MIL-T-27 specifications. Steel base cover is bonded into the case by deep-seal soldering. Terminals are hermetically sealed by unique rubber gasket—ceramic bushing construction. Units are stud mounted.

C-TYPE MOUNTING—Moisture-resistant compound surrounds coil and core. Ten-inch, RMA-color-coded leads, ends stripped and tinned for easy soldering. Flange-mounted drawn steel cases.

S-TYPE MOUNTING—Precision-fitted steel base-covers and terminal boards, plus compound filling, keep moisture out. Solder-lug terminals are clearly identified, easy to use. Drawn steel cases are flange-mounted.

B-TYPE MOUNTING—Steel bases are bonded into the drawn steel cases by deep-seal soldering to make units completely moisture proof. Stud-mounted cases take minimum chassis space. Convenient, compact, pin-type terminals.

BIAS TRANSFORMERS—Combination Plate and Filament—Primary 50-60 Cycles

Primary Volts	High Voltage Secondary AC Volts CT	DC Ma.	Rect. Volts	Fila. Amps.	H-Type Mounting Cat. No.	Case No.	List Price	S-Type Mounting Cat. No.	Case No.	List Price	C-Type Mounting Cat. No.	Case No.	List Price
115	180-160-140-120	150	5.0	3.0	1BH-150	19	$26.80	1BS-150	19	$16.95	1BC-150	18	$10.75
230	180-160-140-120	150	5.0	3.0	2BH-150	19	26.25	2BS-150	19	16.60	2BC-150	18	10.50

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

CHICAGO

NEW EQUIPMENT

AUDIO TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

TRANSISTOR TRANSFORMERS

Here are the smallest iron core audio transformers ever built. They weigh less than 1/10 ounce and are no larger than the transistors they power. Write for Bulletin 462 showing typical circuit application.

These transformers are designed primarily for transistor audio application but they can be used wherever low power is involved. Useful range, below 1 mw level. They are constructed of extremely fine wire, wound on molded nylon bobbins, with special nickel alloy steel laminations. Mounting style is coil and iron only, type UM.

SPECIAL Chicago-Stancor ultra-miniature transistor transformers, designed and built to your requirements, can be supplied in quantities of five or more. Send your specifications for information on price and delivery.

Part No.	Application	Pri. Imp.	Sec. Imp.	Pri. DC Res.	Sec. DC Res.	Dimensions§	Weight in ounces	List Price
UM-110	Interstage	20,000	1,000	1675	285	¼″ x ⅜″ x ⅜″	0.07	**$12.25**
UM-111	Output or matching	1,000	50/60	120	9.0	⅜″ x ⅜″ x ⅜″	0.10	**10.50**
UM-112	High imp. mic. input	200,000	1,000	4000	195	⅜″ x ⅜″ x ⅜″	0.10	**13.75**
UM-113	Interstage	20,000	1,000	1350	205	⅜″ x ⅜″ x ⅜″	0.10	**11.00**
UM-114	Output or matching	500	50/60	70	9.0	⅜″ x ⅜″ x ⅜″	0.10	**10.50**

§Dimensions ±.015″.

MINIATURE HIGH FIDELITY AUDIO TRANSFORMERS

Chicago-Stancor Tinytrans are miniature transformers made with nickel steel laminations. They have an exceptional frequency response for units of this size; ±1 db. 30-15,000 cps, Maximum level 0 db. Write for Bulletin 463 showing frequency response curves on these transformers.

These units are sealed and potted in ⅞″ square, anodized aluminum cases with phenolic terminal boards. Total height, including terminals, is 1¼″. The case has two 2-56 threaded inserts, 11/16″ centers, for easy chassis mounting. The entire transformer weighs only 1.3 ounces.

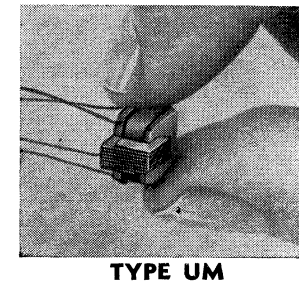
Part No.	Application	Primary Impedance	Secondary Impedance	List Price
TT-11	Mic., pickup or line to single grid	50, 200/250, 500/600	50,000	**$14.15**
TT-12	Mic., pickup or line to push-pull grids	50, 200/250, 500/600	50,000	**14.75**
TT-13	Dynamic mic. to single grid	7.5/30	50,000	**13.45**
TT-14	Single plate to single grid	15,000*	60,000	**11.60**

*No DC in primary.

PUBLIC ADDRESS RANGE TRANSFORMERS

Frequency Response within ±1 db, 50 to 10,000 Cycles

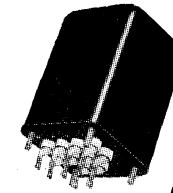
Driver and output transformers in this CHICAGO series are designed for three general power levels to fit a wide range of application. Up-to-date secondary impedances match 600 or 150-ohm lines, 16, 8, and 4-ohm speakers. (16/8/4-ohm taps also suitable for 20/6/3.2-ohm speakers.) Output transformers have tertiary windings for 10% inverse feedback that minimizes distortion and provides extra audio watts without loss of fidelity.



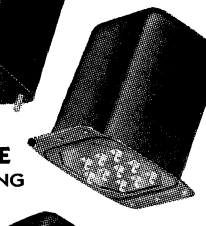
TYPE UM

DRIVERS H-Type (Cat. No. PHD), S-Type (Cat. No. PSD) and C-Type (Cat. No. PCD) Mountings

Application	Primary Impedance	Max. D.C. Pri.	Ratio, Pri. to ½ Sec.	Case Size	Wt. Lbs.	Cat. No.	List Price
P-P Plates to P-P Grids	20,000 ohms (Pri. CT)	10 ma.	3:1	14	2¼	**PHD-10**	$15.00
						PSD-10	10.20
						PCD-10	7.00
P-P Plates to P-P Grids	20,000 ohms (Pri. CT)	25 ma.	3:1	15	2¼	**PHD-25**	14.45
						PSD-25	9.90
						PCD-25	6.65
P-P Plates to P-P Grids	5,000/10,000 ohms (Pri. CT)	100 ma.	5:1	18	4½	**PHD-100**	24.75
						PSD-100	16.90
						PCD-100	11.95



H-TYPE MOUNTING

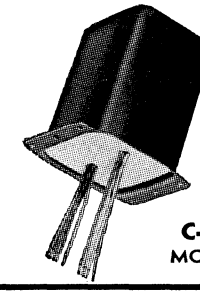


S-TYPE MOUNTING

OUTPUTS H-Type (Cat. No. PHO), S-Type (Cat. No. PSO) and C-Type (Cat. No. PCO) Mountings

Application	Impedances	Typical Output Tubes	Class	Max. Audio Watts	Max. D.C. Pri. CT	Case Size Wt.	Cat. No.	List Price
P-P Plates to Line or Voice Coil	Primary: 5,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	6B4G, 6L6, 6V6, etc.	A_1 AB	20	120 ma.	20: 6½ lbs.	**PHO-80**	$30.95
							PSO-80	21.25
							PCO-80	15.55
P-P Plates to Line or Voice Coil	Primary: 10,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	6V6, 6F6, 6K6, etc.	AB, AB_1	15	200 ma.	19: 5 lbs.	**PHO-150**	27.85
							PSO-150	19.00
							PCO-150	13.40
P-P Plates to Line or Voice Coil	Primary: 6,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	Two 6L6's, Four 6V6's, or similar	B, AB_2†	30	250 ma.	22: 9 lbs.	**PHO-200**	34.60
							PSO-200	23.25
							PCO-200	17.60

*Has tertiary winding to provide 10% inverse feedback.
†For low distortion, use fixed bias.



C-TYPE MOUNTING

See Pages N-13 and N-14 For Mounting Dimensions

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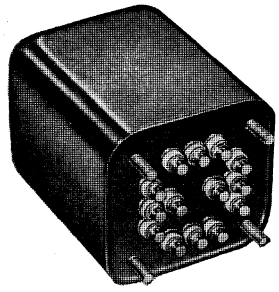
CHICAGO

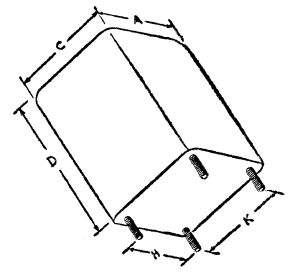
MILITARY STANDARD — 400 CYCLE
POWER TRANSFORMERS
FILTER REACTORS

CHICAGO STANDARD TRANSFORMER CORPORATION

MS (MILITARY STANDARD) POWER AND FILAMENT TRANSFORMERS



Case Type	Dimensions in Inches A	C	D	H	K	Stud Size
EB	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32
FB	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32
GB	2 3/4	2 3/8	2 13/16	2 1/8	1 3/4	6-32
HB	3 1/16	2 5/8	3 3/16	2 19/64	1 55/64	8-32
HA	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	8-32
JB	3 9/16	3 1/16	3 7/8	2 5/8	2 1/8	8-32
KB	3 15/16	3 3/8	4 5/16	3	2 7/16	10-32
LB	4 5/16	3 11/16	4 1/2	3 5/16	2 11/16	10-32
MB	4 11/16	4	4 15/16	3 11/16	3	1/4-20
NB	5 1/16	4 5/16	5 1/2	4 1/16	3 5/16	1/4-20



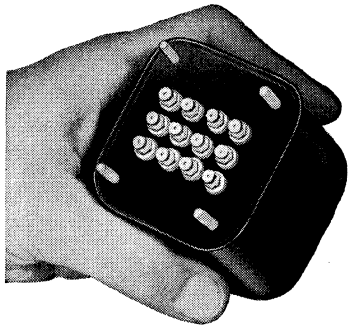
POWER TRANSFORMERS—Primary, 105/115/125 V.—Frequency, 54-66 Cycles

MIL-T-27 Classification	MIL-T-27 Part No.	High Voltage Secondary A-C Volts	High Voltage Secondary D-C Ma.	D-C V Output	Rect. Fil. Volts	Rect. Fil. Amps	Fil. No. 2 Volts	Fil. No. 2 Amps	Wt. Lbs.	Case Size	Catalog Number	List Price
TF1A03HA001	MS-90026	200-100-0-100-200	70	385	6.3/5	2	6.3	3	4	HA	PMS-70	$24.50
TF1A03JB002	MS-90027	325-0-325	70	260	6.3/5	2	6.3	4	5	JB	PMS-70A	25.50
TF1A03KB006	MS-90028	325-0-325	150	245	6.3	5	5	3	7 1/4	KB	PMS-150	29.50
TF1A03LB003	MS-90029	400-0-400	175	318	5	3	6.3	8	10	LB	PMS-175	35.40
TF1A03MB004	MS-90030	450-0-450	250	345	5	3	6.3	8	13	MB	PMS-250	44.50
TF1A02KB001	MS-90031	350-0-350	250	255					7 1/2	KB	PMS-350	29.50
TF1A02LB002	MS-90032	550-0-550	250	419					11	LB	PMS-550	35.50
TF1A02NB003	MS-90036	800-0-800	250	640					16 1/2	NB	PMS-800	49.50

FILAMENT TRANSFORMERS—Primary, 105/115/125 V.—Frequency, 54-66 Cycles

MIL-T-27 Classification No.	MIL-T-27 Part No.	Secondary Volts	Secondary Amps	Insulation Volts RMS	Wt. Lbs.	Case Size	Catalog Number	List Price
TF1A01EB002	MS-90016	2.5	3.0	2500	1 1/2	EB	FMS-23	$14.75
TF1A01GB003	MS-90017	2.5	10	2500	2 1/2	GB	FMS-210	23.50
TF1A01FB004	MS-90018	5.0	3.0	2500	1 3/4	FB	FMS-53	16.25
TF1A01HB005	MS-90019	5.0	10	2500	4	HB	FMS-510	25.50
TF1A01FB006	MS-90020	6.3	2.0	2500	1 3/4	FB	FMS-62	15.50
TF1A01GB007	MS-90021	6.3	5.0	2500	2 3/4	HB	FMS-65	21.50
TF1A01JB008	MS-90022	6.3 CT	10	2500	5	JB	FMS-610	28.50
TF1A01KB009	MS-90023	6.3	20	2500	8	KB	FMS-620	36.50
TF1A01JB012	MS-90024	2.5	10	10000	4 3/4	JB	FMS-210H	27.50
TF1A01KB013	MS-90025	5.0	10	10000	7	KB	FMS-510H	35.00

400 CYCLE TRANSFORMERS AND REACTORS



CASE DIMENSIONS

Case Size	Dimensions in Inches A	C	D	H	K
3	1 3/16	1 3/16	2	15/32-2 Studs	
7	1 3/8	1 3/8	2	15/16-2 Studs	
10	1 7/8	1 3/4	2 3/16	1 5/16	1 1/16
11	1 7/8	1 3/4	2 7/16	1 5/16	1 1/16
12	2 1/4	2 1/8	2 11/16	1 9/16	1 3/8
13	2 1/4	2 1/8	2 15/16	1 9/16	1 3/8
15	2 1/2	2 3/8	3 5/16	1 13/16	1 11/16
16	2 7/8	2 11/16	3 1/2	2	1 7/8
17	2 7/8	2 11/16	3 3/4	2	1 7/8
20	3 11/16	3 5/16	4 5/16	2 5/8	2 3/8
21	3 11/16	3 5/16	4 11/16	2 5/8	2 3/8

POWER TRANSFORMERS (All Primaries 105/115/125 V., 380-1000 Cycles)

High Voltage Secondary A. C. Volts	High Voltage Secondary D.C. Ma.	Rect. Fil. Volts	Rect. Fil. Amps.	Other Fil. Volts	Other Fil. Amps.	Case Size	Wt. Lbs.	Catalog Number	List Price
270-0-270	55	5.0	2	6.3 CT	2	13	1 1/2	4PHC-55	$21.75
335-0-335	70	5.0	2	6.3 CT	3	13	1 3/4	4PHC-70	23.75
375-0-375	120	5.0	3	6.3 CT	4	17	2 1/2	4PHC-120	28.75
440-0-440	165	5.0	3	6.3	7.5				
				6.3	3				
				6.3	3				
				6.3	0.6	20	6	4PHC-165	38.75
450-0-450	200	5.0	2	6.3	4				
				6.3	4				
				6.3	0.6	20	5 3/4	4PHC-200A	41.75
550-370-75-0	300	5.0	6	6.3 CT	5				
75-370-550				6.3 CT	1	21	6 1/2	4-PHR-300	44.75

FILTER REACTORS

Inductance (henries)	Maximum D.C. Ma.	D.C. Resistance (Ohms)	Insulation Volts RMS	Case Size	Wt. Lbs.	Catalog Number	List Price
2.0	55	160	2,500	3	1/4	4RH-255	$11.00
2.0	70	165	2,500	7	1/2	4RH-270	11.50
2.0	120	100	2,500	11	1	4RH-2120	12.00
2.0	165	90	2,500	11	1 1/2	4RH-2165	13.00
2.0	200	73	2,500	13	1 3/4	4RH-2200	13.50
2.0	300	47	2,500	16	3 1/4	4RH-2300	14.50

FILAMENT TRANSFORMERS (All Prim. 105/115/125 V., 380-1000 cycles)

Sec. Volts	Sec. Amps.	Insulation Volts RMS	Case Size	Wt. Lbs.	Catalog Number	List Price
6.3 CT	3	2,500	10	3/4	4FH-63	$13.50
6.3 CT	5.5	2,500	11	1	4FH-65	18.50
6.3 CT	10	2,500	13	1 3/4	4FH-610	23.50
6.3 CT	20	2,500	15	2 1/2	4FH-620	29.50

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

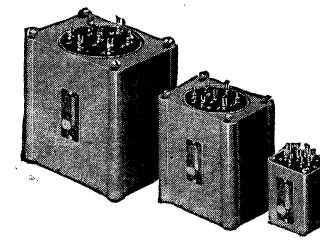
CHICAGO

NEW EQUIPMENT

AUDIO TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

HF AND WF SERIES HIGH FIDELITY AUDIO TRANSFORMERS



HF Series

These units have a wide frequency response of 20 to 20,000 cps with ±1 db. Correct design reduces harmonic and intermodulation distortion to a negligible amount. Balanced construction minimizes hum pickup. Chicago-Stancor impregnation insures long life. Cases are finished in gray enamel and have four threaded holes at each end for flush mounting. Stud-type terminals are plainly marked for easy identification.

LOW IMPEDANCE TO GRID

Part No.	Application	Primary Imp/Ohms	Secondary Imp/Ohms	Max. Level	Hum-Pickup Reduction¶	Mtg. §	List Price
HF-20	Low Imp. Mic., Pickup, or Line to Grid	50, 125/150, 200, 250, 333, 500/600	60,000 overall, in two sections	15 db	−74 db	HF-1	**$32.50**
HF-20X	Low Imp., Mic., Pickup, or Line to Grid	50, 125/150, 200, 250, 333, 500/600	50,000	14 db	−92 db‡	HF-1	**41.60**
HF-22	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125/150, 200, 250, 333, 500/600	120,000 overall, in two sections	15 db	−74 db	HF-1	**36.40**
HF-22X	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125/150, 200, 250, 333, 500/600	80,000 overall, in two sections	14 db	−92 db‡	HF-1	**54.50**
INTERSTAGE							
HF-29	Sgl. Pl. to P.P. Grids—Split secondary	15,000	95,000 (Turn ratio 2.5:1 overall)	17 db	−50 db	HF-1	**$31.20**
HF-31	Single Plate to P.P. Grids. Split pri. and sec.	15,000	135,000 (Turn ratio 3:1 overall)	14 db	−74 db	HF-1	**31.20**
HF-32	P.P. Plates to P.P. Grids Split pri. and sec.	30,000 Plate to Plate	80,000 (Turn ratio 1.6:1 overall)	26 db	−50 db	HF-2	**40.30**
MIXING							
HF-40	Low Imp. Mixer, Mic., Pickup, or Line to Line	50, 125/150, 200, 250, 333, 500/600	50, 125/150, 200, 250, 333, 500/600	17 db	−74 db	HF-1	**$32.50**
OUTPUT							
HF-65†	P.P. 2A3's, 6L6's, etc. to Line or Voice Coil	3,000 or 5,000 Plate to Plate	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333 or 500	20 watts	.....	HF-2	**$36.40**
HF-67†	P.P. 2A3's, 6L6's, etc. to Voice Coil	3,000 or 5,000 Plate to Plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20 watts	.....	HF-2	**36.00**
HF-68†	P.P. Par. 2A3's, 6A5G's, 300A's, 6A3's to Line or Voice Coil	1,500 or 2,500 Plate to Plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	40 watts	.....	HF-3	**65.00**

§HF-1 Case: *Shpg. wt., 3.0 lbs. Height overall, 3¼". Base area, 2⁹⁄₁₆x3¹⁄₁₆". Mtg. ctrs., 1¹⁵⁄₁₆x2⁷⁄₁₆".* HF-2 Case: *Shpg. wt., 7.5 lbs. Height overall, 4⅛". Base area, 3⁵⁄₁₆"x4³⁄₁₆". Mtg. ctrs., 2¹¹⁄₁₆"x3¹¹⁄₁₆".* HF-3 Case: *Shpg. wt., 15.0* lbs. *Height overall, 4¹¹⁄₁₆". Base area, 4¹¹⁄₁₆"x5⁹⁄₁₆". Mtg. ctrs., 4³⁄₁₆"x5¹⁄₃₂".*

†Response ±1 db from 25 to 20,000 cps.

¶As compared to standard uncased units.

‡Quadruple alloy magnetic shied.

WF Series

These units are of the same outstanding quality as the HF Series above, and, with the exception of two units, have a frequency response of 30–20,000 cps within ±2 db. The WF-21 and WF-35 have a response within ±2 db from 50–20,000 cps and have multiple alloy shields for extremely low hum pickup. All WF units are cased in the WF-6 type cast case with phenolic terminal board and four tapped holes for flush mounting. Overall dimensions are 2" high with 1½" x 1½" base area. Mounting centers are 1⁵⁄₃₂" x 1⁵⁄₃₂". Shipping weight is 0.6 lbs.

Part No.	Application	Primary Imp/Ohms	Secondary Imp/Ohms	List Price
INPUT				
WF-20	Low Imp. Mic., Pickup, or Line to Grid	50, 125/150, 200, 250, 333, 500/600	50,000	**$19.50**
WF-21	Low Imp. Mic., Pickup, or L. to Sgl. or P.P. Grids	50, 200, 500	50,000	**20.80**
WF-22	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125/150, 200, 250, 333, 500/600	80,000 overall, in two sections	**19.50**
WF-24	Dynamic Microphone to 1 or 2 Grids	30	50,000 overall, in two sections	**17.70**
INTERSTAGE				
WF-26	Single Plate to Single Grid	15,000	60,000 (Turn ratio 2:1)	**$16.45**
WF-28	Sgl. Pl. to 2 Grids. Can use split pri. for P.P. Pl.	15,000	80,000 overall (Turn ratio 2.3:1 overall)	**18.20**
LOW LEVEL OUTPUT				
WF-34	Single Plate to Line	15,000	50, 125/150, 200, 250, 333, 500/600	**$19.50**
WF-36	P.P. Low Level Plates to Line	30,000 Plate to Plate	50, 125/150, 200, 250, 333, 500/600	**19.50**
WF-35	Single Plate to Multiple Line Primary D.C. 8.0 ma. Response from 50–20,000 cps within ±2 db	15,000	50, 125/150, 200, 250, 333, 500/600	**18.20**
MIXING				
WF-30	Low Imp. Mixer, Mic., Pickup, or Line to Line	50, 125/150, 200, 250, 333, 500/600	50, 125/150, 200, 250, 333, 500/600	**19.50**

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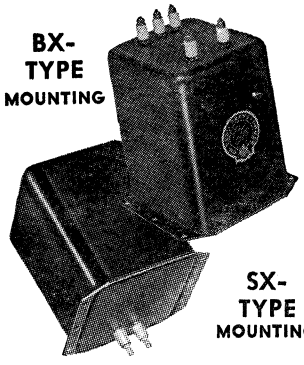
CHICAGO

NEW EQUIPMENT

TRANSFORMERS and REACTORS

for Broadcast, Amateur and Industrial Application

CHICAGO STANDARD TRANSFORMER CORPORATION



BX-TYPE MOUNTING

SX-TYPE MOUNTING

LARGE CAPACITY TRANSFORMERS AND REACTORS

For Broadcast, Communications and Industrial Use

DRIVER TRANSFORMERS

In:	Recommended Application: Tubes:	Ratio Pri./½ Sec.	Mtg. Type	Case Size	Wt. Lbs.	Cat. No.	List Price
250-Watt Transmitter	From two 2A3's, 6B4's, or similar P-P Plates to Class B 838's, 805's, 203-A's, etc.	3.5:1	B*	20	6½	BD-1	$32.60
1-KW Transmitter	From four 2A3's, 6B4's, or similar P-P Plates to two 833-A's or similar P-P Grids	3:1	†	24	12¼	BD-2	40.00
5-KW Transmitter	From four 845's, two 152-TL's or similar P-P Plates to 891-R's or similar P-P Grids	3.5:1	BX	26	24	BD-3	57.55

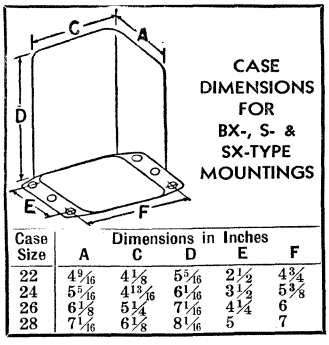
†Similar to SX-Type mounting, but with screw terminals on a terminal board.
*B-Type mounting, but with screw terminals. See page N-14 for dimensions.

MODULATION TRANSFORMERS

In:	Recommended Application With:	Impedances (Pri. Plate to Plate)	Modulator Tubes	Mtg. Type	Size	Wt. Lbs.	Cat. No.	List Price
250-Watt Transmitter	Driver Transformer #BD-1	Pri: 7500 ohms CT Sec: 5000 ohms	203-A, 838 805, etc.	BX	26	25	BM-1	$58.50
1-KW Transmitter	Driver Transformer #BD-2	Pri: 9000 ohms CT Sec: 7500 ohms	833-A, etc.	FS	81	175	BM-2	335.00
5-KW Transmitter	Driver Transformer #BD-2	Pri: 13500 ohms CT Sec: 10250 ohms	891-R, etc.	WC		1100	BM-3	777.00 (net)

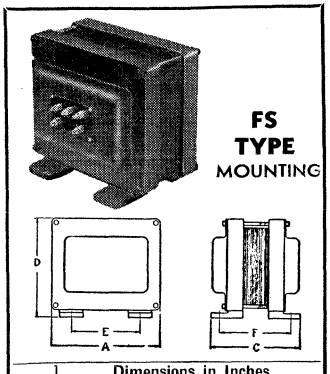
MODULATION REACTORS

In:	Recommended Application: With:	Inductance	D.C. Ma.	Mtg. Type	Size	Wt. Lbs.	Cat. No.	List Price
250-Watt Transmitter	Mod. Transformer #BM-1	65 hy.	250	BX	28	41	BR-1	$ 95.50
1-KW Transmitter	Mod. Transformer #BM-2	100 hy.	500	FS	81	165	BR-2	201.06
5-KW Transmitter	Mod. Transformer #BM-3	120 hy.	900	WC		1100	BR-3	652.08(net)



CASE DIMENSIONS FOR BX-, S- & SX-TYPE MOUNTINGS

Case Size	Dimensions in Inches A	C	D	E	F
22	4 9/16	4 1/8	5 5/16	2 1/2	4 3/4
24	5 5/16	4 13/16	6 1/16	3 1/2	5 3/8
26	6 1/8	5 1/4	7 1/16	4 1/4	6
28	7 1/16	6 1/8	8 1/16	5	7



FS TYPE MOUNTING

Size	Dimensions in Inches A	D	E	F	C
60	7 1/2	7	4 3/4	5 1/2	6 5/16
61	7 1/2	7	4 3/4	5 5/16	6 7/8
62	7 1/2	7	4 3/4	6 1/4	7 1/8
63	7 1/2	7	4 3/4	6 11/16	7 1/2
64	7 13/16	10	8 5/8	6	7 3/4
65	7 1/2	7	4 3/4	6 7/8	7 13/16
71	8 7/8	8 1/2	5 1/2	6 1/2	8 1/8
81	11 1/2	10 1/2	7 1/2	8 1/4	10 1/4
84	11 1/2	10 1/2	7 1/2	11 13/16	13 13/16
90	13 13/16	12 3/4	9	8 7/8	10 3/8

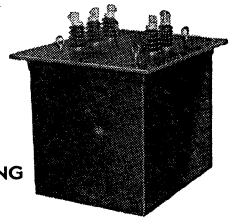
PLATE TRANSFORMERS

Primary: Volts	Max. VA.	Secondary: A.C. Load Volts	D.C. Volts after Filter	D.C. Ma.	Mtg. Size	Mtg. Type	Wt. Lbs.	Cat. No.	List Price
115-230	185	675-0-675 575-0-575	500 400	250	22	S	12	P-45	$23.50
115-230	250	900-0-900 735-0-735	750 600	250	22	S	13½	P-67	82.00
115-230	310	1150-0-1150 870-0-870	1000 750	250	60	FS	37	P-107	69.50
115-230	360	1425-0-1425* 600-0-600	1250 400	150 200	24	S	26	P-1240	39.50
115-230	550	1710-0-1710 1430-0-1430	1500 1250	300	63	FS	43	P-1512	79.50
115-230	915	2820-0-2820 2260-0-2260	2500 2000	300	71	FS	71	P-2520	191.50
115-230	1600	2900-0-2900 2320-0-2320	2600 2100	500	64	FS	95	P-2126	149.50
115-230	1850	3450-0-3450 2850-0-2850	3000 2500	500	81	FS	137	P-3025	199.50
115-230	3050	4660-0-4600 4050-0-4050 3400-0-3400	4000 3500 3000	600	90	FS	150	P-4353	269.50

*Both secondaries may be rectified simultaneously.

FILTER REACTORS

Inductance in Henrys	Max. D.C. Ma.	D.C. Resistance, Ohms	Insulation Test Volts	Mtg. Type	Mtg. Size	Wt. Lbs.	Cat. No.	List Price
10	500	40	9,000	FS	62	35	R-105	$57.50
10	300	40	7,500	SX	26	22	R-103	28.25
6	700	35	10,000	FS	61	35	R-67	56.50
6	500	35	9,000	FS	60	35	R-65	45.80
6	300	35	7,500	SX	24	16½	R-63	23.90



WC-TYPE MOUNTING

Overall Case Dimensions:
H—31½" W—26½" D—23½"

Splatter Chokes for High Level "Clipper" Filters

Can withstand high peak voltages. Has tapped windings to cover an inductance from .02 to 1.5 henries at relatively constant Q. Eliminates splatter, caused by heavy modulation; limits band width to 3,000 cycles, effectively increases "get through" ability of phone signals, and prevents negative peak clipping.

Type	D.C. Ma.	Insulation Volts	Inductance in Henries	Mounting Type	Mounting Size	List
SR-300	300	7,500	.02 to 1.5 Hy	BX	22	$29.50
SR-500	500	10,000	.02 to 1.5 Hy	BX	24	31.50

Low Pass Filter No. LPF-1

For attenuating frequencies above 3,000 cycles in low level speech amplifiers. Operates out of a 15,000 ohm source, *e.g.*, the plate of 6C5, 6J5, etc. when its 60,000 ohm secondary is connected to an equal impedance output. Operates at signal levels up to −8 db. Complete with operating instructions. S type mtg. Case size 13. (See pg. N-13).

List Price.....$24.50

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

CHICAGO

REPLACEMENT TYPE

TRANSFORMERS and REACTORS

Premium Quality—Yet They Cost No More

CHICAGO STANDARD TRANSFORMER CORPORATION

POWER TRANSFORMERS—(Pri: 117 volts, 50/60 cycles)

6.3-VOLT FILAMENTS—VERTICAL SHIELD MOUNTING (V)

Catalog No.	High Voltage Secondary A.C. Volts	D.C. Ma.	Rectifier Filament Volts	Amps.	Other Filaments Volts	Amps.	Dimensions H	W	D	Wt. Lbs.	List Price
PV-10S	250-0-250	10	6.3	1.2	6.3	0.6	2¼	2⅞	2⅛	1	$ 7.50
PV-20S	250-0-250	20	6.3	1.2	6.3	0.6	2⅝	3 5/16	2¼	1½	8.00
PV-40	225-0-225	40	5	2	6.3 C-T	1	3⅛	2½	2¼	2¼	7.15
PV-50	325-0-325	50	5	3	6.3 C-T	2	3¾	2⅞	3	3¾	8.05
PV-50A	117	50			6.3	1.75	2⅝	3 5/16	2¼	1½	6.80
PV-60	250-0-250	60	5	2	6.3 C-T	2	3⅛	2½	3	3	8.60
PV-70	350-0-350	70	5	3	6.3 C-T	3	4⅛	3⅛	3⅛	4½	9.25
PV-70A	300-0-300	70	5	3	6.3 C-T	3	3¾	2⅞	3⅛	4	9.15
PV-90	350-0-350	90	5	3	6.3 C-T	3.5	4⅛	3⅛	3½	5¼	10.30
PV-100	350-0-350	100	5	3	6.3 C-T	5	4⅞	3¾	3¾	7½	10.65
PV-110	350-0-350	110	5	2	6.3 C-T	3					
					6.3 C-T	3	3⅞	3 3/16	3⅞	5½	13.25
PV-120	300-0-300	120	5	3	6.3 C-T	5	4⅛	3⅛	3¾	5¾	10.85
PV-120A	350-0-350	120	5	3	6.3 C-T	4.5	4⅛	3⅛	3 7/16	6	11.95
PV-145	372-0-372	145	5	3	6.3 C-T	5	4⅞	3¾	4	7½	12.85
PV-200	400-0-400	200	5	4	6.3 C-T	5.5	4⅞	3¾	4¼	9	15.00

6.3-VOLT FILAMENTS—HORIZONTAL SHIELD MOUNTING (H)

PH-20S	250-0-250	20	6.3	1.2	6.3	0.6	2⅜	2⅝	2 3/16	1	$8.35
PH-40	250-0-250	40	5	2	6.3 C-T	1.6	3	3	2½	2½	7.40
PH-50	250-0-250	50	5	2	6.3 C-T	2	3½	3	2½	3	7.50
PH-50A	280-0-280	50	5	3	6.3	1.5					
					6.3	.6	3¼	3	2½	3½	7.70
PH-70	300-0-300	70	5	3	6.3 C-T	3	3½	3⅜	2 13/16	4	8.40
PH-70B	350-0-350	70	5	3	6.3 C-T	2.5	3¼	3	2½	4½	8.60
PH-90	350-0-350	90	5	3	6.3 C-T	3.5	3¾	3¾	3⅛	5¼	9.45
PH-120	300-0-300	120	5	3	6.3 C-T	5	3⅞	3¾	3⅛	5¾	10.45
PH-120B	350-0-350	120	5	3	6.3 C-T	4.5	3⅞	4⅛	3½	6	10.60
PH-145	372-0-372	145	5	3	6.3 C-T	5	3⅞	4½	3¾	7½	12.70
PH-200	350-0-350	200	5	3	6.3 C-T	6	4	4½	3¾	8	14.30

2.5-VOLT FILAMENTS—HORIZONTAL SHIELD MOUNTING (H)

PH-70A	325-0-325	70	5	3	2.5 C-T	9	3⅝	3¾	3⅛	4½	$12.80
PH-120A	325-0-325	120	5	3	2.5 C-T	12.5					14.95
					2.5 C-T	3.5	3⅞	4⅛	3½	6	

FILAMENT TRANSFORMERS

Catalog No.	Secondary Volts	Amps.	Primary Volts	Cycles	Insulation Test Volts	Mounting Type	Dimensions H	W	D	Wt. Lbs.	List Price
FO-26	2.5 C-T	6	107/117	60	2000	U	2⅜	2⅞	1⅞	1	$4.20
FO-210H	2.5 C-T	10	107/117	60	7500	U	3	3 5/8	2½	2½	6.15
FO-53	5.0 C-T	3	107/117	60	2000	U	2⅜	2⅛	2	1	4.80
FO-56	5.0 C-T	6	107/117	60	2000	U	2⅝	3 5/16	2	2	5.40
FO-513	5.0 C-T	13	107/117	60	2000	U*	3⅜	2 13/16	2½	4	7.50
FV-520H	5.0 C-T	20		117 50/60	10000	V	4½	3¾	3⅝	7	14.55
FV-530	5.0 C-T	30		117 50/60	2000	V	4½	3¾	4	6	16.25
FO-615	6.3 C-T	1.5	107/117	60	2000	L	1⅝	2⅞	1¾	¾	2.95
FO-63	6.3 C-T	3	107/117	60	2000	U	2⅜	2⅞	2	1¼	4.65
FO-66	6.3 C-T	6	107/117	60	2000	L	2¼	4¾	2½	2	6.25
FO-610	6.3 C-T	10	107/117	60	2000	U*	3⅜	2 13/16	2¾	3¼	7.50
FO-75	7.5 C-T	5	107/117	60	2000	U	3	3 5/8	2½	2¼	6.20
FO-105	10 C-T	5	107/117	60	2000	FV	3 1/16	2½	2½	3	7.40
FV-1010	10 C-T	10		117 50/60	2000	V	3¾	3⅛	3 9/16	5	10.10
FO-122	12.6 C-T	2	107/117	60	2000	L	2 3/16	3 11/16	2	1½	5.15

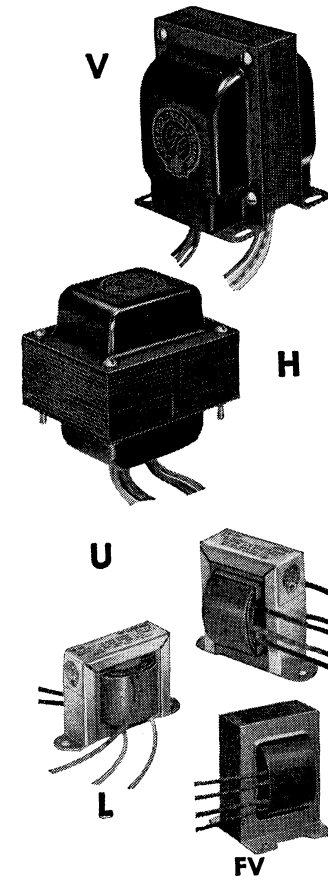
*Universal mounting frames.

FILTER REACTORS

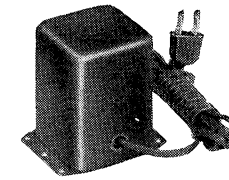
Catalog No.	Inductance in Henries	Maximum D.C. Current Ma.	D.C. Resistance in Ohms	Insulation Test Volts	Mtg. Type	Dimensions H	W	D	Wt. Lbs.	List Price
R-1230	12	30	400	2000	L	1⅜	2⅜	1⅜	½	$2.75
R-1240	12	40	400	2000	L	1⅝	2⅞	1⅜	¾	3.00
R-650	6	50	300	1500	L	1⅝	2⅞	1⅜	¾	1.59
R-1365	13	65	500	2000	L	2¼	3¾	2¼	1½	3.05
R-885	8	85	250	2000	L	2¼	3¾	2¼	1½	3.40
R-23110	23	110	250	2000	V	3⅛	2½	2¾	2½	6.95
R-8120	8	120	350	1500	L	2½	4	2	2½	4.25
R-7150	7.5	150	160	2000	V	3⅛	2½	3⅛	2½	6.50
R-7200	8	200	125	3000	V	3⅜	2⅞	3⅛	3¾	7.95
R-8300	8	300	60	3500	V	4½	3¾	4	8	13.75

DRIVER TRANSFORMERS

Cat. No.	Typical Applications: From Driver Tubes	To Output Tubes	Class	Ratio Primary: ½ Sec.	Max. Pri. D.C. Ma.	Mtg. Type	Dimensions H	W	D	Wt. Lbs.	List Price
D-15	Single 30	P-P 19 or 30's	B	2.5-1	15	L	1⅝	2⅞	1½	¾	$4.95
D-30	6C5, 6R7, or Triode 6F6	P-P 6L6's	AB	3:1	30	L	2	3¼	2⅛	1	5.95
D-35	Triode Plate	P-P Grids		1:1, 1.5:1 or 2:1	35	L	2	3¼	1⅞	1	4.50
D-40	6C5, 6R7, or Triode 6F6	P-P 6L6's	AB	3:1	40	V	3⅛	2½	2½	2½	7.00



ISOLATION TRANSFORMERS



CHICAGO Isolation Transformers are designed for a dual purpose: (1) To supply 115 volts isolated from a line of above/below normal, or normal, voltage —primary switch sets for 125/115/105 volts, 50/60 cycles; or (2) For use in servicing to eliminate shock hazard, by isolating chassis ground from line ground (particularly important on "hot" AC-DC television sets). Also provide 125 and 105 volts on the secondary for locating doubtful tubes, etc.

Cat. No.	Capacity	List Price
IS-50	50 VA	$12.75
IS-100	100 VA	19.75
IS-150	150 VA	23.50
IS-250	250 VA	27.75

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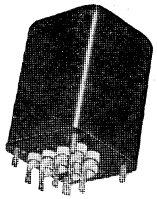
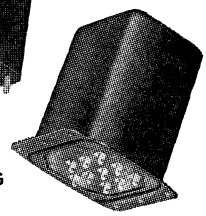
CHICAGO

AUDIO TRANSFORMERS

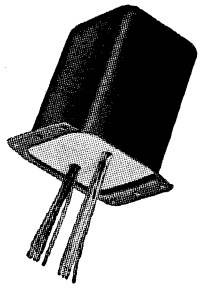
CHICAGO STANDARD TRANSFORMER CORPORATION



H-TYPE MOUNTING



S-TYPE MOUNTING

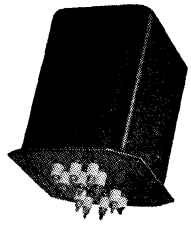


C-TYPE MOUNTING

MODULATION TRANSFORMER CMS-1

for Communications Transmitters

Freq. Range, 200 to 3,500 Cycles



Chicago's No. CMS-1 Modulation Transformer and matching Driver Transformer No. CDS-1, at right, are ideally suited for use in ham and commercial speech transmitters. No. CMS-1 will deliver 250-350 watts of Class B audio power from P-P 203A's, 211's, 805's, 75TL's, etc. to a Class C load with response variations not exceeding ±1db. over the stated frequency range. Primary impedances, 9000/6700 ohms ct; secondary, 8000/6000/4000 ohms. Case size 26 (see page N-18). Wt., 22 lbs.

No. CMS-1.....List Price, $49.50

MODULATION TRANSFORMER CMS-3

Delivers 500-750 watts of Class B audio power from 810's, 822's, etc. to a Class C load. Frequency response is within ±1 db. over the stated voice range. Primary impedance, 18,000/12,000 ohms CT; secondary, 6,250 ohms. FS-Type mounting, size 65 (see page N-18). Wt. 43 lbs.

No. CMS-3.....List Price, $89.50

COMMUNICATIONS RANGE AUDIO TRANSFORMERS

Frequency Response within ±1 db, 200 to 3,500 Cycles

These transformers are specifically designed for use in receiving and transmitting equipment such as amateur, police, railroad, and aircraft types, where clear voice reproduction is desired.

INPUTS H-Type (Cat. No. CIH), S-Type (Cat. No. CIS) and C-Type (Cat. No. CIC) Mountings*

Application	Impedances: Primary—Secondary	Case Size	Wt. Lbs.	Cat. No.	List Price
Low Level Line to Single or Push-Pull Grids	Pri: 600/150 ohms CT *Sec: 100,000 ohms CT	9	¾	CIH-1 CIS-1 CIC-1	$21.65 14.80 9.80
Low Level S. B. or D. B. Mike to Sgl. or P-P Grids	Pri: 125/50 ohms @ 80 ma. Sec. 125,000 ohms CT	9	¾	CIH-2 CIS-2 CIC-2	14.35 8.50 5.35

*Split and balanced windings: may be used singly or push:pull.

OUTPUTS H-Type (Cat. No. COH), S-Type (Cat. No. COS) and C-Type (Cat. No. COC) Mountings*

Application	Impedances: Pri.—Sec.	Typical Audio Tubes	Pri. Class	Max. Case Watts	Max. Pri. D.C.	Case Size	Wt. Lbs.	Cat. No.	List Price
Sgl. P. to Line or Speaker	Pri.: 5000 ohms Sec. ohms: 600/150/16/8/4	6L6, 6V6, 25A6	A	5	55 ma.	14	2¼	COH-1 COS-1 COC-1	$16.90 10.55 7.00
Sgl. Pl. to Line or Speaker	Pri: 8000 ohms Sec. ohms: 600/150/16/8/4	6F6, 6V6, 6K6	A	5	55 ma.	14	2¼	COH-2 COS-2 COC-2	19.30 10.85 7.00

DRIVER H-Type (Cat. No. CDH), S-Type (Cat. No. CDS) and C-Type (Cat. No. CDC) Mountings*

Application	Primary Impedance	Max. D.C. Pri. CT	Ratio, Pri. to ½ Sec.	Case Size	Wt. Lbs.	Cat. No.	List Price
P-P Plates (2A3's, etc.) to P-P Grids	5,000 ohms (Pri. CT)	100 ma.	3:1	17	3½	CDH-1 CDS-1 CDC-1	$17.00 11.60 7.50

*Mounting Dimensions on Page N-13.

REPLACEMENT TYPE OUTPUT TRANSFORMERS

SINGLE PLATE TO VOICE COIL

Catalog No.	Application Typical Output Tubes	Ohms Impedance Pri.	Sec.	Max. Primary D.C.Ma.	Max. Audio Watts	Mtg. Type	Dimensions H	W	D	Wt. Lbs.	List Price
RO-2	25L6 35A5, 2A3, 6B4	2000	3 to 6	50	4	L	1⅜	2⅜	1¼	½	$1.90
RO-3	25L6 (10-ohm tap on primary)	2000	3 to 6	50	4	L	3⅜	2⅜	1⅜	½	2.60
RO-6	12A5, 25A6, 45, 71A	4000	4-8-15	40	10	L	2	3¼	1¾	1	3.70
RO-8	2A5, 25A6, 43	4500	3 to 6	35	5	L	1⅜	2⅜	1¼	½	2.00
RO-9	6V6, 25A7G, 30, 31, 50	5000	4-8-15	50	8	L	2	3¼	1¾	1	2.80
RO-11	1S4	6000	3 to 6	5	2	L	1⅛	2⅛	1⅛	⅝	1.90
RO-13	7B5, 18, 31, 33, 42, 46, 47	7000	3 to 6	35	5	L	1⅜	2⅜	1¼	½	1.95
RO-16	1C5G, 1G5G, 1J6G, 6A4, 6A6	10000	3 to 6	30	5	L	1⅜	2⅜	1¼	½	1.95
RO-18	1A5G, 1E7G, 1N6G, 6V7G	25000	3 to 6	10	5	L	1⅝	2⅞	1⅜	⅝	2.35

PUSH-PULL PLATES TO VOICE COIL

RO-110	P-P 2A5, 6AC5G, 6A6, 6N7, 45	10000	4-8-15	80	12	U	2⅜	2⅞	1¾	1	$3.70
RO-111	P-P 6B5, 6K6, 6N6G, 7B5, 31	14000	4-8-15	80	15	U	2⅜	2⅞	1¾	1	3.45
RO-113	P-P 1A5G, 1E7G, 1N6G, 6V7G	50000	3 to 6	20	8	L	1⅝	2⅞	1½	⅝	4.00

UNIVERSAL TYPE—SINGLE PLATE TO VOICE COIL

Catalog No.	Range of Ohms Impedance Primary	Secondary	Primary D.C. Ma.	Max. Audio Watts	Mtg. Type	Dimensions H	W	D	Wt. Lbs.	List Price
RO-201	4000, 7000, or 100000	3 to 6	40	8	L	1⅝	2⅞	1½	⅝	$2.80

UNIVERSAL TYPE—SINGLE OR PUSH-PULL PLATES TO VOICE COIL

RO-301	2500 to 14000	2, 4, 6, 8, 15, etc.	30	4	L	1⅜	2⅜	1⅝	½	$2.58
RO-302	2500 to 15000	2, 4, 6, 8, 15	50	4	L	1⅜	2⅜	1⅝	⅝	3.90
RO-303	2500 to 14000	2, 4, 6, 8, 15, etc.	40	8	L	1⅝	2⅞	1⅞	⅝	3.10
RO-304	2500 to 13000	2, 4, 6, 8, 15	70	8	U	2	2½	1⅞	15/16	4.95
RO-305	2500 to 14000	2, 4, 6, 8, 15, etc.	60	12	L	2	3¼	2⅜	1	5.75
RO-307	2500 to 14000	2, 4, 6, 8, 15, etc.	50	10	U	2⅜	2⅞	2¼	1	4.95

UNIVERSAL TYPE—PUSH-PULL PLATES (ONLY) TO VOICE COIL

RO-401	2500 to 13000	2, 4, 6, 8, 15	70	15	U	2 1/16	2¾	2⅜	1½	$5.95

SPEAKER MATCHING TRANSFORMERS

SM-1	Sgl. Tube—500–1000–1500–2000	6	80	12	U	2⅜	2⅞	1⅞	1	$4.05
SM-2	Sgl. Tube—2500–4000–6000–8000	6	80	12	U	2⅜	2⅞	1⅞	1	5.85
SM-3	Sgl. Tube—500–1000–1500–2000	6	60	5	U	1⅞	2⅜	1½	¾	2.50

INTERSTAGE TRANSFORMERS

Cat. No.	Application	Class	Ohms Impedance Pri.	Sec.	Max. Primary D.C.Ma	Ratio Sec.: Pri.	Mtg. Type	Dimensions H	W	D	Wt. Lbs.	List Price
IN-10	S. Pl. to P-P Gds.	A	10000	160,000	10	4-1	L	2	3¼	1¾	1	$5.95
IN-11	S. Pl. to P-P Gds.	A	10000	122,500	10	3.5:1	L	1⅝	2⅞	1½	⅝	4.95
IN-13	S. Pl. to P-P Gds.	A	10000	90,000	10	3:1	L	2	3¼	1⅞	1	5.10
IN-14	S. Pl. to P-P Gds.	A	10000	90,000	10	3:1	L	1⅝	2⅞	1½	⅝	4.50
IN-15	P-P Pls.-P-P Gds.	A	10000 *	90,000	10	3:1	L	2	3¼	1⅞	1	5.50
IN-16	Sgl. or P-P Input & Output	A				1:1, 3:1, or 6:1	L	2	3¼	2¼	1½	6.50

*Universal type: center-tapped primary, split secondary.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TRANSFORMERS
INDUSTRIAL - MILITARY - SPECIALTY

utah

RADIO PRODUCTS CO., INC.

HUNTINGTON, INDIANA

A WHOLLY OWNED SUBSIDIARY OF NEWPORT STEEL CORPORATION

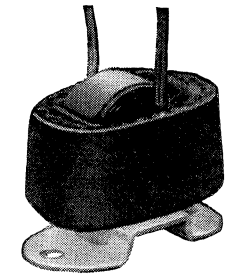
PULSE TRANSFORMERS . . . A FIELD PIONEERED and DEVELOPED BY UTAH

TYPE	CONSTRUCTION	APPLICATION
Plate	Core-and-Coil	Radar
Filament	Compound filled	Guided Missile
Plate and Filament	Hypersil Loop	Communications
Filter Reactors	Hermetically Sealed	Radio
Pulse	Fosterite	Television
Audio		Sound Installation

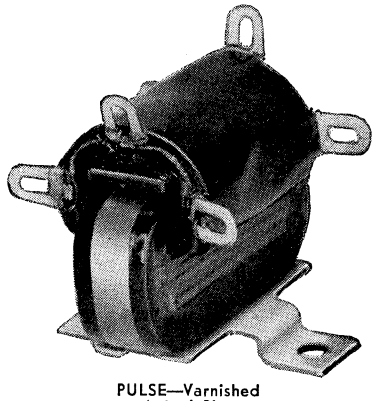
Complete Fosterite Process—Varnish and Wax Impregnating

33 MODELS OF THE MOST POPULAR PULSE TRANSFORMERS IN STOCK — IMMEDIATE DELIVERY

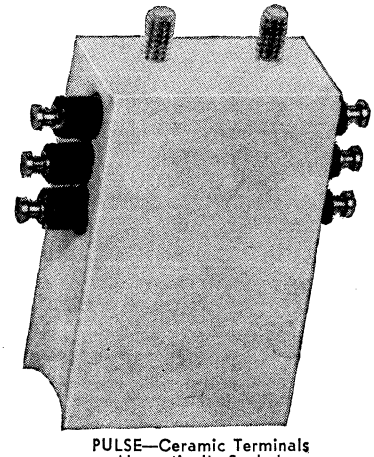
For Radio and Television Transformers—Line Matching—Impedance Matching
Write for Utah Catalog T 100



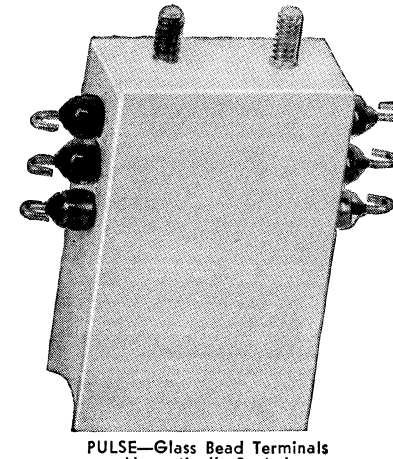
RIBBON CHOKE
Varnished
Actual Size



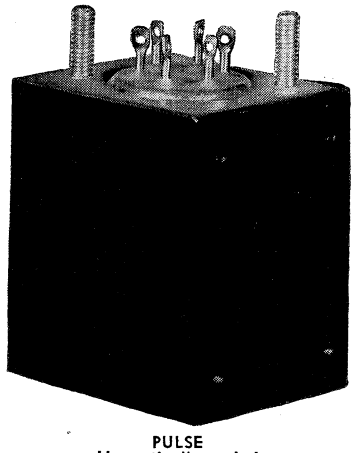
PULSE—Varnished
Actual Size



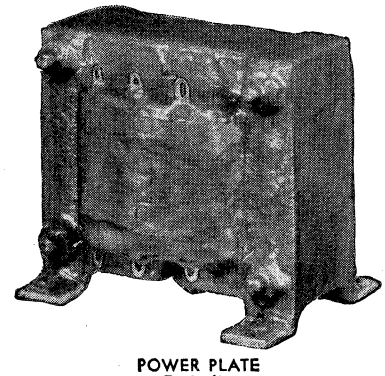
PULSE—Ceramic Terminals
Hermetically Sealed
Actual Size



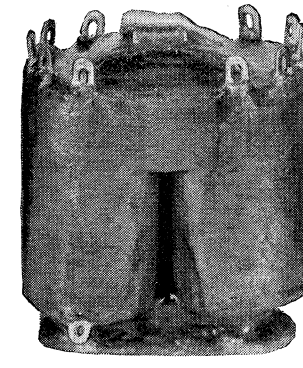
PULSE—Glass Bead Terminals
Hermetically Sealed
Actual Size



PULSE
Hermetically sealed



POWER PLATE
Fosterite



INTERSTAGE
Fosterite

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PEERLESS
ELECTRICAL PRODUCTS

DIVISION
ALTEC
LANSING CORPORATION

CASE A CASE D CASE E CASE F CASE Q CASE S CASE X

** All primaries are 117 V, 60 cycle.
† All transformers in this group are supplied with electro-static shield.

▼ Maximum operating level, 1 mw reference.
• Impedance is total of two separate windings.

° These units may also be used as bridging transformers. Complete application data in each packing box.

COMBINATION PLATE AND FILAMENT TRANSFORMERS ** †

Type Number	High Voltage Secondary AC Volts	DC MA.	Filament Current, Amperes 5 V.	6.3 V.C.T.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
R-340-F	325-0-325	100	3.	5.	4⅜	3 1/16	2¾	4	$28.00
R-490-F	350-0-350	200	3.	6.	5 5/16	3 15/16	3⅜	8	$35.00
R-562-F	400-0-400	220	3.	6.	5 5/16	3 15/16	3⅜	9	$45.00
R-631-F	500-435-0-435-500 (Has 100 V tap for C bias)	225 (Replaces the R-630-F in a larger case)	3.	6.	6	4¾	4 1/16	11½	$55.00
R-800-A	400-0-400	300	4.	4.-5.	4¾	5⅛	3 15/16	12	$34.00
R-815-S	550-275-0-275-550	280 from 550-0-550 40 from 275-0-275	6.	4.-4.2-.9	6⅜	5⅛	5⅛	18	$72.00

FILAMENT TRANSFORMERS

Type Number	Secondary Current, Amperes 6.3V. C.T.	Test Volts R.M.S.	Primary Volts 60 Cycle	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
F-012-X	1.	2000	117	1⅝	2⅞	1⅝	½	$6.75
F-139-E	8	2000	117	3½	3⅛	2⅞	3¼	$14.00

SMOOTHING CHOKES

Type Number	Current D.C. MA.	Inductance Henrys	Resistance Ohms	Test Volts R.M.S.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
C-325-F	120	10	240	1500	3⅞	2 13/16	2 7/16	3	$13.00
C-390-F	200	10	150	1500	4 15/16	3 9/16	3 3/16	6	$23.50

STANDARD INPUT TRANSFORMERS

Type Number	Descriptive Data	Impedance, Ohms Primary	Secondary	Freq. Range ±1 db	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
K-308-D	Line, Mixer or Microphone to Sgle. Grid. Max. Level: 0 dbm▼. 60 db magnetic shielding.	250 C.T.	50,000	30-20,000 when terminated	1½	1 1/16	round	¼	$15.00

STANDARD IMPEDANCE MATCHING TRANSFORMERS

Type Number	Descriptive Data	Audio Watts Max.	70 V Line	Impedance, Ohms Primary	Secondary	Freq. Range ±1 db	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
E-372-Q Repeat Coil	Electro-static Shield. 60 db Magnetic Shield.	+18 dbm▼	—	500 C.T.-333 250-200 C.T. 125-50	500 C.T.-333 250-200 C.T. 125-50	20 20,000	3½	2⅜	2½	1½	$35.00

STANDARD OUTPUT TRANSFORMERS

Type Number	Descriptive Data	Freq. Range ±1 db	Impedance, Ohms Primary	Secondary	Pri. DC MA. Max.	Unbal.	Audio Watts	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
S-448-Q	Single or P-P plates to line. 30 db hum bucking.	20-20,000	20,000 C.T. 12,500 C.T. 5000-3125	500 C.T. 200 C.T.-333 250-125-50	15	2	+18 dbm▼	3½	2⅜	2½	1¾	$32.00
S-510-F	P-P plates to speaker.	20-30,000	10,000 C.T. 8000 C.T.	16-8	40	4	10	2⅞	2¾	2½	2	$23.00
S-526-F	P-P plates to speaker.	20-30,000	6600 C.T. 5000 C.T.	16-8-4	60	6	20	4⅜	3 1/16	2¾	3¾	$27.00
S-542-F	P-P plates to speaker.	20-30,000	5000 C.T. 4000 C.T.	16-8-4	140	14	40	5 5/16	3 9/16	3 1/16	6	$32.00

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

PEERLESS ELECTRICAL PRODUCTS

DIVISION ALTEC LANSING CORPORATION

Frequency response is guaranteed on all 20-20 plus transformers

INPUT TRANSFORMERS (20-20 PLUS)

Type Number	Descriptive Data	Max. Level ▼	Impedance, Ohms Primary	Impedance, Ohms Secondary	Primary DC MA. Max.	Primary DC MA. Unbal.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
K-241-D°	Frequency response, ±1 db: 10-25,000 cps. Primary balanced to attenuate longitudinal currents in excess of 50 db. Sec. may be used single ended or in P-P. Has 2 sec. windings with bal. cap. to grnd. Electrostatic shield is provided between pri. and sec. Has 90 db electromagnetic shielding. Insertion loss 1¼ db. Transformer will operate into open circuit or resistive load. Frequency resp. down less than 1 db at 15 KC, when operated into resistive load shunted with 120 MMFD, cap. High power rating makes transf. suitable for use as output transf.	+8 dbm	500-280-125-31 or 600-340-150-37.5	70,000 • or 84,000 •	0	—	2¾	1½	2	1	$42.00

OUTPUT TRANSFORMERS (20-20 PLUS)

Type Number	Descriptive Data	Max. Level ▼	Impedance, Ohms Primary	Impedance, Ohms Secondary	Primary DC MA. Max.	Primary DC MA. Unbal.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
S-217-D° Line Level	Frequency response: ±1 db: 5-65,000 cps. Pri. may be used single ended or P-P. Sec. windings have bal. cap. to grnd. Has C.T. tertiary of 24.5 ohms which may be used for feedback or grnded. for electrostatic shield. Parallel feed is required. Astatic balance and electromagnetic shield provide approx. 50 db of shielding. Insertion loss 0.5 db. Transf. may be used as excellent input. transf. to either single or P-P grids. When used this way balanced low impedance winding provides excellent line termination.	+20 dbm	12,500 3125 Tert—See Data	600-300 150-75	25	0	3¼	1½	2	1¼	$64.00

MATCHING TRANSFORMERS (20-20 PLUS)

Type Number	Descriptive Data	Max. Level ▼	Impedance, Ohms Primary	Impedance, Ohms Secondary	Primary DC MA. Max.	Primary DC MA. Unbal.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
E-204-D Repeat Coil	Frequency response: ±1 db: 5-80,000 cps. Electrostatic shield. Astatic balance and electromagnetic shield provide approx. 50 db magnetic shielding. Attenuates longitudinal currents 80 db in bal. circuit in freq. range up to 70,000 cps. Insertion loss 0.4 db.	+23 dbm	500 C.T. 125 C.T. or 600 C.T. 150 C.T.	500 C.T. 125 C.T. or 600 C.T. 150 C.T.	100	0	3¼	1½	2	1¼	$67.00

As a Hybrid Transformer — This precise matching transf. is an excellent hybrid unit for operation from two 250/300 ohm sources. Balancing resistor of approx. 125/150 ohms required in pri. circuit. For max. attenuation between sources the exact value of resistor should be determined from measurements made in circuit where transf. is used. Correct value will yield average attenuation of 27 to 30 db with a max. attenuation of approx. 50 db at some point between 500 cps and 1,000 cps.

Total Pri.	Impedances, Ohms Pri. 1	Impedances, Ohms Pri. 2	Sec.	Max. Level ▼
500 or 600	250 or 300	250 or 300	500-125 or 600-150	+23 dbm

HIGH LEVEL OUTPUT TRANSFORMERS (20-20 PLUS)

Type Number	Descriptive Data	Impedance, Ohms Primary	Impedance, Ohms Secondary	Pri. DC MA Per Winding Max.	Pri. DC MA Per Winding Unbal.	Max. Level ▼	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
S-232-Q	Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.6 db. (See descriptive data below)	6600 C.T. 1650 C.T.	16, 8, 4, 1.	70 140	7 14	+43 dbm (20 watts) See Data	4⅛	3 3/16	3 1/16	3¼	$44.00
S-238-Q	Frequency response, ±1 db: 10-75,000 cps. Insertion loss 0.6 db. (See descriptive data below)	10,000 C.T. 2500 C.T.	16, 8, 4, 1.	50 100	5 10	+43 dbm (20 watts) See Data	4⅛	3 3/16	3 1/16	3¼	$44.00
S-258-Q	Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.4 db. (See descriptive data below)	5000 C.T. 1250 C.T.	16, 8, 4, 1.	120 240	12 24	+46 dbm (40 watts) See Data	4⅝	3⅝	3½	6½	$60.00
S-271-S	Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.3 db. (See descriptive data below)	5000 C.T. 1250 C.T.	16, 8, 4, 1.	200 400	20 40	+49 dbm (80 watts) See Data	6⅜	5⅛	5⅛	18	$90.00
S-273-S	Frequency response, ±1 db: 10-80,000 cps. Insertion loss 0.3 db. (See descriptive data below)	8000 C.T. 2000 C.T.	16, 8, 4, 1.	125 250	12 25	+49 dbm (80 watts) See Data	6⅜	5⅛	5⅛	18	$90.00

DESCRIPTIVE DATA, GENERAL — Maximum rated operating level ▼ applies to frequency range 20-20,000 cps. Power rating is ½ at 15 cps, ¼ at 10 cps. Full power (60 cps) primary open circuit inductance is approximately 100 Henrys for each 1000 ohms of primary impedance. Leakage inductance, secondary referred to total primary, is approximately 1 mh per 1000 ohms of primary impedance. Leakage inductance, half primary to half primary is approximately 1 mh per 1000 ohms of primary impedance. Can be used between half and double of rated impedances. For halved impedances, power ratings are doubled. For doubled impedances, power ratings are halved. Secondary may be operated with either end, or C.T. grounded.

IMPEDANCE MATCHING AUTO TRANSFORMER (20-20 PLUS)

Type Number	Descriptive Data	Impedance, Ohms	Insertion Loss	Max. Level ▼	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
A-262-E	Frequency response, ± 1 db: 10-100,000 cps. May be used in any combination of rated impedances, step-up or step-down.	16, 8, 4 or 8, 4, 2	.5 db. or 1.0 db.	48.7 dbm (75 watts) or 44.7 dbm (30 watts)	4 3/16	3 1/16	3 7/16	5¾	$31.00

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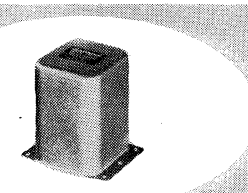
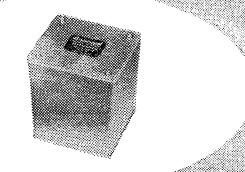
ACRO PRODUCTS COMPANY

MANUFACTURERS OF THE WORLD FAMOUS ACROSOUND TRANSFORMERS

Case Type "A" furnished in silver grey hammerloid finish. 10-inch color coded wire leads are brought out through case bottom. Case mounts with base flange.
Size — 3⅝ x 3¼ x 4¼ high



Case Type "B" furnished in silver grey hammerloid finish. 10-inch color coded wire leads are brought out through case bottom. Case has provision for either top or bottom mounting.
Size — 4 x 4⅝ x 5⅝ high



MODEL	IMPEDANCES*	POWER RATING	FREQUENCY RESPONSE	RATED PRIMARY CURRENT PER TUBE	PERMISSIBLE DC PRIMARY UNBALANCE	CASE TYPE	WEIGHT	NET PRICE	APPLICATION
TO-230	3000 plate-to-plate 4, 8, 16 secondary	20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	150 ma	20%	A	7 lbs.	$14.50	For use with 6B4's or 2A3's fixed bias pp par. 6L6's, etc.
TO-250	5000 plate-to-plate 4, 8, 16 secondary	10 watts— 20 cps to 20 kc 20 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	75 ma	10%	A	6 lbs.	11.75	For use with 6B4's or 2A3's self bias, 6L6's, class A, etc.
TO-270	10,000 plate-to-plate 4, 8, 16 secondary	10 watts— 20 cps to 20 kc 20 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	75 ma	10%	A	6 lbs.	11.75	For use with 6V6's, 6K6's, etc.
TO-280	9000 plate-to-plate 4, 8, 16 secondary	20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	75 ma	10%	A	7 lbs.	14.50	For use with 6L6's, class AB1
TO-290	12,000 plate-to-plate 4, 8, 16 secondary	20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	75 ma	10%	A	7 lbs.	15.75	For use with triode connected 807's or 5881's in Williamson type circuit
TO-300	6600 plate-to-plate 4, 8, 16 secondary	20 watts— 20 cps to 30 kc 40 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	75 ma	15%	A	7 lbs.	24.75	For Ultra-Linear operation of KT-66's, 807's, 5881's, 1614's, 6L6's. Ultra-Linear conversion of Williamson type circuits
TO-310	8000 plate-to-plate 4, 8, 16 secondary	10 watts— 20 cps to 30 kc 20 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	75 ma	10%	A	6 lbs.	18.75	For Ultra-Linear operation of 6V6's or EL-84's
TO-320	3500 plate-to-plate 4, 8, 16 secondary	10 watts— 20 cps to 30 kc 20 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	75 ma	10%	A	6 lbs.	18.75	For Ultra-Linear operation of 6Y6's
TO-330	3800 plate-to-plate 4, 8, 16 secondary	50 watts— 20 cps to 30 kc 100 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	150 ma	15%	B	14 lbs.	39.75	For push pull Ultra-Linear 6550's, EL-34's, 6CA7's or for push pull parallel operation of KT-66's, 807's, etc.
TO-350	6600 plate-to-plate 4, 8, 16 secondary	100 watts— 20 cps to 20 kc	±1 db 7 cps to 70 kc	175 ma	10%	B	14 lbs.	49.50	For Ultra-Linear operation of 6146 tubes using tertiary winding for screen connection.

POWER TRANSFORMERS

MODEL	VOLTAGES	USE	NET PRICE
TP-520	285-0-285 - 175 ma, 6.3V - 5a, 5V - 2a	For 6Y6 Amplifiers	$ 9.75
TP-550	825-290-0-100-290-825, 6.3V - 6a, 5V - 6a, 5V - 2a	For 6146 Amplifiers	33.75

* All models available with additional line winding (125 and 500 ohms) at extra cost of $6.00 net for models with numbers up to TO-320 and $10.00 net for models TO-330 and TO-350. Models with line winding are designated by model numbers ending in "5." For example, Model TO-300 with additional line winding is specified as TO-305. All power transformers supplied in gray hammertone end bells with upright mounting.

ACRO PRODUCTS COMPANY • PHILADELPHIA, PA.

High Fidelity Output Transformers for every application.

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BROADCAST QUALITY COMPONENTS

Modern high fidelity broadcasting and transcription equipment requires the use of "Audio" — transformers of utmost quality and reliability in performance. Freed broadcast quality components have been designed to meet these requirements. They are wide band, high fidelity components with low distortion throughout the audio range and beyond. Frequency response for most units is in the order of ± 1DB from 20 to 20,000 cps and for high level output transformers in the order of ± 0.5 DB from 20 to 30,000 cps.

These units feature astatic construction, longitudinal balance, high efficiency, uniform response, and constant impedance match throughout the audio frequency spectrum. Maximum neutralization of stray fields is accomplished through the use of hum balanced coil structures and multiple alloy shielding. Equal high fidelity response is assured on every tap of any universal impedance winding without line reflection of transverse coupling.

All broadcast quality components are thoroughly impregnated in a special non-hygroscopic varnish and fully encapsulated with a moisture proof, high melting compound.

All broadcast quality components are **hermetically sealed**.

All units are tested in accordance with and meet "RETMA" standards.

Almost all units are designed with universal impedance windings to insure greatest versatility.

A full line of high Q reactors complements this series of audio transformers.

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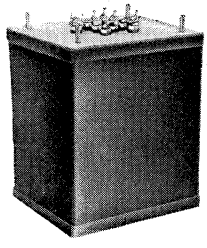
See Pages N-71, 72, 73 for FREED Prices

BROADCAST QUALITY COMPONENTS

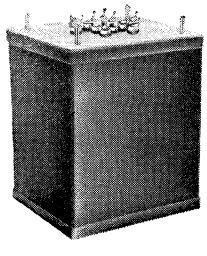
CASE DIMENSIONS

DC-2B CASE



Height: 3½"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen.: 2"x1¾"
Studs: 4 8-32
Knockout: 1½" dia.

DC-4A CASE



Height: 3¾"
Width: 3⅛"
Depth: 3"
Mtg. Cen.: 2½"x2½"
Studs: 4 8-32
Knockout: 2" dia.

INPUT TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 1	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1:14.1	70	0	0	DC-2B
QGA 2	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1:14.1	90	0	0	DC-2B
QGA 3	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1:11	70	0	0	DC-2B
QGA 4	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1:11	90	0	0	DC-2B
QGA 5	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1:31.6	70	0	0	DC-2B
QGA 6	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1:31.6	90	0	0	DC-2B

U-60 IMPEDANCES IN OHMS:
2.5, 5, 10, 15, 20, 30, 40, 60

U-500 IMPEDANCES IN OHMS:
50, 125, 200 CT, 250, 330, 500 CT.
125 and 500 ohms can be used for 150 and 600 ohms.

HYBRID AND REPEAT COILS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level D.B.M.	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 7	Hybrid. Unbalanced 500/600 ohm lines to 600 ohms.	Total Pri 1200/1000 split 300/250 300/250	600/150 or 500/125 split	+10	1.41:1	70	0	0	DC-2B
QGA 8	Hybrid. Balanced 500/600 ohm lines to 600 ohms. Longitudinal balance 70 DB	Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T.	600/150 or 500/125 split	+10	1.41:1	70	0	0	DC-2B
QGA 9	Hybrid. Unbalanced 500/600 ohm lines to triode plate. No. D.C. in secondary.	Total Pri 1200/1000 split 300/250 300/250	15,000 or 12,500	+10	1:3.54	70	0	0	DC-2B
QGA 10	Hybrid. Balanced 500/600 ohm lines to triode plate. No. D.C. in secondary. Longitudinal balance 70 DB.	Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T.	15,000 or 12,500	+10	1:3.54	70	0	0	DC-2B
QGA 11	Repeat coil for low frequency ringing. Longitudinal balance 70 DB.	600/500 split	600/500 split Balanced		1:1	90	0	0	DC-4A

INTERSTAGE TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 D.B.
***50-20,000 C.P.S. ±1.0 D.B.**

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level D.B.M.	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 12	Bridging line to single or push-pull grids.	10,000	60,000 split	+10	1:2.45	70	0	0	DC-2B
QGA 13	Single 6C4, 6J5, ½ 6SN7 triode to push-pull grids. Shunt feed.	15,000	60,000 split	+18	1:2	45	0	0	DC-2B
QGA 14*	Single 6C4, 6J5, ½ 6SN7 triode to push-pull grids.	15,000	60,000 split	+18	1:2	45	8	8	DC-2B
QGA 15	Push-pull triode plates to push-pull class A grids.	20,000 split	45,000 split	+25	1:1.5	30	8	0.5	DC-4A

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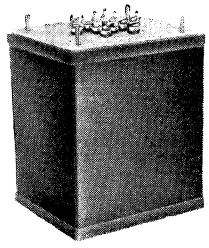
See Pages N-71, 72, 73 for FREED Prices

BROADCAST QUALITY COMPONENTS

CASE DIMENSIONS



DC-2B CASE
Height: 3½"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen.: 2"x1¾"
Studs: 4 8-32
Knockout: 1½" dia.

DC-4A CASE
Height: 3¾"
Width: 3⅛"
Depth: 3"
Mtg. Cen.: 2½"x2½"
Studs: 4 8-32
Knockout: 2" dia.

DC-5B CASE
Height: 4½"
Width: 4⅛"
Depth: 3½"
Mtg. Cen.: 3⅛"x2⅝"
Studs: 4 10-32
Knockout: 2½" dia.

DC-6A CASE
Height: 4⅞"
Width: 5"
Depth: 4⅛"
Mtg. Cen.: 3¾"x3"
Studs: 4 10-32
Knockout: 3" dia.

DC-6B CASE
Height: 6"
Width: 5"
Depth: 4⅛"
Mtg. Cen.: 3¾"x3"
Studs: 4 10-32
Knockout: 3" dia.

DC-7A CASE
Height: 4⅞"
Width: 5½"
Depth: 5"
Mtg. Cen.: 4⅜"x3¾"
Studs: 4 ¼"-20
Knockout: 3" dia.

LOW LEVEL OUTPUT, MIXING, MATCHING TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB
*50-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level D.B.M.	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 16	Single plate or bridging line to Universal 500 ohm line. Shunt feed.	15,000	U-500	+18	5.5:1	70	0	0	DC-2B
QGA 17*	Single plate to Universal 500 ohm line.	15,000	U-500	+18	5.5:1	70	8	8	DC-2B
QGA 18	Push-pull triode plates to Universal 500 ohm line.	20,000 C.T.	U-500	+25	6.3:1	70	8	0.5	DC-2B
QGA 19	Mixing, low impedance microphone or line to Universal 500 ohm line.	U-500	U-500	+12	1:1	70	0	0	DC-2B
QGA 20	Line level mixing and matching.	U-500	U-500	+30	1:1	70	0	0	DC-2B
QGA 21	High mu triode photo-cell to Universal 500 ohm line.	100,000	U-500	+12	14.1:1	70	0	0	DC-2B

DRIVER TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Primary Impedance Ohms	Maximum Power Level D.B.M.	Turn Ratio Pri.: ½ Sec.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 22	Universal 500 ohm line to Class B grids.	U-500	+40	1:1	0	0	DC-4A
QGA 23	Push-pull 6J5, etc. to push-pull 2A3's, 6L6's, etc.	20,000 C.T.	+30	3.2:1	8	0.5	DC-2B
QGA 24	Push-pull 2A3, 6B4 to push-pull 809, T2-40, 4/125A.	5,000 C.T.	+40	3.1:1	50	5	DC-4A

HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 20-30,000 C.P.S. ±0.5 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Watts	Ratio	Max. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 25	PP 5881, 6B4, 6L6, 300A, 275A to Universal 500 ohm line.	5,000 split	U-500	+42	15	3.16:1	70	7	DC-5B
QGA 26	As above to Universal voice coil.	5,000 split	U-16	+42	15	17.7:1	70	7	DC-5B
QGA 27	Push-pull 6V6, 6AQ5, 7C5, 6N7 to Universal 500 ohm line.	8,000 split	U-500	+42	15	4:1	50	5	DC-5B
QGA 28	As above to Universal voice coil.	8,000 split	U-16	+42	15	22.4:1	50	5	DC-5B
QGA 29	P.P. 6F6, 6V6, 6AQ5, 7C5, 7B5, 6AR5, 6K6, 6L6 to Universal 500 ohm line.	10,000 split	U-500	+42	15	4.47:1	40	4	DC-5B
QGA 30	As above to Universal voice coil.	10,000 split	U-16	+42	15	25:1	40	4	DC-5B
QGA 31‡	PP. 807, 1614, KT-66, (Williamson Amplifier) to Universal 500 ohm line.	10,000 split	U-500	+45.5	36	4.47:1	60	6	DC-6A
QGA 32‡	As above to Universal voice coil.	10,000 split	U-16	+45.5	36	25:1	60	6	DC-6A
QGA 33	P.P. Parallel, 6A5G, 300A to Universal 500 ohm line.	2,500 split	U-500	+45.5	36	2.24:1	100	10	DC-6A
QGA 34	As above to Universal voice coil.	2,500 split	U-16	+45.5	36	12.5:1	100	10	DC-6A
QGA 35	P.P. 6L6 or P.P. Parallel 6L6 to Universal 500 ohm line.	3,800 split	U-500	+47	50	2.75:1	140	14	DC-6B
QGA 36	As above to Universal voice coil.	3,800 split	U-16	+47	50	15.4:1	140	14	DC-6B
QGA 37	High level multiple line to Universal voice coil.	U-500	U-16	+42	15	5.6:1	0	0	DC-5B
QGA 38	High level multiple line to Universal voice coil.	U-500	U-16	+47	50	5.6:1	0	0	DC-6B
QGA 39‡	5881 or 6146 Class AB1 to Universal voice coil.	6,600 split	U-500	+47	50	3.64:1	70	7	DC-6A
QGA 40‡	5881 or 6146 Class AB1 to Universal voice coil.	6,600 split	U-16	+47	50	20:1	70	7	DC-6A
QGA 41	6550 AB1 or 6146 AB2. to Universal 500 ohm line.	5,000 split	U-500	+50	100	3.16:1	140	14	DC-7A
QGA 42	6550AB1 or 6146AB2 to Universal voice coil.	5,000 split	U-16	+50	100	17.7:1	140	14	DC-7A

‡These units supplied with taps for applying screen feedback.

U-16 IMPEDANCES IN OHMS: 2, 4, 8, 12, 16.

U-500 IMPEDANCES IN OHMS. 50, 125, 200 C.T., 250, 330 ,500 C.T. 125 and 500 ohms can be used for 150 and 600 ohms.

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See Pages N-71, 72, 73 for FREED Prices

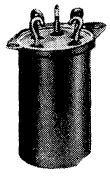
MINIATURE AUDIO TRANSFORMERS

These high quality, miniature transformers feature hermetic sealing for maximum protection from moisture penetration with subsequent electrolysis and corrosion of fine wires. While primarily intended for non-military equipment, these units are constructed in accordance with MIL-T-27A Specifications.

Frequency response: *± 2DB 30-20,000 CPS.
***± 2DB 200-10,000 CPS.**

CASE DIMENSIONS

DM-12 CASE



Height: 1 15/32"
Dia.: 15/16"
Mtg. Cen.: 1 7/32"
Mtg. 2 holes: 0.147"
Flange Lgth.: 1 1/2"
Flange D. 1 1/32"

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
PMA 1	Line or microphone to single or push-pull grids.	50/200/500	60,000 C.T.	+8	1:11		0	0	DM-12
PMA 2	Dynamic microphone or speaker voice coil to single or P.P. grid.	4/8	60,000 C.T.	+8	1:86.6		0	0	DM-12
PMA 3	Line or microphone to single or push-pull grids. Magnetically shielded.	50/200/500	60,000 C.T.	+8	1:11	30	0	0	DM-12
PMA 4	Single triode plate to single or push-pull grids.	15,000	60,000 C.T.	+8	1:2		0	0	DM-12
PMA 5*	Single triode plate to push-pull grids.	15,000	60,000 C.T.	+8	1:2		2	2	DM-12
PMA 6	Single triode plate to multiple line.	15,000	50/200/500	+8	5.48:1		0	0	DM-12
PMA 7*	Single triode plate to multiple line.	15,000	50/200/500	+8	5.48:1		2	2	DM-12
PMA 8	Push-pull triode plates to multiple line.	30,000 C.T.	50/200/500	+8	7.75:1		2	0.25	DM-12
PMA 9	Crystal mike or pickup to multiple line.	60,000	50/200/500	+8	11:1		0	0	DM-12
PMA 10	Mixing or matching.	50/200	50/200/500	+8	1:1.50		0	0	DM-12
PMA 11	Parallel Feed Reactor.	40 hy, 3 ma dc, 3500 ohms d.c. resistance.							DM-12

PROFESSIONAL GRADE COMPONENTS

This group of components has been designed for use in high fidelity and professional equipment and for public address service. Freed has developed this series of units employing the latest design techniques and the best commercially available materials. Except for units carrying unbalanced direct current the frequency response is ± 1 DB from 30 to 15,000 cps. All units feature excellent performance characteristics combined with minimum size and weight.

All units are vacuum varnished and then potted in compound to insure long life and trouble free performance.

Professional Grade components are supplied cased. Upon request these units can be supplied open or in shell type construction.

All cased Professional Grade Components supplied with terminals meet "RETMA" standards.

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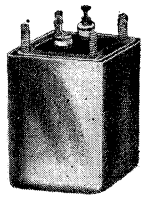
PROFESSIONAL GRADE COMPONENTS

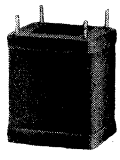
CASE DIMENSIONS

DM-O1 CASE



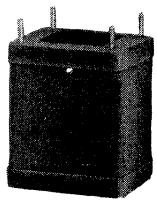
Height: 2″
Width: 1½″
Depth: 1½″
Mtg. Cen.: 1 1/16″x1 1/16″
Studs: 4 6-32
Knockout: 1⅜″ dia.

DC-1A CASE



Height: 2½″
Width: 2 1/16″
Depth: 1 13/16″
Mtg. Cen.: 1½″x1¼″
Studs: 4 8-32
Knockout: 1¼″ dia.

DC-2A CASE



Height: 3″
Width: 2 5/8″
Depth. 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32
Knockout: 1½″x1⅜″

L after case number indicates leads

T after case number indicates terminals

INPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
PGA 1	Universal 500 ohm line to single grid.	U-500	50,000	+12	1:10	50	0	0	DM-01
PGA 2	Universal 500 ohm line to push-pull grids.	U-500	60,000 split	+12	1:11	50	0	0	DM-01
PGA 3	Universal 500 ohm line to push-pull grids.	U-500	100,000 split	+12	1:14.1	50	0	0	DM-01
PGA 4	Bridging line to single grid.	10,000	60,000	+12	1:2.45	50	0	0	DM-01
PGA 5	Bridging line to push-pull grids.	10,000	60,000 split	+12	1:2.45	50	0	0	DM-01
PGA 6	Low level line matching.	U-500	U-500	+18	1:1	50	0	0	DM-01

LOW LEVEL OUTPUT AND MIXING TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Max. Pri. D.C. Per Side Ma.	D.C. Unbalance Ma.	Case Number
PGA 7	Single triode plate to Universal 500 ohm line. Shunt feed.	15,000	U500	+18	5.48:1	0	0	DM-01
PGA 8	Single triode plate to Universal 500 ohm line.	15,000	U500	+18	5.48:1	8	8	DM-01
PGA 9	Push-pull triode plates to Universal 500 ohm	20,000 CT	U500	+30	6.32:1	8	0.5	DM-01
PGA 10	Low level line matching.	U500	U500	+18	1.1	0	0	DM-01

DRIVER TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Primary Impedance Ohms	Turn Ratio Pri: ½ Sec.	Max. Level DBM	Max. Pri. D.C. Per Side Ma.	Max. D.C. Unbalance Ma.	Case Number
PGA 11	Universal 500 ohm line to push-pull grids.	U500	1:1	+40	0	0	DC-2A
PGA 12	Push-pull 6C4, 6SN7 triodes to push-pull 2A3, 6L6 grids.	20,000 C.T.	3.0:1	+30	10	1	DC-1A
PGA 13	Push-pull 2A3, 6B4, 6A5G to push-pull 809, TZ-40, 4/125A	5,000 C.T.	3.2:1	+40	50	5	DC-2A

U-500 IMPEDANCES IN OHMS: 50, 125, 200 CT, 250, 330, 500 CT. 125 and 500 ohms can be used for 150 and 600 ohms.

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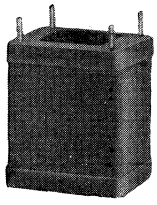
PROFESSIONAL GRADE COMPONENTS

CASE DIMENSIONS



DC-2B CASE
Height: 3½″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32
Knockout: 1½″x1⅜″

DC-4A CASE
Height: 3¾″
Width: 3⅛″
Depth: 3″
Mtg. Cen.: 2½″x2½″
Studs: 4 8-32
Knockout: 2″x1¾″

DC-5A CASE
Height: 3⅞″
Width: 4⅛″
Depth: 3½″
Mtg. Cen.: 3⅛″x2⅝″
Studs: 4 10-32
Knockout: 2½″x2″

DC-6A CASE
Height: 4⅞″
Width: 5″
Depth: 4⅛″
Mtg. Cen.: 3¾″x3″
Studs: 4 10-32
Knockout: 3″x2½″

L after case number indicates leads

T after case number indicates terminals

HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Watts	Ratio	Max. Pri. D.C. Per Side Ma	DC Unbalance Ma	Case Number
PGA 14	P.P. 6K6, 6AR5, 7B5 Class A to Universal voice coil.	12,000 C.T.	U16	+40	10	27.4:1	40	4	DC-2B
PGA 15	P.P. 6F6 Cl. AB_2, P.P. 6V6, 6AQ5, 7C5, Cl. AB_1, 6L6 or 5881 Triode to Universal voice coil.	10,000 C.T.	U16	+43	20	25:1	50	5	DC-4A
PGA 16	P.P. 6L6 Cl. AB_2, self bias to Universal 500 ohm line.	9,000	U500	+44.8	30	4.23:1	50	5	DC-4A
PGA 17	As above to Universal voice coil.	9,000	U16	+44.8	30	23.7:1	50	5	DC-4A
PGA 18	P.P. 6N7 Cl. B, P.P. 6V6, 6AQ5, 7C5, Cl. AB_1 to Universal voice coil.	8,000 C.T.	U16	+41.8	15	22.3:1	45	5	DC-4A
PGA 19†	P.P. 6L6, fixed bias, Cl. AB_2, to Universal 500 ohm line.	6,600 C.T.	U500	+44.8	30	3.63:1	70	7	DC-4A
PGA 20	As above to Universal voice coil.	6,600 C.T.	U16	+44.8	30	20.3:1	70	7	DC-4A
PGA 21	P.P. 6L6 Cl. A, P.P. 2A3, 6A5G, 6B4 self bias P.P. Par. 6V6 Cl. AB_1 to Universal voice coil.	5,000 C.T.	U16	+43	20	17.7:1	80	8	DC-4A
PGA 22	P.P. Par 6L6 Cl. AB_1, self bias P. P. 6L6 Cl. AB_2 fixed bias PP807 Cl. AB_2 to Universal 500 ohm line.	4000 C.T.	U500	+47	50	2.83:1	100	10	DC-5A
PGA 23	As above to Universal voice coil.	4000 C.T.	U16	+47	50	15.8:1	100	10	DC-5A
PGA 24	P.P. 6A5G, 6B4, 2A3, fixed bias Universal voice coil.	3000 C.T.	U16	+41.8	15	13.7:1	75	7.5	DC-4A
PGA 25	P.P. Par. 807 Cl. AB_2 to Universal 500 ohm line.	2100 C.T.	U500	+51.8	150	2.05:1	240	12	DC-6A
PGA 26	P.P. Par 2A3, 6A5G, fixed bias 6B4, 300A Cl. AB_1, P.P. Par 6L6 Cl. A to Universal 500 ohm line.	1500 C.T.	U500	+44.8	30	1.73:1	180	15	DC-4A
PGA 27	As above to Universal voice coil.	1500 C.T.	U16	+44.8	30	9.7:1	150	15	DC-4A
PGA 28	Matching line to Universal voice coil.	U500	U16	+44.8	30	5.6:1	0	0	DC-4A
PGA 29	Matching line to Universal voice coil.	U500	U16	+47	50	5.6:1	0	0	DC-5A
PGA 30	Matching line to Universal voice coil.	U500	U16	+50	100	5.6:1	0	0	DC-6A

†Available with taps to apply screen feedback.

U-16 IMPEDANCES IN OHMS:
2, 4, 8, 12, 16

U-500 IMPEDANCES IN OHMS:
50, 125, 200 C.T., 250, 330, 500 C.T., 125 and 500 ohms can be used for 150 and 600 ohms.

A 70 volts level can be obtained for the following impedances:
500 ohms — 10 watts + 40 DBM
330 ohms — 15 watts + 42 DBM
250 ohms — 20 watts + 43 DBM
200 ohms — 25 watts + 44 DBM
125 ohms — 40 watts + 46 DBM
50 ohms — 100 watts + 50 DBM

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PROFESSIONAL GRADE COMPONENTS

CASE DIMENSIONS

DM-01 CASE
Height: 2″
Width: 1½″
Depth: 1½″
Mtg. Cen.: 1 1/16″x1 1/16″
Studs: 4 6-32
Knockout: 1⅜″ dia.

DC-1A
Height: 2½″
Width: 2 1/16″
Depth: 1 13/16″
Mtg. Cen.: 1½″x1¼″
Studs: 4 8-32
Knockout: 1¼″ dia.

DC-2A
Height: 3″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32
Knockout: 1½″x1⅜″

DC-2B
Height: 3½″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32
Knockout: 1⅜″x1⅜″

DC-4A
Height: 3¾″
Width: 3⅛″
Depth: 3″
Mtg. Cen. 2½″x2½″
Studs: 4 8-32
Knockout: 2″x1⅜″

DC-5A CASE
Height: 3⅞″
Width: 4⅛″
Depth: 3½″
Mtg. Cen.: 3⅛″x 2⅝″
Studs: 4 10-32
Knockout: 2½″ x 2″

DC-5B
Height: 4½″
Width: 4⅛″
Depth: 3½″
Mtg. Cen. 3⅛″x2⅝″
Studs: 4 10-32
Knockout: 2½″ dia.

DC-6A CASE
Height: 4⅞″
Width: 5″
Depth: 4⅛″
Mtg. Cen. 3¾″x3″
Studs: 4 10-32
Knockout: 3″ dia.

7B CASE
Height: 6¾″
Width: 5½″
Depth: 5″
Mtg. Cen.: 4⅜″x3¾″
Studs: 4 ¼-20
Knockout: 3″x2½″

FILTER REACTORS

Inductance measured at 50V, 60 cycles with rated direct current in the winding.

Catalog No.	Inductance in Henries	Rated Current D.C. Ma.	D.C. Resistance Ohms	Dielectric Test Voltage VRMS	Case Number
PGC 1	40	15	2000	1000	DM-01
PGC 2	12	40	400	1000	DC-1A
PGC 3	8	50	300	1000	DC-1A
PGC 4	20	50	425	2500	DC-2A
PGC 5	10	70	250	2500	DC-2A
PGC 6	6	100	160	2500	DC-2A
PGC 7	6	150	115	2500	DC-2B
PGC 8	10	150	160	2500	DC-4A
PGC 9	5.5	200	95	2500	DC-4A
PGC 10	10	200	150	2500	DC-4A
PGC 11	10	250	135	2500	DC-5B
PGC 12	8	300	95	2500	DC-5B
PGC 13	7	400	60	2500	DC-5B
		PARALLEL FEED	AUDIO CHOKES		
PGC 14	100	10	3500	1000	DM-01
PGC 15	30	50	650	1500	DC-2A
PGC 16	400	1	6000	1000	DM-01

SWINGING INPUT REACTORS

Catalog No.	Inductance in Henries *	Rated Current D.C. Ma.	D.C. Resistance Ohms	Dielectric Test Voltage VRMS	Case Number
PGC 17	5-20	150	160	1500	DC-4A
PGC 18	5-20	250	135	1500	DC-5B
PGC 19	3-15	300	95	1500	DC-5B
PGC 20	3-15	400	60	1500	DC-5B

*Inductance values for 100% and 10% of rated Direct Current.

POWER TRANSFORMERS

ALL PRIMARIES ARE FOR 115V., 50/60 c.p.s.

Temperature rises range from 45° to 50°C.

Catalog No.	Py Va	Hi Volt	Choke Input D.C.V.	D.C. Ma	Cond. Input D.C.V.	D.C. Ma.	Bias Tap.	Rectifier	Fil. No. 1	Fil. No. 2	Fil. No. 3	Case No.
PGP 1	15	440V C.T.	Low flux density, hum-bucking. For Preamplifier service.		270	15		6X4	5.3VCT@0.6A	6.3V @ 0.3A		DC-2B
PGP 2	30	550V C.T.	Low flux density, hum-bucking. For Preamplifier service.		310	35		6X4	5.3VCT@0.6A	6.3VCT@0.9A		DC-4A
PGP 3	45	500V C.T.			270	40		6X4 5Y3	5/6.3V @ 2A	6.3V @ 2A		DC-4A
PGP 4	57	600V C.T.			330	50		6X4 5Y3	5/6.3V @ 2A	6.3V @ 2.5A		DC-4A
PGP 5	64	650V C.T.			370	50		6X4 5Y3	5/6.3V @ 2A	6.3V @ 3A		DC-4A
PGP 6	73	600V C.T.			320	70		6X4 5Y3	5/6.3V @ 2A	6.3V @ 3A		DC-4A
PGP 7	110	650V C.T.	225	140	330	100		5Y3, 5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 8	76	700V C.T.	260	100	385	70		5Y3	5V @ 2A	6.3V @ 2.5A		DC-5A
PGP 9	108	700V C.T.	250	125	370	90		5Y3, 5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 10	127	700V C.T.	260	170	350	120		5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 11	146	700V C.T.	260	210	350	150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	DC-6A
PGP 12	207	800V C.T.	295	280	400	200		5U4, 2-5Y3	5V @ 4A	6.3V @ 6A		DC-6A
PGP 13	225	800V C.T.	295	280	400	200	80	5U4, 2-5Y3	5V @ 4A	6.3V @ 6A	5/6.3V @ 2A	DC-6A
PGP 14	268	840V C.T.	330	350	450	250	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	DC-6A
PGP 15	320	900V C.T.	340	420	490	300	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	DC-7B
PGP 16	127	900V C.T.	360	150				5U4	5V @ 3A	6.3V @ 5A		DC-6A
PGP 17	150	900V C.T.	350	200				5UR	5V @ 3A	6.3V @ 5A		DC-6A
PGP 18	203	1100V C.T	400	250				5R4GY	5V @ 3A	6.3V @ 5A		DC-6A
PGP 19	248	1100V C.T	420	300				2-5R4GY	5V @ 4A	6.3V @ 7A		DC-6A
PGP 20	310	1280V C.T	480	350				2-5R4GY	5V @ 4A	6.3V @ 7A		DC-7B

T following case number indicates Terminals. **L following case number indicates Leads.**

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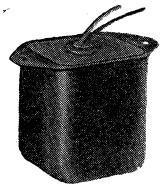
HIGH Q REACTORS

PQC HIGH Q REACTORS

PQC-Reactors are low-priced High Q components designed for use in selective circuits such as wave filters, wave traps, and noise suppressors.

CASE DIMENSIONS

DM-02 CASE



Height: $1\frac{21}{32}$"
Width: $1\frac{21}{32}$"
Depth: $1\frac{13}{32}$"
Flange L: $2\frac{3}{8}$"
Mtg. Cen.: 2"

Catalog No.	Application	Rated Ind. in Henries	Q	Tuning Capacitor (Mf)	Case Size
PQC 1	60 cps resonant trap	14.00	10	.5	DM-02
PQC 2	400 cps resonant trap	1.58	15	.1	DM-02
PQC 3	1000 cps resonant trap	1.00	20	.025	DM-02
PQC 4	Dynamic noise suppression inductor	2.40	20 @ 4 KC		DM-02
PQC 5	Dynamic noise suppression inductor	2.00	20 @ 4 KC		DM-02
PQC 6	Dynamic noise suppression inductor	1.30	20 @ 4 KC		DM-02
PQC 7	Dynamic noise suppression inductor	.80	20 @ 4 KC		DM-02
PQC 8	Dynamic noise suppression inductor	.60	20 @ 4 KC		DM-02
PQC 9	Dynamic noise suppression inductor	.40	20 @ 4 KC		DM-02

QGC HIGH Q REACTORS

QGC-Reactors are designed for low audio frequency application requiring very high Q and inductance stability. These units are impregnated with a special compound and mounted in **hermetically sealed** cases. A hum reducing lamination structure used in these reactors results in an extremely low pickup of extraneous stray fields. A very low temperature coefficient is achieved by a specially developed impregnation and assembly process. All QGC High Q Reactors have an extremely low voltage coefficient.

All Resistance values are nominal and can vary by ± 20%.

Inductance values are given within ± 2%.

Closer Tolerances and Inductances other than the standard Catalog items can be supplied on special orders.

Inductance Values up to 400 Henries can be supplied.

The graphs showing the coil characteristics make use of the following formulas:

1. "Q" versus frequency was measured with voltages given by the expression:

$$V = K \frac{\sqrt{LH}}{1H} X \frac{FKC}{1KC}$$

K — a constant listed in every chart
LH — inductance in Henries
FKC — frequency in kilocycles at which the measurements were made.

2. Variation of inductance versus normalized Direct Current.

The normalized DC is given by

$$In = Idc\sqrt{LH}$$

where Idc is the dc current in MA
and LH the inductance in Henries.

3. Variation of Inductance versus normalized AC voltage.

The normalized AC voltage is given by

$$Vn = \frac{V}{\sqrt{LH}} X \frac{60}{Fcps}$$

Vn — normalized AC voltage
V — voltage across the coil
LH — inductance in Henries
F — frequency of measurement in cps.

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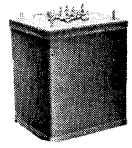
CASE DIMENSIONS

DC-1A CASE

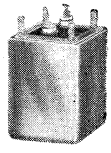


Height: 2½"
Width: 2 1/16"
Depth: 1 13/16"
Mtg. Cen.: 1½"x1¼"
Studs: 4 6-32
Knockout: 1" dia.

DC-2A CASE

Height: 3"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen.: 2"x1¾"
Studs: 4 8-32
Knockout: 1"

DM-01 CASE



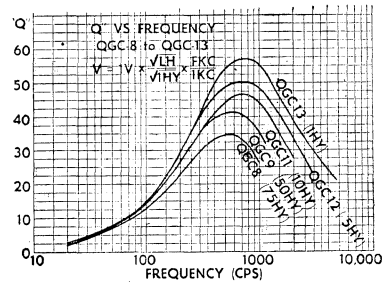
Height: 2"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 4 6-32
Knockout: 1⅜" dia.

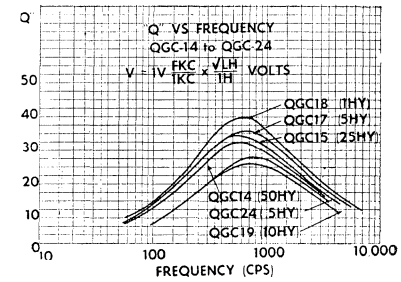
DM-15 CASE

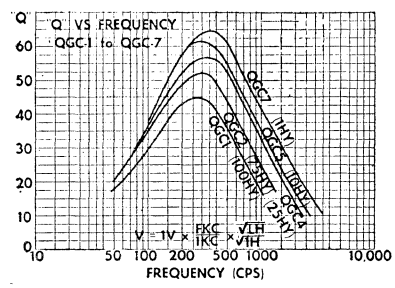
Height: 1.5"
Dia.: 0.937"
Flange L 1.375"
Flange D 0.975"
Mtg. Cen.: 1.125"
2 Holes: 0.125" D
Knockout: 0.875"

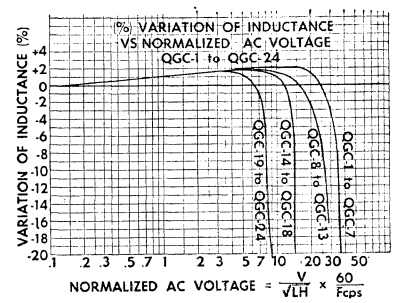
QUALITY GRADE HIGH Q REACTORS

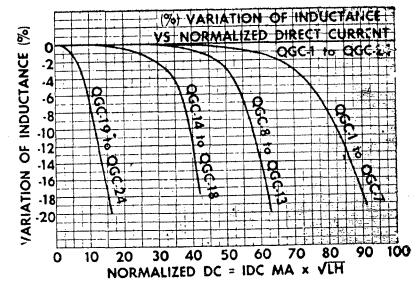
Catalog No.	Inductance Hy.	RDC Ohms Tolerance ± 20%	Self-resonant Frequency KC	Current Capacity MA	Case No.
QGC-1	100	1,611	2.2	40	DC-2A
QGC-2	75	1,054	2.6	50	DC-2A
QGC-3	50	878	3.2	50	DC-2A
QGC-4	25	378	4.5	80	DC-2A
QGC-5	10	117	7.2	160	DC-2A
QGC-6	5	78	10.2	160	DC-2A
QGC-7	1	15	22.6	400	DC-2A
QGC-8	75	3,400	.82	16	DC-1A
QGC-9	50	2,050	1.00	20	DC-1A
QGC-10	25	1,250	1.41	25	DC-1A
QGC-11	10	460	2.25	40	DC-1A
QGC-12	5	210	3.20	65	DC-1A
QGC-13	1	40	7.20	160	DC-1A
QGC-14	50	2,900	4.60	13	DM-01
QGC-15	25	1,300	6.60	20	DM-01
QGC-16	10	570	10.70	25	DM-01
QGC-17	5	280	15.20	40	DM-01
QGC-18	1	50	35.00	100	DM-01
QGC-19	10	760	10.70	20	DM-15
QGC-20	7.5	700	12.20	20	DM-15
QGC-21	5	450	15.20	25	DM-15
QGC-22	2.5	235	22.00	32	DM-15
QGC-23	1	90	35.00	63	DM-15
QGC-24	0.5	45	51.00	80	DM-15











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HERMETICALLY SEALED PULSE TRANSFORMERS

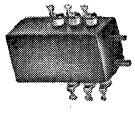
Hermetically sealed Pulse Transformers for use in blocking oscillator, low level interstage coupling, and modulator output circuits. These components meet MIL-T-27 A specifications. The pulse transformers are designed for maximum power, efficiency, and optimum pulse performance. Balanced coil structures permit series or parallel connection of windings for turn ratios other than unity. Pulse characteristics, voltages and impedance levels will depend upon the interconnections made.

CASE DIMENSIONS

DM-8 CASE
Height: 1½″
Width: 1 3/32″
Flange D.: 1¼″

DM-01 CASE
Height: 2″
Width: 1½″
Depth: 1½″
Mtg. Cen.: 1 1/16″ x 1 1/16″
Studs: 4 6-32
Knockout: 1⅜″ dia.

DM-12 CASE
Height: 1 15/32″″
Dia.: 15/16″
Mtg. Cen.: 1 7/32″
2 Mtg. holes: 0.147″ dia.
Flange Lgth.: 1½″
Flange D. 1 1/32″



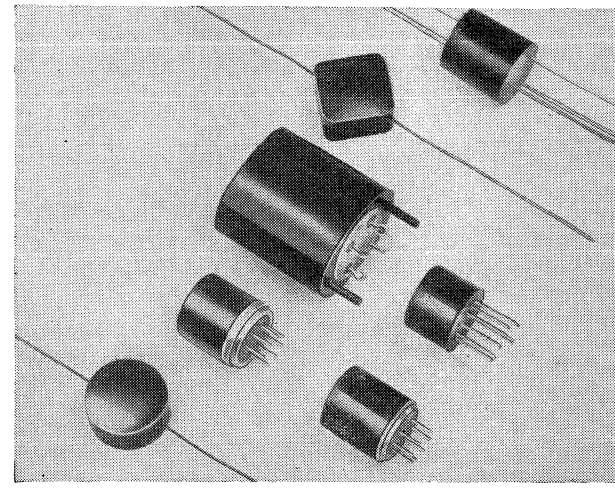
DM-18 CASE
Height: 1″
Width: 2¼″
Depth: 1⅛″
Mtg. Cen.: 9/16″
Studs: 2 6-32

PULSE TRANSFORMERS

Cat. No.	Blocking Osc.	Interstage Coupling	Low Power Output	Pulse Voltage Kilovolts	Pulse Duration Microseconds	Duty Rate	No. of Windings	Test Voltage KV., RMS	Characteristic Impedance Ohms	Case No.
MPT-1	✓	✓		0.25/0.25/0.25	0.2-1.0	.004	3	0.7	250	DM-12
MPT-2	✓	✓		0.25/0.25	0.2-1.0	.004	2	0.7	250	DM-12
MPT-3	✓	✓		0.5/0.5/0.5	0.2-1.5	.002	3	1.0	250	DM-18
MPT-4	✓	✓		0.5/0.5	0.2-1.5	.002	2	1.0	250	DM-18
MPT-5	✓	✓		0.5/0.5/0.5	0.5-2.0	.002	3	1.0	500	DM-12
MPT-6	✓	✓		0.5/0.5	0.5-2.0	.002	2	1.0	500	DM-12
MPT-7	✓	✓	✓	0.7/0.7/0.7	0.5-1.5	.002	3	1.5	200	DM-18
MPT-8	✓	✓	✓	0.7/0.7	0.5-1.5	.002	2	1.5	200	DM-18
MPT-9	✓	✓	✓	1.0/1.0/1.0	0.7-3.5	.002	3	2.0	200	DM-18
MPT-10	✓	✓	✓	1.0/1.0	0.7-3.5	.002	2	2.0	200	DM-18
MPT-11	✓	✓	✓	1.0/1.0/1.0	1.0-5.0	.002	3	2.0	500	DM-01
MPT-12	✓	✓	✓	0.15/0.15/0.3/0.3	0.2-1.0	.004	4	0.7	700	DM-8

ENCAPSULATED UNITS AVAILABLE!

Plug-in or Printed Circuit Types



When ordering plug-in type, specify "C" after number—for printed circuit type, specify "PC".

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STANDARD MILITARY TRANSFORMERS

This group comprises audio and power units designed to meet MIL-T-27 A specifications.

The functional characteristics of these transformers were established by the Armed Services Standardization Program.

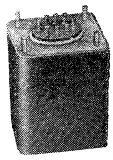
These units are supplied in standard MIL cases.

Transformers meeting MIL-T-27A specifications Grade 1 through 6 with temperature characteristics of Class S, T, or U can be supplied on special order.

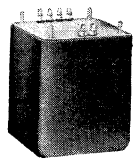
Encapsulated units using either Epoxy-Resins or Fosterite can be supplied for Grade 2 and 5.

Class U components can be supplied molded in special high temperature Freed resin.

CASE DIMENSIONS



AJ CASE
Height: 2 3/8"
Width: 1 5/8"
Depth: 1 5/8"
Mtg. Cen.: 1 1/16" x 1 1/16"
Studs: 4 6-32



EB CASE
Height: 2 7/16"
Width: 1 15/16"
Depth: 1 13/16"
Mtg. Cen.: 1 3/8" x 1 1/4"
Studs: 4 6-32

FB CASE
Height: 2 1/2"
Width: 2 9/16"
Depth: 2 1/16"
Mtg Cen.: 1 11/16" x 1 7/16"
Studs: 4 6-32

GB CASE
Height: 2 13/16"
Width: 2 3/4"
Depth: 2 3/8"
Mtg. Cen.: 2 1/8" x 1 3/4"
Studs: 4 6-32

HA CASE
Height: 4 1/4"
Width: 3 1/16"
Depth: 2 5/8"
Mtg. Cen.: 2 19/64" x 1 55/64"
Studs: 4 8-32

HB CASE
Height: 3 3/16"
Width: 3 1/16"
Depth: 2 5/8"
Mtg. Cen.: 2 19/64" x 1 55/64"
Studs: 4 8-32

JB CASE
Height: 3 7/8"
Width: 3 9/16"
Depth: 3 1/16"
Mtg. Cen.: 2 5/8" x 2 1/8"
Studs: 4 8-32

KB CASE
Height: 4 5/16"
Width: 3 15/16"
Depth: 3 3/8"
Mtg. Cen.: 3" x 2 7/16"
Studs: 4 10-32

LB CASE
Height: 4 1/2"
Width: 4 5/16"
Depth: 3 11/16"
Mtg. Cen.: 3 5/16" x 2 11/16"
Studs: 4 10-32

MB CASE
Height: 4 15/16"
Width: 4 11/16"
Depth: 4"
Mtg. Cen.: 3 11/16" x 3"
Studs: 4 1/4-20

NB CASE
Height: 5 1/2"
Width: 5 1/16"
Depth: 4 5/16"
Mtg. Cen.: 4 1/16" x 3 5/16"
Studs: 4 1/4-20

STANDARD MILITARY AUDIO TRANSFORMERS

Frequency Response 300-10,000 C.P.S. ±2 DB

Catalog No.	Application	Type Designation	Impedance Level in Ohms Primary	Secondary	Ratio	Max. Power Level DBM	Pri. D.C. Per Side in Ma	Max. D.C. unbalance	Case
MGA 1	Transformer; interstage, single or P.P. plates to single or P.P. grids.	TF1R15AJ0	10,000 C.T.	90,000 split and C.T.	1:3 overall	+15	10	10	AJ
MGA 2	Transformer; matching 600 ohm line to voice coil.	TF1R16AJ0	600 split	4, 8, 16	6.12:1 overall	+33	0	0	AJ
MGA 3	Transformer; input, 600 ohm line to single or P.P. grids.	TF1R16AJ0	600 split	135,000 C.T.	1:15	+15	0	0	AJ
MGA 4	Transformer; matching, 600 ohm line to 600 ohm line.	TF1R10AJ0	600 split	600 split	1:1	+15	0	0	AJ
MGA 5	Transformer; output, single plate 7,600 ohm, 4,800 ohm to 600 ohm line.	TF1R13AJ0	7,600 tap @ 4,800	600 split	3.56:1	+33	40	40	AJ
MGA 6	Transformer; output, single plate 7,600 ohm, 4,800 ohm to voice coil.	TF1R13AJ0	7,600 tap @ 4,800	4, 8, 16	21.8:1	+33	40	40	AJ
MGA 7	Transformer; output, single or P.P. plates to 600 ohm line.	TF1R13AJ0	15,000 C.T.	600 split	5:1	+33	10	10	AJ
MGA 8	Transformer; output, P.P. plates to 600 ohm line.	TF1R13AJ0	24,000 C.T.	600 split	6.32:1	+30	10	1	AJ
MGA 9	Transformer; output, P.P. plates to 600 ohm line.	TF1R13AJ0	60,000 C.T.	600 split	10:1	+27	10	1	AJ

STANDARD MILITARY POWER TRANSFORMERS

Primary 105/115/125V 60~

Catalog No.	MIL-T-27 Type Designation	Hi Volt.	D.C. Volts	D.C. Amps.	Fil. No. 1	Fil. No. 2	Case
MGP 1	TF1RX03HA001	200/100/0/100/200	185	.070	5/6.3V @ 2A	6.3V @ 3A	HA
MGP 2	TF1RX03JB002	650 C.T.	260	.070	5/6.3V @ 2A	6.3V @ 4A	JB
MGP 3	TF1RX03KB006	650 C.T.	245	.150	6.3V @ 5A	5V @ 3A	KB
MGP 4	TF1RX03LB003	800 C.T.	318	.175	5V @ 3A	6.3V @ 8A	LB
MGP 5	TF1RX03MB004	900 C.T.	345	.250	5V @ 3A	6.3V @ 8A	MB
MGP 6	TF1RX02KB001	700 C.T.	255	.250			KB
MGP 7	TF1RX02LB002	1100 C.T.	419	.250			LB
MGP 8	TF1RX02NB003	1600 C.T.	640	.250			NB

STANDARD MILITARY FILAMENT TRANSFORMERS

Primary 105/115/125V 60~

Catalog No.	MIL-T-27 Type Designation	Secondary Volts	Secondary Current Amps	Secondary Test Volts RMS	Case
MGF 1	TF1RX01EB002	2.5	3.0	2,500	EB
MGF 2	TF1RX01GB003	2.5	10.0	2,500	GB
MGF 3	TF1RX01FB004	5.0	3.0	2,500	FB
MGF 4	TF1RX01HB005	5.0	10.0	2,500	HB
MGF 5	TF1RX01FB006	6.3	2.0	2,500	FB
MGF 6	TF1RX01GB007	6.3	5.0	2,500	GB
MGF 7	TF1RX01JB008	6.3	10.0	2,500	JB
MGF 8	TF1RX01KB009	6.3	20.0	2,500	KB
MGF 9	TF1RX01JB012	2.5	10.0	10,000	JB
MGF 10	TF1RX01KB013	5.0	10.0	10,000	KB

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TOROIDAL INDUCTORS

Using the latest developments in the field of magnetic materials and new impregnation techniques the Freed Transformer Co. makes available to the industry the most extensive line of toroidal inductors.

Freed Toroids are available in three types of construction. Open units coated with a special high temperature, extremely low loss compound, hermetically sealed or molded in special Freed epoxy resin. Both hermetically sealed and molded units meet the latest military specification.

Freed toroidal inductors are supplied with either molypermalloy cores or special powdered iron cores. The catalog items with the letter "S" added to the type designations are wound on temperature stabilized cores.

SB indicates temperature stability of ±0.1% from +13°C to +35°C
SD indicates temperature stability of ±0.1% from −1.5°C to +54°C
SW indicates temperature stability of ±0.25% from −54°C to +85°C

The "Q" values given in the individual graphs are accurate within ± 10% for hermetically sealed and molded units. For open units the "Q" tolerance is ± 20%.
All Toroids are adjusted at frequencies well below their self-resonant frequency, f_0.

The apparent inductance at any frequency f is given by the expression

$$L_{app} = \frac{L}{1-\left(\frac{f}{f_0}\right)^2}$$

where L is the nominal inductance.
For frequencies well below the resonant f_0 the fractional increase in inductance due to the distributed capacity C_0 is approximately

$$\frac{\triangle L}{L} = \left(\frac{f}{f_0}\right)^2 = \Omega^2 L C_0$$

The graphs showing the coil characteristics make use of the following formulas:

1. "Q" vs. frequency was measured with voltages given by the expression

$$V = K\sqrt{LH} \times \frac{FKC}{1KC}$$

where K is a constant listed on every chart
LH is inductance in Henries
FKC is the frequency in kilocycles at which the measurements were made.

2. Variation of inductance vs. normalized Direct Current. The normalized DC is giben by:

$$I_{norm.} = I_{dc}\sqrt{LH}$$

where Idc is the DC current in the coil in MA., and LH is the inductance in Henries.

3. Variation of Inductance vs. normalized AC voltage. The normalized AC voltage is given by

$$V_{norm.} = \frac{V}{\sqrt{LH}} \times \frac{60\text{ cps.}}{F\text{ cps.}}$$

V is the voltage across the coil
LH is the inductance in Henries
F is the frequency of measurements in cps.

For high frequency Toroids the above expression is changed to

$$V_{norm.} = \frac{V}{\sqrt{LH}} \times \frac{1KC}{FKC}$$

Toroids with special requirements, tapped Toroids and toroidal transformers can be supplied upon request. Our engineering and laboratory facilities are available for consultation, research and development.

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See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

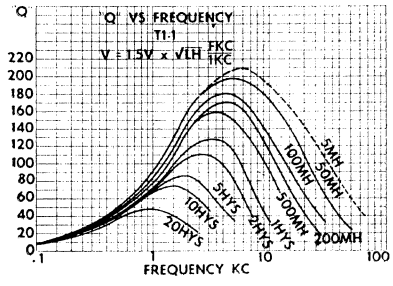
STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

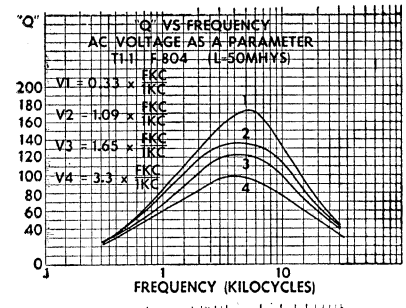
TYPE TI-1

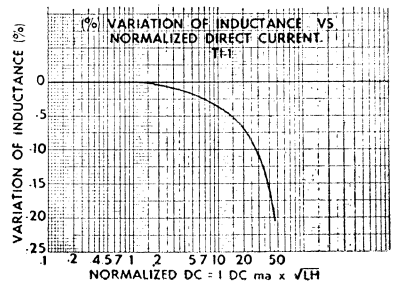
NOT STABILIZED

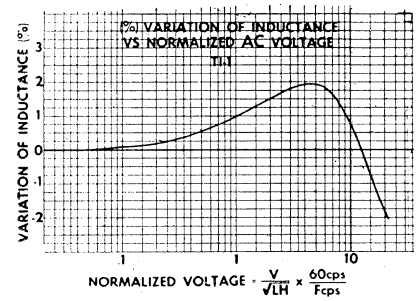
Freq. to 15KC. DCR/HY = 68 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value HY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value HY	Current Capacity Amp.
F800	5	2.000	F811	1.	.140	F822	4.5	.065
F801	10	1.400	F812	1.25	.120	F823	5.	.062
F802	15	1.150	F813	1.5	.110	F824	6.	.058
F803	30	.800	F814	1.75	.105	F825	7.	.053
F804	50	.600	F815	2.	.100	F826	8.	.050
F805	75	.500	F816	2.25	.095	F827	9.	.047
F806	100	.450	F817	2.5	.090	F828	10.	.045
F807	150	.350	F818	2.75	.085	F829	15.	.036
F808	200	.300	F819	3.	.082	F830	20.	.030
F809	500	.200	F820	3.5	.075			
F810	750	.160	F821	4.	.071			



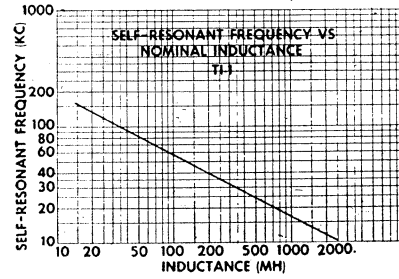






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



CASE DIMENSIONS

DT-3 Case

Height: 2"
Width: 7/8"
Length: 1 23/32"
Mounting: 2 6-32 studs
Mtg. Centers: 1 1/4" x 3/8"
Cutout: 3/8" x 3/4"

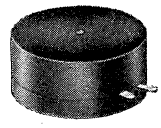
DT-5 Case

Height: 1 3/16"
Diameter: 1 13/16"
Mounting: 2 6-32 inserts
Mtg. Centers: 1 1/8"
Cutout: 3/8" x 1"

UNCASED DIMENSIONS

Thickness: 11/16"
O.D.: 1 7/8"

MOLDED DIMENSIONS



Diameter: 2 1/8"
Thickness: 7/8"
Mounting: 1 8-32 insert

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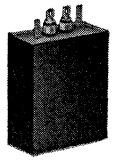
FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

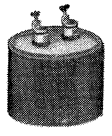
CASE DIMENSIONS

DT-3 Case



Height: 2"
Width: 7/8"
Length: 1 25/32"
Mounting: 2 6-32 studs
Mtg. Centers: 1 1/4" x 3/8"
Cutout: 3/8" x 3/4"

DT-5 Case



Height: 1 3/16"
Diameter: 1 13/16"
Mounting: 2 6-32 inserts
Mtg. Centers: 1 1/8"
Cutout: 3/8" x 1"

UNCASED DIMENSIONS

Thickness: 3/4"
O. D.: 1 9/16"

MOLDED DIMENSIONS

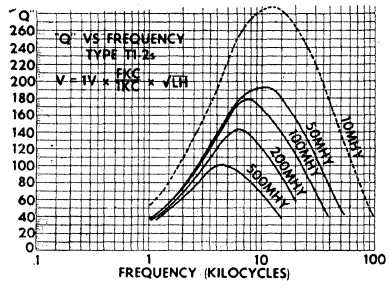
Diameter: 1 7/8"
Thickness: 1"
Mounting: 1 8-32 insert

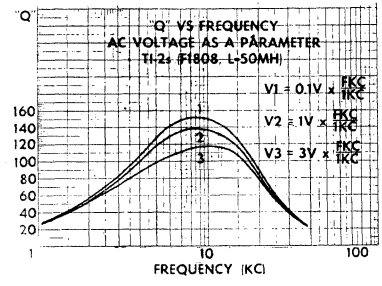
TYPE TI-2S[D]

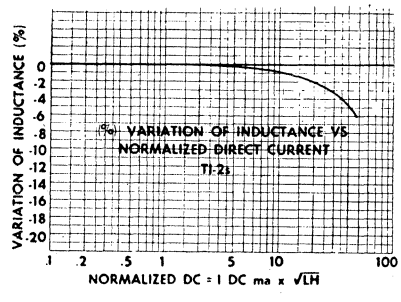
TEMPERATURE STABILIZED

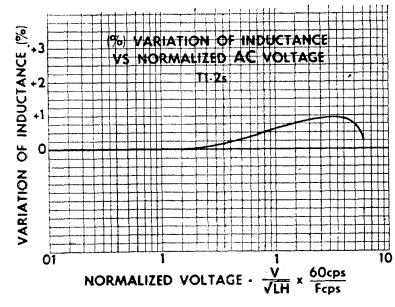
Freq. 10 to 50KC. DCR/MHY = .16Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1800	1	2.500	F1808	50	.350
F1801	2	1.750	F1809	75	.275
F1802	3	1.400	F1810	100	.250
F1803	4	1.250	F1811	150	.200
F1804	5	1.100	F1812	200	.175
F1805	10	.750	F1813	300	.140
F1806	15	.640	F1814	400	.125
F1807	30	.450	F1815	500	.110



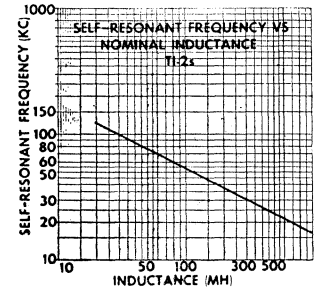






•**NOTE:**
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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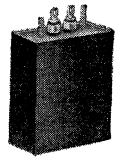
FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

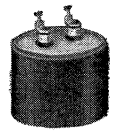
CASE DIMENSIONS

DT-3 Case



Height: 2″
Width: 7/8″
Length: 1 25/32″
Mounting: 2 6-32 studs
Mtg. Centers: 1 1/4″ x 3/8″
Cutout: 3/8″ x 3/4″

DT-5 Case



Height: 1 3/16″
Diameter: 1 13/16″
Mounting: 2 6-32 inserts
Mtg. Centers: 1 1/8″
Cutout: 3/8″ x 1″

UNCASED DIMENSIONS

Thickness: 7/8″
O. D.: 1 5/8″

MOLDED DIMENSIONS

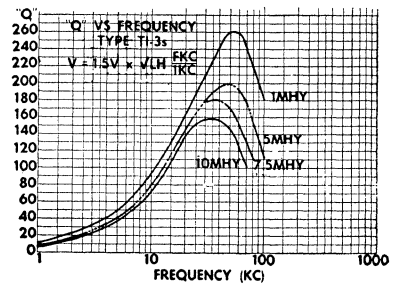
Diameter: 1 7/8″
Thickness: 1″
Mounting: 1 8-32 insert

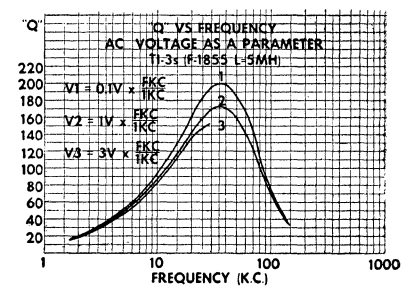
TYPE TI-3S^{D}

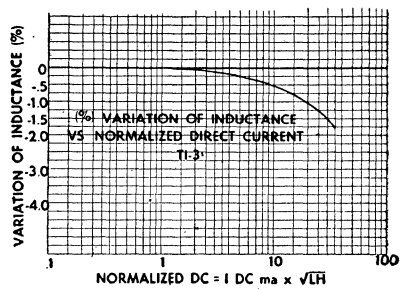
TEMPERATURE STABILIZED

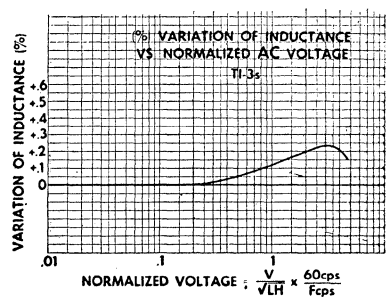
Freq. 50 to 200KC. DCR/MHY = 1 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1846	0.1	4.00	F1852	.2.	.90
F1847	0.2	2.75	F1853	3.	.75
F1848	0.3	2.35	F1854	4.	.65
F1849	0.4	2.00	F1855	5.	.57
F1850	0.5	1.80	F1844	10.	.40
F1851	1.	1.30	F1845	7.5	.47



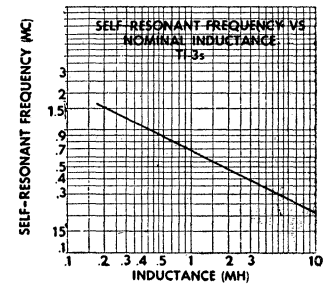






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

TYPE TI-3AS[1]

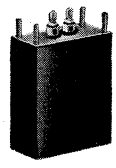
STABILIZED

Freq. 50 to 200KC. DCR/MHY = .31 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1856	10	.750	F1860	40	.390
F1857	15	.625	F1861	50	.350
F1858	20	.550	F1862	75	.280
F1859	30	.450	F1863	100	.250

CASE DIMENSIONS

DT-4 Case



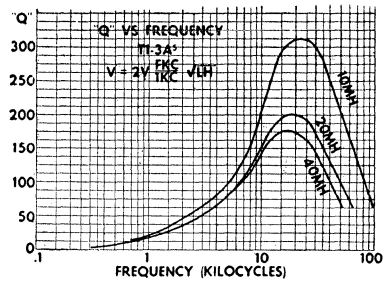
Height:	3⅛"
Width:	1⅝"
Length:	2¾"
Mounting:	4 8-32 studs
Mtg. Centers:	2⅛" x 1⅛"
Cutout:	⅜" x ¾"

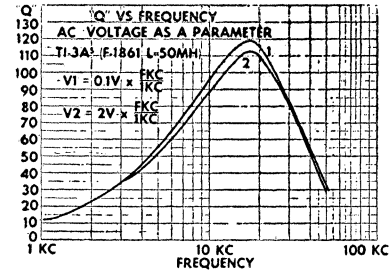
UNCASED DIMENSIONS

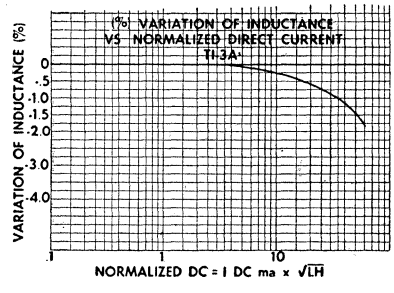
Thickness:	1⅜"
O. D.:	2¼"

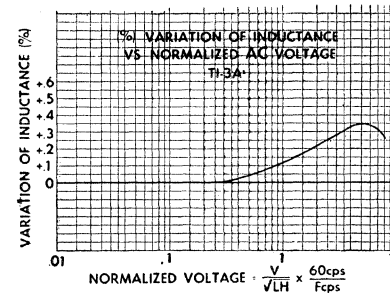
MOLDED DIMENSIONS

Diameter:	2½"
Thickness:	1⅜"
Mounting:	1 10-32 stud



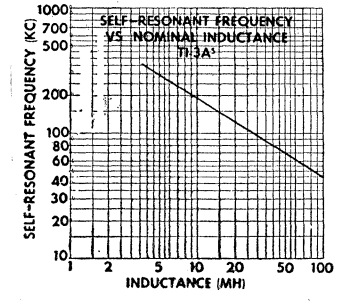






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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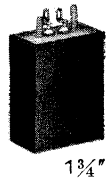
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-2 Case



Height:	1¾"
Width:	13/16"
Length:	1 7/16"
Mounting:	2 6-32 studs
Mtg. Centers:	⅞" x 9/32"
Cutout:	⅜" x 11/16"

DM-JI Case

Height:	1½"
Diameter:	1⅜"
Mounting:	2 6-32 inserts
Mtg. Centers:	⅞"
Cutout:	⅜" x ⅞"

UNCASED DIMENSIONS

Thickness:	⅝"
O. D.:	1 5/16"

MOLDED DIMENSIONS

Diameter:	1½"
Thickness:	¾"
Mounting:	1 8-32 insert

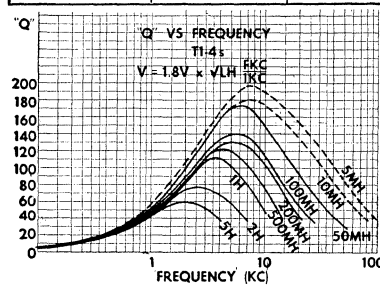
TYPE TI-4
NOT STABILIZED

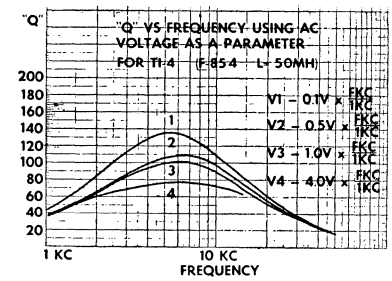
TYPES TI-4S^{D} and TI-4S^{W}
TEMPERATURE STABILIZED

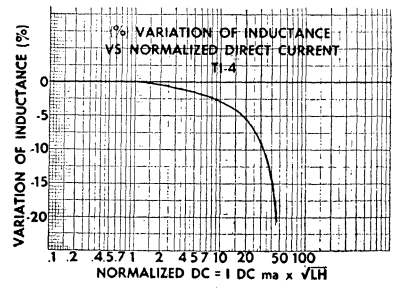
Freq. to 15 KC.

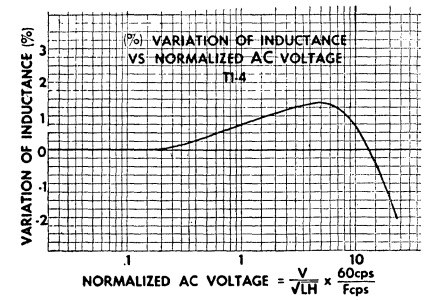
DCR/MHY = .11 Ω ± 20%

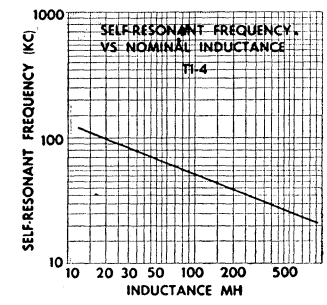
Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value HY	Current Capacity Amp.
F850	5	.850	F866	1.00	.062
F851	10	.600	F867	1.25	.056
F852	15	.500	F868	1.50	.051
F853	30	.350	F869	1.75	.047
F854	50	.275	F870	2.00	.044
F855	75	.225	F871	2.25	.042
F856	100	.200	F872	2.50	.040
F857	150	.160	F873	2.75	.038
F858	200	.140	F874	3.00	.036
F859	300	.110	F875	3.50	.033
F860	400	.100	F876	4.00	.031
F861	500	.090	F877	4.50	.029
F862	600	.080	F878	5.00	.027
F863	700	.075			
F864	800	.070			
F865	900	.066			











NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.

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FREED TOROIDAL INDUCTORS

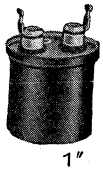
STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-1 Case

Height:	1 17/32"
Width:	1/2"
Length:	1 1/16"
Mounting:	2 4-40 inserts
Mtg. Centers:	3/4"
Cutout:	5/16" x 1/2"

DM-2 Case

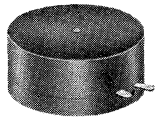


Height:	1"
Diameter:	1 1/8"
Mounting:	2 4-40 inserts
Mtg. Centers:	5/8"
Cutout:	3/8" x 7/8"

UNCASED DIMENSIONS

Thickness:	3/8"
O. D.:	1"

MOLDED DIMENSIONS



Diameter:	1 3/16"
Thickness:	1/2"
Mounting:	1 6-32 insert

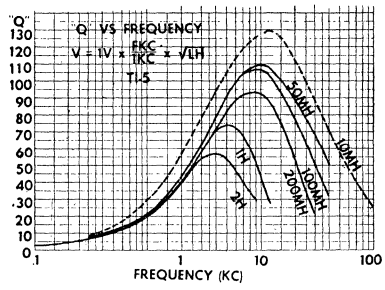
TYPE TI-5
NOT STABILIZED

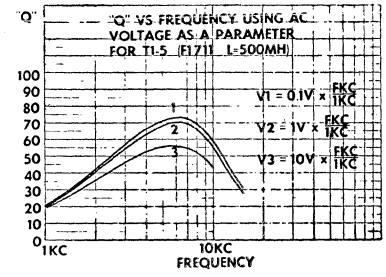
TYPE TI-5S[P]
TEMPERATURE STABILIZED

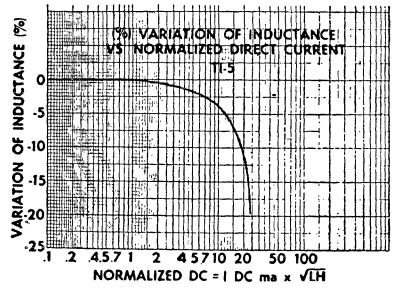
Freq. to 15KC.

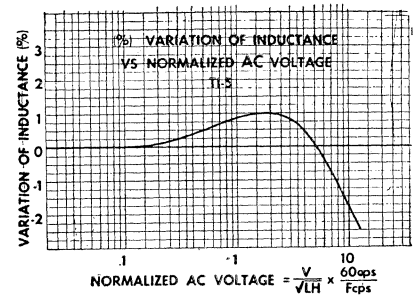
DCR/HY = 275 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value HY	Current Capacity Amp.
F1700	5	.38	F1708	200	.06	F1716	1.	.026
F1701	10	.26	F1709	300	.049	F1717	1.25	.024
F1702	15	.21	F1710	400	.042	F1718	1.5	.021
F1703	30	.15	F1711	500	.038	F1719	1.75	.02
F1704	50	.12	F1712	600	.034	F1720	2.	.019
F1705	75	.098	F1713	700	.032			
F1706	100	.085	F1714	800	.03			
F1707	150	.069	F1715	900	.028			



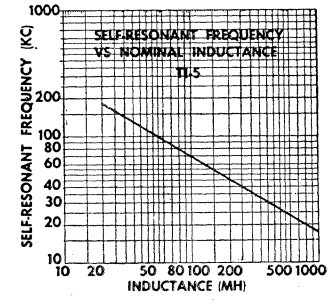






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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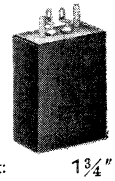
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-2 Case



Height:	1¾"
Width:	13/16"
Length:	1 7/16"
Mounting:	2 6-32 studs
Mtg. Centers:	7/8" x 9/32"
Cutout:	3/8" x 11/16"

DM-11 Case

Height:	1½"
Diameter:	1⅜"
Mounting:	2 6-32 inserts
Mtg. Centers:	⅞"
Cutout:	⅜" x ⅞"

UNCASED DIMENSIONS

Thickness:	5/8"
O. D.:	1 5/16"

MOLDED DIMENSIONS

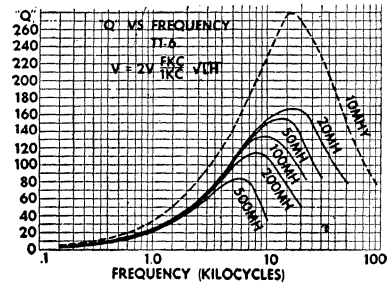
Diameter:	1½"
Thickness:	¾"
Mounting:	1 8-32 insert

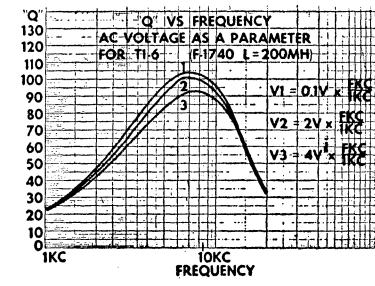
TYPE TI-6
NOT STABILIZED

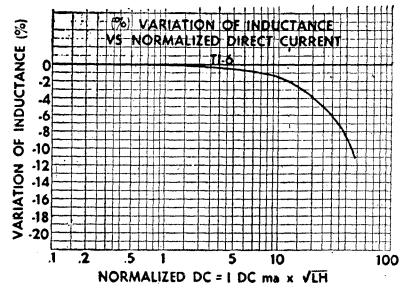
TYPES TI-6S^{D} and 6S^{W}
TEMPERATURE STABILIZED

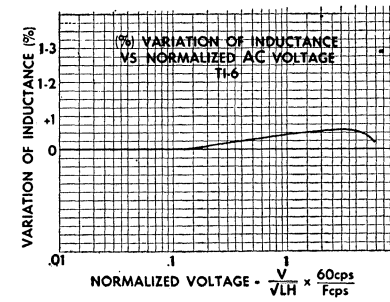
Freq. 10 to 50KC. DCR/MHY = .23 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1726	1	2.	F1735	30	.350
F1727	2	1.4	F1736	50	.275
F1728	3	1.1	F1737	75	.230
F1729	4	1.	F1738	100	.200
F1730	5	.880	F1739	150	.160
F1731	7.5	.700	F1740	200	.141
F1732	10	.600	F1741	250	.125
F1733	15	.500	F1742	300	.115
F1734	20	.450	F1743	500	.085



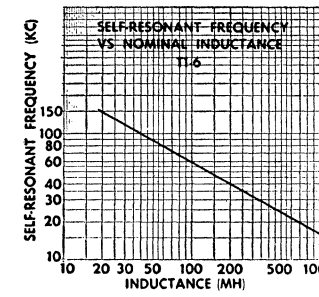






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

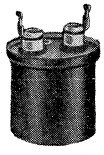
STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-I Case

Height:	17/32"
Width:	1/2"
Length:	1 1/16"
Mounting:	2 4-40 inserts
Mtg. Centers:	3/4"
Cutout:	5/16" x 1/2"

DM-2 Case

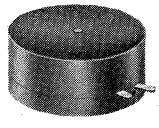


Height:	1"
Diameter:	1 1/8"
Mounting:	2 4-40 inserts
Mtg. Centers:	5/8"
Cutout:	3/8" x 7/8"

UNCASED DIMENSIONS

Thickness:	3/8"
O. D.:	1"

MOLDED DIMENSIONS



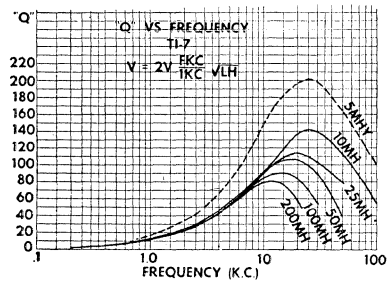
Diameter:	1 3/16"
Thickness:	1/2"
Mounting:	1 6-32 insert

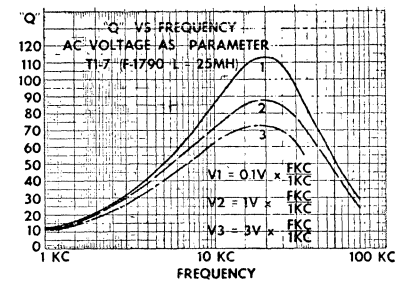
TYPE TI-7

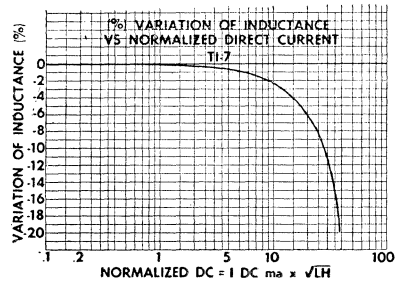
NOT STABILIZED

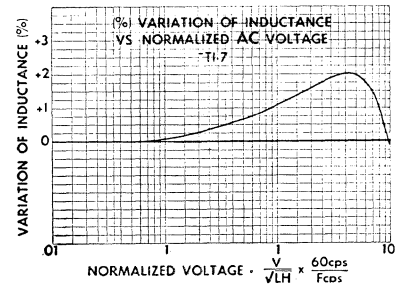
Freq. 10 to 50KC. DCR/MHY = .48 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1781	0.5	1.000	F1790	25	.130
F1782	1	.700	F1791	30	.125
F1783	2	.500	F1792	40	.110
F1784	3	.400	F1793	50	.098
F1785	5	.300	F1794	75	.080
F1786	7.5	.250	F1795	100	.070
F1787	10	.220	F1796	150	.055
F1788	15	.180	F1797	200	.048
F1789	20	.155			





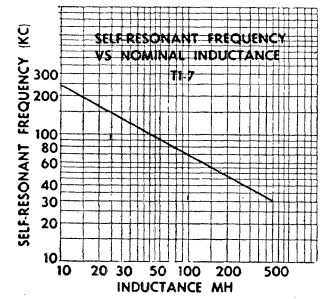




NOTE:

When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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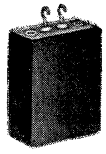
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-1 Case



Height: $1\frac{7}{32}$″
Width: $\frac{1}{2}$″
Length: $1\frac{1}{16}$″
Mounting: 2 4-40 inserts
Mtg. Centers: $\frac{3}{4}$″
Cutout: $\frac{5}{16}$″ x $\frac{1}{2}$″

DM-2 Case

Height: 1″
Diameter: $1\frac{1}{8}$″
Mounting: 2 4-40 inserts
Mtg. Centers: $\frac{5}{8}$″
Cutout: $\frac{3}{8}$″ x $\frac{7}{8}$″

UNCASED DIMENSIONS

Thickness: $\frac{3}{8}$″
O. D.: 1″

MOLDED DIMENSIONS

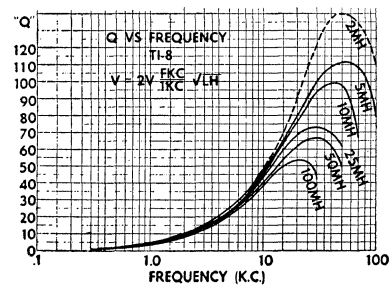
Diameter: $1\frac{3}{16}$″
Thickness: $\frac{1}{2}$″
Mounting: 1 6-32 insert

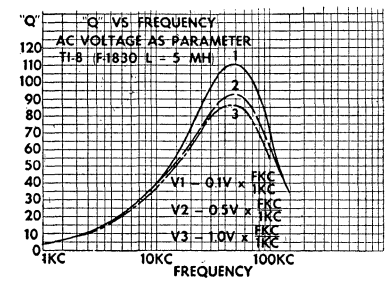
TYPE TI-8
NOT STABILIZED

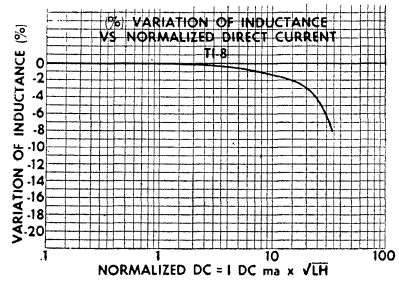
TYPE TI-8S^D
STABILIZED

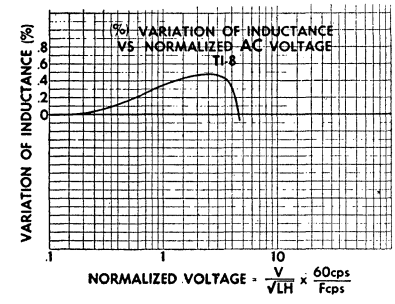
Freq. 30 to 75KC. DCR/MHY = 1.5 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1821	0.1	1.125	F1828	3.	.230	F1835	25.	.080
F1822	0.2	.900	F1829	4.	.200	F1836	30.	.070
F1823	0.3	.700	F1830	5.	.175	F1837	40.	.060
F1824	0.4	.660	F1831	7.5	.145	F1838	50.	.055
F1825	0.5	.550	F1832	10.	.125	F1839	75.	.045
F1826	1.	.400	F1833	15.	.100	F1840	100.	.040
F1827	2.	.280	F1834	20.	.090			



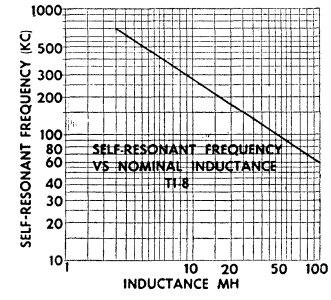






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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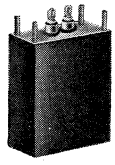
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-4 Case



Height:	3⅛"
Width:	1⅝"
Length:	2¾"
Mounting:	4 8-32 studs
Mtg. Centers:	2⅛" x 1⅛"
Cutout:	¾" x ⅜"

UNCASED DIMENSIONS

Thickness:	1¼"
O. D.:	2⅜"

MOLDED DIMENSIONS

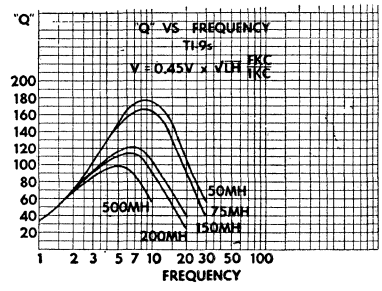
Diameter:	2⅝"
Thickness:	1⅞"
Mounting:	1 10-32 insert

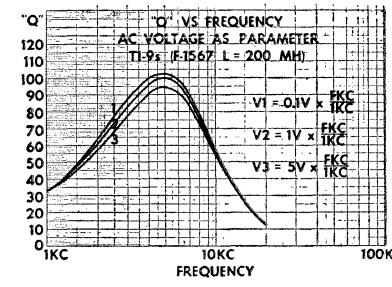
TYPE TI-9S[B]

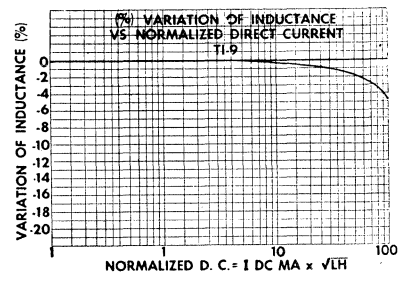
TEMPERATURE STABILIZED

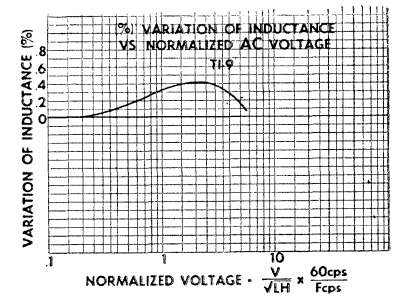
Freq. 30 to 75KC. DCR/MHY = .15 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1554	1	5.	F1562	30	.900
F1555	2	3.5	F1563	50	.700
F1556	3	2.75	F1564	75	.550
F1557	4	2.5	F1565	100	.500
F1558	5	2.2	F1566	150	.400
F1559	7.5	1.75	F1567	200	.350
F1560	10	1.5	F1568	300	.275
F1561	15	1.25	F1569	400	.250
			F1570	500	.210



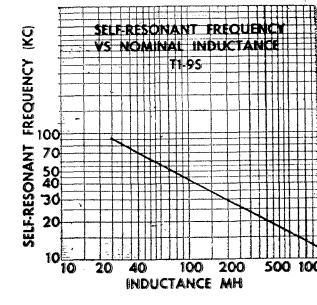






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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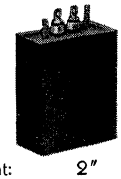
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-3 Case



Height:	2"
Width:	7/8"
Length:	1 25/32"
Mounting:	2 6-32 studs
Mtg. Centers:	1 1/4" x 9/32"
Cutout:	3/8" x 3/4"

DT-5 Case

Height:	1 3/16"
Diameter:	1 13/16"
Mounting:	2 6-32 inserts
Mtg. Centers:	1 1/8"
Cutout:	3/8" x 1"

UNCASED DIMENSIONS

Thickness:	5/8"
O. D.:	1 11/16"

MOLDED DIMENSIONS

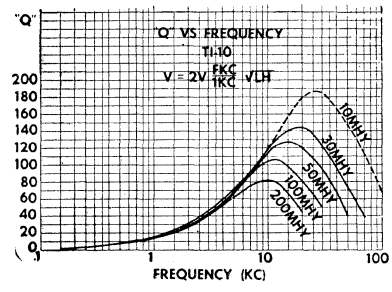
Diameter :	1 7/8"
Thickness :	7/8"
Mounting :	1 8-32 insert

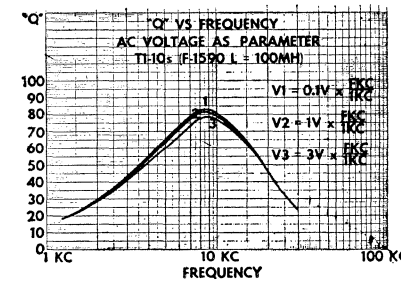
TYPE TI-10S[B]

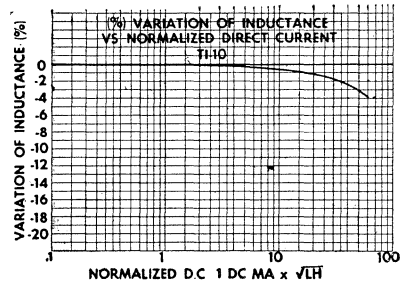
TEMPERATURE STABILIZED

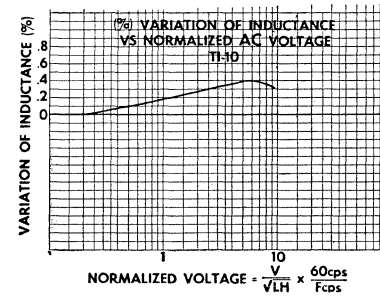
Freq. 30 to 75KC. DCR/MHY = .43 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1579	1	2.000	F1586	15	.500
F1580	2	1.400	F1587	30	.350
F1581	3	1.100	F1588	50	.275
F1582	4	1.000	F1589	75	.215
F1583	5	.875	F1590	100	.200
F1584	7.5	.700	F1591	150	.160
F1585	10	.625	F1592	200	.125



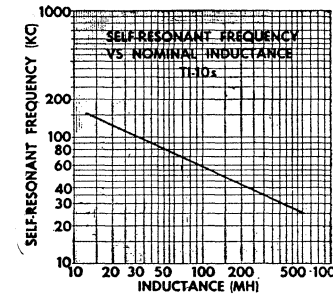






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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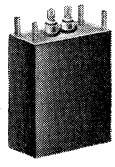
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-4 Case



Height:	3⅛"
Width:	1⁵⁄₁₆"
Length:	2¾"
Mounting:	4 8-32 studs
Mtg. Centers:	2¹⁄₁₆" x 1¹⁄₁₆"
Cutout:	¾" x ⅜"

UNCASED DIMENSIONS

Thickness:	1⁵⁄₁₆"
O. D.:	2⅝"

MOLDED DIMENSIONS

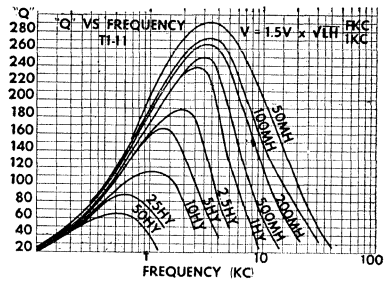
Diameter:	2⅞"
Thickness:	1⅛"
Mounting:	1 10-32 insert

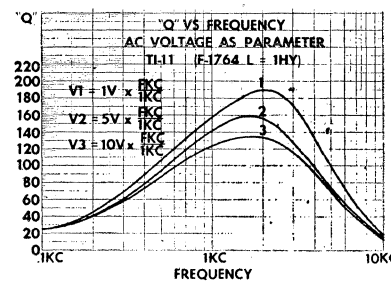
TYPE TI-11
NOT STABILIZED

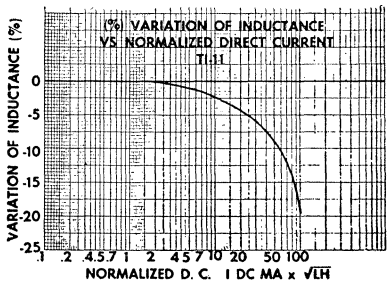
TYPES TI-11S^{D} and 11S^{W}
TEMPERATURE STABILIZED

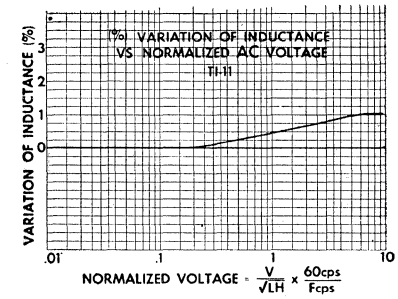
Freq. to 15KC. DCR/HY = 25 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value	Current Capacity Amp.	Cat. No. Uncased	Induct. Value HY	Current Capacity Amp.
F1747	1	10.	F1759	200MHY	.900	F1770	4.	.200
F1748	2	9.	F1760	300 "	.750	F1771	4.5	.190
F1749	3	7.5	F1761	400 "	.600	F1772	5.	.180
F1750	4	6.	F1762	500 "	.550	F1773	7.5	.150
F1751	5	5.5	F1763	750 "	.450	F1774	10.	.130
F1752	10	4.	F1764	1. HY	.400	F1775	15.	.100
F1753	15	3.	F1765	1.5 "	.320	F1776	20.	.090
F1754	30	2.	F1766	2. "	.290	F1777	25.	.080
F1755	50	1.75	F1767	2.5 "	.260	F1778	30.	.075
F1756	75	1.4	F1768	3. "	.230	F1779	40.	.065
F1757	100	1.3	F1769	3.5 "	.220	F1780	50.	.057
F1758	150	1.						



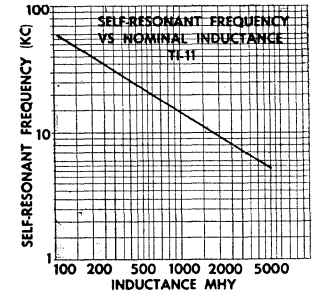






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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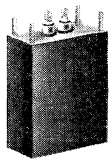
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-4 Case

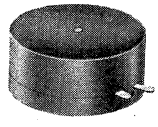


Height: 3⅛"
Width: 1 5/16"
Length: 2¾"
Mounting: 4 8-32 studs
Mtg. Centers: 2 1/16" x 11/16"
Cutout: ⅜" x ¾"

UNCASED DIMENSIONS

Thickness: 1⅛"
O. D.: 2¼"

MOLDED DIMENSIONS



Diameter: 2½"
Thickness: 1 5/16"
Mounting: 1 10-32 insert

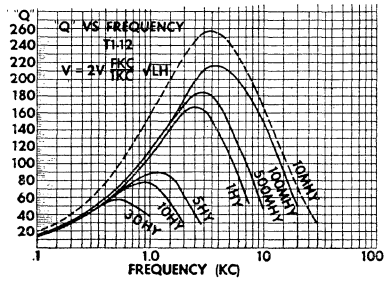
TYPE TI-12
NOT STABILIZED

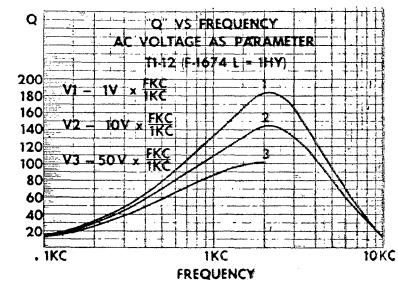
TYPES TI-12S^{D} and TI-12S^{W}
TEMPERATURE STABILIZED

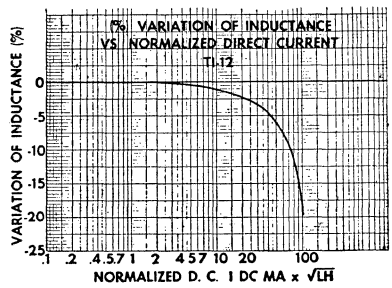
Freq. to 15KC.

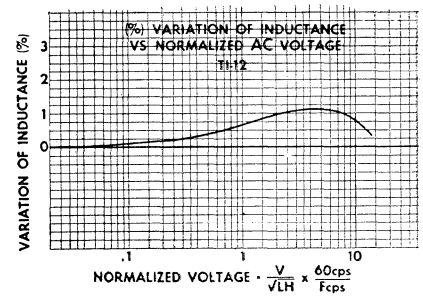
DCR/HY = 45 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY & HY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value HY	Current Capacity Amp.
F1655	1.	8.	F1668	200MHY	.550	F1681	4.5	.110
F1656	2.	5.5	F1669	300 "	.450	F1682	5.	.100
F1657	3.	4.5	F1670	400 "	.400	F1683	6.	.095
F1658	4.	4.	F1671	500 "	.350	F1684	7.	.090
F1659	5.	3.5	F1672	600 "	.300	F1685	8.	.085
F1660	7.5	2.75	F1673	750 "	.290	F1686	9.	.083
F1661	10.	2.5	F1674	1. HY	.250	F1687	10.	.080
F1662	15.	2.	F1675	1.5 "	.200	F1688	12.	.070
F1663	30.	1.4	F1676	2. "	.175	F1689	15.	.065
F1664	50.	1.	F1677	2.5 "	.160	F1690	17.	.060
F1665	75.	.900	F1678	3. "	.140	F1691	20.	.055
F1666	100.	.800	F1679	3.5 "	.130	F1692	25.	.050
F1667	150.	.630	F1680	4. "	.120	F1693	30.	.045



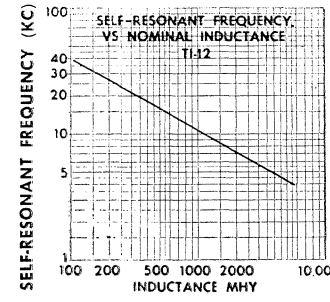






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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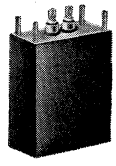
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-4 Case



Height:	3⅛"
Width:	1 5/16"
Length:	2¾"
Mounting:	4 8-32 studs
Mtg. Centers:	2 1/16" x 11/16"
Cutout:	⅜" x ¾"

UNCASED DIMENSIONS

Thickness:	1⅛"
O. D.:	2⅛"

MOLDED DIMENSIONS

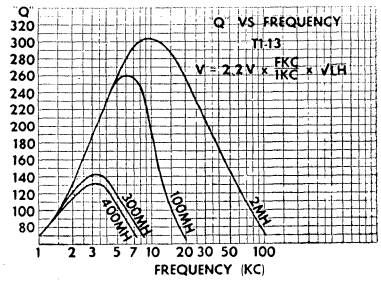
Diameter:	2⅜"
Thickness:	1 5/16"
Mounting:	1 10-32 insert

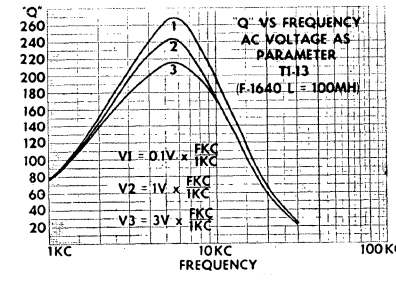
TYPE TI-13

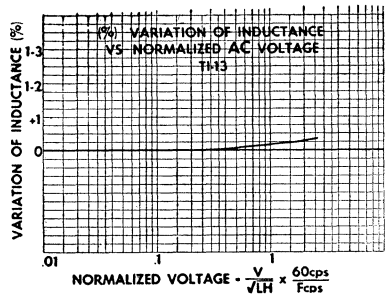
NOT STABILIZED

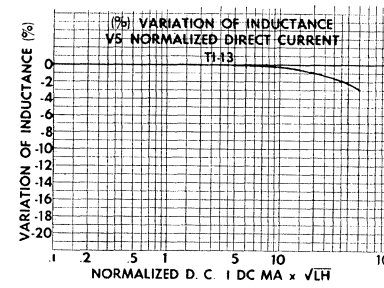
Freq. 10 to 50KC. DCR/MHY = .055 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1629	1.	5.5	F1638	50.	.800
F1630	2.	4.	F1639	75.	.650
F1631	3.	3.2	F1640	100.	.550
F1632	4.	2.75	F1641	150.	.450
F1633	5.	2.5	F1642	200.	.400
F1634	7.5	2.0	F1643	300.	.325
F1635	10.	1.75	F1644	400.	.275
F1636	15.	1.5	F1645	500.	.250
F1637	30.	1.			



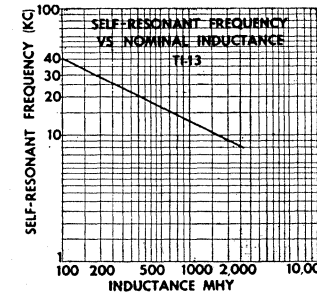






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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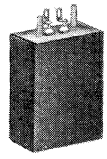
See Pages N-71, 72, 73 for FREED Prices

FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-2 Case



Height:	1¾"
Width:	13/16"
Length:	1 7/16"
Mounting:	2 6-32 studs
Mtg. Centers:	⅞" x 9/32"
Cutout:	⅜" x 11/16"

DM-II Case

Height:	1½"
Diameter:	1⅜"
Mounting:	2 6-32 inserts
Mtg. Centers:	⅞"
Cutout:	⅜" x ⅞"

UNCASED DIMENSIONS

Thickness:	⅝"
O. D.:	1 5/16"

MOLDED DIMENSIONS

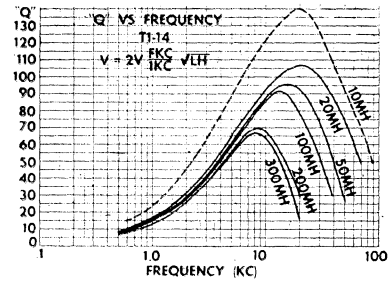
Diameter:	1½"
Thickness:	¾"
Mounting:	1 8-32 insert

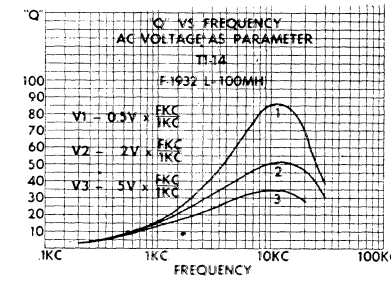
TYPE TI-14

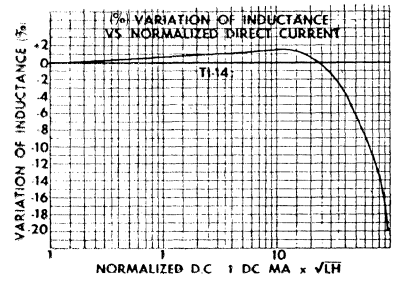
NOT STABILIZED

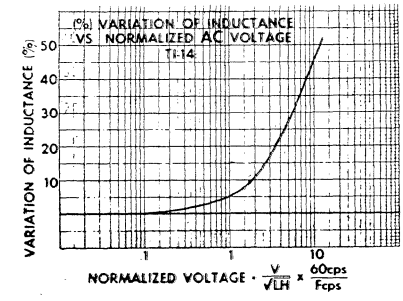
Freq. 10 to 100KC. DCR/MHY = .3 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1920	1.	1.3	F1929	30.	.225
F1921	2.	.900	F1930	50.	.175
F1922	3.	.750	F1931	75.	.150
F1923	4.	.650	F1932	100.	.125
F1924	5.	.500	F1933	150.	.100
F1925	7.5	.450	F1934	200.	.090
F1926	10.	.400	F1935	250.	.080
F1927	15.	.325	F1936	300.	.075
F1928	20.	.275			



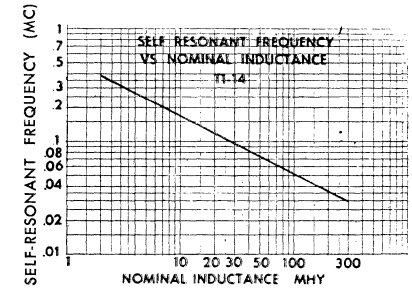






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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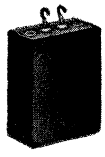
FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-I Case



Height:	1 7/32"
Width:	1/2"
Length:	1 1/16"
Mounting:	2 4-40 inserts
Mtg. Centers:	3/4"
Cutout:	5/16" x 1/2"

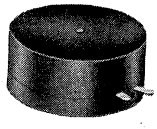
DM-2 Case

Height:	1"
Diameter:	1 1/8"
Mounting:	2 4-40 inserts
Mtg. Centers:	5/8"
Cutout:	3/8" x 7/8"

UNCASED DIMENSIONS

Thickness:	3/8"
O. D.:	1"

MOLDED DIMENSIONS



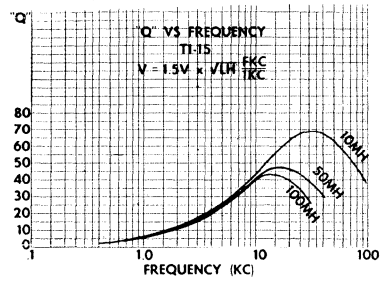
Diameter:	1 3/16"
Thickness:	1/2"
Mounting:	1 6-32 insert

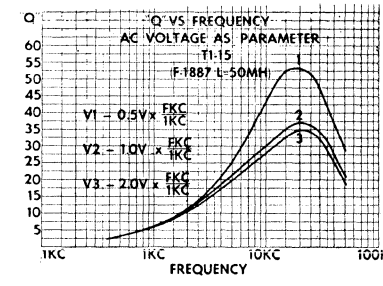
TYPE TI-15

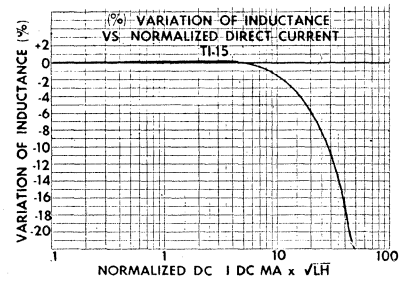
NOT STABILIZED

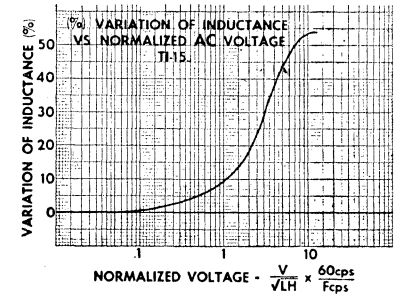
Freq. 10 to 100KC. DCR/MHY = 1. Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F1870	0.1	1.500	F1880	7.5	.180
F1871	0.2	1.100	F1881	10.0	.150
F1872	0.3	.900	F1882	15.0	.125
F1873	0.4	.750	F1883	20.0	.110
F1874	0.5	.700	F1884	25.0	.100
F1875	1.0	.500	F1885	30.0	.090
F1876	2.0	.350	F1886	40.0	.075
F1877	3.0	.275	F1887	50.0	.070
F1878	4.0	.250	F1888	75.0	.055
F1879	5.0	.225	F1889	100.0	.050



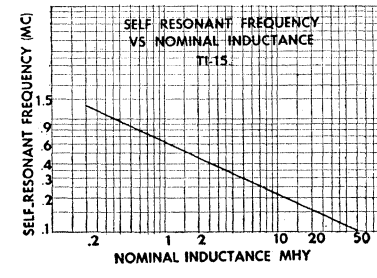






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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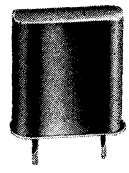
See Pages N-71, 72, 73 for FREED Prices

FREED SUB MINIATURE TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DST-I Case

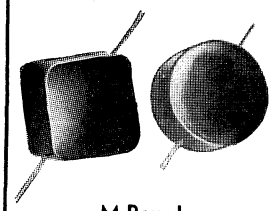


Height: 25/32"
Width: 11/32"
Length: 3/4"
Pins: 1/4" long
To fit: 1/2" crystal socket

UNCASED DIMENSIONS

Thickness: 5/8"
O. D.: 9/32"

MOLDED DIMENSIONS



M Round

Thickness: 7/8"
O. D.: 13/32"

M Square

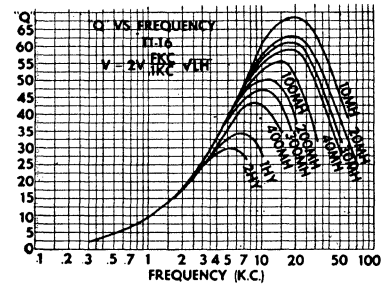
Height: 13/32"
Width: 25/32"
Length: 25/32"

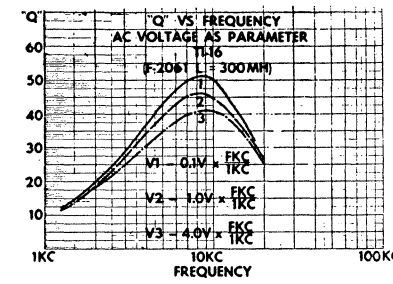
TYPE TI-16

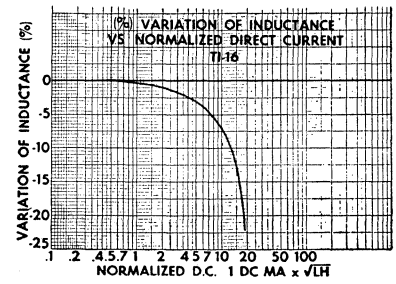
NOT STABILIZED

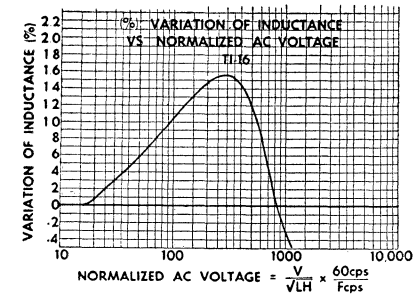
Freq. to 15KC. DCR/MHY = .65 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value	Current Capacity Amp.
F2050	1.	.320	F2060	200 MHY	.022
F2051	3.	.180	F2061	300 "	.018
F2052	5.	.130	F2062	400 "	.016
F2053	10.	.100	F2063	500 "	.014
F2054	15.	.080	F2064	750 "	.011
F2055	30.	.055	F2065	1.00 HY	.010
F2056	50.	.045	F2066	1.25 "	.009
F2057	75.	.035	F2067	1.50 "	.008
F2058	100.	.032	F2068	1.75 "	.007
F2059	150.	.025	F2069	2.00 "	.006



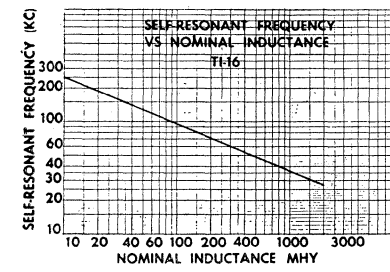






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "MR" for Round, "MS" for Square Units



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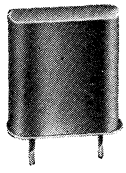
See Pages N-71, 72, 73 for FREED Prices

FREED SUB MINIATURE TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DST-I Case

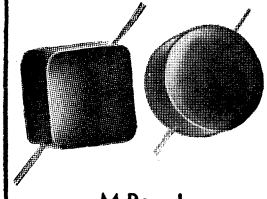


Height:	25/32"
Width:	11/32"
Length:	3/4"
Pins:	1/4" long
To fit:	1/2" crystal socket

UNCASED DIMENSIONS

Thickness:	9/32"
O. D.:	5/8"

MOLDED DIMENSIONS



M Round

Thickness:	7/8"
O. D.:	13/32"

M Square

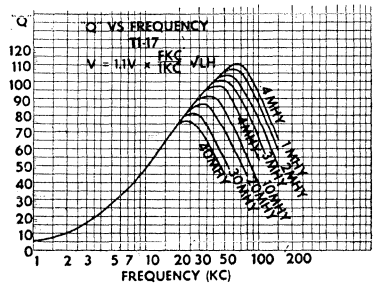
Height:	13/32"
Width:	25/32"
Length:	25/32"

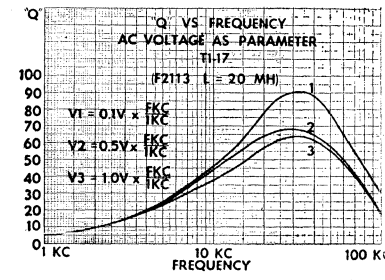
TYPE TI-17

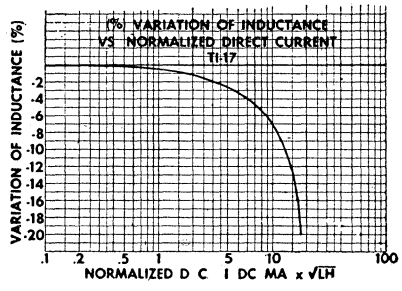
NOT STABILIZED

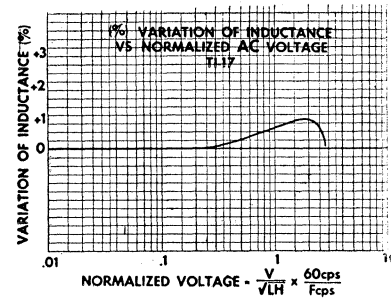
Freq. 10 to 50KC. DCR/MHY = 1.2 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F2100	0.1	.750	F2109	5.	.110
F2101	0.2	.550	F2110	7.5	.090
F2102	0.3	.450	F2111	10.	.075
F2103	0.4	.380	F2112	15.	.061
F2104	0.5	.350	F2113	20.	.055
F2105	1.	.250	F2114	30.	.045
F2106	2.	.175	F2115	50.	.035
F2107	3.	.140	F2116	75.	.028
F2108	4.	.125	F2117	100.	.025



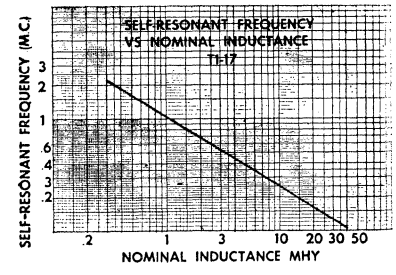






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "MR" for Round, "MS" for Square Units



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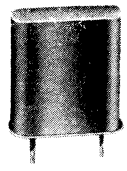
See Pages N-71, 72, 73 for FREED Prices

FREED SUB MINIATURE TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

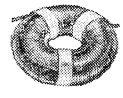
CASE DIMENSIONS

DST-I Case



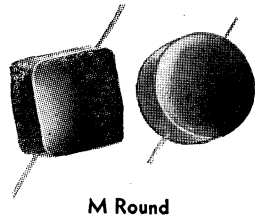
Height: $\frac{25}{32}$"
Width: $\frac{11}{32}$"
Length: $\frac{3}{4}$"
Pins: $\frac{1}{4}$" long
To fit: $\frac{1}{2}$" crystal socket

UNCASED DIMENSIONS



Thickness: $\frac{9}{32}$"
O. D.: $\frac{5}{8}$"

MOLDED DIMENSIONS



M Round

Thickness: $\frac{7}{8}$"
O. D.: $\frac{13}{32}$"

M Square

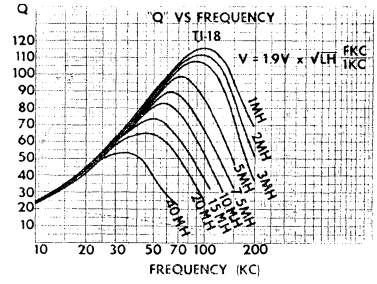
Height: $\frac{13}{32}$"
Width: $\frac{25}{32}$"
Length: $\frac{25}{32}$"

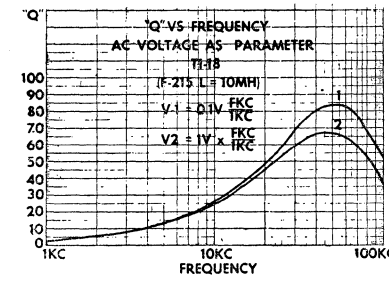
TYPE TI-18

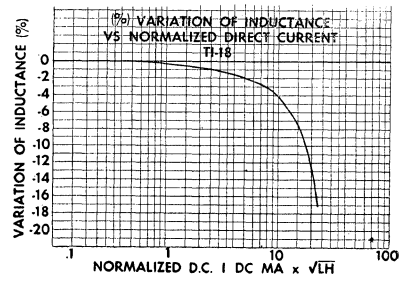
NOT STABILIZED

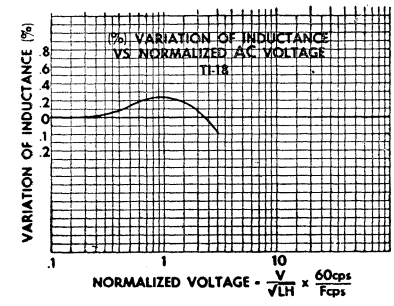
Freq. 30 to 75KC. DCR/MHY = 2.6 Ω ±20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F2140	0.1	.450	F2149	5.	.065
F2141	0.2	.325	F2150	7.5	.055
F2142	0.3	.275	F2151	10.	.047
F2143	0.4	.225	F2152	15.	.038
F2144	0.5	.200	F2153	20.	.033
F2145	1.	.150	F2154	30.	.025
F2146	2.	.100	F2155	50.	.020
F2147	3.	.082	F2156	75.	.017
F2148	4.	.075	F2157	100.	.015



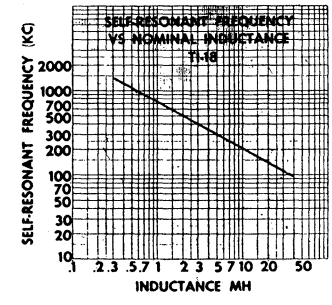






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "MR" for Round, "MS" for Square Units



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See Pages N-71, 72, 73 for FREED Prices

FREED SUB MINIATURE TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

TYPE TI-19

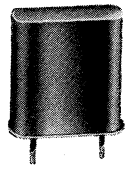
NOT STABILIZED

Freq. 50 to 200KC. DCR/MHY = 4.5 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F2180	0.1	.375	F2187	0.8	.130
F2181	0.2	.250	F2188	0.9	.125
F2182	0.3	.200	F2189	1.	.120
F2183	0.4	.180	F2190	2.	.085
F2184	0.5	.170	F2191	3.	.065
F2185	0.6	.150	F2192	4.	.060
F2186	0.7	.140	F2193	5.	.050

CASE DIMENSIONS

DST-I Case

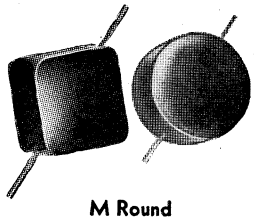


Height: 25/32"
Width: 11/32"
Length: 3/4"
Pins: 1/4" long
To fit: 1/2" crystal socket

UNCASED DIMENSIONS

Thickness: 9/32"
O. D.: 5/8"

MOLDED DIMENSIONS

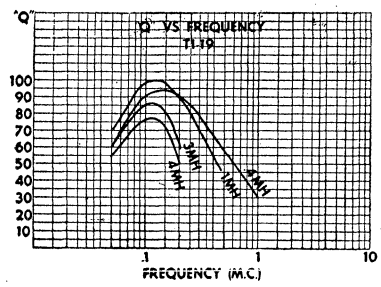


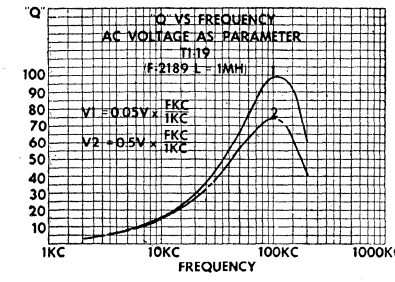
M Round

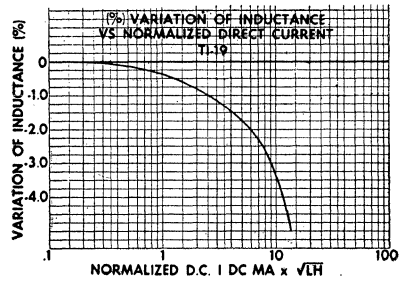
Thickness: 7/8"
O. D.: 31/32"

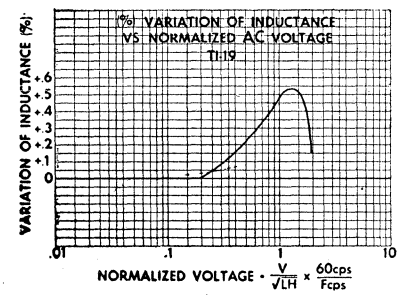
M Square

Height: 13/32"
Width: 25/32"
Length: 25/32"



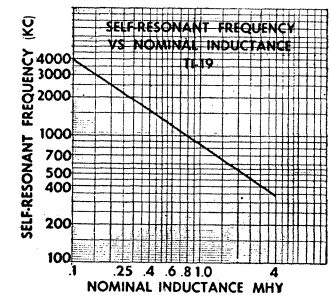






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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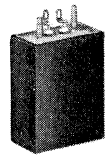
See Pages N-71, 72, 73 for FREED Prices

FREED HIGH FREQUENCY TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-2 Case



Height:	1¾"
Width:	13/16"
Length:	1 7/16"
Mounting:	2 6-32 studs
Mtg. Centers:	⅞" x 9/32"
Cutout:	⅜" x 11/16"

UNCASED DIMENSIONS

Thickness:	9/16"
O. D.:	1"

MOLDED DIMENSIONS

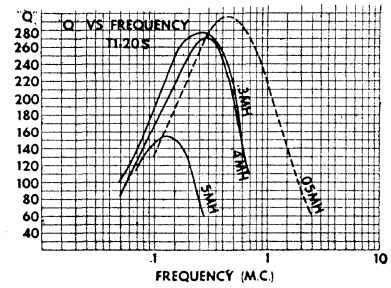
Diameter:	1 3/16"
Thickness:	11/16"
Mounting:	1 6-32 stud

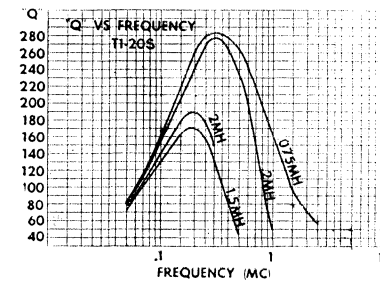
TYPE TI-20S

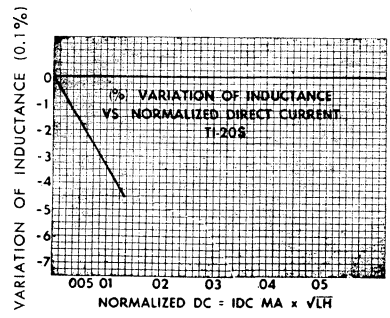
TEMPERATURE STABILIZED

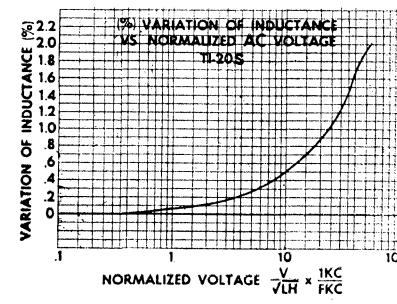
Freq. 20KC. to 2MC. DCR/MHY = 2.75 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F2201	0.05	.900	F2208	1.5	.160
F2202	0.10	.600	F2209	2.0	.140
F2203	0.20	.450	F2210	2.5	.120
F2204	0.30	.350	F2211	3.0	.110
F2205	0.50	.275	F2212	3.5	.100
F2206	0.75	.225	F2213	4.0	.095
F2207	1.0	.200	F2214	4.5	.092
			F2215	5.0	.085



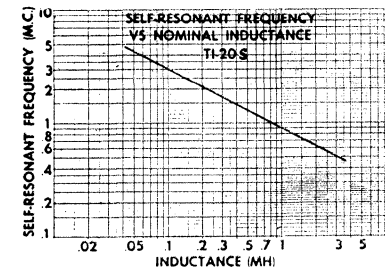






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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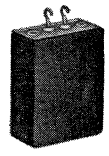
See Pages N-71, 72, 73 for FREED Prices

FREED HIGH FREQUENCY TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-I Case

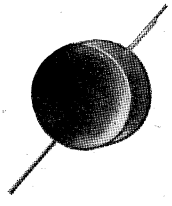


Height: $1\frac{7}{32}$"
Width: $\frac{1}{2}$"
Length: $1\frac{1}{16}$"
Mounting: 2 4-40 inserts
Mtg. Centers: $\frac{3}{4}$"
Cutout: $\frac{5}{16}$" x $\frac{1}{2}$"

UNCASED DIMENSIONS

Thickness: $\frac{5}{16}$"
O. D.: $\frac{5}{8}$"

MOLDED DIMENSIONS



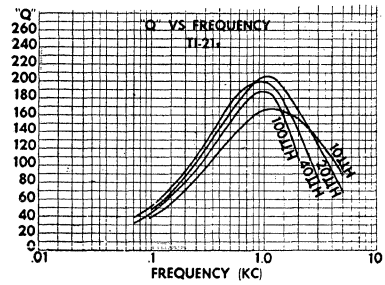
Thickness: $\frac{7}{8}$"
O. D.: $\frac{13}{32}$"

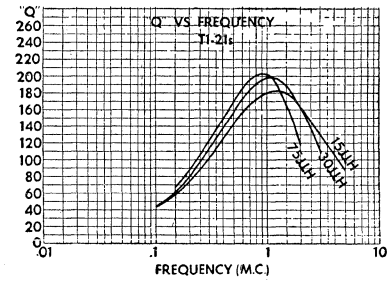
TYPE TI-21S

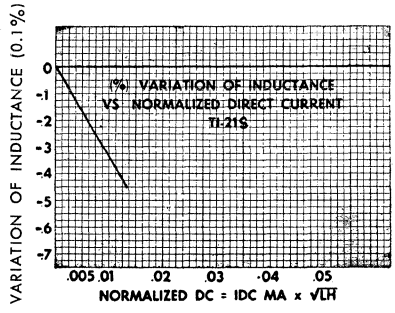
TEMPERATURE STABILIZED

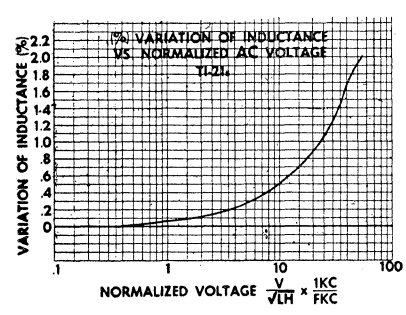
Freq. 100KC. to 10MC. DCR/MHY = 12.0 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F2240	0.010	.500	F2245	0.050	.225
F2241	0.015	.400	F2246	0.075	.175
F2242	0.020	.035	F2247	0.100	.150
F2243	0.030	.275	F2248	0.125	.140
F2244	0.040	.250	F2249	0.150	.125



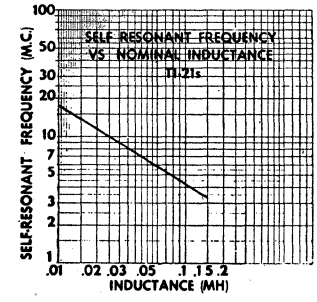






NOTE:
When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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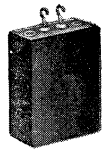
See Pages N-71, 72, 73 for FREED Prices

FREED HIGH FREQUENCY TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

DT-I Case



Height:	1 7/32"
Width:	1/2"
Length:	1 1/16"
Mounting:	2 4-40 inserts
Mtg. Centers:	3/4"
Cutout:	5/16" x 1/2"

UNCASED DIMENSIONS

Thickness:	3/8"
O. D.:	7/8"

MOLDED DIMENSIONS

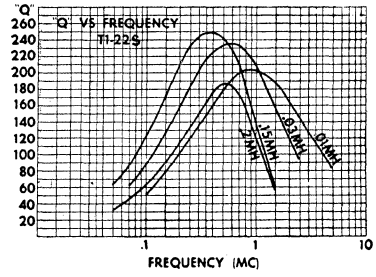
Thickness:	1 1/16"
O. D.:	1/2"
Mounting:	1 4-40 insert

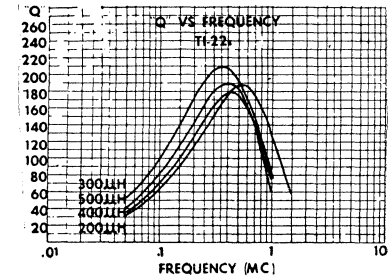
TYPE TI-22S

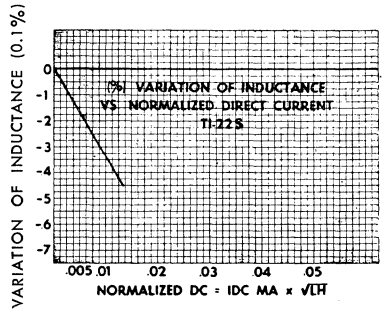
TEMPERATURE STABILIZED

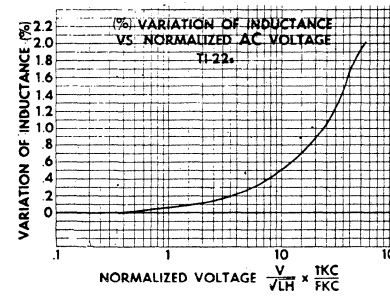
Freq. 50KC. to 5MC. DCR/MHY = 5.6 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F2270	0.010	1.100	F2278	0.150	.275
F2271	0.015	.900	F2279	0.200	.225
F2272	0.020	.775	F2280	0.300	.200
F2273	0.030	.625	F2281	0.400	.170
F2274	0.040	.550	F2282	0.500	.150
F2275	0.050	.475	F2283	0.600	.140
F2276	0.075	.400	F2284	0.700	.130
F2277	0.100	.350			





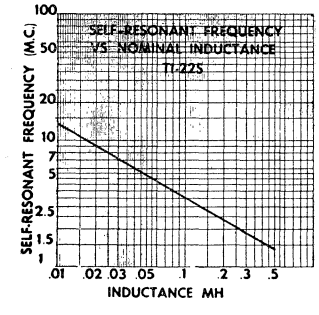




NOTE:

When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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FREED HIGH FREQUENCY TOROIDAL INDUCTORS

STANDARD TOLERANCE ± 1% OR 1 TURN
(whichever is larger)

CASE DIMENSIONS

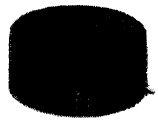
DT-I Case

Height:	1 7/32"
Width:	1/2"
Length:	1 1/16"
Mounting:	2 4-40 inserts
Mtg. Centers:	3/4"
Cutout:	5/16" x 1/2"

UNCASED DIMENSIONS

Thickness:	3/8"
O. D.:	7/8"

MOLDED DIMENSIONS



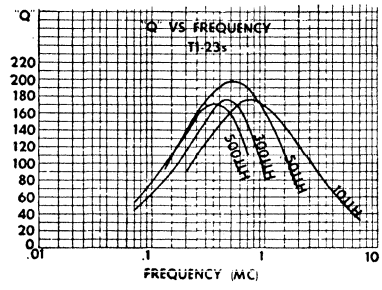
Thickness:	1 1/16"
O. D.:	1/2"
Mounting:	1 4-40 insert

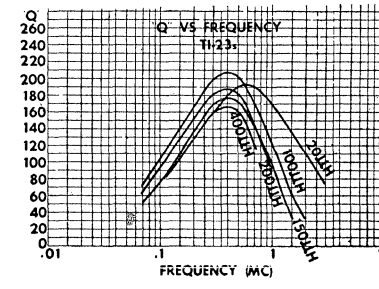
TYPE TI-23S

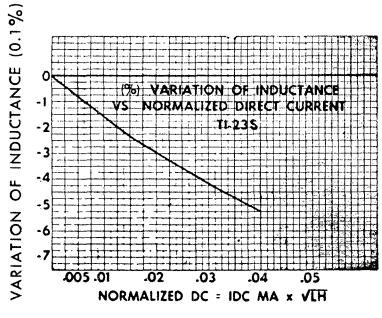
TEMPERATURE STABILIZED

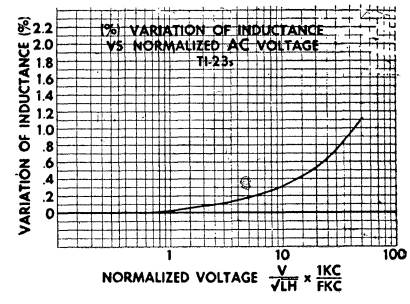
Freq. 50KC. to 5MC. DCR/MHY = 7.0 Ω ± 20%

Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.	Cat. No. Uncased	Induct. Value MHY	Current Capacity Amp.
F2301	0.010	1.100	F2308	0.100	.350
F2302	0.015	.900	F2309	0.150	.275
F2303	0.020	.775	F2310	0.200	.225
F2304	0.030	.625	F2311	0.300	.200
F2305	0.040	.550	F2312	0.400	.170
F2306	0.050	.475	F2313	0.500	.150
F2307	0.075	.400			





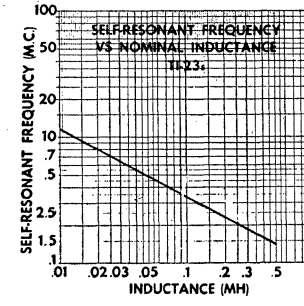




NOTE:

When ordering Hermetically Sealed Units, add "H" to Freed Number.

When ordering Encapsulated Units, add "M" to Freed Number.



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See Pages N-71, 72, 73 for FREED Prices

MAGNETIC AMPLIFIERS AND SATURABLE TRANSFORMERS

The ever increasing demand for reliability, ruggedness, miniaturization and high performance has made the magnetic amplifier an indispensable component of many military and industrial automatic control and servo systems Recent advances in materials and techniques permit an even greater utilization of the well-known inherent advantages of magnetic amplifiers such as direct operation from line voltage, no warm up time, long life components, ease of signal mixing, and hermetic sealing.

Freed Transformer Co. manufactures an extensive line of magnetic amplifiers, ranging from saturable transformers to half-wave type, fast response servo amplifiers. Choice of catalog amplifiers assures standardization, lowest possible cost and rapid delivery.

The MAO line of single ended magnetic amplifiers provides a single stage of DC controlled amplification, utilizing positive feedback to obtain a gain much higher than that of a saturable reactor.

The MAP line of push-pull magnetic amplifiers features high gain, polarity-sensitive amplification, and a phase reversible output.

The MAF type of fast response magnetic amplifiers combines high power gain, ruggedness, and reliability with a maximum 2 cycle response. All MAF units are phase-reversible.

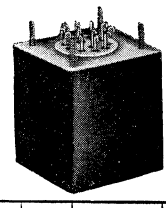
The MAS line of saturable transformers, commonly controlled by dual-triodes or transistors, emphasises low cost, small size, extreme reliability (no rectifiers), and phase-reversiable output.

All standard units are designed for continuous operation and will operate in an ambient temperature range of − 55°C to + 75°C.

Vacuum tube and transistor preamplifiers can be supplied if very high impedance inputs are required.

In addition to standard items, Freed Transformer Co. has extensive facilities for the design and production of special amplifiers, saturable reactors, and magnetic components.

CASE DIMENSIONS



Case No.	Height	Width	Depth	Mtg. Centers	Mounting Studs	Knockout
MA 202	5½"	4⅛"	3½"	3¼"x3½"	(4) 10:32	(2)2¼"x¾"
MA 203	3"	2⅝"	2¼"	2⅛"x1⅜"	(4) 6:32	1½" D
MA 204	2¼"	2¼"	2⅛"	1⅝"x1⅜"	(4) 6:32	1½" D
MA 205	4"	3⅜"	3⅜"	3¼"x3⅜"	(4) 8:32	1½" D

SATURABLE TRANSFORMERS
designed for 115V-AC operation

Catalog No.	Supply Frequency C.P.S.	Rated Power Output—W.	Rated Voltage Output—V.-AC	Signal Req'd for Full Output† MA-DC	Total Res. of Control Wdgs. KΩ	‡Response Time On	‡Response Time Off	Typical Motor Load	Case No.
MAS-1	60	15	115	6.0	27.	2	5	Diehl FPE 25-11	MA 202
MAS-2	400	6	115	4.0	10.	6	2	Kearfott R 110-2	MA 203
MAS-5	400	2.7	26	4.0	3.2	8	2	Kearfott R 118	MA 204
MAS-6	400	30.0	115	4.0	8.	11	9	Diehl FPE 49-13-1	MA 205
MAS-7	400	40.0	115	5.5	8.	12	9	Bendix CK 3000-1-A	MA 205

‡Response time measured in cycles supply frequency necessary to obtain 63% (On) or 37% (Off) of steady state output in response to a DC step input.
†Coils connected in series.

NOTE: ALL SATURABLE TRANSFORMERS ARE HERMETICALLY SEALED.

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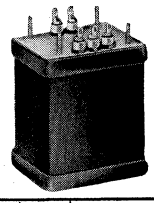
See Pages N-71, 72, 73 for FREED Prices

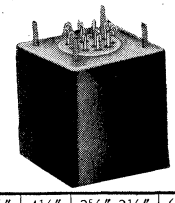
MAGNETIC AMPLIFIERS AND SATURABLE TRANSFORMERS

DESIGNED FOR 115V-AC OPERATION

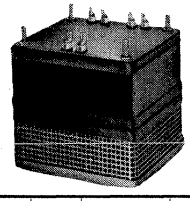
CASE DIMENSIONS



Case No.	Height	Width	Depth	Mtg. Centers	Mounting Studs	Knockout
MA 101	3"	2 5/8"	2 1/4"	1 3/4"x1 5/8"	(4) 6:32	(2) 1 1/4"x3/4"
MA 102	3 3/4"	2 11/16"	2 5/16"	2"x1 3/4"	(4) 8:32	(2) 1 1/2"x3/4"
MA 103	3 3/8"	4 1/4"	3 5/8"	3 5/16"x2 3/4"	(4) 8:32	(2) 1 1/2"x3/4"
MA 104	3 1/2"	4 1/8"	3 1/2"	3 1/8"x2 5/8"	(4) 10:32	1 1/2"x3/4"

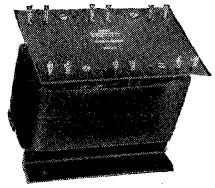


MA 201	3"	4 3/8"	4 1/4"	3 5/8"x3 1/2"	(4) 8:32	1 1/2" D



MA 301	7 1/2"	7"	5 1/4"	6 1/4"x3 1/2"	(4) 1/4":20	(4) 1 5/8"x7/8"
MA 302	5 7/8"	3 3/8"	3 1/4"	2 1/8"x2 7/16"	(4) 8:32	(2) 2 1/4"x3/4"
MA 303	6 7/8"	4 5/8"	3 15/16"	3 1/8"x2 3/8"	(4) 10:32	(2) 2"x3/4"
MA 304	8"	7"	5 1/4"	6"x3 1/8"	(4) 1/4":20	(2) 2 1/4"x3/4"
MA 305	8"	5"	5 1/2"	4 5/8"x3 3/4"	(4) 1/4":20	(2) 2 5/8"x3/4"
MA 306	6 7/8"	3 11/16"	3 1/4"	3"x2 1/2"	(4) 10:32	(2) 2"x3/4"
MA 307	7 7/8"	3 7/8"	3 7/8"	3"x3"	(4) 10:32	2 7/8" D
MA 308	3 1/2"	4"	3 3/4"	2 1/16"x3 3/8"	(4) 10:32*	2 1/2"x1 1/2"
MA 309	6 3/8"	4 1/4"	3 5/8"	2 1/2"x3 5/8"	(4) 10:32	2 1/2"x3/4"

*Mtg. Dim. not centrally located around center line.



MA 401	8"	7 5/8"	5 1/4"	6 3/4"x4 1/8"	11/32"x7/16"	——
MA 402	6"	7 1/2"	4"	5 1/2"x4"	7/16" D	——
MA 403	4 7/8"	3 7/8"	3 7/8"	5"x3 1/8"	1/4"x1/8"	——
MA 404	6"	5"	4 1/8"	3 3/4"x3"	1/4" D	——

FAST RESPONSE MAGNETIC AMPLIFIERS

Catalog No.	Supply Frequency C.P.S.	Rated Power Output—W.	Rated Voltage Output—V.-AC	Signal Req'd. for Full Output Volt AC or DC Input Imp. 10,000 Ω	Signal Req'd. for Full Output Volt AC or DC Input Imp. 1,000 Ω	*Response Time	Typical Motor Load	Case No. Mag. Amp.	Case No. Supply Transf.
MAF-1	60	13	110.	1.0	—	2	Diehl FPE 25-11	MA 301	MA 104
MAF-6	400	5	57.5	1.2	0.4	2	Kearfott R 110-2	MA 201	**
	400	10	57.5	1.6	0.6	2	Kearfott R 111-2	MA 201	**
MAF-7	400	15	57.5	2.5	1.0	2	Kearfott R 112-2	MA 201	**

**Response time measured in cycles of supply frequency to obtain 100% response.

PUSH-PULL MAGNETIC AMPLIFIERS

Catalog No.	Supply Frequency C.P.S.	Rated Power Output—W.	Rated Voltage Output—V.-AC	Signal Required for Full Output MA/D.C.	Total Res. of Control Wdg. K-Ω	‡Response Time (Rs=O) On	‡Response Time (Rs=O) Off	‡Response Time (Rs=20K) On	‡Response Time (Rs=20K) Off	Typical Motor Load	Case No. Mag. Amp.	Case No. Supply Transf.
MAP-1	60	5	115	1.2	1.24	15	60	4	8	Kollsman 951-0160	MA 302	MA 101
MAP-2	60	15	115	1.6	2.4	12	17	7	7	Diehl FPE-25-11	MA 303	MA 102
MAP-3	60	50	115	2.0	0.5	1-2 sec	3-4 sec	6	11	Diehl FPF-49-9	MA 304	MA 103
MAP-3A	60	50	115	7.0	2.9	1.3 sec	1.7 sec	5	20	Diehl FPF-49-9	MA 305	MA 103
MAP-4	60	175	115	8.0	6.0	17	66	5	40	Diehl FPF-85-18-1	MA 401	MA 404
MAP-7	400	15	115	0.6	2.8	.75 sec	2 sec	5	15	Kearfott R 112-2	MA 306	**
MAP-8	400	50	110	1.75	0.6	45	60	9	12	Bendix CK 3000-1-A	MA 307	MA 102

SINGLE-ENDED MAGNETIC AMPLIFIERS

Catalog No.	Supply Frequency C.P.S.	Rated Power Output—W.	Rated Voltage Output—V.-AC	Load Resistance for Max. Power Output—Ohms	Resist. of Control Wdg. K—†	Resist. of Bias Wdg. K—†	‡Response Time (Rs=5K) On	‡Response Time (Rs=5K) Off	Control Signal for Full Output MA-DC.	Bias Signal for Minimum Output MA-DC.	Case No. Mag. Amp.	Case No. Supply Transf.
MAO-1	60	4.5	130	3,800	1.2	1.2	3	8	3.0	1.0	MA 308	**
MAO-2	60	20.0	120	700	1.3	1.35	3	19	1.8	0.7	MA 309	**
MAO-4	60	400.0	100	25	10.0	10.0	9	25	9.0	1.6	MA 402	**
MAO-5	60	575.0	120	25	10.0	10.0	15	90	6.0	2.7	MA 402	MA 403

† Rs=Forcing Resistor in series with control wdg.

‡Response time measured in cycles of supply frequency necessary to obtain 63% (On) or 37% (Off) of steady state output in response to a DC step input.

**Supply Transformer contained in Mag. Amp. case.

NOTE: MAF-6, MAF-7 ARE HERMTEICALLY SEALED.

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See Pages N-71, 72, 73 for FREED Prices

MINIATURE TRANSISTOR TRANSFORMERS

These high quality miniature transformers are high efficiency audio components featuring hermetic sealing for maximum protection against electrolysis and corrosion of fine wires caused by moisture penetration. The units are constructed in accordance with MIL-T-27A Specifications.

Transistor Transformers can also be supplied in an open or encapsulated type of construction. ,

CASE DIMENSIONS

DM-15 CASE

Height: 1.5″
Width: 0.937″
Flange L: 1.375″
Flange D: 0.975″
Mtg. Cen.: 1.125″
2 Holes: 0.125″
Knockout: 0.875″

UNCASED DIMENSIONS

TMO 1 TO 14

Height: $\frac{13}{16}$″
Width: $1\frac{1}{16}$″
Depth: $\frac{21}{32}$″
Mtg. Cen.: $1\frac{3}{8}$″
2 Mtg. Holes: .120 dia.
Flange Lght.: $1\frac{5}{8}$″

TMO 15 TO 18

Height: $\frac{21}{32}$″
Width: $\frac{9}{16}$″
Depth: $\frac{13}{16}$″

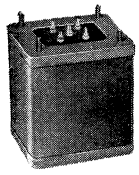
TMO-19

Height: $\frac{13}{16}$″
Width: $1\frac{15}{32}$″
Depth: $1\frac{1}{4}$″
Mtg. Cen.: $1\frac{3}{4}$″
2 Mtg. Holes: $\frac{3}{16}$″ dia.
Flange Lgth.: $2\frac{1}{16}$″

Catalog No.	Impedance Ohms				Frequency Response		Unbalanced Primary Current	D.C. Resistance Ohms		Maximum Power Output	Case No.
	Pri.	Ct.	Sec.	Ct.	± D.B.	C.P.S.	M.A./D.C.	Pri.	Sec.	M.W.	
TMA 1*	500		500		1	200 to 15,000	0	18	24	250	DM-15
TMA 2*	50K		500		2	300 to 15,000	3	2,200	49	250	DM-15
TMA 3*	50K		6		2	300 to 15,000	3	2,200	.55	250	DM-15
TMA 4*	100K		1.2K	√	3	300 to 15,000	1	2,790	95	100	DM-15
TMA 5*	25K		1.2K	√	2	200 to 15,000	3	1,740	110	250	DM-15
TMA 6*	50K		1.2K	√	2	300 to 15,000	3	2,200	106	250	DM-15
TMA 7*	600/150		1.2K	√	1	200 to 15,000	4	30	95	250	DM-15
TMA 8*	25K		600		2	200 to 15,000	3	1,740	61	250	DM-15
TMA 9*	4K	√	600/150		1	200 to 15,000	1	274	43	250	DM-15
TMA 10*	2K		3.2		2	200 to 1,5000	10	160	.28	250	DM-15
TMA 11*	4K	√	3.2		1	200 to 15,000	1	274	.26	250	DM-15
TMA 12*	20K		50		2	300 to 15,000	4	1,340	2.9	250	DM-15
TMA 13*	1K		50		2	300 to 15,000	8	42.6	2.5	250	DM-15
TMA 14*	100K		1K		2	300 to 15,000	0	1,550	16.8	100	DM-15
TMO 15	20K		50		2	300 to 15,000	1	2,215	7.25	40	open
TMO 16	20K		600		2	300 to 15,000	1	2,215	202	40	open
TMO 17	1K		50		2	300 to 15,000	3	93	5.6	60	open
TMO 18	100K		3.2		2	300 to 15,000	0	3,000	57.5	100	open
TMA 19*	1K		3.2		2	200 to 15,000	20	38	.19	1000	DM-01

*When ordering open units specify TMO — when ordering encapsulated units specify TMC.

SERIES 1950 NULL "T" FILTERS



The Freed Series 1950 Null T networks consist of two resistance capacitance networks, whose outputs co pletely cancel each other at the balance frequency. They may be used as rejection networks particularly at lo frequencies where LC filters become excessively large and unstable.

Standard models are available for 30, 60 and 120 cycles in a wide range of impedances. Each network w give a minimum of 50 db attenuation at the null frequency.

The null frequency is adjusted to a tolerance of ±2%.

All Null T Filters are hermetically sealed.

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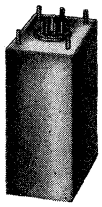
TELEMETERING COMPONENTS

A complete line of Band Pass Filters, Low Pass Filters and Discriminators is available for multi-channel telemetering applications. These components cover the frequency range from 400 cps to 70,000 cps. The filters feature plug-in construction and excellent selectivity characteristics. The Discriminators, either fixed or slug tuned, have exceptional linearity, high amplification, and utmost stability.

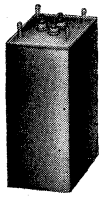
CASE DIMENSIONS

FA-5 CASE

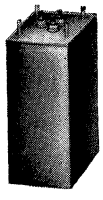


Height: 4½″
Width: 3½″
Depth: 2⅛″
Mtg. Cen.: 2 7/16″×1 9/16″
Studs: 5—8-32×½″
Octal Header

FA-10 CASE



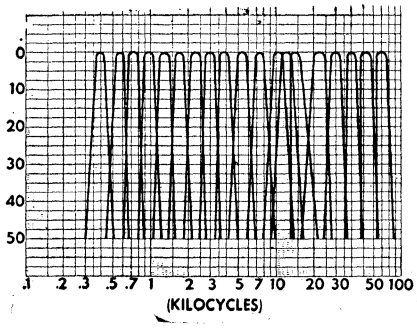
Height: 4½″
Width: 3½″
Depth: 2⅛″
Mtg. Cen.: 1 11/16″×1 9/16″
Studs: 4—8-32×½″
Knockout: 1½″ dia.



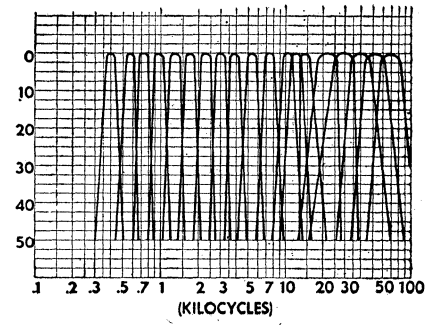
FA-15 CASE

Height: 4½″
Width: 2 7/8″
Depth: 2⅛″
Mtg. Cen.: 1 11/16″×1 9/16″
Studs: 4—8-32×½″
Knockout: 1½″ dia.

NARROW BAND PASS FILTERS



WIDE BAND PASS FILTERS



TELEMETERING BAND PASS FILTERS

These filters cover the frequencies from 400 c.p.s. to 70KC. Narrow frequency B.P.F. have a band width of ± 9¾% of center frequency and 50 DB points at ± 7½% of center frequency of higher or lower adjacent channels. Wide frequency B.P.F. have a band width of ± 19½% of center frequency and 50 D.B. points at ± 15% of center frequencies of higher or lower second adjacent channels.

Characteristic Impedance 500 Ω			
Catalog No.	Center Frequency c.p.s.	3 DB Band Width % of C.F.	Case No.
FBP-10	400	± 9¾	FA-10
FBP-11	560	± 9¾	FA-10
FBP-12	730	± 9¾	FA-10
FBP-13	960	± 9¾	FA-10
FBP-14	1,300	± 9¾	FA-10
FBP-15	1,700	± 9¾	FA-10
FBP-16	2,300	± 9¾	FA-10
FBP-17	3,000	± 9¾	FA-15
FBP-18	3,900	± 9¾	FA-15
FBP-19	5,400	± 9¾	FA-15
FBP-20	7,350	± 9¾	FA-15
FBP-21	10,500	± 9¾	FA-15
FBP-22	12,300	± 9¾	FA-15
FBP-23	14,500	± 9¾	FA-15
FBP-24	22,000	± 9¾	FA-15
FBP-25	22,000	±19½	FA-15
FBP-26	30,000	± 9¾	FA-15
FBP-27	30,000	±19½	FA-15
FBP-28	40,000	± 9¾	FA-15
FBP-29	40,000	±19½	FA-15
FBP-30	52,500	± 9¾	FA-15
FBP-31	52,500	±19½	FA-15
FBP-32	70,000	± 9¾	FA-15
FBP-33	70,000	±19½	FA-15

Characteristic Impedance 2,500 Ω			
Catalog No.	Center Frequency c.p.s.	3 DB Band Width % of C.F.	Case No.
FBP-34	400	± 9¾	FA-5
FBP-35	560	± 9¾	FA-5
FBP-36	730	± 9¾	FA-5
FBP-37	960	± 9¾	FA-5
FBP-38	1,300	± 9¾	FA-5
FBP-39	1,700	± 9¾	FA-5
FBP-40	2,300	± 9¾	FA-5
FBP-41	3,000	± 9¾	FA-5
FBP-42	3,900	± 9¾	FA-5
FBP-43	5,400	± 9¾	FA-5
FBP-44	7,350	± 9¾	FA-5
FBP-45	10,500	± 9¾	FA-5
FBP-46	12,300	± 9¾	FA-5
FBP-47	14,500	± 9¾	FA-5
FBP-48	22,000	± 9¾	FA-5
FBP-49	22,000	±19½	FA-5
FBP-50	30,000	± 9¾	FA-5
FBP-51	30,000	±19½	FA-5
FBP-52	40,000	± 9¾	FA-5
FBP-53	40,000	±19½	FA-5
FBP-54	52,500	± 9¾	FA-5
FBP-55	52,500	±19½	FA-5
FBP-56	70,000	± 9¾	FA-5
FBP-57	70,000	±19½	FA-5

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See Pages N-71, 72, 73 for FREED Prices

MINIATURE FILTERS

Freed standard filters are **hermetically sealed,** miniature high performance components designed for production and laboratory applications in the electronics and communications industries.

To achieve attentuation characteristics not obtainable with one single filter several standard filters of different transmission characteristics can be combined. Wide band characteristics can be obtained by combining low and high pass units.

The astatic construction of inductive components together with special shielding reduces the hum pickup of standard filters to extremely low levels.

Standard filters with low pass, high pass and band pass characteristics are available.

The attenuation characteristics of these filters are:

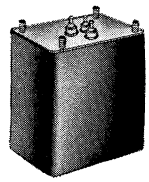
Low Pass Filters 6 db at cut-off frequency.
35 db at 1.5 times cut-off frequency.
40 db at twice the cut-off frequency.

High Pass Filters 6 db at cut-off frequency.
35 db at 67% of cut-off frequency.
40 db at 50% of cut-off frequency.

Band Pass Filters 2 db at ±3% of center frequency.
40 db at one half and twice the center frequencies.

CASE DIMENSIONS

DF-1 CASE



Height: 2½"
Width: 1 11/16"
Depth: 1 3/16"
Mtg. Cen.: 1¼"x¾"
Studs: 4—6-32x⅜"
Knockout: ⅞" dia.

Catalog No.	Cut-off Frequency c.p.s.	Response 6 DB at c.p.s.	Response 40 DB at c.p.s.	Characteristic Impedance Ohms	Case No.
LOW PASS FILTERS					
ILP - 1,500	1,500	1,500	3,000	10,000	DF-1
ILP - 1,600	1,600	1,600	3,200	10,000	DF-1
ILP - 2,000	2,000	2,000	4,000	10,000	DF-1
ILP - 2,500	2,500	2,500	5,000	10,000	DF-1
ILP - 3,000	3,000	3,000	6,000	10,000	DF-1
ILP -20,000	20,000	20,000	40,000	10,000	DF-1
LLP- 1,500	1,500	1,500	3,000	500/600	DF-1
LLP- 1,600	1,600	1,600	3,200	500/600	DF-1
LLP- 2,000	2,000	2,000	4,000	500/600	DF-1
LLP- 2,500	2,500	2,500	5,000	500/600	DF-1
LLP- 3,000	3,000	3,000	6,000	500/600	DF-1
HIGH PASS FILTERS					
IHP - 300	300	300	150	10,000	DF-1
IHP - 400	400	400	200	10,000	DF-1
IHP - 1,000	1,000	1,000	500	10,000	DF-1
LHP- 300	300	300	150	500/600	DF-1
LHP- 400	400	400	200	500/600	DF-1
LHP- 1,000	1,000	1,000	500	500/600	DF-1

BAND PASS FILTERS

Catalog No.	Center Frequency	Band width ±3% of CF < 2 DB	40 DB att. at .5 and 2 times Fo	Impedance Input	Impedance Output	Case No.
IBP - 400	400	±3%	±.5 & 2	10,000	5 Meg Ω	DF-1
IBP - 1,000	1,000	±3%	±.5 & 2	10,000	5 Meg Ω	DF-1
IBP - 2,000	2,000	±3%	±.5 & 2	10,000	5 Meg Ω	DF-1
IBP - 3,000	3,000	±3%	±.5 & 2	10,000	5 Meg Ω	DF-1
IBP -10,000	10,000	±3%	±.5 & 2	10,000	5 Meg Ω	DF-1
IBP - 400	400	±3%	±.5 & 2	500/600	5 Meg Ω	DF-1
LBP- 600	600	±3%	±.5+2	500/600	5 Meg Ω	DF-1
LBP- 1,000	1,000	±3%	±.5+2	500/600	5 Meg Ω	DF-1
LBP- 1,500	1,500	±3%	±.5+2	500/600	5 Meg Ω	DF-1
LBP- 2,000	2,000	±3%	±.5+2	500/600	5 Meg Ω	DF-1
LBP- 3,000	3,000	±3%	±.5+2	500/600	5 Meg Ω	DF-1
LBP-10,000	10,000	±3%	±.5+2	500/600	5 Meg Ω	DF-1

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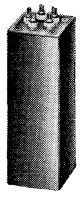
CASE DIMENSIONS

FA-1 CASE

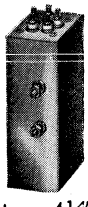
Height: 4½"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 31/32" sq.
4 Inserts 6-32
Knockout: 1"

FA-185 CASE



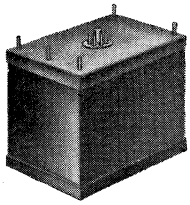
Height: 4½"
Width: 1⅞"
Depth: 1⅝"
Mtg. Cen.: 1 15/64" x 1 1/16"
4 Inserts: 6-32
Knockout: 1½"

FA-190 CASE



Height: 4½"
Width: 2¼"
Depth: 1⅝"
Mtg. Cen.: 1 7/32" x 1 1/16"
4 Inserts: 6-32
Knockout: 1½"

FA-410 CASE



Height: 4½"
Width: 6"
Depth: 4"
Mtg. Cen.: 5¼" x 3¼"
5 Studs: 10-32
Octal Header

DISCRIMINATOR INPUT LOW PASS FILTER

Catalog No.	FO Center Frequency in CPS	Characteristic Impedance Ohms	Case No.
LPI-10	400	30,000	FA-1
LPI-11	560	30,000	FA-1
LPI-12	730	30,000	FA-1
LPI-13	960	30,000	FA-1
LPI-14	1,300	30,000	FA-1
LPI-15	1,700	30,000	FA-1
LPI-16	2,300	30,000	FA-1
LPI-17	3,000	30,000	FA-1
LPI-18	3,900	30,000	FA-1

Catalog No.	FO Center Frequency in CPS	Characteristic Impedance Ohms	Case No.
LPI-19	5,400	30,000	FA-1
LPI-20	7,350	30,000	FA-1
LPI-21	10,500	30,000	FA-1
LPI-22	12,300	30,000	FA-1
LPI-23	14,500	30,000	FA-1
LPI-24	22,000	5,100	FA-1
LPI-25	30,000	5,100	FA-1
LPI-26	40,000	5,100	FA-1
LPI-27	52,500	5,100	FA-1
LPI-28	70,000	5,100	FA-1

Attenuation: 0.05 DB at ±9¾% of center frequency
30 DB at third haromine of Pass Band frequencies
50 DB at fifth harmonic of Pass Band frequencies

DISCRIMINATOR OUTPUT LOW PASS FILTER

Catalog No.	Fo(cps)	Characteristic Impedance Ohms	Case No.
LPO-10	6	330	FA-410
LPO-11	8	330	FA-410
LPO-12	11	330	FA-410
LPO-13	14	330	FA-410
LPO-14	20	330	FA-410
LPO-15	25	330	FA-410
LPO-16	35	330	FA-410
LPO-17	45	330	FA-410
LPO-18	60	330	FA-410
LPO-19	81	330	FA-410
LPO-20	110	330	FA-410
LPO-21	160	330	FA-410
LPO-22	185	330	FA-410

Catalog No.	Fo(cps)	Characteristic Impedance Ohms	Case No.
LPO-23	220	330	FA-410
LPO-24	330	330	FA-410
LPO-25	450	330	FA-410
LPO-26	600	330	FA-410
LPO-27	660	330	FA-410
LPO-28	790	330	FA-410
LPO-29	900	330	FA-410
LPO-30	1,050	330	FA-410
LPO-31	1,200	330	FA-410
LPO-32	1,600	330	FA-410
LPO-33	2,100	330	FA-410
LPO-34	7,200	330	FA-410
LPO-35	10,000	330	FA-410

Attenuation: < 0.2 DB up to 0.5 times Fo
< 0.7 DB from 0.5 to 1. times Fo
> 20 DB up to 2. times Fo
> 30 DB from 2.5 times Fo to 100 Kc.

SLUG TUNED DISCRIMINATORS

Catalog No.	Center Frequency (Kc.)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-17	3.0	±8½	±0.5%	32.5	FA-190
DST-18	3.9	±8½	±0.5%	32.5	FA-190
DST-19	5.4	±8½	±0.5%	32.5	FA-190
DST-20	7.35	±8½	±0.5%	32.5	FA-190
DST-21	10.5	±8½	±0.5%	32.5	FA-190
DST-22	12.3	±8½	±0.5%	32.5	FA-190
DST-23	14.5	±8½	±0.5%	32.5	FA-190
DST-24	22.0	±8½	±0.5%	32.5	FA-190
DST-25	30.0	±8½	±0.5%	32.5	FA-190

Catalog No.	Center Frequency (Kc.)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-26	40.0	± 8½	±0.5%	32.5	FA-190
DST-27	52.5	± 8½	±0.5%	32.5	FA-190
DST-28	70.0	± 8½	±0.5%	32.5	FA-190
DST-29	22.0	±15	±1.0%	26.0	FA-190
DST-30	30.0	±15	±1.0%	26.0	FA-190
DST-31	40.0	±15	±1.0%	26.0	FA-190
DST-32	52.5	±15	±1.0%	26.0	FA-190
DST-33	70.0	±15	±1.0%	26.0	FA-190

FIXED DISCRIMINATORS

Catalog No.	Center Frequency (cps)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-10	400	±8½	±0.5%	32.5	FA-185
DST-11	560	±8½	±0.5%	32.5	FA-185
DST-12	730	±8½	±0.5%	32.5	FA-185
DST-13	960	±8½	±0.5%	32.5	FA-185

Catalog No.	Center Frequency (cps)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-14	1,300	±8½	±0.5%	32.5	FA-185
DST-15	1,700	±8½	±0.5%	32.5	FA-185
DST-16	2,300	±8½	±0.5%	32.5	FA-185

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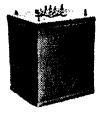
CASE DIMENSIONS

DC-4B CASE

Height: 4 1/4"
Width: 3 1/8"
Length: 3"
Mounting: 4 8-32 Studs
Mtg. Cen.: 2 1/2" x 2 1/2"
Cutout: (2)1 3/8" x 5/8"

OL-MA-2 CASE

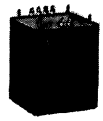


Height: 4"
Width: 4 5/8"
Length: 3 15/16"
Mounting: 4 10-32 Sds
Mtg. Cen.: 2 1/2" x 3 3/4"
Cutout: (2)2 3/4" x 3/4"

DC-6B CASE

Height: 6"
Width: 5"
Length: 4 1/8"
Mounting: 4 10-32 Sds.
Mtg. Cen.: 3 3/4" x 3"
Cutout: 3" Dia.

FH-EA CASE



Height: 2 11/16"
Width: 1 7/8"
Length: 1 3/4"
Mounting: 4 6-32 Studs
Mtg. Cen.: 1 3/8" x 1 1/4"
Cutout: 1 3/16"

DM-03 CASE

Height: 2 1/2"
Width: 1 1/2"
Length: 1 1/2"
Mounting: 4 6-32 Studs
Mtg. Cen.: 1 1/16" x 1 1/16"
Cutout: 1 1/4" Dia.

ULTRASONICS

New developments and applications of ultrasonics for industrial cleaning, soldering, welding, and mixing have created a demand for generators and components specifically designed for ultrasonic applications.

Using the latest developments in the field of special magnetic materials the FREED ultrasonic transformers are designed for greatest efficiency and maximum reliability. They feature small size, excellent performance and long life under continuous duty operation.

To save development time complete kits designed for ultrasonic electronic generators, amplifiers (from 100 watts to 1 KVA) and transducer bias supplies are available. These kits include all necessary reactive components and are supplied with a complete schematic.

A 250 VA ultrasonic amplifier is available from stock. (Completely wired).

Transformers with an extended frequency range (frequencies up to 2 MC) can be supplied upon request.

Extensive engineering and laboratory facilities are available for consulting, development and research in components for ultrasonic generators and amplifiers.

ULTRASONIC DRIVER AND INPUT TRANSFORMERS

Frequency response: ± 1 DB 10 KC to 60 KC.

Catalog No.	Application	Primary Impedance Ohms	Voltage Ratio	Maximum Power Watts	Maximum Primary D.C. per Side Ma.	Case Size
ULI-20	Transducer to PP 811A	1, 2, 4		5		DM-03
ULD-20	PP 6CM6 to PP 811A		4.4:1	5	50	DM-03
ULD-50	PP 5881 to PP 8000		1.7:1	25	90	FH-EA

ULTRASONIC OUTPUT TRANSFORMERS

Frequency response: ± 1 DB 20 KC to 60 KC.

Catalog No.	Application	Impedance in Ohms Primary	Secondary	Maximum Power Watts	Maximum Primary D.C. per Side Ma.	Case Size
ULO-10	PP 6083 to transducer	7,600	1/4	100	120	DC-4B
ULO-11	Same	7,600	2/8	100	120	DC-4B
ULO-12	Same	7,600	4/16	100	120	DC-4B
ULO-13	Same	7,600	7.5/30	100	120	DC-4B
ULO-30	PP 811A to transducer	12,400	1/4	300	170	DC-4B
ULO-31	Same	12,400	2/8	300	170	DC-4B
ULO-32	Same	12,400	4/16	300	170	DC-4B
ULO-33	Same	12,400	7.5/30	300	170	DC-4B
ULO-34	Same	12,400	25	300	170	DC-4B
ULO-35	Same	12,400	125/500	300	170	DC-4B
ULO-36	Same	12,400	250/1000	300	170	DC-4B
ULO-37	Same	12,400	75/300	300	170	DC-4B
ULO-52	PP 8000 to transducer	10,800	4/16	500	230	OL-MA-2
ULO-53	Same	10,800	7.5/30	500	230	OL-MA-2
ULO-54	Same	10,800	25/100	500	230	OL-MA-2
ULO-55	Same	10,800	125/500	500	320	OL-MA-2
ULO-56	Same	10,800	250/1000	500	230	OL-MA-2
ULO-101	PP. Par. 8000 to transducer	5,400	25/100	1000	430	DC-6B
ULO-104	Same	5,400	75/300	1000	430	DC-6B
ULO-110	Same	5,400	18.8/75/300	1000	430	DC-6B

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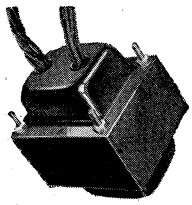
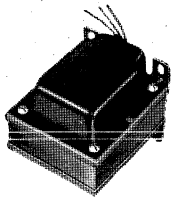
See Pages N-71, 72, 73 for FREED Prices

CASE DIMENSIONS



Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Studs
HS300	2 5/8	3	2 1/2	2 1/2 x 2	(4) #6 x 3/8
HS303	2 7/8	3	2 1/2	2 1/2 x 2	(4) "
HS306	3 1/4	3	2 1/2	2 1/2 x 2	(4) "
HS307	3 3/8	3	2 1/2	2 1/2 x 2	(4) "
HS503	3 1/2	3 3/4	3 1/8	3 1/8 x 2 1/2	(4) "
HS505	3 3/4	3 3/4	3 1/8	3 1/8 x 2 1/2	(4) "
HS603	3 3/4	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS605	4	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS606	4 3/8	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS610	4 5/8	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS612	4 7/8	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS708	5 7/8	5 1/4	4 3/8	4 3/8 x 3 1/2	(4) #6 x 2 1/2
HS709	6	5 1/4	4 3/4	4 3/8 x 3 1/2	(4) "



Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Holes
VS300	3 5/32	2 5/8	2 3/4	2 x 1 11/16	(4) 7/32 x 3/8
VS303	3 5/32	2 5/8	3	2 x 1 15/16	(4) "
VS306	3 5/32	2 5/8	3 3/8	2 x 2 5/16	(4) "
VS307	3 5/32	2 5/8	3 1/2	2 x 2 7/16	(4) "
VS503	3 29/32	3 1/4	3 5/8	2 1/2 x 3/16	(4) "
VS505	3 29/32	3 1/4	3 7/8	2 1/2 x 3/16	(4) "
VS603	4 21/32	3 7/8	3 7/8	3 x 2 11/16	(4) "
VS605	4 21/32	3 7/8	4 1/8	3 x 2 15/16	(4) "
VS606	4 21/32	3 7/8	4 1/4	3 x 3 1/16	(4) "
VS610	4 21/32	3 7/8	4 3/4	3 x 3 5/16	(4) "
VS612	4 21/32	3 7/8	5	3 x 3 5/16	(4) "
VS708	5 7/16	4 3/16	5 3/4	3 1/2 x 4	(4) #6 x 2 1/2
VS709	5 7/16	4 3/16	5 7/8	3 1/2 x 4 1/4	(4) "

REPLACEMENT GRADE COMPONENTS

The replacement grade units are low-priced, high-reliability components. Vacuum impregnation and low temperature rise insure trouble-free performance and long life.

POWER TRANSFORMERS

All primaries designed for 115-volt, 50-60 cycle operation.

Catalog No.	Pry Va	Hi Volt	Choke Input D.C.V.	Choke Input D.C.Ma.	Cond. Input D.C.V.	Cond. Input D.C.Ma.	Bias Tap	Rectifier	Fil. No. 1	Fil. No. 2	Fil. No. 3	Case No.
RGP 1	45	500V CT			270	40		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 2A		VS300
RGP 2	"	"			"	"		"	"	"		HS300
RGP 3	57	600V CT			330	50		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 2.5A		VS303
RGP 4	"	"			"	"		"	"	"		HS303
RGP 5	64	650V CT			370	50		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 3A		VS303
RGP 6	"	"			"	"		"	"	"		HS303
RGP 7	73	600V CT			320	70		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 3A		VS306
RGP 8	"	"			"	"		"	"	"		HS306
RGP 9	110	650V CT	225	140	330	100		5Y3, 5U4	5V @ 3A	6.3V @ 5A		VS503
RGP 10	"	"	"	"	"	"		"	"	"		HS503
RGP 11	76	700V CT	260	100	385	70		5Y3	5V @ 2A	6.3V @ 3.5A		VS307
RGP 12	"	"	"	"	"	"		"	"	"		HS307
RGP 13	108	700V CT	250	125	370	90		5Y3, 5U4	5V @ 3A	6.3V @ 5A		VS503
RGP 14	"	"	"	"	"	"		"	"	"		HS503
RGP 15	127	700V CT	260	170	350	120		5U4	5V @ 3A	6.3V @ 5A		VS505
RGP 16	"	"	"	"	"	"		"	"	"		HS505
RGP 17	146	700V CT	260	210	350	150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	VS603
RGP 18	"	"	"	"	"	"		"	"	"	"	HS603
RGP 19	207	800V CT	295	280	400	200		5U4, 2-5Y3	5V @ 4A	6.3V @ 6A		VS606
RGP 20	"	"	"	"	"	"		"	"	"		HS606
RGP 21	225	800V CT	295	280	400	200	80	5U4, 2-5Y3	5V @ 4A	6.3V @ 6A	5/6.3V @ 2A	VS606
RGP 22	"	"	"	"	"	"	"	"	"	"	"	HS606
RGP 23	268	840V CT	330	350	450	250	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	VS612
RGP 24	"	"	"	"	"	"	"	"	"	"	"	HS612
RGP 25	320	900V CT	340	420	490	200	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	VS708
RGP 26	"	"	"	"	"	"	"	"	"	"	"	HS708
RGP 27	127	900V CT	360	150				5U4	5V @ 3A	6.3V @ 5A		VS603
RGP 28	"	"	"	"				"	"	"		HS603
RGP 29	150	900V CT	350	200				5U4	5V @ 3A	6.3V @ 5A		VS605
RGP 30	"	"	"	"				"	"	"		HS605
RGP 31	203	1100V CT	400	250				5R4GY	5V @ 3A	6.3V @ 5A		VS610
RGP 32	"	"	"	"				"	"	"		HS610
RGP 33	248	1100V CT	420	300				2-5R4GY	5V @ 4A	6.3V @ 7A		VS612
RGP 34	"	"	"	"				"	"	"		HS612
RGP 35	310	1280V CT	480	350				2-5R4GY	5V @ 4A	6.3V @ 7A		VS709
RGP 36	"	"	"	"				"	"	"		HS709

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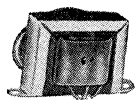
CASE DIMENSIONS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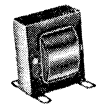
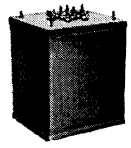

FV


DC

NB

VS

Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Studs
DC2B	3½	2⅝	2¼	2x1¾	(4)8-32
DC4A	3¾	3⅛	3	2½x2½	(4)8-32
DC5C	4⅞	4⅛	3½	3⅛x2⅝	(4)10-32
DC6A	4⅞	5	4⅛	3¾x3	(4)10-32
CH50	1¹¹⁄₁₆	2¹⁵⁄₁₆	1¾	2⅜	(2) 5/16
CH60	2	3¼	2	2⁵⁄₁₆	(2) 5/16
CH62	2	3¼	2⅛	2⁵⁄₁₆	(2) 5/16
CH70	2⅜	3¹¹⁄₁₆	2¼	3⅛	(2) 5/16
CH80	2⅝	4	2⅜	3⅜	(2) 5/16
FV10	3⅛	2½	2⅜	2x2	(4) 13/64x21/64
FV12	3⅛	2½	2⁵⁄₁₆	2x2⅛	(4) 13/64x21/64
FV22	3⅜	2⅝	2⅞	2¼x2¼	(4) 3/16x3/8
FV30	4½	3⅛	3	2½x2¼	(4) 13/64x21/64
HB718	6¼	6½	8½	4¾x4½	(4) 9/32x21/32
HB728	6¼	6½	9¾	4¾x5¾	(4) 9/32x21/32
HB828	6⅝	7⅜	9⅞	5⅝x5¾	(4) 9/32x21/32
HB920	6⅝	7⅞	10¼	6¼x7⅜	(4) 9/32x21/32
VS300	3½	2⅜	2¾	2x1¹¹⁄₁₆	(4) 3/16x3/8
VS401	3⅝	2⁵⁄₁₆	3	2¼x1¾	(4) 3/16x3/8
VS501	3²⁹⁄₃₂	3¼	3⅜	2½x2⅛	(4) 3/16x3/8
VS503	3²⁹⁄₃₂	3¼	3⅝	2½x2⅝	(4) 3/16x3/8
VS601	4²¹⁄₃₂	3⅞	3⅝	3x2⅞	(4) 3/16x3/8
VS604	4²¹⁄₃₂	3⅞	4	3x2¹⁵⁄₁₆	(4) 3/16x3/8
VS611	4²¹⁄₃₂	3⅞	4⅞	3x3¹¹⁄₁₆	(4) 3/16x3/8
VS612	4²¹⁄₃₂	3⅞	5	3x3¹⁵⁄₁₆	(4) 3/16x3/8
VS700	5⅛	3⅞	5	3½x3¼	(4) 3/16x3/8
VS706	5⅛	4⅜	5½	3½x3¾	(4) 3/16x3/8
VS714	5⅛	4⅜	6½	3½x4¾	(4) 3/16x3/8
VS718	5⅛	4⅜	7	3½x5¼	(4) 9/32x21/32
VS728	5⅛	4⅜	8¼	3½x6½	(4) 3/16x3/8

REPLACEMENT GRADE COMPONENTS

FILAMENT TRANSFORMERS

All primaries are for 115V, 50/60 c.p.s.

Catalog No.	Secondary Voltage	Secondary Current Amps.	Secondary Test Voltage RMS	Case Size
TF 1	2.5 (C.T.)	7.5	1500	CH60
TF 2	2.5 (C.T.)	10	1500	CH70
TF 3	2.5 (C.T.)	5	7500	DC2B
TF 4	2.5 (C.T.)	10	7500	DC4A
TF 5	5.0 (C.T.)	4	1500	CH60
TF 6	5.0 (C.T.)	6	1500	CH70
TF 7	5.0 (C.T.)	10	1500	CH80
TF 8	5.0 (C.T.)	10	1500	FV10
TF 9	5.0 (C.T.)	20	2500	FV30
TF 10	5.0 (C.T.)	20	10,000	DC6A
TF 11	6.3 (C.T.)	1.35	1500	CH50
TF 12	6.3 (C.T.)	3	1500	CH60
TF 13	6.3 (C.T.)	5	1500	CH70
TF 14	6.3 (C.T.)	7	1500	FV12
TF 15	6.3 (C.T.)	10	1500	FV22
TF 16	10 (C.T.)	5	2500	CH80
TF 17	10 (C.T.)	5	2500	FV10
TF 18	10 (C.T.) or 11 (C.T.) (tapped primary)	12 or 11	7500	DC-5C
TF 19	12.6 (C.T.)	2	1500	CH62

T following case number indicates Terminals. L following case number indicates Leads.

AUTO TRANSFORMERS

To be used as step-down transformer. Equipped with standard receptacle and line cord.

Catalog No.	Transformation	VA Rating	Case Size
SDT 1*	230/115 V. 50/60 c.p.s.	25	CH-60
SDT 2*	230/115 V. 50/60 c.p.s.	50	CH-62
SDT 3	230/115 V. 50/60 c.p.s.	50	VS-300
SDT 4	230/115 V. 50/60 c.p.s.	100	VS-401
SDT 5	230/115 V. 50/60 c.p.s.	200	VS-501
SDT 6	230/115 V. 50/60 c.p.s.	300	VS-601
SDT 7	230/115 V. 50/60 c.p.s.	400	VS-604
SDT 8	230/115 V. 50/60 c.s.p.	500	VS-611
SDT 9	230/115 V. 50/60 c.p.s.	750	VS-706
SDT 10	230/115 V. 50/60 c.p.s.	1000	VS-718
SDT 11	230/115 V. 50/60 c.p.s.	1500	VS-728
SDT 12*	230/115 V. 50/60 c.p.s.	2000	HB-718
SDT 13*	230/115 V. 50/60 c.p.s.	2500	HB-728
SDT 14*	230/115 V. 50/60 c.p.s.	3000	HB-828
SDT 15*	230/115 V. 50/60 c.p.s.	5000	HB-920

*Supplied with leads without line cord and receptacle.

ISOLATION TRANSFORMERS

Electrostatic shield between primary and secondary. Equipped with standard receptacle and line cord.

Catalog Number	Primary Voltage 50/60 c.p.s	Secondary Voltage	VA Rating	Case Size
IT 1	115	115	50	VS-401
IT 2	115	115	100	VS-503
IT 3	115	115	300	VS-700
IT 4	115	115	500	VS-714
IT 5*	220/240	110/220	250	US-611
IT 6*	220/440	110/220	500	VS-714

*Supplied with leads without line cords and receptacle.

LINE BOOSTER TRANSFORMERS

Operates from 90 to 110 volts input to provide 10% step-up.

Catalog Number	Primary Voltage	Secondary Voltage	VA Rating	Case Size
LB-1	90-110	1.1 x input	350	VS-300
LB-2	90-110	1.1 x input	2000	VS-611

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REPLACEMENT GRADE COMPONENTS

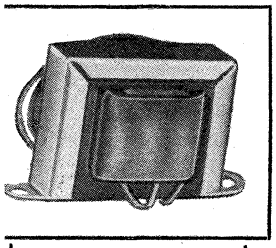
AUDIO TRANSFORMERS

Catalog No.	Application	Impedance Level Ohms Primary	Impedance Level Ohms Secondary	Max. Power Level DBM or Power in Watts	Ratio	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Freq. Response C.P.S.	Case No.
RGA 1	Input; multiple line or double button mike to single or push-pull grids.	500 CT 200 CT	100.000 CT	+20	1:14.1	50	5	±2DB 200-5000	CH-40
RGA 2	Input; single button mike to single or push-pull grids.	100	100.000 CT	+20	1:31.6	50		±2DB 200-5000	CH-40
RGA 3	Input; voice coil to grid. Intercom	3.2	100,000	+20	1:179			±2DB 200-5000	CH-40
RGA 4	Mixing and matching line to line.	600 CT 500 CT 200 CT 150/125/50	600 CT 500 CT 200 CT 150/125/50	+20	1:1			±2DB 100-5000	CH-40
RGA 5	Interstage; single triode plate to single or P.P. grids.	10.000	90.000 CT	+30	1:3	10		±2DB 200-5000	CH-40
RGA 6	Output; single plate to line or mixer.	10.000	600 CT 500 CT 200 CT 150/125/50	+30	4.8:1	10		±2DB 200-5000	CH-40
RGA 7	Output; Push-pull plate to line or mixer.	20.000 CT	600 CT 500 CT 200 CT 150/125/50	+30	6.32:1	10	1	±2DB 200-5000	CH-40
RGA 8	Output; plate to V.C. 6AL6, 6L6, 6Y6, 25B6, 25C6, 35A5, 35B5, 35C5, 50B5, 50C5, 50C6, 50L6, 117N7.	2500	3.2	5W		70		±3DB 200-10000	CH-40
RGA 9	Output; plate to V.C. 6V6, 6AQ5, 6AS5, 7C5.	5000	3.2	5W		50		±3DB 200-10000	CH-40
RGA 10	Output; plate to V.C. 6AR5, 6K6, 6V6, 7B5, 14A5, 3S4, 3U4, 3Q4, 3Q5, 3C5, 3A4.	10.000 or 7500	3.2	5W		30		±3DB 200-10000	CH-40
RGA 11	Output; P.P. plates to V.C. P.P. 6V6, PP6K6.	12.000 CT or 8000 CT	3.2	15W		50	5	±2DB 200-8000	CH-60
RGA 12	Output: TP to V.C. 6V6, 6AQ5, 7C5, C1AB.	10,000 CT	3.2	10W	5.6:1	40	4	±3DB 200-10000	CH-60

REPLACEMENT GRADE CHOKES

Catalog No.	Inductance in Henries	Rated Current D.C. Ma.	D.C. Resistance	Dielectric Test Voltage	Case Number
RGC 17	40	15	2000	1000	CH-40
RGC 1	4	40	200	1000	CH-40
RGC 2	9	40	400	1000	CH-40
RGC 3	6	50	400	1000	CH-40
RGC 18	20	50	425	1500	CH-60
RGC 4	10	55	400	1500	CH-50
RGC 19	3	75	200	1500	CH-50
RGC 5	10	75	250	1500	CH-60
RGC 6	10	75	250	1500	VS-100
RGC 7	6	100	150	1500	CH-60
RGC 8	6	100	150	1500	VS-100
RGC 9	3.5	150	100	1500	CH-60
RGC 10	3.5	150	100	1500	VS-100
RGC 20	12	160	180	2500	VS-306
RGC 11	2	200	60	1500	CH-60
RGC 12	2	200	60	1500	VS-100
RGC 13	3.7	200	65	1500	CH-80
RGC 21	7	200	100	2500	VS-303
RGC 14	3.7	200	65	1500	VS-300
RGC 15	2.8	300	65	1500	CH-80
RGC 16	2.8	300	65	1500	VS-300
RGC 22	5	300	65	2500	VS-308

CASE DIMENSIONS

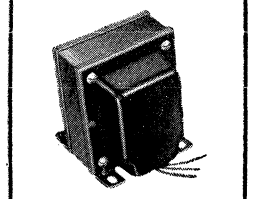


CH-40 CASE
Height: 1 7/16"
Width: 2 3/8"
Depth: 1 5/8"
Mtg. Cen.: 2"

CH-50 CASE
Height: 1 11/16"
Width: 2 13/16"
Depth: 1 3/4"
Mtg. Cen.: 2 3/8"

CH-60 CASE
Height: 2"
Width: 3 1/4"
Depth: 2 1/8"
Mtg. Cen.: 2 13/16"

CH-80 CASE
Height: 2 5/8"
Width: 4"
Depth: 2 5/8"
Mtg. Cen.: 3 9/16"



VS-100 CASE
Height: 2 11/32"
Width: 1 7/8"
Depth: 2 1/4"
Mtg. Cen.: 1 1/2" x 1 7/16"

VS-300 CASE
Height: 3 9/32"
Width: 2 5/8"
Depth: 2 3/4"
Mtg. Cen.: 2" x 1 11/16"

VS-308 CASE
Height: 3 33/64"
Width: 2 27/32"
Depth: 3 3/8"
Mtg. Cen.: 2" x 2 9/16"

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See Pages N-71, 72, 73 for FREED Prices

FREED TRANSFORMERS

Catalog No.	List Price
IT-1	11.00
IT-2	16.00
IT-3	40.00
IT-4	48.50
IT-5	40.00
IT-6	53.00

Catalog No.	List Price
KA 10	27.50
KA 11	15.10
KC 10	7.15
KC 11	2.40

Catalog No.	List Price
LB-1	11.00
LB-2	32.00

Catalog No.	Net Price
MAF-	209.00
MAF-6	180.00
MA -7	180.00
MAO-1	70.00
MAO-2	102.00
MAO-4	155.00
MAO-5	175.00
MAP-1	90.00
MAP-2	150.00
MAP-3	225.00
MAP-3A	175.00
MAP-4	280.00
MAP-7	105.00
MAP-8	133.00
MAS-1	55.00
MAS-2	37.00
MAS-5	33.00
MAS-6	50.00
MAS-7	60.00

Catalog No.	Net Price
MGA-1	12.50
MGA-2	12.50
MGA-3	16.50
MGA-4	15.00
MGA-5	12.50
MGA-6	12.50
MGA-7	12.50
MGA-8	12.50
MGA-9	12.50

Catalog No.	List Price
MGF-1	14.75
MGF-2	23.50
MGF-3	16.25
MGF-4	25.50
MGF-5	15.50
MGF-6	21.50
MGF-7	29.50
MGF-8	36.50
MGF-9	27.50
MGF-10	35.00

Catalog No.	List Price
MGP-1	27.00
MGP-2	28.00
MGP-3	32.50
MGP-4	38.00
MGP-5	49.00
MGP-6	32.50
MGP-7	39.00
MGP-8	54.50

Catalog No.	Net Price
MPT-1	17.50
MPT-2	15.00
MPT-3	22.50
MPT-4	20.00
MPT-5	17.50
MPT-6	15.00
MPT-7	17.50
MPT-8	15.00
MPT-9	22.50
MPT-10	20.00
MPT-11	17.50
MPT-12	27.50

Catalog No.	List Price
PGA-1	17.50
PGA-2	20.50
PGA-3	17.50
PGA-4	16.50
PGA-5	19.00
PGA-6	17.50
PGA-7	17.50
PGA-8	18.50
PGA-9	17.50
PGA-10	17.50
PGA-11	25.00
PGA-12	17.50
PGA-13	25.00
PGA-14	25.00
PGA-15	26.00
PGA-16	27.50
PGA-17	27.50
PGA-18	25.00
PGA-19	27.50
PGA-20	27.50
PGA-21	26.00
PGA-22	33.00
PGA-23	33.00
PGA-24	25.00
PGA-25	55.00
PGA-26	27.50
PGA-27	27.50
PGA-28	26.00
PGA-29	30.00
PGA-30	44.00

Catalog No.	List Price
PGC-1	7.00
PGC-2	7.50
PGC-3	7.50
PGC-4	8.25
PGC-5	8.25
PGC-6	8.25
PGC-7	9.00
PGC-8	10.00
PGC-9	10.00
PGC-10	10.50
PGC-11	11.50
PGC-12	14.50
PGC-13	17.50
PGC-14	11.00
PGC-15	12.00
PGC-16	11.50
PGC-17	10.00
PGC-18	11.50
PGC-19	14.50
PGC-20	17.50

Catalog No.	List Price
PGP-1	14.00
PGP-2	20.50
PGP-3	10.00
PGP-4	10.50
PGP-5	11.00
PGP-6	12.00
PGP-7	14.00
PGP-8	13.00
PGP-9	14.00
PGP-10	15.50
PGP-11	21.00
PGP-12	25.00
PGP-13	27.50
PGP-14	33.00
PGP-15	38.50
PGP-16	17.50
PGP-17	20.50
PGP-18	27.50
PGP-19	33.00
PGP-20	41.00

Catalog No.	List Price
PMA-1	16.50
PMA-2	13.50
PMA-3	19.00
PMA-4	13.50
PMA-5	13.50
PMA-6	16.50
PMA-7	16.50
PMA-8	16.50
PMA-9	16.50
PMA-10	15.50
PMA-11	12.00

Catalog No.	List Price
PQC-1	10.00
PQC-2	10.00
PQC-2	10.00
PQC-3	10.00
PQC-4	10.00
PQC-5	10.00
PQC-6	10.00
PQC-7	10.00
PQC-8	10.00
PQC-9	10.00

Catalog No.	List Price
QGA-1	31.00
QGA-2	38.50
QGA-3	27.50
QGA-4	38.50
QGA-5	35.00
QGA-6	40.50
QGA-7	27.50
QGA-8	38.50
QGA-9	38.50
QGA-10	44.00
QGA-11	33.00
QGA-12	33.00
QGA-13	27.50
QGA-14	28.50
QGA-15	35.00
QGA-16	28.50
QGA-17	28.50
QGA-18	30.50
QGA-19	28.50
QGA-20	36.50
QGA-21	33.00
QGA-22	55.00
QGA-23	38.50
QGA-24	38.50
QGA-25	38.50
QGA-26	38.50
QGA-27	38.50
QGA-28	38.50
QGA-29	38.50
QGA-30	38.50
QGA-31	49.50
QGA-32	49.50
QGA-33	49.50
QGA-34	49.50
QGA-35	54.50
QGA-36	54.50
QGA-37	33.00
QGA-38	54.50
QGA-39	38.50
QGA-40	38.50
QGA-41	54.50
QGA-42	54.50

Catalog No.	Net Price
QGC-1	22.50
QGC-2	22.50
QGC-3	22.50
QGC-4	22.50
QGC-5	22.50
QGC-6	22.50
QGC-7	22.50
QGC-8	15.00
QGC-9	15.00
QGC-10	15.00
QGC-11	15.00
QGC-12	15.00
QGC-13	15.00
QGC-14	13.50
QGC-15	13.50
QGC-16	13.50
QGC-17	13.50
QGC-18	13.50
QGC-19	11.50
QGC-20	11.50
QGC-21	11.50
QGC-22	11.50
QGC-23	11.50
QGC-24	11.50

Catalog No.	List Price
RGA-1	5.50
RGA-2	4.40
RGA-3	4.40
RGA-4	7.75
RGA-5	4.40
RGA-6	5.25
RGA-7	5.50
RGA-8	2.50
RGA-9	2.50
RGA-10	3.00
RGA-11	5.50
RGA-12	4.40

Catalog No.	List Price
RGC-1	2.20
RGC-2	2.20
RGC-3	2.20
RGC-4	2.50
RGC-5	3.00
RGC-6	4.50
RGC-7	3.00
RGC-8	4.50
RGC-9	3.00
RGC-10	4.50
RGC-11	3.00
RGC-12	4.50
RGC-13	4.75
RGC-14	6.00
RGC-15	4.75
RGC-16	6.00
RGC-17	2.75
RGC-18	3.00
RGC-19	2.20
RGC-20	7.75
RGC-21	7.75
RGC-22	11.00

Catalog No.	List Price
RGP-1	8.75
RGP-2	8.75
RGP-3	8.75
RGP-4	8.75
RGP-5	9.25
RGP-6	9.25
RGP-7	10.25
RGP-8	10.25
RGP-9	11.50
RGP-10	11.50
RGP-11	10.25
RGP-12	10.25
RGP-13	11.50
RGP-14	11.50
RGP-15	12.75
RGP-16	12.75
RGP-17	15.50
RGP-18	15.50
RGP-19	15.75
RGP-20	15.75
RGP-21	21.25
RGP-22	21.25
RGP-23	28.75
RGP-24	28.75
RGP-25	34.50
RGP-26	34.50
RGP-27	12.75
RGP-28	12.75
RGP-29	15.50
RGP-30	15.50
RGP-31	23.00
RGP-32	23.00
RGP-33	28.75
RGP-34	28.75
RGP-35	37.50
RGP-36	37.50

Catalog No.	List Price
SDT-1	3.25
SDT-2	3.75
SDT-3	7.50

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FREED TRANSFORMERS (CONT.)

Catalog No.	List Price
SDT-4	10.20
SDT-5	11.55
SDT-6	14.70
SDT-7	18.40
SDT-8	20.05
SDT-9	26.75
SDT-10	37.60
SDT-11	55.00
SDT-12	66.00
SDT-13	89.35
SDT-14	140.00
SDT-15	187.50

Catalog No.	List Price
TF-1	4.40
TF-2	5.00
TF-3	15.00
TF-4	18.50
TF-5	4.40
TF-6	6.00
TF-7	6.60
TF-8	7.00
TF-9	11.50
TF-10	24.00
TF-11	3.00
TF-12	4.40
TF-13	6.00
TF-14	7.25
TF-15	7.75
TF-16	6.60
TF-17	7.00
TF-18	24.00
TF-19	5.00

Catalog No.	List Price
TMA-1	12.50
TMA-2	16.00
TMA-3	13.00
TMA-4	16.50
TMA-5	16.50
TMA-6	16.50
TMA-7	13.50
TMA-8	16.00
TMA-9	13.00
TMA-10	12.50
TMA-11	13.00
TMA-12	16.50
TMA-13	12.50
TMA-14	16.50
TMO-15	6.50
TMO-16	6.50
TMO-17	5.50
TMO-18	6.50
TMA-19	12.50

Filters and Discriminators

Catalog No.	Net Price
IBP*	25.00, 35.00
IHP*	25.00, 35.00
ILP*	25.00, 35.00
LBP*	25.00, 35.00
LHP*	25.00, 35.00
LLP*	25.00, 35.00

*Stock Frequencies are $25.00 Net.

*Special Frequencies are $35.00 Net.

Catalog No.	Net Price
DST-10	50.00
DST-11	50.00
DST-12	50.00
DST-13	50.00
DST-14	50.00
DST-15	50.00
DST-16	60.00
DST-17	50.00
DST-18	50.00
DST-19	50.00
DST-20	50.00
DST-21	50.00
DST-22	50.00
DST-23	50.00
DST-24	60.00
DST-25	60.00

Catalog No.	Net Price
DST-26	60.00
DST-27	50.00
DST-28	60.00
DST-29	60.00
DST-30	60.00
DST-31	60.00
DST-32	60.00
DST-33	60.00
FBP-10	86.00
FBP-11	86.00
FBP-12	86.00
FBP-13	86.00
FBP-14	70.80
FBP-15	70.80
FBP-16	70.80
FBP-17	70.80
FBP-18	70.80
FBP-19	70.80
FBP-20	70.80
FBP-21	70.80
FBP-22	70.80
FBP-23	70.80
FBP-24	86.00
FBP-25	70.80
FBP-26	86.00
FBP-27	86.00
FBP-28	86.00
FBP-29	86.00
FBP-30	86.00
FBP-31	86.00
FBP-32	86.00
FBP-33	86.00
FBP-34	73.00
FBP-35	73.00
FBP-36	73.00
FBP-37	73.00
FBP-38	73.00
FBP-39	80.00
FBP-40	88.00
FBP-41	88.00
FBP-42	88.00
FBP-43	88.00
FBP-44	88.00
FBP-45	88.00
FBP-46	88.00
FBP-47	88.00
FBP-48	88.00
FBP-49	88.00
FBP-50	88.00
FBP-51	88.00
FBP-52	88.00
FBP-53	88.00
FBP-54	88.00
FBP-55	88.00
FBP-56	88.00
FBP-57	88.00
LPI-10	43.25
LPI-11	43.25
LPI-12	43.25
LPI-13	43.25
LPI-14	43.25
LPI-15	43.25
LPI-16	43.25
LPI-17	43.25
LPI-18	43.25
LPI-19	43.25
LPI-20	43.25
LPI-21	43.25
LPI-22	43.25
LPI-23	43.25
LPI-24	43.25
LPI-25	43.25
LPI-26	43.25
LPI-27	43.25
LPI-28	43.25
LPO-10	93.10
LPO-11	85.50
LPO-12	81.30
LPO-13	85.00
LPO-14	72.00
LPO-15	68.85
LPO-16	64.50
LPO-17	62.50
LPO-18	61.60
LPO-19	62.80
LPO-20	61.15
LPO-21	55.60
LPO-22	55.60
LPO-23	48.20
LPO-24	47.10
LPO-25	47.10
LPO-26	47.10
LPO-27	48.20

Catalog No.	List Price
LPO-28	47.10
LPO-29	47.10
LPO-30	47.10
LPO-31	48.20
LPO-32	47.10
LPO-33	47.10
LPO-34	47.10
LPO-35	47.10

Toroidal Inductors

Prices shown are Net for Hermatically Sealed. Deduct $1.50 from Net for Uncased units. Add $1.00 to Net for Encapsulated units.

Type TI - 1

Catalog No.	Net Price
F-800	6.65
F-801	6.65
F-802	6.65
F-803	7.10
F-804	6.60
F-805	6.60
F-806	8.50
F-807	8.50
F-808	8.50
F-809	9.50
F-810	9.50
F-811	10.50
F-812	10.50
F-813	10.50
F-814	10.50
F-815	10.50
F-816	11.00
F-817	11.50
F-818	12.00
F-819	12.35
F-820	12.65
F-821	12.75
F-822	13.00
F-823	13.30
F-824	13.75
F-825	14.25
F-826	14.50
F-827	14.80
F-828	15.20
F-829	16.15
F-830	17.10

Type TI - 4 and 4s

Catalog No.	Net Price
F-850	7.90
F-851	7.90
F-852	7.90
F-853	7.90
F-854	7.90
F-855	7.90
F-856	8.25
F-857	8.60
F-858	8.80
F-859	8.95
F-860	9.05
F-861	9.20
F-862	9.35
F-863	9.50
F-864	9.80
F-865	10.35
F-866	10.65
F-867	10.65
F-868	10.65
F-869	11.15
F-870	11.15
F-871	11.15
F-872	11.50
F-873	11.50
F-874	12.00
F-875	12.45
F-876	12.90
F-877	13.40
F-878	13.90

Type TI - 9s

Catalog No.	Net Price
F-1554S	16.60
F-1555S	16.80
F-1556S	17.00
F-1557S	17.30
F-1558S	17.40
F-1559S	17.50
F-1560S	17.60
F-1561S	17.80
F-1562S	18.05
F-1563S	18.30
F-1564S	18.50
F-1565S	18.50
F-1566S	19.00
F-1567S	19.50
F-1568S	19.95
F-1569S	20.40
F-1570S	21.40

Type TI - 10s

Catalog No.	Net Price
F-1579S	14.15
F-1580S	14.15
F-1581S	14.35
F-1582S	14.45
F-1583S	14.50
F-1584S	14.60
F-1585S	14.70
F-1586S	14.80
F-1587S	14.90
F-1588S	15.00
F-1589S	15.10
F-1590S	15.30
F-1591S	15.40
F-1592S	15.60

Type TI - 13

Catalog No.	Net Price
F-1629	16.60
F-1630	16.80
F-1631	17.00
F-1632	17.30
F-1633	17.40
F-1634	17.50
F-1635	17.60
F-1636	17.80
F-1637	18.05
F-1638	18.30
F-1639	18.50
F-1640	18.50
F-1641	19.00
F-1642	19.50
F-1643	19.95
F-1644	20.40
F-1645	21.40

Type TI - 12 and 12s

Catalog No.	Net Price
F-1655	13.60
F-1656	13.60
F-1657	13.60
F-1658	14.05
F-1659	14.05
F-1660	14.05
F-1661	14.65
F-1662	14.65
F-1663	15.10
F-1664	15.10
F-1665	13.75
F-1666	13.75
F-1667	14.15
F-1668	14.15
F-1669	14.65
F-1670	14.65
F-1671	14.65
F-1672	15.10
F-1673	15.60
F-1674	16.05
F-1675	16.05
F-1676	16.50

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FREED TRANSFORMERS (CONT.)

Catalog No.	Net Price
F-1677	16.50
F-1678	17.00
F-1679	17.00
F-1680	17.50
F-1681	17.50
F-1682	17.50
F-1683	17.95
F-1684	17.95
F-1685	17.95
F-1686	18.45
F-1687	18.90
F-1688	19.50
F-1689	19.95
F-1690	20.40
F-1691	20.90
F-1692	21.40
F-1693	21.85

Type TI - 5

Catalog No.	Net Price
F-1700	5.70
F-1701	5.70
F-1702	5.70
F-1703	6.20
F-1704	6.65
F-1705	6.90
F-1706	7.10
F-1707	7.35
F-1708	7.60
F-1709	7.85
F-1710	8.05
F-1711	8.30
F-1712	9.00
F-1713	9.60
F-1714	9.80
F-1715	10.25
F-1716	10.60
F-1717	10.95
F-1718	11.20
F-1719	11.50
F-1720	11.90

Type TI - 5s

Catalog No.	Net Price
F-1700S	7.90
F-1701S	7.90
F-1702S	7.90
F-1703S	7.90
F-1704S	7.90
F-1705S	8.15
F-1706S	8.25
F-1707S	8.50
F-1708S	8.80
F-1709S	8.95
F-1710S	9.05
F-1711S	9.20
F-1712S	9.30
F-1713S	9.60
F-1714S	9.80
F-1715S	10.25
F-1716S	10.95
F-1717S	10.95
F-1718S	11.20
F-1719S	11.50
F-1720S	11.90

Type TI - 6 and 6s

Catalog No.	Net Price
F-1726	8.15
F-1727	8.15
F-1728	8.15
F-1729	8.15
F-1730	8.15
F-1731	8.15
F-1732	8.45
F-1733	8.45
F-1734	8.55
F-1735	8.55
F-1737	9.00
F-1738	10.00
F-1739	10.00
F-1740	10.00
F-1741	10.00
F-1742	10.45
F-1743	11.90

Type TI - 11s

Catalog No.	Net Price
F-1747S	14.20
F-1748S	14.20
F-1749S	14.20
F-1750S	14.20
F-1751S	14.20
F-1752S	15.20
F-1753S	15.20
F-1754S	15.20
F-1755S	15.20
F-1756S	15.20
F-1757S	14.20
F-1758S	14.20
F-1759S	14.65
F-1760S	14.65
F-1761S	15.20
F-1762S	15.85
F-1763S	16.15
F-1764S	16.60
F-1765S	17.10
F-1766S	17.60
F-1767S	17.80
F-1768S	18.05
F-1769S	18.45
F-1770S	18.45
F-1771S	18.45
F-1772S	19.00
F-1773S	19.50
F-1774S	19.95
F-1775S	20.40
F-1776S	20.90
F-1777S	21.85
F-1778S	22.80
F-1779S	23.75
F-1780S	24.70

Type TI - 7

Catalog No.	Net Price
F-1781	7.90
F-1782	7.90
F-1783	7.90
F-1784	7.90
F-1785	7.90
F-1786	7.90
F-1787	8.05
F-1788	8.05
F-1789	8.25
F-1790	8.25
F-1791	8.45
F-1792	8.65
F-1793	8.65
F-1794	8.65
F-1795	9.00
F-1796	9.45
F-1797	10.00

Type TI - 2s

Catalog No.	Net Price
F-1800S	14.20
F-1801S	14.20
F-1802S	14.20
F-1803S	14.20
F-1804S	14.20
F-1805S	14.65
F-1806S	14.65
F-1807S	14.65
F-1808S	14.65
F-1809S	14.65
F-1810S	14.65
F-1811S	14.90
F-1812S	14.90
F-1813S	14.90
F-1814S	14.90
F-1815S	14.90

Type TI - 8 and 8s

Catalog No.	Net Price
F-1821	8.65
F-1822	8.65
F-1823	8.65
F-1824	8.65
F-1825	8.65
F-1826	8.65
F-1827	8.65
F-1828	8.65
F-1829	8.65
F-1830	8.65
F-1831	8.65
F-1832	8.75
F-1833	8.85
F-1834	9.00
F-1835	9.00
F-1836	9.00
F-1837	9.10
F-1838	9.40
F-1839	9.50
F-1840	9.90

Type TI - 3s

Catalog No.	Net Price
F-1844S	14.25
F-1845S	14.25
F-1846S	14.25
F-1847S	14.25
F-1848S	14.25
F-1849S	14.25
F-1850S	14.25
F-1851S	14.25
F-1852S	14.25
F-1853S	14.25
F-1854S	14.25
F-1855S	14.25

Type TI - 3As

Catalog No.	Net Price
F-1856S	20.00
F-1857S	20.50
F-1858S	20.50
F-1859S	22.30
F-1860S	22.80
F-1861S	22.80
F-1862S	23.30
F-1863S	23.30

Type TI - 15

Catalog No.	Net Price
F-1870	7.25
F-1871	7.25
F-1872	7.25
F-1873	7.25
F-1874	7.25
F-1875	7.25
F-1876	7.25
F-1877	7.25
F-1878	7.25
F-1879	7.25
F-1880	7.25
F-1881	7.45
F-1882	7.45
F-1883	7.65
F-1884	7.65
F-1885	7.85
F-1886	8.05
F-1887	8.05
F-1888	8.05
F-1889	8.45

Type TI - 14

Catalog No.	Net Price
F-1920	7.40
F-1921	7.40
F-1922	7.40
F-1923	7.40
F-1924	7.40
F-1925	7.40
F-1926	7.85
F-1927	7.85
F-1928	7.95
F-1929	7.95
F-1930	7.95
F-1931	8.40
F-1932	8.75
F-1933	8.75
F-1934	9.00
F-1935	9.25
F-1936	9.75

Type TI - 16

Catalog No.	Net Price
F-2050	6.05
F-2051	6.05
F-2052	6.05
F-2053	5.85
F-2054	5.85
F-2055	6.30
F-2056	6.80
F-2057	7.05
F-2058	7.25
F-2059	7.35
F-2060	7.70
F-2061	8.00
F-2062	8.20
F-2063	8.45
F-2064	9.75
F-2065	10.80
F-2066	11.00
F-2067	11.40
F-2068	11.65
F-2069	12.00

Type TI - 17

Catalog No.	Net Price
F-2100	7.90
F-2101	7.90
F-2102	7.90
F-2103	7.90
F-2104	7.90
F-2105	7.90
F-2106	7.90
F-2107	7.90
F-2108	7.90
F-2109	7.90
F-2110	7.90
F-2111	8.05
F-2112	8.05
F-2113	8.25
F-2114	8.25
F-2115	8.65
F-2116	8.65
F-2117	9.05

Type TI - 18

Catalog No.	Net Price
F-2140	8.65
F-2141	8.65
F-2142	8.65
F-2143	8.65
F-2144	8.65
F-2145	8.65
F-2146	8.65
F-2147	8.65
F-2148	8.65
F-2149	8.65
F-2150	8.65
F-2151	8.75
F-2152	8.85
F-2153	9.00
F-2154	9.00
F-2155	9.20
F-2156	9.50
F-2157	9.70

Type TI - 19

Catalog No.	Net Price
F-2180	7.90
F-2181	7.90
F-2182	7.90
F-2183	7.90
F-2184	7.90
F-2185	7.90
F-2186	7.90
F-2187	7.90
F-2188	7.90
F-2189	7.90
F-2190	7.90
F-2191	7.90
F-2192	7.90
F-2193	7.90

Type TI - 20s

Catalog No.	Net Price
F-2201S	6.40
F-2202S	6.40
F-2203S	6.95
F-2204S	6.95
F-2205S	6.95
F-2206S	7.15
F-2207S	7.45
F-2208S	8.10
F-2209S	8.10
F-2210S	8.10
F-2211S	8.10
F-2212S	8.10
F-2213S	8.10
F-2214S	8.10
F-2215S	8.10

Type TI - 21s

Catalog No.	Net Price
F-2240S	6.00
F-2241S	6.00
F-2242S	6.00
F-2243S	6.00
F-2244S	6.00
F-2245S	6.00
F-2246S	6.40
F-2247S	6.40
F-2248S	6.40
F-2249S	6.40

Type TI - 22s

Catalog No.	Net Price
F-2270S	6.00
F-2271S	6.00
F-2272S	6.00
F-2273S	6.00
F-2274S	6.00
F-2275S	6.00
F-2276S	6.40
F-2277S	6.40
F-2278S	6.40
F-2279S	6.40
F-2280S	7.15
F-2281S	7.15
F-2282S	7.15
F-2283S	7.15
F-2284S	7.15

Type TI - 23s

Catalog No.	Net Price
F-2301S	6.25
F-2302S	6.25
F-2303S	6.25
F-2304S	6.25
F-2305S	6.25
F-2306S	6.25
F-2307S	6.75
F-2308S	6.75
F-2309S	6.75
F-2310S	6.75
F-2311S	7.50
F-2312S	7.50
F-2313S	7.50

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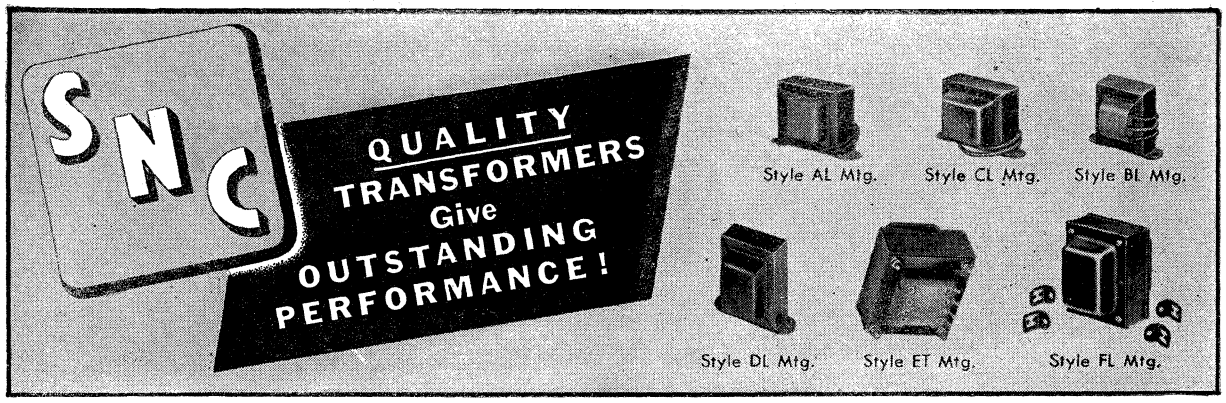

Skillful Engineering, latest production techniques and highest quality materials . . . backed by careful workmanship, exacting step-by-step inspection and rigorous final testing . . . are combined in every SNC transformer to provide a quality product that gives MORE in dollar value.

AUDIO TRANSFORMERS—THE "ONE" SERIES

AUDIO INPUT

Type Number	Application	Impedance Primary	Impedance Secondary	Pri. Mils (D.C.)	Max. Turns Ratio	Frequency Characteristics—c. p. s. 50	200	1M	5M	10M	Mtg. Style	Dimensions A	B	C	D	Net Wt.	List Price
1P121	P.M. Speaker to Grid	4	100,000	0	1:158	−4.0	−1.0	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.50
1P124	S.B. Mic. to Sgl. or P.P. Grids	100	400,000 C.T.	50	1:63		−6.0	0	−2.0	−6.0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.70
1P125	Low Z to Sgl. or P.P. Grids	50	100,000 C.T.	0	1:45		−3.0	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.40
1P128	Sgl. or D.B. Mic. or Line to Sgl. or P.P. Grids	200*/50	100,000 C.T.	50	1:45	−2.0	−0.3	0	−0.7	−2.0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.3	5.40
1P136	Line to Sgl. or P.P. Grids	500*/125	100,000 C.T.	0	1:28	−3.0	−0.4	0	−0.4	−1.5	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.4	5.40
1P145	Sgl. or P.P. Plates to Line	20,000 C.T.	500*/125	8	12.6:1	−3.5	−1.0	0	0	0	DL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.45
1P152	Sgl. or P.P. Plates to Line	20,000 C.T.	200*/50	8	20:1	−4.0	−1.0	0	0	0	DL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.45
1P161	Line to Line	500	500*/125	0	2:1	−0.4	−0.1	0	−0.4	−1.0	DL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.80

*Indicates Balanced Center Tap

AUDIO INTERSTAGE

1P323	Sgl. Plate to Sgl. Grid	10,000	90,000	8	1:3	−5.0	−1.5	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.25
1P331	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	−6.0	−2.0	0	0	−1.0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.50
1P339	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	−3.0	−0.5	0	+0.1	+0.5	BL	2-1/4	1-7/8	1-13/16	2-3/8	.9	3.90
1P342	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	−2.5	−0.5	0	0	0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.05
1P346	P.P. Plates to P.P. Grids	20,000 C.T.	45,000 C.T.	10	1:1.5	−1.0	−0.2	0	0	0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.20
1P351	Universal	Universal		8	1:3	−2.0	−0.4	0	0	0	BL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.15
3P363	Sgl. Type 30 to 19, 1J5 or P.P. 30 Class B	10,000	7,000 C.T.	8	2.4:1	−0.5	0	0	−0.2	−1.0	BL	1-7/8	1-9/16	1-1/2	2	.5	2.80

TELEVISION REPLACEMENT (VERTICAL BLOCKING OSCILLATOR)

Type Number	Primary Inductance	Leakage Inductance	Turns Ratio	Mounting Style	Mounting	Dimensions H	W	D	Ctrs.	Net Wt.	List Price
1P412	1.15 Hy. ±20%	.008 Hy. ±25—15%	1:42	Comp. Filled Case	Flange	1-7/8	2-5/16	1-1/2	1-15/16	.5	3.60
1P416	1.15 Hy. ±20%	.008 Hy. ±25—15%	1:42	Comp. Filled Case	Studs	1-5/8	1-3/16	1-3/16	1-13/64	.4	3.35

CHOKES AND REACTORS—THE "TWO" SERIES

AUDIO REACTORS

Type Number	D.C. Mils Nom.	D.C. Mils Max.	Inductance 0-D.C.	Inductance 50% Nom. D.C.	Inductance Nom. D.C.	Inductance Max. D.C.	Insul. Test Voltage	D.C. Res.	Mtg. Style	Dimensions A	B	C	D	E	Net Weight	List Price
2P123	5-0.5	15	550	—	300-500	80	2000	5500	AL	1-7/8	2-1/4	1-5/8	2-13/16		.9	3.50
2P124	5-0.5	15	550	—	300-500	80	2000	5500	CL	1-7/8	2-1/4	1-3/4	2-13/16		.9	3.90
2P126	35-15	45	65	—	25-35	20	2000	800	AL	1-7/8	2-1/4	1-5/8	2-13/16		.9	2.75
2P127	35-15	45	65	—	25-35	20	2000	800	CL	1-7/8	2-1/4	1-3/4	2-13/16		.9	3.25

FILTER AND SWINGING CHOKES

2P132	40	50	22	13	8	6	2000	450	AL	1-5/16	1-5/8	1-1/8	2		.3	1.80
2P135	65	80	18	11	8	7	2000	300	AL	1-9/16	1-7/8	1-3/8	2-3/8		.5	2.15
2P138	85	100	30	16	8	7	2000	350	AL	1-7/8	2-1/4	1-7/8	2-13/16		1.2	2.80
2P141	110	135	20	10.5	8	7	2000	200	BL	2-5/8	2-3/16	1-7/8	2-13/16		1.5	3.70
2P142	110	135	20	10.5	8	7	2000	200	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	3.90
2P144	150	180	26	13	8	5.5	2000	190	BL	3	2-1/2	2-1/8	3-1/8		2.1	3.70
2P145	150	180	26	13	8	5.5	2000	190	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.2	5.05
2P147	200	250	16	10	8	6.5	3500	110	GL	3-1/2	2-7/8	3-1/8	2-1/4	2	3.2	6.50
2P148	200-20	—	—	—	3-15	—	3500	110	GL	3-1/2	2-7/8	3-1/8	2-1/4	2	3.2	6.50
2P151	300	350	18	11	8	7	5000	75	GL	4-5/8	3-3/4	3-7/8	3	2-13/16	7.5	11.10
2P152	300-30	—	—	—	3-15	—	5000	75	GL	4-5/8	3-3/4	3-7/8	3	2-13/16	7.5	11.10
2P155	500	600	16	10	8	5.5	5000	55	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.8	31.20
2P156	500-50	—	—	—	3-15	—	5000	55	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.8	31.20

DRIVER TRANSFORMERS—THE "THREE" SERIES

Type Number	Primary Impedance	Watts	Ratio, Pri. to 1/2 Sec. or Sec. Z	Pri. D.C. Mils	Frequency Characteristics—c. p. s. 50	200	1M	5M	10M	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
3P323	6,000 C.T. to 10,000 C.T.	25	6, 5.5, 5:1	60	−0.5	0	0	0	−0.3	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.30
3P328	3,000 C.T. to 5,000 C.T.	25	6, 5.5, 5:1	60	−0.4	0	0	0	−0.1	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.30
3P334	6,000 C.T. to 10,000 C.T.	25	4.5, 4, 3.5:1	60	−1.0	−0.3	0	+0.1	+0.6	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.15
3P338	3,000 C.T. to 5,000 C.T.	25	4.5, 4, 3.5:1	60	−1.7	−0.5	0	0	0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.35
3P342	6,000 C.T. to 10,000 C.T.	25	3, 2, 1:1	60	−0.7	−0.1	0	+0.1	−0.4	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.75
3P347	3,000 C.T. to 5,000 C.T.	25	3, 2, 1:1	60	−0.8	0	0	0	−0.3	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.60
3P353	6,000 C.T. to 10,000 C.T.	25	500 Ohms	60	−1.1	−0.3	0	0	+0.3	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.40
3P358	3,000 C.T. to 5,000 C.T.	25	500 Ohms	60	−0.9	−0.1	0	−0.4	−1.0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.40
3P363	10,000	5	2.4:1	10	−0.5	0	0	−0.2	−1.0	BL	1-7/8	1-9/16	1-1/2	2		.5	2.80

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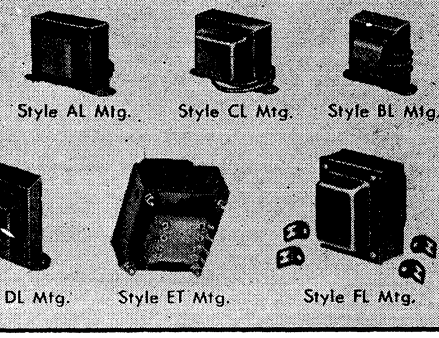
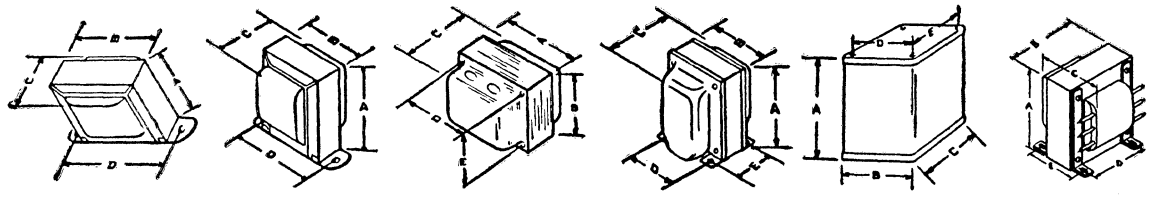


DIMENSIONAL ILLUSTRATIONS



OUTPUT TRANSFORMERS—THE "SIX" SERIES

SPECIFIC DUTY REPLACEMENT TYPES—TUBE TO VOICE COIL

Type Number	Primary Imp.—Ohms	Pri. D.C. Mils	Sec. Z—Ohms	Watts	Mtg. Style	Dimensions A	B	C	D	Net Wt.	List Price
6P300	Single 2,000 Plate	50	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	1.80
6P306	Single 4,000 Plate	35	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	1.80
6P312	Single or P.P. 7,500 Plates	35	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.40
6P316	Single or P.P. 10,000 Plates	35	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.40
6P319	Push-Pull 15,000 Plates	35	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.45
6P321	Push-Pull 20,000 Plates	30	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.45
6P325	Push-Pull 25,000 Plates	20	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.45

UNIVERSAL REPLACEMENT TYPES—TUBE TO VOICE COIL—TUBE TO LINE—LINE TO VOICE COIL

Type Number	Primary Imp.—Ohms	Pri. D.C. Mils	Sec. Z—Ohms	Watts	Mtg. Style	Dimensions A	B	C	D	Net Wt.	List Price
6P165	Sgl. or P.P. 4M to 14M Plates	40	1.1 to 14	4	ATL	1-5/16	1-5/8	1-3/8	2	.3	2.80
6P166	Sgl. or P.P. 4M to 14M Plates	50	1.1 to 14	8	ATL	1-9/16	1-7/8	1-5/8	2-3/8	.5	2.80
6P167	Sgl. or P.P. 3M to 10M Plates	50	1.2 to 13	15	BTL	1-7/8	1-9/16	1-3/4	2	.5	3.50
6P169	Sgl. 1500 to 7M Plate	55	.8 to 19	10	ATL	1-9/16	1-7/8	1-5/8	2-3/8	.5	2.80
6P172	P.P. 3500 to 12M Plates	60	1.3 to 14	20	BTL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.10
6P701	Single 2500 to 7500 Plate	45	165 to 1500	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	4.45
6P710	P.P. 7500 to 15M Plates	45	250 to 1000	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	5.05
6P714	Sgl. or P.P. 2500 to 12M Plates	45	150 to 2400	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	5.30
6P717	125 to 500 Line	0	1 to 32	35	BTL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.40
6P722	500 to 3M Line in 500-Ohm Steps	0	1.3 to 48	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	5.10

AMPLIFIER AND EQUIPMENT TYPES—TUBE TO LINE AND VOICE COIL

Type Number	Primary Imp.—Ohms	Pri. D.C. Mils	Secondary Imp.—Ohms	Watts	Frequency Characteristics—c. p. s. 50	200	1M	5M	10M	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
6P726	P.P. 3300 or 3800 Plates	90	4–8–16–250–500	60	−0.3	0	0	+0.1	+0.5	GL	3-3/4	3-1/16	3-3/8	2-1/2	2-3/16	4.4	10.70
6P731	P.P. 4500 or 6900 Plates	90	4–8–16–250–500	60	−0.3	0	0	+0.2	0	GL	3-3/4	3-1/16	3-3/8	2-1/2	2-3/16	4.4	10.70
6P736	P.P. 5000 Plates	70	4–8–16–250–500	25	−0.9	−0.2	0	+0.2	+0.5	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	7.20
6P740	P.P. 4300 Plates	70	4–8–16–250–500	25	−0.9	−0.3	0	+0.3	+0.5	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	7.20
6P743	P.P. 6600 Plates	70	4–8–16–250–500	25	−0.7	−0.1	0	+0.2	+0.5	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	7.20
6P746	P.P. 8000 Plates	70	4–8–16–250–500	25	−0.7	−0.1	0	+0.1	+0.3	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	7.20
6P749	P.P. 10,000 Plates	60	4–8–16–250–500	25	−0.4	−0.1	0	+0.2	+0.3	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	7.55
6P752	Sgl. 2500 Plate	60	4–8–16–250–500	10	−3.0	−0.4	0	+0.3	+0.5	DL	2-1/4	1-7/8	2-1/8	2-3/8		1.0	5.70

TELEVISION REPLACEMENT (VERTICAL DEFLECTION)

Type Number	Ratio Pri. to Sec.	Primary Imp.—Ohms	Leakage Inductance	Mounting Style	Dimensions A	B	C	D	E	Net Wt.	List Price
6P860	10:1	19,000 Min.	0.33 Hy. Max.	B x L	3-3/16	2-3/4	2-9/16	1-19/32	2	2.2	6.70

MODULATION TRANSFORMERS—THE "FIVE" SERIES

SNC universal modulation transformers are specifically designed to provide maximum application possibilities per type. All units are provided with two indentical secondary windings, permitting series or parallel operation. Changes in the ratio can be readily accomplished, when desired, without removing the unit from the chassis. Most units available in either air cooled or compound filled cases.

UNIVERSAL TYPES

Type Number	Watts	Primary Current Mils	Secondary Characteristics Series Sec. Impedance	Series Sec. Mils	Parallel Sec. Impedance	Parallel Sec. Mils	Primary Impedance Ohms	Mtg. Style	Dimensions A	B	C	D	E	Net Weight	List Price
5P341	15	60		50		100	3M to 8M	DL	2-5/8	2-3/16	2-3/8	2-13/16		1.5	9.00
5P346	50	80	2M to 18M	75	500 to 4500	150	3M to 15M	GTL	3-7/8	3-1/8	3-3/8	2-1/2	2-3/16	4	14.10
5P352	100	120	2M to 18M	100	500 to 4500	200	3M to 15M	GTL	4-5/8	3-3/4	3-7/8	3	2-13/16	9.7	22.50
5P354	200	200	2M to 18M	150	500 to 4500	300	3M to 15M	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	24	51.60
5P355								JT						32	56.40
5P357	300	250	2M to 18M	250	500 to 4500	500	3M to 15M	HT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	33	62.40
5P358								JT						41	67.20
5P363	500	300	2M to 18M	300	500 to 4500	600	3M to 15M	HT	10-3/4	6-1/2	7-1/4	5-3/8	6-1/8	51	126.00
5P364								JT						64	138.00

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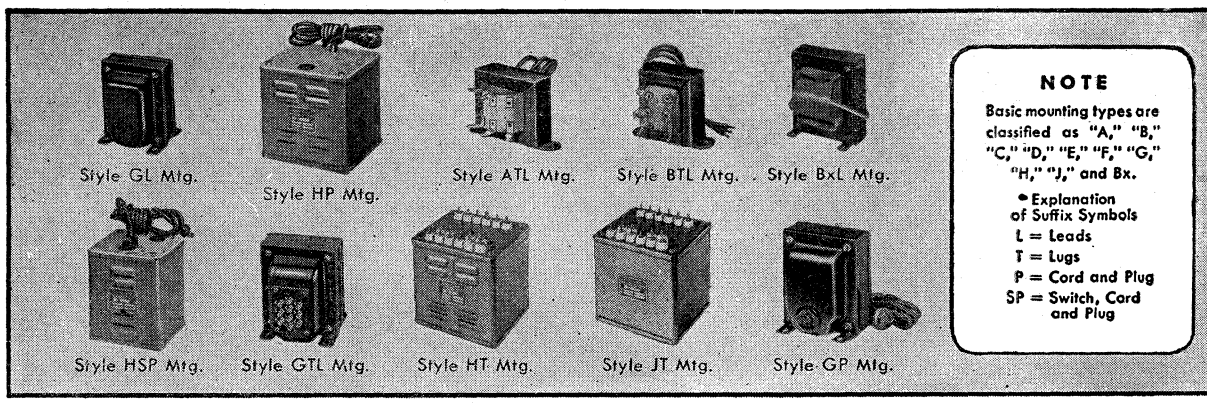

NOTE

Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and Bx.

• Explanation of Suffix Symbols
L = Leads
T = Lugs
P = Cord and Plug
SP = Switch, Cord and Plug

POWER TRANSFORMERS—THE "EIGHT" SERIES

All units conservatively rated for operation on either 50 or 60 cycles and contain an electrostatic shield between primary and all other windings

REPLACEMENT TYPES (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
8P040	117	265-0-265	40	5V. @ 2A.	6.3V. @ 2A.	FL	3	2-1/2	2-3/4	2-1/2	2	2.3	5.40
8P055	117	300-0-300	55	5V. @ 2A.	6.3V. @ 2.5A.	FL	3	2-1/2	3-1/8	2-1/2	2	2.8	5.45
8P070	117	325-0-325	70	5V. @ 2A.	6.3V. @ 3A.	FL	3	2-1/2	3-1/2	2-1/2	2	3.2	6.90

HEAVY DUTY REPLACEMENT AND NEW EQUIPMENT TYPES (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
8P180 8P180G	117	265-0-265	40	5V. @ 2A.	6.3V. @ 2A.	FL GL	3 3-1/16	2-1/2 2-7/32	3-1/4 3-1/8	2-1/2 2	2 2-3/16	3.2	7.40
8P183 8P183G	117	300-0-300	50	5V. @ 2A.	6.3V. @ 2A.	FL GL	3-3/8 3-7/16	2-13/16 2-27/32	3-7/16 3-1/4	2-13/16 2-1/4	2-1/4 2-1/8	3.5	7.80
8P186 8P186G	117	325-0-325	60	5V. @ 2A.	6.3V. @ 3A.	FL GL	3-3/8 3-7/16	2-13/16 2-27/32	3-11/16 3-1/2	2-13/16 2-1/4	2-1/4 2-3/8	4.0	8.20
8P189 8P189G	117	350-0-350	70	5V. @ 3A.	6.3V. @ 3.5A.	FL GL	3-3/4 3-13/16	3-1/8 3-5/32	3-3/4 3-5/8	3-1/8 2-1/2	2-1/2 2-7/16	5.0	9.00
8P192 8P192G	117	350-0-350	90	5V. @ 3A.	6.3V. @ 4A.	FL GL	3-3/4 3-13/16	3-1/8 3-5/32	4 3-7/8	3-1/8 2-1/2	2-1/2 2-11/16	5.7	9.90
8P194 8P194G	117	375-0-375	110	5V. @ 3A.	6.3V. @ 4A.	FL GL	3-3/4 3-13/16	3-1/8 3-5/32	4-1/8 4	3-1/8 2-1/2	2-1/2 2-13/16	6.0	11.10
8P196 8P196G	117	350-0-350	150	5V. @ 3A.	6.3V. @ 4.8A.	FL GL	4-1/8 4-3/16	3-7/16 3-15/32	4-3/8 4-3/8	3-7/16 2-3/4	2-3/4 3-5/16	7.7	11.70
8P199 8P199G	117	400-0-400	70	5V. @ 3A.	6.3V. @ 3.5A.	FL GL	3-3/4 3-13/16	3-1/8 3-5/32	4 3-7/8	3-1/8 2-1/2	2-1/2 2-11/16	5.8	10.50
8P202 8P202G	117	450-0-450	200	5V. @ 3A.	6.3V. @ 5A.	FL GL	4-1/2 4-9/16	3-3/4 3-25/32	4-3/4 4-3/8	3-3/4 3	3 3-11/16	10.7	15.00
8P205	117	450-0-450	325	5V. @ 6A.	6.3V. @ 8A.	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.3	40.80
8P208	117	550-0-550	275	5V. @ 6A.	6.3V. @ 6A.	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	40.80

REPLACEMENT TYPES (2.5 Volt Heater Winding)

8P287	117	350-0-350	70	5V. @ 3A.	2.5V. @ 6A.	FL	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	5.0	9.00
8P293	117	350-0-350	90	5V. @ 3A.	2.5V. @ 8A.	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.6	9.80
8P295	117	350-0-350		5V. @ 3A.	2.5V. @ 12A.	FL	4-1/8	3-7/16	4-3/8	3-7/16	2-3/4	7.3	11.70

REPLACEMENT TYPES (Two Windings)

8P487 8P487G	117		70	5V. @ 3A.	No. 1=2.5V. @ 3.5A. No. 2=2.5V. @ 8A.	FL GL	3-3/4 3-13/16	3-1/8 3-5/32	4 3-7/8	3-1/8 2-1/2	2-1/2 2-11/16	5.8	10.80
8P494 8P494G	117		110	5V. @ 3A.	No. 1=2.5V. @ 3.5A. No. 2=2.5V. @ 10A.	FL GL	3-3/4 3-13/16	3-1/8 3-5/32	4-1/4 4-1/8	3-1/8 2-1/2	2-1/2 2-15/16	6.2	11.80

GENERAL PURPOSE TYPE WITH CONVENIENT LUG TERMINALS (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
8P382	117	300-0-300	50	5V. @ 2A.	6.3V. @ 2A.	ET	3-3/8	2-13/16	3-7/16	2-13/16	2-1/4	3.2	7.10
8P385	117	325-0-325	60	5V. @ 2A.	6.3V. @ 3A.	ET	3-3/8	2-13/16	3-11/16	2-13/16	2-1/4	4.0	7.60
8P388	117	350-0-350	70	5V. @ 3A.	6.3V. @ 3.5A.	ET	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	4.7	8.30

BIAS TYPES

8P510	117	40-0-40	25	5V. @ 2A.		CL	1-7/8	2-1/4	1-3/4	2-13/16		1.0	4.50
8P511	117	0-90-130-200-250	50	5V. @ 2A.		GL	3-1/16	2-7/32	2-5/8	2	1-11/16	2.0	6.55

VIBRATOR TYPES

8P610	6	225-0-225	40			AL	2-3/16	2-5/8	2	3-1/8		1.3	5.10
8P611	6	320-0-320	40			GL	3-1/16	2-7/32	2-1/2	2	1-9/16	2.1	6.10
8P612	6	390-0-390	60			GL	3-7/16	2-27/32	3-5/16	2-1/4	2-3/16	3.7	6.90

TELEVISION REPLACEMENT TYPES

8P803	117	375-0-375	210	5V.@ 3A.	No. 1-5V.@ 2A. No. 2-6.3V.@ 5.6A.	FL	4-1/2	3-3/4	4-3/4	3-3/4	3	10.7	17.75
8P805	117	235-0-235	90	5V.@ 2A.	6.3V.@ 5.5A.	FL	3-3/8	2-13/16	4	2-13/16	2-1/4	5.1	10.20
8P807	117	365-0-365	300	5V.@ 6A.	No. 1-12.6V.@ 5A. No. 2-5V.@ 2A.	FL	4-23/32	3-27/32	6-3/4	4-1/16	3-3/16	16.0	30.60

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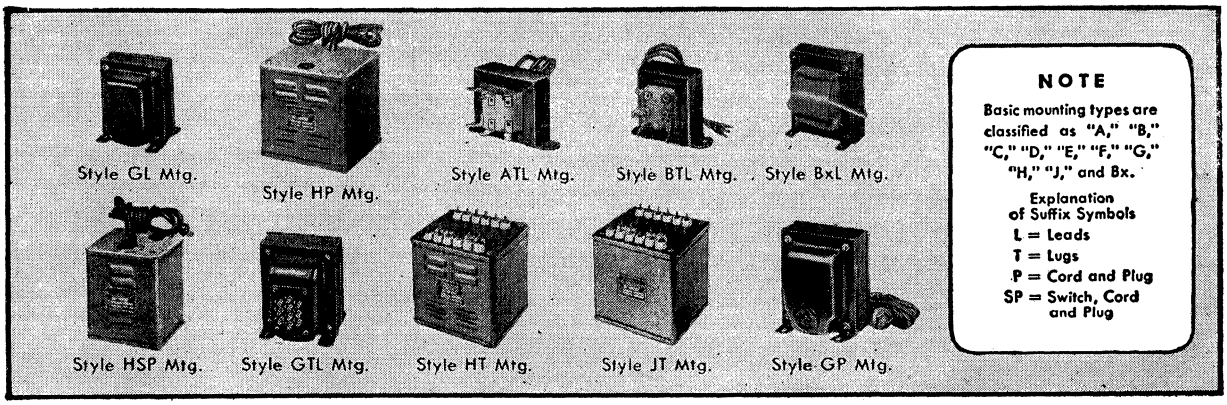
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



NOTE

Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and Bx.

Explanation of Suffix Symbols
L = Leads
T = Lugs
P = Cord and Plug
SP = Switch, Cord and Plug

PLATE TRANSFORMERS—THE "SEVEN" SERIES

All SNC plate transformers have dual secondary ratings. Most units available in either air cooled or compound filled cases. All units contain electrostatic shields between primary and high voltage windings.

Type Number	Primary Voltage	Pri. V.A.	Secondary R.M.S. Voltage	D.C. Voltage From Filter*	D.C. Current	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
7P530	115-230	220	920-0-920 or 740-0-740	750 or 600	200MA	GL	4-3/4	3-3/4	5-1/8	3	4-1/16	12	18.00
7P535 7P536	115-230	320	930-0-930 or 750-0-750	750 or 600	300MA	HT JT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22 30	42.00 48.00
7P542 7P543	115-230	530	1470-0-1470 or 1220-0-1220	1250 or 1000	300MA	HT JT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	33 41	50.40 55.20
7P551 7P552	115-230	750	2050-0-2050 or 1740-0-1740	1750 or 1500	300MA	HT JT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	43 51	54.00 66.00
7P557 7P558	115-230	1060	2880-0-2880 or 2350-0-2350	2500 or 2000	300MA	HT JT	10-3/4	6-1/2	7-1/4	5-3/8	6-1/8	53 69	74.40 80.40
7P563 7P564	115-230	1760	2900-0-2900 or 2370-0-2370	2500 or 2000	500MA	HT JT	10-3/4	9	7-1/4	7	5-13/16	96 126	108.00 150.00

*All units may be operated with simultaneous loads—provided the total D.C. current of the two loads does not exceed the rating listed.

FILAMENT TRANSFORMERS—THE "FOUR" SERIES

Most SNC Filament Transformers are constructed to provide two identical center tapped secondary windings and offer a minimum of three applications. They provide three-fold the number of possible applications of ordinary filament types. A few are single secondary units and are so designated. All have 117 V. 50/60 cycle primary.

Type Number	Applications: Parallel Secondaries	Series Secondaries	Independent Identical Secondaries	Test Voltage	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
4P222	2.5V. C.T. @ 5 A.	5 V. C.T. @ 2.5 A.	Two of 2.5V. C.T. @ 2.5 A.	2000	BL	2-1/4	1-7/8	1-3/4	2-3/8		1.0	3.55
4P226*	2.5V. C.T. @ 10 A.*			7500	BL	3	2-1/2	2-3/8	3-1/8		2.0	5.50
4P227	2.5V. C.T. @ 10 A.	5 V. C.T. @ 5 A.	Two of 2.5V. C.T. @ 5 A.	2000	BL	2-5/8	2-3/16	2	2-13/16		1.5	4.80
4P234	2.5V. C.T. @ 15 A.	5 V. C.T. @ 7.5 A.	Two of 2.5V. C.T. @ 7.5 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.2	5.70
4P239	5 V. C.T. @ 6.5A.	10 V. C.T. @ 3.25A.	Two of 5 V. C.T. @ 3.25A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.2	5.10
4P242*	5 V. C.T. @ 20 A.*			10000	BxL	4-1/8	3-7/16	2-3/4	2-3/4	2-1/8	4.6	10.20
4P243	5 V. C.T. @ 20 A.	10 V. C.T. @ 10 A.	Two of 5 V. C.T. @ 10 A.	2000	BxL	3-3/4	3-1/8	2-3/4	2-1/2	2-1/4	4.3	9.00
4P244*	6.3V. C.T. @ 0.6A.*			2000	BL	1-7/8	1-9/16	1-1/2	2		.8	3.50
4P245*	6.3V. C.T. @ 1.2A.*			2000	BL	1-7/8	1-9/16	1-5/8	2		.7	3.80
4P246	6.3V. C.T. @ 2 A.	12.6V. C.T. @ 1 A.	Two of 6.3V. C.T. @ 1 A.	2000	BL	2-1/4	1-7/8	1-3/4	2-3/8		1.0	4.20
4P251	6.3V. C.T. @ 6 A.	12.6V. C.T. @ 3 A.	Two of 6.3V. C.T. @ 3 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.0	4.85
4P256	6.3V. C.T. @ 10 A.	12.6V. C.T. @ 5 A.	Two of 6.3V. C.T. @ 5 A.	2000	BxL	3-3/8	2-13/16	2-1/2	2-1/4	2-1/8	2.9	6.30
4P260	7.5V. C.T. @ 3 A.	15 V. C.T. @ 1.5 A.	Two of 7.5V. C.T. @ 1.5 A.	2000	BL	2-5/8	2-3/16	2	2-13/16		1.5	5.10
4P267	7.5V. C.T. @ 4.5A.	15 V. C.T. @ 2.3 A.	Two of 7.5V. C.T. @ 2.3 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.0	6.30
4P272	11 V. C.T. @ 10 A.	22 V. C.T. @ 5 A.	Two of 11 V. C.T. @ 5 A.	2000	BxL	3-3/4	3-1/8	2-3/4	2-1/2	2-1/4	4.1	9.00

*Single secondary units

VOLTAGE CHANGER AND ISOLATION—THE "NINE" SERIES

All Units Have Primary Cord and Secondary Plug and Are For 50/60 Cycle Operation

VOLTAGE CHANGER (ISOLATION)

Type Number	Primary Voltage	Secondary Voltage	Capacity in V. A.	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
9P707	220-250	110-125	75	GP	3-13/16	3-5/32	3-1/8	2-1/2	1-15/16	3.9	9.30
9P713	220-250	110-125	150	GP	4-9/16	3-25/32	3-7/8	3	2-13/16	8.0	13.80
9P718	220-250	110-125	350	HP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	36.00

ISOLATION TYPES

9P721	110-250	110-250	150	GP	4-9/16	3-25/32	4-5/8	3	3-9/16	12.1	18.00
9P725	110-250	110-250	250	HP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	29.40
9P728	110-250	110-250	500	HP	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	34.8	41.40

VOLTAGE ADJUSTMENT TYPES WITH TAP CHANGE SWITCH

9P732	95-130 in 5V. Steps	115	150	HSP	4-7/8	3-7/8	3-7/8	3-1/8	3-1/8	4.7	25.80
9P737	95-130 in 5V. Steps	115	250	HSP	5-3/8	4-3/8	4-1/4	3-5/8	3-1/2	8.0	33.00
9P739	80-130 in 5V. Steps	115	500	HSP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	49.20

All list prices given are subject to regular trade discounts and may be changed without notice.

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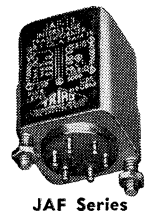
TRIAD TRANSFORMER CORP.

MINIATURES

JAF SERIES—HERMETICALLY SEALED

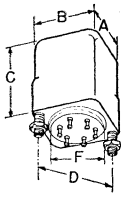
These tiny transformers are hermetically sealed to MIL-T-27 requirements and are encased in standard military AF cans deep-drawn from "Trialloy" nickel alloy magnetic shielding material. Wide frequency range is consistently achieved by layer wound coils of extremely fine wire.



JAF Series

Type No.	Impedance Primary	Impedance Secondary	Max. Lvl.- VU	Shldg. db.	Freq. Resp.	Case
JAF-1	600/250/50	50000	0	45	60-15000	AF
JAF-2	600/250/50	250000	0	45	150-7000	AF
JAF-3	600/250/50	60000 C.T.	0	45	60-15000	AF
JAF-5	30/12/4	50000	0	45	60-12000	AF
JAF-11	15000	50000	10	45	60-15000	AF
JAF-12	15000	60000 C.T.	10	45	60-15000	AF
JAF-13	15000	95000 C.T.	10	45	350-7000	AF
JAF-14	200	½ megohm	0	45	350-5000	AF
JAF-15	15000	1 megohm	10	45	350-5000	AF
JAF-21	15000	600/250/50	10	45	60-15000	AF
JAF-22	15000	600/250/50	10	45	350-7000	AF
JAF-23	20000 C.T.	600/250/50	10	45	60-15000	AF
JAF-31	600/250/50	600/250/50	10	45	60-15000	AF
*JAF-33	5000 C.T.	5000 C.T.	10	45	60-15000	AF
JAF-101	50 h.-.75 Ma.			45		AF

*New item.
Low frequency loss will result from DC in windings other than where specified.



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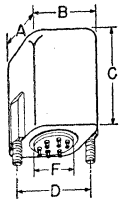

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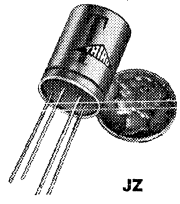
POWER OUTPUT to line and VC.
Hermetically Sealed

Type No.	Impedance Primary	Impedance Secondary	Max. Level-Watts	Freq. Resp.	Case
HS-71	10000 (10 Ma.)	600/150	2	150-15000	AH
HS-73	5000 (40 Ma.)	4-8-16-250-500	5	150-15000	AJ
HS-75	10000 C.T. (80 Ma. bal.)	4-8-16-250-500	10	150-15000	EB
HS-77	9000 C.T. (120 Ma. bal.)	4-8-16-250-500	25	150-15000	GA



JZ

MINIATURE AUDIO—Uncased "Trijets"

Type No.	Primary Impedance	Secondary Impedance	Max. Level-VU	Freq. Resp.
T-1X	600/250/50	50000	0	60-15000
T-2X	600/250/50	250000	0	100-5000
T-3X	600/250/50	60000 C.T.	0	60-15000
T-5X	30/12/4	50000	0	60-15000
T-11X	15000	50000	10	60-15000
T-12X	15000	60000 C.T.	10	60-15000
T-13X	15000	95000 C.T.	10	350-7000
T-20X	15000	600/250/50	10	60-15000
T-21X	30000	50	10	60-15000
T-22X	15000	600/250/50	10	350-7000
T-23X	20000 C.T.	600/250/50	10	60-15000
T-31X	600/250/50	600/250/50	10	60-15000
*T-33X	5000 C.T.	5000 C.T.	10	60-15000
T-101X	50 henries @ .75 Ma.			

*New item.
Low frequency loss will result from DC in windings other than where specified.

	GP-1	GP-2	GP-3	GP-4	GP-5
A	⅞	1 1/16	1¼	1 7/16	1⅝
B	1 1/16	1¼	1½	1¾	2
Bw	1⅛	1⅜	1 7/16		
C	1 1/16	2¼	2⅜	2½	2¾
D	1 3/32	1 3/16	1½	1½	1½
F	¾	¾	1 5/16	1 5/16	1 5/16
Wt.	3 oz.	5½ oz.	8 oz.	12 oz.	17 oz.

SHIELDING

P-1—One nickel-alloy high permeability shield—45 db. reduction in pickup.

P-3—Two nickel alloy shields interleaved with one heavy copper shading ring—70 db. reduction in pickup.

P-5—Three nickel alloy shields interleaved with two heavy copper shading rings—95 db. reduction in pickup.

SUB-MINIATURE AUDIO—Hermetically Sealed

Type No.	Impedance—Ohms Primary	Impedance—Ohms Secondary	Case
JZ-1	600/250/50	60000	JZ
JZ-5	30/12/4	50000	JZ
JZ-7	30/12/4	1000	JZ
JZ-13	15000 (1 Ma.)	135000 C.T.	JZ
JZ-15	20000 (.5 Ma.)	1200/600/100	JZ
JZ-25	10000 (1 Ma.)	200	JZ
JZ-26	1000 (5 Ma.)	50	JZ

JO-SERIES—HERMETICALLY SEALED

Type No.	Impedance Primary	Impedance Secondary	Max. Lvl.- VU	Shldg. db.	Freq. Resp.	Case
JO-1	600/250/50	50000	0	45	50-15000	JOA
JO-2	600/250/50	250000	0	45	150-7000	JOA
JO-3	600/250/50	60000 C.T.	0	45	50-15000	JOA
JO-5	30/12/4	50000	0	45	50-12000	JOA
JO-11	15000	60000	10	45	50-15000	JOB
JO-12	15000	60000 C.T.	10	45	50-15000	JOB
JO-13	15000	95000 C.T.	10	45	300-7000	JOB
JO-21	15000	600/250/50	10	45	50-15000	JOB
JO-22	15000	600/250/50	10	45	300-7000	JOB
JO-23	20000 C.T.	600/250/50	10	45	50-15000	JOB
JO-31	600/250/50	600/250/50	10	45	50-15000	JOB
JO-101	50 h.-2 Ma.			45		JOB

Low frequency loss will result from DC in windings other than where specified.

SUB-MINIATURE AUDIO—Open Frame

Type No.	Impedance—Ohms Primary	Impedance—Ohms Secondary	Wt. Oz.
TZ-1	600/250/50	60000	.16
TZ-5	30/12/4	50000	.16
TZ-7	30/12/4	1000	.16
TZ-13	15000 (1 Ma.)	135000 C.T.	.16
TZ-15	20000 (.5 Ma.)	1200/600/100	.16
TZ-25	10000 (1 Ma.)	200	.16
TZ-26	1000 (5 Ma.)	50	.16
T-41X	1000 (10 Ma.)	200 C.T.	.5
*T-42X	9800 (2 Ma.)	16	.5
TY-44X	1000 (10 Ma.)	16/8/4	1.2
TY-47X	2000 C.T.	16/8/4	1.2

*New item.

POWER TRANSISTOR Transformers

Type No.	Impedance—Ohms Primary	Impedance—Ohms Secondary	Wt. Oz.
*TY-61X	100 (100 Ma.)	100 C.T.	8
*TY-63X	48 C.T. (550 Ma.) (Bal.)	8-16	18

*New item.

LOW LEVEL AUDIO HERMETICALLY SEALED TRANSFORMERS

LOW LEVEL AUDIO Transformers
AUDIO INPUT Transformers

Type No.	Primary Impedance	Turn Ratio	Freq. Resp.	Max. Lvl. VU	Shield-ing	Case
HS-1	600*/250*/ 150/62.5	1:11.3	20-20000	10	P-5	GP-4
HS-11	Same as above				P-1	GP-2
HS-3	600*/250*/ 150/62.5	1:14 overall	20-20000	10	P-5	GP-5
HS-4	Same as above				P-3	GP-4
HS-14	Same as above				P-1	GP-3
HS-15	600*/250*/ 150/62.5 (10 Ma.)	1:8 overall	30-20000	20	P-3	GP-5
HS-5	30-50	1:65.7	50-10000	0	P-5	GP-4
HS-8	600*/250*/ 150/62.5	1:14 overall	20-20000	20	P-1	GP-4

*Balanced center tap available.

Low frequency loss will result from use of unbalanced DC in windings other than where specified.

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TRIAD TRANSFORMER CORP.

AUDIO INTERSTAGE Transformers

Type No.	Primary Impedance	Turn Ratio	Freq. Resp.	Max. Lvl. Pri. V.	Shield-ing	Case
HS-23	15000	1:2.7	20-20000	15	P-3	GP-4
HS-25	15000	1:2.72 overall	20-20000	25	P-1	GP-4
HS-35	15000	1:2.72 overall	20-20000	20	P-1	GP-2
HS-27	20000/ 5000	1:1.72 overall	20-20000	50	P-1	GP-4
HS-29	20000/ 5000	1:2 overall	20-20000	20	P-5	GP-4
HSM-31	20000/ 5000	1:1 or 2:1	20-20000	240		FA
HS-32	15000 (6 Ma.)	1:2 overall	20-15000	20	P-1	GP-5

Low frequency loss will result from use of unbalanced DC in windings other than where specified.

AUDIO LOW LEVEL OUTPUT MIXING, MATCHING, BRIDGING

Type No.	Impedance Primary	Impedance Secondary	Freq. Resp.	Max. Lvl. VU	Shield-ing	Case
HS-50	15000	600*/250*/ 150/62.5	20-20000	26	P-3	GP-4
HS-60	15000	600*/250*/ 150/62.5	20-20000	10	P-1	GP-2
HS-61	15000 (5 Ma.)	600*/250*/ 150/62.5	50-15000	20	P-1	GP-5
HS-52	20000/ 5000	600*/250*/ 150/62.5	20-20000	26	P-1	GP-4
HS-54	20000/ 5000	600*/250*/ 150/62.5	20-20000	10	P-5	GP-4
HS-56	600*/250*/ 150/62.5	600*/250*/ 150/62.5	10-30000	20	P-3	GP-4
HS-66	Same as above		10-30000	20	P-1	GP-3
HS-58	Same as above		20-20000	15	P-3H	GP-5

*Balanced center tap available.

Low frequency loss will result from unbalanced DC in windings other than where specified.

POWER COMPONENTS

HERMETICALLY SEALED

Combined PLATE and FILAMENT Transformers

Primary 115V—50/60 cycle

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filaments	Case
†HSM-201	500 C.T.	20	6.3 C.T.-2A.	GA
HSM-203	600 C.T.	50	6.3 C.T.-2.5A. 5 -2A.	JB
HSM-205	700 C.T.	70	6.3 C.T.-3A. 5 -3A.	JA
HSM-207	700 C.T.	120	6.3 C.T.-5A. 5 -3A.	KA
HSM-211	700 C.T.-70 V. bias tap.	150	6.3 C.T.-6A. 2.5 C.T.-5A. 5 -3A.	LA
HSM-212	1000/800 C.T.	150 (ch. input) 117 (cond. input)	6.3/5-4A. 6.3 C.T.-4A. 6.3V.-4A.	LA
HSM-215	800/700 C.T. 70 V. bias tap.	200	6.3 C.T.-6A. 2.5 C.T.-10A. 5 -6A.	MA
HSM-216	1000/800 C.T.	200 (ch. input) 157 (cond. input)	6.3/5-4A. 6.3 C.T.-5A. 6.3-5A.	MA
HS-217	800/700 C.T. 70 V. bias tap.	300	6.3 C.T.-8A. 2.5 C.T.-10A. 5 -6A.	GP-15
HSM-218	1000/800 C.T.	300 (ch. input) 235 (cond. input)	6.3/5-6A. 6.3 C.T.-6A. 6.3-6A.	GP-15
HSM-219	(115/230 pri.) 760/1600 C.T.	40/230 (ch. input)		GP-15

†Low flux density—for pre-amplifier service.
All types electrostatically shielded.
GP-15 dimensions 4¾"x5⅞"x6⅝" high. Wt. approx. 22 lbs.

Combined PLATE and FILAMENT Transformers

Primary 115V—380/1500 cycle

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filaments	Case
HS-401	500 C.T.	40	6.3 C.T.-1A. 6.3-1A.	EB
HS-405	600 C.T.	70	6.3 C.T.-2A. 6.3-2A. *6.3/5-2A.	GA
HS-407	600 C.T.	120	6.3 C.T.-3.5A. 6.3-3.5A. *6.3/5-3A.	JB
HS-413	450 C.T.	200	6.3 C.T.-6A. 6.3-6A. *6.3/5-4A.	JA
HS-415	800/600 C.T.	200	6.3 C.T.-6A. 6.3-6A. *6.3/5-6A.	KB
HS-417	800/600 C.T.	300	6.3 C.T.-6A. 6.3-6A. *6.3/5-6A.	LA

*Tapped for 5 volt rectifier use. All types electrostatically shielded.

FILAMENT Transformers, 50/60 cycle

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Case
HSM-223	115	6.3	0.6	AJ
HSM-225	105-115-125	6.3 C.T.	2	EA
HSM-226	105-115-125	6.3 C.T.	3.6	FA
HSM-227	105-115-125	† 6.3 C.T. 6.3	3 3	GA
HSM-229	105-115-125	6.3 C.T.	8	JB
HSM-236	105-115-125	†12.6 C.T. 12.6	2 2	JB
HSM-228	105-115-125	† 6.3 C.T. 6.3	6 6	JA
HSM-231	105-115-125	6.3 C.T. 5 C.T.	5 3	JB
HSM-232	105-115-125	2.5 C.T.	10	HA
HSM-235	105-115-125	2.5 C.T. 10 C.T.	10 10	MA

†Series or parallel connections.

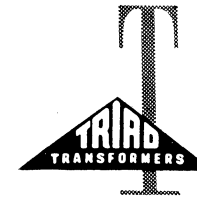
FILAMENT Transformers, 380/1500 cycle

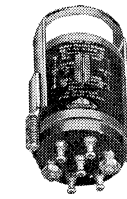
Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Case
‡HS-436	115	6.3		AH
HS-425	105-115-125	6.3 C.T.	2	AJ
HS-427	105-115-125	6.3 C.T.	5	EA
HS-433	105-115-125	*6.3 C.T. 6.3	5 5	FA
HS-435	105-115-125	*6.3 C.T. 6.3 †6.3/5	3.5 3.5 3	FA
HS-441	105-115-125	*5 C.T. 5 2.5 C.T.	10 10 10	HA
‡HS-443	105-115-125			AJ
HS-442	57.5-96-115-120 Single phase.	12.6 C.T. 12.6	2 2	EA

Two HS-442's can be used, 115 volt 3 phase to 26 volt 2 phase, Scott-connected.
*Series or parallel connection. †5 volt tap for filament type rectifiers.
‡New item.

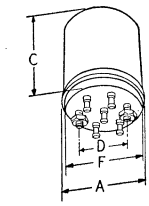
FILTER REACTORS

Type No.	Current DC Ma.	Inductance Henries	Resistance Ohms	Case
HSM-301	20	30	1000	EA
HS-331	40	4	375	AH
HS-303	50	12	385	EB
HS-333	70	3	225	AJ
HSM-305	70	15	300	GB
HS-335	120	3	150	EB
HSM-307	120	15	185	JB
HSM-309	150	9	115	JB
HS-339	200	3	105	FB
HSM-315	200	10	100	JA
HS-341	300	2	48	GB
HSM-319	300	10	85	LA

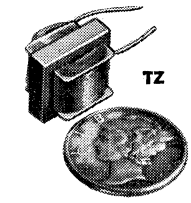




JO Series



Uncased 'TRIJET'



TZ

MIL-T-27 Cases

	AF	AG	AH	AJ
A	¾	1	1 1/16	1 5/8
B	¾	1	1 7/16	1 5/8
C	1 1/8	1 3/8	1¾	2 3/8
D	* 3/32	1 3/32	1 13/32	1 5/8
F	5/8	¾	⅞	⅞
Wt.	1 oz.	2½ oz.	4 oz.	9 oz.

*Studs 4-40 in opposite corners of case.

	JOA	JOB	JZ
A	1 5/8 dia.	1 5/8 dia.	1 5/8 dia.
B	Round	Round	Round
C	1 13/32	1 13/32	1 3/16
D	7/16	7/16	—
F	⅞	⅞	—
Wt.	1¼ oz.	1½ oz.	.3 oz.

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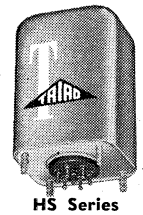
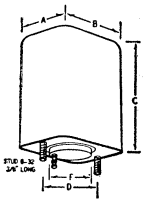
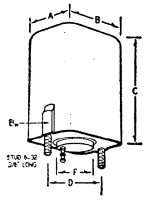
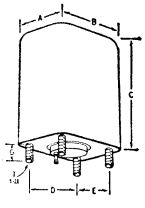
TRIAD TRANSFORMER CORP.

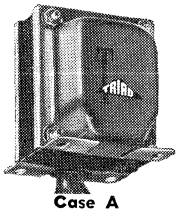


HS Series

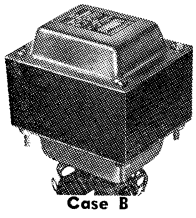








Case A



Case B

ISOLATION Transformers
Primary 115V — 380/1500 cycle

Type No.	Secondary Volts	Amp.	V.A.	Case
*HS-470	115	.35	40	EA
*HS-472	115	1.4	160	GA
*HS-474	115	2.6	300	KB

*New item. All isolation transformers electrostatically shielded.

HIGH FIDELITY OUTPUT TRANSFORMERS

TRIAD "HS" Series Output Transformers represent the application of the most modern techniques in the design of fine audio equipment. Use of annealed grain-oriented core materials, combined with multiple interleaved coil structures, have resulted in an open circuit inductance to leakage inductance ratio of 10,000, representing a frequency response range of better than 13 octaves. These transformers will deliver full rated power output within 1 db. from 7-50000 cycles. Full DC plate current can be carried through the primary windings, but every effort should be made to balance the two plates in push-pull circuits to obtain optimum results at the extreme low frequencies.

HIGH LEVEL OUTPUT Hermetically Sealed

Type No.	Impedance Primary	Secondary	Freq. Response	Max. Level Watts	Case
HSM-79	20000 C.T. (20 Ma.) or 5000 (40 Ma.)	16/8/4	50-25000	5	FA
HSM-80	20000 C.T. (20 Ma.) or 5000 (40 Ma.)	500/ 250 C.T. or 125/62.5	50-25000	5	FA
HSM-81	8000 C.T. Split pri.	16/8/4	7-50000	15	JB
HSM-82	8000 C.T.	500/250/125	7-50000	15	JB
†HSM-181	8000/ 2000 C.T. Split pri.	16/8/4	7-50000	15	JB
†HSM-182	8000/ 2000 C.T. Split pri.	500/250/125	7-50000	15	JB
HSM-84	5000 C.T.	16/8/4	7-50000	20	JB
HSM-85	5000 C.T.	500/250/125	7-50000	20	JB
†HSM-189	10000/ 2500 C.T. Split pri.	16/8/4	7-50000	25	KB
†HSM-190	10000/ 2500 C.T. Split pri.	500/250/125	7-50000	25	KB
†HSM-186	6600 C.T. Split pri.	16/8/4	7-50000	25	KB
†HSM-187	6600 C.T. Split pri.	500/250/125	7-50000	25	KB
HSM-91	2500 C.T.	16/8/4	7-50000	50	LA
HSM-94	4500 C.T.	16/8/4	7-50000	55	LA
HSM-95	4500 C.T.	500/250/125	7-50000	55	LA
*†HSM-192	4000 C.T. Split pri.	16/8/4	7-50000	65	LA
*†HSM-193	4000 C.T. Split pri.	500/250/125	7-50000	65	LA
HS-97	6600 C.T.	500/250/125	10-30000	125	Spec.

*New item. †Williamson type circuit. Proper taps on primary for screen operation.

Standard MIL-T-27 Case Sizes

	EA	EB	FA	FB	GA	GB	HA	HB	JA	JB	KA	KB	LA	LB	MA	MB	NA	NB
A	1 13/16	1 15/16	2 1/16	2 1/16	2 3/8	2 3/8	2 5/8	2 5/8	3 1/16	3 1/16	3 3/8	3 3/8	3 11/16	3 11/16	4	4	4 5/16	4 5/16
B	1 15/16	1 15/16	2 5/16	2 5/16	2 3/4	2 3/4	3 1/16	3 1/16	3 5/16	3 5/16	3 13/16	3 15/16	4 5/16	4 5/16	4 13/16	4 13/16	5 1/16	5 1/16
C	2 3/4	2 7/16	3 1/8	2 1/2	3 13/16	2 13/16	4 1/4	3 5/16	4 7/8	3 7/8	5 1/4	4 5/16	5 5/16	4 1/2	6	4 15/16	6 13/16	5 1/2
D	1 3/8	1 3/8	1 11/16	1 11/16	2 1/2	2 1/2	2 19/64	2 19/64	2 5/8	2 5/8	3	3	3 5/16	3 5/16	3 13/16	3 11/16	4 1/16	4 1/16
E	1 1/4	1 1/4	1 7/16	1 7/16	1 3/4	1 3/4	1 55/64	1 55/64	2 1/8	2 1/8	2 7/16	2 7/16	2 11/16	2 11/16	3	3	3 5/16	3 5/16
G	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2	1/2	1/2	5/8	5/8	5/8	5/8
I	6-32	6-32	6-32	6-32	6-32	6-32	8-32	8-32	8-32	8-32	10-32	10-32	10-32	10-32	1/4-20	1/4-20	1/4-20	1/4-20
Wt. lbs.	1	15 oz.	1 3/4	1 1/2	2	1 3/4	2 1/2	2 1/2	4 1/4	4	7 3/4	7	9 1/4	8 1/2	13 1/2	12 1/2	18	16

HIGH LEVEL OUTPUT

The Triad high fidelity transformers in the group below afford a standard of performance exceeded only by the "HS" series outputs. These transformers have a frequency response linear within 1 db. from 20-20000. Feedback loops employing as high as 30 db. of negative feedback may be used.

Type No.	Impedance Primary	Secondary	Output Watts	Wt. Lbs.
S-31A	8000 C.T.	4-8-16	15	3 1/2
S-32A	8000 C.T.	500/250/125	15	3 1/2
†S-142A	8000 C.T.	4-8-16	15	3 1/2
S-33A	3000 C.T.	4-8-16	15	3 1/2
S-35A	5000 C.T.	4-8-16	20	4
S-36A	5000 C.T.	500/250/125	20	4
†S-148A	10000 C.T.	4-8-16	25	5 3/4
†S-146A	6600 C.T.	4-8-16	25	5 3/4
S-38A	9000 C.T.	4-8-16	25	5 3/4
S-39A	9000 C.T.	500/250/125	25	5 3/4
S-40A	2500 C.T.	4-8-16	30	5 3/4
S-42A	4500 C.T.	4-8-16	50	9
*†S-152A	4000 C.T.	4-8-16	65	9
S-45Z	4000/2000/ 1000/500	4-8	10	1 3/4
S-46A	2000/1000/ 500/250	4-8-16	20	4

*New item. †Williamson type circuit. Proper taps on primary for screen operation.

POWER
Combined PLATE and FILAMENT Transformers
Primary 115 volts 50/60 cycles

All types are "Climatite" treated, both coil and core, for protection against moisture and for elimination of lamination chatter. Although they are small in size, the high quality materials used keep losses to a minimum and hold temperature rise below 55° C. Only copper foil static shields, grounded to the case and core, are used. Leads are of a type approved by UL for high temperature operation.

Type No.	Plate Supply AC Volts	DC Ma.	Rect. Fil. V.	Amp.	Other Fil. V.	Amp.	Wt. Lbs.
*R-22A	380/320 C.T.	70	6.3	.6	6.3 C.T.	3	2 3/4
*R-22B	380/320 C.T.	70	6.3	.6	6.3 C.T.	3	2 3/4
R-4A	500 C.T.	40			6.3 C.T.	2	1 3/4
R-4B	500 C.T.	40			6.3 C.T.	2	1 3/4
R-5A	600 C.T.	65			6.3 C.T.	2.7	2 3/4
R-5B	600 C.T.	65			6.3 C.T.	2.7	2 3/4
R-6A	480 C.T.	50	5	2	6.3 C.T.	2	2 3/4
R-6B	480 C.T.	50	5	2	6.3 C.T.	2	2 3/4
R-7A	600 C.T.	50	5	2	6.3 C.T.	2	2 3/4
R-7B	600 C.T.	50	5	2	6.3 C.T.	2	2 3/4
R-8A	500 C.T.	75	5	2	6.3 C.T.	2.5	3
R-8B	500 C.T.	75	5	2	6.3 C.T.	2.5	3
R-9A	600 C.T.	75	5	2	6.3 C.T.	3	3 1/2
R-9B	600 C.T.	75	5	2	6.3 C.T.	3	3 1/2
R-10A	525 C.T.	90	5	2	6.3 C.T.	5	4 1/2
R-10B	525 C.T.	90	5	2	6.3 C.T.	5	4 1/2
R-11A	700 C.T.	90	5	3	6.3 C.T.	3.5	4 1/4
R-11B	700 C.T.	90	5	3	6.3 C.T.	3.5	4 1/4
R-12A	550 C.T.	110	5	2	6.3 C.T.	5	4 1/2
R-12B	550 C.T.	110	5	2	6.3 C.T.	5	4 1/2
R-14A	700 C.T.	125	5	3	6.3 C.T.	4.5	6
R-14B	700 C.T.	125	5	3	6.3 C.T.	4.5	6
R-16A	700 C.T.	160	5	3	6.3 C.T.	5	7
R-16B	700 C.T.	160	5	3	6.3 C.T.	5	7
R-17A	750 C.T. 80 Tap	160	5	3	6.3 C.T. 2.5 C.T.	5 5	7 1/4
R-18A	750 C.T.	175	5	3	6.3 C.T.	8	8 1/2
R-18B	750 C.T.	175	5	3	6.3 C.T.	8	8 1/2
R-19A	750 C.T. 80 Tap	200	5	3	6.3 C.T. 2.5 C.T.	6 10	9 1/2
R-20A	700 C.T.	200	5	3	6.3 C.T.	8	8 1/2
R-20B	700 C.T.	200	5	3	6.3 C.T.	8	8 1/2
R-21A	800 C.T.	200	5	3	6.3 C.T.	6	9 1/4
R-21B	800 C.T.	200	5	3	6.3 C.T.	6	9 1/4
R-24A	800 C.T.	300	5	6	6.3 C.T.	6	14
R-24B	800 C.T.	300	5	6	6.3 C.T.	6	14
R-25A	800 C.T.	500	5	6	6.3 C.T. 6.3	3 7	19
R-58A	875 C.T.	185	5	3	6.3 6.3	4 3	9 1/2

*New item.

(SEE PAGE N-87 FOR LIST PRICES)

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TRIAD TRANSFORMER CORP.

PLATE POWER Transformers
Primary 115 volts 50/60 cycles

Type No.	Secondary Volts A.C.	D.C.	Sec. D.C. Ma. CCS	ICAS	Rect. Fil.	Wt. Lbs.
P-1A	440/220 C.T.	180/90	160	190	5V-3A	4
P-3A	600/300 C.T.	250/125	300	360	5V-4A	5¾
P-5A	1100 C.T.	400	250	310	5V-4A	9
P-7A	1235 C.T.	500	250	310	5V-4A	11
P-9A	1235 C.T.	500	500	600	5V-6A	19
P-11A	1455 C.T.	600	250	310		12
†P-14AL	1780 C.T.	750/600	250	310		14
†P-15AL	2340 C.T.	1000	250	310		17
†P-17AL	2880 C.T.	1250	250	310		20
†P-16AL	2430 C.T.	1000	500	600		31
†P-18AL	2880 C.T.	1250	500	600		35
†P-20AL	3300 C.T.	1500	350	425		35

†Plate leads out side of case for 866 rectifiers.

INSTRUMENT POWER

Instrument POWER SUPPLY Transformers

Intelligent design and construction of measuring instruments involves consideration of many factors normally neglected in electronic circuits. Regulation of power supply voltages, limitation of external magnetic fields by minimum flux density, multiple static shields to limit capacitive coupling, multiple filaments where tubes must operate at different potentials, all become necessary to obtain peak performance. The transformers on this page are a series of special designs which have been developed for instrument design.

For PREAMPLIFIERS, VTVM, etc.
Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	DC Ma.	Filament Windings Volts and Amperes	Wt. Lbs.
*-68A	800 C.T.	30	5V.-2A. 6.3-1.2A. 6.3-1.2A.	3
R-2C	135	15	6.3V.-.9A.	1
*R-23B	250 C.T.	22	6.3-.8A. 15.5/12.6-.6A.	1¾
R-3A	500 C.T.	20	6.3 C.T.-2A.	1¾
R-29A	230 C.T.	40	6.3V.-1.5A.	1¾
R-30X	135	50	6.3V.-1.5A.	1½
R-54X	115	15	6.3V.-.6A.	1
R-56A	130	20	0/15/22.5/30-.6A.	2

*New item.

CATHODE RAY Tubes
Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	DC Ma.	Filament Windings Volts and Amperes		Wt. Lbs.
R-41C	440-0-440-1250.	125/5	*6.3V.-.6A. †2.5V.-1.75A.	†2.5V.-1.75A. 5V.-3A.	7½
R-45C	400-0-400-800.	30/5	*6.3V.-.6A. 6.3 C.T.-3A. †5V.-2A.	6.3V.-1A. 5V.-2A.	4½
R-43C	1600	3	*6.3/5/ 2.5V.-1A. †6.3/5/ 2.5V.-3A.		3½

*Statically shielded and insulated for full plate voltage.
†Insulated for full plate voltage.

FOR REGULATED POWER SUPPLIES
Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	DC Ma.	Filament Windings Volts and Amperes		Wt. Lbs.
R-70A	880 C.T.	75	6.3V.-.6A. 6.3V.-.3A.	6.3V.-.9A. 6.3V.-3A.	4½
R-26A	800-720 C.T.	200	6.3 C.T.-8A. 6.3V.-1A.	6.3V.-3A. 5V.-3A.	12
R-28A	1250 C.T.	300	6.3 C.T.-8A. 6.3V.-3A.	6.3V.-3A. 5V.-6A.	20
R-46A	1250 C.T. 130 (Bias winding)	350 50	5V.-4A.	6.3V.-4A. 6.3V.-1A. 6.3V.-1A.	20

R-46A will supply 550 V. D.C. using 2 5R4G rectifier tubes, choke input. Will also supply 130 V. for bias using Selenium rectifier. Sufficient filament windings to regulate screen voltages.

R-27A	1500 C.T.	400	5V.-6A.	6.3V.-3A. 6.3V.-8A.	30

PULSE

These miniature blocking oscillator transformers are now in quantity production for manufacturers in a number of applications and with outstanding results. Their multiple winding construction makes them available for a variety of circuits and their fast rise time (.03 microseconds) makes them exceptionally useful. Positive hermetic sealing prevents deterioration of performance with time (absolutely necessary for long shelf life).

Type No.	Application
PL-4	2 equal windings. Pulse width .35 to 1.2 microseconds. Duty cycle .01 max. Dimensions .4" dia. by .625" long.
PL-5	3 equal windings. Pulse width .35 to 1.2 microseconds. Duty cycle .01 max. Dimensions .5" dia. by .68" long.
PL-6	3 equal windings. Pulse widths .35 to 1.2 microseconds. Duty cycle .01 max. Dimensions (Transformer only) 1" dia. by ¾" long. Mounts with 8-32 x ½" stud.

PHOTO-FLASH TRANSFORMERS

Improved operation and reduced cost in flash photography can be attained through the use of electronic flash equipment. Triad V-30Z and PL-10 have been especially developed for use in these circuits.

Type No.	Application	Wt. Lbs.
V-30Z	From 115v-60 cycle line or 4 volt-180 cy. vibrator to 385 RMS @ 14 ma.	1½
PL-10	Trigger coil.	1½ oz.

CHOKES

SWINGING Filter REACTORS

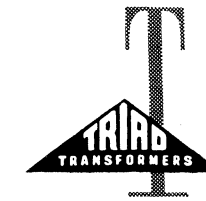
Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS	Wt. Lbs.
C-31A	25/5	20/200	150	2500	4½
C-33A	25/5	30/300	105	3000	7¼
*C-32AL	20/4	35/350	105	5000	8½
C-35A	20/4	40/400	60	3000	9½
C-39A	25/5	50/500	65	3000	17
*C-38AL	25/5	50/500	65	5000	17

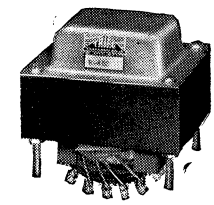
*New item.

SMOOTHING Filter REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS	Wt. Lbs.
C-30X	50	15	3500	1500	½
C-2X	2	15	70	1500	¼
C-1X	15	20	1000	1500	¼
C-3X	10	50	500	1500	¾
C-4X	4	50	360	1500	½
C-6X	5	65	330	1500	¾
C-5X	12	75	400	1500	1
C-8X	7	75	240	1500	1
C-7X	10	90	270	1500	1¼
C-9X	4	90	100	1500	1
C-11X	6	110	160	1500	1½
C-10X	9	125	250	1500	1½
C-12X	6	160	165	1500	1¾
C-12A	6	160	165	1500	1¾
C-13X	3	160	75	1500	1¾
C-14X	6	200	150	1500	2¼
C-14A	6	200	150	1500	2½
C-16A	10	200	150	2500	4¼
C-21X	1.5	225	65	1500	1
C-15X	4	250	100	1500	2¼
C-15A	4	250	100	1500	2½
C-23X	1.2	260	45	1500	1¼
C-17X	1.5	300	40	1500	1½
C-18A	8	300	90	2500	6
C-19A	10	300	105	3000	7¼
C-25A	2.6	310	60	1500	3⅜
*C-42AL	8	350	105	5000	8¾
C-20A	8	400	60	3000	10½
C-22A	10	500	65	3000	17
*C-45AL	10	500	63	5000	17
C-40X	.32	600	10	1500	1¼
*C-47U	.3-.075	1A.-2A.	3-.75	1500	5
C-48U	.08/.02	2.5/5A	.57/.143	1500	6½

*New item.

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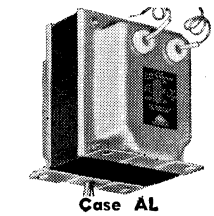
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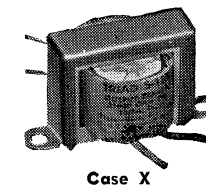
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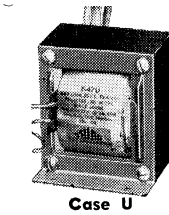
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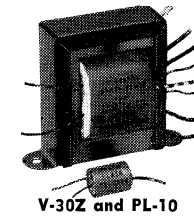
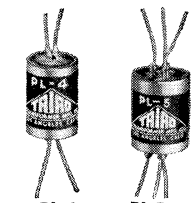

V-30Z and PL-10


PL-4 PL-5

PL-6

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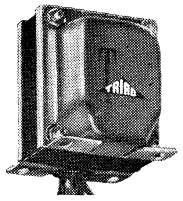
TRIAD TRANSFORMER CORP.



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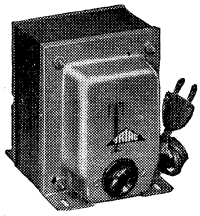

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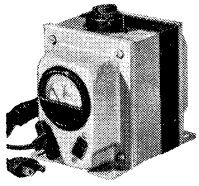
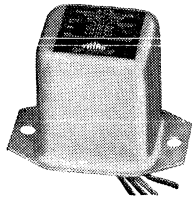


Case M with Meter



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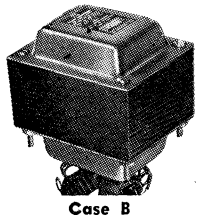

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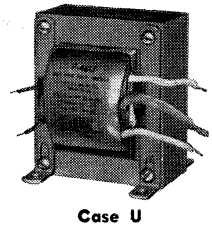

Case U

FILAMENT

Electronic tubes, as used in most equipment, operate with filaments on continuously. Filament transformers should then be designed for low temperature rise under continuous operation, good regulation, minimum size, and long life. Triad filament transformers meet all these requirements. All units are "Climatite" treated, both coil and core, for moisture protection and elimination of lamination noise. All types are permanently marked with connection data and cased types are beautifully finished in grey baked enamel. Only the highest quality of materials are used to permit rated output in minimum size.

FILAMENT Transformers, Single Secondary

Primary 115 volts—50/60 cycles

Type No.	Secondary Volts	Secondary Amperes	Test Volts	Wt. Lbs.
F-1X	2.5 C.T.	3	1500	¾
*F-72Z	2.5 C.T.	5	7500	1¾
F-3X	2.5 C.T.	10	3000	1¾
F-5U	2.5 C.T.	10	7500	2
*F-71U	2.5 C.T.	10	10000	2½
F-7X	5 C.T.	3	1500	1¼
F-8X	5 C.T.	6	1500	1¾
F-9A	5.2 C.T.	13	1500	4
F-9U	5.2 C.T.	13	1500	3¾
F-11U	5.2 C.T.	24	1500	6½
F-13X	6.3	.6	1500	½
F-14X	6.3 C.T.	1.2	1500	¾
†F-52X	6.3	1.2	5000	1
†F-51X	6.3/5	2	5000	1¼
†F-53X	6.3	4	5000	2¼
F-16X	6.3 C.T.	3	1500	1¼
F-18X	6.3 C.T.	6	1500	2¼
F-18A	6.3 C.T.	6	1500	2½
F-21A	6.3 C.T.	10	1500	3½
F-22A	6.3 C.T.	20	2000	7
F-23U	10 C.T.	7	1500	4
F-25X	12.6 C.T.	1.5	1500	1¼
F-40X	24 C.T.	1	1500	1¼
†F-50X	Filament line transformer Pri. 6.3V/5V Sec. 6.3/5V 2A		5000	1¼

*New item. †Low capacity—High voltage for damper tube operation.

FILAMENT Transformers, Multiple Secondary

Primary 115 volts—50/60 cycles

Type No.	Secondary Volts and Amperes		Test Volts RMS	Wt. Lbs.
F-27U	10 C.T.-10A. 2.5 C.T.-10A.		1500 7500	6
F-30A	5 C.T.-3A. 6.3 C.T.-8A.		1500	3¾
F-32A	6.3 C.T.-3A.	6.3 C.T.-3A.	1500	2½
F-34A	6.3 C.T.-1.75A. 6.3V.-1.75A.	6.3V.-1.75A. 6.3V.-1.75A.	1500	3
F-36A	6.3 C.T.-3.5A. 6.3V.-3.5A.	6.3V.-3.5A. 6.3V.-3.5A.	1500	5
F-38A	6.3 C.T.-5A. 6.3V.-1A. 5V.-4A.	6.3V.-5A. 5 C.T.-2A.	1500	5½
F-42A	12.6 C.T.-2.5A. 12.6-2.5A.		1500	3¼

RECTIFIER POWER

DRY DISK RECTIFIER Transformers

Primary 60 cycles

Type No.	Pri. Volts	Secondary A.C. Volts	Secondary Amperes RMS	Rect. Cir. A V. DC	Rect. Cir. B V. DC	Wt. Lbs.
F-47U	115	17-18	3	6-7	13-14	2½
F-48U	115	17-18	6	6-7	13-14	5¼
F-49U	115	36 36	3 3	13	26	9½
F-60U	115	6.5-13-19.5-26	3 (Int.)	9	18	3
F-61U	115	24-27-30-33-36	3	13	26	5¼
F-63U	115	8-9 8-9	2 2		6-7	2
F-64U	115	7-8-9	7		6-7	3

DRY DISK RECTIFIER Transformers

Primary 60 cycles

Type No.	Pri. Volts	Secondary A.C. Volts	Secondary Amperes RMS	Rect. Cir. A V. DC	Rect. Cir. B V. DC	Wt. Lbs.
F-62U	105-115-125	9 9 9 9	10 10 10 10		6-7 ea. wdg.	15
F-65U	110-120	140-150-160	.75	60	115	5¾
F-66U	110-120	140-150-160	2.5	60	115	18½

VIBRATOR POWER

Vibrator Power Supply Transformers

Type No.	Primary Volts	Secondary AC Volts	Secondary DC Ma.	Lbs.
V-1K	6-8	450 C.T.	40	2¼
V-3K	6-8	500 C.T.	50	2½
V-5A	6-8	600 C.T.	75	2½
V-7A	6-8	600 C.T.	100	3½

Automobile Radio Replacement Transformers

K Cases Have 7 Holes for Mtg. Purposes

Type No.	Primary Volts	Secondary DC Volts Filter Input	Secondary AC Volts C.T.	Secondary Rec. Buffer	Secondary Max. DC Ma.	Wt. Lbs.
*V-21	6-8	140 or 170	365/430	.005	62	1¼
*V-21B	6-8	140 or 170	365/430	.005	62	1¾
*V-21K	6-8	140 or 170	365/430	.005	62	2
*V-21Z	6-8	140 or 170	365/430	.005	62	1¾
*V-23	6-8	215 or 250	530/605	.003	79	2
*V-23B	6-8	215 or 250	530/605	.003	79	2¼
*V-23K	6-8	215 or 250	530/605	.003	79	2½
*V-23Z	6-8	215 of 250	530/605	.003	79	2¼
*V-31	12-16	240	575	.003	79	2½
*V-31K	12-16	240	575	.003	79	3

*New item.

LINE POWER

ISOLATION Transformers

50/60 cycles

Type No.	V.A. Output	Input Volts	Output Volts	Wt. Lbs.
N-51X	35	115	115	1¾
*N-68X	40	230/115	115	1¾
N-53M	85	115	115	4½
N-54M	150	115	115	6¾
*N-67A	150	230/115	115	7
N-55M	250	115	115	12
*N-66A	250	230/115	115	14
N-57M	500	115	115	24
N-59M	1000	115	115	35
N-52M	350	95 to 130	115	11

With switch and meter for primary voltage control. Detachable cord.

*New item.

STEPDOWN Autoformers

50/60 cycles

Type No.	V.A. Output	Input Volts	Output Volts	Wt. Lbs.
N-1X	50	230	115	1½
N-3M	85	230	115	2¾
N-4M	150	230	115	4½
N-5M	250	230	115	6¾
N-7M	600	230	115	12
N-9M	1250	230	115	25
N-11M	2000	230	115	35
N-34X	150	95-105-115-125-135	115	2
†N-35M	350	95 to 130	115	5½
†N-50M	500	95 to 130	115	8

With switch and meter.

†M case with switch for primary voltage control and detachable cord.

(SEE PAGE N-87 FOR LIST PRICES)

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TRIAD TRANSFORMER CORP.

UNIVERSAL
Isolation, Autoformer, Voltage Control

This group of transformers is designed with four equal 115 volt windings. They may be connected as isolation transformers of 230 to 230, 230 to 115, or 115 to 115 volts at the full rating given. They can also be used as an autoformer at any combination of 460, 345, 230 or 115 volts at twice this rating. Mounting is with conduit nipple for ready connection to conduit fittings. Connections as shown to the left.

Type No.	V.A. (Isolation)	V.A. (Autoformer)	Wt. Lbs.
*N-64AC	500	1000	17
*N-62AC	1000	2000	23
N-60SC	2000	4000	58

*New item.

TELEVISION COMPONENTS
REPLACEMENT POWER

Triad replacement power transformers are designed as closely as possible to meet the electrical and physical specifications of the transformer for which they are a replacement. Where possible, these transformers take advantage of better materials to operate at a lower temperature and thus to increase effective life. All Triad replacement power are "Climatite" treated, both coil and core, for moisture protection and elimination of lamination chatter. All are beautifully finished in grey baked enamel and are permanently marked with connection data. Copper foil static shields are used for maximum isolation. Leads are of a type approved by UL for this service.

Replacement POWER Transformers Combined PLATE and FILAMENT
Electrostatically shielded
Primary 115 volts 50/60 cycles

Type No.	Plate Supply AC Volts	DC Ma.	Filaments Volts and Amperes		Wt. Lbs.
R-31A	760 V.C.T.	320	5V.-6A. 5V.-2A.	12.6 C.T.-5A.	16
R-31BC					16
R-32A	760 V.C.T.	320	5V.-6A.	12.6 V.C.T.-5A. 6.3V.-1.2A.	16
R-33A	775 V.C.T.	230	5V.-3A.	6.3V.-9A. 6.3V./5V.-2A*	12
R-33BC					12
R-34A	750 V.C.T.	230	5V.-3A.	6.3V.-8.5A. 6.3V.-1.2A.	12
R-35A	725/340 V.C.T.	250	5V.-3A. 5V.-2A.	6.3V.-8A. 6.3V.-2.5A.	14
R-35BC					14
R-36A	775 V.C.T.	275	5V.-6A.	6.3V.-8.5A. 6.3V.-1.2A.*	14
R-36BC					14
R-37BC	735 V.C.T.	275	5V.-6A.	6.3V.-8.5A. 6.3V./5V.-2A.*	13
R-38A	750 V.C.T.	225	5V.-3A.	6.3V.-10A. 6.3V.-1.2A.* 6.3V.-2.5A.	12
R-38BC					12
R-39A	640 V.C.T.	225	5V.-3A.	6.3V.-10A. 6.3V.-1.2A.*	12
R-39BC					12
R-40A	780/440 V.C.T.	300	5V.-3A. 5V.-3A. 5V.-2A.	6.3V.-8.5A. 6.3V.-3.5A.	14
R-40BC					14
R-42A	675 V.C.T.	185	5V.-3A.	6.3V.-7A. 6.3V.-2A.*	8
R-42BC					8
R-44BS	525 V.C.T.	240	5V.-3A.	6.3V.-8A. 6.3V.-1.2A.*	12
R-47BS	725 V.C.T.	225	5V.-3A.	6.3V.-10A. 6.3V.-2.7A.*	12
R-48BS	750 V.C.T.	180	5V.-3A.	6.3V.-9A. 6.3V.-2.7A.*	12
R-49BS	650 V.C.T.	240	5V.-3A.	6.3V.-9A. 6.3V.-.9A. 6.3V.-1.2A.*	13
R-49BC					
R-50A	790/650 V.C.T.	310	5V.-3A. 5V.-3A. 5V.-2A.	6.3V.-5A. 6.3V.-5A.	15
R-50BC				6.3V.-2.6A.	15

*Less than 100 m.m.f.d. capacity to ground and insulated for high voltage damper tube.
Copper shading ring on all BC cases to reduce external magnetic field.

Replacement POWER Transformers Combined Plate and Filament
Electrostatically shielded. Primary 115 volts 60 cycles.

Type No.	Plate Supply AC Volts	DC Ma.	Filaments - Volts & Amps.	Wt. Lbs.
R-51BC	505 V.C.T.	320	5V.-6A. 6.3V.-5A. 6.3V.-5A. 6.3V.-1.2A.*	13
R-52BC	600 V.C.T.	270	5V.-3A. 6.3V.-5A. 6.3V.-5A. 6.3V.-1.2A.*	13
R-60BC	460 V.C.T.	300	5V.-6A. 6.3V.-8A. 6.3V.-1.2A.*	12
R-61BC	560 V.C.T.	275	5V.-6A. 6.3V.-6A. 6.3V.-6A. 6.3V.-1.2A.*	14
R-62BC	680 V.C.T.	290	5V.-6A. 6.3V.-10A. 6.3V.-2.5A. 6.3V.-1.2A.*	16
R-63BC	131 V.	900	6.3V.-9A. 6.3V.-.6A. 6.3V.-1.2A.*	11

*Less than 100 m.m.f.d. capacity to ground and insulated for high voltage damper tube
Copper shading ring ring on all BC cases to reduce external magnetic field.

VERTICAL OUTPUT Transformers

Type No.	Application	Turns Ratio	Wt. Lbs.
A-99X	Vertical output transformer to couple output tube to vertical coils of deflection yoke. Matches all standard yokes except Y-20.	10:1	1½
A-101U	Same as above, except upright universal mounting.	10:1	2
A-102X	Auto transformer type, 3 leads. Matches all yokes except Y-20.	11.4:1	1
A-103X	Output transformer designed especially for Y-20 yoke.	49:1	1½
A-104X	Auto transformer type, 3 leads. Matches all standard yokes.	18:1	1½
A-105X	Output transformer. Matches all standard yokes. May be used as auto transformer.	25:1	1½
A-107X	Output transformer. Heavy duty type. Matches all standard yokes. May be used as auto transformer.	10:1	2¼
A-108X	Output transformer. Matches all standard 70° and 90° yokes. May be used as auto transformer.	8:1	1½
A-109X	Output transformer. Matches all standard 70° and 90° yokes. May be used as auto transformer.	15:1	1½
A-110X	Auto transformer type, 3 leads. Designed especially for Y-20 70° yoke.	44:1	1½
*A-111X	Output transformer. Small size.	10:1	1

*New item.

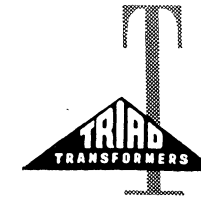
Width and Linearity COILS

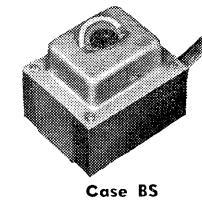
Type No.	Application	Mtg. Type	Wt. Lbs.
WC-11	Width control coil 3.6—30 mh. has primary and secondary winding, secondary tapped for AGC.	W	⅛
WC-12	Width and linearity coil, single winding, tapped, covers inductance range .8 to 15 mh.	W	⅛
WC-13	Width coil, single winding, covers inductance range .1 to 4 mh. Replaces RCA 208R1, 201R1 and 201R4.	W	⅛

VERTICAL BLOCKING OSCILLATOR

Type No.	Application	Ratio	Wt. Lbs.
A-96X	Dumont type. 3 windings.	1:0.5 1:1	½
A-97X	Blocking oscillator transformer for vertical sweep.	1:4.14	¼
*A-122Z	Same	1:3.5	¼
A-97K	Same—Case K.	1:4.14	½
A-97Y	Same—Case Y.	1:4.14	¼
A-95X	Blocking oscillator transformer for vertical sweep.	1:4.14	½
A-120Z	Philco replacement.	1:1.5	½

*New item.

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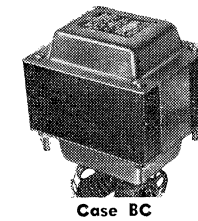
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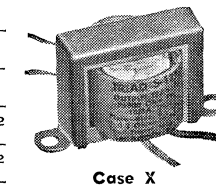
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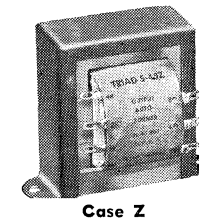
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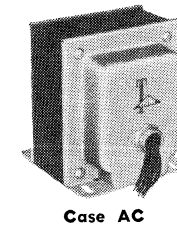
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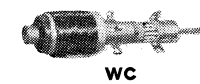
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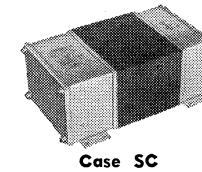
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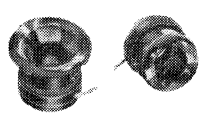
TRIAD TRANSFORMER CORP.



Yokes

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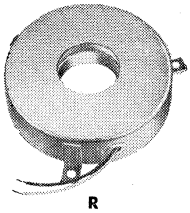

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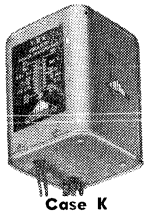

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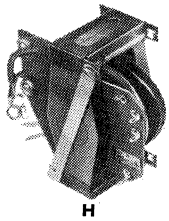

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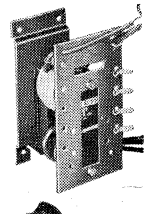

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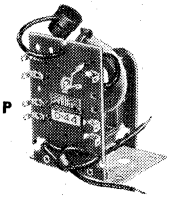

P

Deflection YOKES

Type No.	Core	Construction	Inductance-mh. Horz.	Vert.	Defl.	Wt. Lbs.
Y-11-1	Iron	Semi-Cosine	8.3	50	53°	1½
Y-12-1	Ferrite	Cosine	8.3	50	70°	1
Y-17	Ferrite	Cosine	13.5	41.5	70°	1
Y-17-1	Ferrite	Cosine	13.5	41.5	70°	1
Y-19	Ferrite	Cosine	23	41.5	70°	1
Y-19-1	Ferrite	Cosine	23	41.5	70°	1
Y-20	Ferrite	Cosine	30	3.3	70°	1
Y-20-1	Ferrite	Cosine	30	3.3	70°	1
†Y-20-2	Ferrite	Cosine	30	3.3	70°	1¼
Y-21	Ferrite	Cosine	10.3	41.5	70°	1
Y-21-1	Ferrite	Cosine	10.3	41.5	70°	1
Y-22	Ferrite	Cosine	18.5	42	70°	1
Y-22-1	Ferrite	Cosine	18.5	42	70°	1
Y-24	Ferrite	Cosine	30	41.5	70°	1
Y-25-1	Ferrite	Cosine	13	50	70°	1
Y-40-1	Ferrite	Cosine	12	43	90°	1¼
Y-41-1	Ferrite	Cosine	18.5	43	90°	1¼
*‡Y-42-1	Ferrite	Cosine	12	42	90°	1½
Y-50	Ferrite	Cosine	11	46	90°	2
Y-50-1	Ferrite	Cosine	11	46	90°	2

*New item. †Replaces RCA 74952 with networks and leads attached to plug. ‡Replaces GE RLD-069, complete with plug and networks.

FOCUS Coils

Type No.	Application	Case	Mtg.	Wt. Lbs.
B-160-S	160 ohm coil. Focuses tubes up to 70° deflection with 210* Ma.	Sq.	4-Bracket	1½
B-247-S	247 ohm coil. Focuses tubes up to 70° deflection with 170* Ma. Direct replacement for RCA 202-D1.	Sq.	2-Stud	1½
B-365-S	365 ohm coil. Focuses tubes up to 70° deflection with 150* Ma.	Sq.	2-Stud	1½
B-470-R	470 ohm coil. Narrow cross section. For focusing tubes up to 70° deflection with 125* Ma.	Round	3-Bracket	2¼
B-1000-S	1000 ohm coil. Focuses tubes up to 70° deflection with 85* Ma.	Sq.	2-Bracket 1-Stud	1½

*Max. current required for 70° tubes.

HORIZONTAL BLOCKING OSCILLATOR

Type No.	Application	Wt. Lbs.
A-98X	Generates 15750 pulse.	¼
A-98K	Generates 15750 pulse.	½

HORIZONTAL OUTPUT (FLYBACK)
Electrical and Mechanical Duplicates of Original Components

	Triad Type No.	Mtg. Type
ADMIRAL		
79C30-1, -3	D-41	LE
79C30-2, -4, 79C38-1, 79D38-1	D-40	LE
79C60-1, -2, -3, -4, -5, -7	D-49	LK
79D41-1, -2	D-42	LD
79D48-1	D-75	LE
AIRKING		
10104, 10107, 10108	D-56	L
AIRLINE		
20E947	D-87	LM
20E995	D-48	LH
22E67	D-85	LL
22E75, 22E75L	D-86	MC
53X319, 53X320	D-64	PP
53X326, 328, 329, 330, 342, 346, 347	D-65	PP
12E-23939	D-71	LO
201-2236, -1	D-84	MD
CORONADO		
12E23939	D-71	LO
53X319, 53X320	D-64	PP
53X326, 328, 329, 330, 346	D-65	PP

HORIZONTAL OUTPUT (FLYBACK)
Electrical and Mechanical Duplicates of Original Components

	Triad Type No.	Mtg. Type
CROSLEY		
158481-1, -2, -3-5, -5, 157820-5-1, 159412-1, -2-3	D-48	LH
CBS-COLUMBIA		
10136, B, 10137, C	D-79	L
10147	D-80	LE
10155	D-50	P
EMERSON		
738067, 068, 069, 073, 074, 075, 082, 083, 085, 086	D-43	LC
738079, 084, 094, 095	D-44	P
738091, 096, 099, 100	D-81	LR
FIRESTONE		
53X319, 53X320	D-64	PP
53X326, 330, 342, 346, 347	D-65	PP
10104, 10108, 10135	D-56	L
10136, B, 10137	D-79	L
10155	D-50	P
12E-23939	D-71	LO
GENERAL ELECTRIC		
RTO-068, 071, 076, 085, 088, 096, 114, 116	D-14R	PP
RTO-131, 141, 146-3	D-76	P
HALLICRAFTER		
55D251, 55D253	D-48	LH
HOFFMAN		
5143, 5144, 5145, 5146, 5148, 5149, 5155	D-2	QQ
5033-2	D-26	QQ
5035, 5160	D-28	QQ
MOTOROLA		
24A790184, 24C701134, 24C710626, 24C790184, 24C792596D, 24K700588, 24K701099, 24K791974, 24K792753, 24K792753D	D-69	ME
24C711265, 24C711265A, 24C711266, 24C721190, 24C721290C, 24K730692	D-67	MC
24K721301, 24K721301C, 24K722126	D-68	MC
MUNTZ		
TO-0031, -1, -2	D-46	LG
TO-0036, -1, -2	D-47	LG
PACKARD BELL		
89432A, 89432C	DA-20	T
89438, 89438B	D-22	P
89440, 89440A, 89457	D-28	QQ
89442B	D-50	P
PHILCO		
32-8565, 8607, 8642, 8653	D-70	LE
32-8555	D-82	LS
RAYTHEON		
12E-23939	D-71	LO
12E-24612-1	D-83	LO
201-22396, 201-22396-1	D-84	MD
RCA		
71416, 73570	D-11	H
74145	D-55	H
74951	DA-20	T
75240, 75519, 75585, 76154, 76381	D-52	LT
76501, 76672	D-53	LT
77833	D-54	LT
SENTINEL		
20E995, 20E955-2	D-48	LH
22E57, -2, -3, -4, -5, -6, 22E61-1, -2, 3	D-66	LL
22E67	D-85	LL
22E75	D-86	MC
22E947	D-87	LM
SILVERTONE		
10104, 10107, 10108, 10126, 10135	D-56	L
10136, 10137	D-79	L
PMC-56002	D-19	P
PMC-56017	D-50	P
SYLVANIA		
241-0003	D-61	LB
241-0005, 0006	D-62	LB
241-0007	D-63	LB
241-0011	D-78	LB
TRUETONE		
53X319, 53X320	D-64	PP
53X326, 328, 329, 330, 346	D-65	PP
12E-23939	D-71	LO

(SEE PAGE N-87 FOR LIST PRICES)

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TRIAD TRANSFORMER CORP.

HORIZONTAL OUTPUT (FLYBACK)
Electrical and Mechanical Duplicates of Original Components

TRAVELER		
TV-X-107, 108, 109, 110, 113, 114	D-57	LU
WESTINGHOUSE		
V-9904, 9904-1, 10213-1	D-73	LC
V-1020-4-1, 10214, 10214-1	D-74	LC
V-11548-1, -2, -3	D-72	LC
V-14627-1	D-88	LC
V-15650-2, -3, 15324-2, -3	D-89	P
WELLS GARDNER		
53X319, 53X320	D-64	PP
53X326, 328, 329, 330, 342, 347	D-65	PP
ZENITH		
S-15911, 15912, 16566, 17130, 17140, 17245, 17265, 17435, 17646, 17767, 17811, 17927, 18930	D-45	LB
S-18567, 18566, 19728, 19854, 20993	DA-36	TT
S-19032, 19079	DA-37	TT
S-21219	D-58	LW
S-22130	D-60	LW
S-22154	D-59	LW

HORIZONTAL OUTPUT (FLYBACK)
Universal and Standard Types

Type No.	Application	Mtg. Type
D-11	Replaces RCA 211T1, 211T3	H
D-14R	Replaces GE77J1	PP
D-15	ing. Secondary tapped for Universal use. 14KV using single 6BG6 tube, isolated AGC wind-	P
D-19	Replaces RCA 225T1	P
D-31	Replaces RCA 231T1. Has added tap for low inductance width coil. 14 to 16 KV with single driver.	L
D-32	13.5 to 15 KV with single driver, isolated tapped AGC winding.	L
D-33	12 to 14 KV with single drive, isolated tapped AGC windings, low impedance secondary.	L
D-35	Replaces RCA 223T1, 224T1, 230T1, 232T1. 14 KV with single driver. Isolated width coil winding.	L
D-55	Replaces RCA 211T5 voltage doube transformer.	H

AUDIO

REPLACEMENT OUTPUT Transformers

STANDARD OUTPUT Transformers
Tube to Standard Voice Coil (3-4 ohms)

Type No.	Primary Tubes Used	Impedance	DC Ma.	Audio Watts	Wt. Lbs.
S-12X	25L6, 50L6, 35A5, 50B5, etc.	2500	50	2	¼
S-1X	25L6, 50L6, 35A5, 50B5, 2A3, 6B4, etc.	2500	60	3	½
S-2X	2A3, 6A3, 6B4, 6Y6, 7A5, 25B6, 50L6.	2000	55	4	½
S-3X	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	40	3	½
S-16X	25L6, 50L6, 35A5, 50B5, etc.	3000 (5% tap)	60	3	½
S-4X	2A3, 6B4, 6L6, 6U6, 12A5, 25L6, 50A5, 117N7.	3000	70	5	1
S-5Z	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	50	5	1
S-5X	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	50	5	1
S-6X	3B5, 6AQ5, 6AS5, 25A6, 25A7, 35L6, 43, 117L7.	5000	35	2	¼
S-7X	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	40	3	½
S-8X	1C5, 1H4, 1Q5, 1S4, 3Q5, 3S4, 14A5, 25AC5.	8000	30	2	¼
S-9Z	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	50	5	1
S-9X	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	50	5	1
S-11X	1J6, 3Q4, 3V4, 6AK6, 6AG7, etc.	10000	30	2	¼
S-11Z	1J6, 3Q4, 3V4, 6AK6, 6AG7, etc.	10000	30	2	¼

STANDARD OUTPUT Transformers
Tube to Standard Voice Coil (3-4 ohms)

Type No.	Primary Tubes Used	Impedance	DC Ma.	Audio Watts	Wt. Lbs.
S-17X	1J6, 3Q4, 3V4, 6AK6, 6AG7, etc.	10000	30	3	½
S-13X	1A5, 1N6, 1LA4.	25000	10	2	¼
S-15X	P.p.—6V6, 7C5, 6K6, 6F6, etc.	10000 C.T.	40	7	½
S-19Z	P.p.—6V6, 7C5, 6K6, 6F6, etc.	10000 C.T.	50	10	1¼
S-21A	P.p.—6V6, 7C5, 45, 6L6, etc.	8000 C.T.	50	15	1¾

UNIVERSAL OUTPUT Transformers
Any Tube to Any Voice Coil

Type No.	Application	Pri. DC Ma.	Audio Watts	Wt. Lbs.
S-51X	Single or p.p. plates (4,000 to 14,000 ohms) to VC.	35	5	½
S-53X	Single or p.p. plates (4,000 to 14,000 ohms) to VC.	40	8	½
S-55Z	Push-pull plates (4,000 to 14,000 ohms) to VC.	40 ea. side	10	1
S-55X	Push-pull plates (4,000 to 14,000 ohms) to VC.	40 ea. side	10	1
S-57Z	Push-pull plates (4,000 to 14,000 ohms) to VC.	50 ea. side	15	1½

AUDIO COMPONENTS

INPUT Transformers
Line or Microphone to Grid

Type No.	Application	Freq. Resp.	Primary Impedance Ohms	Turn Ratio	Wt. Lbs.
A-1X	Line or single button mike to grid.	300-3000	100	31.4	¼
A-3X	Line or D.B. mike to grid.	300-3000	400 C.T.	15.8	¼
A-5X	Single button mike to p.p. grids—Hi-gain.	300-3000	100	84	½
A-7J	Speaker V.C. (3.2 ohms) to grid. 45 db. shielding.	300-3000	3.2	124	⅛
A-9J	Line or mike to grid 45 db. shielding.	30-15000	600/250/50	12	¼
A-10J	Line to grid. 45 db. shielding.	30-15000	600/150 split windings for center tap.	10.1	¼

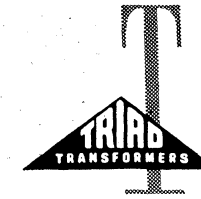
Special TRANSCEIVER Transformers
(Voice Frequencies)

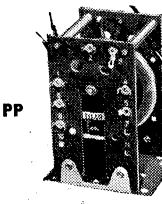
Type No.	Application	Impedance-ohms Primary	Impedance-ohms Secondary	Wt. Lbs.
A-21X	S.B. mike and plate to grid (2 pri.).	100 10000	100000	¼
A-23X	Tube to line and hi-impedance phones.	10000	50 and 2000	½

INTERSTAGE Transformers
Plate to Grid

Type No.	Application	Freq. Resp.	Impedance-ohms Pri.	Impedance-ohms Sec.	Ratio	Wt. Lbs.
A-31X	Plate to single or p.p. grids.	300-3000	10000	90000	1:3	½
A-33X	Plate to single or p.p. grids.	70-7000	10000	90000	1:3	1
A-42Z	Multi-ratio single or p.p. plates to single or p.p. grids.	70-7000	15000 C.T.	135000 or 33750	1:1.5 1:3 1:6	1¼
A-35A	Plate to single or p.p. grids.	50-10000	10000	90000	1:3	1¾
A-39A	P.p. plates to p.p. grids.	50-10000	20000 C.T.	45000	1:1.5	1¾
A-40J	Parallel-fed 6J5 or 6SN7. Plate to p.p. grid. 45 db. shielding.	30-15000	15000	86000	1:2.76	¼

(SEE PAGE N-87 FOR LIST PRICES)

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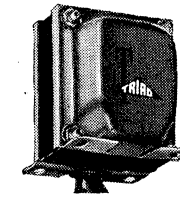
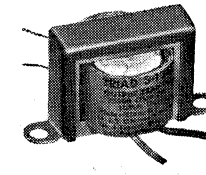

Case A

Case J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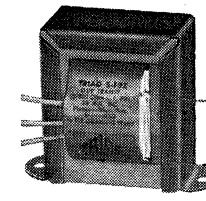
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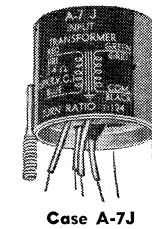
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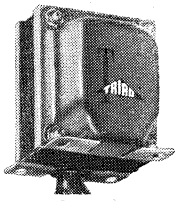
TRIAD TRANSFORMER CORP.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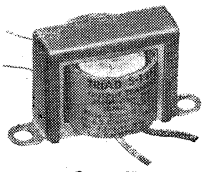
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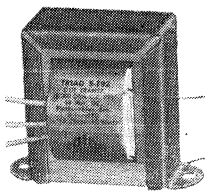
Case J

Case P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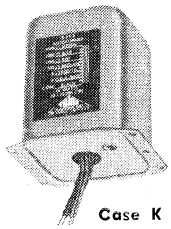
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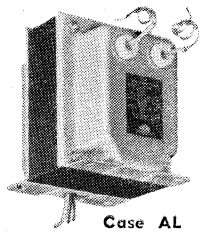
Case AL

LOW LEVEL OUTPUT Transformers

Type No.	Application	Frequency Response	Impedance-ohms Primary	Secondary	Wt. Lbs.
A-51X	Tube to line.	300-3000	7000	50	¼
A-53X	Single or p.p. tubes to line.	70-7000	18000 C.T.	600/250/50	½
A-55J	Parallel-fed 6J5 or 6SN7 to line. 45 db. shielding	30-15000	15000	600/250/50	¼
A-65J	Parallel-fed 6J5 or 6SN7 to line. 45 db. shielding.	30-15000	15000	600/150 Split winding	¼
S-58X	Line to line.	300-3000	500/125 —Split windings—	500/125	¼
A-57J	Line to line. 45 db. shielding.	30-15000	600/250/50	600/250/50	¼
A-67J	Line to line. 45 db. shielding.	30-15000	600/150 —Split windings—	600/150	¼

PLUG-IN INPUT Transformers

These are high-quality input transformers with a high degree of magnetic shielding and are designed to couple low-impedance microphones or magnetic heads to amplifier input. They are equipped with nine prong plugs to prevent possible insertion in tube sockets and to match the sockets on many commercial amplifiers.

Type No.	Application	Freq. Resp.	Shielding	Wt. Lbs.
*A-200P	Line or mike. 30-150 C.T. or 200-500 C.T. to grid.	50-15000	70 db.	¼
*A-202P	Same as above.	30-15000	90 db.	½

*New item.

EQUALIZING Reactor
(as used in HF-3 and HF-12 Kits)

Type No.	Application	Ind.	D.C. Ma.	Res. Ohms	Wt. Lbs.
†A-75J	Choke for cathode equalizer.	15	0	300	¼

†Humbucking and 45 db. shielding single hole mounting.

OUTPUT Transformers
Tube to Voice Coil and Line

Type No.	Primary Tubes	Primary Imp.	Secondary Imp.	DC Pri.	Audio Watts	Wt. Lbs.
S-27A	2A3, 6A3, 6B4, 6L6, 6V6, 6Y6, 12A5, 25B6, 35B5, 50A5.	2500	4-8-16-500	80	8	1¾
S-28X	2A5, 6AC5, 6B5, 6F6, 6K6, 7B5, 14A5, 25AC5.	7500	4-8-16-500	40	5	1
S-29X	6AQ5, 6AS5, 6V6, 7C5, 25A6, 25B5, 25L6, 25N6, 35A5, 35L6.	5000	4-8-16-500	45	5	1
S-22A	P.p. 2A3, 6B4, 6A5, 6L6, etc.	5000 C.T.	4-8-16-500	100 (bal.)	15	2½
S-24A	P.p. 6V6, 7C5, 6K6, 6F6, etc.	8000 C.T.	4-8-16-500	80 (bal.)	15	2½
S-60A	P.p. 6L6, 5881, 807, etc.	6600 C.T.	4-18-16 250-500	120 (bal.)	30	4

OUTPUT Transformers
Line to Voice Coil

Type No.	Impedance Primary	Secondary	Output Watts	Freq. Resp.	Wt. Lbs.
S-23X	50 (autoformer).	3.2	3	300-3000	¼
S-26X	500/50 (autoformer).	3.2	3	300-3000	¼
S-66X	500 (autoformer).	16/8/4	3	100-5000	½

"SPLATTER" Choke

Type No.	Inductance Henries	Current Ma.	Res. Ohms	Wt. Lbs.
*C-26X	Tapped .2 to 1.5	100	95	1¼
*C-43X	Tapped .05 to 1	300	40	2

*New item.

OUTPUT Transformers
70.7 volt Line to Voice Coil

Type No.	Impedance Primary	Secondary	Output Watts	Freq. Resp.	Wt. Lbs.
S-70Z	Autoformer 1600/8000/4000/2000/1000.	8/4	5	100-5000	½
S-71Z	Autoformer 4000/2000/1000/500.	16/8/4	10	100-5000	¾
S-25Z	Autoformer 4000/2000/1000/500.	8/4	10	70-7000	1
S-45Z	Autoformer 4000/2000/1000/500.	8/4	10	20-20000	1¾
S-74K	Weatherproof autoformer 4000/2000/1000/500.	8/4	10	20-20000	2¼
S-72Z	Autoformer 2000/1000/500/250.	16/8/4	20	100-5000	1
S-46A	Autoformer 2000/1000 500/250.	16/8/4	20	20-20000	4
S-75K	Weatherproof autoformer 2000/1000/500/250.	16/8/4	20	20-20000	6
S-78Z	Isolation 4000/2000/1000/500.	16/8/4	10	100-5000	¾
S-79Z	Isolation 2000/1000/500/250.	16/8/4	20	100-5000	1

DRIVER Transformers

No. Type	Driver tubes	Output tubes	Freq. Resp.	Ratio Pri. ½ Sec.	Pri. D.C. Ma.	Wt. Lbs.
A-81X	30, 1H4, etc.	P.p. 19, 30's, 1J6, etc.	300-3000	2.66:1	15	¼
A-83X	6F6, 42, 45, etc.	P.p. 6L6, 6F6, 6V6, 807, etc.	70-7000	1.33:1	40	½
A-85X	6F6, 42, 45, etc.	P.p. 6L6, 6F6, 6V6, 807, etc.	50-10000	2.66:1	40	1
A-89A	P.p. plates to class B or AB grids — Universal 15w.	Any class B or AB tubes. 100-500w. output.	50-10000	3.1 or 2.2:1	100 per side	2¾
A-91A	P.p. plates to class B or AB grids — Universal 30 w.	Any class B or AB tubes. 400-1500w. output	50-10000	3.1 or 2.2:1 2.2:1	160 per side	4

MODULATION Transformers
Tube to RF Load

Type No.	Primary	Freq. Resp.	Secondary Imp.	Ma.	Audio Watts	Wt. Lbs.
M-4Z	5000 (Autoformer).	300-3000	6750 4	100 (total)	10	¾
M-5Z	5000 (Autoformer).	300-3000	6750 4	250 (total)	20	1½
M-1X	10000 C.T. for 19, 1J6, 6N7 6A6, etc.	300-3000	5000-8000-10000	50	5	¼
M-3X	10000 C.T. for 6N7, 6A6, 6F6's, etc.	300-3000	3000-5000-8000	100	20	1½
†M-7AL	4250 C.T. for 807's.	300-3000	3000-5000-8000	200	60	6½
*M-15A	Multi-match.	300-3000	4000 to 20000	150	30	3
*M-16AL	Multi-match.	300-3000	4000 20000	180	60	5½
†M-8AL	Multi-match.	300-3000	4000 to to 20000	200	80	8
†M-12AL	Multi-match.	300-3000	4000 to 20000	300	125	12

*New item. †Plate leads out side.

(SEE PAGE N-87 FOR LIST PRICES)

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TRIAD TRANSFORMER CORP.

PRICE LIST BY TYPE NUMBER

Type No.	List Price
A-1X	$ 3.30
A-3X	3.60
A-5X	4.95
A-7J	8.35
A-9J	15.00
A-10J	15.20
A-21X	3.75
A-23X	4.05
A-31X	3.45
A-33X	4.75
A-35A	8.80
A-39A	8.80
A-40J	15.50
A-42Z	5.65
A-51X	3.10
A-53X	4.50
A-55J	15.00
A-57J	14.60
A-65J	15.20
A-67J	15.20
A-75J	13.20
A-81X	3.35
A-83X	4.15
A-85X	4.65
A-89A	11.00
A-91A	15.00
A-95X	3.45
A-96X	4.75
A-97K	4.75
A-97X	3.25
A-97Y	4.75
A-98K	4.90
A-98X	3.30
A-99X	5.50
A-101U	7.75
A-102X	4.75
A-103X	5.75
A-104X	6.35
A-105X	6.25
A-107X	7.75
A-108X	5.65
A-109X	5.65
A-110X	5.65
*A-111X	5.20
A-120Z	3.60
*A-122Z	3.60
*A-200P	24.00
*A-202P	31.70
B-160S	9.75
B-247S	9.15
B-365S	9.15
B-470R	11.60
B-1000S	10.00
C-1X	2.40
C-2X	2.25
C-3X	2.75
C-4X	2.75
C-5X	3.60
C-6X	2.85
C-7X	3.80
C-8X	3.65
C-9X	3.65
C-10X	4.60
C-11X	4.60
C-12A	7.15
C-12X	5.35
C-13X	4.75
C-14A	8.05
C-14X	5.85
C-15A	8.00
C-15X	5.80
C-16A	10.75
C-17X	4.45
C-18A	14.60
C-19A	17.10
C-20A	19.65
C-21X	4.45
C-22A	34.00
C-23X	4.45
C-25A	10.00
C-26X	6.95
C-30X	3.00
C-31A	11.00
*C-32AL	19.65
C-33A	17.00
C-35A	20.80
*C-38AL	35.00
C-39A	34.50
C-40X	4.10
*C-42AL	19.65
*C-43X	10.00
*C-45AL	35.00
*C-47U	13.40
C-48U	15.00
D-1	10.70
D-2	10.70
D-11	11.50
D-14R	12.45
D-15	12.45
D-19	12.45
DA-20	8.35
D-22	12.45
D-24	12.45
D-26	11.90
D-27	11.90
D-28	11.90
D-31	13.20
D-32	$12.80
D-33	11.90
D-35	13.20
DA-36	4.15
DA-37	4.15
D-40	12.20
D-41	12.20
D-42	12.20
D-43	12.20
D-44	12.20
D-45	11.90
D-46	12.50
D-47	12.50
D-48	10.40
D-49	10.15
D-50	13.70
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D-53	8.90
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D-55	11.90
D-56	11.30
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*D-89	12.20
F-1X	3.40
F-3X	5.25
F-5U	7.70
F-7X	5.00
F-8X	6.60
F-9A	12.35
F-9U	10.90
F-11U	14.25
F-13X	3.40
F-14X	3.70
F-16X	5.30
F-18A	9.15
F-18X	7.05
F-21A	11.40
F-22A	16.35
F-23U	10.80
F-25X	5.85
F-27U	14.40
F-30A	11.65
F-32A	9.90
F-34A	11.40
F-36A	14.60
F-38A	16.10
F-40X	5.65
F-42A	12.25
F-47U	9.05
F-48U	15.15
F-49U	23.30
F-50X	4.80
F-51X	5.70
F-52X	5.00
F-53X	7.00
F-60U	10.80
F-61U	16.90
F-62U	31.50
F-63U	9.35
F-64U	10.60
F-65U	18.65
F-66U	45.00
*F-71U	9.90
*F-72Z	5.85
HF-3	$42.45
HF-12	62.75
HF-12A	75.75
HF-12B	63.45
HF-12C	75.75
HF-18	78.00
HF-18A	79.40
HF-18C	79.40
HF-40	95.80
HF-40A	141.50
HF-40C	141.50
HS-1	47.60
HS-3	51.80
HS-4	47.30
HS-5	45.90
HS-8	47.60
HS-11	35.20
HS-14	35.70
HS-15	43.50
HS-23	35.10
HS-25	35.70
HS-27	26.40
HS-29	45.80
HSM-31	35.10
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HS-35	31.00
HS-50	38.70
HS-52	40.00
HS-54	47.60
HS-56	41.60
HS-58	47.00
HS-60	31.00
HS-61	32.80
HS-66	38.10
HS-71	23.20
HS-73	25.00
HS-75	29.20
HS-77	34.50
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HSM-82	39.30
HSM-84	39.30
HSM-85	39.30
HSM-91	65.50
HSM-94	72.70
HSM-95	72.70
HS-97	137.00
HSM-181	39.30
HSM-182	39.30
HSM-186	50.00
HSM-187	50.00
HSM-189	50.00
HSM-190	50.00
*HSM-192	75.00
*HSM-193	75.00
HSM-201	29.20
HSM-203	35.70
HSM-205	39.00
HSM-207	43.50
HSM-211	44.70
HSM-212	52.40
HSM-215	51.20
HSM-216	62.00
HS-217	57.20
HSM-218	82.80
HSM-219	82.20
HSM-223	17.50
HSM-225	22.30
HSM-226	23.80
HSM-227	31.70
HSM-228	36.40
HSM-229	28.60
HSM-231	32.60
HSM-232	38.10
HSM-235	50.00
HSM-236	35.10
HSM-301	19.10
HS-303	19.65
HSM-305	20.80
HSM-307	27.40
HSM-309	$25.60
HSM-315	26.20
HSM-319	39.30
HS-331	14.80
HS-333	16.20
HS-335	17.90
HS-339	19.10
HS-341	19.65
HS-401	25.60
HS-405	30.60
HS-407	36.85
HS-413	50.00
HS-415	51.20
HS-417	53.60
HS-425	18.50
HS-427	25.00
HS-433	26.80
HS-435	31.30
*HS-436	14.90
HS-441	41.10
HS-442	29.80
*HS-443	20.80
*HS-470	25.00
*HS-472	31.00
*HS-474	38.10
JAF-1	20.20
JAF-2	20.80
JAF-3	20.80
JAF-5	20.80
JAF-11	19.65
JAF-12	20.20
JAF-13	20.80
JAF-14	20.80
JAF-15	20.80
JAF-21	20.20
JAF-22	20.20
JAF-23	20.80
JAF-31	20.20
*JAF-33	20.80
JAF-101	19.10
JO-1	20.20
JO-2	20.80
JO-3	20.80
JO-5	20.80
JO-11	19.65
JO-12	19.65
JO-13	20.20
JO-21	19.65
JO-22	19.65
JO-23	20.20
JO-31	19.65
JO-101	19.10
JZ-1	19.65
JZ-5	20.20
JZ-7	19.65
JZ-13	19.65
JZ-15	19.65
JZ-25	19.10
JZ-26	19.10
M-1X	4.50
M-3X	6.90
M-4Z	4.05
M-5Z	6.65
M-7AL	19.30
M-8AL	25.20
M-12AL	29.80
*M-15A	18.80
*M-16AL	20.90
N-1X	6.15
N-3M	11.70
N-4M	15.20
N-5M	17.00
N-7M	26.20
N-9M	50.70
N-11M	86.50
N-34X	9.70
N-35M	22.00
N-50M	31.60
N-51X	7.10
N-52M	38.70
N-53M	14.00
N-54M	17.10
N-55M	30.20
N-57M	50.70
N-59M	86.50
N-60SC	179.00
*N-62AC	86.00
*N-64AC	48.40
*N-66A	25.40
*N-67A	16.30
*N-68X	8.95
P-1A	12.50
P-3A	15.45
P-5A	20.10
P-7A	22.70
P-9A	40.20
P-11A	25.60
P-14AL	32.00
P-15AL	35.50
P-16AL	74.50
P-17AL	46.70
P-18AL	84.00
P-20AL	82.80
PL-4	16.65
PL-5	19.45
PL-6	19.45
PL-10	1.85
R-2C	$ 6.10
R-3A	7.85
R-4A	7.85
R-4B	7.75
R-5A	9.05
R-5B	8.90
R-6A	9.10
R-6B	8.95
R-7A	9.75
R-7B	9.60
R-8A	10.50
R-8B	10.35
R-9A	11.35
R-9B	11.20
R-10A	12.50
R-10B	12.35
R-11A	12.80
R-11B	12.65
R-12A	12.65
R-12B	12.50
R-14A	14.70
R-14B	14.55
R-16A	16.90
R-16B	16.70
R-17A	19.00
R-18A	19.50
R-18B	19.20
R-19A	23.30
R-20A	19.30
R-20B	19.00
R-21A	21.25
R-21B	21.00
*R-22A	10.20
*R-22B	10.00
*R-23B	9.05
R-24A	26.80
R-24B	26.60
R-25A	42.00
R-26A	25.60
R-27A	54.20
R-28A	40.80
R-29A	7.85
R-30X	6.40
R-31A	32.00
R-31BC	34.20
R-32A	32.00
R-33A	29.80
R-33BC	31.00
R-34A	28.60
R-35A	28.00
R-35BC	29.80
R-36A	29.80
R-36BC	31.00
R-37BC	29.00
R-38A	28.00
R-38BC	29.80
R-39A	26.80
R-39BC	28.30
R-40A	32.20
R-40BC	33.90
R-41C	27.70
R-42A	25.40
R-42BC	27.10
R-43C	16.45
R-44BS	26.20
R-45C	20.50
R-46A	41.70
R-47BS	29.80
R-48BS	28.00
R-49BC	28.00
R-49BS	29.20
R-50A	33.40
R-50BC	35.20
R-51BC	28.60
R-52BC	27.40
R-54X	5.65
R-56A	9.55
R-58A	22.60
R-60BC	28.60
R-61BC	30.75
R-62BC	31.00
R-63BC	25.60
R-68A	13.20
R-70A	17.30
S-1X	2.50
S-2X	2.70
S-3X	2.60
S-4X	3.70
S-5X	3.85
S-5Z	3.85
S-6X	2.50
S-7X	2.50
S-8X	2.55
S-9X	4.05
S-9Z	4.05
S-11X	2.70
S-11Z	2.70
S-12X	2.25
S-13X	2.75
S-15X	3.90
S-16X	2.85
S-17X	2.75
S-19Z	5.20
S-21A	8.35
S-22A	10.00
S-23X	2.85
S-24A	10.70
S-25Z	$ 5.35
S-26X	2.85
S-27A	9.30
S-28X	5.70
S-29X	9.35
S-31A	14.30
S-32A	15.00
S-33A	14.30
S-35A	15.50
S-36A	16.10
S-38A	20.00
S-39A	20.80
S-40A	20.00
S-42A	27.00
S-45Z	7.75
S-46A	14.10
S-51X	3.55
S-53X	4.05
S-55X	5.60
S-55Z	5.60
S-57Z	6.85
S-58X	3.80
S-60A	11.90
S-66X	3.25
S-70Z	4.65
S-71Z	5.05
S-72Z	6.45
S-74K	14.30
S-75K	22.00
S-78Z	5.65
S-79Z	6.75
S-142A	21.40
S-146A	30.60
S-148A	30.60
*S-152A	44.60
T-1X	7.65
T-2X	7.75
T-3X	7.75
T-5X	7.65
T-11X	7.55
T-12X	7.65
T-13X	7.75
T-20X	7.54
T-21X	7.55
T-22X	7.55
T-23X	7.75
T-31X	7.75
*T-33X	7.75
T-41X	8.10
*T-42X	8.10
T-101X	7.15
TY-44X	8.95
TY-47X	9.55
*TY-61X	6.55
*TY-63X	10.10
TZ-1	8.35
TZ-5	8.95
TZ-7	8.35
TZ-13	8.35
TZ-15	8.35
TZ-25	7.75
TZ-26	7.75
V-1K	10.95
V-3K	11.50
V-5A	10.90
V-7A	13.95
*V-21	6.30
*V-21B	7.70
*V-21K	10.10
*V-21Z	6.50
*V-23	7.75
*V-23B	9.25
*V-23K	11.50
*V-23Z	7.90
*V-30Z	7.75
*V-31	7.45
*V-31K	11.00
WC-11	3.00
WC-12	1.95
WC-13	1.90
Y-11-1	10.40
Y-12-1	12.20
Y-17	11.30
Y-17-1	12.20
Y-19	11.30
Y-19-1	12.20
Y-20	11.30
Y-20-1	12.20
Y-20-2	12.80
Y-21	11.30
Y-21-1	12.20
Y-22	11.30
Y-22-1	12.20
Y-24	11.30
Y-25-1	11.90
Y-40-1	13.70
Y-41-1	13.70
*Y-42-1	14.50
Y-50	21.45
Y-50-1	22.60

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FOR COMPLETE REPLACEMENT DATA ASK FOR *FREE* COPY OF OUR REPLACEMENT DATA

HORIZONTAL OUTPUT TRANSFORMERS

MODEL	DESCRIPTION	LIST
EFR-85	Gen. Replacement for 630 ckts.	$ 9.50
EFR-86	RCA 211T1, 3	9.50
EFR-87	Dumont 20005021	10.00
EFR-88	Regal 140-126-133	9.50
EFR-89	Sparton, Fada	9.50
EFR-90	Airline, Silvertone	9.50
EFR-92	CBS 10136, Silvertone	10.00
EFR-93	Video ET-106	9.50
EFR-94	RCA 211T5	9.50
EFR-95	Travler Tux 104, 106	9.00
EFR-96	Conversion for 630 ckts.	9.50
EFR-97	Travler Tux 107-114, 130, 131	9.00
EFR-98	Westinghouse V9904-1	10.00
EFR-99	Magnavox 360557, 577	11.00
EFR-100	Magnavox 320061, 1, 3	9.50
EFR-101	Fada 37,255, 258	9.50
EFR-102	Fada 37.264	10.50
EFR-103	Magnavox 360561	11.00
EFR-104	Magnavox 360580	11.00
EFR-105	GEM-JEWEL 91T5A	9.50
EFR-106	Majestic C9.253, 259	9.50
EFR-107	Farnsworth 850220, 285	11.00
EFR-108	Truetone 12M-17967, 182856	10.00
EFR-109	Truetone 12M-18530, 18689, 18562	10.00
EFR-110	Truetone 201-19817, 19531, 12M-19407, 19408, 19190	11.00
EFR-111	Truetone 201-19874, 19999, 21270	11.00
EFR-112	GE 77J1	9.50
EFR-113	Truetone 201-21025	11.00
EFR-114	Raytheon 201-22396	11.00
EFR-115	Raytheon 12E-23939, Bendix 265106-1	11.00
EFR-118	RCA 74951	6.50
EFR-119	Crosley AC-146756, 147552, 148161, 148239, 149146	11.00
EFR-120	Crosley AD-157820, 158481, 159412	9.50
EFR-124	Emerson 738091, 96, 99, 100, 106, 107	11.00
EFR-125	Emerson 738056, 60, 64	9.50
EFR-126	Emerson 738067, 68, 69, 73, 74, 75, 82, 83	9.50
EFR-127	Emerson 738079	9.50
EFR-128	Westinghouse V-10214	9.50
EFR-132	Westinghouse V-11548	9.50
EFR-138	Dewald 1120A	9.50
EFR-147	Zenith S-18567, 990, 19032, 728	11.00
EFR-148	Zenith S-16566, 17245, 939, 927, 435, 140, 233, 18487, 537, 125	9.50
EFR-149	Zenith S-20908	11.00
EFR-151	Hoffman 5160, RCA	10.00
EFR-152	RCA 76795 (230T1)	10.00
EFR-153	RCA 78201, 78810	10.00
EFR-155	RCA 235T1, CBS PC10155, 10174 Stromberg Carlson 161045	15.00
EFR-156	RCA 75240, 75519, 85, 76154, 381	6.50
EFR-157	Hoffman 5144, 45, 46, 47, 48, 49, 55	10.00
EFR-158	RCA 74588, 74876 (225T1)	9.50
EFR-159	RCA 76501	6.50
EFR-162	Sylvania 241-0003	8.50
EFR-163	Sylvania 241-0005, 6	8.50
EFR-164	Sylvania 241-0007	8.50
EFR-167	Admiral 79C30-1, 3	10.00
EFR-168	Admiral 79C30-2, 4	10.00
EFR-169	Admiral 79D41-1	9.50
EFR-170	Admiral 79D41-2	9.50
EFR-171	Admiral 79C60-1	9.50
EFR-172	Admiral 79C60-2, 7	9.50
EFR-173	Admiral 79C60-3, 4, 5, 6	9.50
EFR-174	Motorola 24A790184, K79174, C791823	9.50
EFR-175	Motorola 24C701134, 792596, K700588, 792753	9.50
EFR-176	Motorola 24C701552, 711652, 701636	11.00
EFR-177	Motorola 24C11265, 721290, C, K, 711266, 721301, 722126, 730692	12.00
EFR-178	Motorola 24K702975, 711937	12.00
EFR-179	Motorola 24K730904, 24C730902	12.00
EFR-181	Philco 32-8428-2	9.50
EFR-182	Philco 32-8453-3	12.50
EFR-183	Philco 32-8509	12.50
EFR-184	Philco 32-8509-2	12.50
EFR-185	Philco 32-8534	9.50
EFR-186	Philco 32-8555	9.50
EFR-187	Philco 32-8565	9.50
EFR-188	Philco 32-8572	10.00
EFR-189	Philco 32-8634	10.00
EFR-194	Muntz TO-0031	10.00
EFR-195	Muntz TO-0036	10.00

DEFLECTION YOKES

MODEL	DESCRIPTION	LIST
PCM-84	Horiz. 8.3 mh. Vert. 43 mh.	$ 9.00
PCM-85	Horiz. 8.3 mh. Vert. 50 mh.	9.00
PCM-104	Horiz. 10.3 mh. Vert. 43 mh.	9.00
PCM-105	Horiz. 10.3 mh. Vert. 50 mh.	9.00
PCM-124	Horiz. 12 mh. Vert. 43 mh.	9.00
PCM-143	Horiz. 14 mh. Vert. 3 mh.	9.00
PCM-144	Horiz. 14 mh. Vert. 43 mh.	9.00
PCM-145	Horiz. 14 mh. Vert. 50 mh.	9.00
PCM-174	Horiz. 17.5 mh. Vert. 43 mh.	9.00
PCM-175	Horiz. 17.5 mh. Vert. 50 mh.	9.00
PCM-204	Horiz. 20 mh. Vert. 43 mh.	9.00
PCM-243	Horiz. 24 mh. Vert. 3 mh.	9.00
PCM-244	Horiz. 24 mh. Vert. 41 mh.	9.00
PCM-245	Horiz. 24 mh. Vert. 50 mh.	9.00
PCM-303	Horiz. 30 mh. Vert. 3 mh.	9.00
PCM-303/P	RCA 74952	9.00
PCM-305	Horiz. 30 mh. Vert. 50 mh.	9.00
PCM-1045	Horiz. 10 mh. Vert. 45 mh. (90°)	15.00
PCM-2045	Horiz. 20 mh. Vert. 45 mh. (90°)	15.00

VERTICAL BLOCKING OSCILLATORS

VBO-15	Ratio 1:4.2; Mtg. Ctrs. 2	$ 2.70
VBO-16	Ratio 1:4.2; Mtg. Ctrs. 1 15/16	3.40
VBO-17	Ratio 1:4.2; Mtg. Ctrs. 1 13/16	4.20
VBO-18	Ratio 1:.48; Sec. 1:1; Ctrs. 2 3/8	4.20
VBO-19	Ratio 1:4.2; Mtg. Ctrs. 1 3/4	2.70
VBO-20	Ratio 1:1.5; Mtg. Ctrs. 1 3/4	2.75

VERTICAL OUTPUT TRANSFORMERS

VO-25	Ratio 10:1; Mtg. Ctrs. 2 1/16	$ 4.50
VO-26	Ratio 8.8:1; Mtg. Ctrs. 2 1/16	4.50
VO-27	Ratio 10:1; Mtg. Ctrs. 1 5/8	6.55
VO-28	Ratio 10:1; Mtg. Ctrs. 1 5/8 x 1 3/4	5.90
VO-29	Ratio 11.4:1; Mtg. Ctrs. 2 1/16	4.25
VO-30	Ratio 44:1; Mtg. Ctrs. 1 5/8	6.55
VO-31	Ratio 18:1; Mtg. Ctrs. 3 1/8	5.65
VO-32	Ratio 8:1; Mtg. Ctrs. 3 3/8	6.25
VO-33	Ratio 10:1; Mtg. Ctrs. 3 1/8	4.25
VO-34	Ratio 9:1; Mtg. Ctrs. 3 1/8	4.50
VO-35	Ratio 6.9:1; Mtg. Ctrs. 2 1/16	4.50
VO-36	Ratio 6:1; Mtg. Ctrs. 2 1/16	4.25
VO-37	Ratio 8:1; Mtg. Ctrs. 2 1/16	4.50
VO-38	Ratio 6.9:1; Mtg. Ctrs. 2 1/16	4.25
VO-39	Ratio 9:1; Mtg. Ctrs. 3 1/8	6.25

COILS

QRC-100	Width Coil (RCA 201R1)	$ 1.25
QRC-101	Width Coil with AGC	1.65
QRC-102	Width Coil (RCA 201R4)	.95
QRC-103	Tapped Lin. (RCA 207R1)	1.20
QRC-104	Width and Lin. (GE RLDO14)	1.20
QRC-105	Width Coil and AGC	1.65
QRC-106	Lin. Coil (RCA 201R3)	1.20
QRC-107	AFC Coil	1.20
QRC-108	Width Coil (RCA 211R1)	1.20
QRC-109	Width Coil (RCA 212R1)	1.20
QRC-110	Lin. Coil (RCA 213R1)	1.20
QRC-111	Tapped Lin. (RCA 201R5)	1.20
QRC-112	Width Coil	1.00
QRC-113	Tapped Lin. (RCA 209R1)	1.20

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

UNITED TRANSFORMER CORP.

NET PRICE LIST

Type	Net
A-10	$12.00
A-11	12.00
A-12	12.00
A-14	11.00
A-16	10.00
A-17	11.00
A-18	11.00
A-19	12.00
A-20	12.00
A-21	12.00
A-24	12.00
A-25	12.00
A-26	12.00
A-27	12.00
A-30	9.00
A-32	6.50
CG-1C	50.00
CG-1S	50.00
CG-2L6	14.00
CG-15	10.00
CG-16	10.00
CG-19	10.00
CG-33	7.00
CG-34	9.00
CG-40	7.00
CG-41	7.00
CG-44	7.00
CG-45	7.00
CG-48C	7.50
CG-50	10.50
CG-51AX	9.00
CG-53AX	10.00
CG-59AX	11.00
CG-100	7.00
CG-101	7.00
CG-102	10.50
CG-103	10.50
CG-104	15.00
CG-105	15.00
CG-108	27.00
CG-109	27.00
CG-120	13.00
CG-121	17.00
CG-122	14.00
CG-124	15.00
CG-125	16.00
CG-126	22.00
CG-131	9.00
CG-132	9.00
CG-133	9.00
CG-134	9.50
CG-135	10.00
CG-136	12.00
CG-137	8.00
CG-140	8.00
CG-141	9.00
CG-233	9.00
CG-235	12.00
CG-238AX	20.00
CG-300	16.00
CG-301	20.00
CG-302	28.00
CG-303	35.00
CG-304	125.00
CG-305	56.00
CG-306	115.00
CG-307	115.00
CG-308	135.00
CG-309	270.00
CG-310	240.00
CG-311	56.00
CG-312	56.00
CG-315	14.00
CG-316	20.00
CG-333	9.00
CG-422	17.00
CG-428	23.00
CG-429	23.00
CG-431	30.00
CG-433	10.00
CG-710	10.00
CGE-1A	20.00
CVA-1	10.00
CVA-2	12.50
CVA-3	16.00
CVA-4	20.00
CVA-5	30.00
CVL-1	8.50
CVL-2	10.00
CVL-3	14.00
CVL-10	9.00
CVM-0	10.00
CVM-1	13.00
CVM-2	17.00
CVM-3	21.00
CVM-4	39.00
CVM-5	90.00
CVP-1	10.50
CVP-2	12.00
CVP-3	19.00
CVP-4	24.00
CVP-5	40.00
DI-1	40.00
DI-2	45.00
DI-3	50.00
DI-4	65.00
DOT-1	6.00
DOT-2	5.30
DOT-3	5.30
DOT-4	5.30
DOT-5	5.30
DOT-6	6.00
DOT-7	6.60
DOT-8	4.80
DOT-9	6.30
DOT-10	6.30
DOT-11	6.30
DOT-12	5.70
DOT-13	5.70
DOT-14	6.00
DOT-15	6.00
DOT-16	6.00
DOT-17	6.00
DOT-18	6.30
DOT-19	6.00
DOT-20	6.00
DOT-21	6.00
DOT-22	6.00
DP-2	6.00
DP-3	7.00
DP-4	8.00
FT-1	2.40
FT-2	2.30
FT-3	3.00
FT-4	3.00
FT-5	3.30
FT-6	3.10
FT-7	3.30
FT-8	3.90
FT-9	4.20
FT-10	4.50
H-1	9.50
H-2	10.00
H-3	8.00
H-4	8.00
H-5	9.00
H-6	9.50
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H-8	9.00
H-9	9.00
H-10	8.50
H-11	7.50
H-19	16.00
H-20	15.00
H-21	17.00
H-22	15.50
H-23	15.50
H-24	11.00
H-30	9.00
H-31	9.00
H-32	9.00
H-33	9.00
H-34	9.00
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H-49	7.50
H-50	7.50
H-51	7.80
H-52	7.80
H-53	8.10
H-54	8.10
H-55	8.10
H-56	8.40
H-57	9.00
H-70	6.60
H-71	7.00
H-72	7.50
H-73	9.30
H-74	10.20
H-75	15.00
H-76	20.00
H-77	24.00
H-78	33.00
H-79	87.00
H-80	10.80
H-81	14.40
H-82	16.50
H-83	16.80
H-84	21.00
H-85	23.40
H-86	25.80
H-87	27.60
H-88	30.90
H-89	33.00
H-90	17.40
H-91	21.60
H-92	27.00
H-93	33.90
H-110	22.80
H-111	27.60
H-112	30.00
H-113	49.50
H-114	81.00
H-115	75.00
H-116	165.00
H-117	294.00
H-120	13.00
H-121	16.00
H-122	19.00
H-123	33.00
H-124	10.20
H-125	19.20
H-126	24.80
H-127	33.00
H-128	80.00
H-129	55.00
H-130	7.00
H-131	9.60
H-132	16.20
H-133	11.70
H-134	15.60
H-135	19.20
H-136	20.40
HA-100	15.00
HA-100X	17.00
HA-101	16.50
HA-101X	17.50
HA-103A	15.00
HA-104	15.00
HA-105	15.00
HA-106	15.00
HA-107	23.00
HA-108	16.00
HA-108X	17.00
HA-111	15.00
HA-113	14.00
HA-114	16.00
HA-130X	17.00
HA-133	19.00
HA-134	17.00
HA-135	17.00
HA-137	16.00
HC-115	8.00
HC-116	12.00
HC-117	9.00
HP-122	11.00
HP-123	12.00
HQA-1	7.00
HQA-2	7.00
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HQA-18	17.00
HQB-1	16.00
HQB-2	16.00
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HQB-4	17.00
HQB-5	17.00
HQB-6	18.00
HQB-7	19.00
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HQB-9	21.00
HQB-10	22.00
HQB-11	23.00
HQB-12	24.00
HQC-1	13.00
HQC-2	13.00
HQC-3	13.00
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HQC-5	13.00
HQD-1	15.00
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HVC-9	9.50
HVC-10	10.00
HVC-11	11.00
HVO-12	12.00
LS-6L1	35.00
LS-6L3	23.00
LS-6L4	50.00
LS-6	23.00
LS-10	18.00
LS-10X	22.00
LS-12	20.00
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LS-31X	25.00
LS-32	25.00
LS-33	21.00
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LS-103	120.00
LS-106	200.00
LS-140	23.00
LS-141	21.00
LS-143	18.00
LS-150	21.00
LS-151	19.00
LS-691	450.00
LS-692	750.00
MAT-1	28.00
MAT-2	30.00
MAT-3	35.00
MAT-4	40.00
MAT-5	11.00
MAT-6	9.00
MC-1	10.00
MC-2	11.00
MLF-AMP	99.00
MQA-1	6.50
MQA-2	6.50
MQA-3	6.50
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MQA-10	9.50
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MQA-18	15.00
MQA-19	20.00
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MQB-2	13.00
MQB-3	13.00
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PF-1	8.00
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PF-3	6.00
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R-15	1.40
R-16	1.40
R-17	2.00
R-18	2.00
R-19	2.70
R-20	3.30
R-21	3.30
R-33	2.10
R-34	2.10
R-35	2.70
R-38A	2.10
R-39	2.70
R-40	4.50
R-41	6.00
R-42	6.60
R-43	7.20
R-44	8.50
R-45	12.50
R-46	26.00
R-47	9.00
R-48	10.00
R-49	10.00
R-55	1.30
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R-59	2.70
R-60	3.30
R-64	48.00
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R-73	9.00
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R-103	6.60
R-104	7.20
R-105	8.40
R-106	4.80
R-107	6.00
R-108	7.20
R-109	11.00
R-110	4.80
R-111	6.00
R-112	7.20
R-113	11.00
SO-1	4.00
SO-2	3.60
SO-3	3.60
SO-4	3.60
SO-5	3.00
SO-6	4.00
SO-7	3.00
SO-8	4.20
SO-9	3.60
SSO-1	4.20
SSO-2	4.50
SSO-3	3.70
SSO-4	3.70
SSO-5	3.70
SSO-6	3.70
SSO-7	3.00
SSO-8	4.20
SSO-9	3.00
SSO-10	3.00
SSO-11	3.00
SSO-12	3.00
SSO-13	4.50
S-1	4.50
S-2	5.40
S-3	4.20
S-4	6.30
S-5	4.50
S-6	4.20
S-7	6.00
S-8	6.00
S-9	7.20
S-10	6.00
S-11	5.10
S-12	5.40
S-13	7.80
S-14	6.60
S-15	6.00
S-16	7.80
S-17	9.90
S-18	7.20
S-19	9.90
S-20	15.50
S-21	21.00
S-22	33.00
S-23	4.20
S-24	5.10
S-25	3.90
S-26	3.90
S-27	5.10
S-28	5.10
S-29	5.10
S-30	5.10
S-31	6.60
S-32	6.60
S-33	9.60
S-34	9.60
S-35	14.00
S-36	14.00
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S-45	18.60
S-46	23.40
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S-48	39.60
S-49	36.00
S-50	57.00
S-51	12.00
S-52	15.60
S-53	5.10
S-54	5.10
S-55	5.10
S-57	8.40
S-58	8.70
S-59	8.40
S-60	12.60
S-61	9.00
S-62	8.40
S-63	15.00
S-64	9.60
S-65	9.60
S-67	9.60
S-68	9.60
S-70	9.60
S-71	13.50
S-72	9.90
SC-3	7.00
SC-4	9.00
SC-5	14.00
V-1	20.00
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VIC-1	6.50
VIC-2	6.50
VIC-3	6.50
VIC-4	6.50
VIC-5	6.50
VIC-6	6.50
VIC-7	6.50
VIC-8	7.00
VIC-9	7.00
VIC-10	7.00
VIC-11	7.00
VIC-12	7.00
VIC-13	7.00
VIC-14	7.00
VIC-15	7.50
VIC-16	7.50
VIC-17	7.50
VIC-18	8.00
VIC-19	8.00
VIC-20	8.00
VIC-21	9.00
VIC-22	12.00

FILTERS & EQUALIZERS

Type	Net
3A	150.00
3AX	250.00
4C	200.00
BMI — 60, 100, 120, 400, 500, 750, 1000, 1500, 3000, 10000	
HMI — 200, 500, 1000, 3000	
LMI — 200, 500, 1000, 2000, 2500, 3000, 5000, 10000	
BML — 400, 1000	
HML — 200, 500, 1000	
LML—1000, 2000, 2500, 4000, 8000, 10,000, 12000	
Above Frequ.	$25.00
Special Frequ.	35.00

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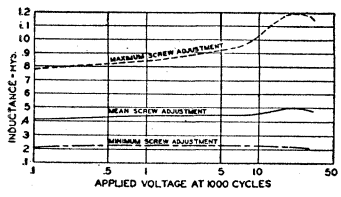
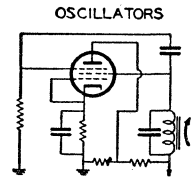
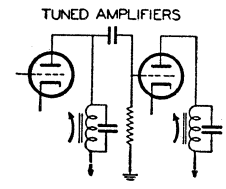
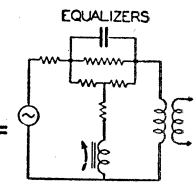
UTC VARIDUCTORS

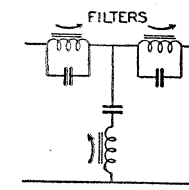
VARIABLE INDUCTORS

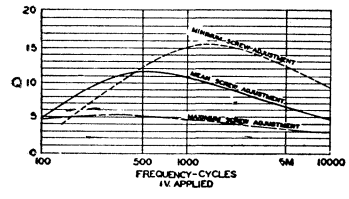


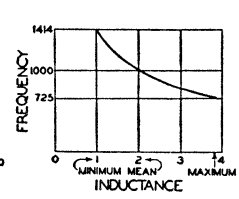


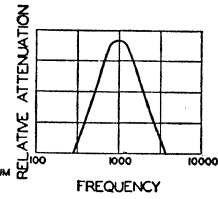


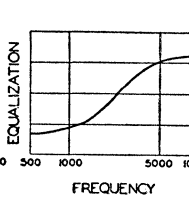


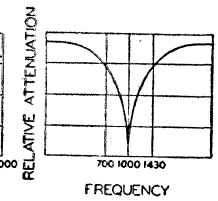


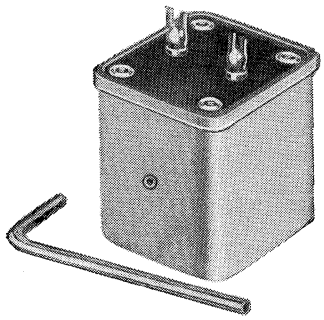










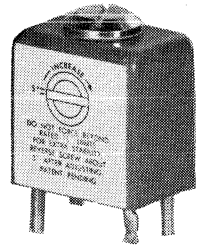


Type	Mean Hys.	DC MA*	Type	Mean Hys.	DC MA*
VIC-1	.0085	75	VIC-12	1.3	10
VIC-2	.013	60	VIC-13	2.2	8
VIC-3	.021	50	VIC-14	3.4	7
VIC-4	.034	40	VIC-15	5.4	6
VIC-5	.053	35	VIC-16	8.5	5
VIC-6	.084	30	VIC-17	13.	4
VIC-7	.13	25	VIC-18	21.	3.5
VIC-8	.21	21	VIC-19	33.	3
VIC-9	.34	18	VIC-20	52.	2
VIC-10	.54	15	VIC-21	83.	1.5
VIC-11	.85	12	VIC-22	130.	1

UTC type VIC variable inductors offer a revolutionary approach to the problem of tuned audio circuits. By adjusting a set screw in the side of the case, an inductance value of +85%, −45% from mean value is obtainable. Range is covered in 600° rotation. Setting is positive. Effective Q for a wide frequency range and variation of inductance with applied AC voltage are shown on the illustrated curves, for a typical VIC unit.

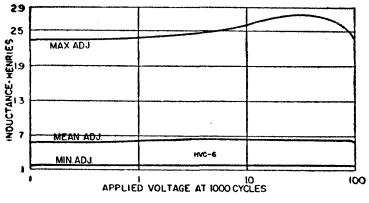
The VIC inductor is housed in a rugged die cast case 1 1/32" long, 1 1/4" wide and 1 7/16" high with mounting centers on terminal board side 1 3/16" by 2 9/32", tapped for 4-40 screw. Weight is 5 1/2 oz.

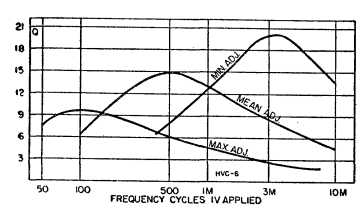
***DC MA shown is maximum recommended . . . will effect some reduction in inductance and Q.**



UTC HERMETIC VARIDUCTORS

****Variable inductors hermetically sealed to MIL-T-27A spec.**





Type No.	Min. Hys.	Mean Hys.	Max. Hys.	DC* Ma
HVC-1	.002	.006	.02	100
HVC-2	.005	.015	.05	60
HVC-3	.011	.040	.11	40
HVC-4	.03	.1	.3	30
HVC-5	.07	.25	.7	20
HVC-6	.2	.6	2	15
HVC-7	.5	1.5	5	10
HVC-8	1.1	4.0	11	7
HVC-9	3.0	10	30	5
HVC-10	7.0	25	70	3.5
HVC-11	20	60	200	2
HVC-12	50	150	500	1.5

UTC variable inductors have served as the ideal solution to many filter, oscillator, equalizer, and tuned amplifier problems—for over a decade. Extended development has now made possible the new HVC series of inductors with improved characteristics. They are hermetically sealed to MIL-T-27 specs . . . extremely compact . . . wider inductance range . . . higher Q's . . . lower and higher frequencies . . . superior voltage and temperature stability.

Adjustment of set screw in top of case permits changing inductance + 200%, −70% of nominal value shown. Range is covered in 900° rotation. Setting is positive. Effective Q for a wide frequency range and variation of inductance with applied AC voltage are shown on the illustrated curves, for a typical HVC unit. Case dimensions are 1 1/8" long, 2 5/32" wide, 1 7/32" high. The two terminals and two 4/40 mounting studs are on opposite diagonals — 1 5/16" spacing.

****Pat. Pending**

***DC MA shown is maximum recommended . . . will effect some reduction in inductance and Q.**

(Refer to Page N-89 for UTC Prices)

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NEW "M" TYPE TOROIDS

(Hermetically sealed to MIL-T-27A specs.)

MAXIMUM Q
MINIMUM SIZE

UTC UNITED

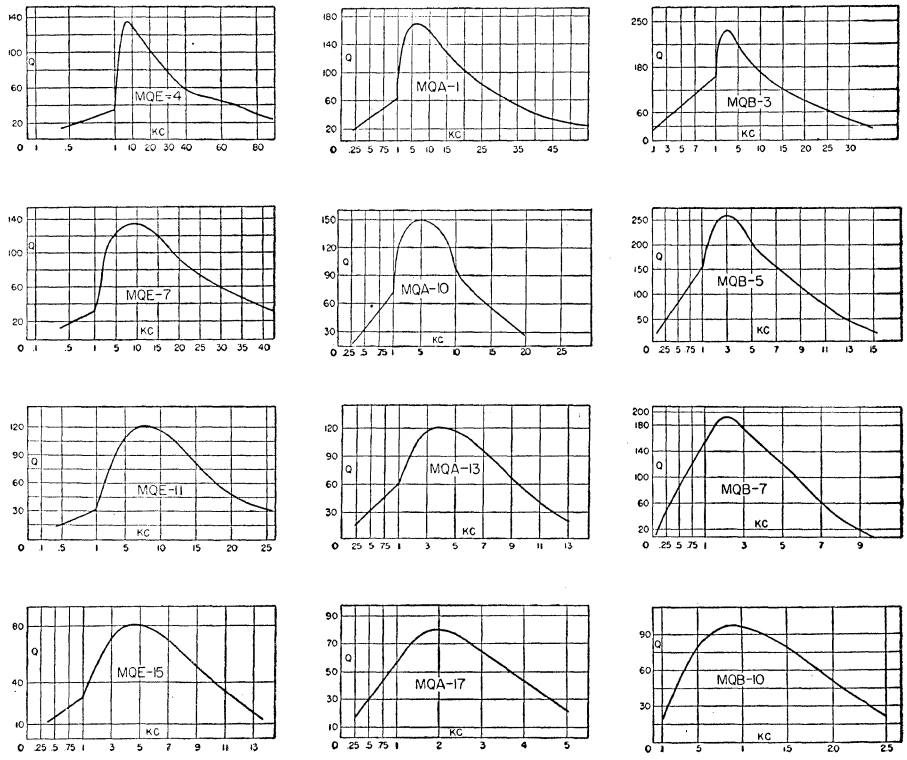
UTC Permalloy Dust Toroids have been the standard of the industry for over 15 years. The **MQ series** of coils provide the highest Q factor in their class (see curves below), with miniaturized dimensions. All units are **hermetically sealed** to MIL-T-27 Specifications . . . laboratory adjusted to 1% tolerance—0 DC.

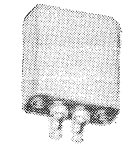
The **stability** is excellent. For the MQE-7 the inductance change is less than 1% for voltages from .1 to 3 volts. The MQA-13 change is less than 1% for applied voltages from .1 to 20 volts. The MQB-5 change is less than 1% for applied voltages from .1 to 50 volts. DC is permissible through the coil (values listed below). Inductance is virtually independent of frequency, temperature and vibration.

Hum pickup is extremely low due to the toroidal winding structure, with windings uniformly spread over the core. The case is of high permeability, affording additional shielding such that close spacing of units can be effected, the coupling attenuation being approximately 80 DB.

Other values of inductance than those listed are available on special order at the price of the next higher listed value. Uncased and molded toroids or glass solder seal terminals available on production orders.

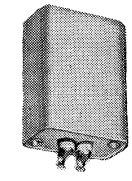
TYPICAL Q CURVES





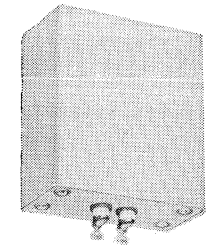
MQE CASE

Length	1 1/16"
Width	1/2"
Height	1 7/32"
Mounting	3/4"
Screws	4/40"
Cutout	5/16" x 1/2"
Unit Weight	1.5 oz.



MQA CASE

Length	1 3/32"
Width	1 1/16"
Height	1 23/32"
Mounting	7/8" x 3/32"
Screws	4/40"
Cutout	5/16" x 1/2"
Unit Weight	4 oz.



MQB CASE

Length	2 9/16"
Width	1 3/16"
Height	2 13/16"
Mounting	2 1/16" x 1 1/16"
Screws	6/32"
Cutout	7/8" x 1/2"
Unit Weight	14 oz.

MQE TYPES

Type No.	Inductance (0 DC)	*DC MA Max.
MQE-1	7 mhy.	*135
MQE-2	12 mhy.	*100
MQE-3	20 mhy.	*80
MQE-4	30 mhy.	*65
MQE-5	50 mhy.	*50
MQE-6	70 mhy.	*40
MQE-7	100 mhy.	*35
MQE-8	150 mhy.	*30
MQE-9	.25 hy.	*22
MQE-10	.4 hy.	*17
MQE-11	.6 hy.	*14
MQE-12	.9 hy.	*12
MQE-13	1.5 hy.	*9
MQE-14	2 hy.	*8
MQE-15	2.8 hy.	*7.2

MQA TYPES

Type No.	Inductance (0 DC)	DC MA Max.
MQA-1	7 mhy.	*250
MQA-2	12 mhy.	*200
MQA-3	20 mhy.	*150
MQA-4	30 mhy.	*125
MQA-5	50 mhy.	*100
MQA-6	70 mhy.	*80
MQA-7	120 mhy.	*60
MQA-8	.2 hy.	*50
MQA-9	.3 hy.	*40
MQA-10	.5 hy.	*30
MQA-11	.7 hy.	*25
MQA-12	1 hy.	*20
MQA-13	1.5 hy.	*17
MQA-14	2.5 hy.	*13
MQA-15	4 hy.	*10
MQA-16	6 hy.	*9
MQA-17	10 hy.	*7
MQA-18	15 hy.	*5
MQA-19	22 hy.	*4

MQB TYPES

Type No.	Inductance (0 DC)	DC MA Max.
MQB-1	10 mhy.	*400
MQB-2	30 mhy.	*250
MQB-3	70 mhy.	*170
MQB-4	120 mhy.	*120
MQB-5	.5 hy.	*60
MQB-6	1 hy.	*40
MQB-7	2 hy.	*30
MQB-8	3.5 hy.	*22
MQB-9	7.5 hy.	*16
MQB 10	12 hy.	*11
MQB-11	18 hy.	*9
MQB-12	25 hy.	*8

*The DC MA Max. shown will drop the coil inductance slightly . . . this drop being proportionately smaller at lower DC currents

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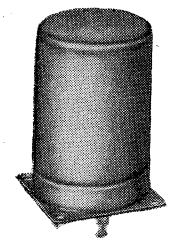
(Refer to Page N-89 for UTC Prices)

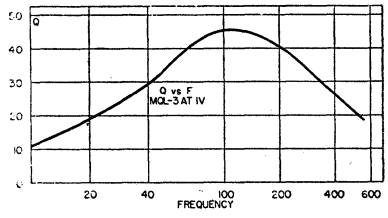
UTC LOW FREQUENCY HIGH Q COILS

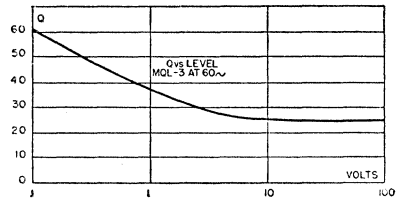
(Hermetically sealed to MIL-T-27A Specs.)

Permalloy dust toroids are not suited to providing high Q at low frequencies. The MQL series of laminated Hipermalloy coils were specifically designed for this class of service. The unique structure employed provides exceptional Q and stability. Inductance values are laboratory adjusted to 2% tolerance at 1 volt, 60 cycles. Stability with voltage is excellent, for MQL-3 inductance variation is less than 1% from .1 V. to 1 V. 60 cycles. Temperature stability is exceptional, total inductance swing being less than 3.5% for the wide range of −55°C to +85°C. A hum reducing lamination structure plus heavy Hipermalloy shielding provide very low hum pickup . . . 240 microvolts/gauss for MQL-3 series connected. Two identical windings brought out to four terminals permit series, parallel, center tapped, or transformer type connections. Drawn case $1\frac{13}{16}$ x $1\frac{13}{16}$ x $2\frac{1}{2}$ high, 1 lb.



MQL CASE



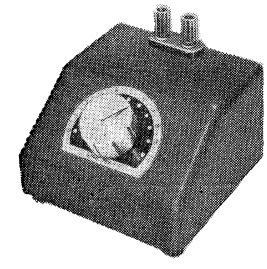


Type No.	Series Henries (0 DC)	Parallel Henries (0 DC)
MQL-1	10	2.5
MQL-2	20	5
MQL-3	200	50
MQL-4	400	100

HIGH Q PRECISION INDUCTANCE DECADES

UTC DI inductance decades are invaluable instruments for design and experimental work with tuned circuits, wave filters, and equalizers. They set new standards of Q, stability, frequency range, and convenience. The low hum pickup toroid coils employ a new permalloy dust core which, combined with special winding methods, provides very high Q, excellent voltage and temperature stability, and high self resonance frequency. The switch employed is a new low capacity type which lab tests have proven for low contact resistance after 100,000 operations. The inductance values are laboratory adjusted to better than 1% precision. Die cast case $4\frac{1}{2}$ x $4\frac{3}{8}$ x $2\frac{3}{8}$, 2 lbs.

DI inductance decades are housed in a compact, rugged, die cast case with control on a sloping panel, ideally suiting these units to laboratory use. Ganging panels are available for mounting two, three, or four decades together. It is merely necessary to unscrew the four rubber feet at bottom of decade to attach to panel.

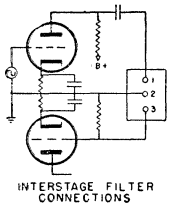


DI CASE

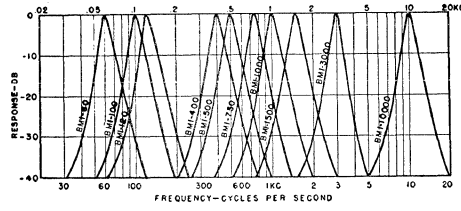
Type No.	Induct. Henries	Optimum Range	Max. Q	Max. ACMA	Ins. Test Volts RMS
DI-1	10 x .01	2-60 KC	200	500	500
DI-2	10 x .1	.25-20 KC	200	150	500
DI-3	10 x 1	.25-10 KC	200	50	500
DI-4	10 x 10	.2-1.5 KC	100	15	500

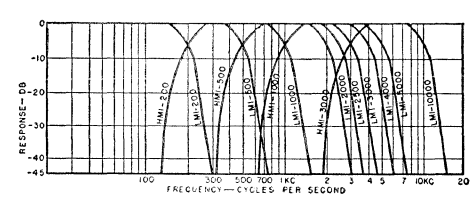
UTC INTERSTAGE AND LINE FILTERS

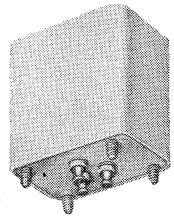
(Hermetically sealed to MIL-T-27A specs.)



INTERSTAGE FILTER CONNECTIONS







FILTER CASE M

Base	$1\frac{3}{16}$" x $1\frac{11}{16}$"
Mtg.	$\frac{3}{4}$" x $1\frac{1}{4}$"
Mtg. Studs (stainless)	6-32
Cutout	$\frac{7}{8}$" dia.
Height, BMI, LMI, BML	$1\frac{5}{8}$"
Height, HMI, HML, LML	$2\frac{1}{2}$"
Weight	6 oz. and 9 oz.

UTC standardized filters have been designed to take care of many present day filter requirements through stock units. The interstage type filters have a nominal impedance of 10,000 ohms, and lend themselves to effecting gain simultaneously with their frequency discrimination.

BMI units (Band Pass) have 2:1 gain. They are sharply peaked, having approximately 2 DB attenuation at plus or minus 3% from center frequency and attentuation of 40 DB per octave as shown. Input 10,000 ohms, output to grid.

HMI units (High Pass) have a loss of less than 6 DB at cutoff frequency, and an attenuation of 35 DB at .67 cutoff frequency. Input and output 10,000 ohms. **LMI** units (Low Pass) have a loss of less than 6 DB at cutoff frequency, and an attenuation of 35 DB at 1.5 cutoff frequency. Input and output 10,000 ohms.

HML (High Pass), and **LML** (Low Pass) filters are similar to the interstage filters, in all characteristics, except that they are intended for an input and output impedance of 500/600 ohms. **BML** (Band Pass) have input of 500/600 ohms, output to grid.

All of the standard filters are housed in **hermetically sealed** cases, shielded to reduce hum pickup to 150 MV per gauss at 60 cycles.

In addition to the stock filters listed, any of the six types are available as **special units** for any frequency from 100 to 12,000 cycles. Order by type followed by frequency, as LMI 2800, designating low pass interstage filter—2800 cycles cutoff frequency. These special units are priced at $35.00 net. If preferred, glass solder seal terminals available on production orders.

STOCK FREQUENCIES

(Number after letters is frequency)

BMI-60	LMI-2000
BMI-100	LMI-2500
BMI-120	LMI-3000
BMI-400	LMI-5000
BMI-500	LMI-10000
BMI-750	BML-400
BMI-1000	BML-1000
BMI-1500	HML-200
BMI-3000	HML-500
BMI-10000	HML-1000
HMI-200	LML-1000
HMI-500	LML-2000
HMI-1000	LML-2500
HMI-3000	LML-4000
LMI-200	LML-8000
LMI-500	LML-10000
LMI-1000	LML-12000

(Refer to Page N-89 for UTC Prices)

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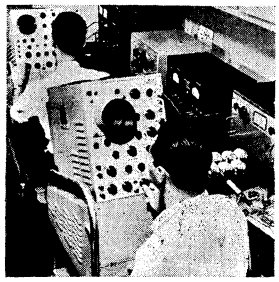
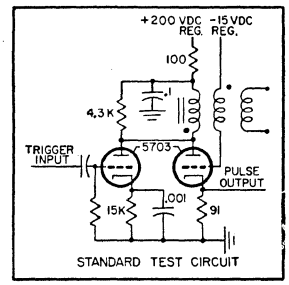
MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

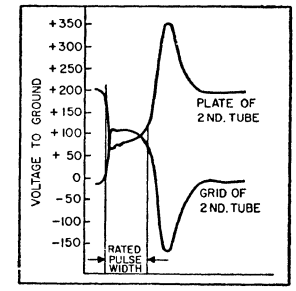
UTC miniature, wound core, pulse transformers are suited to a wide variety of blocking oscillator, interstage, and low level modulator applications. The high reliability design includes hermetic sealing by vacuum molding in a special epoxy . . . meets full MIL-T-27 specifications . . . is suitable for service from —70° C to + 130° C . . . 1250 V. test.

For most versatile use, all stock items provide 3 windings of equal (1:1:1) ratio.



Testing small pulse transformers.





1:1:1 PULSE TRANSFORMERS

Type No.	Pulse Width μsec.	Width In.	Length In.
H-45	.05	11/32	3/8
H-46	.1	11/32	3/8
H-47	.2	19/32	5/8
H-48	.5	19/32	5/8
H-49	1	19/32	5/8
H-50	2	19/32	5/8
H-51	3	19/32	5/8
H-52	5	19/32	5/8
H-53	7	21/32	5/8
H-54	10	21/32	5/8
H-55	16	21/32	5/8
H-56	20	21/32	5/8
H-57	25	21/32	5/8

MAGNETIC AMPLIFIERS FOR SERVO MOTOR APPLICATIONS

(Hermetically sealed to MIL-T-27A Specs.)

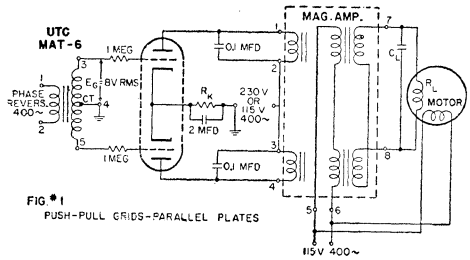


FIG.#1
PUSH-PULL GRIDS-PARALLEL PLATES

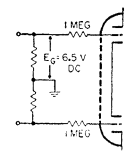


FIG.#2
GRID CIRCUIT MODIFICATION FOR DC INPUT

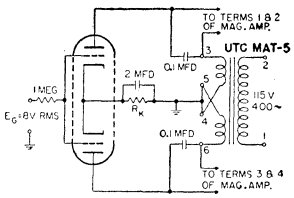


FIG.#3
PARALLEL GRIDS-PUSH-PULL PLATES

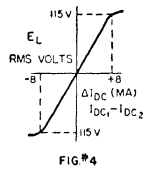
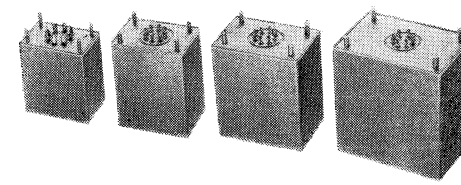


FIG.#4



The MAT 1-4 Magnetic Amplifiers are exceptionally stable units designed for the control of 2 phase, 115V., 400 cycle servo motors. They are compact . . . hermetically sealed . . . magnetically shielded . . . and meet MIL-T-27 and MIL-E-5400 Specifications. The output is sinusoidal, amplitude variable, and phase reversible. Control is provided by a dual triode such as 12AU7 operating with a plate voltage of 115 volts, 400 cycles, or higher. The signal to the triode grids can be polarity reversible DC or phase reversible 400 cycles with or without suppressed carrier modulation. These units eliminate DC power requirements as well as temperature sensitive dry disc rectifiers. The high input impedance provides minimum loading on sensing elements and high power gain. Ringing at low load level has been reduced to a minimum through high internal damping factors. The power output figures are conservative . . . power gain of the MAGNETIC STRUCTURE is approximately 40 . . . response time approximately 7.5 milliseconds. The maximum null voltage is 3 volts RMS. For single phase supply voltage the load capacitor should effect 90° phase shift with motor load . . . for 3 phase, 30° phase shift. (The chart values shown are approximate.)

For AC signal control the circuit of Figure 1 is employed. For DC signal control Figure 2 applies. Figure 3 shows the use of a power transformer (MAT-5) which provides higher plate voltages and eliminates the input transformer (MAT-6). The typical response curve of Figure 4 applies to all units, the larger units feeding heavier loads.

TYPE NO.	MAT-1	MAT-2	MAT-3	MAT-4
230 Volt Supply				
Power output	4 W.	8 W.	11 W.	18 W.
RL, ohms	3300	1600	1200	720
CL, mfd.	2	.3	.5	.7
115 Volt Supply				
Power output	2 W.	4 W.	6 W.	9 W.
RL, ohms	6500	3300	2200	1450
CL, mfd.	.13	.2	.3	.45
Reson. Freq.	40 cyc.	35 cyc.	35 cyc.	20 cyc.
Log-Decr.	.18	.23	.03	.65
Cont. Wdg. Res.	6200 ohms	8450 ohms	4750 ohms	5650 ohms
Case				
Length, In.	1¼	1½	1¾	2⅛
Width, In.	1 15/16	2⅛	2½	3⅛
Height, In.	2 5/16	2¾	2 15/16	3⅜
Mtg. Dim., In.	13/16 x 1½	1 x 1⅝	1⅛ x 1⅞	1½ x 2½
Studs, stainless	4-40	6-32	8-32	8-32
Cutout, In.	1	1	1	1
Unit Weight, lbs.	.67	1.1	1.7	2.75

MAT-5 115V.-400 cyc. to 460 VCT; provides 230V. 48 MA DC or 460V. 24 MA DC. RC-37 Case . . . 1⅜ x 1⅜ x 1⅝ . . . ⅛ mtg. holes 1⅛ x 1⅛ . . . 6 oz.

MAT-6 Input . . . 10,000 ohms pri. . . . 1:15 C.T. ratio . . . phase shift under 1° . . . RC-25 case.

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(Refer to Page N-89 for UTC Prices)

UTC HERMETIC SEALED POWER TRANSFORMERS

Primary 115 volts, 50/60 cycles . . . suited to 400 cycle service, use 118 volts input.

MIL-T-27A RATINGS IN REGULAR TYPE, **INDUSTRIAL RATINGS IN BOLD TYPE.**

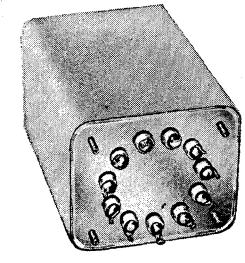
"L" ratings are for choke input filter, "C" for condenser input.

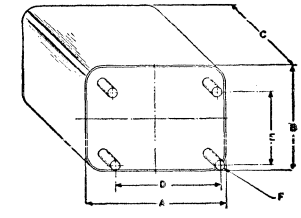
Type No.	HV Sec. C.T.	Approx.* DC volts	DC MA	Fil. Wdg.	Approx.* DC volts	MA DC	Fil. Wdg.	Case	A	B	C	Wgt. Lbs.
H-80	450	C 235	20	6.3VCT-2A	**C 210**	**30**	**6.3VCT-2.5A**	FA	2 5/16	2 1/16	3/8	1½
H-81	500	L 180	65		L 170	75		HA				4
		C 265	55	6.3VCT-3A	**C 240**	**65**	**6.3VCT-3A**					
	550	L 200	60	5V-2A	**L 190**	**70**	**5V-2A**		3 1/16	2 5/8	4 1/4	
		C 300	50		**C 280**	**60**						
H-82	540	L 180	110		L 140	180		JB				5
		C 280	65	6.3VCT-4A	**C 270**	**80**	**6.3VCT-4A**					
	600	L 200	100	5V-2A	**L 170**	**170**	**5V-2A**		3 9/16	3 1/16	3 7/8	
		C 325	60		**C 315**	**75**						
H-83	600	L 180	140		L 160	190		JA				6
		C 320	85	6.3V-5A	**C 270**	**115**	**6.3V-6A**					
	670	L 210	130	5V-2A	**L 190**	**180**	**5V-2A**		3 9/16	3 1/16	4 7/8	
		C 370	80		**C 340**	**105**						
H-84	700	L 255	170		L 240	210		KA				8½
		C 400	110	6.3V-5A	**C 360**	**150**	**6.3V-6A**					
	750	L 275	160	6.3V-1A	**L 260**	**200**	**6.3V-1.5A**					
		C 420	105	5V-3A	**C 380**	**140**	**5V-4A**		3 15/16	3 3/8	5 1/4	
H-85	700	L 250	220		L 235	260		LA				10
		C 400	150	6.3V-6A	**C 355**	**195**	**6.3V-6A**					
	750	L 270	210	6.3V-1.5A	**L 255**	**250**	**6.3V-1.5A**					
		C 410	140	5V-3A	**C 375**	**185**	**5V-4A**		4 5/16	3 11/16	5 9/16	
H-86	720	L 240	260		L 220	310		MB				12
		C 425	170	6.3V-6A	**C 410**	**210**	**6.3V-7.5A**					
	790	L 270	250	6.3V-2A	**L 250**	**300**	**6.3V-2A**					
		C 450	160	5V-3A	**C 440**	**200**	**5V-4A**		4 11/16	4	4 15/16	
H-87	730	L 245	320		L 210	420		NB				16
		C 390	210	6.3V-6A	**C 350**	**310**	**6.3V-6A**					
	800	L 275	300	6.3V-2A	**L 245**	**400**	**6.3V-2A**					
		C 440	200	5V-4A	**C 400**	**300**	**5V-4A**		5 1/16	4 5/16	5 1/2	
H-88	800	L 280	300		L 260	375		NA				18
		C 420	190	6.3V-6A	**C 380**	**235**	**6.3V-7.5A**					
	1000	L 370	290	6.3V-2A	**L 350**	**350**	**6.3V-2A**					
		C 550	180	5V-4A	**C 510**	**225**	**5V-4A**		5 1/16	4 5/16	6 13/16	
H-89	850	L 320	320		L 300	400		OA				21½
		C 510	280	6.3V-8A	**C 460**	**270**	**6.3V-8A**					
	1050	L 400	300	6.3V-4A	**L 380**	**375**	**6.3V-4A**					
		C 650	250	5V-6A	**C 600**	**300**	**5V-6A**		5½	4½	6¾	
H-90	700	L 230	140	6.3V-5A	L 210	190	6.3V-6A	JA				6
	850	L 290	130	5V-2A	L 260	180	5V-3A		3 9/16	3 1/16	4 7/8	
H-91	900	L 320	190	6.3V-5A	L 290	270	6.3V-6A	KA				8½
	1000	L 360	180	6.3V-1A	L 320	250	6.3V-1.5A					
				5V-3A			5V-4A		3 15/16	3 3/8	5 1/4	
H-92	900	L 330	230	6.3V-6A	L 320	290	6.3V-8A	MB				12
	1050	L 385	220	6.3V-2A	L 370	270	6.3V-2A					
				5V-4A			5V-4A		4 11/16	4	4 15/16	
H-93	1000	L 370	280	6.3V-8A	L 340	340	6.3V-10A	OA				21½
	1200	L 465	250	6.3V-4A	L 455	300	6.3V-5A					
				5V-6A			5V-6A		5½	4½	6¾	

* After appropriate H series choke.

The "H" series of hermetic power transformers are suited to a wide variety of electronic applications in both military and **industrial** service. Conservative design provides maximum reliability through low temperature rise and high insulation safety factors. All units are in MIL cases **with rugged internal construction,** stainless steel studs.

The tapped high voltage winding provides either of two secondary voltages for greatest versatility. The listings indicate DC voltages and permissible currents for both choke and condenser input filters, as well as for military and **industrial** applications (see page 11).





UTC HERMETIC SEALED PLATE TRANSFORMERS

Primary: 105/115/210/220 Volts . . . 50/60 cycles.

MIL-T-27A RATINGS IN REGULAR TYPE, **INDUSTRIAL RATINGS IN BOLD TYPE.**

All ratings are for choke input filter.

No. Type	Sec. V. C.T.	Approx.* DC volts	MA DC	Choke No.	MA DC	Choke No.	Case A	B	C	Wgt. Lbs.
H-110	1050	365	275	H-75	**385**	**H-77**	MB			
	1200	430	250	H-75	**350**	**H-77**	4 11/16	4	4 15/16	14
H-111	1050	415	440	H-77	**550**	**H-77**	NA			
	1200	480	400	H-77	**500**	**H 77**	5 1/16	4 5/16	6 13/16	19
H-112	1500	615	290	H-77	**350**	**H-77**	NA			
	1900	790	250	H-76	**300**	**H-76**	5 1/16	4 5/16	6 13/16	19
H-113	2500	1050	280	H-77	**340**	**H-77**	6	5 1/8	6¾	27
	3000	1275	250	H-76	**300**	**H-76**				
H-114	2500	1050	450	H-79	**500**	**H-78**	6¾	6½	8	51
	3000	1265	400	H-78	**450**	**H-78**				
H-115	3500	1500	265	H-77	**350**	**H-77**	6¾	6½	8	48½
	4400	1900	225	H-77	**300**	**H-77**				
H-116	5000	2125	450	H-79	**560**	**H-79**	8½	9¾	10¼	95
	6000	2550	400	H-78	**500**	**H-78**				
H-117	5000	2125	900	H-79	**1100**	**H-79**	11	11	14¾	160
	6000	2550	800	H-79	**1000**	**H-79**				

*After filter choke.

The tapped high voltage winding on the "H" series hermetic plate transformers provides either of two secondary voltages for greatest versatility. The listing shows the DC voltage and permissible currents for a wide variety of applications in both military and **industrial** service. High insulation safety factor and low temperature rise provide a maximum in reliability. The first three types are in MIL cases. The others are in rectangular cases with terminals opposite mounting for greatest convenience in typical power supply application, stainless steel studs.

(Refer to Page N-89 for UTC Prices)

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UTC HERMETIC SEALED FILTER CHOKES

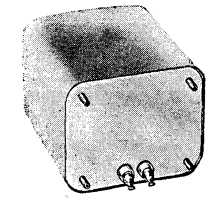
MIL-T-27A RATINGS IN REGULAR TYPE, **INDUSTRIAL RATINGS IN BOLD TYPE.**

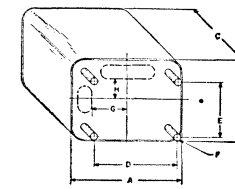
Type No.	Ind. Hys.	@ MA DC	Ind. Hys.	@ MA DC	Ind. Hys.	@ MA DC	Ind. Hys.	@ MA DC	Res. Ohms	Max. DCV* Ch. Input	Test V. RMS	Case
H-70	20	20	18	25	14.5	30	10	35	925	350	1000	AH
H-71	20	40	18.5	50	15.5	60	10	70	350	500	2500	FB
H-72	13	70	11.5	85	9.5	105	7	125	215	500	2500	GB
H-73	11	100	9.5	125	7.5	150	5.5	175	150	700	2500	HB
H-74	11	150	10	170	8.5	195	**6.5**	**215**	135	700	2500	JB
H-75	11	200	10	230	8.5	250	**6.5**	**300**	90	700	2500	KB
H-76	11	200	10	230	8.5	250	**6.5**	**300**	85	1500	4500	LB
H-77	10	300	9	350	**8**	**390**	**6.5**	**435**	60	2000	5500	MB
H-78	7	400	**6.5**	**430**	**6**	**465**	**5.5**	**500**	48	2500	7000	OA
H-79	7	800	6.5	900	6	1000	**5.5**	**1250**	20	3000	9000	7x7x8

Inductance test is performed at maximum military current rating.

* Based on maximum ripple voltage across choke in choke input filter circuit, in terms of DC output voltage. Does not apply to condenser input circuits.

The multiple ratings for the "H" series of filter chokes suit these units for the complete gamut of military and **industrial** applications. Conservative design provides maximum reliability through low temperature rise and high insulation safety factor. All units employ rugged internal construction and MIL cases (except H-79 which has mounting opposite terminals), stainless steel studs.





DIMENSIONS "H" SERIES FILTER CHOKES, INCHES

Type No.	A	B	C	D	E	F	G	H	Cutout	Wt. Lbs.
H-70	1 3/16	1 3/16	1¾	1¼ diagonal		6–32(2)		1/16	⅜ x ⅝	.4
H-71	2 7/16	2 1/16	2½	1 1/16	1 7/16	6–32		15/32	½ x 1¼	1½
H-72	2¾	2⅜	2 1/16	2⅛	1¾	6–32		17/32	½ x ⅞	2½
H-73	3 1/16	2⅝	3 1/16	2 19/64	1 35/64	8–32		⅝	⅝ x 1⅛	3½
H-74	3 7/16	3 1/16	3⅞	2⅝	2⅛	8–32		¾	⅝ x 1⅛	5
H-75	3 13/16	3⅜	4 1/16	3	2 7/16	10–32	1 7/16		⅝ x 1 7/16	8
H-76	4 7/16	3 13/16	4½	3 7/16	2 13/16	10–32	1 15/32		11/16 x 1 7/16	11
H-77	4 13/16	4	4 13/16	3 11/16	3	¼–20	1½		11/16 x 1¼	15
H-78	5½	4½	6¾	3¾	3	¼–20			1 x 2	25
H-79	7	7	8	5⅞	5⅞	⅜–16(6)			term. opp. mtg.	60

UTC HERMETIC SEALED FILAMENT TRANSFORMERS

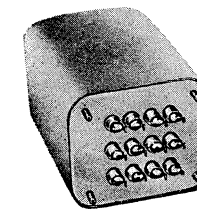
Primary: 105/115/210/220 volts . . . 50/60 cycles, except H-130 (115 v.) and H-131 (115/220 v.)

Suited to 400 cycle service, use approximately 3% higher input voltage.

MIL-T-27A RATINGS IN REGULAR TYPE, **INDUSTRIAL RATINGS IN BOLD TYPE.**

Type No.	Sec. Volts	Amps. (MIL)	Amps. (Ind)	Test Volts RMS	Case	A	B	C	Wgt. Lbs.
H-120	2.5	10	12	4000	GB	2¾	2⅜	2 3/16	2½
H-121	2.5	10	12	10000	JB	3 9/16	3 1/16	3⅞	4½
H-122	2.5	20	26	10000	KB	3 15/16	3⅜	4 5/16	6
H-123	2.5	5	7.5	10000	NB	5 1/16	4 5/16	5½	13
	2.5	5	7.5						
	2.5	10	15						
H-124	5	3	3	2000	FB	2 5/16	2 1/16	2½	2
H-125	5	10	12	10000	KB	3 15/16	3⅜	4 5/16	6
H-126	5	20	25	10000	LA	4 5/16	3 11/16	5 9/16	10
H-127	5	20	30	21000	NA	5 1/16	4 5/16	5½	17
H-128	5	60	75	21000		6½	5½	7¾	34
H-129	5	10	12	21000		6½	5½	7¾	28
	5	10	12						
	5	20	24						
H-130	6.3CT	.6	.75	1500	AJ	1⅝	1⅝	2⅜	.65
H-131	6.3CT	2	2.5	2500	FB	2 5/16	2 1/16	2½	1½
H-132	6.3CT	6	7	2500	JA	3 9/16	3 1/16	4⅞	6
	6.3CT	6	7						
H-133	6.3CT	7	8	2500	HB	3 1/16	2⅝	3 3/16	3½
H-134	6.3CT	10	12	2500	HA	3 1/16	2⅝	4¼	4½
H-135	10CT	10	13	2500	JB	3 9/16	3 1/16	3⅞	6
H-136	14, 12, 11CT	10	14	2500	LA	4 5/16	3 11/16	5 9/16	11

The wide variety of "H" series filament transformers listed cover virtually every military and **industrial** need. Conservative design provides maximum reliability through low temperature rise and high insulation safety factor. Except for H-128 and H-129 which have terminals opposite mounting, all units are in MIL cases with rugged internal construction, stainless steel studs. Regulation has been a fundamental design consideration to provide for the diverse applications in which these units may be employed.



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(Refer to Page N-89 for UTC Prices)

HERMETIC AUDIO COMPONENTS

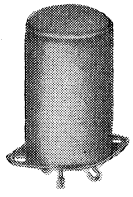
For over fifteen years UTC has been the largest supplier of transformer components for military applications, to customer specifications. Listed below are a number of types, to MIL-T-27A specifications, which are now catalogued as UTC stock items.

Terminals on items H-20 through H-24 are neoprene-ceramic assemblies. All other units employ glass bead headers, but can be supplied with neoprene-ceramic terminals where required. **For printed circuit use,** wire terminals on glass header units can be straightened out without injury. Straight wire terminals available on production orders.

The **frequency response ratings** are based on military requirements. Actually, most of the units that do not carry DC are appreciably better in response than the range shown.

The **level ratings** are maximum level for reasonable distortion at the lowest frequency specified. For higher frequencies considerably higher levels are permissible.

The **impedance ratings** are listed in standard manner. Obviously, a transformer with a 15,000 ohm primary impedance can operate from a tube representing a source impedance of 7700 ohms, etc. In addition, transformers can be used for applications differing considerably from those shown, keeping in mind that impedance ratio is constant. Lower source impedance will improve response and level ratings . . . higher source impedance will reduce frequency range and level rating.

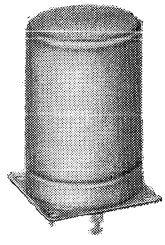


RC-25 CASE

Length ..... 1 13/32"
Width 6 1/64
Height ..... 1 9/16"
Mounting (slot centers) 1 1/8 to 1 7/32"
Screws ..... 4-40 Fil.
Cutout ..... 7/8 Dia.
Unit Weight ..... 1.5 oz.

MINIATURE AUDIO UNITS . . . RC-25 CASE

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	DC in Pri. MA	Response ± 2 db (Cyc.)	Max. level dbm
H-1	Mike, pickup, line to grid	TF1A10YY	50, 200 CT, 500 CT*	50,000	0	50-10,000	+ 5
H-2	Mike to grid	TF1A11YY	82	135,000	50	250-8,000	+21
H-3	Single plate to single grid	TF1A15YY	15,000	60,000	0	50-10,000	+ 6
H-4	Single plate to single grid, DC in Pri.	TF1A15YY	15,000	60,000	4	200-10,000	+14
H5	Single plate to P.P. grids	TF1A15YY	15,000	95,000 CT	0	50-10,000	+ 5
H-6	Single plate to P.P. grids, DC in Pri.	TF1A15YY	15,000	95,000 split	4	200-10,000	+11
H-7	Single or P.P. plates to line	TF1A13YY	20,000 CT	150/600	4	200-10,000	+21
H-8	Mixing and matching	TF1A16YY	150/600	600 CT	0	50-10,000	+ 8
H-9	82/41:1 input to grid	TF1A10YY	150/600	1 meg.	0	200-3,000 (4 db.)	+10
H-10	10:1 single plate to single grid	TF1A15YY	10,000	1 meg.	0	200-3,000 (4 db.)	+10
H-11	Reactor	TF1A20YY	300 Henries-0 DC, 50 Henries-3 Ma. DC, 6,000 Ohms.				

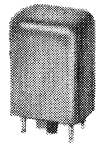


RC-50 CASE

Length 1 5/8
Width 1 5/8
Height 2 5/16
Mounting 1 5/16
Screws ..... #6-32
Cutout ..... 1 1/2 Dia.
Unit Weight ..... 8 oz.

COMPACT AUDIO UNITS . . . RC-50 CASE

Type No.	Application	MIL Type	Pri. imp. Ohms	Sec. imp. Ohms	DC in Pri. MA	Response ± 2 db (Cyc.)	Max. level dbm
H-19	Line to grid. Balanced, center tapped primary . . . 1:14 ratio. Multiple hi-permalloy (75 DB) shielding	TF1A10YY	250 CT 500 CT	50,000 100,000	0	30-20,000	+ 6
H-20	Single plate to 2 grids, can also be used for P.P. plates	TF1A15YY	15,000 split	80,000 split	0	30-20,000	+12
H-21	Single plate to P.P. grids, DC in Pri.	TF1A15YY	15,000	80,000 split	8	100-20,000	+23
H-22	Single plate to multiple line	TF1A13YY	15,000	50/200, 125/500**	8	50-20,000	+23
H-23	P.P. plates to multiple line	TF1A13YY	30,000 split	50/200, 125/500**	8 BAL.	30-20,000	+19
H-24	Reactor	TF1A20YY	450 Hys.-0 DC, 250 Hys.-5 Ma. DC, 6000 ohms 65 Hys.-10 Ma. DC, 1500 ohms				



SM CASE

Length 1 1/16
Width 1/2
Height 2 3/32
Screw ..... 4-40 Fil.
Unit Weight ..... 8 oz.

SUBMINIATURE AUDIO UNITS . . . SM CASE

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	DC in Pri. MA	Response ± 2 db (Cyc.)	Max. level dbm
H-30	Input to grid	TF1A10YY	50***	62,500	0	150-10,000	+13
H-31	Single plate to single grid, 3:1	TF1A15YY	10,000	90,000	0	300-10,000	+13
H-32	Single plate to line	TF1A13YY	10,000****	200	3	300-10,000	+13
H-33	Single plate to low impedance	TF1A13YY	30,000	50	1	300-10,000	+15
H-34	Single plate to low impedance	TF1A13YY	100,000	60	.5	300-10,000	+ 6
H-35	Reactor	TF1A20YY	100 Henries-0 DC, 50 Henries-1 Ma. DC, 4,400 ohms.				
H-36	Transistor Interstage	TF1A15YY	25,000 (DCR800)	1,000 (DCR110)	.5	300-10,000	+10
H-37	Transistor output	TF1A15YY	500 (DCR50)	50 (DCR5)	3.5	300-10,000	+15

* 200 ohm termination can be used for 150 ohms or 250 ohms, 500 ohm termination can be used for 600 ohms.

** 200 ohm termination can be used for 150 ohms or 250 ohms, 125/500 ohm termination can be used for 150/600 ohms.

*** can be used with higher source impedances, with corresponding reduction in frequency range. With 200 ohm source, secondary impedance becomes 250,000 ohms . . . loaded response is −4 db. at 300 cycles.

**** Can be used for 500 ohm load . . . 25,000 ohm primary impedance . . . 1.5 Ma. DC.

(Refer to Page N-89 for UTC Prices)

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UTC Deci-Ouncer Transformers
... DOTS FOR SHORT
REVOLUTIONARY TRANSISTOR* TRANSFORMERS

UTC has been the leader in miniaturization for over twenty years. In view of this, it was surprising to many people that UTC did not quickly bring out a series of transformers designed for use and comparable in size to transistors. Unfortunately, extremely miniature transistor transformers of standard construction had poor general characteristics, poor reliability characteristics, and were woefully inadequate for a large number of applications. Instead, UTC started a development program to evolve a new transistor transformer structure designed to provide full performance in extremely miniature size. The culmination of this development is found in the new DOT series**. Listed below are the standard types of DOTS now being made and curves showing their general characteristics in typical transistor application. To fully appreciate the unprecedented performance of these revolutionary transistor transformers, the curves also show characteristics of similar size units now on the market.

Special DOT units (some even smaller in size) are available on production order.

Type No.	Application	Level Mw.	Pri. Imp.	D.C. Ma.‡ in Pri.	Pri. Res.	Sec. Imp.
DOT-1	Interstage	50	20,000 30,000	.5 .5	850	800 1200
DOT-2	Output	100	500 600	3 3	60	50 60
DOT-3	Output	100	1000 1200	3 3	115	50 60
DOT-4	Output	100	600	3	60	3.2
DOT-5	Output	100	1200	2	115	3.2
DOT-6	Output	100	10,000	1	1000	3.2
DOT-7	Input	25	200,000	0	8500	1000
DOT-8	Reactor 3.5 Hys. @ 2 Ma. DC				630	
DOT-9	Output or driver	100	10,000 12,500	1 1	930	500 CT 600 CT
DOT-10	Driver	100	10,000 12,500	1 1	930	1200 CT 1500 CT
DOT-11	Driver	100	10,000 12,500	1 1	930	2000 CT 2500 CT
DOT-12	Single or PP output	500	150 CT 200 CT	10 10	11	12 16
DOT-13	Single or PP output	500	300 CT 400 CT	7 7	20	12 16
DOT-14	Single or PP output	500	600 CT 800 CT	5 5	43	12 16
DOT-15	Single or PP output	500	800 CT 1070 CT	4 4	51	12 16
DOT-16	Single or PP output	500	1000 CT 1330 CT	3.5 3.5	71	12 16
DOT-17	Single or PP output	500	1500 CT 2000 CT	3 3	108	12 16
DOT-18	Single or PP output	500	7500 CT 10,000 CT	1 1	505	12 16
DOT-19	Output to line	500	300 CT	7	19	600
DOT-20	Output or matching to line	500	500 CT	5.5	31	600
DOT-21	Output to line	500	900 CT	4	53	600
DOT-22	Output to line	500	1500 CT	3	86	600

‡DCMA shown is for single ended useage (under 5% distortion—100MW—1KC) . . . for push pull, DCMA can be any balanced value taken by .5W transistors (under 5% distortion—500MW—1KC)

High Power Rating . . . up to 100 times greater.

Excellent Response . . . twice as good at low end.

Low Distortion . . . reduced 80%.

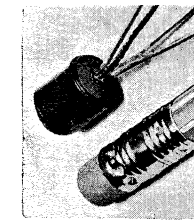
High Efficiency . . . up to 30% better.

Moisture Proof . . . processed to hermetic specs.

Rugged . . . completely cased.

Anchored Leads . . . will withstand 10 pound pull test.

Printed Circuit Use . . . (solder melting) plastic insulated leads.

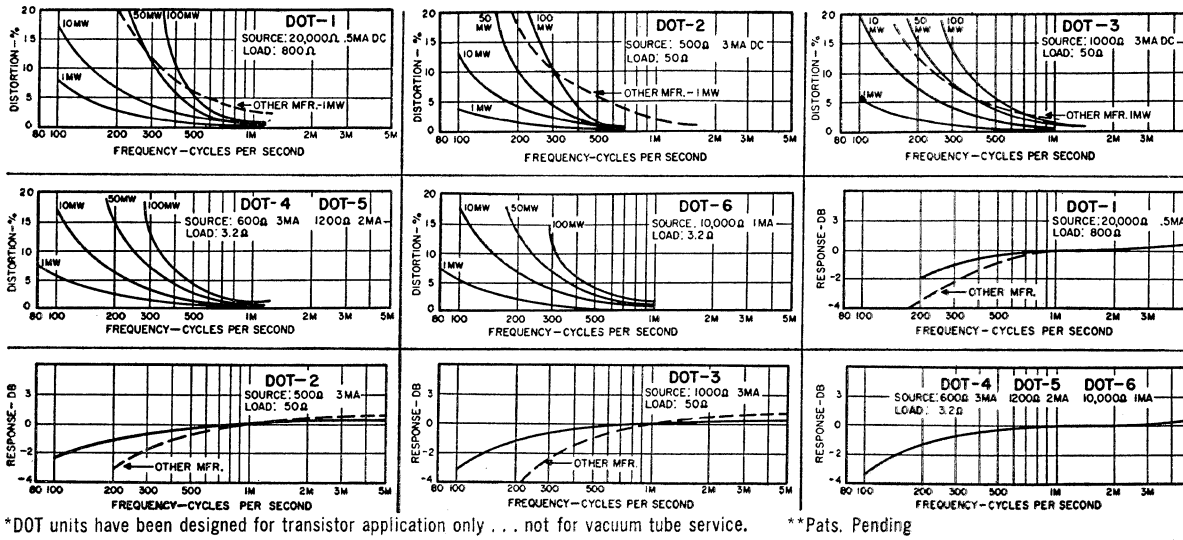


DOT CASE

Dia. . . . $5/16$"
Length . . $13/32$"
Weight . . $1/10$th oz.

TYPICAL DOT PERFORMANCE CURVES

Power curves based on setting output power at 1 KC, then maintaining same input level over frequency range.



*DOT units have been designed for transistor application only . . . not for vacuum tube service. **Pats. Pending

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(Refer to Page N-89 for UTC Prices)

OUNCER AUDIO UNITS

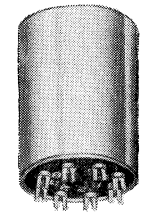
STANDARD AND PLUG-IN TYPES

UTC OUNCER components represent the acme in compact quality transformers. These units, which weigh one ounce, are fully impregnated and sealed in a drawn aluminum housing ⅞" diameter . . . mounting opposite terminal board.

Ouncer items are ideal for portable broadcast, hearing aid, aircraft, concealed service, and similar applications. High fidelity characteristics are provided, uniform within approximately 1 DB from 30 to 20,000 cycles, except for 0-14, 0-15, and units carrying DC which are intended for voice frequencies. Maximum level +8 dbm.

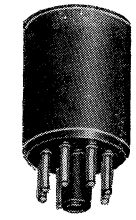
"P" series units are identical to the UTC OUNCER units but are sealed in bakelite housings with plug-in base to fit standard octal socket. While of submersion proof design, these units weigh but two ounces. Oversize pins in the base make it impossible to dislodge these units from their sockets.

OUNCER Type No.	Application	Pri. Imp.	Sec. Imp.	PLUG-IN Type No.
0-1	Mike, pickup or line to 1 grid	50, 200/250, 500/600	50,000	P-1
0-2	Mike, pickup or line to 2 grids	50, 200/250, 500/600	50,000	P-2
0-3	Dynamic mike to 1 grid	7.5/30	50,000	P-3
0-4	Single plate to 1 grid	15,000	60,000	P-4
0-5	Single plate to 1 grid, D.C. in Pri.	15,000	60,000	P-5
0-6	Single plate to 2 grids	15,000	95,000	P-6
0-7	Single plate to 2 grids, D.C. in Pri.	15,000	95,000	P-7
0-8	Single plate to line	15,000	50, 200/250, 500/600	P-8
0-9	Single plate to line, D.C. in Pri.	15,000	50, 200/250, 500/600	P-9
0-10	Push pull plates to line	30,000 ohms plate to plate	50, 200/250, 500/600	P-10
0-11	Crystal mike or pick-up to line	50,000	50, 200/250, 500/600	P-11
0-12	Mixing and matching	50, 200/250	50, 200/250, 500/600	P-12
0-13	Reactor, 300 Hys.—no D.C.; 50 Hys.—3 MA. D.C.,		6000 ohms	P-13
0-14	50:1 mike or line to 1 grid	200	½ megohm	P-14
0-15	10:1 single plate to 1 grid	15,000	1 megohm	P-15
0-16	Mike or line to grid	250 C.T.	50,000	
This transformer provides very low hum pickup . . . employs two heavy gauge hipermalloy shields plus orientable mounting. Primary centertap is balanced to 1%. Can be used for 150, 200, 250, 500, or 600 ohm sources . . . 200:1 impedance ratio.				
0-17	Mumetal shield, slip fit over ouncer, 1" O.D., provides 25 db shielding.			



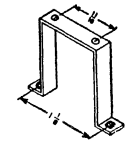
OUNCER CASE

Dia. ..... ⅞"
Ht. ..... 1 3/16"
Mtg. ..... 1 1/16"
Scr. 2-56
Wt. ..... 1 oz.

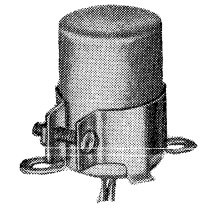


PLUG-IN CASE

Dia. ..... 1 3/32"
Ht. ..... 1 5/32"
Skt. ..... St. Oct.
Wt. ..... 2 oz.

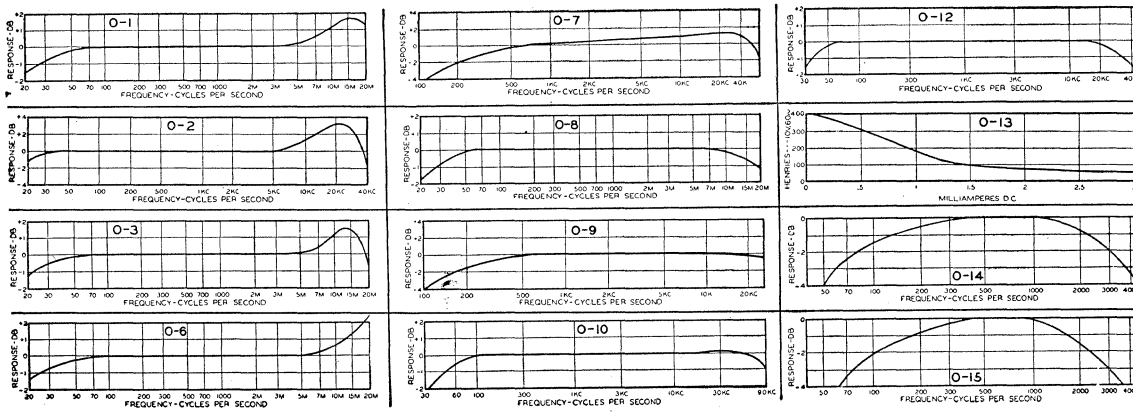


Ouncer chassis mount bracket available on production orders



0-16 CASE

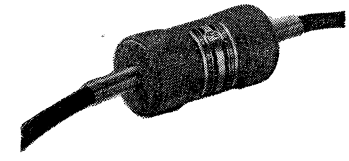
Dia. ..... 1 1/16"
Ht. ..... 1½"
Mtg. ..... 1½"
Scr. 6-32
Wt. ..... 3 oz.
Clamp ..... 1 5/16" x 1 7/8"



MICROPHONE CABLE TRANSFORMERS

UTC Cable transformers are designed to be inserted in the cable circuit, and are ruggedly constructed to with stand mechanical abuse. The cable connections (supplied less cable) are made through spring strain relief to terminal boards inside the end caps. 1½" diameter . . . 2½" long . . . ½ lb.

Type MC-1—primary tapped 30/50 and 200/250 ohms, secondary to grid, standard fidelity.
Type MC-2—primary tapped 30/50 and 200/250 ohms, secondary to grid, high fidelity.



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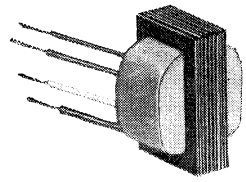
SUBOUNCER UNITS

FOR HEARING AIDS...VEST POCKET RADIOS...MIDGET DEVICES

UTC Sub-Ouncer units fulfill an essential requirement for miniaturized components having relatively high efficiency and wide frequency response. Through the use of special nickel iron core materials and winding methods, these miniature units have performance and dependability characteristics far superior to any other comparable items. They are ideal for hearing aids, miniature radios, and other types of miniature electronic equipment.

The coils employ automatic layer windings of double Formex wire . . . in a molded Nylon bobbin. All insulation is of cellulose acetate. Four inch color coded flexible leads are employed, securely anchored mechanically. No mounting facilities are provided, since this would preclude maximum flexibility in location. Units are vacuum impregnated and double (water proof) sealed. The curves below indicate the excellent frequency response available. Alternate curves are shown to indicate operating characteristics in various typical applications.

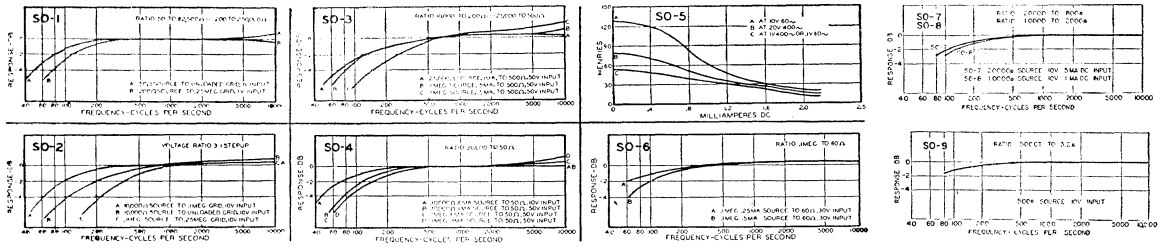


SUBOUNCER UNIT

Dimensions ..... 9/16" x 5/8" x 7/8"
Weight .....03 lb.

Type	Application	Level	Pri. Imp.	MA D.C. in Pri.	Sec. Imp.	Pri. Res.	Sec. Res.
*SO-1	Input	+ 4 V.U.	200 50	0	250,000 62,500	16	2650
SO-2	Interstage 3:1	+ 4 V.U.	10,000	0	90,000	225	1850
*SO-3	Plate to Line	+20 V.U.	10,000 25,000	.3 mil. 1.5 mil.	200 500	1300	30
SO-4	Output	+20 V.U.	30,000	1.0 mil.	50	1800	4.3
SO-5	Reactor 50 HY at 1 mil. D.C. 3000 ohms D.C. Res.						
SO-6	Output	+20 V.U.	100,000	.5 mil.	60	3250	3.8
SO-7	Transistor	+20 V.U.	20,000	.5	800	450	32
	Interstage		30,000	.5	1200		
SO-8	Transistor Pri. to PP Sec.	+20 V.U.	10,000	1	2000 ct.	1000	40
SO-9	PP Transistor to Speaker	+20 V.U.	500 ct.	—	3.2	15	.35

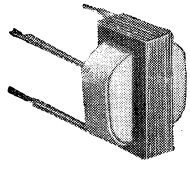
* Impedance ratio is fixed, 1250:1 for SO-1, 1:50 for SO-3. Any impedance between the values shown may be employed.



SUB-SUBOUNCER UNITS

FOR HEARING AIDS AND ULTRA-MINIATURE EQUIPMENT

UTC Sub-SubOuncer units have exceptionally high efficiency and frequency range in their ultra-miniature size. This has been effected through the use of specially selected Hiperm-Alloy core material and special winding methods. The constructional details are identical to those of the Sub-Ouncer units described above. The curves below show actual characteristics under typical conditions of application.

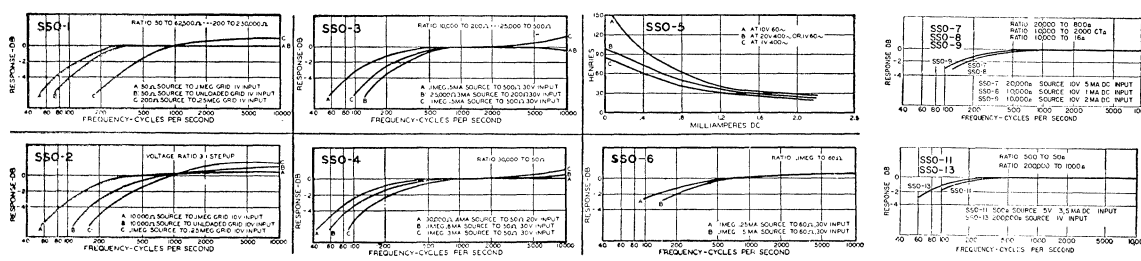


SUB-SUBOUNCER UNIT

Dimensions ..... 7/16" x 3/4" x 5/8"
Weight .....02 lb.

Type	Application	Level	Pri. Imp.	MA D.C. in Pri.	Sec. Imp.	Pri. Res.	Sec. Res.
*SSO-1	Input	+ 4 V.U.	200 50	0	250,000 62,500	13.5	3700
SSO-2	Interstage/3:1	+ 4 V.U.	10,000	0-.25	90,000	750	3250
*SSO-3	Plate to Line	+20 V.U.	10,000 25,000	.3 1.5	200 500	2600	35
SSO-4	Output	+20 V.U.	30,000	1.0	50	2875	4.6
SSO-5	Reactor 50 HY at 1 mil. D.C. 4400 ohms D.C. Res.						
SSO-6	Output	+20 V.U.	100,000	.5	60	4700	3.3
*SSO-7	Transistor Interstage	+20 V.U.	20,000 30,000	.5 .5	800 1,200 •	850	125
SSO-8	Transistor Pri. to PP Sec.	+20 V.U.	10,000	1	2000 ct.	1200	45
SSO-9	Transistor to Speaker	+20 V.U.	10,000	2	16	800	2.7
SSO-10	Transistor to Speaker	+20 V.U.	10,000	2	3.2	800	.65
SSO-11	Transistor Output	+20 V.U.	600 500	3.5 3.5	60 50	50	5
SSO-12	Transistor Output	+20 V.U.	1200 1000	3 3	60 5	90	5
SSO-13	Crystal to Transistor	+ 4 V.U.	200,000	0	1000	4000	190

* Impedance ratio is fixed, 1250:1 for SSO-1, 1:50 for SSO-3. Any impedance between the values shown may be employed.



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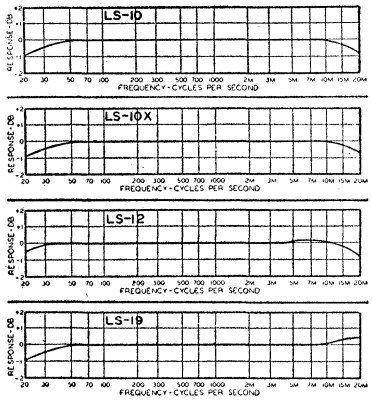
(Refer to Page N-89 for UTC Prices)

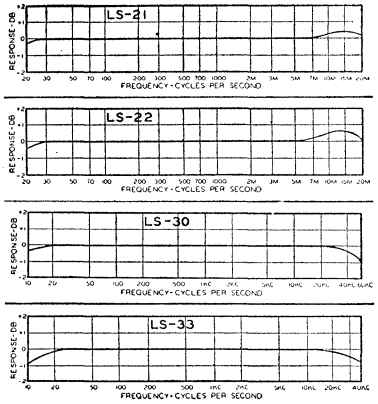
LINEAR STANDARD AUDIO TRANSFORMERS

The ever increasing use of wide range equipment for broadcast service has reached the point where the major limiting factor is the frequency range of the transformers employed. UTC Linear Standard components represent the closest approach to the ideal transformer from the standpoint of uniform frequency response, low wave form distortion, high efficiency, thorough shielding, and dependability.



LOW IMPEDANCE TO GRID TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level dbm	Relative * hum	Unbal. DC in prim'y	Case No.
LS-10	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200, 250, 333, 500/600 ohms	60,000 ohms in two sections	20-20,000	+19	−74 DB	.5 MA	LS-1
LS-10X	As above	As above	50,000 ohms	20-20,000	+17	−92 DB-Q	.5 MA	LS-1
LS-12	Low impedance mike, pickup or multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	120,000 ohms overall, in two sections	20-20,000	+19	−74 DB	.5 MA	LS-1
LS-12X	As above	As above	80,000 ohms overall, split	20-20,000	+17	−92 DB-Q	.5 MA	LS-1
LS-14	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	20-20,000	+19	−74 DB	.5 MA	LS-1
LS-14X	As above	As above	50,000 ohms	20-20,000	+17	−92 DB-Q	.5 MA	LS-1
LS-15X	Three isolated lines or pads to one or two grids	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	20-20,000	+17	−92 DB-Q	.5 MA	LS-1
LS-18	High level multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	50,000 ohms overall, in two sections	20-20,000	+28	−50 DB	.5 MA	LS-2
LS-26	Bridging line to single or push pull grids	5,000 ohms	60,000 ohms in two sections	15-20,000	+23	−74 DB	0 MA	LS-1

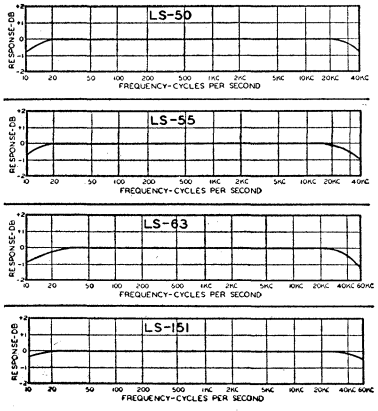


MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level dbm	Relative * hum	Unbal. DC in prim'y	Case No.
LS-30	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125/150, 200, 250, 333, 500/600 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	7-50,000	+23	−74 DB	.5 MA	LS-1
LS-30X	As above	As above	As above	20-20,000	+20	−92 DB-Q	.3 MA	LS-1
LS-31	Three isolated lines or pads to multiple line	30, 50, 200, 250 ohms each primary	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+23	−74 DB	.5 MA	LS-1
LS-31X	As above	As above	As above	20-20,000	+20	−92 DB-Q	.3 MA	LS-1
LS-32	Mixing, low impedance mike, pickup or parallel mixer to multiple line	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+23	−74 DB	.5 MA	LS-1

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level dbm	Relative * hum	Unbal. DC in prim'y	Case No.
LS-19	Single plate to push pull grids like 2A3, 6L6, 5881 Split secondary	15,000 ohms	95,000 ohms 1.25:1 each side	20-20,000	+20	−50 DB	0 MA	LS-1
LS-21	Single plate to push pull grids. Split pri. and sec.	15,000 ohms	135,000 ohms; 3:1 overall	10-20,000	+20	−74 DB	0 MA	LS-1
LS-40	Single plate to push pull grids. Split secondary	15,000 ohms	135,000 ohms; 3:1 overall	30-20,000	+20	−74 DB	8 MA	LS-1
LS-22	Push pull plates to push pull grids. Split primary and secondary	30,000 ohms plate to plate	80,000 ohms; turn ratio 1.6:1 overall	20-20,000	+28	−50 DB	.25 MA	LS-2
LS-25	Push pull plates to push pull grids. Medium level. Split primary and sec.	30,000 ohms plate to plate	50,000 ohms; turn ratio 1.3:1 overall	20-20,000	+23	−74 DB	1 MA	LS-1



PLATE, CRYSTAL, PHOTOCELL, AND BRIDGING TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level dbm	Relative * hum	Unbal. DC in prim'y	Case No.
LS-27	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	30-15,000 cycles	+23	−74 DB	8 MA	LS-1
LS-50	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	10-40,000	+23	−74 DB	0 MA	LS-1
LS-51	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600	10-40,000	+24	−74 DB	1 MA	LS-1
LS-150	Bridging from 50 to 500 ohm line to line	4,000 ohms, bridging	50, 125/150, 200, 250, 333, 500/600	7-50,000	+23	−74 DB	1 MA	LS-1
LS-151	Bridging from 50 to 500 ohm line to line	16,000 ohms, bridging	50, 125/150, 200, 250, 333, 500/600	7-50,000	+26	−74 DB	1 MA	LS-1

The values of unbalanced DC shown will effect approximately 1.5 DB loss at 30 cycles.
* Comparison of hum balanced unit with shielding to normal uncased type.
Q Multiple alloy magnetic shield.

(Refer to Page N-89 for UTC Prices)

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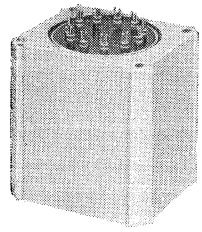
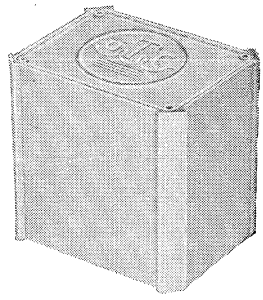
LINEAR STANDARD

UTC UNITED



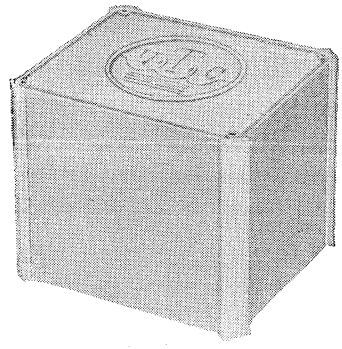
LS-1 CASE

Length ..... 3⅛"
Width ..... 2⅝"
Height ..... 3¼"
Mounting ..... 1 5/16" x 2 7/16"
Screws 6-32
Cutout ..... 1⅞" dia.
Unit Weight ..... 3 lbs.



LS-2 CASE

Length 4 7/16
Width ..... 3½"
Height ..... 4 3/16"
Mounting ..... 2 1/16" x 3 1/16"
Screws 8-32
Cutout ..... 2¾" dia.
Unit Weight ..... 7.5 lbs.



LS-3 CASE

Length ..... 5 3/16"
Width ..... 5"
Height ..... 4 1/16"
Mounting ..... 4 3/16" x 5 1/32"
Screws 10-24
Cutout ..... 3¾" dia.
Unit Weight ..... 15 lbs.

HYBRID AND REPEAT COILS

Type No.	Application	Pri. and Sec. Impedances	± 1 db from	Max. Level dbm	Relative * hum	Max. Unbal. DC in Pri.	Case No.
LS-140	Line to line for isolating balanced and unbalanced circuits; balanced for maximum reduction cross talk (70 DB)	500/600 ohms split 500/600 ohms split	30-20,000	+18	—92 DB-Q	0 MA	LS-1
LS-141	Three sets of balanced windings for hybrid service, centertapped	500/600 ohms 500/600 ohms	30-15,000	+18	—74 DB	0 MA	LS-1
LS-143	High efficiency ring and talk repeat coil, for low frequency ringing	500/600 ohms 500/600 ohms	Efficient 15/12,000 cycles	+33	—74 DB	5 MA	LS-2

DRIVER TRANSFORMERS

Type No.	Application	Primary Impedance	Refl. Sec. Impedance	± 1 db from	Max. Level	Max. Unbal. DC in Pri.	Case No.
LS-6	Driver, push pull 2A3's, etc., to push pull 845 or 211D grids	5,000 ohms plate to plate	2:25 primary impedance; turns ratio 1.5:1 overall	20-20,000	15 watts	5 MA	LS-2
LS-47	Driver from push pull 2A3's, or similar to class B 838's, 805's, or ZB120's	5,000 ohms plate to plate	.1 pri. impedance turns ratio, Pri./½ Sec. 3.2:1	20-20,000	20 watts	5 MA	LS-2
LS-48	Driver transformer push pull 845's to 805 grids in class B	12,000 ohms plate to plate	.038 pri. impedance turns ratio, Pri./½ Sec. 5.1:1	20-20,000	40 watts	15 MA	LS-3

HIGH LEVEL MATCHING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	Case No.
LS-33	High level line matching	50, 125, 200, 250, 333, 500/600 ohms	1.2, 2.5, 5, 7.5 10, 15, 20, 30, 50 125, 200, 250, 333, 500/600	10-40,000	20 watts	LS-2
LS-34	High level line matching	50, 125, 200, 250, 333, 500/600 ohms	1.2, 2.5, 5, 7.5 10, 15, 20, 30, 50, 125, 200, 250, 333, 500/600	10-40,000	40 watts	LS-3

OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Primary will match following typical tubes	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	Case No.
LS-52	Push pull 6AQ5, 6V6, 6L6, 5881	8,000 ohms	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-54	Same as above	8,000 ohms	30, 20, 15, 10 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-55	Push pull 2A3's, 300B, 6L6's, 6AS7G, 6080, 350B	5,000 ohms plate to plate and 3,000 ohms plate to plate	500, 333, 250 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-57	Same as above	5,000 ohms plate to plate and 3,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-58	Push pull parallel as above.	2,500 ohms plate to plate and 1,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	10-50,000	40 watts	LS-3
LS-60A	Push pull 2A3's, push pull parallel triode: 1614, 1625, 807, 5881, KT-66	4,600 ohms plate to plate	15, 10, 7.5, 5, 3.75, 2.5, 1.2	7-50,000	30 watts	LS-3
LS-61	Push pull triode: 6AS7G, 6080, 6L6, 5881, KT-66, 807, 1614	10,000 ohms plate to plate and 6,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-63	Same as above	10,000 ohms plate to plate and 6,000 ohms plate to plate	30, 20, 15, 10 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-6L1	Self bias push pull 6L6's, 5881, KT-66, 6146 triode, 6159 triode	9,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	30 watts	LS-3
LS-6L3	Same as above	9,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	30 watts	LS-3
LS-6L4	Push pull 6146, 6159, 6L6's fixed bias or push pull parallel 6L6's self bias	4,500 ohms plate to plate and 3,800 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	12-50,000	55 watts	LS-3

The values of unbalanced DC shown will effect approximately 1.5 DB loss at 30 cycles.
* Comparison of hum balanced unit with shielding to normal uncased type.
Q Multiple alloy magnetic shield.

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(Refer to Page N-89 for UTC Prices)

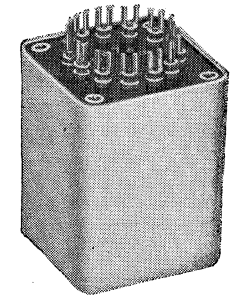
ULTRA COMPACT AUDIO UNITS

The **UTC Ultra compact** audio units are small and light in weight, ideally suited to remote amplifier and similar compact equipment. High fidelity is obtainable in all individual units, the frequency response being ± 2 DB from 30 to 20,000 cycles.

All units except those carrying DC in Primary employ a true hum balancing coil structure, which combined with a high conductivity outer case, effects good inductive shielding. The die-cast case provides for top or bottom mounting. Maximum operating level +7 DB.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 2 db from
A-10	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200/250, 333, 500/600 ohms	50,000 ohms	20-20,000
A-11	Low impedance mike, pickup, or line to 1 or 2 grids	50, 200, 500	50,000 ohms	50-20,000 multiple alloy shield for extremely low hum pickup
A-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125/150, 200/250, 333, 500/600 ohms	80,000 ohms overall, in two sections	20-20,000
A-14	Dynamic microphone to one or two grids	30 ohms	50,000 ohms overall, in two sections	20-20,000
A-20	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125/150, 200/250, 333, 500/600 ohms	50, 125/150, 200/250, 333, 500/600 ohms	10-50,000
A-21	Mixing, low impedance mike, pickup, or line to line	50, 200/250, 500/600	50, 200/250, 500/600	30-30,000 multiple alloy shield for extremely low hum pickup



INTERSTAGE AUDIO TRANSFORMERS

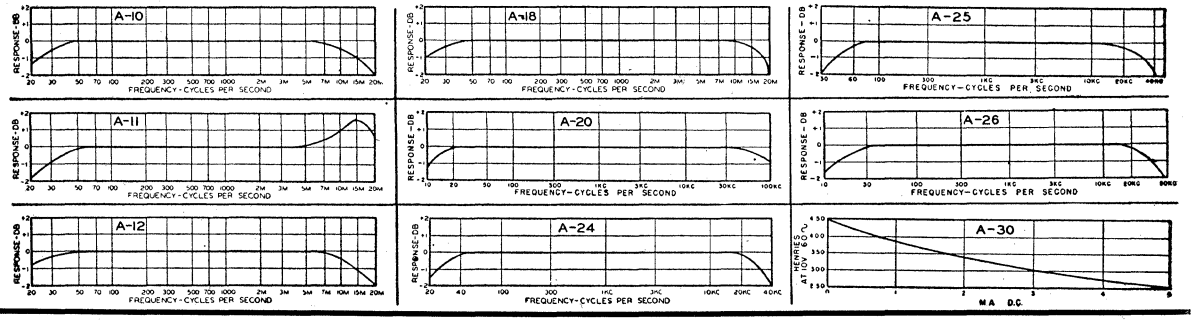
Type No.	Application	Primary Impedance	Secondary Impedance	± 2 db from
A-16	Single plate to single grid	15,000 ohms	60,000 ohms, 2:1 turn ratio	20-20,000
A-17	Single plate to single grid 8 MA unbalanced D.C.	As above	As above	40-20,000
A-18	Single plate to two grids. Split primary, can also be used for P.P. plates	15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	20-20,000
A-19	Single plate to two grids 8 MA unbalanced D.C.	15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	40-20,000

TYPE A CASE

Length ..... 1½"
Width ..... 1½"
Height ..... 2"
Mounting ..... 1 5/32" sq.
Screws 4-40
Cutout ..... 1⅜" dia.
Unit Weight ..... ½ lb.

PLATE AND CRYSTAL TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 2 db from
A-24	Single plate to multiple line	15,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	20-40,000
A-25	Single plate to multiple line 8 MA unbalanced D.C.	15,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	40-20,000
A-26	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200/250, 333, 500/600 ohms	20-40,000
A-27	Crystal microphone to multiple line	100, 000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000 measured with non-inductive source
A-30	Audio choke, 250 henrys @ 5 MA 6000 ohms D.C., 65 henrys @ 10 MA 1500 ohms D.C. 450 henrys @ 0 MA			
A-32	Filter choke 60 henrys @ 15 MA 2000 ohms D.C., 15 henrys @ 30 MA 500 ohms D.C.			



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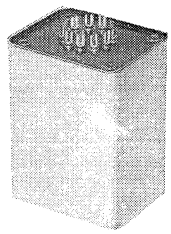
(Refer to Page N-89 for UTC Prices)

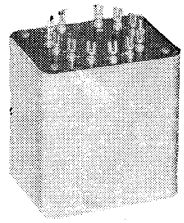
HIPERM ALLOY TRANSFORMERS

The UTC Hiperm alloy audio and power transformers are specifically designed for portable and compact service. While light in weight, neither dependability nor fidelity has been sacrificed. The frequency characteristic of the Hiperm alloy audio units is uniform from 30 to 20,000 cycles. They incorporate a Hiperm-alloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Prim'y shown is maximum unbalanced.



TYPE H-1 CASE

Length	2⅜"
Width	1 15/16"
Height	3⅛"
Mounting	1⅜" x 1 13/16"
Screws	6-32
Cutout	1 13/16" dia.
Unit Weight	2 lbs.



TYPE H-2 CASE

Length	3 9/16"
Width	2 13/16"
Height	3½"
Mounting	2" x 2¾"
Screws	8-32
Cutout	2 11/16" dia.
Unit Weight	5 lbs.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Imp. (ohms)	Secondary Impedance	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-100	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200, 250, 333, 500/600	60,000 ohms in two sections	30-20,000	+10 DB	.5 MA	H-1
HA-100X	Same as above but with tri-alloy internal shield to effect very low hum pickup						H-1
HA-101	Low impedance mike, pickup, or multiple line to P.P. grids	50, 125/150, 200, 250, 333, 500/600	120,000 ohms overall, split	30-20,000	+10 DB	.5 MA	H-1
HA-101X	As above but with tri-alloy internal shield to effect very low hum pickup		80,000 ohms overall, split	30-20,000	+10 DB	.5 MA	H-1
HA-103A	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60	60,000 ohms in two sections	30-20,000	+10 DB	.5 MA	H-1
HA-108	Mixing, low impedance mike, pickup, or multiple line	50, 125/150, 200, 250, 333, 500/600	50, 125/150, 200, 250, 333, 500/600	20-50,000	+10 DB	.5 MA	H-1
HA-108X	Same as above but with tri-alloy internal shield to effect very low hum pickup						H-1
HA-130X	Three isolated lines or pads to one or two grids with tri-alloy internal shield	30, 50, 200, 250 each primary	60,000 ohms overall, in two sections	30-20,000	+10 DB	.5 MA	H-1

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Imp.	Secondary Impedance	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-104	Single plate to P.P. grids like 2A3, 6L6 (split secondary)	15,000 ohms	95,000 ohms 1.25:1	30-20,000	+12 DB	0 MA	H-1
HA-105	Single plate to single grid (split secondary)	15,000 ohms	60,000 ohms 2:1 turn ratio	30-20,000	+12 DB	0	H-1
HA-106	Single plate to push pull grids (split secondary)	15,000 ohms	135,000 ohms 3:1 ratio overall	30-20,000	+12 DB	0	H-1
HA-107	Push pull plates to push pull grids (split primary and secondary)	30,000 ohms plate to plate	80,000 ohms 1.6:1 turn ratio overall	30-20,000	+20 DB	.25 MA	H-2
HA-137	Push pull plates to push pull grids (split Pri. and Sec.)	30,000 ohms plate to plate	68,000 ohms 1.5:1 turn ratio	30-20,000	+12 DB	0	H-1

PLATE AND CRYSTAL TO LINE TRANSFORMERS

Type No.	Application	Primary Imp.	Secondary Imp. ohms	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-111	Crystal microphone or pickup, to multiple line	100,000 ohms	50, 125/150, 200, 250, 333, 500/600	30-20,000 measured with resistive source	+10 DB	0	H-1
HA-113	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	30-40,000	+12 DB	0 MA	H-1
HA-133	Single plate to multiple line (D.C. in Pri.)	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	30-40,000	+15 DB	8 MA	H-1
HA-114	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600	30-40,000	+16 DB	1 MA	H-1

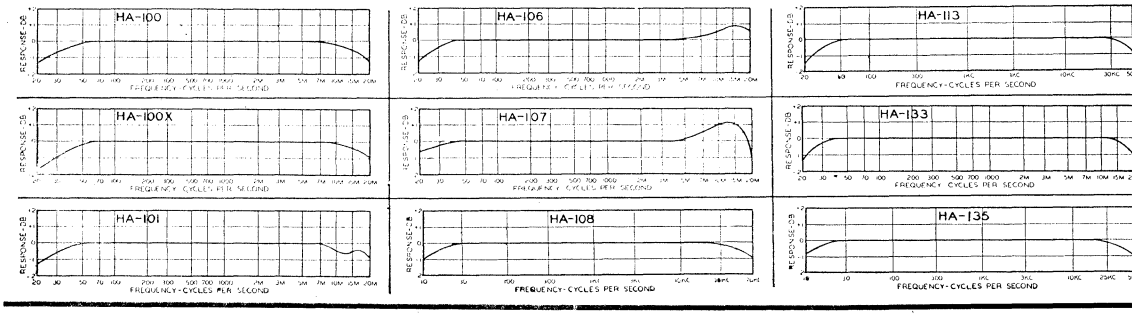
OUTPUT TRANSFORMERS

Type No.	Application	Primary Imp.	Secondary Imp. ohms	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-134	Push pull 6B4's, 6L6, or 2A3's to line	5000/9400 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600	10-50,000	+32 DB	5 MA	H-2
HA-135	Push pull 2A3's, etc. to voice coil	3000/5000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	10-50,000	+34 DB	5 MA	H-2

POWER TRANSFORMERS AND CHOKES

Type No.	Application	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No.
HP-122	Pre-amp. power supply using 6X4, 6X5 rectifier	115	220-0-220 15 MA	6.3 V.C.T.-.6A 6.3 V.C.T.-1.2A	H-1
HP-123	Pre-amp. or tuner power supply using 6X4, 6X5 rectifier	115	275-0-275 35 MA	6.3 V.C.T.-.6A 6.3 V.C.T.-2A	H-2

Type No.	Application	Inductance	DC Current	DC Resistance	Test Voltage	Case No.
HC-115	Parallel feed and filter choke	Series-400 hy Parallel 100 hy	2.5 MA 5 MA	6000 ohms 1500 ohms	1500	H-1
HC-116	Parallel feed and filter choke	Series-600 hy Parallel-150 hy	8 MA 16 MA	3400 ohms 850 ohms	1500	H-2
HC-117	Parallel feed and filter choke	Series-200 hy Parallel-40 hy	15 MA 35 MA	3200 ohms 800 ohms	1500	H-1



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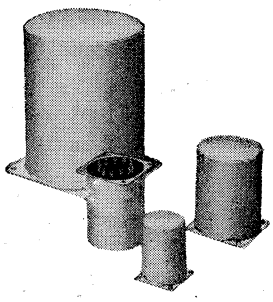
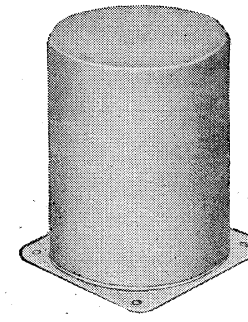
COMMERCIAL GRADE COMPONENTS



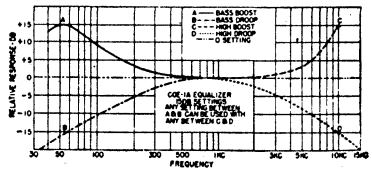
The commercial grade series of transformers incorporate conservative design and rugged construction to assure dependability under continuous service operation in industrial and commercial grade communication equipment. These units are mounted in uniform drawn cases finished in light grey enamel, and intended for chassis mounting. All items are poured with special sealing compound in addition to vacuum impregnation of coil structures. Type numbers are identical with the PA units except for the prefix "CG."

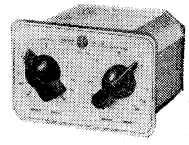
CG-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. All audio components are linear. ± 1½ DB from 40 to 10,000 cycles (no unbalanced D.C.), except CVL and CVM units . . . 40 to 6000 cycles. Parallel feed low level interstage units with 50,000 ohms and .25 mfd. 200 ohm windings on input transformers are balanced and may be used for 150 to 250 ohm circuits.



INPUT, INTERSTAGE, MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

Type No.	Application	Primary Impedance Ohms	Secondary Impedance Ohms	Case No.
CG-131	1 plate to 1 grid	15,000	135,000 3:1 ratio	RC-50
CG-132	1 plate to 2 grids	15,000	135,000 centertapped 3:1 ratio overall	RC-62
CG-133	2 plates to 2 grids	30,000 P to P	80,000 overall 1.6:1 ratio overall	RC-75
CG-134	Line to 1 grid hum-bucking	50, 200, 500	80,000	RC-50
CG-135	Line to 2 grids hum-bucking	50, 200, 500	120,000 overall	RC-50
CG-235	Line to 1 or 2 grids, hum-bucking; multiple alloy shielded for low hum pickup	50, 200, 500 ohms	80,000 overall	RC-75
CG-136	Single plate and low impedance mike or line to 1 or 2 grids hum-bucking	15,000, 50, 200	80,000 overall	RC-62
CG-233	PP 6C5, 12AU7, similar triodes to AB 45's, 2A3's, 6L6's, etc.	30,000 P to P	25,000 overall .9:1 ratio overall	RC-87
CG-333	PP 6C5, 12AU7, similar triodes to fixed bias 6L6's	30,000 P to P	5,000 overall .4:1 ratio overall	RC-87
CG-433	PP 45, 2A3, similar tubes to fixed bias 2 or 4 6L6's	5,000 P to P	1,250 overall .5:1 ratio overall	RC-100
CG-137	Mixing	50, 200, 500	50, 200, 500	RC-50
CG-140	Triode plate to line	15,000	50, 200, 500	RC-50
CG-141	PP triode plates to line	30,000 P to P	50, 200, 500	RC-50





NEW UNIVERSAL INTERSTAGE EQUALIZER—CGE-1A

The UTC CGE-1A is the ideal device for any application where frequency response control is desired. Incorporating the latest developments in design and manufacture, this new unit provides the ultimate in control and flexibility. This equalizer is not a simple R-C tone control, but employs resonant circuits in a unique arrangement providing equalization characteristics unobtainable by conventional circuits. Designed to work from a low or medium impedance source (0 to 20,000 ohms) to a high impedance (500,000 ohms or open grid), the CGE-1A affords continuously variable equalization over a 30 DB range at either end of the spectrum, while introducing only 18 DB total insertion loss. (See curve above). Complete independence of high frequency and low frequency controls permits a wide variety of settings without affecting the over-all volume level. Because of its low insertion loss, this unit may be incorporated directly in many amplifiers. If existent gain is low, a single medium-mu triode stage will provide both proper gain and source impedance. The mechanical construction permits mounting with case on panel directly behind controls, or with case separated from controls and panel. An etched, calibrated panel is provided.

CGE-1A Panel Dim. 2⅜" x 3½" x 2½" deep. Wt. 2 lbs.

DYNAMIC NOISE SUPPRESSION INDUCTOR

Incorporates two accurate High Q coils [.8 hy. and 2.4 hy.] for use in dynamic noise suppression circuits. Excellent circuit accompanies unit.

Type CG-50 RC-62 Case

COMMERCIAL GRADE CASE

Case No.	Base Dim. (Sq.)	Mounting Dim. (Sq.)	Height +1/8, −1/16	Cutout Dia.	Unit Weight (Lbs.)
RC-50	1⅝	1⅝	2¼	1½	½
RC-62	1 1/16	1½	2½	1½	1
RC-75	2 3/16	1 3/16	2⅞	1⅞	1½
RC-87	2 9/16	2 3/32	3¼	2	2½
RC-100	3	2⅜	3¾	2⅝	3½
RC-112	3 7/16	2 11/16	4⅛	2⅞	5
RC-125	3¾	3	4½	3	6½
RC-150	4½	3 9/16	5½	3¾	11
RC-152	5⅛	4⅛	5½	4	15½
RC-175	5¾	4⅞	7⅛	4	22

OUTPUT TRANSFORMERS

Secondary Impedances: 500, 200, 16, 8, 5, 3, 1.5 ohms

Type No.	Imped. P. P. Ohms, Overall	Typical Tubes	Max. Watts	Case No.
CG-15	8,000	6F6 triode, 6V6	20	RC-100
CG-16	3,000/5,000	2A3, 6B4, 6AS7G, 6L6, 6080	20	RC-100
CG-19	6,000/10,000	6V6, Triode: 6L6, 5881	20	RC-100
CG-710	14,000/20,000	6K6, 7B5, 6AK6	20	RC-100
CG-2L6	9,000	6L6's, AB1, 5881	30	RC-125
CG-4L6	3,800/4,500	2-6L6's, AB2 or 4-6L6's AB1, 6146, 6149	55	RC-150

CG VARIMATCH OUTPUTS FOR P. A.

Universal units designed to match **any tubes** within the rated output power, to line or voice coil. Output impedance 500, 200, 50, 16, 8, 5, 3, 1.5 ohms Primary impedance 3000, 5000, 6000, 7000, 8000, 10,000, 14,000 ohms.

Type No.	Audio Watts	Typical Tubes	Case No.
CVP-1	12	2A3, 25L6, 6V6, 6B4G, 6AQ5	RC-100
CVP-2	30	2A3, 6L6, 6V6, 807, 5881, 6B4G	RC-125
CVP-3	60	300B's, 6L6's, 801, 807, 1614, 5881, 1625	RC-150
CVP-4	125	807's, 4-6L6's, 845's, 4-1614's, 6146, 6149	RC-152
CVP-5	300	211, 242A's, 203A's, 838's, 4-845's, ZB-120's	RC-175

CG VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained, as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5, 5, 5.5, 6, 6.25, 6.6, 7, 7.5, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75.

Where speakers are to be connected in groups to one transformer, it is preferable that parallel connection be used to eliminate the possibility of multiple resonance. If two speakers of different impedances are connected in parallel, the lower impedance speaker will develop greater power. If connected in series, the higher impedance speaker will develop greater power.

Type No.	Audio Watts	Primary Impedance	Secondary Impedance	Case No.
CVL-1	15	500 ohms	.2 to 75 ohms	RC-87
CVL-2	40	500 ohms	.2 to 75 ohms	RC-125
CVL-3	75	500 ohms	.2 to 75 ohms	RC-150

CG VARIMATCH LINE AUTOFORMERS

UTC Varimatch Line Autoformer will match one to ten 500 ohm lines or CVL windings to the 500 ohm output of an audio amplifier. The CVL-10 autoformer has impedances of 500, 250, 167, 125, 100, 83, 71, 62, 50 ohms.

Type No.	Audio Watts	Case No.
CVL-10	15	RC-87

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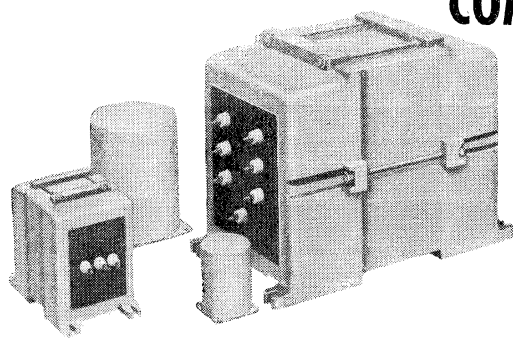
COMMERCIAL GRADE COMPONENTS



UTC CG power transformers, Varimatch units and chokes are designed to A.I.E.E. commercial standards. Ratings are conservative for continuous duty. Designs provide temperature rise less than 55 degrees C. Units are tested for breakdown at twice maximum working voltage plus 1000 volts. Plate transformers are given a surge test of 250% normal voltage at 200 cycles. All items are vacuum impregnated and sealed with special insulating compound. The conservative design and manufacturing procedure of these units make them suitable for virtually all types of commercial equipment as well as ideally suited for quality amateur and public address service.

CG VARIMATCH MODULATION UNITS

Will match any modulator tubes to any RF load.
The ever increasing number of vacuum tubes available for audio and RF applications has increased the difficulty of obtaining transformers suitable for matching to the various correct tube loads. If a standard transformer having a limited impedance range is purchased and used for a specific purpose as the "nearest thing" available, comparatively high distortion is inevitable. While a 20% mismatch caused by such an occurrence does not represent a serious loss in power, it greatly reduces the undistorted power available from a class B modulator because optimum plate load is not reflected to the tubes. The UTC Varimatch transformer eliminates this difficulty through the use of a combination of tapped windings affording an extremely wide range in impedance matching. Designs provide that for any load impedance employed, full class C plate current can be carried by secondary winding.

Primary impedances from 500 to 20,000 ohms
Secondary impedances from 30,000 to 300 ohms

Type No.	Max. Audio Watts	Max. Class C Input	Typical Modulator Tubes	Case No.
CVM-0	12	25	2A3, 6B5G	RC-100
CVM-1	30	60	6V6, 2A3, 6L6, 807, 5881	RC-125
CVM-2	60	125	801, 6L6, 809, 4-46, T-20, 1608, 6146, 6149	RC-150
CVM-3	125	250	800, 807, 845, TZ-20, RK-30, 35-T	RC-152
CVM-4	300	600	50-T, 203A, 805, 838, T-55, ZB-120	RC-175
CVM-5	600	1200	805, HF-300, 204A, HK-354, 250TH	7x12x9H 60 lbs.

CG VARIMATCH DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No.
CG-51AX	All single tubes like: 6C5, 6C4 12AU7, 45, 2A3	2A3, 45, 6L6	RC-87
CG-53AX	P. P. tube like: 45, 2A3, 6L6, 6B4	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	RC-112
CG-59AX	50, 200, 500 ohm line	805, 838, 203A, ZB-120, 100TH, 800, 55T, RK-18	RC-112
CG-238AX	4-2A3, 4-45, 4-50, 2-211A, 2-845	4-805's, 4-838's, 4-203A's, 2-204's, 2-849's, 2-HF300's, 2-HF200's, 2-250TH's, 2-450TH's	RC-150
CG-512	50, 200, 500 ohm line	2-250TH, 2-450TH, 2-HF200, 2-HF300, 2-204A, 2-849	RC-150

VARIPOWER AUTO-FORMERS

Type No.	Watts Output	Case No.
CVA-1	150	RC-112
CVA-2	250	RC-125
CVA-3	500	RC-150
CVA-4	1000	RC-152
CVA-5	2000	RC-175

Designed for line voltage control, filament control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the tube socket to within 2½% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

POWER AND BIAS TRANSFORMERS

Primary 115 volts 50/60 cycles

Type No.	High Voltage	DC MA.	Fil. 1	Fil. 2	Fil. 3	Fil. 4	Case No.
CG-422	435-365-0-365-435 125-0-125	125 25	5V-3A	5V-2A	6.3 VCT-3A	2.5 VCT-5A	RC-150
CG-428	500-0-500 80-0-80	250 100	5V-3A	5V-2A	6.3 VCT-4A	6.3 VCT-3A, tapped 2.5 VCT-3A	RC-152
CG-429	600-525-0-525-600	250	5V-3A	6.3 VCT-3-A	7.5 VCT-3A, tapped 6.3 VCT-4A		RC-152
CG-431	500-400-0-400-500 80-0-80	500 100	5V-6A	5V-2A	6.3 VCT-5A	6.3 VCT-3A	RC-175
CG-315	Tapped for any DC voltage from 15 to 100 volts within 6% — 250 MA						RC-125
CG-316	Tapped for any DC voltage from 75 to 400 volts within 6% — 250 MA						RC-152

CG PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50/60 cycles. For reduced power, secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V. Pri. is used on 110 volts. Secondary voltage is simultaneously halved.

Type No.	High Voltage	DC Voltage	DC MA	Case No.
CG-300	625-515-0-515-625	500/400	200	RC-150
CG-301	580-530-300-0-300-530-580	475/425/250	420	RC-152
CG-302	950-750-0-750-950	760/610	360	RC-175
CG-303	1500-1235-400-0-400-1235-1500	1250/1000 300	260* 175	RC-175

* 300MA, if used without load on low voltage winding.

TYPE EC CASE UNITS

Type No.	High Voltage	DC Voltage	DC MA	L	W	H	Wt. Lbs.
CG-304	1500-1235-0-1235-1500	1250/1000	800	15	8½	10⅜	100
CG-305	2400-1750-0-1750-2400	2000/1500	300	10½	4¾	6⅞	50
CG-306	2400-1750-0-1750-2400	2000/1500	500	15	8½	10⅜	100
CG-307	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	300	14½	8½	10⅜	90
CG-308	3500-3000-2400-0 2400-3000-3500	3000/2500 2000	500	16½	8½	10⅜	125
CG-309	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	1000	21	10	13¼	185
CG-311	1500-1235-0-1235-1500	1250/1000	500	10½	4¾	6⅞	50
CG-312	1800-1500-0-1500-1800	1500/1250	400	10½	4¾	6⅞	50

FILTER CHOKES

INDUCTANCE SHOWN IS AT RATED DC MA

Type No.	Inductance Henrys	DC MA	DC Res. Ohms	Test Volts	Case No.
CG-40	10	200	110	1750	RC-112
CG-41	4-20	200	110	1750	RC-112
CG-44	30	100	400	1750	RC-100
CG-45	250	15	5000	1750	RC-87
CG-48C	75	50	2200	1750	RC-87
CG-100	12	150	110	2500	RC-125
CG-102	12	250	100	3000	RC-150
CG-104	10	350	90	5000	RC-152
CG-108	10	500	52	7000	RC-175
CG-1S	10	1000	40	9000	11½x4¾x 6⅞ H, 60 lb.

SWINGING INPUT CHOKES

INDUCTANCE SHOWN IS FROM 100% TO 10% OF RATED DC MA

Type No.	Inductance Henrys	DC MA	DC Res. Ohms	Test Volts	Case No.
CG-101	5-25	150	110	2500	RC-125
CG-103	5-25	250	100	3000	RC-150
CG-105	5-25	350	90	5000	RC-152
CG-109	5-25	500	52	7000	RC-175
CG-1C	5-25	1000	40	9000	11½x4¾x 6⅞ H, 60 lb

FILAMENT TRANSFORMERS

Primary for 105, 115, 220, 230 volts, 50/60 cycles. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half. *Two Windings.

Type No.	Sec. Volts C. T.	Sec. Amps.	Working Voltage	Test Voltage	Case No.
CG-33	6.3	4	500	2000	RC-75
CG-34	2½	10	2500	6000	RC-112
CG-120	2½	10	5000	11000	RC-125
CG-121	5	25	5000	11000	RC-150
CG-122	7.5/6.3	10	1500	4000	RC-125
CG-124	10	10	1500	4000	RC-150
CG-125	14/12/11	10	1500	4000	RC-150
CG-126	*14/11/10 14/11/10	10 10	1500	4000	RC-152

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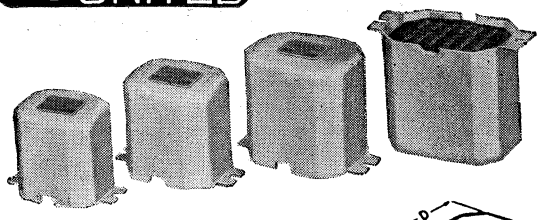
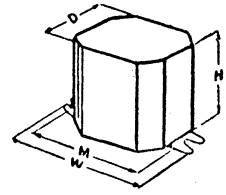
SPECIAL SERIES AUDIO TRANSFORMERS



UTC Special Series transformers are specifically designed for amateur and popular-priced PA service. The Special units are finished in a rich, commercial type medium gray enamel. A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chassis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the DC current of the class C stage for any of the impedances available and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases with top or bottom mounting. All units are vacuum impregnated—compound filled.

CASE SIZES

Type No.	H	W	D	M	Wt. Lbs.
G-1	1⅞	2-13/16	1¾	2⅜	1
G-2	2-5/16	3⅜	1-15/16	2⅞	1½
G-3	2½	3¾	2-5/32	3¼	2
G-4	2-15/16	4⅛	2-5/16	3⅝	3



CLASS A INPUT TRANSFORMERS

Type No.	Application	Ratio	Case
S-1	1 plate* to 1 grid	3½:1	G-2
S-2	1 plate* to 2 grids	2:1 4:1	G-2
S-3	1 plate* to 1 or 2 grids compact type	2:1	G-1
S-4	1 plate* to 2 grids wide range response	1:1	G-3
S-5	Single or double button mike or line to 1 grid hum-bucking type	16:1	G-2
S-6	Single or double button mike or line to 1 grid, compact type	16:1	G-1
S-7	Single plate* and carbon mike to one or two grids	3:1 16:1	G-2

* Will match tubes like 6J5, 6C4, 12AU7, etc. Can be used with high mu triodes with loss in low frequencies.

UNIVERSAL DRIVER TRANSFORMERS

(See Modulator chart for tube types)

Type No.	Application	Case
S-8	Single driver plate to pushpull grids	G-3
S-9	Pushpull driver plates to grids of class B tubes up to 400 watts output	G-4
S-10	Pushpull 56, 6C6 triode, 6C5, or similar plates to 45's, 2A3's or 6L6's, self or fixed bias	G-3

MATCHING TRANSFORMERS

Type No.	Application	Pri. Ohms	Sec. Ohms	Case
S-11	Single 6J5, 6C4, 12AU7 or similar tube to line	15,000	200/500	G-2
S-12	Line to speaker 15 watts	500, 2000, 4000	2, 4, 8, 15	G-2
S-13	Line to speaker 30 watts	500, 2000, 4000	2, 4, 8, 15	G-4

UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

(Secondary Impedances: 500, 15, 8, 2 ohms)

Type No. Max. Watts	Primary Impedance	Typical Tubes	Class	Case
	Single Tubes:			
S-14 10 W.	2500 ohms	2A3, 6B4, 6L6, 6Y6, 25L6, 35L6	A	G-2
	4000 ohms	6V6, 12A6	A	
	7000 ohms	6AC5, 6F6, 6K6, 7B5	A	
	10,000 ohms	1G5, 3C5, 6A4, 6N7	A	
	P. P. Tubes:			
S-15 12 W.	4000 ohms	6Y6, 25L6	AB	G-2
	5000 ohms	2A3, 6B4, 6AS7	AB	
	10,000 ohms	1H4, 6AC5G, 6B5, 6A6, 6Y7	AB B	
S-16 30-W.	3000 ohms	2A3, 6B4, 25L6	AB	G-4
	6000 ohms	2A5, 6F6 triodes, 6AS7, 6A6, 6N7	AB B	
	9000/10000 ohms	2A5, 6AC5, 6B5, 6F6, 6L6, 6V6, 807-triode	AB	
S-17 55 W.	3800 ohms	6L6's	AB2	G-5
	4500/5000 ohms	4—6L6's 46, 1608, 809	AB1 B	

UNIVERSAL MODULATION TRANSFORMERS

Secondary carries class C current
Any modulator tubes to any RF load. (See chart)

Type No.	Audio Power	Case
S-18	12 watts	G-3
S-19	30 watts	G-4
S-20	55 watts	G-5
S-21	110 watts	G-7
S-22	250 watts	G-9

TYPICAL MODULATOR COMBINATIONS

S-18—12 WATTS MAX.

DRIVER TUBES: In the combinations shown below, typical suitable driver tubes are: 6C5, 6E6, 6N7, 6J5, 6C4, 12AU7, 6P5, 6J7-TR, 6SJ7-TR.

DRIVER Transf.	Sec. Term.	MODULATOR STAGE P.P. Tubes	Watts Output	P.P. Load	Plate Volts	Bias Volts
S-2	G-G	6E6	1.6	14,000	250	27
S-8	G-G	19, 1J6G	2.1	10,000	135	0
S-8	G-G	49	3.5	12,000	180	0
S-2	G-G	25L6	4	4,000	110	7.5
S-8	G'-G'	6Z7G	4.2	12,000	180	0
S-2	G-G	6Y6G	7	4,000	135	13.5
S-8	G-G	6Y7G	8	14,000	250	0
S-8	G'-G'	6AC5G	8	10,000	250	0
S-8	G'-G'	6A6, 6N6, 6N7	10	10,000	300	0
S-2	G-G	2A3, 6A3, 6A5G, 6B4G	10	5,000	325	750 ohms
S-8	G-G	45	10	5,000	275	770 ohms
S-2	G-G	6AS7G	10	5,000	250	1,250 ohms

		SINGLE TUBES	Pri. Lead
S-1	F-G	43, 45, 71A, 25A6, 25A7	4,000 ohms
		46, 6V6	6,000 ohms
		42, 46, 47, 49, 2A5, 6F6, 6B5	7,000 ohms
		10, 41, 32, 6G6, 6K6	10,000 ohms
		38, 12A7	14,000 ohms

S-19—30 WATTS MAX.

(6J5, 6C4, 12AU7, etc. may be substituted for 6C5 tubes)

Tube or Tubes	DRIVER Transf.	Sec. Terms.	MODULATOR STAGE P.P. Tubes	Watts Output	P.P. Load	Plate Volts	Bias Volts
6C5	S-10	G-G	6V6	13	8,000	300	20
6C5	S-10	G-G	2A3, 6A3, 45, 6A5G, 6B4G	15	3,000	325	68
6C5	S-10	G-G	2A5, 6F6 Pentode AB	10	10,000	375	340 ohms
2A5	S-8	G-G	2A5, 6F6, triode AB	18	6,000	350	38
89	S-8	G'-G'	6A6, 6N6, 6N7	19	5,000	300	0
45	S-8	G-G	10, 1602	25	8,000	425	50
45	S-8	G'-G'	46	25	6,000	425	0
45	S-8	G'-G'	841	28	7,000	425	5
6C5	S-10	G-G	6L6 self bias	30	9,000	400	23

S-20—55 WATTS MAX.

P.P. Tubes	DRIVER Transf.	Sec. Terms.	MODULATOR STAGE P.P. Tubes	Watts O'tp't	P.P. Load	Plate Volts	Plate Tr'sf.	Bias Volts	Bias Trsf.
2A3	S-9	1-1	801	45	10000	600	S-45	75	S-51
2A3	S-9	3-3	1608	50	5000	425	S-44	15	S-51
2A3	S-9	1-1	T-20	50	8000	600	S-45	30	S-51
Single 45	S-8	G'-G'	4-46, 59	56	3000	425	S-44	0	
6C5	S-10	G-G	6L6, AB2	60	3800	400	S-39	25	S-51
6C5	S-10	G-G	4-6L6	60	4500	400	S-40	23	
2A3	S-9	3-3	809	60	5000	500	S-41	0	

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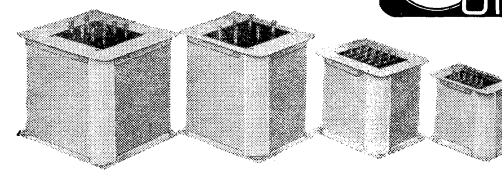
(Refer to Page N-89 for UTC Prices)

SPECIAL SERIES POWER EQUIPMENT

UTC Special Series power supply components are designed specifically for amateur and popular-priced PA service. The ratings are based on such applications and recommended for ICAS intermittent use. For commercial application, GG or H grade components should be employed. Tapped coil structures on power and bias supply transformers afford maximum flexibility, permitting a given transformer to be used with many circuits and types of tubes. Stand by service should not be obtained by interrupting high voltage center tap.



S-21—115 WATTS MAX.

P.P.-2A3 Driver S-9 Transf. Sec. Term.	P.P. Tubes	Watts Output	MODULATOR STAGE P.P. Load	Plate Volts	Plate Transf.	Bias Volts	Bias Trsf.
2-2	TZ-20	70	12000	800	S-46	0	
1-1	T-20	70	12000	800	S-46	40	S-51
*	845	75	4600	1000	S-47	175	S-52
1-1	807	80	6600	600	S-45	30	S-51
1-1	800, RK-30	100	12000	1000	S-47	55	S-51
3-3	809	100	8400	750	S-45	5	S-51
2-2	825	100	6600	850	S-46	30	S-51
2-2	TZ-40	100	6000	750	S-45	0	
2-2	T-756	100	7000	850	S-46	30	S-51
1-1	50-T	100	8000	1000	S-47	90	S-51
2-2	RK-18	100	12000	1000	S-47	50	S-51
1-1	HK-354	100	15000	1000	S-47	60	S-51
*	845	105	8800	1250	S-47	225	S-52
3-3	RK-31	110	14000	1000	S-47	0	
1-1	4-6L6	110	2000	400	S-44	25	S-51
2-2	35-T	115	11000	1000	S-47	30	S-51

* Reverse S-9 transformer using terminals 1-1 for plates and P.P. for grids.

S-22—250 WATTS MAX.

P.P.-2A3 Driver S-9 Transf. Sec. Term.	P.P. Tubes	Watts Output	MODULATOR STAGE P.P. Load	Plate Volts	Plate Transf.	Bias Volts	Bias Trsf.
3-3	RK-31	140	17000	1250	S-47	0	
*	50 T	250	20000	2000	S-50	180	S-52
*	50 T	160	17000	1500	S-49	140	S-52
2-2	TZ-40	175	6800	1000	S-47	0	
1-1	T-55	175	6900	1000	S-47	40	S-51
1-1	T-55	225	9400	1250	S-47	50	S-51
2-2	HF-100	250	12000	1500	S-49	52	S-51
2-2	100 TH	250	7200	1250	S-47	0	
¶	100 TL	230	7200	1250	S-47	112	S-52
2-2	ZB-120	150	4800	750	S-45	0	
2-2	ZB-120	245	9000	1250	S-47	0	
*	HK-154	225	11400	1250	S-47	210	S-52
1-1	203 A	250	9000	1250	S-47	45	S-51
3-3	203 Z	200	6900	1000	S-47	0	
1-1	211	200	6900	1000	S-47	77	S-51
1-1	211	250	9000	1250	S-47	100	S-51
1-1	HK-354	220	15000	1500	S-49	100	S-51
2-2	808	190	12700	1250	S-47	15	S-51
2-2	830 B	175	7600	1000	S-47	35	S-51
2-2	838	250	9000	1250	S-47	0	

* Reverse S-9, using 2-2 for plates and P-P for grids.
¶ Reverse S-9, using 1-1 for plates and P-P for grids.

FILAMENT TRANSFORMERS

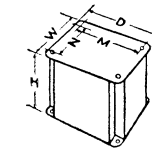
Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Secondary Volts	Secondary Current	Insulation	Case No.
S-53	2.5 VCT	10 A.	1500 V.	G-3
S-54	5 VCT	4 A.	2500 V.	G-3
S-55	6.3 VCT	3 A.	1500 V.	G-3
S-56	7.5 VCT	3 A.	1500 V.	G-3
S-57	2.5 VCT	10 A.	10,000 V.	G-5
S-58	2.5 VCT	20 A.	10,000 V.	G-5
S-59	5 to 5.25 VCT	13 A.	5000 V.	G-5
S-60	5 to 5.25 VCT	22 A.	10,000 V.	G-7
S-61	7.5 VCT tapped 6.3 VCT	10 A.	3000 V.	G-5
S-62	10 VCT	10 A.	3000 V.	G-5
S-63	14 VCT tapped 12 Vct and 11 VCT	10 A.	5000 V.	G-7

Type No.	Fil. 1	Fil. 2	Fil. 3	Insulation	Case No.
S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	3000 V.	G-5
S-65	2.5 VCT-5A	5 VCT-4A	6.3 VCT-3A	3000 V.	G-5
S-66	2.5 VCT-10A	7.5 VCT-6.5A		3000 V.	G-5
S-67	5 VCT-6A	6.3 VCT-5A		3000 V.	G-5
S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	3000 V.	G-5
S-69	6.3 VCT-3A	7.5 VCT-6.5A		3000 V.	G-5
S-70	6.3 VCT-5A	6.3 VCT-5A		3000 V.	G-5
S-71	2.5 VCT-6A	2.5 VCT-6A	2.5 VCT-12A	10000 V.	G-7
S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	5000 V.	G-5

CASE SIZES

Type No.	H	W	D	M	N	Wt. Lbs.
G-5	3¾	3⅛	4½	3⅞	2-7/16	4½
G-7	4⅝	4⅝	5½	4-27/32	3-25/32	8
G-8	4⅝	5⅜	5⅜	4-25/32	4¾	12
G-9	5⅞	5⅜	6¾	6-3/32	4-19/32	21
G-10	5⅞	6⅛	6⅝	5-15/16	5-13/32	24
G-11	5⅞	6½	7⅜	6-21/32	5-29/32	31
G-12	10¼	7⅜	9¼	8½	6⅝	52



COMBINED PLATE AND FILAMENT UNITS

Primary 115 V.—50/60 Cycles

Type No.	Voltage	D.C. Voltages*	Rectifier Fil.	Fil. No. 1	Fil. No. 2	Case No.
S-39	490-400-0-400-490 175 Ma.	400/310	5 V.-3A	2.5 V.C.T. -6A	6.3 V.C.T. 4A	G-7
S-40	525-425-0-425-525 250 Ma.	400/310	5 V.-3A	6.3 V.C.T. -3A	6.3 V.C.T. 3A	G-7
S-41	600-0-600 200 Ma.	475	5 V.-3A	7.5 V. tapped 6.3 V.-3A	6.3 V.C.T. 2A	G-7
S-42	600-525-0-525-600 300 Ma.	480/400	5 V.-6A	7.5 V. tapped 6.3 V.-3A	6.3 V.C.T. 3A	G-8
S-43	525-0-525 450 Ma. 40-0-40, 200 Ma.	400	5 V.-3A 5 V.-6A	6.3 V. -2A	6.3 V.C.T. 5A	G-9

* Based on two section filter, choke input.

PLATE TRANSFORMERS — BIAS TRANSFORMERS

Primary 115 V.—50/60 Cycles

Type No.	High Voltage	DC Voltages*	DC Current	Case No.
S-44	575-525-0-525-575	470/430	500 Ma.	G-9
S-45	900-750-0-750-900	750/620	200 Ma.	G-8
S-46	1000-750-0-750-1000	825/600	300 Ma.	G-9
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300 Ma.	G-10
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500 Ma.	G-11
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300 Ma.	G-11
S-50	3000-2500-0-2500-3000	2625/2175	300 Ma.	G-12
S-51	Will supply any bias voltage from 15 to 100 volts DC within approximately 6% of desired value.		200 Ma.	G-5
S-52	Will supply any bias voltage from 75 to 400 volts DC within approximately 6% of desired value.		200 Ma.	G-7

* Based on two section filter for 200 Ma. and 300 Ma. units, single section filter for 500 Ma. units, both choke input.
† 200 Ma. if used alone ‡ 300 Ma. if used alone

FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Service	Inductance	Current	Resistance	Insulation	Case No.
S-23	Audio	450 Hy.	5 Ma.	5000 ohms	1500 V.	G-2
S-24	P.P. Choke	500 Hy. C.T.	3 Ma.	400 ohms	1500 V.	G-2
S-25	Filter	30 Hy.	30 Ma.	800 ohms	1500 V.	G-2
S-26	Filter	15 Hy.	60 Ma.	250 ohms	1500 V.	G-2
S-27	Filter	30 Hy.	75 Ma.	350 ohms	1500 V.	G-4
S-28	Filter	20 Hy.	100 Ma.	350 ohms	1500 V.	G-4
S-29	Filter	10 Hy.	175 Ma.	90 ohms	1500 V.	G-4
S-30	Swinging	5 25 Hy.	175 Ma.	90 ohms	1500 V.	G-4
S-31	Filter	20 Hy.	225 Ma.	100 ohms	2700 V.	G-5
S-32	Swinging	5/25 Hy.	225 Ma.	100 ohms	2700 V.	G-5
S-33	Filter	20 Hy.	300 Ma.	100 ohms	4000 V.	G-7
S-34	Swinging	5 25 Hy.	300 Ma.	100 ohms	4000 V.	G-7
S-35	Filter	20 Hy.	400 Ma.	60 ohms	5000 V.	G-8
S-36	Swinging	5 25 Hy.	400 Ma.	60 ohms	5000 V.	G-8
S-37	Filter	20 Hy.	550 Ma.	60 ohms	6000 V.	G-8
S-38	Swinging	5/25 Hy.	550 Ma	60 ohms	6000 V.	G-8

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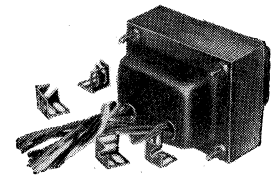
REPLACEMENT TYPE COMPONENTS

UTC replacement type transformers (Pri. 117 V. 50/60 cycles) represent the culmination of years of development in this field. All units are low temperature rise, vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolsis. Shells and brackets are finished in attractive high lustre black enamel.

DOUBLE SHELL POWER TRANSFORMERS

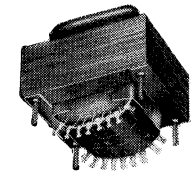
Type No.	High V.	DC MA.	Rec. Fil.	Amp. Fil.	W	D	H	M	N	Wt. Lb.
R-101	275-0-275	50	5V-2A.	6.3V CT-2.7A	3	2½	2¾	2½	2 1/16	2½
R-102	350-0-350	70	5V-3A.	6.3V CT-3A	3	2½	3⅜	2½	2 1/16	3½
R-103	350-0-350	90	5V-3A.	6.3V CT-3.5A	3⅜	2⅞	3⅜	2 13/16	2¼	4½
R-104	350-0-350	120	5V-3A.	6.3V CT-5A	3¾	3⅛	3⅜	3⅛	2½	5½
R-105	385-0-385	160	5V-3A.	6.3V CT-5A	3¾	3⅛	3⅞	3⅛	2½	7

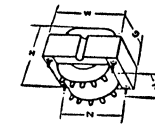


DOUBLE SHELL TYPE

SINGLE SHELL POWER TRANSFORMERS

Type No.	High V.	DC MA.	Rec. Fil.	Amp. Fil.	W	D	H	M	N	Wt. Lb.
R-106	300-0-300	50	5V-2A.	6.3V CT-2.7A	3	2½	3	2½	2 1/16	2½
R-107	350-0-350	70	5V-3A.	6.3V CT-3A	3	2½	3⅝	2½	2 1/16	3½
R-108	350-0-350	120	5V-3A.	6.3V CT-5A	3¾	3⅛	3⅝	3⅛	2½	5½
R-109	400-0-400	200	5V-3A.	6.3V CT-6A	4½	3¾	4	3¾	3	8

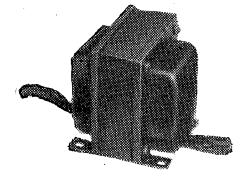


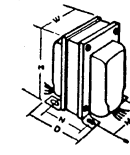


SINGLE SHELL TYPE

VERTICAL SHELL POWER TRANSFORMERS

Type No.	High V.	DC MA.	Rec. Fil.	Amp. Fil.	W	D	H	M	N	Wt. Lb.
R-110	300-0-300	50	5V-2A.	6.3V CT-2.7A	2½	2½	3¼	2	1¾	2½
R-111	350-0-350	70	5V-3A.	6.3V CT-3A	2½	3⅛	3¼	2	2⅜	3½
R-112	350-0-350	120	5V-3A.	6.3V CT-5A	3¼	3⅝	4	2½	2½	5½
R-113	400-0-400	200	5V-3A.	6.3V CT-6A	3⅞	4¼	4⅝	3	3⅛	8



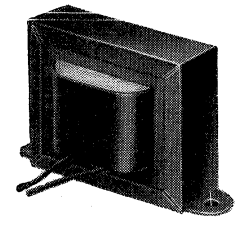


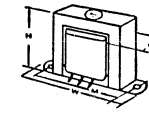
VERTICAL SHELL TYPE

CHANNEL FRAME FILTER CHOKES

Inductance Shown Is at Rated D.C.M.A.—Insulation Test: 1750 Volts

Type No.	Induct. Hys.	Current	Resistance Ohms	W	D	H	M	Lbs.
R-55	6	40MA	300	2½	1⅜	1⅜	2	½
R-14	8	40MA	250	2⅞	1⅜	1 11/16	2⅜	¾
R-15	12	30MA	450	2⅞	1⅜	1 11/16	2⅜	¾
R-16	15	30MA	630	2⅞	1⅜	1 11/16	2⅜	¾
R-17	20	40MA	850	3 5/16	1⅝	2	2 13/16	1
R-18	8	80MA	250	3 5/16	1⅝	2	2 13/16	1
R-19	14	100MA	450	3¾	1¾	2 5/16	3⅛	1½
R-20	5	200MA	90	4⅛	2	2⅝	3 9/16	2½
R-21	3/15	200MA	90	4⅛	2	2⅝	3 9/16	2½
R-22	120	5MA	4000	3 5/16	1⅝	2	2 13/16	1





CHANNEL FRAME TYPE

FILAMENT TRANSFORMERS

CHANNEL FRAME TYPE

Pri. 115 V. 50/60 Cycles—1500 V. Breakdown

Type No.	Secondary	Dimensions, Inches W	D	H	M	Wt Lbs.
FT-1	2.5 V.C.T.-3A	2⅞	1⅜	1 11/16	2⅜	¾
FT-2	6.3 V.C.T.-1.2A	2⅞	1⅜	1 11/16	2⅜	¾
FT-3	2.5 V.C.T.-6A	3 5/16	1⅝	2	2 13/16	1
FT-4	6.3 V.C.T.-2.5A	3 5/16	1⅝	2	2 13/16	1
FT-5	2.5 V.C.T.-10A	3¾	1¾	2 5/16	3⅛	1½
FT-6	5 V.C.T.-3A	3¾	1¾	2 5/16	3⅛	1½
FT-7	7.5 V.C.T.-3A	3¾	1¾	2 5/16	3⅛	1½
FT-8	6.3 V.C.T.-6A	4⅛	2¼	2⅝	3 9/16	2½
FT-9	2.5 V.C.T.-10A 10000V. Test	4⅛	2¼	2⅝	3 9/16	2½
FT-10	24V CT-2A or 12V-4A	4⅛	2¼	2⅝	3 9/16	2½

CHANNEL FRAME AUDIO TRANSFORMERS

Type No.	Application	Description	Dimen., Ins. W	D	H	M	Lbs.
R-33	1 plate to 1 grid	4:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾
R-34	1 plate to 2 grids	2:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾
R-35	Mike to 1 grid	17:1 ratio to Pri. C.T.	2⅞	1⅜	1 11/16	2⅜	¾
R-58	5 watt Universal output	Any single tube to any voice coil, .1 to 30 ohms	2½	1⅜	1⅜	2⅛	½
R-38A	6 watt Universal	Any tubes up to 6 watts to any voice coil, .1 to 30 ohms	2½	1⅜	1⅜	2⅛	½
R-59	10 watt Universal	Any tubes up to 10 watts to any voice coil, .1 to 30 ohms	2⅞	1⅜	1 11/16	2⅜	½
R-60	15 watt Universal	Any tubes up to 15 watts to any voice coil, .1 to 30 ohms	3 5/16	1⅝	2	2 13/16	1
R-39	10 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	2⅞	1⅜	1 11/16	2⅜	¾
R-40	25 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	4⅛	2¼	2⅝	3 9/16	2½

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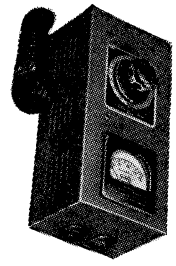
(Refer to Page N-89 for UTC Prices)

REPLACEMENT TYPE COMPONENTS

VARITRAN VOLTAGE ADJUSTERS

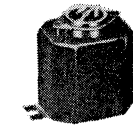


Input 115 volts 50/60 cycles. Output continually adjustable from 0-130 Volts through roller contact on exposed autotransformer winding. Regulation and efficiency are excellent, no wave form distortion. Output voltage is independent of load. Complete with line cord, switch, and receptacle . . . for loads up to 570 Watts . . . 5 A.

Type		Dimensions	Wt.
V-1-M	with meter	4⅞ x 9⅞ x 3⅝	14 lbs.
V-1	without meter	4⅞ x 8 x 3⅝	12 lbs.

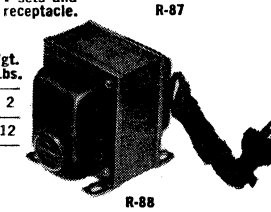
VOLTAGE BOOSTERS

The constantly increasing appliance load in home and office presents a serious low line voltage problem to which the UTC voltage booster is a perfect answer. These autotransformers are designed to operate from a 95 to 110 V. 50/60 cycle line. They boost the voltage 10%. The two ratings shown are ideal for TV sets and air conditioners. Complete with line cord and receptacle.



R-87

Type No.	Rating	L	W	H	Wgt. Lbs.
R-87	3A. 350 W.	3⅜	2	2¾	2
R-88	18A. 2 KW.	3⅞	4⅛	4⅝	12

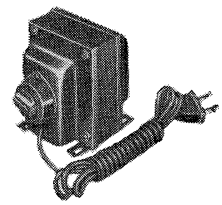


R-88

EXPORT VOLTAGE ADAPTER

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

Type No.	Rating	Wgt. Lbs.
R-47	85 watts	4½
R-48	150 watts	5½



TV VOLTAGE REGULATOR

Complete with cord, plug, and special locking switch. Permits operation of 115 volt 50/60 cycle TV sets on line voltages of 85, 90, 95, 100, 105, 110, 120, 125 V.

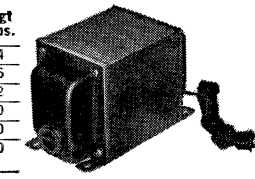
Type No.	Rating	Wgt. Lbs.
R-49	350 watts	5

ISOLATION TRANSFORMERS

Ideal for isolating line noise, AC-DC sets, etc. Excellent electrostatic shielding. 1500 volt breakdown test. Six foot cord and female receptacle.

Primary 110-120 volts, 50/60 cycles—Secondary 110-120 volts

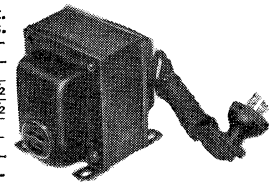
Type No.	Rating	L	W	H	Wgt Lbs.
R-72	40 watts	2¾	2⅝	3⅛	4
R-73	100 watts	3⅜	3¼	3⅞	6
R-74	250 watts	4⅜	3⅞	4⅝	12
R-75	600 watts	6⅞	3⅞	4⅝	20
R-76	1200 watts	8⅜	4½	5⅞	30
R-77	2500 watts (no-cord)	12	7	9	70



STEP DOWN AUTO-TRANSFORMERS

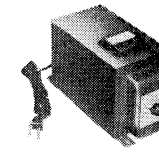
With 6 foot cord and female receptacle 220-240 to 110-120 Volts—50/60 Cycles

Type No.	Application	L	W	H	Wgt. Lbs.
R-41	85 watt capacity	2⅝	2⅝	3⅛	4
R-42	125 watt capacity	3	3	3½	5
R-43	175 watt capacity	3¼	3¼	3⅞	5½
R-44	250 watt capacity	3⅞	3¼	3⅞	6½
R-45	500 watt capacity	4⅛	3⅞	4⅝	12
R-46	1200 watt capacity	6⅜	3⅞	4⅝	18
R-64	2500 watts, no cord	10½	4¾	6¾	30



LINE VOLTAGE ADJUSTERS WITH METER

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage.



These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly.

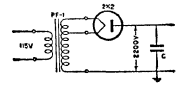
The nine tap switch provides for line voltage of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output models.

All units are designed for 50/60 cycle service and come complete with 6 foot input cord and plug and outlet receptacle.

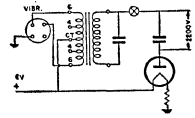
Type No.	Primary Voltages	Sec. Volts	Watts	L	W	H	Wgt. Lbs.
R-78	60, 70, 80, 90, 100, 110, 120, 130, 140	115	150	7	4	4¾	6
R-79	60, 70, 80, 90, 100, 110, 120, 130, 140	115	300	7	4	4¾	9
R-80	60, 70, 80, 90, 100, 110, 120, 130, 140	115	600	10¼	4	4¾	13
R-81	60, 70, 80, 90, 100, 110, 120, 130, 140	115	1200	10¼	4	4¾	21
R-83	160, 170, 180, 190, 200, 210, 220, 230, 240	230	150	7	4	4¾	6
R-84	160, 170, 180, 190, 200, 210, 220, 230, 240	230	300	7	4	4¾	9
R-85	160, 170, 180, 190, 200, 210, 220, 230, 240	230	600	10¼	4	4¾	13
R-86	160, 170, 180, 190, 200, 210, 220, 230, 240	230	1200	10¼	4	4¾	21

PHOTO FLASH TRANSFORMERS

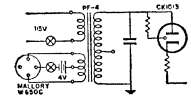
Can be used for either standard (Amglo type) or trigger (Sylvania type) multiple flash bulbs. Circuit details included with transformer.



PF-1 Primary for 115 volts, 50/60 cycles. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. Compound sealed in G-3* case 2⅛ x 2¾ (5¾ including flanges) x 2½ inches high. Weight 2 lbs.



PF-2 For portable service. Primary tapped for 4 volt or 6 volt battery (full valve vibrator). Secondary for power supply delivering 2200 volts DC to condenser up to 60 Mfd. Compound sealed in G-3* case. Weight 2 lbs.



PF-3 Trigger Transformer 15 KV peak. ⅞ O.D. x 3" long. Weight 2 Oz.

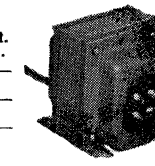
PF-4 Dual Pri. for either 4V battery or 115V 50/60 cycles. Secondary for power supply delivering 900 volts DC to condenser up to 150 Mfd. G-3* case, 2 Lb.

SIGNALLING AND CONTROL TRANSFORMERS

Primary 119-120 volts, 50/60 cycles—Secondary 4, 8, 12, 16, 20, 24 volts

High power transformers suitable for operating relays, sirens, horns, gongs, etc. from 115 V. 50/60 cycle line. These units have four secondary terminals providing 4, 8, 12, 16, 20 and 24 volt output. The volt ampere rating is based on the 24 volt secondary tap with corresponding reduction at the lower voltages. Underwriters' approved primary leads are employed, and screw-type binding posts.

Type No.	Watts	Overall Dimensions	Mtg. Dim.	Wgt. Lbs.
SC-3	50	3 x 3½ x 3 9/16	1⅞ x 2¼	3
SC-4	100	3¼ x 4 x 4	2⅛ x 2½	5
SC-5	250	4 x 5 x 4¾	3¼ x 3	10



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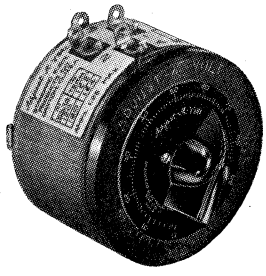
Adjust-A-Volt
VARIABLE TRANSFORMER

AUTO-TRANSFORMERS
BENCH AND PANEL MOUNTINGS
GANGED ASSEMBLIES

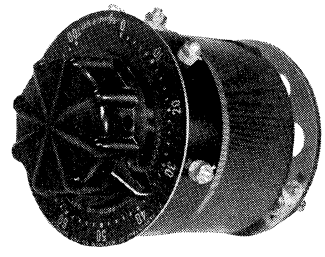
FOR CONTROL OF AC LINES POWER, HEAT, SPEED AND LIGHT

SPECIFICATIONS FOR THESE MODELS ON OPPOSITE PAGE

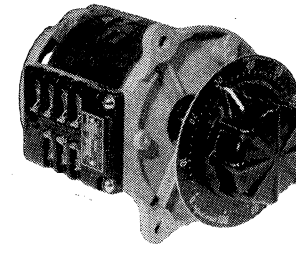
100BU



300BU

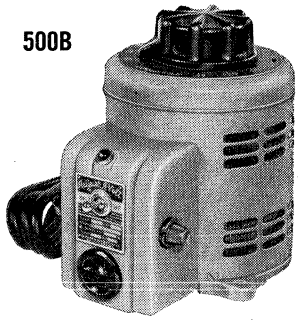


500BU

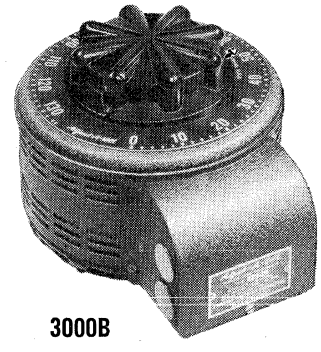


Type	Input Voltage	Load Rating, Maximum	Output Voltage Over-Voltage	Output Voltage Line Voltage	Output Current, Maximum	Driving Torque in.-02
100BU	120V	.165KVA	0-132V	0-120V	1.25A	8-20
300BU	115V	0.4KVA	0-135V	0-115V	3.0A	15-30
500BU	115V	1.0KVA	0-135V	0-115V	7.5A	15-30

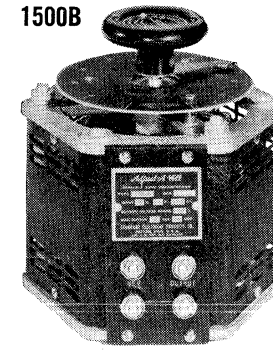
500B



3000B

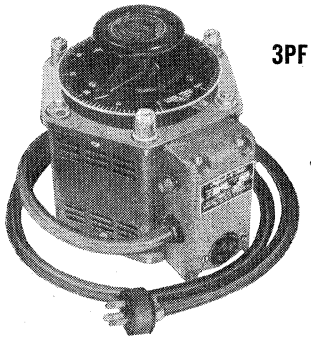


1500B

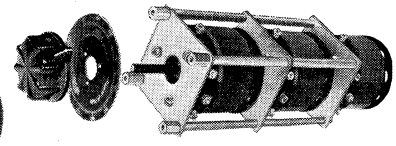


Type	Input Voltage	Load Rating, Maximum	Output Voltage Over-Voltage	Output Voltage Line Voltage	Output Current, Maximum	Driving Torque in.-02
500B	115V	1.0KVA	0-135V	0-115V	7.5A	15-30
1500B	115V	2.0KVA	0-135V	0-115V	15.0A	30-60
3000B	115V	4.0KVA	0-135V	0-115V	30.0A	55-110

3PF 1500B



300BU-3



ADJUST-A-VOLT FEATURES

- Smooth, continuous control
- No Waveform distortion
- High efficiency
- Excellent regulation
- 50/60 cycle operation
- Standard mountings
- LoRes Commutator surface on all models

Type	Input Voltage	Load Rating, Maximum	Output Voltage Over-Voltage	Output Voltage Line Voltage	Output Current, Maximum	Driving Torque in.-02
3PF1500B	115V	2.0KVA	0-135V	0-115V	15.0A	30-60
300BU-3	See Next Page					

STANDARD ELECTRICAL PRODUCTS CO. • DAYTON, OHIO

SEE NEXT PAGE FOR ALL STACKED MODELS AND THEIR APPLICATIONS

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ADJUST-A-VOLT SPECIFICATIONS AND APPLICATION INDEX

	Input	OUTPUT						Approx. Wt. Lbs.		Net
	Volts	Volts	Amp. Max.	KVA Max.	Type	Description	Code Word	Net	Ship.	Price
SINGLE PHASE	120	0-115	1.25A	.165	100BU	Uncased with terminal strip.	YOOBU	2	3	$ 8.50
	115	0-115	3.0	0.34	300BU	Uncased with terminal strip.	TREED	4	6	$ 12.50
		0-135	3.0	0.40						
	115	0-115	7.5	0.86	500B	With case, line cord-plug, input receptacle, switch and fuse.	FEDEN	11	12	$ 23.00
		0-135	7.5	1.0	500BU	Uncased with terminal box.	FIVED	10	11	18.00
					3PF500B	With case, 3 prong plug-cord, output receptacle, switch and fuse.	PLEAD	11	12	30.00
					3TF500B	With case, 3 prong twist blade plug-cord, output receptacle and fuse.	TELFE	11	12	30.00
	115	0-115*	15.0	1.7	1500B	With case and terminal board.	TOODE	21	25	$ 46.00
		0-135	15.0	2.0	F1500B	With case, fuse and terminal cover.	FOODE	21	25	50.00
					2PF1500B	With case, 2 prong plug-line cord, output receptacle and fuse.	POODE	22	26	56.00
					3PF1500B	With case, 3 prong straight blade plug-cord, output receptacle and fuse.	MOODE	22	26	56.00
					3TF1500B	With case, 3 prong twist blade plug-cord, output receptacle and fuse.	LOODE	22	26	56.00
	115	0-115*	30.0	3.4	1500B-2	2-gang, Parallel Circuit.	DOUBE	43	50	$ 96.00
		0-135	30.0	4.0	3000B	With case and terminal cover.	THIRT	23	27	55.00
					3000BU	Without case and terminal cover.	UTAHA	22	26	49.00
	115	0-115	60.0	6.9	3000B-2	2-gang, Parallel Circuit, requires paralleling Choke, Type 30L-1.	TOUBE	52	62	$126.00
		0-135	60.0	8.0						
	115	0-115	90.0	10.3	3000B-3	3-gang, Parallel Circuit, requires paralleling Chokes, 1 ea., Types 30L-1 and 30L-2.	MOUBE	79	83	$182.00
		0-135	90.0	12.1						
	230	0-230	3.0	0.69	520B	With case, line cord-plug, output receptacle, switch and fuse.	CRANY	11	12	$ 26.00
		0-270	3.0	0.81	520BU	Uncased with terminal box.	BRANY	10	11	20.00
	115	0-270	3.0‡	0.35	3PF520B	With case, 3 prong straight blade plug-cord, output receptacle and fuse.	PANNY	11	12	33.00
					3TF520B	With case, 3 prong twist blade plug-cord, output receptacle and fuse.	TANNY	11	12	33.00
	230	0-230	7.5	1.7	500B-2	2-gang, Series Circuit, cased.	DEBEN	22	25	$ 49.00
		0-270	7.5	2.0	500BU-2	2-gang, Series Circuit, uncased.	UBBEN	21	25	44.00
	230	0-230*	9.0	2.1	1520B	With case and terminal board.	DANNY	21	25	$ 46.00
		0-270	9.0	2.4	F1520B	With case, fuse and terminal cover.	FANNY	21	25	50.00
	115	0-270	9.0‡	1.05	2PF1520B	With case, 2 prong plug-line cord, output receptacle and fuse—No switch.	MANNY	21	25	56.00
					3PF1520B	With case, 3 prong straight blade plug-cord, output receptacle and fuse —No switch.	CANNY	21	25	56.00
					3TF1520B	With case, 3 prong twist blade plug-cord, output receptacle and fuse— No switch.	JANNY	21	25	56.00
	230	0-230*	15.0	3.4	1500B-2	2-gang, Series Circuit.	DOUBE	43	50	$ 96.00
		0-270	15.0	4.0	F1500B-2	2-gang, Series Circuit, fused output.	JOODE	43	50	104.00
	230	0-230*	18.0	4.1	1520B-2	2-gang, Parallel Circuit.	TWODE	43	50	$ 96.00
		0-270	18.0	4.8						
	115	0-270	18.0‡	2.1						
	230	0-230	12.0	2.8	3020B	With case and terminal cover.	RANNY	23	26	$ 55.00
		0-270	12.0	3.2	3020BU	Without case and terminal cover.	VOLTA	22	26	49.00
	115	0-270	12.0‡	1.4						
	230	0-230	24.0	5.5	3020B-2	2-gang, Parallel Circuit, requires one paralleling Choke, Type 30L-1.	ZOOAD	50	61	$126.00
		0-270	24.0	6.5						
	115	0-270	24.0‡	2.8						
	230	0-230	36.0	8.3	3020B-3	3-gang, Parallel Circuit, requires paralleling Chokes, 1 ea., Types 30L-1 and 30L-2.	ZOOBA	75	88	$182.00
		0-270	36.0	9.7						
	115	0-270	36.0‡	4.2						
	460	0-460	3.0	1.4	520B-2	2-gang, Series Circuit.	ZANNY	22	25	$ 53.50
		0-540	3.0	1.6	520BU-2	2-gang, Series Circuit.	VANNY	21	25	48.50
	230	0-540	3.0‡	0.7						
	460	0-460*	9.0	4.1	1520B-2	2-gang, Series Circuit.	TWODE	43	50	$ 96.00
		0-540	9.0	4.9						
	230	0-540	9.0‡	2.1						
	460	0-460	12.0	5.5	3020B-2	2-gang, Series Circuit.	ZOOAD	50	61	$126.00
		0-540	12.0	6.5						
	230	0-540	12.0‡	2.8						
THREE PHASE	115	0-115	3.0	0.6	300BU-2	2-gang, Open Delta Circuit, uncased.	WREED	10	14	$ 36.50
		0-135	3.0	0.7						
	115	0-115	7.5	1.5	500B-2	2-gang, Open Delta Circuit, cased.	DEBEN	22	25	$ 49.00
		0-135	7.5	1.8	500BU-2	2-gang, Open Delta Circuit, uncased.	UBBEN	21	25	44.00
	115	0-115*	15.0	3.0	1500B-2	2-gang, Open Delta Circuit.	DOUBE	43	50	$ 96.00
		0-135	15.0	3.5						
	115	0-115	30.0	6.0	3000B-2	2-gang, Open Delta Circuit.	TOUBE	50	61	$126.00
		0-135	30.0	7.0						
	230	0-230†	3.0	1.2	300BU-3	3-gang, Wye Circuit, uncased.	MEADE	14	20	$ 58.75
	230	0-230	3.0	1.2	520B-2	2-gang, Open Delta Circuit, cased.	ZANNY	22	25	$ 53.50
		0-270	3.0	1.4	520BU-2	2-gang, Open Delta Circuit, uncased.	VANNY	21	25	48.50
	115	0-270	3.0‡	0.6						
	230	0-230	7.5	3.0	500B-3	3-gang, Wye Circuit, cased.	MEBEN	35	45	$ 67.25
		0-270†	7.5	3.5	500BU-3	3-gang, Wye Circuit, uncased.	ZUBEN	34	45	60.75
	230	0-230*	9.0	3.6	1520B-2	2-gang, Open Delta Circuit.	TWODE	43	50	$ 96.00
		0-270	9.0	4.2						
	115	0-270	9.0‡	1.8						
	230	0-230*	15.0	6.0	1500B-3	3-gang, Wye Circuit.	DOODE	65	75	$147.00
		0-270†	15.0	7.0						
	230	0-230	12.0	4.8	3020B-2	2-gang, Open Delta Circuit.	ZOOAD	50	61	$126.00
		0-270	12.0	5.6						
	115	0-270	12.0‡	2.4						
	230	0-230	30.0	12.0	3000B-3	3-gang, Wye Circuit.	MOUBE	50	61	$182.00
		0-270†	30.0	14.0						
	460	0-460	3.0	2.4	520B-3	3-gang, Wye Circuit, cased.	TURNE	35	45	$ 75.25
		0-540†	3.0	2.8	520BU-3	3-gang, Wye Circuit, uncased.	YURNE	34	45	68.25
	230	0-540†	3.0‡	1.2						
	460	0-460*	9.0	7.2	1520B-3	3-gang, Wye Circuit.	MORKE	65	75	$147.00
		0-540†	9.0	8.4						
	230	0-540†	9.0‡	3.6						
	460	0-460	12.0	9.6	3020B-3	3-gang, Wye Circuit.	ZOOBA	70	82	$182.00
		0-540†	12.0	11.2						
	230	0-540†	12.0‡	4.8						

Over-voltage connection (0 to 17% above line voltage) or line voltage connection is available to the user by the type of connections made, however, line voltage connection on Types 1500B and 1520B must be specified.

† Ganged units of these types when connected for over-voltage operate from 60 cycle service only.

‡ Output current reduces to approx. 44% at full voltage.

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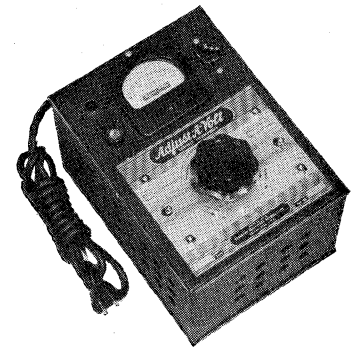
Adjust-A-Volt
VARIABLE TRANSFORMER

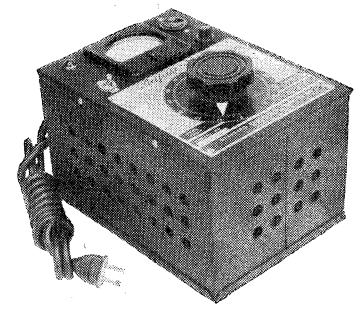
VARIABLE ISOLATION
ELECTROSTATICALLY SHIELDED
METERED • CASED

LR/NA



LRL

1500BD/1520BD



PAL-7/MAL-7

UNMETERED ISOLATION TRANSFORMER MODELS

Type	Code	Input Voltage	Output Voltage	Amp Max.	Max. (V.A.)	Overall Dimensions	Shipping Weight (1 Unit)	Net Price
LR-5	LARKE	115	70-140	5.0	500	6¾"x9⅛"x5"	27 lbs.	$29.50
LR-10	LAMBE	115	70-140	10.0	1000	6¾"x9⅛"x9"	40 lbs.	57.50
LR-24	LOOKE	230	70-140	10.0	1000	6¾"x9⅛"x9"	40 lbs.	61.50

METERED ISOLATION TRANSFORMER MODELS

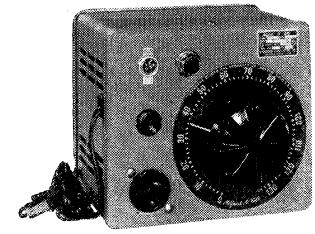
Type	Code	Input Voltage	Output Voltage	Amp Max.	Max. (V.A.)	Overall Dimensions	Shipping Weight (1 Unit)	Net Price
LRL-5	BARKE	115	0-140	5.0	500	6¾"x9⅛"x6⅝"	29 lbs.	$41.50
LRL-10	BAMBE	115	0-140	10.0	1000	6¾"x9⅛"x9⅝"	42 lbs.	69.50

UNMETERED AUTO-TRANSFORMER MODELS

Type	Code	Input Voltage	Output Voltage	Amp Max.	Max. (V.A.)	Overall Dimensions	Shipping Weight (1 Unit)	Net Price
PA-3	NANNE	115	0-135	3.0	400	6½"x6⅛"x5½"	10 lbs.	$18.75
NA-5	NADDY	230	0-140	7.5	860	6¾"x9⅛"x5"	27 lbs.	28.50
NA-10	NAMMY	230	0-140	15.0	1500	6¾"x9⅛"x9"	40 lbs.	55.50
MA-10	MAMMY	230	0-280	7.5	1500	6¾"x9¼"x6$\frac{13}{32}$"	40 lbs.	52.50
PAL-7	PADDE	115	0-135	7.5	1000	6¾"x9¼"x6$\frac{13}{32}$"	15 lbs.	40.50

METERED AUTO-TRANSFORMER MODELS

Type	Code	Input Voltage	Output Voltage	Amp Max.	Max. (V.A.)	Overall Dimensions	Shipping Weight (1 Unit)	Net Price
MAL-7	QUALM	230	0-270	3.0	810	6¾"x9¼"x6$\frac{13}{32}$"	15 lbs.	$49.50
PAL-10	LALLE	115	0-140	15.0	2000	6¾"x9⅛"x9⅝"	39 lbs.	57.50
1500BD	LATTE	115	0-135	15.0	2000	8"x10$\frac{9}{16}$"x8$\frac{3}{16}$"	35 lbs.	64.00
1520BD	RALEN	230	0-270	9.0	2400	8"x10$\frac{9}{16}$"x8$\frac{3}{16}$"	35 lbs.	64.00



PA-3

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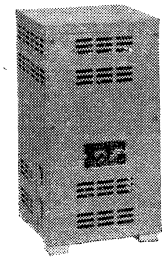
Adjust-A-Volt VARIABLE TRANSFORMER

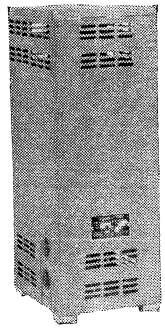
MOTORIZED
FOR REMOTE CONTROL OPERATION

ELECTRICAL SPECIFICATIONS EQUIVALENT TO TYPES LISTED ON SPECIFICATION INDEX PAGE

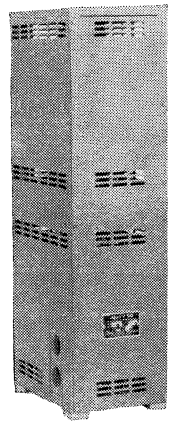
M 0711
M 0721



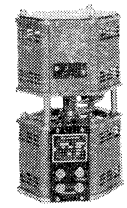
M 0712
M 0722



M 0713
M 0723



M 1511
M 1521



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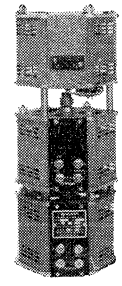
M 1522



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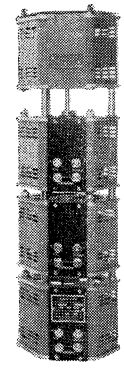
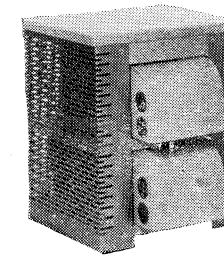
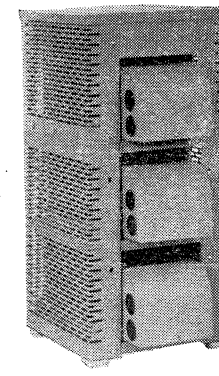
M 1523



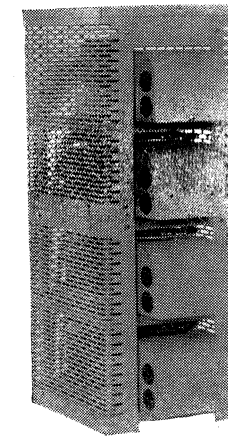
M 3011
M 3021



M 3012
M 3022



M 3013
M 3023



TYPE	ELECTRICAL EQUIVALENT OF	OVERALL DIMENSIONS (INCHES)	SHIPPING WTS.	NET PRICE
M 0711-*	500B	7 5/16 x 6 5/16 x 12 11/16	22	**143.00**
M 0712-*	500B-2	7 5/16 x 6 5/16 x 17 15/16	33	**169.00**
M 0713-*	500B-3	7 5/16 x 6 5/16 x 22 15/16	43	**187.25**
M 0721-*	520B	7 5/16 x 6 5/16 x 12 11/16	22	**146.00**
M 0722-*	520B-2	7 5/16 x 6 5/16 x 17 15/16	33	**173.50**
M 0723-*	520B-3	7 5/16 x 6 5/16 x 22 15/16	43	**195.25**
M 1511-*	1500B	8 1/8 x 8 x 11 1/4	35	**166.00**
M 1512-*	1500B-2	8 1/8 x 8 x 16 3/4	55	**216.00**
M 1513-*	1500B-3	8 1/8 x 8 x 21 3/4	74	**267.00**
M 1521-*	1520B	8 1/8 x 8 x 11 1/4	39	**166.00**
M 1522-*	1520B-2	8 1/8 x 8 x 16 3/4	61	**216.00**
M 1523-*	1520B-3	8 1/8 x 8 x 21 3/4	83	**267.00**
M 3011-*	3000B	9 7/8 x 6 7/8 x 14	48	**175.00**
M 3012-*	3000B-2	9 7/8 x 6 7/8 x 20 1/8	79	**246.00**
M 3013-*	3000B-3	9 7/3 x 6 7/8 x 26 1/4	104	**302.00**
M 3021-*	3020B	9 7/8 x 6 7/8 x 14	48	**175.00**
M 3022-*	3020B-2	9 7/8 x 6 7/8 x 20 1/8	79	**246.00**
M 3023-*	3020B-3	9 7/8 x 6 7/8 x 26 1/4	104	**302.00**

* Motor Speeds for Full Range Travel are available as follows: 6, 13, 26 and 45 seconds. A speed must be designated after the type number such as M 0711-06 for a 6 second speed, M 1521-45 for a 45 second speed etc.

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STANDARD ELECTRICAL PRODUCTS CO. — Staco — A QUALITY PRODUCT — DAYTON, O. U.S.A.

TRANSFORMERS

STEP DOWN STEP UP

ISOLATION AND LINE CORRECTION

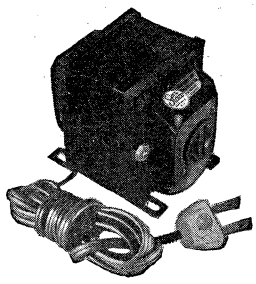

FIG. 1

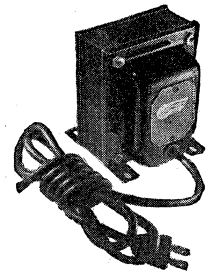

FIG. 2

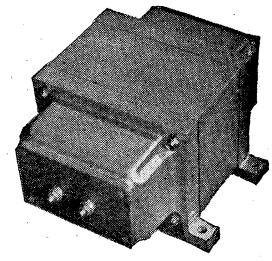

FIG. 3

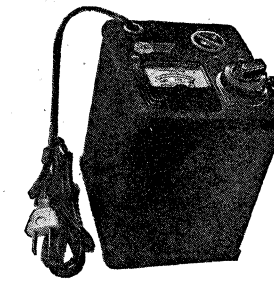

FIG. 4

STEP-DOWN AUTOTRANSFORMERS

Input 220-240 V. 60 cy. Output 115 V. Pri. Cord and Plug Sec. Receptacle

Cat. No.	Code	Mount Fig. No.	Cap. in Watts	Input, Volts	Output, Volts	Cycles	Dimensions in Inches H.	W.	D.	Net Wt. in Lbs.	Net Price	Cat. No.
SB-0075	STEBA	1	75	200/240	115	50/60	3 1/8"	2 5/8"	3 3/4"	3 1/2	$ 5.40	SB-0075
SB-0150	STECA	1	150	200/240	115	50/60	3 7/8"	3 1/4"	3 5/8"	4 1/2	7.35	SB-0150
SB-0250	STEDA	1	250	200/240*	115	50/60	4 3/4"	3 7/8"	4 3/8"	8 1/2	9.60	SB-0250
SB-0500	STEFA	1	500	200/240*	115	50/60	4 3/4"	3 7/8"	6 1/8"	12 1/2	15.60	SB-0500
SB-1000	STEGA	3	1000	200/240*	115	50/60	4 7/8"	7 1/4"	9"	22 1/2	28.50	SB-1000
SB-2000	STELA	3	2000	200/240*	115	50/60	5 1/4"	8 5/8"	11 1/4"	40 1/4	47.40	SB-2000

* These models have primary taps of 200–220–240 Volts. Simply remove cover plate (see Figure 2) and connect to required taps.

TELEVISION LINE CORRECTION STEP-UP AUTOTRANSFORMERS

Models SU 100/105Volt. Input. Models RU 200/210 Volt Input
All SU Models Boost Input 10 Volts. All RU Models Boost Input 20 Volts

SU-0100	SUBAT	1	100	100/110	110/120	50/60	3 1/8"	2 5/8"	2 7/8"	2 3/4	$ 5.15	SU-0100
SU-0250	SUCAT	1	250	100/110	110/120	50/60	3 1/8"	2 5/8"	3 3/4"	3 1/2	7.35	SU-0250
SU-0500	SUDAT	1	500	100/110	110/120	50/60	3 7/8"	3 1/4"	3 1/4"	4 1/2	8.85	SU-0500
SU-1000	SUFAT	1	1000	100/110	110/120	50/60	4 5/8"	3 7/8"	4 1/8"	8 1/2	17.65	SU-1000
SU-2000	SUGAT	1	2000	100/110	110/120	50/60	4 5/8"	3 7/8"	5 5/8"	14 1/2	35.40	SU-2000
RU-0100	SREBA	1	100	200/210	220/230	50/60	3 1/8"	2 5/8"	2 7/8"	2 3/4	5.15	RU-0100
RU-0250	SRECA	1	250	200/210	220/230	50/60	3 1/8"	2 5/8"	3 3/4"	3 1/2	7.35	RU-0250
RU-0500	SREDA	1	500	200/210	220/230	50/60	3 7/8"	3 1/4"	3 1/4"	4 1/2	8.85	RU-0500
RU-1000	SREFA	1	1000	200/210	220/230	50/60	4 5/8"	3 7/8"	4 1/8"	8 1/2	17.65	RU-1000
RU-2000	SREGA	1	2000	200/210	220/230	50/60	4 5/8"	3 7/8"	5 5/8"	14 1/2	35.40	RU-2000

RADIO — ISOLATION TRANSFORMERS — TELEVISION

All Models 115 V. Input. 115 V. Output. Electrostatically Shielded.

SI-050	SICAR	1	50	115	115	50/60	3 17/32"	2 7/8"	3"	4 1/2	$ 6.00	SI-050
SI-100	SICER	1	100	115	115	50/60	3 29/32"	3 5/32"	3 5/8"	7 1/4	11.70	SI-100
SI-250	SICOR	1	250	115	115	50/60	4 3/4"	3 7/8"	5 1/8"	14 1/2	21.00	SI-250

TELEVISION LINE VOLTAGE ADJUSTORS, METERED

8 Position Rotary Switch Corrects Low or High Line to 115 V. from 85-95-105-115-125-135 V-AUTOTRANSFORMER

LC-150	LABAD	4	150	85–135	115	50/60	6 1/2"	4 3/8"	5"	7 3/4	$17.40	LC-150
LC-350	LAFAD	4	350	85–135	115	50/60	6 1/2"	4 3/8"	5"	10 3/4	21.00	LC-350
LC-500	LAJAD	4	500	85–135	115	50/60	6 1/2"	4 3/8"	5"	11 1/2	25.50	LC-500

STACO Transformers are compact and modern in design. Only the highest quality silicon lamination steel is used which assures cool operating transformers. Each coil is layer wound with the best quality enameled wires, each layer is insulated with heavy insulating material, each coil is varnished impregnated and high temperature baked. High Voltage Breakdown Test is performed on each coil and transformer in accordance with existing RMA Specs. This combination of high quality materials plus the finest workmanship is assurance of better and lasting performance at highest operating efficiency, yet costs no more than average.

Finishes: Mount type #1, Black baked enamel, Mount type #2, Black baked enamel, Mount type #3, Natural Buffed Aluminum, Mount type #4, Black Wrinkle baked enamel.

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FERRANTI TRANSFORMERS

This group of transformers are hermetically sealed in standard Mil-T-27A case sizes, and are designed to meet the full requirements of the Mil-T-27A specification. They provide the highest standard of quality necessary for professional and military requirements.

The range includes the specific types standardized by the Armed Services Electro Standards Agency for universal military use, as well as a group of standard types for 400 cycle power supplies.

Use of these standard high quality components in experimental equipment will avoid the necessity for redesign for production.

Military Standard Filament Transformers

Input 105/115/125 Volts 60 Cycles ± 10%.

Cat. No.	MIL Type	Military Standard #	Sec. Volts	Sec. Amps	Test Volts	Net Price	Case
FMF 20	TF1RX01EB002	MS90016-1	2.5	3	2500	$ 6.80	EB
FMF 21	TF1RX01GB003	MS90017-1	2.5	10	2500	10.80	GB
FMF 22	TF1RX01FB004	MS90018-1	5.0	3	2500	7.80	FB
FMF 23	TF1RX01HB005	MS90019-1	5.0	10	2500	12.30	HB
FMF 24	TF1RX01FB006	MS90020-1	6.3	2	2500	7.80	FB
FMF 25	TF1RX01GB007	MS90021-1	6.3	5	2500	10.20	GB
FMF 26	TF1RX01JB008	MS90022-1	6.3	10	2500	13.50	JB
FMF 27	TF1RX01KB009	MS90023-1	6.3	20	2500	16.50	KB
FMF 28	TF1RX01JB012	MS90024-1	2.5	10	10,000	12.90	JB
FMF 29	TF1RX01KB013	MS90025-1	5.0	10	10,000	15.90	KB

Military Standard Plate and Filament Transformers

Input 105/115/125 Volts 60 Cycles ± 10%. Choke Input Filter

Cat. No.	MIL Type	Military Standard #	FIL 1	FIL 2	Plate (RMS)	Current	Net Price	Case
FMP 30	TF1RX03HA001	MS90026-1	6.3/5v 2a	6.3v 3a	200-100-0-100-200	.07A.DC	$13.50	HA
FMP 31	TF1RX03JB002	MS90027-1	6.3/5v 2a	6.3v 4a	325-0-325	.07A.DC	16.80	JB
FMP 32	TF1RX03KB006	MS90028-1	5v 3a	6.3v 5a	325-0-325	.150A.DC	19.80	KB
FMP 33	TF1RX03LB003	MS90029-1	5v 3a	6.3v 8a	400-0-400	.175A.DC	22.50	LB
FMP 34	TF1RX03MB004	MS90030-1	5v 3a	6.3v 8a	450-0-450	.250A.DC	24.80	MB
FMP 35	TF1RX02KB001	MS90031-1			350-0-350	.250A.DC	18.50	KB
FMP 36	TF1RX02LB002	MS90032-1			550-0-550	.250A.DC	20.80	LB
FMP 37	TF1RX02NB003	MS90036-1			800-0-800	.250A.DC	31.50	NB

400 Cycle Trnsformers

Filment Transformers

Input 115 Volts 380-1200 Cycles

Cat. No.	Sec. Volts	Sec. Amps	Test Volts	Case	Net Price
FF 440	6.3 ct	2	1500	AJ	$ 8.20
FF 41	6.3 ct	5	1500	EA	10.80
FF 42	6.3 ct	5	2500	FA	12.25
	6.3	5	2500		
FF 43	5/6.3	3	2500	EB	10.50
FF 44	5 ct	6	2500	EA	10.90
FF 45	2.5 ct	10	7500	HB	13.80

Plate and Filament Transformers

Input 115 Volts 380-1200 Cycles. Choke Input Filter

Cat. No.	Plate RMS	DC Amps	Filaments	Case	Net Price
FP 40	250-0-250	.070	5/6.3V 2A 6.3Vct 3A	GB	$14.50
FP 41	325-0-325	.120	5V 3A 6.3 ct 5A	JB	18.50
FP 42	400-0-400	.200	5V 3A 6.3Vct 6A	KB	29.70
FP 43	350-0-350	.250	———	JB	16.80
FP 44	500-0-500	.250	———	KB	23.50

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FERRANTI TRANSFORMERS

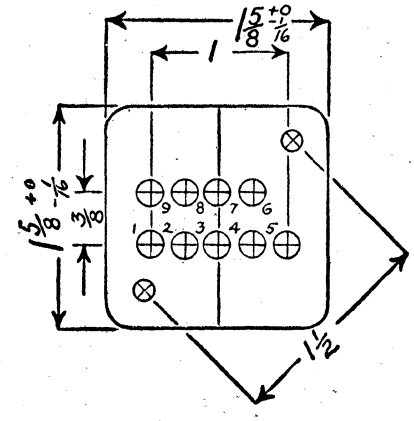
Standard Audio Transformers

All units are hermetically sealed in Mil-T-27A case size AJ and are designed to meet the full requirements of the Mil-T-27A specification.

Use of these standard units in equipment at the experimental stage will avoid the necessity of redesign for production.

See dimension chart for AJ case details.

Terminal and Mounting Details For FMA-10 through FMA-18



Cat. No.	Function	Type Designation	Impedance Level (in ohms) Primary	Secondary	Ratio	Max. Power Level V.U.	Pri. D.C. Per Side in MA	Max. D.C. Unbalance	Frequency Response	Net Price
FMA 10 or FMA 410	Interstage, Single or P.P. plates to single or P.P. grids	TF1A15AJ0 or TF1RX15AJ	10,000 CT	90,000 split and CT	1:3 overall	+15	10	10	±1 DB 300-10,000	$11.80
FMA 11 or FMA 411	Matching, 600 ohm line to voice coil	TF1A16AJ0 or TF1RX16AJ	600 split	4,8,16	6,12:1 overall	+33	0	0	±1 DB 300-10,000	11.80
FMA 12 or FMA 412	Input, 600 ohm line to single or P.P. grids	TF1A10AJ0 or TF1RX10AJ	600 split	135,000 CT	1:15	+15	0	0	±2 DB 300-10,000	11.80
FMA 13 or FMA 413	Matching 600 ohm line to 600 ohm line	TF1A16AJ0 or TF1RX16AJ	600 split	600 split	1:1	+15	0	0	±1 DB 300-10,000	11.80
FMA 14 or FMA 414	Output, single plate 7600 ohm or 4800 ohm to 600 ohm line	TF1A13AJ0 or TF1RX13AJ	7600 tap @ 4800	600 split	3.56:1	+33	40	40	±2 DB 300-10,000	11.80
FMA 15 or FMA 415	Output, single plate 7600 ohm or 4800 ohm to voice coil	TF1A13AJ0 or TF1RX13AJ	7600 tap @ 4800	4,8,16	21.8:1	+33	40	40	±2 DB 300-10,000	11.80
FMA 16 or FMA 416	Output, single or P.P. plates to 600 ohm line	TF1A13AJ0 or TF1RX13AJ	15,000 CT	600 split	5:1	+33	10	10	±1 DB 300-10,000	11.80
FMA 17 or FMA 417	Output, P.P. plates to 600 ohm line	TF1A13AJ0 or TF1RX13AJ	24,000 CT	600 split	6.32:1	+30	10	1	±1 DB 300-10,000	11.80
FMA 18 or FMA 418	Output, P.P. plates to 600 ohm line	TF1A13AJ0 or TF1RX13AJ	60,000 CT	600 split	10:1	+27	10	1	±2 DB 300-10,000	11.80

NOTE: For FMA-410 through FMA-418 see dimension chart for mounting details. The terminals are within a circle 1-1/8" in diameter centered on the same end as the mounting studs.

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FERRANTI TRANSFORMERS

Filter Reactors

To match the power and audio transformers, these reactors are of the same high quality in design and construction, and are hermetically sealed in standard Mil-T-27A cases. Types particularly suitable for 400 cycle power supplies are included.

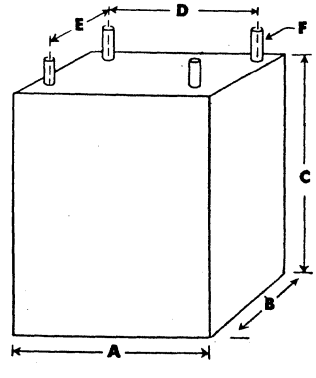
For 50-60 Cycle Power Supplies

Cat. No.	DC Amps	Inductance Henries	Resistance Ohms	Test Volts	Case	Net Price
FC 410	.020	30	930	1500	AJ	$ 6.50
FC 11	.070	15	260	2500	GB	7.40
FC 12	.150	10	110	2500	JB	9.20
FC 13	.200	8	90	2500	KB	11.50
FC 14	.300	10	95	2500	LB	15.40

For 400-Cycle Power Supplies

Cat. No.	DC Amps	Inductance Henries	Resistance Ohms	Test Volts	Case	Net Price
FC 440	.070	3	225	1500	AJ	$ 6.50
FC 41	.120	3	145	2000	EB	7.20
FC 42	.200	3	115	2000	FB	8.70
FC 43	.250	3	65	2000	GB	9.20

Mil-T-27A Case and Mounting Dimensions



Case	A	B	C	D	E	F
AJ	1 5/8	1 5/8	2 3/8	1 3/16	1 3/16	6-32
EA	1 15/16	1 13/16	2 3/4	1 3/8	1 1/4	6-32
EB	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32
FA	2 5/16	2 1/16	3 1/8	1 11/16	1 7/16	6-32
FB	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32
GB	2 3/4	2 3/8	2 13/16	2 1/8	1 3/4	6-32
HA	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	8-32
HB	3 1/16	2 5/8	3 3/16	2 19/64	1 55/64	8-32
JB	3 5/16	3 1/16	3 7/8	2 5/8	2 1/8	8-32
KB	3 15/16	3 3/8	4 5/16	3	2 7/16	10-32
LB	4 5/16	3 11/16	4 1/2	3 5/16	2 11/16	10-32
MB	4 11/16	4	4 15/16	3 11/16	3	1/4-20
NB	5 1/16	4 5/16	5 1/2	4 1/16	3 5/16	1/4-20

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Net

MERIT TRANSFORMERS

Since 1924 — FINE RADIO PARTS

REPLACEMENT TRANSFORMERS

OUTPUT TRANSFORMERS Receiver Replacement Type

To couple the plate or plates of the output stage to the speaker voice coil. Sec. impedance—3.5 ohms.

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3025	$2.10	7A5, 35A5, 35C5, 50C5, 32L7, 35L6, 50B5	A	2500	50	3	1¾	1 11/16	2 1/16	⅞	A
A-3026	2.10	6V6, 7C5, 25AC5, 35A5, 35B5, 35L6	A	5000	40	3	1¾	1 11/16	2 1/16	⅞	A
A-2927*	2.20	Single 1C5-G, 1G5-G, 1G5, 1S4, 3Q4, 3Q5, 3S4, 6A4	A	8000	20	3	1½	1⅜	1⅞	1	B
A-2928	2.50	Single 2A3, 6A3, 6B4, 6Y6, 25AC5, 25B6, 25N6, 25L6, 35A5, 35L6, 50L6, 48, 50B5, 35B5, 50A5	A	2000	60	5	2	1⅜	2⅜	1¼	A
A-3018	3.35	Single 6A3, 6L6, 6Y6, 7A5, 12A5, 25A6, 25B6, 25C6, 25L6, 50, 50A5, 50B5, 50C5, 50L6	A	3500	60	8	2⅜	1⅝	2 13/16	1½	A
A-2930	2.60	Single 6V6, 7C5, 12A, 12A5, 25A6, 25A7, 35A5, 35L6, 31, 45, 50, 59	A	5000	40	5	2	1⅜	2⅜	1¼	A
A-3019	3.35	Single 6L6, 6V6, 6AQ5, 6AS5, 7C5, 25A6, 35A5, 35L6, 50	A	5000	50	8	2⅜	1⅝	2 13/16	1½	A
A-2935	4.30	PP 6L6	A	5000 c.t.	150	18	2 13/16	2	3¼	1⅝	A
A-2931	2.60	Single 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5, 20, 31, 42, 47, 50, 6V5	A	7000	30	5	2	1⅜	2⅜	1¼	A
A-3020	3.35	Single 2A5, 6AC5, 6AD7, 6AR5, 6B5, 6F6, 6K6, 6N6, 6Y7, 7B5, 12A6, 14A5, 41, 47	A	7000	40	8	2⅜	1⅝	2 13/16	1½	A
A-2932	2.60	Single 1C5, 1Q5, 3C5, 6A4, 6G6, 6N7, 6R7, 12A, 38, 41, 49, 3V4	A	10000	30	5	2	1⅜	2⅜	1¼	A
A-2938	3.20	Single 19, 1G6, 1J6 PP 1H4, 30, 49	B	10000 c.t.	40	5	2	1⅜	2⅜	1¼	A
A-2936	3.60	PP 6AC5	B								
		PP 6V6, 7C5	AB_1	10000 c.t.	75	10	2⅜	1⅝	2 13/16	1½	A
A-2933	2.80	Single 1D8, 7B5, 6K6, 6G6	A	12000	10	5	2	1⅜	2⅜	1¼	A
A-3021	4.30	PP2A5, 6E6, 6K6	A	14000 c.t.	35	12	2 13/16	2	3¼	1⅝	A
		PP6AD7, 47, 49	B								
		Single 6Y7, 6Z7, 79	B								
A-2934	2.65	Single 1D8, 1F4, 1F5, 1J5, 1T5, 6V7, 12A7, 85	A	15000	10	5	2	1⅜	2⅜	1¼	A
A-2937	3.20	Single 1A5, 1N6, 6V7, 85 PP 1E7, 1J5, 6G6, 3A4, 3V4	A	25000 c.t.	10	5	2	1⅜	2⅜	1¼	A
A-3017	3.45	PP1A5, 1AC5, 1N6, 1LA4	A	50000 c.t.	10	5	2	1⅜	2⅜	1¼	A

*Type B. Mounting.

FILTER TAPPED OUTPUT TRANSFORMERS Pri. has 3% and 6% Humbucking Taps Sec. Impedance 3-4 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3031	$3.05	Single 2A3, 6A3, 7A5, 25L6, 35A5, 35B5, 35L6, 45, 50B5, 50L6	A	3000	50	5	2	1⅜	2⅜	1¼	A
A-3032	3.05	Single 6V6, 6B5, 7C5, 6F6	A	6000	40	5	2	1⅜	2⅜	1¼	A

SPECIAL OUTPUT TRANSFORMERS To Couple Push Pull Plates to Line or Voice Coil Sec. Impedance 2-4-8-15-250-500 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A. per Side	Max. Watts	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3027	$7.35	PP2A5, 6V6, 7C5, 19, 6F6 PP1H4G, 1J6, 6AC5, 49	A AB_1 B	10000 c.t.	45†	15	2 13/16	2	3¼	1¾	F
A-3028	8.35	PP6L6 PP2A3	A_1 AB_1	5000 c.t.	70†	20	3⅛	2 3/16	3 11/16	2	F

† Pri. M. A. Per Side.

TRANSISTOR TRANSFORMERS Sub-Miniature Types—Open Mounting

Type No.	List Price	Function	Ohms Impedance Pri.	Ohms Impedance Sec.	D.C. Resistance Pri.	D.C. Resistance Sec.	Pri. Ma.	M. W. Level	Size H.	Size W.	Size D.
A-2700★	$3.60	Output	10000	16	640	2.7	2	20	¾	5/8	5/8
A-2720	10.00	Input	200000	1000	2800	145	0	1	11/32	3/8	3/8
A-2740	9.00	Interstage	20000	1000	1400	210	0.5	1	11/32	3/8	3/8
A-2741	7.00	Interstage	20000	1000	1100	109	0.5	1	11/32	3/8	3/8
A-2760	6.50	Output	1000	50/60	116	7	3	1	11/32	3/8	3/8

★ A Type Midget Mounting.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TRANSFORMERS

VERTICAL OUTPUT TRANSFORMER

Type No.	List Price	Turns Ratio Primary to Secondary	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
★A-3035	$7.65	10:1	$1^{19}/_{32}$x2	$3\frac{1}{8}$	$2^{11}/_{16}$	$2\frac{1}{2}$	EV
★A-3036	4.70	10:1	$2^{13}/_{16}$	2	$3\frac{1}{4}$	2	A
★A-3037	4.70	11.4:1*	$2^{13}/_{16}$	2	$3\frac{1}{4}$	$1\frac{5}{8}$	A
★A-3038	6.65	10:1	$3\frac{1}{8}$	$2\frac{1}{4}$	$3^{11}/_{16}$	$2\frac{1}{4}$	A
★A-3039	6.10	18:1*	$3\frac{1}{8}$	$2\frac{1}{4}$	$3^{11}/_{16}$	$2\frac{1}{8}$	A
★A-3080	7.80	25:1, 50:1	$3\frac{1}{8}$	3	$3^{9}/_{16}$	$2\frac{1}{4}$	B
★A-3081	7.20	30:1, 50:1*	$3\frac{1}{8}$	$2\frac{1}{4}$	$3^{11}/_{16}$	$2\frac{1}{4}$	A

★Indicates TV Replacements. *Auto Transformer.

DUAL PRIMARY OUTPUT TRANSFORMERS

For Use with AC-DC Battery Portable Receivers—Sec. Impedance 3-4 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3029	$3.05	Single 25AC5, 25B6, 25L6, 25N6, 35A5, 35B5, 35L6, 50A5, 50B5, 50L6 OR	A	2000 or	60 or	5	2	$1\frac{3}{8}$	$2\frac{3}{8}$	$1\frac{1}{4}$	A
		Single 1S4, 1Q5, 3Q4, 3Q5, 3V4	A	6000	10						
A-3030	3.05	Single 25AC5, 25B6, 25L6, 25N6, 35A5, 35L6, 50A5, 50B5, 50L6 OR	A	2000 or	60 or	5	2	$1\frac{3}{8}$	$2\frac{3}{8}$	$1\frac{1}{4}$	A
		Single 1S4, 1Q5, 3Q4, 3Q5, 3V4	A	10000	10						

UNIVERSAL OUTPUT TRANSFORMERS

To Provide Correct Coupling Between a Variety of Output Tubes and Any Speaker Voice Coil

Type No.	List Price	Tube	Ohms Impedance Pri.	Sec.	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-2900	$3.35	Single or Pusn-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	35	4	2	$1\frac{3}{8}$	$2\frac{3}{8}$	$1\frac{1}{4}$	F
A-2901	3.75	Single or Push-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	40	8	$2\frac{3}{8}$	$1\frac{5}{8}$	$2^{15}/_{16}$	$1\frac{1}{2}$	F
A-2902	3.75	Single	1500-2000-4000-5000-7000-10000	.1 to 40	55	10	$2\frac{3}{8}$	$1\frac{5}{8}$	$2^{15}/_{16}$	$1\frac{1}{2}$	F
A-2903	3.35	Single	2000-4500-7000-10000	3.2	30	4	2	$1\frac{3}{8}$	$2\frac{3}{8}$	$1\frac{1}{4}$	F
A-2904	4.70	Single or Push-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	40	18	$2\frac{3}{8}$	$2\frac{1}{4}$	$2\frac{7}{8}$	$1\frac{7}{8}$	G
A-2905	6.10	Single or Push-pull	3000-5000-7000-8000-10000 c.t.	.17 to 32	70	24	$3\frac{1}{8}$	$2\frac{1}{4}$	$3^{11}/_{16}$	$2\frac{1}{8}$	F
A-2998	2.90	Single	3500-5000-7000-10000	3.2	35	3	$1\frac{3}{4}$	$1\frac{1}{8}$	$2\frac{1}{8}$	$1\frac{1}{8}$	F
A-2999	3.05	Single	12000-15000-18000-25000	3.2	10	3	$1\frac{3}{4}$	$1\frac{1}{8}$	$2\frac{1}{8}$	$1\frac{1}{8}$	F

HEAVY DUTY OUTPUT TRANSFORMERS

High Level Type to Couple to Line or Speaker. Sec. Impedance: 4-8-15-250-500 ohms

Type No.	List Price	Tube	Class	½ Pri. Impedance	Pri. M.A. per Side	Max. Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3127	$ 9.05	Single 6L6, 2A3, 6A3, 6Y6	A	2500	80	8	$3\frac{1}{8}$	$2\frac{5}{8}$	$2\frac{1}{2}$	D
A-3128	13.05	PP6V6, 6F6	AB_1	8000 c.t.*	50	14	$3\frac{1}{2}$	$2^{15}/_{16}$	$3\frac{1}{8}$	D
A-3129	12.50	PP6L6	AB_1	4300 c.t.*	95	25	$3\frac{1}{2}$	$2^{15}/_{16}$	$3\frac{1}{8}$	D
A-3130	13.35	PP6L6	AB_1	6600 c.t.*	80	34	$3\frac{7}{8}$	$3^{5}/_{16}$	$3\frac{5}{8}$	D
A-3131	11.10	PP6L6, 6Y6, PP2A3, 6A3, 6B4, 45, PP6N7, 46	A AB B	5000 c.t.	80	30	$3\frac{1}{8}$	$2^{15}/_{16}$	$3\frac{1}{8}$	D
A-3132	11.95	PP6F6,2A5, 7C5, Single 6N7, 6A6	AB_2 B	10000 c.t.	40	25	$3\frac{1}{2}$	$2^{15}/_{16}$	$3\frac{1}{8}$	D
A-3133	18.90	P.P. Par. 6L6, P.P. 807	AB_1	3300 c.t.	240	55	$4\frac{5}{8}$	$3^{15}/_{16}$	4	D†

* 10% Feedback Winding. † Mtg. Centers 3 x $2^{13}/_{16}$.

OUTPUT TRANSFORMERS—HIGH FIDELITY TYPE

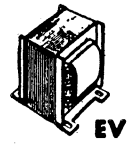
Frequency Response ± 1 DB 20-20000 Cycles

A-3100	$21.10	PP2A3, 6A5G, 275A, 6A3, 6L6, etc.	5000 and 3000 c.t.	Sec. 4-8-16	20	$3\frac{7}{8}$	$3^{3}/_{16}$	$3\frac{5}{8}$	D
A-3101	21.10	PP6F6, 6L6, 6V6, etc.	10000 and 6600 c.t.	4-8-16	20	$4\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{7}{8}$	D

INPUT TRANSFORMERS

For Coupling Microphone or Line to Single or Push-Pull Grids. Static Shielded†

Type No.	List Price	Ohms Impedance Pri.	Ohms Impedance Sec.	Turns Ratio	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-2929	$3.35	100	60000	1:24	$1\frac{3}{4}$	$1^{3}/_{16}$	$2\frac{1}{8}$	$\frac{7}{8}$	A
A-2923	3.45	3.2	50000	1:125	2	$1\frac{3}{8}$	$2\frac{3}{8}$	$1\frac{1}{4}$	A
A-2918	5.40	100	400000 c.t.	1:64	$2^{13}/_{16}$	2	$3\frac{1}{4}$	$1\frac{5}{8}$	A
A-2919	5.30	200/50	100000	1:22	$2^{13}/_{16}$	2	$3\frac{1}{4}$	$1\frac{5}{8}$	A
A-2924	5.70	500/125	100000 c.t.	1:14	$2^{13}/_{16}$	2	$3\frac{1}{4}$	$1\frac{5}{8}$	A



Products of Merit

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MERIT TRANSFORMERS

UNIVERSAL LINE TRANSFORMERS To Couple Various Line Impedances to a Voice Coil

Type No.	List Price	Ohms Impedance		Watts	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.			H.	W.	D.	
A-2810	$4.70	500-1000-1500-2000	3.2, 4.8, 6, 8	10	2 3/8	1 5/8	2 13/16	1 1/2	F
A-2811	5.40	500-1000-1500-2000	3.2, 4.8, 6, 8	18	2 3/8	2 1/4	2 13/16	1 5/8	G
A-2812	5.95	500-1000-1500-2000	3.2, 4.8, 6, 8	25	2 13/16	2 5/8	3 5/16	1 7/8	G
A-2813	4.15	2500-5000-7000-10,000	4.8, 6, 8	5	2	1 5/8	2 3/8	1 3/8	F
A-2814	5.00	31-62-125-250	4.8, 6, 8	20	2 3/8	2 1/4	2 13/16	1 7/8	G
A-2906	3.90	500-1000-1500-2000	3.2, 6-8	10	2 3/8	1 5/8	2 13/16	1 1/2	F
A-2907	5.85	500-1000-1500-2000	3.2, 6-8	18	2 3/8	2 1/4	2 7/8	1 7/8	G
A-2908	6.25	500-1000-1500-2000	6-8, 16	24	3 1/8	2 1/4	3 11/16	2 1/8	F
A-2909	3.35	45-50	3.2, 6-8	8	2	1 5/8	2 13/16	1 1/2	G
A-3005	3.05	500	3.2, 6-8	5	2	1 5/8	2 3/8	1 1/4	A

CONSTANT VOLTAGE LINE TRANSFORMERS

For Use With Constant 70.7V. Line as Recommended by the RMA. Rated Power is Furnished on Lowest Tap. Other Taps Provide Reduction in Power in Steps of 3DB.

A-3013	$4.25	1000-2000-4000-8000-16000	3.5, 7	5	2	1 5/16	2 3/8	1 1/2	F
A-3014	4.60	500-1000-2000-4000-8000	4-8-16	10	2 3/8	1 5/8	2 13/16	1 1/2	F
A-3015	6.40	275-550-1100-2200-4400-8800	4-8-16	18	2 3/8	2 1/4	2 7/8	1 7/8	G
A-3016	6.95	210-420-840-1680-3360-6720	4-8-16	24	3 1/8	2 1/4	3 11/16	2 1/8	F

For Use With Constant 70.7 V. Line. Full Power Furnished on Lowest Tap. Other Taps Provide Reduction in Steps of One Watt.

A-2800	$4.45	1000-1250-1667-2500-5000	3.2, 8	1-5	2	1 3/8	2 3/8	1 3/8	F
A-2801	4.30	500-555-625-715-833	3.2, 8	6-10	2 3/8	1 5/8	2 13/16	1 1/2	F
A-2802	4.70	333-357-384-417-455	8, 16	11-15	2 13/16	2	3 1/4	1 5/8	F
A-2803	5.15	250-263-278-294-312	8, 16	16-20	2 3/8	2 1/4	2 13/16	2 1/8	G
A-2804	5.55	200-208-217-227-?38	8, 16	21-25	2 5/8	2 5/8	3 5/16	1 7/8	G

TUBE TO LINE TRANSFORMERS For Coupling Single or Push-Pull Plates to Line or Mixer

Type No.	List Price	Ohms Impedance		Pri. M.A.	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.			H.	W.	D.	
A-2925	$ 5.55	20000 c.t.	500/125	10	2 13/16	2	3 1/4	1 3/4	A
A-2926	5.55	20000 c.t.	200/50	10	2 13/16	2	3 1/4	1 3/4	A
†A-3023	5.55	5000-10000-20000 c.t.	500/333/200/125/50	15	2 13/16	2	3 1/4	1 3/4	F
†A-3024	12.20	5000-10000-20000 c.t.	500/333/200/125/50	50	2x1 11/16	3 5/16	2 5/8	2 3/4	DL

†20,000 ohm center tapped.

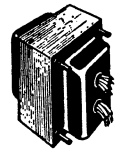
INTERSTAGE TRANSFORMERS To Couple a Single Plate to a Single Grid

Type No.	List Price	Ohms Impedance		Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.				H.	W.	D.	
A-2910	$3.35	10000	90000	3:1	10	2	1 3/8	2 3/8	1 1/4	A
A-2911	3.75	10000	90000	3:1	10	2 3/8	1 5/8	2 13/16	1 1/2	A
To Couple a Single Plate to Push-Pull Grids										
A-2914	$3.45	10000	90000 c.t.	3:1	10	2	1 3/8	2 3/8	1 1/4	A
A-2915	3.75	10000	90000 c.t.	3:1	10	2 3/8	1 5/8	2 13/16	1 1/2	A
A-2916	4.85	10000	90000 c.t.	3:1	10	2 13/16	2	3 1/4	1 5/8	A
To Couple Push-Pull Plates to Push-Pull Grids										
A-2912	$6.25	10000 c.t.	90000*	3:1	10 per side	2 13/16	2	3 1/4	1 5/8	A
A-2913	4.70	20000 c.t.	20000 c.t.	1:1	10 per side	2 3/8	1 5/8	2 13/16	1 1/2	A
A-2917	5.55	20000 c.t.	45000 c.t.	1.5:1	10 per side	2 13/16	2	3 1/4	1 5/8	A

*Split secondary.

All prices subject to trade discount, and change without notice.

A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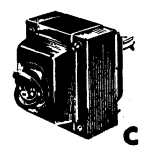
CS

D

Products of Merit

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

MERIT TRANSFORMERS

Since 1924 — FINE RADIO PARTS

REPLACEMENT TYPE FILTER CHOKES

Inductance Ratings are at 10 V. 60 cy. with Rated Current Flowing as Recommended by the R.M.A.

Type No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
★C-2973	$2.20	1.5	10	95	1500	1¾	1 5/16	1 7/16	1	A
★C-2994	2.80	1.5	200	90	2000	2⅜	1⅝	2 13/16	1⅝	A
★C-2974	4.45	2.0	200	50	1500	2 13/16	2	3¼	1⅝	A
C-2977	2.75	4.5	50	200	1500	2⅜	1⅝	2 13/16	1½	A
C-2975	2.35	5.5	50	330	1500	2	1 5/16	2⅜	1⅛	A
C-2976	2.35	8	40	500	1500	2	1⅜	2⅜	1¼	A
★C-2995	3.60	8.0	100	375	2000	2 13/16	2	3¼	1⅝	A
C-2981	2.80	8.5	50	400	1500	2⅜	1⅝	2 13/16	1½	A
C-2983	4.85	100–200–300	15–10–5	550	2000	2 13/16	2	3¼	1⅝	A
C-2985	2.80	20	15	900	1500	2⅜	1⅝	2 13/16	1½	A
C-2987	3.60	16	50	550	2000	2 13/16	2	3¼	1⅝	A
C-2990	4.15	15	75	400	2000	3 1/16	2¼	3 11/16	2⅛	A
★C-2991	4.90	2	250	53	2000	3⅛	2¼	3 11/16	2⅝	A
★C-2993	5.55	10.5	110	220	3000	3 9/16	2 9/16	4	2¼	A
★C-2996	4.15	1.0	300	60	2000	3⅛	2¼	3 11/16	2	A

★ TV Replacements.

POWER TRANSFORMERS[1]

Receiver Replacement Type — Primary for 115 V., 60 Cy. Leads R.M.A. Color Coded—Mtg. Fig. C

Type No.	List Price	H. V. Secondary Volts	H. V. Secondary D.C. M.A.	Rectifier Volts	Rectifier Amp.	Fil. Wdgs. Volts	Fil. Wdgs. Amp.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.
*P-3045 •	$5.70	120	50			6.3	2	3⅛	2 3/16	3 11/16	2⅛
*P-3046 ▲	4.45	150	25	.....	.....	6.3 c.t.	.5	2	2	2½	1¾
P-3047	8.05	240–240	50			6.3	2.5	2 x 2½	2½	3	2
P-3048	9.50	260–260	90			6.3	4.7	2 x 2½	2½	3	3 3/16
P-2949	8.35	240–240	40	5	2	6.3 c.t.	2	2 x 2½	2½	3	2½
P-2958	9.70	240–240	50	5	2	6.3	2.6	2 x 2½	2½	3	3
★P-2830	25.25	253–253	300	5	6	6.3**	6	3 x 3¾	3¾	4½	4⅞
						6.3**	6				
						6.3	1.25				
P-3051	9.70	260–260	70	5	2	6.3	3	2 x 2½	2½	3	3⅛
★P-2839	30.55	276–276	290	5	6	6.3	11.5	3 x 3¾	3¾	4½	5½
						6.3	3.6				
P-3052	11.65	280–280	90	5	2	6.3	5	2¼ x 2 13/16	2 13/16	3⅜	3½
★P-2837	28.90	282–282	250	5	3	6.3	9.3	3 x 3¾	3¾	4½	5 1/16
						6.3	1.25				
★P-2836	25.00	300–300	250	5	4	6.3	11.7	2¾ x 3 7/16	3 7/16	4⅛	4⅞
						6.3	1.2				
P-2957	10.85	350–350	50	5	2	6.3 c.t.	2.6	2¼ x 2 13/16	2 13/16	3⅜	3
P-2966	12.75	350–350	70	5	3	2.5 c.t.	9	2¼ x 2 13/16	2 13/16	3⅜	3⅝
						2.5 c.t.	3.5				
P-2967	15.15	350–350	90	5	3	2.5 c.t.	12.5	2½ x 3⅛	3⅛	3¾	4 1/16
P-2968	17.50	400–400	110	5	3	2.5 c.t.	15	3 x 3¾	3¾	4½	3 13/16
						2.5 c.t.	3.5				
P-2950	8.60	325–325	40	5	2	6.3 c.t.	2	2 x 2½	2½	3	2⅞
P-2951	10.00	325–325	70	5	3	6.3 c.t.	3.5	2 x 2½	2½	3	3⅛
★P-2838 ‡	30.55	333–333	250	5	3	6.3**	5.8	3 x 3¾	3¾	4½	5½
						6.3**	5.8				
						6.3	3.3				
						6.3	.85				
P-2952	10.85	350–350	90	5	3	6.3 c.t.	3.5	2¼ x 2 13/16	2 13/16	3⅜	3¾
P-2953	12.50	350–350	120	5	3	6.3 c.t.	4.7	2½ x 3⅛	3⅛	3¾	3 13/16
★P-2954	16.00	375–375	150	5	3	6.3 c.t.	5	2½ x 3⅛	3⅛	3¾	4 5/16
P-2955	18.00	400–400	200	5	3	6.3 c.t.	5	3 x 3¾	3¾	4½	4⅛
★P-2835	27.75	420–420	250	5	3	6.3	8	3 x 3¾	3¾	4½	5⅛
						6.3	3				
						6.3	1.2				
P-2956	25.00	435–435	250	5	3	6.3 c.t.	3	3 x 3¾	3¾	4½	4¾
		(80-volt Bias Tap)		2.5	10	6.3 or.5	3				
★P-3071‡	25.00	360–360	180	5	3	6.3	9	2¾ x 3 7/16	3 7/16	4⅛	4 9/16
★P-2834	27.75	360–360	225	5	6	6.3	1.2	3 x 3¾	3¾	4½	4⅞
						6.3	3				
						6.3	9				
★P-3072	23.60	360–360	180	5	3	6.3	9	2¾ x 3 7/16	3 7/16	4⅛	4 5/16
★P-3069‡	25.00	350–350	225	5	3	6.3	10	3 x 3¾	3¾	4½	4¼
						6.3	2.7				
★P-3070	23.60	350–350	225	5	3	6.3	10	3 x 3¾	3¾	4½	4
						6.3	2.7				
★P-3059	27.75	360–360	250	5	2	6.3	2.7	3 x 3¾	3¾	4½	5⅛
				5	3	6.3	9				
★P-3063	28.45	360–360	250	5	3	6.3	9	3⅜ x 4 1/16	3 13/16	4⅝	5½
				5	2	6.3	1.2				
★P-3061	35.00	362–362	295	5	6	12.6 c.t.	5	3⅜ x 4 1/16	3 13/16	4⅝	6⅝
				5	2						

(This listing continued next page)

* For use with Half-Wave Rectifier.
‡ Socket Type. See Figure CS.
[1] All TV Powers are Fully Flux and Static Shielded.
• Type A Mtg.
▲ Shielded to meet Underwriters approval for pre-amp use. Mtg B.

	P-3053 P-3066	P-2831 P-3067	P-3054 P-3073	P-3076
†Max. MA High Tap Only	320	300	220	435
Max MA Low Tap Only	340	340	325	500

**Can be used in series for 12.6 V.
■Type CSS Mtg.

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TRANSFORMERS

POWER TRANSFORMERS[1] Receiver Replacement Type—Primary for 115 V., 60 Cy. Leads R.M.A. Color Coded—Mtg. Fig. C (Continued)

Type No.	List Price	H. V. Secondary Volts	H. V. Secondary D.C. M.A.	Rectifier Volts	Rectifier Amp.	Fil. Wdgs. Volts	Fil. Wdgs. Amp.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.
★P-3073‡	$30.45	†{ 322–322	180	5	3	{ 6.3	10	3 x 3¾	3¾	4½	5
		{ 205–205	70			{ 6.3	2.7				
★P-2831	28.20	†{ 331–331	†250	{ 5	3	6.3	13	3 x 3¾	3¾	4½	5⅝
		{ 211–211	90	{ 5	2						
★P-3053	31.50	†{ 375–375	170	5	3	{ 6.3**	7	3 x 3¾	3¾	4½	5⅝
		{ 325–325	130	5	3	{ 6.3**	7				
						{ 6.3 or 5	2.7				
★P-3054	24.85	†{ 350–350	180	5	6	6.3	10	3 x 3¾	3¾	4½	5⅜
		{ 220–220	70			{ 6.3	2.7				
★P-3055	28.60	300–300	400	5	6	{ 6.3	10	3 x 3¾	3¾	4½	5⅝
						{ 6.3	4.5				
★P-2833	29.45	305–305	300	5	6	{ 6.3	.9	3 x 3¾	3¾	4½	5⅝
						{ 6.3	1.95				
						{ 6.3**	6.4				
						{ 6.3**	6.4				
★P-2840■	34.00	312–312	340	5	6	{ 6.3**	5.1	3 x 3¾	3¾	4½	5¾
						{ 6.3**	5.1				
						{ 6.3**	1.5				
						{ 6.3**	1.5				
★P-3066	31.40	†{ 375–375	170	5	3	{ 12.6 c.t.	5	3 x 3¾	3¾	4½	5⅝
		{ 325–325	130	{ 5	3	{ 6.3	2.6				
				{ 5	2						
★P-3067	30.25	†{ 400–400	220	{ 5	3	{ 6.3	10	3 x 3¾	3¾	4½	5⅛
		{ 212–212	90	{ 5	3	{ 6.3	2.6				
				{ 5	2						
★P-3077	22.20	300–300	250	5	3	6.3	9	3 x 3¾	3¾	4½	4¼
★P-3078	26.10	360–360	275	5	3	6.3	9	3 x 3¾	3¾	4½	4¾
						6.3	1.5				
						6.3 or 5	2.7				
★P-3079	20.15	140 tap 117	300			6.3	9	3 x 3¾	3¾	4½	3¾
						6.3	2				
						6.3	1				
★P-3076	27.10	†{ 270–270	300	5	3	6.3**	6.5	3 x 3¾	3¾	4½	5
		{ 180–180	200			6.3**	6.5				

* For use with Half Wave Rectifier.
‡ Socket Type. See Figure CS.
[1] All TV Powers are Fully Flux and Static Shielded.
• Type A Mtg.
▲ Shielded to meet Underwriters approval for pre-amp. use. Mtg. B.
★ TV replacement.

	P-3053 P-3066	P-2831 P-3067	P-3054 P-3073	P-3076
† Max. MA High Tap Only	320	300	220	435
Max. MA Low Tap Only	340	340	325	500

** Can be used in series for 12.6 V.
■ Type CS8 Mtg.

POWER TRANSFORMERS[1] Receiver Replacement Type—Primary for 115 V., 60 Cy. Leads R.M.A. Color Coded Fully Shielded Upright Mounting Type—Mtg. Fig. D

Type No.	List Price	H. V. Secondary Volts	H. V. Secondary D.C. M.A.	Rectifier Volts	Rectifier Amp.	Fil. Wdgs. Volts	Fil. Wdgs. Amp.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.
P-3147	$7.65	240-240	50	------	------	6.3	2.5	2 x 1 9/16	3 1/8	2 5/8	2 1/2
P-3148	8.90	260-260	90	------	------	6.3	4.7	2 x 2 5/16	3 1/8	2 5/8	3 1/4
P-3149	8.35	240-240	40	5	2	6.3 c.t.	2	2 x 1 11/16	3 1/8	2 5/8	2 5/8
P-3150	8.60	325-325	40	5	2	6.3 c.t.	2	2 x 1 7/8	3 1/8	2 5/8	2 13/16
P-3154	10.40	275-275	50	5	2	6.3	2.6	2 x 2 1/16	2 1/2	2 5/8	3 1/8
P-3160	9.60	350-350	50	5	2	6.3 c.t.	2.6	2 1/4 x 1 7/8	3 1/2	2 15/16	3 1/16
P-3151	9.85	325-325	70	5	3	6.3 c.t.	3.5	2 1/2 x 2	3 7/8	3 3/16	3 3/16
P-3152	10.85	350-350	90	5	3	6.3 c.t.	3.5	2 3/4 x 2 5/16	4 1/4	3 3/16	3 3/8
P-3153	12.50	350-350	110	5	3	6.3 c.t.	4.5	3 x 2 1/4	4 5/8	3 13/16	3 7/16
P-3173	15.00	350-350	150	5	3	6.3	6.5	2 1/2 x 2 7/8	3 7/8	3 1/4	4 1/8
P-3155	17.75	400-400	200	5	3	6.3 c.t.	5	3 x 3 5/16	4 5/8	3 13/16	4 1/4
P-3156	25.95	435-435	250	{ 5	3	{ 6.3 c.t.	3	3 x 3 13/16	4 5/8	3 13/16	4 7/8
		(80-volt Bias Tap)		{ 2.5	10	{ 6.3 or 5	3				
★P-3179	26.10	†{362-362	210	5	3	12.6 c.t.	6	3 x 3 11/16	4 5/8	3 13/16	5 1/8
		{210-210	120	5	2						
★P-3165	23.90	350-350	200	{ 5	2	{ 6.3	.6	3 x 3 7/8	4 5/8	3 3/4	5
				{ 5	3	{ 6.3	7				
★P-3169	30.00	†{390-390}	160	{ 5	3	6.3	8	3 x 3 5/8	4 5/8	3 13/16	4 13/16
		{325-325}	130	{ 5	3	6.3	4				
				{ 5	2						
★P-3166	35.00	400-400	300	{ 5	3	12.6 c.t.	10	3 1/2 x 4 1/4	5 3/8	4 1/2	5 3/4
				{ 5	6						
★P-3174	46.50	†{405-405}	240	{ 5	3	6.3	6	3 5/8 x 3 7/8	5 5/16	4 7/16	5 5/8
		{325-325}	200	{ 5	3	6.3	6				
				{ 5	3	6.3	2.6				
★P-3170	14.00	1750	2	2.5	2	{ 6.3	.9	2 x 2 1/16	3 1/8	2 5/8	2 7/8
						{ or 2.5	2				
★P-3171	16.10	2500	5	2.5	2	{ 6.3	3	2 1/2 x 2 5/16	3 7/8	3 3/16	3 3/8
						{ or 2.5	3				

[1] All TV Powers are Fully Flux and Static Shielded.

† Max. M. A. High Tap Only P-3169: 270 P-3174: 400 P-3179: 275
Max. M. A. Low Tap Only P-3169: 290 P-3174: 430 P-3179: 330

TV ISOLATION FILAMENT TRANSFORMER Isolates damper tube from other filaments. Secondary insulated for 5000 V.

Type No.	List Price	Pri. Volts	Sec. Volts	Sec. Amps.	Mtg. Centers	Dimensions H	Dimensions W	Dimensions D	Mtg.
P-3097	$4.85	6.3	{ 12.6 or 6.3	1 1.2	2 13/16	1 7/8	3 1/4	2	A

★ TV Replacements.

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TRANSFORMERS

VERTICAL OUTPUT TRANSFORMERS[1]

Type No.	List Price	Turns Ratio Pri. Sec.	Primary Impedance	D.C. Res. in Ohms Pri.	D.C. Res. in Ohms Sec.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
★A-2820	$4.45	5:1‡	6500 Ω @ 18 MA.	285	8.2	2 13/16	2	3 1/4	2	A
★A-2821	4.70	6:1‡	4500 Ω @ 38 MA.	325	9.0	2 13/16	2	3 1/4	1 7/8	A
★A-2822	6.10	6:1	4000 Ω @ 41 MA.	320	14.0	3 1/8	2 1/4	3 11/16	2 1/8	A
★A-2823	6.10	8:1	8000 Ω @ 30 MA.	380	5.5	3 1/8	2 1/4	3 11/16	2 1/8	A
★A-3035	7.65	10:1	19000 Ω @ 13 MA.	590	6.9	1 19/32 x 2	3 1/8	2 11/16	2 1/2	EV
★A-3036	4.70	10:1	18000 Ω @ 13 MA.	1210	9.4	2 13/16	2	3 1/4	2	A
★A-3038	4.70	10:1	20000 Ω @ 13 MA.	775	7.6	3 1/8	2 1/4	3 11/16	2 1/4	A
★A-3037	6.65	11:4:1‡	22000 Ω @ 10 MA.	950	11.0	2 13/16	2	3 1/4	1 5/8	A
★A-2824	4.70	15:1‡•	18000 Ω @ 11 MA.	960	10:0	2 13/16	2	3 1/4	1 7/8	A
★A-3039	6.10	18:1‡	29000 Ω @ 10 MA.	1540	4.2	3 1/8	2 1/4	3 11/16	2 1/8	A
★A-3080	7.80	25:1, 50:1	18000 Ω @ 25 MA.	543	1.7	3 1/8	3	3 9/16	2 1/4	B
★A-3081	7.20	30:1, 50:1‡	18000 Ω @ 25 MA.	650	1.3	3 1/8	2 1/4	3 11/16	2 1/4	A
★A-2825	4.70	44:1‡	16000 Ω @ 14 MA.	750	1.0	2 13/16	2	3 1/4	2	A

‡ Auto Transformers. [1] For complete listings see Merit's TV "Repl." Guide. • Includes Tertiary Wdg. for Vert. Blocking.
★ TV replacement.

VERTICAL BLOCKING OSCILLATOR TRANSFORMERS

Type No.	List Price	Turns Ratio Pri. Sec.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
★A-3004	$3.35	1:1.5	1 3/4	1 3/4	2	1 1/2	B
★A-3001	4.60	Sec. #1 2.08:1 Sec. #2 1:1	2 3/8	1 5/8	2 13/16	1 1/2	A
★A-3006	2.90	1:3.5	1 3/4	1 3/16	2 1/8	7/8	A
★A-3003	3.35	1:4.2	1 3/4	1 3/16	2 1/8	7/8	A
★A-3000	3.05	1:4.2	2	1 3/8	2 3/8	1 1/4	A
★A-4003	3.75	1:4.2	1 3/16	1 9/16	1 3/16	1 3/16	JL
★A-4000	3.75	1:4.2	1 15/16	1 3/4	2 5/16	1 1/2	J

HORIZONTAL BLOCKING OSCILLATOR TRANSFORMER

Type No.	List Price	Turns Ratio Pri. Sec.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
★A-3002	$3.35	2:1	2	1 3/8	2 3/8	1 1/4	A
★A-4002	4.15	2:1	1 15/16	1 3/4	2 5/16	1 1/2	J

HORIZONTAL SCAN CHOKE

Type No.	List Price	Description	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
★C-2980	$3.90	Exact Repl. Sylvania 241-0002	1 23/32	1 11/16	2	1 1/4	B

FILAMENT TRANSFORMERS For Amplifier, Amateur, Industrial Use. Pri.: 115 Volts, 60 Cycles

Type No.	List Price	Sec. Volts	Sec. Amp.	Insulation Volts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-2939	$4.60	2.5 c.t.	5	2500	2	3 1/4	1 5/8	A
P-2940	7.10	2.5 c.t.	10	7500	3	3 5/8	2 1/4	B
P-3042	8.75	2.5 c.t.	10	10000	2 7/8	3 3/8	2 3/4	EH
P-3040	5.00	5 c.t.	3	2500	2	3 1/4	2 1/8	A
P-2941	5.95	5 c.t.	6	2500	2 1/4	3 11/16	1 7/8	A
P-2942	13.60	5 c.t.	15	10000	4 1/2	3 3/4	3 1/2	EV
P-2943	19.45	5 c.t.	30	2500	3 15/16	3 1/8	3 7/8	DL
P-2944	3.90	6.3 c.t.	1	2500	1 5/8	2 13/16	1 1/2	A
P-2964	3.35	6.3	.5	1500	1 3/8	2 3/8	1 1/4	A
★P-3074	4.85	6.3	1.2	5000	2	3 1/4	2	A
P-2945	4.30	6.3 c.t.	2	2500	2	3 1/4	1 5/8	A
P-2946	5.00	6.3 c.t.	3	2500	2	3 1/4	1 7/8	A
P-2947	6.40	6.3 c.t.	6	2500	3	3 5/8	2 1/4	B
P-2948	9.45	6.3 c.t.	10	2500	3 7/16	2 13/16	2 7/8	EV
P-2960	6.10	7.5 c.t.	4	2500	2 5/8	3 1/8	1 7/8	B
P-2961	7.95	6.3 c.t. 6.3 c.t.	3 3	2500	3	3 5/8	2 1/4	B
P-3041	7.95	5 c.t. 6.3 c.t.	3 3.6	2500	2 1/2	4	2 1/8	A
★P-3043	15.00	5 6.3 6.3	3 3.5 10	3000	3 1/8	3 3/4	4 1/16	C
P-3143	10.00	7.5 c.t.	8	2500	3 1/2	2 15/16	3 1/8	D
P-3145	10.00	10 c.t.	5	2500	3 1/2	2 15/16	3	D
P-3146	11.95	10 c.t.	10	3000	3 7/8	3 3/16	3 5/8	D

★ TV replacement.

VIBRATOR TRANSFORMERS For Operation From 6 V. Battery and Vibrator

Type No.	List Price	Sec. DC Volts to Filter	Sec. M.A.	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-2969	$5.85	150	40	2 1/4	2 7/8	1 3/4	B
P-2970	6.65	225	40	2 5/8	3 5/16	2 1/8	B
P-2971	7.20	250	50	2 5/8	3 1/8	2 1/4	B
P-2972	7.80	260	60	3	3 5/8	2 1/8	B
P-3068	6.40	260	60	2 3/16	2 5/8	1 7/8	C
P-4071	8.60	250	50	3	2 3/8	2 3/16	JT
†P-4076	9.60	265	55	3 1/4	2 5/8	2 5/8	JG
†P-4077	10.25	280	65	3 7/8	2 1/4	2 3/8	JT
P-4078	8.35	270	60	2 5/8	2 13/16	2 3/4	JT
P-4079	9.15	270	75	3 1/32	2 3/8	2 1/2	JT

†Has Built-in Hash Filter.

All prices subject to trade discount, and change without notice.

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TRANSFORMERS

POWER APPLICATIONS For Selenium Rectifiers, Pri. 115 Volts, 60 Cycles

Type No.	List Price	Sec. Volts	Sec. Amp.	Insulation Volts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-2959	$5.30	12.6 c.t.	2	2500	2	3 1/4	1 7/8	A
P-2962	5.30	25.2	1	2500	2	3 1/4	1 7/8	A
P-2963	12.10	12.6	7	2500	3 1/2	2 15/16	3 5/8	D
		or						
		25.2 c.t.	3.5					
		or						
		12.6	3.5					
		12.6	3.5					
P-3085	9.70	13	3	2000	2 13/16	3 3/8	2 3/4	EH
		13	3					
		or						
		13	6					
		or						
		26 c.t.	3					
P-3086	25.54	104 V. c.t.	3	2000	4 3/8	5 1/4	4 1/4	EH
P-3087	52.20	78 V. tapped @ 26 & 52 V.	6	2000	5 11/16	6 1/8	5 7/8	EH
P-3088	13.75	13 V.	12	2000	3 7/16	4 1/8	3 1/4	EH
P-3089	50.40	104 V. c.t.	6	2000	5 11/16	6 1/8	6 5/8	EH
P-3090	45.40	156 V. tapped at 130 V.	3	2000	5 11/16	6 1/8	5 7/8	EH
P-3091	144.40	130 V. tapped at 104 V.	12	2000	7 1/16	9 17/32	7 1/2	EH
P-3092	77.75	156 V.	6	2000	6 1/32	7 1/16	7	EH
*P-3093	31.10	36 V. c.t.	10	2000	4 3/8	5 1/4	4 3/4	
*P-3094	55.55	72 V. c.t.	10	2000	6 1/32	7 1/16	5 3/4	EH

*Matches Selenium Rectifiers in Federal's "All Purpose" Assembly Kit

HORIZONTAL OUTPUT AND HIGH VOLTAGE TRANSFORMERS[1]

Type No.	List Price	Picture Tube Size	Equivalent Type	Mtg. Type
★HVO-3	$10.00	7BP4-19AP4	RCA 211T1-211T3	HO1
★HVO-5	11.10	16AP4, etc.	RCA 211T5	HO1
★HVO-7†	13.00	10″ to 24″	GE 77J1 Plus AGC-AFC WDG	HO2
★HVO-X7†*	16.65	10″ to 24″	GE 77J1 Plus AGC-AFC WDG	HO2
★HVO-8	7.20	10″ to 24″	Air-core, Capehart, Emerson, Packard Bell, RCA	HO3
★HVO-9	11.10	17″ to 24″	RCA 230T1	Exact Repl.
★HVO-10†	11.10	10″ to 21″	Fast retrace Plus AGC-AFC WDG	HO2
★HVO-11	10.00	10″ to 19″	Zenith under-chassis S-16204, S-17130, S-17265, S-17027	Exact Repl.
★HVO-12	11.10	10″ to 20″	Motorola 24A790184, 24C701134, 24C710636, 24C792596D, 24K700588, 24K701099	Exact Repl.
★HVO-13	9.15	10″ to 21″	Sylvania 241-0003, 241-0005, 241-0006, 241-0007	Exact Repl.
★HVO-15	15.00	10″ to 16″	Philco 32-8453, 32-8453-2	Exact Repl.
★HVO-16	15.00	10″ to 16″	Philco 32-8465-2, 32-8509	Exact Repl.
★HVO-17	15.00	10″ to 16″	Philco 32-8484-2, 32-8509-2	Exact Repl.
★HVO-18	13.90	10″ to 16″	Philco 32-8428, 32-8428-1, 32-8428-2	Exact Repl.
★HVO-19	11.65	16″ to 24″	Philco 32-8533, 32-8534	Exact Repl.
★HVO-20	12.50	16″ to 24″	Philco 32-8555	Exact Repl.
★HVO-21	11.95	16″ to 24″	Philco 32-8565, 32-8607, 32-8624	Exact Repl.
★HVO-22	11.65	16″ to 24″	Admiral 79D41-1, 79D41-2	Exact Repl.
★HVO-23	11.65	16″ to 24″	Admiral 79C30-2, 79C30-4	Exact Repl.
★HVO-24	11.65	16″ to 24″	Admiral 79C30-1, 79C30-3	Exact Repl.
★HVO-25	11.65	16″ to 24″	Emerson 738067, 68, 69, 73, 74, 75, 82, 83, 85, 86	Exact Repl.
★HVO-26	11.65	16″ to 24″	Air King, CBS, Firestone, Silvertone A-10104, 07, 08, 10, 26, 35	Exact Repl.
★HVO-27	11.65	16″ to 24″	CBS, Firestone, Silvertone A-10136, 37, 59	Exact Repl.
★HVO-28	14.70	16″ to 24″	Motorola 24C711265, 24C721290, 24K711266, 24K711937, 24K730692	Exact Repl.
★HVO-29	14.70	16″ to 24″	Motorola 24K712193	Exact Repl.
★HVO-30	14.70	16″ to 24″	Motorola 24K721301, 24K722126	Exact Repl.
★HVO-31	11.65	16″ to 24″	Muntz TO-0031, —1, —2	Exact Repl.
★HVO-32	12.20	24″ to 27″	Muntz TO-0036, —1, —2	Exact Repl.
★HVO-33	7.20	16″ to 24″	RCA 76501, 76672	Exact Repl.
★HVO-34	7.50	16″ to 24″	RCA 75240, 75519, 75585, 76154, 76381, 77833	Exact Repl.
★HVO-35	11.65	16″ to 24″	RCA 76430, 76795	Exact Repl.
★HVO-36	12.20	24″ to 27″	RCA-235T1 with AGC-AFC, Arvin, CBS, Dumont, Emerson, Pacific Mercury	Exact Repl.
★HVO-37	9.45	17″ to 27″	Crosley "Super V" 157820-1-5, 158481-1, Sentinel, Hallicrafters	Exact Repl.
★HVO-38	11.10	17″ to 27″	Admiral 79C60-1, 79C60-5, 79C60-6, 79C60-7	Exact Repl.
★HVO-39	13.60	16″ to 24″	Crosley, Hallicrafters, Motorola—ADJ, CORE	Exact Repl.
★HVO-40	11.10	16″ to 24″	Silvertone, Warwick T-80-320	Exact Repl.
★HVO-41	13.90	16″ to 24″	Airline, Arlington, Coronado, Firestone, Truetone 53X326, 28, 29, 30, Silvertone T80-289, -293	Exact Repl.
★HVO-42	11.65	16″ to 24″	CBS PC-10147, G, PC-10161	Exact Repl.
★HVO-43	11.65	10″ to 19″	Airline, Arlington, Coronado, Firestone, Truetone 53X301, 53X303, 53X307	Exact Repl.
★HVO-44	12.20	16″ to 24″	Airline, Arlington, Coronado, Firestone, Truetone, Wells Gardner 53X319, 53X320	Exact Repl.
★HVO-45	12.20	16″ to 24″	Westinghouse V-11548-3	Exact Repl.
★HVO-46	11.10	16″ to 24″	Airline, Sentinel 22E57, -6, 22E61, 22E67	Exact Repl.
★HVO-47	11.10	16″ to 24″	Hoffman 5156, Packard Bell 89438, RCA-225T1	Exact Repl.
★HVO-48	12.20	16″ to 24″	Magnavox 320055-1, 320055G1, 320061-1	Exact Repl.
★HVO-49	13.90	16″ to 24″	Raytheon C-201-21025-1, 201-22396-1, Airline, Truetone	Exact Repl.
★HVO-50	15.00	12″ to 20″	Travler TV-X-105, TV-X-108	Exact Repl.
★HVO-51	12.20	16″ to 24″	Hoffman 5146, 5148, 5149, 5155	Exact Repl.
★HVO-52	12.75	12″ to 20″	Hallicrafters 55C133, 143, 144, Coronado, Silvertone, Truetone	Exact Repl.
★HVO-53	10.55	10″ to 19″	Zenith	Exact Repl.
★HVO-54	11.10	17″ to 27″	Admiral 79C60-2, 79C60-3, 79C60-4	Exact Repl.
★HVO-55	11.10	17″ to 24″	RCA 78201, 78810, 79145, 79736	Exact Repl.
★HVO-56	10.85	10″ to 20″	Westinghouse V9904-1, 2, V10204-1, V10212-1, V10214-1	Exact Repl.
★HVO-57	10.55	17″ to 24″	Zenith	Exact Repl.
★HVO-58	10.55	17″ to 24″	Airline, Coronado, Raytheon, Truetone C-12E23939, C-12E24612, -1, Bendix 265106-1	Exact Repl.
★HVO-59	11.10	17″ to 21″	General Electric RTO 125, RTO 126, RTO 127	Exact Repl.
★HVO-61	10.55	17″ to 21″	General Eelectric RTO 129, RTO 130	Exact Repl.
★HVO-62	11.10	17″ to 24″	Magnavox 360580-1, 360604-1, 360610-1	Exact Repl.

[1] For more complete listing, see Merit TV "REPL." Guide. * Corona-free Insulation. † Univ. mtg. ★ TV replacements.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

MERIT TRANSFORMERS

Since 1924 — FINE RADIO PARTS

BLOCKING OSCILLATOR TRANSFORMERS

Type No.	List Price	Turns Ratio Primary to Secondary	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
★A-3000 Vertical	$3.05	1:4.2	2	1⅜	2⅜	1¼	A
★A-3001 Vertical	4.60	†	2⅜	1⅝	2 13/16	1½	A
★A-4000 Vertical	3.75	1:4.2	1 15/16	1¾	2 5/16	1½	J
★A-3002 Horizontal	3.35	2:1	2	1⅜	2⅜	1¼	A
★A-3003 Vertical	3.35	1:42	1¾	1 3/16	2⅛	⅞	A
★A-3004 Vertical	3.35	1:15	1¾	1¾	2	1½	B
★A-4002 Horizontal	4.15	2:1	1 15/16	1¾	2 5/16	1½	J
★A-4003 Vertical	3.75	1:4.2	1 3/16	1 9/16	1 3/16	1 3/16	JL

† Pri./Sec. 1—1:2.08, Pri./Sec. 2—1:1.

HORIZONTAL SCAN CHOKE

Type No.	List Price	Description	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
★C-2980	$3.90	Exact Repl. Sylvania 241-0002	1 23/32	1 11/16	2	1¼	B

WIDTH OR LINEARTY COILS[1]

Type No.	List Price	Inductance Millihenries	D.C. Resistance in Ohms	Equiv. Type	Mtg. Hole	Mtg. Type
★MWC-1♦	$2.50	4-29 2.5-8 • §	28 29 • §	None	7/16″ or 5/16″	WC 1
★MWC-2	1.25	0.2-4.0	7.15	None	7/16″ or 5/16″	WC 2
★MWC-3	2.10	20-60	47.5	None	7/16″	WC 2
★MWC-4 •	1.25	0.2-3 •	7.12 •	RCA 201R5	7/16″ or 5/16″	WC 2
★MWC-5 •	1.25	1-5 •	6 •	RCA 207R1, 209R1	7/16″ or 5/16″	WC 2
★MWC-6	1.25	1.5-10	8	RCA 211R1, 213R1	7/16″ or 5/16″	WC 2
★MWC-7	1.55	.054-0.245	0.53	RCA 201R1	7/16″ or 5/16″	WC 2
★MWC-8	1.55	0.170-0.610	1.0	RCA 201R4	7/16″ or 5/16″	WC 2
★MWC-9 •	1.55	0.3-12 •	9 •	None	7/16″ or 5/16″	WC 2
★MWC-10♦	2.50	0.2-2.3 4-28 §	2.5 23 §	None	7/16″ or 5/16″	WC 1
★MWC-11	1.55	2-20	12	None	7/16″ or 5/16″	WC 2
★MWC-12	1.55	4-29	28.3	None	7/16″ or 5/16″	WC 1

[1] For more complete listing see Merit TV "Repl" Guide.
♦ Provides AGC-AFC secondary wdg.
§ AGC-AFC wdg. values.
• Tapped.
★ TV Replacements.

FOCUS COILS

Type No.	List Price	Tube Size	Dimensions-Depth	Equivalent Type	M.A.	DC. Res. Ohms	Mtg. Type
★MF-1•	$ 9.15	10″–12″	3⅜ x 3⅜ x 1 7/16	202D1	200	247	P
★MF-2	12.20	16″	4¾ O. Dia. x 1 3/16	202D2	140	470	S
★MF-3•	9.15	10″–12″	3⅜ x 3⅜ x 1 7/16	None	150	360	P
★MF-4	12.20	14″–20″	4¾ O. Dia. x 1 3/16	None	75	1000	S
★MF-5	12.20	14″–20″	4¾ O. Dia. x 1 3/16	None	75	1500	S

•Equipped with lugs on each side and universal mtg. plate.

DEFLECTION YOKES[1]

With Network and Leads Mtg. Type: MDF

Type No.	List Price	Inductance♦ Horiz.	Inductance♦ Vert.	D.C. Resistance♦ Horiz.	D.C. Resistance♦ Vert.	Def. Angle	Picture Tube Size	Dimensions O. Dia.	Dimensions Lgth.
★MD-12	$10.00	8 mh	48 mh	14 Ohms	66 Ohms	53°	10″ to 19″	3⅛	3
★MD-13	10.00	30 mh	48 mh	40 Ohms	65 Ohms	53°	10″ to 19″	3⅛	2¾
★MDF-70▲	11.10	30 mh	45 mh	13.5 Ohms	55 Ohms	70°	14″ to 24″	3⅛	2¾
★MDF-71▲	11.10	30 mh	50 mh	40 Ohms	65 Ohms	70°	14″ to 24″	3⅛	2¾
★MDF-72▲	11.10	13 mh	41 mh	15 Ohms	50 Ohms	70°	14″ to 24″	3⅛	2¾
★MDF-73▲	11.10	19 mh	42 mh	22 Ohms	50 Ohms	70°	14″ to 24″	3⅛	2¾
★MDF-74▲	11.10	28 mh	3 mh	44 Ohms	3.5 Ohms	70°	14″ to 24″	3⅛	2¾
★MDF-75▲‡	11.10	25 mh	42 mh	34 Ohms	53 Ohms	70°	14″ to 24″	3⅛	2¾
★MDF-76▲#	11.10	30 mh	3.6 mh	43 Ohms	3.5 Ohms	70°	14″ to 24″	3⅛	2¾
★MDF-91▲	13.90	11.5 mh	42 mh	15 Ohms	42 Ohms	90°	17″ to 30″	3½	3⅛
★MDF-92▲	13.90	20 mh	41 mh	30 Ohms	41 Ohms	90°	17″ to 30″	3½	3⅛

[1] For more complete listings see Merit TV "Repl" Guide.
♦ All electrical values ± 10 K.
▲ Cosine-Ferrite Core.
‡ Exact Replacement for Motorola 24K700694.
# Exact replacement for RCA 74952, with plug.
★ TV Replacements.

TV CONVERSION—REPLACEMENT—IMPROVEMENT KIT

Type No.	List Price	Contents
★Kit #1000	$24.70	1 Each HVO-7, MDF-70, MWC-1. Conversion and Technical Data

LINE VOLTAGE REGULATORS

To adjust line voltages of 65-75-90-100-115-130-145 volts, to 115 volts, 50/60 cycles. Equipped with voltmeter, line cord and plug, output receptacle, variable switch, and indicator light.

Type No.	List Price	Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
★P-3138	$31.95	350	4 7/8	3 13/16	7½	D
★P-3139	50.00	750	5 7/8	4½	9½	D

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MERIT TRANSFORMERS

MERIT Since 1924 FINE RADIO PARTS

TV AUTOTRANSFORMER Provides TV picture tube booster voltage.

Type No.	List Price	Input Volts	Output Volts	Output Amps.	Mtg. Centers	Dimensions H	Dimensions W	Dimensions D	Mtg.
P-3098	$3.20	6.3	12.6 taps at 9.45–6.3	1	2⅜	1⅝	2 13/16	1¼	A

INDUSTRIAL—AMATEUR

OUTDOOR TYPE UNIVERSAL LINE TRANSFORMER To Couple Various Line Impedances to a Voice Coil Universal Mounting Bracket

Type No.	List Price	Ohms Impedance Primary	Ohms Impedance Sec.	Watts	Mtg. Center Case	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
A-4040	$19.45	250-500-1000-1500-2000	4-8-16	8	2¾ x 3⅞	4¼	4 7/16	3 9/16	JO
A-4041	19.45	250-500-1000-1500-2000	4-8-16	12	2¾ x 3⅞	4¼	4 7/16	3 9/16	JO
A-4042	20.85	250-500-1000-1500-2000	4-8-16	25	2¾ x 3⅞	4¼	4 7/16	3 9/16	JO

DRIVER TRANSFORMERS To Couple Driver Plate to Amplifier Grids

Type No.	List Price	Driver	Output	Ratio, Pri. to ½ Sec.	Class	Pri. M.A.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-2920	$3.75	6C5, 1H4, 30, 49	Single 1J6, 19, Push-pull 30, 49	2.5:1	B	10	2⅜	1⅝	2 13/16	1½	A
A-2921	5.15	6F6, 2A5, 42	PP6F6, 2A5, 6L6	1.7:1, 1.5:1, 1.3:1	AB	35	2 13/16	2	3¼	1⅝	A
A-2922	5.85	6A6, 6C5 6N7, 46	Single 6A6, 6N7, Push-pull 46	5:1, 4:1, 3:1, 2.5:1	B	20	2 13/16	2	3¼	1⅝	A
A-3120	15.00	500 ohm line	Class B Grids 15 Watt Capacity	1:.75, 1:.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3	B	------	2 13/16 x 2	3 3/16	2⅝	3⅜	DL
A-3121	16.95	500 ohm line	Class B Grids 30 Watt Capacity		B	------	2¼ x 2¼	3 3/16	3	3¾	DL
A-3123	9.15	PP6A6, 53, PP6C5, 6N7, 6J5	PP6N7, 6A6, 53, PP6L6, T21	5:1*	B, AB2	15	2 x 1 11/16	3⅛	2⅝	2⅝	D
A-3124	8.05	6F6, 46, 59, 2A5, 42	PP46, 59, PP6L6, 807	2.2:1	B, AB2	30	2 x 1 11/16	3⅛	2⅝	2⅝	D
A-3125	10.25	6F6, 2A5, 47, 42	PP6L6	1.4:1*	AB2	40	2¼ x 2	3½	2 13/16	3⅛	D
A-3126	8.90	PP2A3, 6L6, 45, 6V6, 6F6	PP800, 203A, 811, 812, 812A, RK18, RK58, T20, TZ40, T55, 807, 809, 838, 845, 35, 100TH	2:1	B	40	2 x 1 11/16	3⅛	2⅝	2⅝	D

★ Indicates TV Replacement. * Split secondary.

MODULATION TRANSFORMERS For Specific Applications

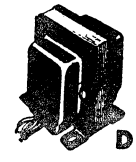
Type No.	List Price	Output Tubes	Ohms Impedance Pri.	Ohms Impedance Sec.	Max. M.A. Pri.	Max. M.A. Sec.	Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3007	$4.15	19, 1J6, 2E30, 6A6, 6N7, etc.	10,000 c.t.	10000, 8000-5000	60	50	5	1 13/16	2⅜	⅞	D
A-3008	6.10	PP6AV5, 6V6, 6F6, Single 6A6, 6N7, 53	10000 c.t.	4000-5000, 7500-10000	70	60	10	2¼	2⅞	2⅛	B
A-3109	11.40	PP2A3, 6A3, 6B4, 6L6, 45, 46, 59	6000 c.t., 3800 c.t., 3000 c.t.	12000, 5000-8000, 10000	80	100	25	3⅛	2⅝	2¾	D
A-3110	16.65	PP6L6, 807, RK41, HY56, HY61, HK24	6600-3800 c.t.	4000-5000, 7500-10000, 12000	175	150	60	4¼	3½	3¾	D
A-3113	28.60	PP 800, 809, TZ-40, T-55, HK-54, RK-31, HY-40, 811A, 807, 812A, 5514	15000-6900c.t.	3000-4000, 5000-6000	250	300	175	4⅝	3 13/16	5⅝	D

UNIVERSAL MODULATION TRANSFORMERS Tapped Series-Parallel Coils Provide a Wide Range of Modulation Ratios

Type No.	List Price	Pri. Impedance	Pri. M.A. per Side	Sec. Impedance	Max. Sec. M.A. ‡	Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3104	$12.75	2000-20000	50	2000-20000	50/100	15	3 3/16	2½	2⅝	DL
A-3105	19.85	2000-20000	150	2000-20000	150/300	60	3⅞	3⅛	4⅛	DL
A-3106	25.00	2000-20000	220	2000-20000	220/440	125	4⅝	3¾	4⅝	DL

‡Series/Parallel

Products of Merit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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

MERIT TRANSFORMERS

Since 1924 — FINE RADIO PARTS

INDUSTRIAL—AMATEUR (Cont.)

PLATE TRANSFORMERS — For Small Transmitters. DC Voltage Ratings are Approx. Values Obtained at Output of a 2 Section Choke Input Filter Using Mercury Vapor Rectifier Tubes. Pri. is for 115 V. 60 cy.

Type No.	List Price	Sec. Rms. Volts	Sec. DC Volts	DC Sec. M.A.	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-3178	$12.50	415-415	300	200	3 7/8	3 5/16	3 5/8	D
P-3175	12.50	550-550	400	150	3 9/16	3	3 7/8	D
P-3157	18.45	660-660 † 550-550	500 400	250	4 5/8	3 13/16	4 3/8	D
P-3158	22.90	1080-1080 500-500	1000 ‡ 400	125 150	4 5/8	3 13/16	5	D
P-3159	21.95	900-900 800-800	750 600	225	4 5/8	3 13/16	5 1/8	D
P-3167	47.75	1450-1450 1175-1175	1200 1000	300	5 3/4	6 1/8	5	EH
P-3168	61.10	2100-2100 1800-1800	1750 1500	300	5 3/4	6 1/8	6	EH
P-4062	88.85	2900-2900 2385-2385	2500 2000	300	8 1/4	6 9/16	6 1/16	H

‡For dual operation with simultaneous use of both sec. ratings. †Has 40-volt bias tap.
Max. one winding only 275 ma. *All prices subject to trade discount, and change without notice.*

FILTER CHOKES — For Small Transmitter and Amplifier Applications

Type No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
C-3192	$6.95	15	85	325	1500	3 1/8	2 5/8	2 5/8	D
C-3193	6.40	10	110	200	1500	3 1/8	2 5/8	2 5/8	D
C-3194	7.65	12	150	230	1500	3 1/2	2 15/16	3 1/4	D
C-3195	10.85	15	150	180	2000	3 7/8	3 5/16	3 3/8	D
C-3196	8.35	5	200	80	1500	3 1/2	2 15/16	3 1/8	D

FILTER SMOOTHING CHOKES — For Transmitter Power Supplies

C-3180	$7.20	10	150	210	3000	3 1/8	2 9/16	2 13/16	D
C-3181	9.45	10	200	140	3000	3 1/2	2 15/16	3 1/2	D
C-3182	12.75	10	250	125	3000	3 7/8	3 1/4	3 3/4	D
C-3183	12.75	8	300	80	3000	3 7/8	3 1/4	3 3/4	D

FILTER INPUT OR SWINGING CHOKES

C-3187	$7.35	4-16	150	210	3000	3 1/8	2 9/16	2 13/16	D
C-3188	9.85	4-16	200	140	3000	3 1/2	2 15/16	3 1/2	D
C-3189	12.20	4-16	250	125	3000	3 7/8	3 1/4	3 3/4	D
C-3190	12.75	3-14	300	80	3000	3 7/8	3 1/4	3 7/8	D

VIBRATOR TRANSFORMERS — For Operation From 12 V. Battery and Vibrator

Type No.	List Price	Sec. Rms. Volts	Sec. D. C. Volts to Filter	Sec. D.C. M.A.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg. Type
P-2860	$6.10	235-235	225	50	2 13/16	2 11/16	3 1/8	1 15/16	B
P-2861	7.10	260-260	250	60	1 3/4 x 2 3/16	2 3/16	2 5/8	2 1/8	CO
P-2978	6.10	275-275	260	60	1 3/4 x 2 3/16	2 3/16	2 5/8	1 7/8	CO
P-4051*	8.90	280-280	265	65	.....	3 1/4	2 5/8	2 5/8	JG
P-4052*	9.60	290-290	280	65	.....	3 7/8	2 1/4	2 3/8	JT

* Built-in hash filter.

AC-DC VIBRATOR TRANSFORMER — For Operation from 6 V. Battery and Vibrator or 115 V. 60 cy. Line

Type No.	List Price	H.V. Secondary DC Volts	H.V. Secondary MA	Filament Volts	Filament Amps	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-3176	$19.15	300	160	6.3 or 5 6.3	3 4.5	4 5/8	3 13/16	4 1/4	D
P-3075	13.45	330	100	6.3	4	3 7/8	3 5/16	3 3/8	D

PHOTO-FLASH POWER TRANSFORMER — Primary for 117 V. 60 Cy. Line or 4 V. Battery Vibrator (or Charger Winding)

Type No.	List Price	Secondary AC Volts	Secondary DC M.A.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-3065	$8.90	1100	1.5	2 11/16	2 5/8	3 1/8	2	B

STEP-DOWN AUTOTRANSFORMERS — Input 220–250 V. 60 cy. Output 110–125 V. Pri. Cord and Plug. Sec. Receptacle.

Type No.	List Price	Output Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-3161	$11.40	80	3 1/2	2 15/16	3	D
P-3162	15.25	150	3 7/8	3 5/16	3 5/8	D
P-3163	19.70	250	4 5/8	3 13/16	4	D
P-3164	25.00	500	4 5/8	3 13/16	4 3/8	D
P-4065	61.10	1000	7 1/4	6 5/8	5 5/8	H

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IF-RF COILS

INDUSTRIAL—AMATEUR (Cont.)

ISOLATION TRANSFORMERS — Equipped with Pri. Cord and Plug—Sec. Standard Receptacles. Static Shielded

Type No.	List Price	Primary Volts	Secondary Volts	Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-3177	$34.70	117	105–115–125	350	5 5/16	4 1/2	5 1/4	D

ISOLATION TRANSFORMERS — To Provide Isolation Between Line and Associated Circuits. Primary for 50-60 Cy. Static Shielding Between Primary and Secondary.

P-3196	8.05	117	117	40	3 1/8	2 5/8	2 5/8	B
P-3197	11.50	117	117	80	3 7/8	3 5/16	3 1/2	D

ISOLATION TRANSFORMERS — Equipped with Line Cord and Standard Receptacle

P-3172	41.65	117	117	500	5 3/8	4 5/8	6 1/2	D
P-3198	20.85	117	117	100	4 1/4	3 9/16	3 3/4	D
P-3199	38.90	117	117	250	4 5/8	3 13/16	4 7/8	D

All prices subject to trade discount, and change without notice.

★TELEVISION UNITS—IF Transformers—Permeability Tuned

Type No.	List Price	Function	Freq. M.C.	Mtg. Centers	Dimensions	Mtg.
TV-100	$2.75	1st Pix Amp. W/T at 27.25 MC	25.3	7/8	7/8x 7/8x2 1/8	A
TV-101	2.10	2nd Pix Amp. W/T at 19.75 MC	22.3	7/8	7/8x 7/8x2 1/4	A
TV-102	1.25	3rd Pix Amp.	25.2	7/16 Hole	1/2x1 1/2	B
TV-103	1.25	4th Pix Amp. (Detector)	23.4	7/16 Hole	1/2x1 1/2	B
TV-104	2.40	1st Sound (Amplifier)	21.25	7/8	7/8x 7/8x2 1/4	A
TV-105	2.40	2nd Sound (Amplifier)	21.25	7/8	7/8x 7/8x2 1/4	A
TV-106	2.75	Sound Discrim.	21.25	1 1/8	1 1/8x1 1/8x2 1/2	A
TV-107	2.75	Converter	21.8	7/8	7/8x 7/8x2 1/4	A
TV-108	2.75	Input Amp.	4.5	1 1/16	1 1/8x1 1/8x2 1/8	A
TV-109	3.00	Sound Disc.	4.5	1 1/16	1 1/8x1 1/8x2 1/8	A
TV-110	3.30	Sound Ratio Det.	4.5	1 1/16	1 1/8x1 1/8x2 1/8	A
TV-111	3.30	Sound Ratio Det.	21.25	1 1/8	1 1/8x1 1/8x2 1/2	A
TV-112	1.25	Tunable Choke	21-26 MC	7/16	1/2x1 1/2	B
TV-113	2.75	Sound Amp.	4.5	Clip	3/4x 3/4x2	K
TV-114	3.30	Sound Disc.	4.5	Clip	3/4x 3/4x2	K
TV-115	3.30	Sound Ratio Det.	4.5	Clip	3/4x 3/4x2	K
TV-116	1.75	Video IF (Transformer)	21-26 MC	5/16 Hole	1/2x1 1/2	B
TV-117	2.75	Sound Discrim.	21.25	7/8	7/8x 7/8x2 1/4	W
TV-125	2.40	Video IF Transformer (Link Input)	44	Clip	3/4x 3/4x2	K
TV-126	2.20	Video IF Transformer	44	Clip	3/4x 3/4x2	K
TV-127	2.75	Video IF Trans. W/T at 41.25 MC	42.5	Clip	3/4x 3/4x2	K
TV-128	2.75	Video IF Trans. W/T at 47.25 MC	45.75	Clip	3/4 x 3/4x2	K
TV-129	2.75	Video IF Choke W/T at 47.25 MC	45.75	Clip	3/4x 3/4x2	K
TV-130	1.30	Tunable Video TF Transformer	41-46 MC	5/16 Hole	1/2 x1 1/4	B
TV-131	1.20	Tunable Video IF Choke	41-46 MC	5/16 Hole	1/2x1 1/4	B
TV-132	2.50	Video IF Choke W/T at 41.25 MC	42.5	5/16 Hole	1/2x2	B
TV-133	2.50	Video IF Choke W/T at 39.75 MC	42.25	5/16 Hole	1/2x2	B
TV-134	2.50	Video IF Choke W/T at 47.25 MC	45.75	5/16 Hole	1/2x2	B

TRAPS—Permeability Tuned

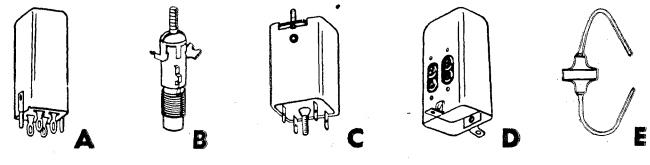
Type No.	List Price	Function	Freq. MC.	Mtg. Centers	Dimensions	Mtg.
TV-150	$2.00	Cathode Trap*	21.25	7/16 Hole	1/2 O.D.x1 1/2	B
TV-151	1.25	Sound Trap	4.5	5/16 Hole	1/2 O.D.x1 1/2	B
TV-152	1.75	Adj. Channel Trap	39.75 MC	5/16 Hole	1/2x1 1/4	B
TV-153	1.75	Adj. Channel Trap (Tapped)	47.25 MC	5/16 Hole	1/2x1 1/4	B

*Includes Condenser.

HORIZONTAL "SYNC." TRANSFORMERS

Type No.	List Price	System	Mtg. Centers	Dimensions	Mtg.
TV-160	$2.75	"Sync." Lock	1 7/16	1 7/16x1 7/16x2	C
TV-161	2.25	"Sync." Guide	1 7/16	1 7/16x1 7/16x2	C
TV-162	2.75	"Sync." Freq. and Phase	1 7/16	1 7/16x1 7/16x2	C
TV-163	2.25	Ringing Coil	7/16 Hole	11/16x2	B

Products of Merit



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

IF-RF COILS

ANTENNA COUPLING TRANSFORMERS

Type No.	List Price	Impedance Ratio	Mtg.	Dimensions	Mtg.
TV-170	$2.75	52/300 or 300/52	"L" Bracket	¾x¾x1⅜	F
TV-171	2.75	72/300 or 300/72	"L" Bracket	¾x¾x1⅜	F

PEAKING COILS

Type No.	List Price	Inductance Microhenries	Color Code	Shunt Resistor	Mtg.
TV-180	$0.50	36	Black	—	E
TV-181	.60	93	Red	—	E
TV-182	.60	120	Blue	22K	E
TV-183	.60	180	White	39K	E
TV-184	.60	180	Yellow	—	E
TV-185	.60	250	Green	—	E
TV-189	.50	.8	Orange	—	E
TV-186	.60	73	—	10 meg.	E
TV-187	.60	250	—	22K	E
TV-188	.60	500	—	10 meg.	E
TV-190	.60	350	Brown	—	E
TV-191	.60	350	Gray	100 K	E

HIGH-PASS FILTERS

Type No.	List Price	Line Impedance	Mtg. Centers	Dimensions	Mtg.
TV-210	$5.50	72 Ohm	2 1/16	1 7/16x1 7/8x3 1/2	D
TV-211	5.50	300 Ohm	2 1/16	1 7/16x1 7/8x3 1/2	D

★ IF-RF television units prefix "TV."

WAVE TRAPS TV-FM (Capacity Tuned)

Type No.	List Price	Freq. Range	Mtg. Centers	Dimensions	Mtg.
TV-220	$4.40	150-250 MC.	2 1/16	1⅜ x 1⅞ x 3⅜	D
TV-221	4.40	75-150 MC.	2 1/16	1⅜ x 1⅞ x 3⅜	D
TV-222	4.40	40- 80 MC.	2 1/16	1⅜ x 1⅞ x 3⅜	D
TV-223	4.40	20- 40 MC.	2 1/16	1⅜ x 1⅞ x 3⅜	D

HI-VOLT OSCILLATOR TRANSFORMERS

Type No.	List Price	Output Volts	Mtg. Centers	Dimensions	Mtg.
TV-230	$ 8.25	To 4000	1¼	1¼ dia. x 3¾ high	H
TV-231	13.75	To 30000	2¼	2¼ dia. x 6 high	H

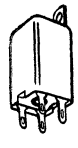
FM

IF TRANSFORMERS (Permeability Tuned)

Type No.	List Price	Description	Freq.	Mtg. Centers	Dimensions	Mtg.
FM-250	$3.30	Discriminator	10.7 MC.	1 1/16	1⅛x1⅛x2⅛	A
FM-251	2.40	Amp. Interstage	10.7 MC.	1 1/16	1⅛x1⅛x2⅛	A
FM-252	3.30	Ratio Detect.	10.7 MC.	1 1/16	1⅛x1⅛x2⅛	A
FM-253	3.30	Disc.—Min.	10.7 MC.	Clip	¾x¾x2	K
FM-254	3.30	Amp.—Min.	10.7 MC.	Clip	¾x¾x2	K
FM-255	3.30	Ratio Det.—Min.	10.7 MC.	Clip	¾x¾x2	K

ANTENNA—OSCILLATORS—RF (Slug Tuned)

Type No.	List Price	Description	Freq. MC.	Mtg. Centers	Dimensions	Mtg.
FM-280	$2.20	Antenna	88–108	7/16" Hole	½x1⅝	A
FM-281	2.20	RF	88–108	7/16" Hole	½x1⅝	A
FM-282	2.20	Osc.	88–108	7/16" Hole	½x1⅝	A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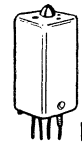
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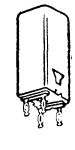
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Products of Merit

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IF-RF COILS

BROADCAST

IF TRANSFORMERS (Capacity Tuned)

Type No.	List Price	Function	Freq.	Mtg. Centers	Dimensions	Mtg.
BC-300	$2.65	Input	175 KC	1⅜	1⅜x1⅜x2⅝	I
BC-301	2.65	Interstage	175 KC	1⅜	1⅜x1⅜x2⅝	I
BC-302	2.65	Full Wave Output	175 KC	1⅜	1⅜x1⅜x2⅝	I
BC-303	2.65	Half Wave Output	175 KC	1⅜	1⅜x1⅜x2⅝	I
BC-304	2.40	Input	262 KC	1⅜	1⅜x1⅜x2⅝	I
BC-305	2.40	Interstage	262 KC	1⅜	1⅜x1⅜x2⅝	I
BC-306	2.40	Full Wave Output	262 KC	1⅜	1⅜x1⅜x2⅝	I
BC-307	2.40	Half Wave Output	262 KC	1⅜	1⅜x1⅜x2⅝	I
BC-308	2.40	Input	455 KC	1⅜	1⅜x1⅜x2⅝	I
BC-309	2.40	Interstage	455 KC	1⅜	1⅜x1⅜x2⅝	I
BC-310	2.40	Full Wave Output	455 KC	1⅜	1⅜x1⅜x2⅝	I
BC-311	2.40	Half Wave Output	455 KC	1⅜	1⅜x1⅜x2⅝	I
BC-312	2.40	Input	1500 KC	1⅜	1⅜x1⅜x2⅝	I
BC-313	2.40	Interstage	1500 KC	1⅜	1⅜x1⅜x2⅝	I
BC-314	2.40	Full Wave Output	1500 KC	1⅜	1⅜x1⅜x2⅝	I
BC-315	2.40	Half Wave Output	1500 KC	1⅜	1⅜x1⅜x2⅝	I

IF TRANSFORMERS (Iron Core—Capacity Tuned)

Type No.	List Price	Function	Freq.	Mtg. Centers	Dimensions	Mtg.
BC-330	$3.50	Input	175 KC	1⅜	1⅜x1⅜x3¼	I
BC-331	3.50	Interstage	175 KC	1⅜	1⅜x1⅜x3¼	I
BC-332	3.50	Full Wave Output	175 KC	1⅜	1⅜x1⅜x3¼	I
BC-333	3.50	Half Wave Output	175 KC	1⅜	1⅜x1⅜x3¼	I
BC-334	2.90	Input	262 KC	1⅜	1⅜x1⅜x3¼	I
BC-335	2.90	Interstage	262 KC	1⅜	1⅜x1⅜x3¼	I
BC-336	2.90	Full Wave Output	262 KC	1⅜	1⅜x1⅜x3¼	I
BC-337	2.90	Half Wave Output	262 KC	1⅜	1⅜x1⅜x3¼	I
BC-338	2.90	Input	455 KC	1⅜	1⅜x1⅜x3¼	I
BC-339	2.90	Interstage	455 KC	1⅜	1⅜x1⅜x3¼	I
BC-340	2.90	Half Wave Output	455 KC	1⅜	1⅜x1⅜x3¼	I
BC-341	2.90	Full Wave Output	455 KC	1⅜	1⅜x1⅜x3¼	I

IF TRANSFORMERS (Capacity Tuned)

Type No.	List Price	Description	Freq.	Mtg. Centers	Dimensions	Mtg.
BC-360	$2.65	Input Midget	175 KC	1⅛	1⅛x1⅛x2	I
BC-361	2.65	Interstage—Midget	175 KC	1⅛	1⅛x1⅛x2	I
BC-362	2.65	Full Wave—Midget	175 KC	1⅛	1⅛x1⅛x2	I
BC-363	2.65	Half Wave—Midget	175 KC	1⅛	1⅛x1⅛x2	I
BC-364	2.40	Input—Midget	262 KC	1⅛	1⅛x1⅛x2	I
BC-365	2.40	Interstage—Midget	262 KC	1⅛	1⅛x1⅛x2	I
BC-366	2.40	Full Wave—Midget	262 KC	1⅛	1⅛x1⅛x2	I
BC-367	2.40	Half Wave—Midget	262 KC	1⅛	1⅛x1⅛x2	I
BC-368	2.40	Input—Midget	455 KC	1⅛	1⅛x1⅛x2	I
BC-369	2.40	Interstage—Midget	455 KC	1⅛	1⅛x1⅛x2	I
BC-370	2.40	Full Wave—Midget	455 KC	1⅛	1⅛x1⅛x2	I
BC-371	2.40	Half Wave—Midget	455 KC	1⅛	1⅛x1⅛x2	I
BC-372	2.60	Half Wave—Midget*	262 KC	1⅛"	1⅛x1⅛x2	I

*Includes output filter.

IF TRANSFORMERS (Permeability Tuned)

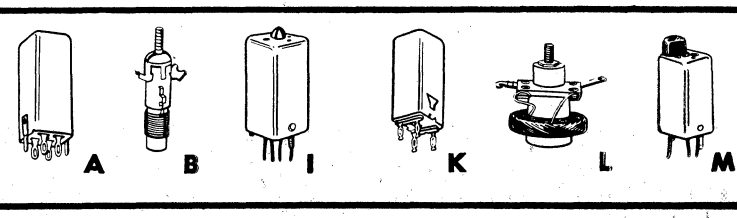
Type No.	List Price	Description	Freq.	Mtg. Centers	Dimensions	Mtg.
BC-350	$2.75	Input—Miniature	262 KC	Clip	¾x¾x2	K
BC-351	2.75	Output—Miniature	262 KC	Clip	¾x¾x2	K
BC-352	2.65	Input—Miniature	455 KC	Clip	¾x¾x2	K
BC-353	2.65	Output—Miniature	455 KC	Clip	¾x¾x2	K
BC-354	2.65	Output—Miniature*	262 KC	Clip	¾x ¾x2	K
BC-355	2.65	Output—Miniature*	455 KC	Clip	¾x ¾x2	K

*Includes output filter.

IF TRANSFORMERS—Special

Type No.	List Price	Description	Freq.	Mtg.	Dimensions	Mtg.
BC-375	$1.95	Cartwheel	455 KC	6-32 Screw	1⅜x1½	
BC-376	2.75	Std. IF (Tweet Filter)	455 KC	1⅜-Mtg. Center	1⅜x1⅜x2½	A
BC-377	4.75	AM-FM	455 KC-10.7 MC	1 7/16-Mtg. Center	1 7/16x1 7/16x2½	A

Products of Merit



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

IF-RF COILS

BROADCAST (Cont.)

RF—ANTENNA—OSCILLATOR (Permeability Tuned) Univ. Replac.

Type No.	List Price	Description	Mtg.	Cond. Max.	Dimensions	Mtg.
BC-380	$2.20	Antenna	L Bracket	250-450-MMF	7/8 Dia. x 2	B
BC-381	2.20	Oscillator*	L Bracket	250-450-MMF	7/8 Dia. x 2	B
BC-382	2.20	RF	L Bracket	250-450-MMF	7/8 Dia. x 2	B
BC-383	2.75	Antenna (Shielded)	1 3/8 Centers	250-450-MMF	1 3/8 x 1 3/8 x 2 1/2	A
BC-384	2.75	Oscillator* (Shielded)	1 3/8 Centers	250-450-MMF	1 3/8 x 1 3/8 x 2 1/2	A
BC-385	2.75	RF (Shielded)	1 3/8 Centers	250-450-MMF	1 3/8 x 1 3/8 x 2 1/2	A
BC-386	2.20	Antenna	5/16 Hole	365 MMFD	1/2 Dia. x 1 1/2	Q
BC-387	2.20	Oscillator†	5/16 Hole	365 MMFD	1/2 Dia. x 1 1/2	Q
BC-388	2.20	R.F.	5/16 Hole	365 MMFD	1/2 Dia. x 1 1/2	Q

*Used with any "IF" (100 to 550 KC) Tapped Pri. and Sec. †Used with any "IF" (100 to 550 KC) Tapped Sec.

MINIATURE (IRON CORE) TYPE K

Type No.	List Price	Description	Operating Freq. KC	Cond. Size	Dimensions	Mtg.
BC-390	$1.75	Antenna†	540–1700	365 MMF	3/4 x 3/4 x 2	Spring Clips
BC-391	1.75	RF	540–1700	365 MMF	3/4 x 3/4 x 2	Spring Clips
BC-392	1.75	Oscillators†	540–1700	365 MMF	3/4 x 3/4 x 2	Spring Clips

†Tapped Secondaries.

MIDGET—OSCILLATORS (Screw Mounting) (For use with 365 MMF Cond.)

Type No.	List Price	Description	Operating Freq.	Dimensions	Mtg.
BC-394	$2.00	Oscillator♦	530-1720 KC	5/8" Dia. x 1 1/4" High	V
BC-395	1.15	Oscillator	175 KC	1" Dia. x 1" High	L
BC-396	1.15	Oscillator	262 KC	1" Dia. x 1" High	L
BC-397	1.15	Oscillator	455 KC	1" Dia. x 1" High	L
BC-398	1.15	Oscillator (Autoformer)	175 KC	1" Dia. x 1" High	L
BC-399	1.15	Oscillator (Autoformer)	262 KC	1" Dia. x 1" High	L
BC-400	1.15	Oscillator (Autoformer)	455 KC	1" Dia. x 1" High	L

♦ Used with any IF (100–550 KC) mounted with leads.

BEAT FREQUENCY OSCILLATORS (Capacity Tuned) Type M

Type No.	List Price	Frequency Range	IF Freq.	Dimensions	Mtg. Centers
BC-430	$2.65	165–185 KC	175 KC	1 3/8 x 1 3/8 x 3 1/2	3/8
BC-431	2.50	250–275 KC	262 KC	1 3/8 x 1 3/8 x 3 1/2	3/8
BC-432	2.50	450–475 KC	455 KC	1 3/8 x 1 3/8 x 3 1/2	3/8
BC-433	2.50	500–550 KC	525 KC	1 3/8 x 1 3/8 x 3 1/2	3/8
BC-434	2.50	1500–1600 KC	1500 KC	1 3/8 x 1 3/8 x 3 1/2	3/8

TRF UNITS

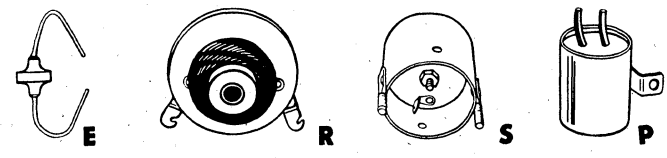
Type No.	List Price	Description	Freq. Range	Dimensions	Mtg.
BC-410	$1.25	Antenna†	540–1700 KC	1 3/8 Dia. x 2	N
BC-411	1.25	RF†	540–1700 KC	1 3/8 Dia. x 2	N
BC-412	1.10	Antenna†	540–1700 KC	5/8 Dia. x 2 1/8	N
BC-413	1.10	RF†	540–1700 KC	5/8 Dia. x 2 1/8	N
BC-414	1.10	Band—Pass†	540–1700 KC	5/8 Dia. x 2 1/8	N
BC-415	1.35	Antenna (Shielded)*	540–1700 KC	1 3/8 x 1 3/8 x 2 1/2	A
BC-416	1.35	RF (Shielded)*	540–1700 KC	1 3/8 x 1 3/8 x 2 1/2	A
BC-417	1.35	Band—Pass (Shielded)*	540–1700 KC	1 3/8 x 1 3/8 x 2 1/2	A

† "L" Bracket Mtg. * Mtg. centers 1 3/8.

OSCILLATOR—Special

Type No.	List Price	Description	Freq.	Mtg. Center	Dimensions	Mtg.
BC-460	$3.30	Phono—Osc.	540–700 KC	1 7/16	1 7/16 x 1 7/16 x 2 1/2	A

Products of Merit



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IF-RF COILS

BROADCAST (Cont.)

FILTERS

Type No.	List Price	Description	Voltage	Watts	Dimensions	Mtg.
BC-450	$7.70	Appliance Type	115	550	2¼x2¼x4	O
BC-451	1.65	Fluorescent Light	220	20	1¼ Dia. x 1½	P
BC-452	1.65	Fluorescent Light	220	40	1¼ Dia. x 1½	P
BC-453	1.65	Fluorescent Light	220	80	1¼ Dia. x 1½	P
BC-454	1.65	Fluorescent Light	220	160	1¼ Dia. x 1½	P
BC-455	7.70	All-Wave Filter	115	150	2¼x2¼x4	O

CHOKES

UNSHIELDED AIR CORE*

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-500	$0.60	.25	125	8	R
BC-501	.65	.75	125	17	R
BC-502	.65	1.50	125	21	R
BC-503	.75	2.50	125	28	R
BC-504	.75	5.0	125	41	R
BC-505	.80	7.5	125	53	R
BC-506	.85	10.0	125	64	R
BC-507	.85	12.5	125	74	R
BC-508	.90	15.0	125	83	R
BC-509	1.00	20.0	125	97	R
BC-510	1.05	30.0	125	120	R
BC-511	1.20	60.0	100	175	R
BC-512	1.45	80.0	100	230	R

*Single Bolt Mtg. Dimen.—1⅛ Dia. x ⅝.

SHIELDED AIR CORE*

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-515	$0.90	.5	125	10	S
BC-516	.90	1.0	125	17	S
BC-517	1.00	2.5	125	30	S
BC-518	1.00	5.0	125	49	S
BC-519	1.00	7.5	125	61	S
BC-520	1.10	10.0	125	75	S
BC-521	1.25	25.0	125	125	S
BC-522	1.60	50.0	125	186	S

*1¼ Mtg. Centers Dimen.—1¼ Dia. x 1⅛.

RF TYPE*

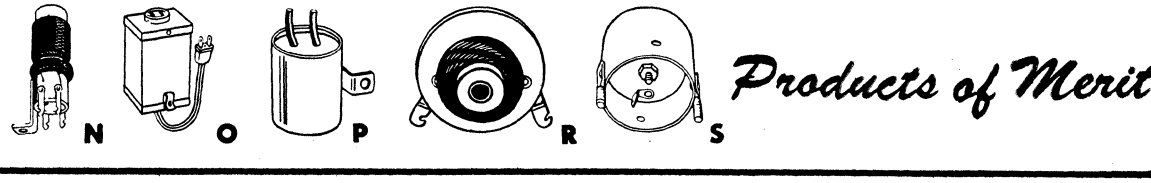
Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-549	$0.90	2.5	200	26	E
BC-550	75.00	100—BC-549 Bulk Packed			

* Mounted with leads. Dimen.—⅝ Dia. x ½".

UNSHIELDED IRON CORE*

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-525	$1.00	.5	125	6.8	R
BC-526	1.10	1.0	125	10.9	R
BC-527	1.15	2.5	125	19.5	R
BC-528	1.30	5.0	125	23.0	R
BC-529	1.40	7.5	125	37.0	R
BC-530	1.45	10.0	125	45.0	R
BC-531	1.75	25.0	100	78.0	R
BC-532	1.95	50.0	100	130.0	R
BC-533	2.20	75.0	100	172.0	R
BC-534	2.50	100.0	100	210.0	R
BC-535	2.75	150.0	100	268.0	R

*Single Bolt Mtg. Dimen. 1⅛ Dia. x ⅝.



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IF-RF COILS

CHOKES (Cont.)

SHIELDED IRON CORE*

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-538	$1.40	.5	125	8.6	S
BC-539	1.50	1.0	125	11.5	S
BC-540	1.55	2.5	125	22.0	S
BC-541	1.70	5.0	125	31.0	S
BC-542	1.75	7.5	125	42.0	S
BC-543	1.80	10.0	125	47.0	S
BC-544	2.15	25.0	125	100.0	S
BC-545	2.30	50.0‡	100	160.0	S
BC-546	2.60	75.0‡	100	222.0	S
BC-547	2.85	100.0‡	100	348.0	S
BC-548	3.15	150.0‡	100	520.0	S

*1¼ Mtg. Centers Dimen. 1¼ Dia. x 1⅛.
‡1⅝ Mtg. Centers Dimen. 1⅝ Dia. x 1⅛.

FILAMENT*

Type No.	List Price	Inductance UH	Current Amps	Resistance Ohms	Mtg.
BC-537	$0.75	10.0	8	.02	E

* Mounted with leads. Dimen.—¾ Dia. x 1⅞.

SHORT WAVE

IF TRANSFORMERS

Type No.	List Price	Description	Freq.	Mtg. Center	Dimensions	Mtg.
SW-600	$2.40	Input	1400–1600*	1⅜	1⅜x1⅜x2⅝	I
SW-601	2.40	Interstage	1400–1600*	1⅜	1⅜x1⅜x2⅝	I
SW-602	2.50	Interstage (Miniature)	1400–1600†	¾	¾x ¾x2	K
SW-603	2.50	Output (Miniature)	1400–1600*	¾	¾x ¾x2	K
SW-604	2.65	Input Midget	1400–1600*	1⅛	1⅛x1⅛x2	I
SW-605	2.65	Interstage Midget	1400–1600*	1⅛	1⅛x1⅛x2	I
SW-606	2.65	Full Wave Output	1400–1600*	1⅛	1⅛x1⅛x2	I
SW-607	2.65	Half Wave Output	1400–1600*	1⅛	1⅛x1⅛x2	I

* Capacity Tuned. † Permeability Tuned.

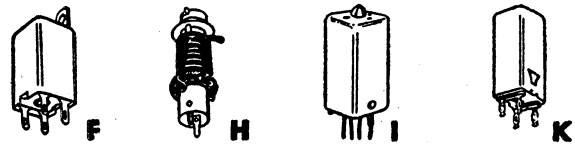
SW CHOKES

Type No.	List Price	Description	Ohms	Micro Henries	Dimensions	M.A.	Mtg.
SW-630	$0.70	Choke	.07	2.5	¼ Dia. x 1½	200	P
SW-631	.70	Choke	.25	5.0	¼ Dia. x 1½	200	P

RF—ANTENNA—OSCILLATORS—Miniature Type

Type No.	List Price	Description	Freq.	Mtg.	Dimensions	Mtg.
SW-620	$1.75	Antenna	2.1–6.3 MC	Clip	¾x¾x2	K
SW-621	1.75	RF	2.1–6.3 MC	Clip	¾x¾x2	K
SW-622	1.75	Oscillator*	2.1–6.3 MC	Clip	¾x¾x2	K

*1600 MMF Series pad.



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Mt. Carmel, Illinois.
Phone 1200

INPUT - INTERSTAGE

TYPE	LIST PRICE	MTG	OHMS IMPEDANCE PRIMARY	SECONDARY	TURNS RATIO	MTG CENTERS	DIMENSIONS W	D	H
20A00	$ 5.55	BAH	600Ct/200Ct/50	60,000Ct/20,000Ct/20,000Ct	1:10	2	2-5/8	1 -1/4	1-11/32
20A01	7.00	FGV	600Ct/200Ct/50	240,000/80,000/80,000	1:20	2-3/8	2-7/8	2-5/16	1-1/4
20A02	7.75	FGV	600Ct/200Ct/50	240,000Ct/80,000Ct/80,000Ct	1:20	2-3/8	2-718	1-7/8	1-1/4
20A03	6.10	BAH	5,000/10,000/200	100,000/250,000	1:3.25	2-3/8	2-13/16	1-5/8	1-5/8
20A04	3.30	BAH	3 to 6 /50	38,400/320,000	1:80	2	2-3/8	1-1/4	1-11/32
20A05	18.35	RTV	600Ct/200Ct/50	60,000Ct/20,000Ct/20,000Ct	1:10	1-5/16 x1-5/16	1-9/16Diam.		2
20A06	14.45	RTV	600Ct/200Ct/50	600Ct/200Ct/50Ct	1:1	1-5/16 x1-5/16	1-9/16Diam.		2
20A40	33.30	Z	30 to 60	50,000	1:31.6		1 Diam.		2-11/16
20A41	33.30	Z	200 to 250	50,000	1:14.2		1 Diam.		2-11/16
20A29	4.00	BAV	10,000Ct/15,000Ct/ 20,000Ct	10,000Ct/15,000Ct/20,000Ct	1;1;1:1	2	2-3/8	1-3/8	2
20A16	3.00	BAH	10,000	40,000CT	1:2	2	2-3/8	1-1/4	1-11/32
20A17	8.90	RAV	10,000	40,000CT	1:2	1-7/16	1-9/16 Diam.		2
20A19	3.30	BAH	Universal		1:3	2-3/8	2-13/16	1-5/8	1-5/8
20A22	4.20	BAH	10,000	90,000CT	1:3	2-7/8	3-1/4	2-1/8	1-15/16
20A23	8.35	FGV	10,000	90,000CT	1:3	2-3/8	2-7/8	2-1/16	2-5/16
20A24	6.95	FGV	20,000CT	180,000CT	1:3	2-3/8	2-7/8	2-1/6	2-5/16
20A25	13.90	RTV	Universal		1:1.41	1-5/16 x 1-5/16	1-9/16 Diam.		2
20A27	16.70	RTV	10,000/2,500	40,000/20,000	1:2		2-7/8 Diam.		3-9/16

DRIVER

TYPE	LIST PRICE	MTG	TURNS RATIO Pri.-1/2 Sec.	PRI. M.A.	MTG CENTERS	W	D	H	LBS
20D75	$ 4.45	BAH	2.4:1	5	2	2-3/8	1-1/4	1-3/8	1/2
20D76	4.45	BAH	5.2:1	15	2	2-3/8	1-1/4	1-3/8	1/2
20D77	7.20	FGV	2.5:1	30	2-3/8	2-7/8	2-1/6	2-3/16	1-1/4
20D78	10.40	GGV	4:1	40	2 x 1-11/16	2-9/16	2-11/16	3-1/8	2-1/2
20D79	8.85	FGV	5.2:1	30	2-3/8	2-7/8	2-1/16	2-3/16	1-1/2
20D80	10.00	GGV	3.2:1	100	2 x 1-11/16	2-9/16	2-11/16	3-1/8	2-1/2
20D81	13.35	GGV	5:1	100	2-1/2 x2-3/16	3-3/16	3- 3/16	3-7/8	4-1/2
20D82	11.10	GGV	5:1	100	2 x 1-11/16	2-9/16	2-11/16	3-1/8	2-1/2
20D83	42.20	PUV	1:75, 1:85, 1:1.25 1:1.4, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75 1:3		1-3/4 x4-3/8	3-1/8	4-3/4	4	8
20D84	24.45	GGV*	1:75, 1:85, 1:1.25, 1:1.4, 1:1.75, 1:2, 1:2.25 1:2.5, 1:2.75, 1:3		2-1/4 x 2	3	3-1/2	3-5/8	3-1/2

* Terminal Board with Solder Lugs on Both Shields-20 Watts Capacity.

MODULATION

TYPE	LIST PRICE	MTG	WATTS	IMPEDANCE PRI.	SEC.	MADC PRI.	SEC.	MTG CENTERS	DIMENSIONS W	D	H
21M50	$4.00	BAH	3	10,000CT	4500	30	30	2	2-3/8	1-3/8	1-3/8
21M52	7.65	FGV	10	10,000Ct	4500/3750/3000	80	80	2-3/8	2-7/8	2-3/16	2-3/16
21M53	6.65	BAH	10	1000	4500/3750/3000	80	80	2-7/8	3-1/8	2	2
21M54	11.10	GGV	25	6,600CT	4000	70	60	2 x 1-15/16	2-9/16	2-15/16	3-1/8
21M56	19.40	GGV	75	10,000CT	6600/3750	100	200	2-1/2 x 2-15/16	3-3/16	4-3/16	3-7/8
21M58	37.50	KTV	100	15,000CT	6250	200	200	3-1/2 x 4-1/16	4-9/16	5-11/16	5-5/8

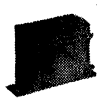
MULTI - MATCH MODULATION

To match any class B plate load from 2000 to 20,000 ohms: To match any class C load from 2000 to 20,000 ohms.

TYPE	PRICE	MTG	WATTS	PRI. M.A. EACH SIDE	SECONDARY SERIES	SECONDARY PARALLEL	MTG CENTERS	DIMENSIONS W	D	H
21M60	$ 27.75	KTV	15	50	50	100	2-1/16 x 2-1/2	2-15/16	3-11/16	4
21M60A	15.70	GTV	15	50	50	100	1-3/4 x 2	2-5/8	2-5/8	3-1/8
21M61	39.75	PUV	60	125	125	250	1-3/4 x 4-5/8	3-1/8	5-1/4	4
21M61A	24.45	GGV	60	125	125	250	2-3/4 x 2-1/2	3-1/4	4	3-7/8
21M62	48.00	PUV	125	210	160	320	2-3/16 x 6-1/8	4-1/16	6-5/8	5-3/16
21M62A	31.10	GGV	125	210	160	320	3-1/2 x 3-1/2	4-3/8	4-3/4	5-1/4
21M64	83.00	PUV	300	250	250	500	2-11/16 x6-7/8	4-11/16	7-3/4	6
21M65	164.00	PUV	500	320	320	640	3-1/6 x 10	5-5/16	11	6-7/8
21M66	41.65	KTV	50 Ohm line to R.F. Load - 5000/6000/7000 8000/9000/10,000 ohms - Max Sec. D.C. 200M.A.				3-1/4 x 3- 3/4	4-3/16	5-3/16	5-1/4

PLATE

TYPE	LIST PRICE	MTG	PRI. Volts 50/60CY	ICAS	CCS	SECONDARY VOLTS R.M.S	D.C. VOLTS	MTG CENTERS	W	D	H
21P75	$205.50	PUV	115/230	1900	1500	3000-2400-1500-0-1500-2400-3000	2500-2000-1250	4-9/32 x 12-5/16	7-9/16	13-1/2	9-9/16
21P77	152.75	PUV	115/230	1250	900	3000-2450-0-2450-3000	2500-2000	3-1/4 x 10	6-3/8	11	9
21P79	97.80	PUV	115/230	1000	750	1875-1560-0-1560-1875	1500-1250	3-1/6 x 10-1/8	5-5/16	11	6-7/8
21P81	100.00	PUV	115	630	480	1560-1265-0-1265-1560	1250-1000	3-1/16 x 10-1/8	5-5/16	11	6-7/8
21P82	100.00	PUV	115	820	600	2335-1700-0-1700-2335	2000-1500	3-1/6 x 9-1/8	5-5/16	10	6-7/8
21P83	55.55	PUV	115	440	300	1560-1250-0-1250-1560	1250-1000	2-11/16 x7-5/8	4-11/16	8-1/2	6
21P85	41.65	PUV	115	370	260	850-730-0-730-850	600-500	2-3/16 x 6-3/8	4-1/16	6-7/8	5-3/16
21P87	22.75	GGV	115	250	185	835-656-0-656-835	650-500	3 x 3-5/16	3-25/32	4-7/16	4-5/8
21P89	16.70	GGV	115	135	95	550-0-550	450	2-1/2 x 2-15/16	3-3/16	4-3/16	3-7/8
21P91	70.00	PUV	115	375	280	1200-0-1200-900-0-900	1000 & 750	2-3/16 x 6-7/8	4-1/16	7-3/8	5-3/16
21P93	27.75	GGV	115	210	160	1075-0-1075-500-0-500	1000 & 400	3 x 3-9/16	3-25/32	4-11/16	4-5/8



BAH BGH
BAV BGV

FGV

GGV
GMV GTV

KTV

PUV

RAV RTV

Z

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

AUDIO OUTPUT

SINGLE PLATE to VOICE COIL (3.5 ohms)

PART NO.	LIST PRICE	PRIMARY IMPEDANCE	MADC	WATTS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs.
24S50	$ 2.05	2000 ohms	55	5	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5
22S45	3.85	1500-3000 ohms	55	5	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5
26S58	2.00	2500 ohms	40	3	BAV	1-1/2	1-1/2	1-1/4 x 1-7/8	0.4
22S46	4.45	2000-3000 ohms	35	5	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5
26S50	3.30	3500 ohms	60	8	BAH	2-3/8	1-5/8	2-7/8 x 1-5/8	0.75
24S48	2.20	4-5000 ohms	10	5	BAH	1-3/4	1-1/4	2-1/8 x 1	0.4
24S51	2.20	5000 ohms	40	5	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5
26S49	3.30	5000 ohms	50	8	BAH	2-3/8	1-5/8	2-7/8 x 1-5/8	0.75
24S49	2.05	7-8000 ohms	10	5	BAH	1-3/4	1-1/4	2-1/8 x 1	0.4
24S52	2.15	7-10000 ohms	30	5	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5
26S48	3.30	7000 ohms	40	8	BAH	2-3/8	1-5/8	2-7/8 x 1-5/8	0.75
26S47	3.75	14000 ohms	35	12	BAH	2-7/8	2	3-1/8 x 2	1.0

PUSH-PULL PLATES to LINE or VOICE COIL

PART NO	LIST PRICE	PRI - SEC IMP	MA DC	WATTS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
22S72	$ 8.90	3000 CT to 3.5/8/16/250/500	90	25	GGV	1-3/4 x 2	3-1/8	2-5/8 x 2-5/8	2.5
22S95	13.35	3000/5000 CT to 3.5/8/16	60	15	GGV	1-3/4 x 2	3-1/8	2-5/8 x 2-5/8	2.5
22S96	17.75	3000/5000 CT to 3.5/8/16	60	15	WTV	2-3/4 x 2-3/8	4-3/8	3 x 3-3/8	7.25
22S78	16.70	3300 CT to 3.5/8/16/250/500	180	60	GGV	2-1/2 x 2-1/2	3-7/8	3-1/4 x 3-3/4	5.25
22S70	8.90	5000CT to 3.5/8/16/250/500	80	25	GGV	1-3/4 x 2	3-1/3	2-5/8 x 2-5/8	2.5
22S97	12.45	6000CT to 3.5/8/16/250/500	60	25	GGV	1-3/4 x 2	3-1/8	2-5/8 x 2-5/8	2.5
22S98	20.00	6000CT to 3.5/8/16/250/500	60	25	WTV	2-3/4 x 2-3/8	4-3/8	3 x 3-3/8	7.25
22S47	4.45	6000/7000CT to 3.5	30	5	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5
22S93	12.20	10000CT to 3.5/8/16	50	10	GGV	1-3/4 x 2	3-1/8	2-5/8 x 2-5/8	2.5
22S94	16.70	10000CT to 3.5/8/16	50	10	WTV	2-3/4 x 2-3/8	4-3/8	3 x 3-3/8	7.25
26S59	4.85	10000CT to 3.5/8/16	30	10	BAH	2-7/8	2	2 x 3-1/8	1.0
22S64	10.00	10000CT to 3.5/8/16/250/500	50	25	GGV	1-3/4 x 2	3-1/8	2-5/8 x 2-5/8	2.5

UNIVERSAL OUTPUT SINGLE or PUSH-PULL PLATES to VOICE COIL

PART NO	LIST PRICE	PRI - SEC IMP	MA DC	WATTS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs.
24S60	$ 3.20	4000/7000/8000/10000/14000CT to .1 to 30	10	3	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5
24S61	3.75	4000/7000/8000/10000/14000CT to .1 to 30	40	8	BHH	2-3/8	1-5/8	2-7/8 x 2	1
22S58	4.00	5000/7000CT to 3.5/8	45	10	BAH	2-7/8	2	3-1/8 x 1-3/4	1.25
26S46	4.75	4000/7000/8000/10000/14000CT	40	18	BHV	2-3/8	2-3/8	2-7/8 x 2-1/4	1.5

HUMBUCKING (3% and 6% taps) SINGLE PLATE to VOICE COIL (3.5 ohms)

PART NO.	LIST PRICE	PRIMARY IMPEDANCE	MADC	WATTS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs.
24S50A	$ 3.05	2000	55	5	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5
24S51A	3.05	5000	40	5	BAH	2	1-3/8	2-3/8 x 1-1/4	0.5

TUBE to LINE MIXER

PART NO	LIST PRICE	PRI - SEC IMP	MA DC	WATTS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
22S59	$ 5.00	15000 to 500 CT	10	4	BGH	2-3/8	1-5/8	2-7/8 x 1-5/8	0.75
22S76	8.35	3000/5000/8000/10000/12000/14000CT to 500	60	25	BHH	3-5/8	2-1/2	4 x 2-5/8	2.5
22S90	6.65	20000CT to 125, 200, 500, 600	25	8	FGV	2-3/8	2-3/8	2-7/8 x 1-7/8	1
22S92	13.90	20000CT to 125, 200, 500, 600	10	3	RTV	1-3/8 x 1-3/8	2	1-5/8 Dia.	0.5
22S91	5.50	20000CT to 125, 200, 500, 600	25	8	BAH	2-7/8	2	3-1/8 x 2	1.0

LINE to VOICE COIL

PART NO	LIST PRICE	PRI - SEC IMP	WATTS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs.
22S81	$ 3.30	45/50 ohm to 3.5/8	8	BAH	2-3/8	1-5/8	2-7/8 x 1-5/8	1.25
22S80	6.10	500/600 to 3.5/8/16	8	BHH	3-1/8	2-1/4	3-3/4 x 2-1/4	1.5
22S85	6.10	500/1000/1500/2000/ to 3.5/8/16	3	BAH	2-3/8	1-5/8	2-7/8 x 1-5/8	0.75
24S66	4.65	500/1000/1500/2000 / to 3.5/8	10	BAV	2	2	2-1/2 x 1-5/8	1
24S62	7.20	500 to 3.2/8	10	BAV	3	3	3-3/8 x 2-1/8	2

RETMA 70.7 VOLT LINE TO VOICE COIL

PART NO.	LIST PRICE	PRIMARY IMPEDANCE	WATTS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
*24S70	$16.70	312.5/626/1250/2500/5000/10000	16	TAV	3-1/8 x 2	3-9/16	2-3/4 x 3-1/2	2
24S71	4.85	625/1250/2500/5000/10000	8	BHV	2-1/8	2	1-5/8 x 2	.6
24S72	6.65	312.5/625/1250/2500/5000/10000	16	BHV	2-3/8	2-3/8	2-1/2 x 2-1/2	1
24S73	5.00	500/1000/2000/4000	10	BHV	2-3/8	2-3/8	2 x 2-1/8	.75

* TAP SWITCH FOR EXTREME FLEXIBILITY

BAH BGH
BAV BGV

FGV

GGV
GMV GTV

RAV RTV

TAV

WTV

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WORLD'S OLDEST and LARGEST TRANSFORMER and COIL MANUFACTURER
Mt. Carmel, Illinois.
Phone 1200

FILAMENT

SINGLE SECONDARY

PART NO	LIST PRICE	SECONDARY VOLTS	SECONDARY AMPS	RMS TEST	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs.
21F00	$ 4.55	2.5CT	5	2500	BAV	2-3/8	2-3/8	2-7/8 x 1-3/4	1.0
21F01	6.95	2.5CT	10	2500	BAV	2-3/4	2-3/4	2 x 3-1/4	1.5
21F02	8.70	2.5CT	10	10000	CAV	2 x 1-3/4	3-1/8	2-1/4 x 2-1/2	2.75
21F02P	16.70	2.5CT	10	7500	WAV	2-3/8 x 2-3/4	4-1/4	3 x 3/8	8.5
21F03	5.55	5 CT	3	2500	BAV	2-3/8	2-3/8	1-3/4 x 2-7/8	1.0
21F04	8.35	5 CT	8	2500	CAV	2 x 1-3/4	3-1/8	2-1/4 x 2-1/2	2.5
21F05	9.70	5 CT	3	10000	CAV	2 x 1-3/4	3-1/8	2-1/4 x 2-1/2	2.5
21F06	8.20	5 CT	13	2500	CAV	2 x 2	3-1/8	2-1/2 x 2-1/2	3.25
26F66	11.65	5 CT	15	2500	CAV	2 x 2-1/4	3-1/8	2-1/2 x 2-7/8	5.5
21F20	13.60	5 CT	15	10000	CAV	2-1/2 x 3	4-5/8	3-1/4 x 3-3/4	6.75
21F20P	28.85	5 CT	15	10000	WAV	3-3/4 x 4-5/8	5-3/4	4-5/8 x 5-3/8	13
21F07	14.70	5 CT	21	2500	CAV	2-1/4 x 2-1/2	3-7/8	2-3/8 x 2-5/8	5
21F07A	17.75	5 CT	29	2500	CAV	2-1/2 x 2-1/2	3-7/8	3-1/8 x 3-1/8	5.5
21F08	3.20	6.3CT	1	2500	BAV	2	2	1-1/2 x 2-3/8	1.0
21F09	3.20	6.3CT	1.2	2500	BAH	2-3/8	1-5/8	1-5/8 x 2-7/8	1.0
26F60	4.15	6.3CT	1.2	5000	BAH	2-7/8	2	2 x 3-1/4	1.25
21F10	5.15	6.3CT	3	2500	BAH	2-7/8	2	1-3/4 x 3-1/4	1.25
21F11	8.85	6.3CT	6	2500	CAV	1-3/4 x 2	3-1/8	2-1/2 x 2-1/2	2.75
21F12	8.35	6.3CT	10	2500	CAV	2 x 2	3-1/8	2-1/2 x 2-1/2	3.25
21F15	6.95	7.5CT	4	2500	BAV	2-7/8	2-3/4	2-1/8 x 3-3/8	2
21F16	10.00	7.5CT	8	2500	CAV	2 x 2	3-1/8	2-1/2 x 2-3/4	3.25
21F17	12.75	7.5CT	12	2500	CAV	2-1/4 x 2-1/4	3-1/2	2-7/8 x 3-1/4	5
21F26	44.50	7.5CT	51	8500	CTH	3-5/8 x 4-1/16	4-1/8	4-3/8 x 4-7/8	15
21F18	10.00	10 CT	5	2500	CAV	1-3/4 x 2	3-1/8	2-1/4 x 2-1/2	2.25
26F67	5.70	12.6CT	2	2500	BAH	2-7/8	2	2 x 3-1/4	1.0
26F68	5.25	24	1	2500	BAH	2-7/8	2	2 x 3-1/4	1.0
21F27	5.55	26.5CT	.6	3000	BAH	2-7/8	2	1-3/4 x 3-1/4	1.25

MULTIPLE SECONDARY

PART NO	LIST PRICE	SECONDARY VOLTS	SECONDARY AMPS	RMS TEST	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
21F14	$ 6.10	2.5or5or6.3	2.5	2500	BAH	2-7/8	2	1-3/4 x 3-1/8	1.5
21F22	14.45	5,7.5or6.3or5	3 - 6	2500	GGV	2 x 2-1/2	3-7/8	3-1/4 x 3-1/4	5.5
21F19	15.25	10CT or 11CT	12 - 11	2500	CAV	2-1/4 x 2-1/2	3-7/8	2-7/8 x 3-1/8	6.0
26F61	7.90	5 CT - 6.3	3 - 3.6	2500	BAH	3-5/8	2-1/2	2-1/8 x 4	2.5
21F23	13.90	5CT, 6.3CT	6 - 6	2500	GGV	2-1/4 x 2-1/2	4	3-1/4 x 3-3/8	4.8
26F63	8.35	6.3 - 6.3	3 - 3	5000	BAV	3-1/8	3	2-1/4 x 3-5/8	2.0
21F24	19.45	6.3-6.3-6.3-6.3	3-3-3-3	2500	GGV	2-1/4 x 2-1/2	4	3-1/4 x 3-3/8	5.0
26F69	10.00	6.3-6.3	3 - 6	2500	HKF	2-1/4 x 2-13/16	3-1/4	2-7/8 x 3-3/8	3.0
26F64	12.20	25 -6.3 -6.3	.320-6-1.2	2500	GGV	2 x 1-3/4	3-1/8	2-5/8 x 2-3/4	3.5

CONTROL

ISOLATION CONTROL 1:1:1:1 MULTI-PURPOSE

PART NO	LIST PRICE	PRI VOLTS	SEC VOLTS	VA RATING	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
23V34	$11.40	115/230	115/230	50	CTH	2-1/2 x 2-1/8	2-5/8	3 x 2-1/2	2.75
23V35	16.70	115/230	115/230	100	CTH	3-1/8 x 2-1/8	3-1/4	3-3/4 x 2-7/8	5
23V36	24.45	115/230	115/230	200	CTH	3-3/4 x 2-3/4	2-7/8	4-1/2 x 3-5/8	9
23V37	37.50	115/230	115/230	300	CTH	4-1/8 x 2-7/8	4-1/8	4-7/8 x 3-3/4	11
23V38	44.50	115/230	115/230	500	CTH	4-1/8 x 4-1/8	4-1/8	4-7/8 x 5	17
23V39	61.05	115/230	115/230	1000	CTH	5-3/8 x 4-1/2	5-3/8	6-3/8 x 5-1/2	23

CONTROL and POWER CIRCUIT TRANSFORMERS

PART NO	LIST PRICE	SECONDARY VOLTS	VA RATING	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
23V40	$11.10	4,8,12,16,24	50	GGV	1-7/8 x 2-1/4	3-9/16	3 x 3-1/2	3
23V41	14.70	4,8,12,16,24	100	GGV	2-1/8 x 2-1/2	4	3-1/4 x 4	5
23V42	26.65	4,8,12,16,24	250	GGV	3-1/4 x 3	4-5/8	4 x 5	10

ISOLATION TRANSFORMERS

PART NO	LIST PRICE	PRI VOLTS	SEC VOLTS	VA RATING	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
23V25	$ 23.30	105,115,125	115	100	GMV	2-3/4 x 2-5/8	4-1/4	3-1/2 x 3-7/8	6.25
23V26	44.50	105,115,125	115	300	PUV	2-3/4 x 6-1/4	6	4-3/4 x 7-1/8	18
23V27	91.15	105,115,125	115	1000	JUV	4-5/8 x 5-3/4	9-7/8	6-3/4 x 6-1/4	38

AUTOFORMERS

PART NO	LIST PRICE	PRI VOLTS	SEC VOLTS	VA RATING	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
23V21	$ 11.95	220/250	110/125	100	GMV	1-3/4 x 2-1/2	3-7/8	3-1/4 x 2-7/8	3
23V22	15.25	220/250	110/125	150	GMV	2 x 2-1/2	3-7/8	3-1/4 x 3-1/8	4
23V23	19.45	220/250	110/125	250	GMV	2-3/8 x 3	4-5/8	3-7/8 x 3-1/2	6.2
23V24	25.55	220/250	110/125	500	GMV	3-3/8 x 3	4-5/8	3-7/8 x 4-1/2	10.25
23V32	64.50	220/250	110/125	1000	JUV	4-1/4 x 3-1/2	6-5/8	5 x 6-5/8	20

BAH BGH
BAV BGV

CAH LAH
CAV LAV

CTH CTV

GGV
GMV GTV

JUV

PUV

WAV

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VIBRATOR TRANSFORMERS

6 VOLT BATTERY and VIBRATOR

PART NO.	LIST PRICE	VOLTS DC TO FILTER	MADC	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
22R25	$ 8.35	150	40	VIB	1-1/2 x 1-1/2	2-5/8	2-3/16 x 2-11/16	2.0
22R27	8.60	250	50	VIB	1-1/2 x 1-1/2	2-5/8	2-3/16 x 2-11/16	2
22R20	8.90	250	50	CAV	1-1/2 x 1-3/4	2-5/8	2-3/16 x 2-1/2	2.5
22R26	9.55	250	80	VIB	1-1/2 x 1-1/2	2-5/8	2-3/16 x 2-11/16	2.5
22R22	10.00	325	75	CAV	2 x 2-1/2	3-1/8	2-1/2 x 3	3.5

12 VOLT BATTERY and VIBRATOR

PART NO	LIST PRICE	PLATE SUPPLY VOLTS	PLATE SUPPLY MADC	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
22R52	$ 5.55	280-0-280	78	DAF	1-3/4 x 2-3/16	2-1/4	2-3/16 x 2-5/8	1
22R53	9.45	250-0-250	60	VIB	1-1/2 x 1-1/2	2-5/8	2-3/16 x 2-11/16	2.5
22R54	8.60	200-0-200	60	VIB	1-1/2 x 1-1/2	2-5/8	2-3/16 x 2-11/16	2.5

POWER

PART NO	LIST PRICE	PLATE SUPPLY VOLTS	PLATE SUPPLY MADC	FILAMENTS VOLTS	FILAMENTS AMPS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT lbs
22R00	$ 8.90	250-0-250	40	5.0 6.3CT	2.0	AGF	2 x 2-1/2	2-1/2	3 x2-1/2	1.75
22R01	9.70	275-0-275	50	5.0/6.3CT	2.0/2.5	AGF	2 x 2-1/2	2-1/2	3 x 2-1/2	2.25
22R02	11.65	300-0-300	70	5.0/6.3CT	2.0/3.0	AGF	2 x 2-1/2	3-1/8	2-1/2 x 3	2.75
22R04	11.65	300-0-300	90	5.0/6.3CT	2.0/3.5	AGF	2-1/4 x 2-7/8	3-1/4	2-7/8 x 3-3/8	3.0
22R05	12.75	300-0-300	120	5.0/6.3CT	3.0/5.0	AGF	2-1/2 x 3-1/8	3-5/8	3-1/8 x 3-3/4	4.25
22R06	14.90	325-0-325	150	5.0/6.3CT	3.0/5.0	AGF	2-1/2 x 3-1/8	4-1/8	3-1/8 x 3-3/4	5.5
22R07	19.45	350-0-350	200	5.0/6.3CT	3.0/6.0	AGF	3 x 3-3/4	3-7/8	3-3/4 x 4-1/2	7.5
22R08	8.90	250-0-250	40	5.0/2.5CT	2.0/4.0	AGF	2 x 2-1/2	2-1/2	3 x 2-1/2	1.75
22R09	10.00	275-0-275	50	5.0/2.5CT	2.0/7.5	AGF	2 x 2-1/2	2-5/8	2-1/2 x 3	2.25
22R10	14.20	325-0-325	85	5.0/2.5CT 2.5 CT	2.0/9.0 3.5	AGF	2-1/2 x 3-1/8	3-3/8	3-1/8 x 3-3/4	3.3
22R11	12.75	325-0-325	120	5.0/2.5CT 2.5 CT	3.0/5.0 12.5	AGF	2-1/2 x 3-1/8	4-1/8	3-1/8 x 3-3/4	5.5
22R30	11.10	275-0-275	50	5.0/6.3CT	2.0/2.5	GGV	2 x 2-1/4	3-1/8	2-5/8 x 3-1/8	3
22R31	13.90	360-0-360	80	5.0/6.3CT	2.0/2.5	GGV	2 x 2-3/4	3-1/8	2-9/16 x 4	4
22R32	16.70	350-0-350	110	5.0/6.3 CT 6.3 CT	2.0/3.0 3.0	GGV	2-1/2 x 2-3/4	3-7/8	3-1/4 x 4	5.6
22R33	19.45	375-0-375	160	5.0/6.3CT	3.0/5.0	GGV	2-7/8 x 3	4-5/8	3-7/8 x 4	7.5
22R34	22.20	385-0-385	225	5.0/6.3 CT	3.0/5.0	GGV	3 x 3-5/8	4-5/8	3-7/8 x 4-3/4	11.2
22R35	25.80	400-0-400	340	5.0/6.3CT	6.0/7.0	GGV	3 x 4-1/4	4-5/8	3-7/8 x 5-1/4	12.5
22R36	20.00	600-0-600	200	5.0/6.3CT	3.0/5.0	GGV	3 x 3-3/8	4-5/8	3-7/8 x 4-1/2	9.7
24R00	7.50	240-0-240	40	5.0/6.3CT	2.0/2.0	AGF	2 x 2-1/2	2-5/8	3 x 2-1/2	2.0
24R00U	7.50	240-0-240	40	5.0/6.3CT	2.0/2.0	GGV	1-5/8 x 2	3-1/8	2-5/8 x 2-5/8	2.0
24R01	7.65	325-0-325	40	5.0/6.3CT	2.0/2.0	AGF	2 x 2-1/2	2-7/8	3 x 2-1/2	2.5
24R01U	7.65	325-0-325	40	5.0/6.3CT	2.0/2.0	GGV	1-3/4 x 2	3-1/8	2-5/8 x 2-5/8	2.5
24R02	9.55	350-0-350	70	5.0/6.3CT	2.0/2.5	AGF	2-1/4 x 2-7/8	3-5/8	2-7/8 x 3-3/8	3.8
24R02U	9.55	350-0-350	70	5.0/6.3CT	2.0/2.5	GGV	2-1/4 x 2-1/4	3-1/2	2-7/8 x 3-1/2	3.8
24R04	11.10	350-0-350	90	5.0/6.3CT	3.0/3.5	AGF	2-1/4 x 2-7/8	4	2-7/8 x 3-3/8	4.5
24R04U	11.10	350-0-350	90	5.0/6.3CT	3.0/3.5	GGV	2-1/4 x 2-5/8	3-1/2	2-7/8 x 3-7/8	4.5
24R05	11.75	350-0-350	120	5.0/6.3CT	3.0/4.7	AGF	2-1/2 x 3-1/8	4-1/8	3-1/8 x 3-3/4	5.75
24R05U	11.75	350-0-350	120	5.0/6.3CT	3.0/4.7	GGV	2-3/4 x 2-1/2	3-7/8	3-1/4 x 4	5.75
24R06	13.90	375-0-375	150	5.0/6.3CT	3.0/4.7	AGF	2-3/4 x 3-1/2	3-7/8	3-1/2 x 4-1/8	6.25
24R06U	13.90	375-0-375	150	5.0/6.3CT	3.0/4.7	GGV	2-3/4 x 2-7/8	4-1/4	3-1/2 x 4	6.25
24R07	15.85	400-0-400	200	5.0/6.3CT	3.0/5.0	AGF	3 x 3-3/4	4-1/2	3-3/4 x 4-1/2	9.25
24R07U	15.85	400-0-400	200	5.0/6.3CT	3.0/5.0	GGV	3 x 3-3/8	4-5/8	3-7/8 x 4-1/2	9.5
26R00	30.00	420-0-420	295	5.0/5.0	6.0/3.0	AGF	3 x 3-3/4	5	3-3/4 x 4-1/2	11
		360-0-360		6.3/6.3	3.0/3.0					
		300-0-300		6.3/6.3	3.0/3.0					

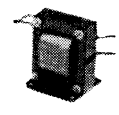
CHOKES

PART NO.	LIST PRICE	INDUCTANCE HY AT MADC		RES OHMS	TEST VOLTS	MTG TYPE	MTG CENTERS	DIMENSIONS H	DIMENSIONS W x D	WEIGHT LBS
20C49	$ 5.00	5/4.5/4	150/200/300	58	2700	BAH	3-5/8	2-5/8	4 x 2-1/8	2.5
20C51	2.35	35	15	1850	2500	BAH	2	1-3/8	2-3/8 x 1-1/4	0.75
20C52	2.10	12/8/4	20/40/65	450	2500	BAH	2	1-3/8	2-3/8 x 1-1/4	0.75
20C59	2.80	9/7/5	45/55/65	200	2500	BAH	2-3/8	1-5/8	2-7/8 x 1-5/8	0.75
20C53	3.50	17/12/8	60/80/100	375	2500	BAH	2-7/8	2	3-1/4 x 2-1/8	1.5
20C64	4.20	7/4/3	100/130/150	100	2500	BAH	3-1/8	2-1/4	3-3/4 x 2-5/8	1.5
20C54	7.20	12/8/4	100/150/200	145	2700	GGV	1-3/4 x 2	3-1/8	2-5/8 x 2-5/8	3
20C54P	12.75	12/8/4	100/150/200	145	2700	WAV	2-3/4 x 2-3/8	4-3/8	3 x 3-3/8	3.75
20C55	8.90	9/6/2	150/200/300	75	2700	GGV	2 x 2-1/4	3-1/2	2-7/8 x 3-1/4	3.5
20C55P	14.45	9/6/2	150/200/300	75	2700	WAV	3-1/8 x 3-5/8	4-7/8	4-1/4 x 3-3/4	5
20C56	13.50	8	250	60	3500	GGV	3 x 2-1/2	3-7/8	3-1/2 x 4-1/4	6.75
20C56P	22.20	8	250	60	3500	WTV	3 -1/8 x 3-5/8	4-7/8	4-1/4 x 3- 3/4	8.5
20C57	60.00	13	375	65	7500	PUV	7 x 2-3/4	6	4-3/4 x 7-3/4	28

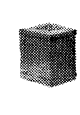
AGF

BAH BAV BGH BGV

DAF


CAH CAV LAH LAV

GGV GMV GTV


KTV

PUV

VIB

WAV WTV

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miniature transformers

MICROTRAN® company

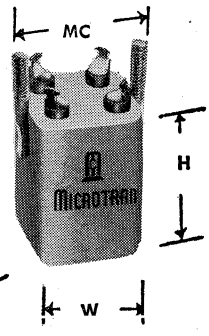
The ruggedized military type units shown on this and the accompanying page were developed to meet the demands of a growing miniaturization program. All units shown are available from stock. Each transformer available in 7 different types. See ordering information.

MIL (-AF, AG)

Gray enamel finish. Supplied with compression sealed terminals.

Weight app. 1¾ ozs.

Size	L	W	H	MC
M-AG	1	1	1⅜	1⅛
SM-AF	¾	¾	1⅛	1 3/16

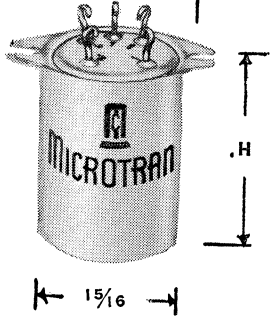


HERMETIC (-H)

Glass bead terminals. Holes instead of slots available on special order.

Weight app. 1¼ ounce.

Size	H
M-H	1 7/16
SM-H	1⅛
MM-H	1 1/16



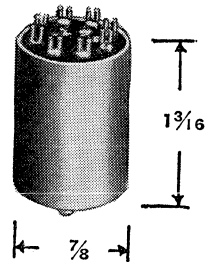
ALUMINUM CASED (-A)

1 1/16" Mtg center 2-56 screw.

Available with "U" Bracket, mounting centers 1⅛" on special order.

Add $ 50 to List Price.

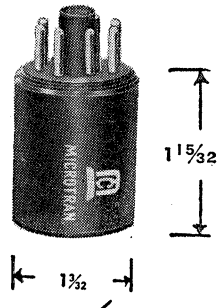
Weight 1 oz.



PLUG-IN (-P)

Weight 2 ounces.

Sealed plastic housing with plug-in octal base.

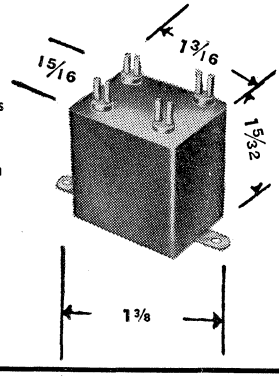


MOLDED (-M)

Cast epoxy resin provides highest resistance to extremes of ambients with maximum conservation size and weight.

Weight 1.5 ounces.

On special order only.



miniature audio transformers ("M" Series)

Part No.*	Application	Impedance in Ohms Primary	Secondary	Pri. DC. Unbalance MA.	Operating Level DBM	Freq. Response ± 2 DB
M1-( )	Mike or line to 1 grid	50/150/600 C.T.	50,000	0	5	20-20,000
M2-( )	Mike or line to 2 grids	50/150/600 C.T.	50,000 C.T.	0	5	20-10,000
M3-( )	Dynamic mike to 1 grid	7.5/30	50,000	0	5	20-20,000
M4-( )	Single plate to 1 grid	15,000	60,000	0	6	20-15,000
M5-( )	Single plate to 1 grid	15,000	60,000	4	14	200-20,000
M6-( )	Single plate to 2 grids	15,000	95,000 C.T.	0	5	20-15,000
M7-( )	Single plate to 2 grids	15,000	95,000 C.T.	4	11	200-20,000
M8-( )	Single plate to line	15,000	50/150/600 C.T.	0	8	20-20,000
M9-( )	Single plate to line	15,000	50/150/600 C.T.	4	21	150-20,000
M10-( )	Push pull plates to line	30,000 ohms P.-P.	50/150/600 C.T.	0	8	30-50,000
M11-( )	Crystal mike to line	50,000	50/150/600 C.T.	0	5	20-20,000
M12-( )	Mixing and matching	50/150	50/150/600 C.T.	0	8	20-20,000
M13-( )	Reactor	300 hy. 0 d.c.	50 hy. @ 3 ma.			6000 Ω D.C.R.
M14-( )	50: 1 mike or line to 1 grid	200	½ Megohm	0	9	80-3,000
M15-( )	10: 1 single plate to 1 grid	10,000	1 Megohm	0	11	100-2,500

miniature transistor transformers ("MT" Series)

These units have been designed to permit maximum efficiency and best size factor for audio frequency transistor circuitry.

Part No.*	Application	Impedance in Ohms Primary	Secondary	Pri. DC. Unbalance MA.	Operating Level DBM	Frequency Response ± 2 DB
MT1-( )	Line to emitter	600	600	10	23	200 to 15,000
MT3-( )	Collector to emitter or line	50K	600	3	20	300 to 15,000
MT5-( )	Collector to speaker	50K	6	3	20	300 to 15,000
MT6-( )	Collector to P.P. emitter	100K	1200 C.T.	1.4	17	200 to 15,000
MT7-( )	Collector to P.P. emitter	25K	1200 C.T.	3	22	200 to 15,000
MT8-( )	P.P. Collector to P.P. emitter	50K C.T.	1200 C.T.	3	20	300 to 15,000
MT9-( )	Line to P.P. emitter	600 C.T.	1200 C.T.	4	23	200 to 15,000
MT10-( )	Collector to emitter	25K	600	3	22	200 to 15,000
MT11-( )	P.P. Collector to emitter or line	4K C.T.	600 C.T.	3	32	200 to 15,000
MT12-( )	Output collector to speaker	2K	3.4	10	37	200 to 15,000
MT13-( )	Output P.P. collector to speaker	4K C.T.	3.4	3	32	200 to 15,000

*ordering and part no. information for all series

Add the following suffixes to the above part numbers to designate mounting type required:

mtg. type (see photos)	suffix	typical example
MIL	-AG, -AF	M1-AG, SM1-AF
Hermetic	-H	M1H, SM1-H, MM1-H, VM1-H
Aluminum cased	-A	M1-A (Available M size only)
Plug-in	-P	M1-P (Available M size only)
Open Frame	-F	M1-F, SM1-F, MM1-F, VM1-F, UM21-F
Open Frame with Channel	-FB	M1-FB, SM1-FB, MM1-FB, VM1-FB
Molded Construction	-M	M1-M, SM1-M, MM1-M

See Page N-141 for Microtran Prices

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MICROTRAN® company

The ruggedized military type units shown on this and the accompanying page were developed to meet the demands of a growing miniaturization program. All units shown are available from stock in types as shown in ordering information on Page N-138.

sub-miniature audio transformers ("SM" Series)

Catalog No.*	Application	Impedance — Ohms Primary	Impedance — Ohms Secondary	Pri. DC Unbalance MA.	Operating Level DBM	Frequency Response ± 2 DB
SM1-( )	Input	200/50	250,000/62,500	0	6	80-10,000
SM2-( )	Interstage 3:1	10,000	90,000	0	8	100-10,000
SM3-( )	Plate to line	10,000	200	3	21	150-10,000
SM4-( )	Output	30,000	50	1	21	150-10,000
SM5-( )	Reactor 50 HY at 1 MIL. D.C.	4,000 ohms D.C. Res.				
SM6-( )	Output	100,000	60	0.5	21	150-10,000

* sub-miniature transistor transformers ("SMT" Series)

SMT1-( )	Line to emitter	600	600	9	23	200 to 15,000
SMT3-( )	Collector to emitter or line	50K	600	1	20	300 to 15,000
SMT5-( )	Collector to speaker	50K	6	1	20	300 to 15,000
SMT7-( )	Collector to P.P. emitter	25K	1200 C.T.	1.5	20	200 to 15,000
SMT10-( )	Collector to emitter	25K	600	2	20	200 to 15,000
SMT12-( )	Output collector to speaker	2K	3.4	5	30	200 to 15,000
SMT13-( )	Output P.P. collector to speaker	4K C.T.	3.4	1.5	30	200 to 15,000

* micro-miniature audio transformers ("MM" Series)

MM1-( )	Input	200/50	250,000/62,500	0	4	200-10,000
MM2-( )	Interstage 3:1	10,000	90,000	0	4	150-10,000
MM3-( )	Plate to line	10,000	200	3	20	150-10,000
MM4-( )	Output	30,000	50	1	20	150-10,000
MM5-( )	Reactor 50 HY at 1 MIL. D.C.	4,500 ohms D.C. Res.				
MM6-( )	Output	100,000	60	0.5	20	250-10,000
MM7-( )	Output	30,000	1200	0.5	20	200-10,000

* micro-miniature transistor series ("MMT" Series)

MMT1-( )	Line to emitter	600	600	8	22	200 to 15,000
MMT3-( )	Collector to emitter or line	50K	600	0.7	20	200 to 15,000
MMT5-( )	Collector to speaker	50K	6	1	20	200 to 15,000
MMT7-( )	Collector to P.P. emitter	25,000	1200 C.T.	1	20	20-15,000
MMT10-( )	Collector to emitter	25K	600	1	20	200 to 15,000
MMT13-( )	Output P.P. collector to speaker	4K C.T.	3.4	0.7	28	200 to 15,000

veri-miniature transistor transformers ("VM" Series)

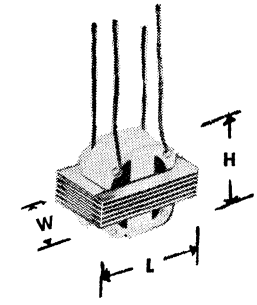
Designed for printed circuit application. 4" leads on open frame units are suitable for dip soldering. Frequency response 200 to 10 Kc. Open frame weight .01 lb.

Catalog No.*	Application	Primary Impedance	Secondary Impedance	Pri. D.C.R.	Sec. D.C.R.	Level MW.
VM1-( )	Input	50	600 (1.5ma)	6	70	15
VM2-( )	Input or Interstage	200K	600 (1.0ma)	2650	80	5
VM4-( )	Input or Interstage	200K	1200 (.72ma)	2650	160	5
VM5-( )	Interstage	50K	600 (1.0ma)	1500	60	5
VM7-( )	Output	500 (3.5ma)	3.4	60	.5	15
VM8-( )	Output	1250 (2.0ma)	3.4	115	.5	15
VM9-( )	Output	1250 (2.0ma)	50	115	.6	15
VM11-( )	Choke	20HY. (0ma)	12HY. (.5ma)	1000	—	—

ultra-miniature transistor transformers ("UM" Series)

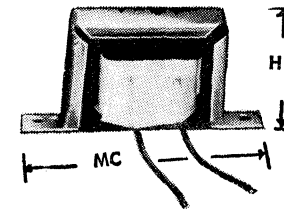
Designed for extremes of miniaturization. 4" leads are suitable for dip soldering. Frequency response ±2 d.b. 300 to 20,000 cycles. Weight .005 lbs. 5% maximum distortion at full power @ 300 cycles.

Part No.*	Type	Impedance Pri. Ω	Impedance Sec. Ω	Unbal. Pri. D.C. ma.	Pri. D.C.R.	Sec. D.C.R.	Level MW.
UM21-( )	Input	100,000	1,000	0	1,700	135	8
UM22-( )	Driver	20,000	1,000	.5	1,000	90	2.5
UM23-( )	Driver	20,000	1,200 C.T.	.5	1,000	100	2.5
UM24-( )	Output	1,000	50	3	60	8.5	3
UM25-( )	Output	400	50	3	30	4.5	4
UM26-( )	Output	400	11	3	30	1.5	4
UM27-( )	Output	400 C.T.	11	1	30	1.5	4
UM28-( )	Choke	10 HY - 0 dc		8 HY - 0.5 ma dc	650		



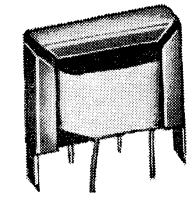
OPEN FRAME—F
Open frame units are resin impregnated to provide protection from adverse climatic conditions. Flexible 4" thermoplastic leads.

Size	L	W	H
M	1	3/4	7/8
SM	7/8	9/16	7/8
MM	3/4	1/2	3/4
VM	1/2	7/16	5/8
UM	3/8	3/8	11/32

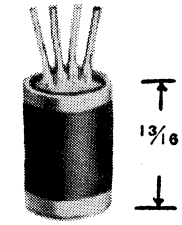


CHANNEL MTG.—FB
Available on order in horizontal channel. Add $.50 to list price—Vertical mounting channels available on special order where chassis space is limited.

Size	MC	H
M	1 3/8	27/32
SM	1 5/16	19/32
MM	63/64	1/2



PRINTED CIRCUIT
Miniature, Sub-Miniature, Micro-Miniature, and Veri-Miniature available on special order with straight tabs and/or solid buss leads for tab mounted printed circuit applications.



HERMETIC (VM-H)—
Glass Bead Terminals VM-H Hermetically sealed unit is available on special order with either 4-40 stud or clamp type mounting. Weight .02 lb.

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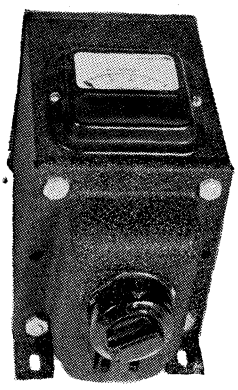
See Page N-141 for Microtran Prices

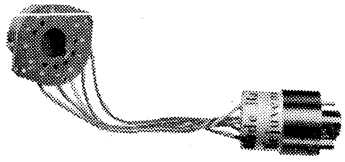
MICROTRAN® company



LVB-350 metered variable voltage adjuster

Constant duty unit used as step-up or step-down. Automatically operated—turns on and off with set. Easily adjusted by manually turning 7-position rotary switch until built-in voltmeter reads 115 volts output. Switch positions for 90 through 130 volts input.

Watts: 350 Weight: 7 lbs.
Size: 7" x 3¼" x 3⅞"
Mtg. Centers: 5" x 2½"
Finish: Black Wrinkle



cathode ray tube rejuvenator

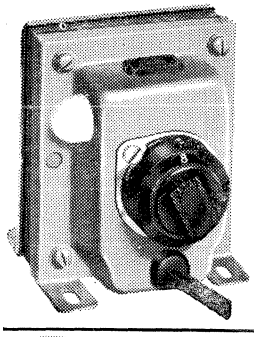
Boosts CRT brightness. Units are resin treated; new design insures cool and buzz-free operation; 8 oz. 5 lead units for magnetic focus tubes only. 6 lead for both magnetic and electrostatic.

#48B:	Parallel sets, 6 leads
#59C:	Parallel sets, 5 leads
#50D:	Series sets, 6 leads
#51E:	Parallel, isolation, 6 leads
#52:	Parallel, 2-step boost, 6 leads
#53:	Universal, isolation & boost

LVS-153 line voltage stabilizer

A popularly priced quality automatic voltage regulator. Stabilizes line for TV, radio or industrial use where load is constant. Input may vary between 95-130 volts, 60 cycles, nominal output voltage regulated ±3%. One model covers 125 to 300 watt range. Built-in automatic relay turns stabilizer on with equipment. Waveshape is free from distortions and frequency sensitivity of resonant type regulators. 50 cycle units available on special order.

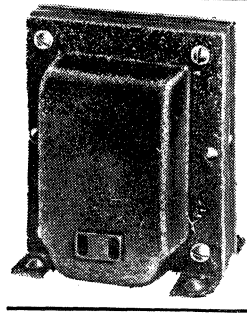
Size: 10" x 5" x 9½"
Weight: 10 lbs.
Finish: Mahogany Wrinkle



step down auto transformers

240/220V. to 120/110V. 50/60 cycles. Equipped with secondary standard receptacle and primary 6' U.L. approved line cord. Baked wrinkle finish.

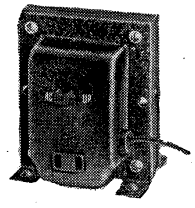
Part No.	Application	DIMENSIONS L.	W.	H.	Mtg. Ctrs.	Weight
M1552	65 Watt capacity	$3\frac{3}{32}$	2⅜	$2\frac{19}{32}$	12¼ ¼ x	3.5 lbs.
M1556	100 Watt capacity	3⅛	2⅞	3½	1¾ x 2¾	4 lbs.
M1553	150 Watt capacity	3¼	2⅞	3½	2¼ x 2⅜	5.0 lbs.
M1555	250 Watt capacity	3⅞	3¼	3⅞	$2\frac{11}{16}$ x 2½	6 lbs.
M1559	300 Watt capacity	3¾	3⅞	4⅝	$2\frac{7}{16}$ x 3	7 lbs.
M1558	500 Watt capacity	4⅞	3⅞	4⅝	$3\frac{9}{16}$ x 3	12 lbs.
M1557	1000 Watt capacity	7	4½	5⅜	5¼ x 3½	29 lbs.
M1554	1500 Watt capacity	8	4½	5⅜	6¼ x 3½	36 lbs.



LVB-117 line voltage booster

Multi-tap selector switch restores line voltages of 90 thru 135 volts to 117 volts output. Calibrated neon indicator permits exact voltage adjustment. Automatic — turns on and off with set. Overload fuse protects against unsafe line increases.

Watts: 350 Weight: 4 lbs.
Size: 4⅜" x 3¼" x 3⅞"
Mtg. Centers: $2\frac{3}{16}$" x 2½"
Finish: Black Wrinkle



LVB "Jr" up-down voltage booster

Reliable, budget-priced unit. Single switch provides 10 volt boost or drop, or straight-through line.

Watts: 350 Weight: 3 lbs.
Size: 2⅞" x 3¼" x 3⅞"
Mtg. Centers: $1\frac{11}{16}$" x 2½"
Finish: Black Wrinkle

See Page N-141 for Microtran Prices
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MICROTRAN® company

VALLEY STREAM
L. I., N. Y.

Universal Coil Kit

Saves valuable service and development time . . . minimizes inventory problems, eliminates difficulty in obtaining hard-to-get exact replacements.
For Video Peaking . . . IF Circuits. Eight coils cover a range from 1 to 590 uh.
Q-Max impregnation.
Extra terminal for tiepoint convenience.
Spring clip mounting: designed for $\frac{5}{16}$" chassis hole.
Full data enclosed on L min., L max., Q's, R, C distrib., Freq. self-res.

INDIVIDUAL CALIBRATION CHARTS permit approximate adjustment to required inductance value without test equipment. Individually packaged in 8 labeled plastic containers.

COMPLETE KIT: MODEL 200K. Weight per kit 6 oz.

Single Set Replacement Available:

Coils	L min.	L. max.
#200-1	1	2.7 uh
#200-2	2.4	7.6 uh
#200-3	6.6	20.0 uh
#200-4	16.0	55.0 uh
#200-5	33	110
#200-6	74	225
#200-7	100	310
#200-8	200	590

price list

Part No.	List Price
miniature	
M1-H	$15.00
M1-A	11.50
M1-AG	16.50
M1-F	8.50
M1-P	14.00
M2-H	15.50
M2-A	11.50
M2-AG	17.00
M2-F	8.75
M2-P	14.00
M3-H	14.50
M3-A	10.75
M3-AG	16.00
M3-F	8.00
M3-P	13.00
M4-H	11.75
M4-A	9.75
M4-AG	15.50
M4-F	7.75
M4-P	11.00
M5-H	11.75
M5-A	9.75
M5-AG	15.50
M5-F	7.75
M5-P	11.00
M6-H	14.50
M6-A	10.75
M6-AG	16.00
M6-F	8.00
M6-P	13.00
M7-H	15.00
M7-A	10.75
M7-AG	16.00
M7-F	8.25
M7-P	13.00
M8-H	15.00
M8-A	11.50
M8-AG	16.50
M8-F	8.50
M8-P	14.00
M9-H	15.25
M9-A	11.50
M9-AG	16.50
M9-F	8.50
M9-P	14.00
M10-H	15.50
M10-A	12.25
M10-AG	17.00
M10-F	8.75
M10-P	14.00
M11-H	15.25
M11-A	11.50
M11-AG	16.50
M11-F	8.50
M11-P	14.00
M12-H	15.00
M12-A	12.25
M12-AG	16.00
M12-F	8.25
M12-P	13.00
M13-H	11.00
M13-A	9.00
M13-AG	14.00
M13-F	7.50
M13-P	10.00
M14-H	15.50
M14-A	11.50
M14-AG	17.00
M14-F	8.75
M14-P	14.00
M15-H	13.75
M15-A	11.50
M15-AG	16.00
M15-F	8.00
M15-P	14.00
miniature transistor	
MT1-H	14.50
MT1-A	12.25
MT1-AG	13.00
MT1-F	8.00
MT1-P	14.00
MT3-H	15.50
MT3-A	13.25
MT3-AG	14.00
MT3-F	8.75
MT3-P	15.25
MT5-H	15.50
MT5-A	13.25
MT5-AG	14.00
MT5-F	8.75
MT5-P	15.25
MT6-H	15.75
MT6-A	13.50
MT6-AG	14.25
MT6-F	9.00
MT6-P	15.50
MT7-H	15.75
MT7-A	13.50
MT7-AG	14.25
MT7-F	9.00
MT7-P	15.50
MT8-H	16.00
MT8-A	13.50
MT8-AG	14.50
MT8-F	9.25
MT8-P	15.75
MT9-H	16.00
MT9-A	13.50
MT9-AG	14.50
MT9-F	9.25
MT9-P	16.00
MT10-H	15.50
MT10-A	13.25
MT10-AG	14.00
MT10-F	8.75
MT10-P	15.25
MT11-H	16.00
MT11-A	13.50
MT11-AG	14.50
MT11-F	9.25
MT11-P	16.00
MT12-H	15.50
MT12-A	13.25
MT12-AG	14.00
MT12-F	8.75
MT12-P	15.25
MT13-H	15.75
MT13-A	13.50
MT13-AG	14.25
MT13-F	9.00
MT13-P	15.50

Part No.	List Price
micro-miniature	
MM1-H	12.25
MM1-F	7.00
MM2-H	12.50
MM2-F	7.50
MM3-H	11.75
MM3-F	6.25
MM4-H	11.75
MM4-F	6.25
MM5-H	11.50
MM5-F	6.25
MM6-H	11.75
MM6-F	6.25
MM7-H	12.50
MM7-F	6.25
micro-miniature transistor	
MMT1-H	12.50
MMT1-F	6.25
MMT3-H	12.50
MMT3-F	6.50
MMT5-H	12.50
MMT5-F	6.25
MMT10-H	12.50
MMT10-F	5.25
MMT13-H	13.00
MMT13-F	6.25
sub-miniature	
SM1-H	12.00
SM1-AF	15.00
SM1-F	6.75
SM2-H	11.50
SM2-AF	14.50
SM2-F	6.00
SM3-H	11.50
SM3-AF	14.50
SM3-F	6.00
SM4-H	11.50
SM4-AF	14.50
SM4-F	6.00
SM5-H	10.50
SM5-AF	13.50
SM5-F	5.00
SM6-H	11.75
SM6-AF	14.50
SM6-F	6.75
sub-miniature transistor	
SMT1-H	13.00
SMT1-AF	11.75
SMT1-F	7.75
SMT3-H	12.50
SMT3-AF	11.25
SMT3-F	7.50
SMT5-H	12.50
SMT5-AF	11.25
SMT5-F	7.50
SMT7-H	12.50
SMT7-AF	11.25
SMT7-F	7.50
SMT10-H	12.25
SMT10-AF	11.00
SMT10-F	7.25
SMT12-H	12.25
SMT12-AF	11.00
SMT12-F	7.25
SMT13-H	12.50
SMT13-AF	11.25
SMT13-F	7.50
veri-miniature	
VM1-F	8.00
VM2-F	10.50
VM4-F	10.50
VM5-F	9.25
VM7-F	8.00
VM8-F	8.25
VM9-F	8.25
VM11-F	7.25
ultra-miniature	
UM21-F	12.50
UM22-F	10.50
UM23-F	11.50
UM24-F	9.75
UM25-F	9.50
UM26-F	9.50
UM27-F	10.50
UM28-F	8.50
replacement transformer	
A8111	2.50
OP811	1.50
OP812	1.75
OP813	1.75
OP814	1.75
OP815	2.00
step down transformer	
M1552	9.75
M1553	12.50
M1554	55.00
M1555	13.25
M1556	10.50
M1557	40.00
M1558	21.00
M1559	14.25
crt rejuvenator	
48-B	2.00
49-C	1.50
50-D	1.75
51-E	2.25
52	3.75
53	4.25
variable inductances	
200K	7.75
200-1 Thru 200-8	ea. 1.00
line voltage boosters	
LVB-117	18.00
LVB-350	24.75
LVB-JR.	6.75
LVS-153	29.95

Prices, Mechanical Construction, or Electrical Characteristics Subject to Modification without Notice.

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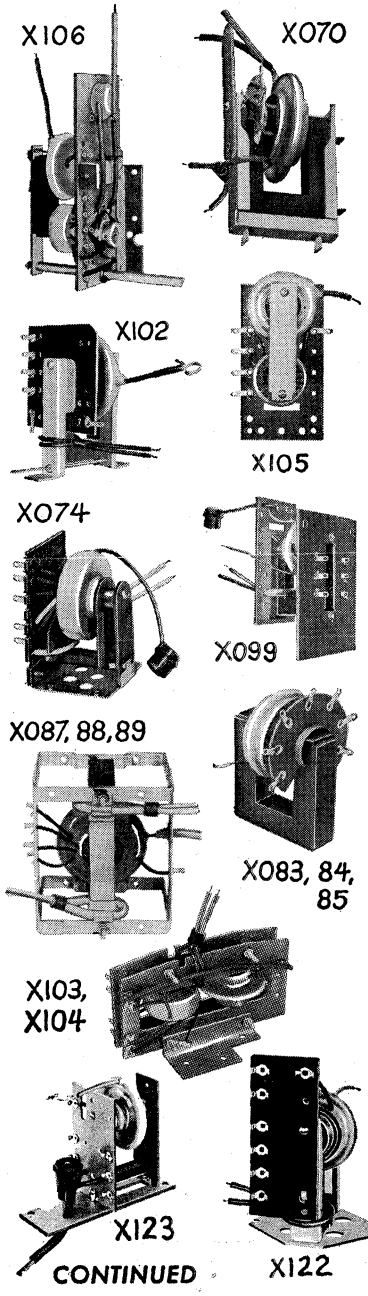
RAM TRANSFORMERS!!

HORIZONTAL OUTPUT TRANSFORMERS

RAM	MOUNTING TYPE	KV	OPERATING CONDITION B+ SUPPLY	OPERATING CONDITION BOOST	DIRECT REPLACEMENT AND DESCRIPTION	list
X032	A	13.0	325	510	High efficiency - 630 circuits	$11.00
X035	A	14.5	325	525	Similar to X032 - higher voltage	11.00
X036	A	10.5	320	420	RCA 211T1, 211T3	10.00
X045	B	14.0	320	450	GE77J1 and GE circuits	10.50
X047	C	13.0	325	510	DeWald, Jackson, Sentinel	11.00
X048	C	12.0	300	470	Dumont 20005021	11.50
X049	C	13.0	350	510	Sparton, Fada	11.50
X050	A or C	13.0	325	510	Philharmonic, Airline, Silvertone	11.00
X051	B	16.0	230	460	Majestic C9.253, D9.259; GE RTO-101, RTO-104, 109, 114	11.00
X053	A	15.0	325	510	Regal 140-126, Jewel 91T5A	11.50
X054	A	13.0	250	515	CBS, Silvertone A 10126	11.50
X064	C	14.0	230	480	Emerson 738056, 60, 64; Hallicrafter	11.00
X065	C	16.0	230	480	Emerson 7308067, 68, 69, 73, 74	11.00
X066	A	14.0	325	510	Airline, Silvertone, CBS, Olympic	10.50
X068	F	10.0	270	350	RCA, Emerson, Magnavox, Packard Bell	6.50
X069	B	16.0	300	500	Stromberg Carlson 161042, Olympic	11.50
*X070	D	13.0	325	510	Zenith	10.50
X071	E	14.5	360	460	Admiral 79C30-1, -3	11.00
X072	E	13.0	260	400	Admiral 79C30-2, -4	11.00
X074	I	16.0	280	475	RCA 225T1; Hallicrafter, Silvertone, Arvin, Hoffman, Dumont, Packard Bell	10.00
X075	A	14.0	325	510	CBS 10136, Firestone, Silvertone	10.50
X076	A	16.0	280	500	Muntz TO-0031	10.00
X077	A	13.0	325	500	RCA 211T5 Voltage Doubler	11.00
X079	P	13.0	325	500	Travler TVX 107, 108, 109, 110-114, 130, 131	9.00
X080	I	16.0	280	475	Andrea, Arvin, Dumont, GE, Hallicrafter, Hoffman, RCA	11.50
X081	C	14.0	325	510	Westinghouse V9904-1	11.50
X082	C	15.0	325	510	Westinghouse V10214-1	11.50
X083	G	13.5	125	310	Sylvania 241-0003	9.00
X084	G	13.0	125	310	Sylvania 241-0005, 6	9.00
X085	G	13.0	125	310	Sylvania 241-0007,	9.00
X086	H	13.0	310	510	Philco 32-8428-2	15.00
X087	H	13.0	310	510	Philco 32-8453-3	15.00
X088	H	13.0	310	510	Philco 32-8509, 8465-2, 8484-2	15.00
X089	H	13.0	310	510	Philco 32-8509-2	15.00
X090	K	13.0	240	410	Philco 32-8534, 8533	11.50
X091	K	15.0	230	350	Philco 32-8555	11.50
X092	K	14.0	250	320	Philco 32-8565	11.50
X093	C	20.0	260	530	Magnavox 360552, 360577	11.50
X094	I	19.0	320	675	RCA 235T1; CBS PC-10155; Stromberg-Carlson 161045; Packard Bell, Silvertone	11.50
X096	A	12.0	250	480	Magnavox 320061, -1, -3	11.50
X097	C	18.0	260	-	Magnavox 360561	11.50
X098	I	17.0	280	540	Magnavox 360580	11.50
X099	J	15.0	300	520	Farnsworth 850220, 850285	11.50
X100	K	16.5	230	350	Philco 32-8572	11.50
X102	L	17.5	250	450	Admiral 79D41-1, -2	11.50
*X103	M	10.0	240	-	Motorola 24C790184, 24K791974	11.50
*X104	M	14.0	240	530	Motorola 24C701134, 710636, 792596, D, 24K700588, 701099, 792753	11.50
*X105	N	16.0	265	660	Motorola 24C701552, 711652, 701636	11.50
*X106	O	16.5	265	490	Motorola 24C711265, A, 721290, 730689; 24K702975, 711266, 711937, 712193, 720615, 721301, C, 721517, C, 722126, 722700, 730690, 91, 92, 902, 3, 4	13.25
*X107	A	11.0	350	440	Airline, Raytheon, Coronado, Trans-Vue, Truetone 12M-17967, 12M-18285, 12M-18286	11.50
*X108	E	11.0	350	520	Airline, Raytheon, Coronado, Truetone 12M-18530, 12M-18689, -1, -2, 201-18562, -1	11.50
*X109	B	10.5-13.5	350	460	Airline, Raytheon, Coronado, Trans-Vue, Truetone 201-19817, -1, -2, -3, 201-19533-1, 12M-19407, -1, -2, 12M-19408, 12M-19190	15.00
*X110	B	16.5-18.0	350	580	Airline, Raytheon, Truetone 201-19874, 201-19999-1, 201-21270, -1; Wells Gardner 53X326, 53X328, 53X329, 53X330; Sentinel 22E80; Sparton PC70015	15.00
*X111	B	12.5	240	480	Airline, Raytheon, Truetone 201-21025, -1	13.25
*X112	B	15.0	240	450-480	Raytheon 201-22396, -1	13.25

NO DUPLICATION of INVENTORY with RAM!



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HORIZONTAL OUTPUT TRANSFORMERS

RAM	MOUNTING TYPE	KV	OPERATING CONDITION B+ SUPPLY	OPERATING CONDITION BOOST	DIRECT REPLACEMENT AND DESCRIPTION	list
X114	A	18.0	340	525	Muntz TO-0036, -1	$11.00
*X115	P	8.0-10.0	345-400	400-480	Crosley AC146756, 147552, 148161, 149146	11.50
*X116	D	14.0	250	430	Zenith S18567, 18990, 19032, 19728	11.50
*X117	Q	11.0-13.0	300-380	480-550	Crosley AD148258, 149567, 149661, 151195, 151802, 153619	12.50
*X118	O	13.0	260-275	490-520	Crosley 154069-1, 154990-1, -2, -3, -4, 155514-1, 156330-1, Hallicrafter, Hoffman	12.50
*X119	I	12.0	340	475	Hallicrafter, Silvertone, Truetone 55C133, 55C143, 55C144	12.00
*X120	L	11.5	360	580	Hallicrafter, Silvertone 55C154, 55C155	12.00
X121	U	10 KV	440	285	Arvin, Silvertone 23089; Majestic C9.251	10.00
*X122	R	12-14	350	620	Hoffman 5144, 5145, 5146, 5147, 5148, 5149, 5155	10.00
*X123	S	12-13	260	480-600	Crosley AD-157820, AD-158481; Hallicrafter 55D251, 55D253, 55D266, 55D270; Sentinel 20E995	8.50
*X124	T	10-12	270-375	390-610	RCA 75519, 75585, 76154, 76381	6.25
*X125	T	16.4	350	640	RCA 76501	
*X126	V	13-15	225-240	400-435	Airline, Bendix, Coronado, Raytheon, Truetone 12E-23939, 12E-24612, 265106-1	7.20
*X127	C	15-19	240-310	375-530	Westinghouse V-11548, -1, -2; V-12073, -1; V-14627, -1; V-14346; V-15324-1, -2; V-15650	6.90
X128	W	13-17	270-300	475-500	RCA 78810, 78201, 79736, 79870, 79145, 100860	6.00
*X129	X	13-17	270-300	475-500	Admiral 79C60 -1-2, -3, -4, -5 - 6 - 7	6.00
*X130	R	13.5-15	250-265	450-500	Trav-ler -130, -131, -141, -151, -152	11.00
*X131	G	16.0	290	510	Sylvania 241-0011	11.00
*X132	I	16.0	300	600	Sylvania 241-0013,	11.00

* **"COMPOSITE"** EXCLUSIVELY ENGINEERED BY RAM. TRANSFORMERS REPLACING A RELATED GROUP OF INITIAL EQUIPMENT FLYBACKS, COVERING SEVERAL MANUFACTURERS, COMBINING THE EXACT ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THAT GROUP.

LINEARITY AND WIDTH COILS

RAM	MILLIHENRIES	OHMS	list
201R1A	0.07- 0.5	0.7	$1.25
201R3A	5.0 -35	39.5	1.25
201R4	0.18- 1.5	1.2	1.25
201R5A*	0.5 - 4.8	7.5	1.25
201R10	3.2 -28.2	21.5	1.75
201R11	PRI. 0.18- 1.4 SEC. 4.5 -16.0	1.2 48.0	1.75
201R12*	1.2 - 8.0	5.6	1.25
201R13A	0.44- 3.1	2.3	1.25
201R14	PRI. 2.6 - 5.5 SEC. 5.0 -22.0	24.0 36.5	2.25
201R15	2.0 -14.0	11.0	1.75
201R16	2.8 -18.8	12.3	1.75
201R17	0.17- 1.8 8.0 - 5.0	2.5 22.0	2.25
201R19	2.8 (0.15 CAP.)	16.0	2.25

* TAPPED COIL

RAM ELECTRONICS SALES CO.

IRVINGTON, NEW YORK

DEFLECTION YOKES

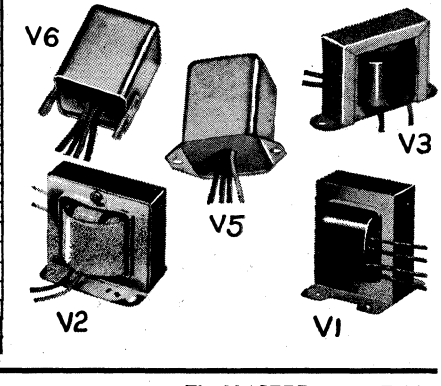
RAM	INDUCTANCE HORIZ.	INDUCTANCE VERT.	D.C. RESISTANCE HORIZ.	D.C. RESISTANCE VERT.	list
Y70F08	8.3 MH	50.0 MH	9.5 Ohms	60.0 Ohms	$10.50
Y70F08/43	8.3 MH	43.0 MH	9.5 Ohms	48.0 Ohms	11.00
Y70F10	10.0 MH	50.0 MH	10.0 Ohms	60.0 Ohms	11.00
Y70F10/43	10.0 MH	43.0 MH	10.0 Ohms	48.0 Ohms	11.00
Y70F12	12.0 MH	50.0 MH	12.0 Ohms	52.0 Ohms	11.00
Y70F14	14.0 MH	50.0 MH	14.5 Ohms	60.0 Ohms	11.00
Y70F14/43	14.0 MH	43.0 MH	14.5 Ohms	48.0 Ohms	11.00
Y70F14/3, " Plug	14.0 MH	3.0 MH	14.5 Ohms	3.3 Ohms	11.00
Y70F17	17.0 MH	50.0 MH	20.0 Ohms	60.0 Ohms	11.00
Y70F18/43	18.0 MH	43.0 MH	21.0 Ohms	48.0 Ohms	11.00
Y70F20/43	20.0 MH	43.0 MH	22.0 Ohms	48.0 Ohms	11.00
Y70F25	25.0 MH	50.0 MH	27.0 Ohms	60.0 Ohms	11.00
Y70F25/3	25.0 MH	3.3 MH	27.0 Ohms	4.0 Ohms	11.00
Y70F30	30.0 MH	50.0 MH	35.0 Ohms	60.0 Ohms	11.00
Y70F30/3	30.0 MH	3.3 MH	35.0 Ohms	4.0 Ohms	11.00
" Plug	30.0 MH	3.3 MH	35.0 Ohms	4.0 Ohms	11.50
Y90F12/47	12.0 MH	47.0 MH	15.0 Ohms	43.0 Ohms	12.00
Y90F19/43	19.0 MH	43.0 MH	30.0 Ohms	41.0 Ohms	12.00

VERTICAL BLOCKING OSCILLATOR TRANSFORMERS

RAM	TURNS RATIO PRI/SEC	MOUNTING TYPE	MOUNTING CENTERS	DIMENSIONS HEIGHT	DIMENSIONS WIDTH	DIMENSIONS DEPTH	SHIPPING WEIGHT IN LBS.	list
V401	1: 4.2	V5	1 15/16	2 1/8	2 1/4	1 17/32	1	$3.50
V402	1: 4.2	V6	1 7/32	1 25/32	1 5/32	1 5/32	1/2	4.25
V403	1: 4	V5	2	1 21/32	2 3/8	1 13/32	1	3.50
V404	1: 1.5	V3	2	1 11/32	2 3/8	1 3/8	1/2	3.00
V405	1: 4.2	V3	1 3/4	1 1/8	2 1/16	1 3/8	1/2	3.00

VERTICAL SCANNING OUTPUT TRANSFORMERS

RAM	TURNS RATIO PRI/SEC	PRIMARY IMPEDANCE	MOUNTING TYPE	MOUNTING CENTERS	DIMENSIONS HEIGHT	DIMENSIONS WIDTH	DIMENSIONS DEPTH	SHIPPING WEIGHT IN LBS.	list
V301	10: 1	19,000Ω@ 13 MADC	V1	1 19/32 x 2	3 1/16	2 1/2	2 1/2	2 1/2	$6.75
V302	8: 1	19,000Ω@ 13 MADC	V2	2 3/8 x 1 5/8	2 9/16	2 7/8	2 1/4	2 1/2	5.00
V303	10: 1	19,000Ω@ 13 MADC	V1	1 19/32 x 2	3 1/16	2 1/2	2 1/2	2 1/2	5.75
V304	10: 1	18,000Ω@ 10 MADC	V1	1 19/32 x 1 3/4	3 1/16	2 1/2	2 1/4	2	6.00
V305	10: 1	14,000Ω@ 15 MADC	V3	3 1/8	2 1/4	3 9/16	1 3/16	2	4.50
V306	44.6: 1	11,250Ω@ 15 MADC	V1	1 19/32 x 1 7/8	3 1/16	2 1/2	2 3/8	2 1/4	6.75
V307	9: 1	11,000Ω@ 19 MADC	V3	3 1/8	2 1/4	3 3/4	3 1/4	1 1/2	6.50
V308	11: 1	15,000Ω@ 18 MADC	V3	2 13/16	2	3 1/4	1 1/4	1	4.25
V309	10: 1	13,000Ω@ 22 MADC	V3	2 13/16	2	3 1/4	2	1 1/4	4.75
V310	10: 1	18,000Ω@ 15 MADC	V3	3 1/2	2 1/2	4	2 1/4	2 1/2	6.00
V311	10: 1	18,000Ω@ 10 MADC	V1	1 19/32 x 1 5/8	3 1/16	2 1/2	2 1/8	2	5.00
V312	18: 1	27,500Ω@ 10 MADC	V3	3 1/8	2 1/4	3 3/4	3 1/4	1 1/2	6.00
V313	11.4: 1	17,000Ω@ 20 MADC	V3	2 13/16	2	3 1/4	1 5/8	1	4.25
V314	6: 1	4,500Ω@ 38 MADC	V3	2 13/16	2	3 1/4	2	1	4.25
V315	15: 1	28,000Ω@ 15 MADC	V2	2 13/16	1 15/16	3 3/16	1 3/4	1	4.75
V316	7: 1	6,000Ω@ 15 MADC	V3	2 13/16	1 5/16	3 3/16	1 3/4	1	4.50



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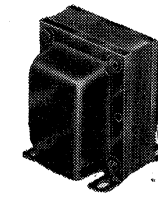
TRANSFORMERS 2K SERIES

FOR ELECTRONICALLY REGULATED POWER SUPPLIES

- ONE UNIT PROVIDES PLATE AND FILAMENT POWER FOR ENTIRE SUPPLY.
- RATINGS BASED ON D.C. OUTPUT OF SUPPLY.
- APPLICATION BULLETIN WITH EACH UNIT.



OVER-THE-COUNTER

PLATE AND FILAMENT TRANSFORMERS

Cat. No.	Supply Rating	High Voltage Secondary AC Volts	DC MA	Rectifier Fil. V	Rectifier Fil. A	Pass Tube Fil. V	Pass Tube Fil. A	Regulator Fil. V	Regulator Fil. A	Auxiliary Fil. V	Auxiliary Fil. A	Overall L	Overall W	Overall H	Mtg. Dim. ML	Mtg. Dim. MW	Rec. Mtg. Screw	Weight Lbs.	List Price
2K6	300/250VDC 40MADC	550-480-0 480-550V	440	Use with 2K20				Use with 2K20				5	4 5/8	5 1/2	4 1/2	3 1/2	#10	19	$28.00
2K8	300/250VDC 300MADC	540-475-0 475-540V	340	5	6	6.3	6	6.3	1.2	6.3CT	6	6 1/4	4 5/8	5 1/2	4 3/4	3 1/2	#10	20	32.75
2K10	300/250VDC 200MADC	500-440-0 440-500V	240	5	3	6.3	3	6.3	1.2	6.3CT	6	5	4 5/8	5 1/2	3 1/2	3 1/2	#10	14	26.75
2K12	300/250VDC 100MADC	540-465-0 465-540V	140	5	3	6.3	3	6.3	1.2	6.3CT	3	4 3/4	4 5/8	5 1/2	3 1/4	3 1/2	#10	12	23.00
2K13	150/100VDC 400MADC	370-310-0 310-370V	440	Use with 2K20				Use with 2K20				4 3/4	4 5/8	5 1/2	3 1/4	3 1/2	#10	12	23.00
2K14	150/100VDC 300MADC	375-320-0 320-375V	340	5	6	6.3	6	6.3	1.2	6.3CT	6	5 1/2	4 5/8	5 1/2	4	3 1/2	#10	16	27.00
2K15	150/100VDC 200MADC	355-300-0 300-355V	240	5	3	6.3	3	6.3	1.2	6.3CT	6	4 3/4	4 5/8	5 1/2	3 1/4	3 1/2	#10	12	23.00
2K16	150/100VDC 100MADC	350-310-0 310-350V	140	5	3	6.3	3	6.3	1.2	6.3CT	3	4 3/8	3 7/8	4 5/8	3 5/16	3	#8	10	20.00
2K17	300/250VDC 600MDC	565-500-0 500-565V	640	Use with 2K20				Use with 2K20				6 1/4	4 1/2	6	4 1/4	3 7/16	#10	22	41.20
2K18	300/250VDC 800MADC	580-520-0 520-580V	840	Use with 2K21				Use with 2K21				6	6 1/8	7 1/4	4	4 25/32	1/4	33	54.00
2K19	300/250VDC 1.0 Amp.	590-525-0 525-590V	1040	Use with 2K21				Use with 2K21				7 1/2	6 1/8	7 1/4	5 1/2	4 25/32	1/4	48	76.00
2K20	(Filament Transformer for 400MA and 600MA Supplies)			5	6	6.3	6	6.3	1.2	6.3CT	6	3 7/8	3 7/8	4 5/8	2 13/16	3	#8	7.5	17.00
2K21	(Filament Transformer for 800MA and 1 Amp. Supplies)			5	10	6.3	10	6.3	2	6.3CT	10	4 7/8	3 7/8	4 5/8	3 13/16	3	#8	12	23.50

Standard Color Code

Primary: Black
High Voltage: Center Tap: Red-Yellow
High Voltage: High Tap: Red
High Voltage: Low Tap: Blue
Rectifier Filaments: Yellow
Pass Tube Filaments: Brown
Regulator Filaments: Green
Auxiliary Filaments: Slate

NOTES

1. All Primaries 115 Volts 60 Cps.
2. Ratings Based On Capacitor Input Filters
3. Dielectric Test Voltages: Primaries: 1500 V. RMS All Secondaries: 2500 V. RMS

Prices subject to change without notice

CHOKES

Cat. No.	Inductance	Rated Current MADC	DC Resist.	Dielectric Test Volt.	Overall L	Overall W	Overall H	Mtg. Dim. ML	Mtg. Dim. MW	Rec. Mtg. Screw	Weight Lbs.	List Price
2K5	4 hys. min.	440	66	2500V RMS	3 3/4	3 9/16	4 1/4	2 5/8	2 3/4	#8	6	$11.60
2K7	4 hys. min.	340	82	2500V RMS	3 1/8	2 15/16	3 1/2	2	2 1/4	#8	3.3	7.30
2K9	4 hys. min.	240	130	2500V RMS	2 5/8	2 5/8	3 1/8	1 11/16	2	#8	2.3	5.50
2K11	4 hys. min.	140	185	2500V RMS	3 11/16	2 3/16	2 5/16	3 1/8	Chan.	#8	1.5	4.00
2K22	4 hys. min.	.64A	52	2500V RMS	4 3/4	4 5/8	5 1/2	3 1/4	3 1/2	#10	12	20.00
2K23	4 hys. min.	.84A	38	2500V RMS	5 1/2	4 5/8	5 1/2	4	3 1/2	#10	17	25.70
2K24	4 hys. min.	1.04A	30	2500V RMS	7	4 5/8	5 1/2	5 1/2	3 1/2	#10	25	35.70

Prices subject to change without notice

Write For General Catalog For More Complete Listings

A detailed analysis of years of SPECIALS showed that 85% of all requirements could be met by a small number of standard designs . . . the STERLING 2K SERIES. Sterling Transformer's research program pays off for you in the new 2K SERIES now available at your distributor for immediate delivery.

STERLING—THE MARK OF QUALITY

STERLING TRANSFORMER CORPORATION

Brooklyn 11, N. Y.

SAVE ENGINEERING MAN-HOURS WITH THESE PROVEN DESIGNS IN MODERN LOW RIPPLE POWER SUPPLY CIRCUITS

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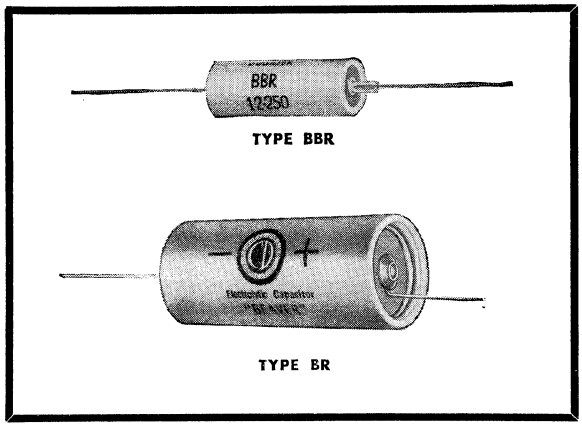
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

CORNELL DUBILIER

"BLUE BEAVER" ELECTROLYTIC TUBULARS



TYPE BBR

TYPE BR

BBR

Type BBR "BLUE BEAVERS," miniature versions of the BR, are especially popular for cramped space installations in television receivers, hearing aids, miniature radios and other small assemblies. They are hermetically sealed *in tubular aluminum containers with cardboard sleeve* and ideally suited to meet requirements in low voltage circuits. NEGATIVE TERMINAL IS GROUNDED TO CAN.

TEMPERATURE RANGE—to +85°C.

BBR Cat. No.	Cap. Mfd.	*Can Size—Inches Diam. x Length	List Price	Net Price
		3 Volts		
BBR 25-3	25	3/8 x 1 1/16	$ .85	$ .51
BBR 50-3	50	3/8 x 1 1/16	.95	.57
		6 Volts		
BBR 5-6	5	3/8 x 1 1/16	.80	.48
BBR 25-6	25	3/8 x 1 1/16	.85	.51
BBR 50-6	50	3/8 x 1 1/16	.95	.57
BBR 100-6	100	1/2 x 1 1/16	1.20	.72
BBR 250-6	250	1/2 x 1 7/16	1.35	.81
		15 Volts		
BBR 100-15	100	1/2 x 1 1/16	1.25	.75
		25 Volts		
BBR 10-25	10	3/8 x 1 1/16	1.00	.60
BBR 20-25	20	3/8 x 1 1/16	1.00	.60
BBR 25-25	25	3/8 x 1 1/16	1.00	.60
BBR 50-25	50	1/2 x 1 1/16	1.10	.66
BBR 100-25	100	1/2 x 1 7/16	1.35	.81
		50 Volts		
BBR 1-50	1	3/8 x 1 1/16	.90	.54
BBR 2-50	2	3/8 x 1 1/16	.90	.54
BBR 4-50	4	3/8 x 1 1/16	1.00	.60
BBR 5-50	5	3/8 x 1 1/16	1.00	.60
BBR 10-50	10	3/8 x 1 1/16	1.00	.60
BBR 25-50	25	1/2 x 1 1/16	1.05	.63
		90 Volts		
BBR 10-90	10	1/2 x 1 1/16	1.10	.66
BBR 16-90	16	1/2 x 1 7/16	1.10	.66
		150 Volts		
BBR 4-150	4	3/8 x 1 1/16	1.00	.60
BBR 8-150	8	1/2 x 1 1/16	1.05	.63
BBR 10-150	10	1/2 x 1 1/16	1.05	.63
BBR 12-150	12	1/2 x 1 1/16	1.10	.66
BBR 16-150	16	1/2 x 1 7/16	1.15	.69
BBR 20-150	20	1/2 x 1 7/16	1.20	.72
		250 Volts		
BBR 4-250	4	1/2 x 1 1/16	1.00	.60
BBR 8-250	8	1/2 x 1 7/16	1.15	.69
BBR 12-250	12	1/2 x 1 7/16	1.25	.75

*For Overall Size add 1/16" to Diam. and 5/32" to Length.

BR

CD "Blue Beavers" have become the service industry's most popular tubular electrolytic—being DESIGNED EXPRESSLY AND EXCLUSIVELY FOR SERVICE REPLACEMENT APPLICATIONS. Type BR is the compact unit in *aluminum can with cardboard outer sleeve*. Fits neatly into the cramped quarters, self-supported by rigid tinned copper leads. Larger sizes may be further supported by a metal strap. NEGATIVE TERMINAL IS GROUNDED TO CAN.

TEMPERATURE RANGE—to +85°C except 500 V. D.C., to +65°C.

BR Cat. No.	Cap. Mfd.	*Can Size—Inches Diam. x Length	List Price	Net Price
		6 D.C. W. Volts		
BR 500-6	500	3/4 x 1 11/16	$1.55	$.93
BR 1000-6	1000	7/8 x 2	1.90	1.14
BR 2000-6	2000	1 x 2 1/2	2.30	1.38
		15 D.C. W. Volts		
BR 2501	250	3/4 x 1 11/16	1.55	.93
BR 5001	500	7/8 x 2	1.75	1.05
BR 10001	1000	1 x 2	2.30	1.38
BR 20001	2000	1 x 3	3.20	1.92
		25 D.C. W. Volts		
BR 2502	250	7/8 x 1 11/16	1.70	1.02
BR 5002	500	1 x 2	2.30	1.38
		50 D.C. W. Volts		
BR 1005	100	3/4 x 2	1.40	.84
BR 1505	150	7/8 x 2	1.55	.93
BR 2505	250	1 x 2	1.75	1.05
BR 5005	500	1 x 3	2.40	1.44
		150 V. D.C.		
BR 2515	25	3/4 x 1 7/16	1.25	.75
BR 3015	30	3/4 x 1 7/16	1.30	.78
BR 4015	40	3/4 x 1 11/16	1.35	.81
BR 5015	50	7/8 x 1 11/16	1.40	.84
BR 6015	60	7/8 x 2	1.50	.90
BR 8015	80	7/8 x 2	1.60	.96
BR 10015	100	1 x 2 1/2	1.75	1.05
BR 15015	150	1 x 3	1.90	1.14
BR 20015	200	1 x 3	2.20	1.32
BR 30015	300	1 x 4 1/16	2.55	1.53
		250 V. D.C.		
BR 1625	16	3/4 x 1 11/16	1.30	.78
BR 2025	20	3/4 x 1 11/16	1.35	.81
BR 3025	30	7/8 x 1 11/16	1.45	.87
BR 4025	40	7/8 x 2	1.55	.93
BR 5025	50	1 x 2	1.70	1.02
BR 6025	60	1 x 2 1/2	1.80	1.08
		350 V. D.C.		
BR 435	4	5/8 x 1 7/16	1.05	.63
BR 835	8	5/8 x 1 11/16	1.20	.72
BR 1235	12	3/4 x 1 11/16	1.30	.78
BR 1635	16	7/8 x 1 11/16	1.40	.84
BR 2035	20	7/8 x 1 11/16	1.45	.87
BR 3035	30	1 x 2	1.65	.99
BR 4035	40	1 x 2 1/2	1.75	1.05
BR 5035	50	1 x 2 1/2	1.85	1.11
BR 6035	60	1 x 2 1/2	1.95	1.17
BR 8035	80	1 x 3 9/16	2.10	1.26
BR 10035	100	1 x 4 1/16	2.30	1.38
		450 V. D.C.		
BR 145	1	5/8 x 1 1/16	1.10	.66
BR 245	2	5/8 x 1 1/16	1.10	.66
BR 445	4	5/8 x 1 7/16	1.15	.69
BR 845	8	3/4 x 1 7/16	1.25	.75
BR 1045	10	3/4 x 1 11/16	1.30	.78
BR 1245	12	3/4 x 1 11/16	1.35	.81
BR 1645	16	7/8 x 2	1.40	.84
BR 2045	20	7/8 x 2	1.55	.93
BR 3045	30	1 x 2 1/2	1.70	1.02
BR 4045	40	1 x 2 1/2	1.80	1.08
BR 6045	60	1 x 3 9/16	2.35	1.41
BR 8045	80	1 x 4 1/16	2.80	1.68
BR 10045	100	1 x 4 1/16	3.20	1.92
		500 V. D.C.		
BR 450	4	5/8 x 1 11/16	1.20	.72
BR 850	8	3/4 x 1 11/16	1.30	.78
BR 1250	12	7/8 x 2	1.40	.84
BR 1650	16	1 x 2	1.50	.90
BR 2050	20	1 x 2	1.60	.96
BR 3050	30	1 x 2 1/2	1.75	1.05

*For Overall Size add 1/16" to Diam. and 3/16" to Length.

BRHV

BRHV Cat. No.	Cap. Mfd.	OVERALL Size—Inches Diam. x Length	List Price	Net Price
		600 D.C. W. Volts		
BRHV 604	4	13/16 x 2 7/16	$1.30	$.78
BRHV 608	8	13/16 x 3 3/16	1.40	.84
BRHV 610	10	15/16 x 3 3/16	1.45	.87
BRHV 612	12	1 1/16 x 3 3/16	1.50	.90
BRHV 616	16	1 1/16 x 3 3/16	1.65	.99
BRHV 620	20	1 1/16 x 3 11/16	1.70	1.02
		700 D.C. W. Volts		
BRHV 708	8	15/16 x 3 3/16	1.50	.90
BRHV 710	10	1 1/16 x 3 3/16	1.55	.93
BRHV 712	12	1 1/16 x 3 11/16	1.60	.96
BRHV 716	16	1 1/16 x 4 5/16	1.75	1.05

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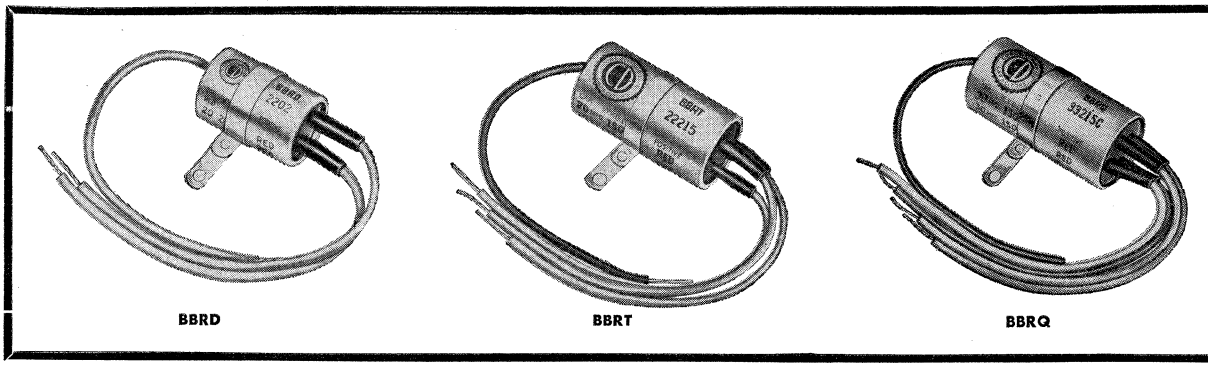
Net

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CORNELL DUBILIER

MULTI-SECTION TUBULAR ELECTROLYTICS



BBRD BBRT BBRQ

A new series of compact, tubular metal-cased, cardboard sleeved electrolytics—specially sealed against heat and humidity.

Featuring—

- Direct-to-terminal internal lead construction reduces possibility of shorts. (Pure aluminum wires crimped securely together with outer leads within aluminum stud terminals.)
- New high-insulation vinylite covered leads — generous 7 inches long.
- Sections sealed in aluminum tube for protection against moisture getting in, or electrolyte drying out.
- Wax impregnated cardboard outer insulation sleeve.
- Rubber diaphragm-type vent insures ideal vent action under all conditions.
- **IDEAL FOR OPERATION AT TEMPERATURES UP TO** 85° C.

BBRD—Dual Common Negative

BBRD Cat. No.	Cap. Mfd.	D.C. W. Volts	Can Size†—Ins. Dia. x Lgth.	List Price	Net Price
BBRD 2202	20–20	25	¾ x 1 11/16	$1.40	**$ .84**
BBRD 115	10–10	50	¾ x 1 11/16	1.40	**.84**
BBRD 2115	20–10	150	¾ x 1 11/16	1.55	**.93**
BBRD 2215	20–20	150	¾ x 1 11/16	1.65	**.99**
BBRD 3215	30–20	150	⅞ x 1 11/16	1.70	**1.02**
BBRD 3315	30–30	150	⅞ x 1 11/16	1.80	**1.08**
BBRD 4215	40–20	150	⅞ x 1 11/16	1.75	**1.05**
BBRD 4315	40–30	150	⅞ x 2	1.80	**1.08**
BBRD 4415	40–40	150	⅞ x 2	1.85	**1.11**
BBRD 5315	50–30	150	⅞ x 2	1.95	**1.17**
BBRD 5515	50–50	150	1 x 2	2.10	**1.26**
BBRD 8415	80–40	150	1 x 2 3/16	2.25	**1.35**
BBRD 8515	80–50	150	1 x 2½	2.30	**1.38**
***BBRD101015**	100–100	150	1 x 3	3.20	**1.92**
BBRD 8D25	8–8	250	¾ x 1 7/16	1.60	**.96**
BBRD 16825	16–8	250	¾ x 2	1.70	**1.02**
BBRD 16D25	16–16	250	⅞ x 2	1.80	**1.08**
BBRD 2225	20–20	250	1 x 1 11/16	1.85	**1.11**
BBRD 3325	30–30	250	1 x 2 3/16	2.25	**1.35**
***BBRD 7V225**	75–20	250	1 x 3	2.60	**1.56**
BBRD 8D45	8–8	450	⅞ x 1 11/16	1.70	**1.02**
BBRD 16845	16–8	450	1 x 2 3/16	2.00	**1.20**
BBRD 16D45	16–16	450	1 x 2½	2.25	**1.35**
***BBRD 2245**	20–20	450	1 x 3	2.50	**1.50**
***BBRD 3345**	30–30	450	1⅛ x 3 9/16	3.00	**1.80**
***BBRD 4445**	40–40	450	1 x 4 1/16	3.40	**2.04**

BBRT—Triple-Common Negative

BBRT Cat. No.	Cap. Mfd.	D.C. W. Volts	Can† Size—Inches Dia. x Lgth.	List Price	Net Price
BBRT 22215	20–20–20	150	⅞ x 1 11/16	$2.20	**$1.32**
BBRT 32V215	30–25–20	150	⅞ x 2	2.25	**1.35**
BBRT 33315	30–30–30	150	1 x 2	2.35	**1.41**
BBRT 42215	40–20–20	150	1 x 1 11/16	2.25	**1.35**
BBRT 43215	40–30–20	150	1 x 2	2.35	**1.41**
BBRT 44215	40–40–20	150	1 x 2	2.35	**1.41**
BBRT 44415	40–40–40	150	1 x 2 3/16	2.45	**1.47**
BBRT 53215	50–30–20	150	1 x 2	2.45	**1.47**
***BBRT 84215**	80–40–20	150	1 x 3	2.75	**1.65**
BBRT 2215C	20–20, 20	150, 25	⅞ x 1 11/16	2.05	**1.23**
BBRT 3315C	30–30, 20	150, 25	⅞ x 2	2.20	**1.32**
BBRT 4215C	40–20, 20	150, 25	1 x 1 11/16	2.15	**1.29**
BBRT 4315C	40–30, 20	150, 25	1 x 1 11/16	2.20	**1.32**

BBRT—Triple-Common Negative

BBRT Cat. No.	Cap. Mfd.	D.C. W. Volts	Can† Size—Inches Dia. x Lgth.	List Price	Net Price
BBRT 4415C	40–40, 20	150, 25	1 x 1 11/16	2.25	**1.35**
BBRT 4415X25	40–40, 250	150, 10	1 x 2 3/16	2.60	**1.56**
BBRT 5315C	50–30, 20	150, 25	1 x 1 11/16	2.35	**1.41**
BBRT 5515C	50–50, 20	150, 25	1 x 2 3/16	2.50	**1.50**
BBRT 8415C	80–40, 20	150, 25	1 x 2½	2.65	**1.59**
BBRT 3215C10	30–20, 100	150, 25	1 x 2	2.35	**1.41**
BBRT 5315X20	50–30, 200	150, 10	1 x 2 3/16	2.55	**1.53**
BBRT 5315C10	50–30, 100	150, 25	1 x 2 3/16	2.45	**1.47**
***BBRT 5315C25**	50–30, 250	150, 25	1 x 3	3.10	**1.86**
BBRT 8215C10	80–20, 100	150, 25	1 x 2½	2.75	**1.65**
BBRT 2225C	20–20, 20	250, 25	1 x 2	2.25	**1.35**
BBRT 4225C	40–20, 20	250, 25	1 x 2 3/16	2.55	**1.53**
BBRT 4425C	40–40, 20	250, 25	1 x 2 11/16	2.90	**1.74**
***BBRT 7V4125**	75–40–10	250	1⅛ x 3	3.45	**2.07**
***BBRT 11145**	10–10–10	450	1 x 2½	2.45	**1.47**
***BBRT 16T45**	16–16–16	450	1⅛ x 3	3.10	**1.86**
***BBRT 2245C**	20–20, 20	450, 25	1 x 3	2.90	**1.74**

BBRQ—Quadruple-Common Negative

BBRQ Cat. No	Cap. Mfd.	D.C. W. Volts	Can† Size—Inches Dia. x Lgth.	List Price	Net Price
BBRQ 33215C	30–30–20, 20	150, 25	1 x 2	$2.90	**$1.74**
BBRQ 42215C	40–20–20, 20	150, 25	1 x 2	2.85	**1.71**
BBRQ 53215C	50–30–20, 20	150, 25	1 x 2½	3.05	**1.83**
BBRQ 44315C	40–40–30, 20	150, 25	1 x 2½	3.00	**1.80**
***BBRQ 55515C**	50–50–50, 20	150, 25	1 x 3	3.45	**2.07**
***BBRQ 22245C**	20–20–20, 20	450, 25	1⅛ x 3 9/16	4.05	**2.43**
***BBRQ 111145**	10–10–10–10	450	1 x 3	3.20	**1.92**
***BBRQ 222245**	20–20–20–20	450	1⅛ x 4 1/16	4.50	**2.70**

EDL—Dual Separate Section

Type EDL Capacitors are dual units in cardboard tube containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the tube casing.

TEMPERATURE RANGE: to +65°C.

EDL Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Lgth.	List Price	Net Price
***EDL 2215SS**	20–20	150	15/16 x 2⅝	$1.65	**$ .99**
***EDL 3315SS**	30–30	150	1 x 2⅝	1.80	**1.08**
***EDL 4215SS**	40–20	150	1 x 2⅝	1.75	**1.05**
***EDL 4415SS**	40–40	150	1 1/16 x 2⅞	1.85	**1.11**
***EDL 5315SS**	50–30	150	1 1/16 x 2⅞	1.95	**1.17**
***EDL 5515SS**	50–50	150	1⅛ x 3⅛	2.10	**1.26**
***EDL 8415SS**	80–40	150	1 3/16 x 3⅜	2.25	**1.35**

†For OVERALL size add 1/16" to Diam. and 3/16" to Length.
All above Packed—5 Units per Carton, except those marked (*) which are individual Carton Packed.

Net
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY
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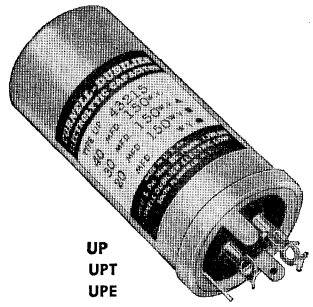
CORNELL DUBILIER

TWIST-PRONG BASE ELECTROLYTICS



Types UP, UPT and UPE are small round-can electrolytic units provided with mounting prongs that can be securely locked into position on the chassis. Each unit is furnished with a bakelite and a metal mounting washer.

- ◆ Wide Temperature Range
- ◆ Stable Capacitance
- ◆ High Ambient Temperature Stability.
- ◆ Special Unit for Selenium Rectifier Circuits

Popular replacement unit for standard TV receivers, radios, amplifiers and similar equipment.§

Type UPE is especially designed for SELENIUM RECTIFIER circuit applications. ONLY TYPE UPE SHOULD BE USED FOR THIS SERVICE. These types are indicated by the prefix "X" in the Rotational Stock Number listings. NOTE:—A protective series-resistor of approximately 50 ohms for a 100 ma. load, and at least 10 ohms for a 250 ma. load, should always be used to protect the rectifier and filter capacitors.

NEW simplified *Rotational Stock Numbering System* lists units in sequence according to their capacitance and voltage rating. Arrangement on shelf by Rotational Stock No. permits quick selection of desired unit.

TEMP. RANGE: to incl. 475 V.D.C.W. +85°C.
over 475 V.D.C.W. +65°C.

SINGLE SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
10 Ω 30 CPS.	A0010	A001	¾ x 2	$2.00	$1.20
.5 Ω 15,750 CPS.	A0020	A002	1 x 2	2.20	1.36
1 Ω 60 CPS.	A0030	A003	1⅜ x 3	2.80	1.68
2000/6	A0040	A004	1⅜ x 2	2.55	1.53
3000/10	A0050	A005	1⅜ x 2½	2.90	1.74
1000/15	A0060	A006	1 x 2½	2.55	1.53
2000/15	A0070	A007	1⅜ x 2½	3.45	2.07
3000/15	A0080	A008	1⅜ x 3	3.52	2.11
40/25	A0090	A009	¾ x 2	1.35	.81
100/25	•A0100	A010	¾ x 2	1.60	.96
500/25	A0110	A011	1 x 2½	2.55	1.53
500/25	A0120	A012	1 x 2	2.55	1.53
1000/25	A0130	A013	1⅜ x 2	3.55	2.13
100/50	A0140	A014	¾ x 2	1.65	.99
150/50	A0150	A015	1 x 2	1.80	1.08
500/50	A0160	A016	1⅜ x 2	2.65	1.59
1000/50	A0170	A017	1⅜ x 3⅝	3.75	2.25
30/150	A0180	A018	¾ x 2	1.55	.93
40/150	A0190	A019	1 x 2	1.60	.96
40/150	XA0191	XA001	¾ x 2	1.60	.96
50/150	A0200	A020	1 x 2	1.65	.99
60/150	A0220	A022	1 x 2	1.75	1.05
80/150	†A0230	A023	1 x 2	1.85	1.11
80/150	XA0231	XA002	1 x 2	1.85	1.11
100/150	†A0240	A024	1 x 2½	2.00	1.20
100/150	XA0241	XA003	1 x 2½	2.00	1.20
120/150	A0250	A025	1⅜ x 2	2.10	1.26
150/150	†A0260	A026	1 x 3	2.15	1.29

SINGLE SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
150/150	XA0261	XA004	1 x 3	$2.15	$1.29
300/150	XA0263	XA005	1⅜ x 3	2.80	1.68
80/200	XA0265	XA006	1⅜ x 2	1.95	1.17
150/200	XA0266	XA007	1⅜ x 2½	2.80	1.68
20/250	A0270	A027	¾ x 2	1.60	.96
30/250	A0280	A028	1 x 2	1.70	1.02
40/250	†A0290	A029	1 x 2	1.80	1.08
40/250	XA0291	XA008	1 x 2	1.80	1.08
60/250	A0300	A030	1 x 2½	2.05	1.23
80/250	A0310	A031	1 x 3	2.15	1.29
200/250	XA0318	—	1⅜ x 3	3.45	2.07
50/300	•A0320	A032	1 x 2½	2.05	1.23
60/300	XA0324	XA009	1 x 2½	2.10	1.26
80/300	†A0330	A033	1 x 3	2.55	1.53
80/300	XA0331	XA010	1 x 3	2.55	1.53
100/300	A0340	A034	1⅜ x 3	2.90	1.74
100/300	A0350	A035	1 x 3⅝	2.90	1.74
15/350	•A0360	A036	1 x 2	1.65	.99
30/350	•A0370	A037	1 x 2	1.90	1.14
40/350	•A0380	A038	1 x 2½	2.00	1.20
50/350	•A0390	A039	1 x 3	2.10	1.26
80/350	†A0400	A040	1⅜ x 2½	2.85	1.71
80/350	XA0401	XA011	1⅜ x 2½	2.85	1.71
125/350	†A0410	A041	1⅜ x 3	3.65	2.19
125/350	XA0411	XA012	1⅜ x 3	3.65	2.19
80/400	•A0420	A042	1⅜ x 3	2.95	1.77
10/450	A0430	A043	1 x 2	1.55	.93
10/450	A0440	A044	¾ x 2	1.55	.93
15/450	A0450	A045	1 x 2	1.70	1.02
20/450	A0460	A046	1 x 2	1.80	1.08
30/450	A0470	A047	1 x 2½	1.95	1.17
40/450	A0480	A048	1 x 3	2.05	1.23
50/450	A0490	A049	1 x 3⅝	2.35	1.41
60/450	A0500	A050	1⅜ x 2½	2.60	1.56
80/450	A0510	A051	1⅜ x 3	3.05	1.83
10/500	A0520	A052	1 x 2	1.60	.96
20/500	A0530	A053	1 x 2½	1.85	1.11
25/500	A0532	A058	1 x 2½	1.95	1.17
30/500	†A0540	A054	1 x 3	2.00	1.20
30/500	XA0541	XA013	1 x 3	2.00	1.20
40/500	A0550	A055	1 x 3⅝	2.50	1.50
80/500	A0560	A056	1⅜ x 3⅝	3.20	1.92
90/500	A0570	A057	1⅜ x 3⅝	3.50	2.10

DUAL SECTION

.5 Ω 15,750 CPS. 2.5 Ω 60 CPS.	B0010	B001	1⅜ x 2	3.90	2.34
1000-500/6 VNP	B0020	B002	1⅜ x 2	3.85	2.31
1000-1000/15	B0030	B003	1 x 3⅝	4.40	2.64
1000-1000/15	B0040	B004	1⅜ x 2½	4.40	2.64
20-20/25	B0050	B005	1 x 2	1.45	.87
40-40/25	B0060	B006	1 x 2	1.60	.96
150-50/25	B0070	B007	1 x 2	1.90	1.14
50-50/50	B0080	B008	1 x 2	1.70	1.02
20-20/150	†B0090	B009	1 x 2	1.70	1.02
20-20/150	XB0091	XB001	1 x 2	1.70	1.02
30-20/150	B0100	B010	1 x 2	1.75	1.05
30-30/150	B0110	B011	1 x 2	1.85	1.11
40-20/150	B0120	B012	1 x 2	1.80	1.08
40-30/150	B0130	B013	1 x 2	1.85	1.11
40-40/150	†B0140	B014	1 x 2	1.90	1.14
40-40/150	XB0141	XB002	1 x 2	1.90	1.14
50-30/150	B0150	B015	1 x 2	2.00	1.20
50-50/150	†B0160	B016	1 x 2½	2.15	1.29
50-50/150	XB0161	XB003	1 x 2½	2.15	1.29
75-75/150	B0170	B017	1 x 3	2.60	1.56
80-40/150	†B0180	B018	1 x 2½	2.30	1.38
80-40/150	XB0181	XB004	1 x 2½	2.30	1.38
80-80/150	XB0183	XB005	1⅜ x 2	2.65	1.59
100-100/150	XB0184	XB006	1⅜ x 2½	3.25	1.95
150-150/150	XB0185	XB007	1⅜ x 3	3.50	2.10

§ Ask your Distributor for the C-D TELEVISION REPLACEMENT GUIDE No. TVR7.
† Superseded by ETCHED CATHODE Type UPE. • Recommend Stocking Next Higher Voltage Rating.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CORNELL DUBILIER

TWIST-PRONG BASE ELECTROLYTICS

DUAL SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
200-5/150	**BO186**	**BO78**	1⅜ x 2½	$2.70	**$1.62**
200-150/150	**XBO188**	**XBO08**	1⅜ x 3⅝	3.75	**2.25**
200-200/150	**XBO189**	**XBO09**	1⅜ x 3⅝	4.00	**2.40**
60-60/200	**BO190**	**BO19**	1⅜ x 2	2.55	**1.53**
100-100/200	**XBO194**	**XBO10**	1⅜ x 3	3.50	**2.10**
10-10/250	**BO200**	**BO20**	1 x 2	1.70	**1.02**
20-20/250	**BO210**	**BO21**	1 x 2	1.90	**1.14**
30-30/250	**BO220**	**BO22**	1 x 2½	2.30	**1.38**
40-20/250	**BO230**	**BO23**	1 x 2½	2.20	**1.32**
40-40/250	†**BO240**	**BO24**	1 x 3	2.55	**1.53**
40-40/250	**XBO241**	**XBO11**	1 x 3	2.55	**1.53**
80-40/250	**XBO243**	**XBO12**	1⅜ x 2½	3.00	**1.80**
150-150/250	**BO250**	**BO25**	1⅜ x 4⅛	5.15	**3.09**
40-40/300	**XBO254**	**XBO13**	1 x 3	3.00	**1.80**
50-50/300	**BO260**	**BO26**	1⅜ x 2½	3.35	**2.01**
80-40/300	**XBO264**	**XBO14**	1⅜ x 2½	3.55	**2.13**
80-80/300	**BO270**	**BO27**	1⅜ x 3	4.05	**2.43**
120-20/300	**BO280**	**BO28**	1⅜ x 3	3.80	**2.28**
120-40/300	**BO282**	**BO79**	1⅜ x 3⅝	4.35	**2.61**
15-15/350	**BO290**	**BO29**	1 x 2	2.25	**1.35**
20-20/350	**BO300**	**BO30**	1 x 2½	2.30	**1.38**
30-30/350	**BO310**	**BO31**	1 x 3	2.90	**1.74**
50-30/350	**BO320**	**BO32**	1⅜ x 2½	3.15	**1.89**
80-80/350	**BO330**	**BO33**	1⅜ x 3⅝	4.70	**2.82**
40-120/400	**BO336**	**BO80**	1⅜ x 4⅛	4.75	**2.85**
60-60/400	•**BO340**	**BO34**	1⅜ x 3⅝	4.40	**2.64**
80-10/400	•**BO350**	**BO35**	1⅜ x 3	3.40	**2.04**
80-60/400	**BO354**	**BO81**	1⅜ x 3⅝	4.45	**2.67**
4-4/450	**BO360**	**BO36**	1 x 2	1.65	**.99**
10-10/450	**BO370**	**BO37**	1 x 2	1.90	**1.14**
15-10/450	**BO374**	**BO82**	1 x 2½	2.05	**1.23**
15-15/450	**BO380**	**BO38**	1 x 2½	2.25	**1.35**
20-10/450	**BO390**	**BO39**	1 x 2½	2.25	**1.35**
20-20/450	**BO400**	**BO40**	1 x 3	2.55	**1.53**
30-10/450	**BO410**	**BO41**	1 x 3	2.50	**1.50**
30-10/450	**BO420**	**BO42**	1⅜ x 2	2.40	**1.44**
30-30/450	**BO430**	**BO43**	1⅜ x 2½	3.05	**1.83**
40-5/450	**BO436**	**BO83**	1 x 3	2.55	**1.53**
40-20/450	**BO440**	**BO44**	1⅜ x 2½	3.00	**1.80**
40-40/450	**BO450**	**BO45**	1⅜ x 3	3.45	**2.07**
50-50/450	**XBO455**	**XBO15**	1⅜ x 3	3.80	**2.28**
60-20/450	**BO460**	**BO46**	1⅜ x 3	3.55	**2.13**
60-60/450	**BO464**	**BO84**	1⅜ x 3⅝	4.50	**2.70**
80-10/450	**BO470**	**BO47**	1⅜ x 3	3.60	**2.16**
80-40/450	**BO480**	**BO48**	1⅜ x 3⅝	4.35	**2.61**
10-10/500	**BO490**	**BO49**	1 x 2½	1.95	**1.17**
20-20/500	**BO500**	**BO50**	1⅜ x 2½	2.85	**1.71**
25-40/500	**BO510**	**BO51**	1⅜ x 3	3.65	**2.19**
30-10/500	**BO520**	**BO52**	1⅜ x 2½	2.60	**1.56**
40-40/500	**BO530**	**BO53**	1⅜ x 3⅝	4.30	**2.58**
60-40/500	**BO540**	**BO54**	1⅜ x 3⅝	4.60	**2.76**
250/10 1000/6	**BO550**	**BO55**	1⅜ x 2	2.85	**1.71**
40/150 20/50	**BO560**	**BO56**	1 x 2	1.70	**1.02**
40/150 150/25	**BO570**	**BO57**	1 x 2	2.05	**1.23**
50/150 500/5	**BO574**	**BO85**	1 x 2½	2.45	**1.47**
60/200 125/25	**BO576**	**BO86**	1 x 3	2.40	**1.44**
40/250 20/25	**BO580**	**BO58**	1 x 2	2.00	**1.20**
50/250 100/50	**BO590**	**BO59**	1⅜ x 2	2.60	**1.56**
100/250 150/50	**BO600**	**BO60**	1⅜ x 3	3.65	**2.19**
80/300 100/50	**BO606**	**BO87**	1⅜ x 2½	3.15	**1.89**
20/350 20/25	•**BO610**	**BO61**	1 x 2	1.90	**1.14**
20/350 100/75	**BO612**	**BO88**	1 x 2½	2.25	**1.35**
40/350 20/25	•**BO620**	**BO62**	1 x 2½	2.35	**1.41**
10/450 20/25	**BO630**	**BO63**	1 x 2	1.70	**1.02**
20/450 20/25	**BO640**	**BO64**	1 x 2	2.00	**1.20**
20/450 100/25	**BO646**	**BO89**	1 x 2½	2.20	**1.32**
40/450 20/25	**BO650**	**BO65**	1 x 3	2.45	**1.47**
40/450 50/50	**BO652**	**BO90**	1 x 3⅝	3.00	**1.80**
80/450 20/25	**BO660**	**BO66**	1⅜ x 3	3.40	**2.04**
10/450 100/50	**BO670**	**BO67**	1⅜ x 2	2.05	**1.23**
20/450 80/350	**BO680**	**BO68**	1⅜ x 3	3.65	**2.19**
20/450 100/100	**BO690**	**BO69**	1⅜ x 2	2.65	**1.59**

DUAL SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
30/450 40/150	**BO700**	**BO70**	1⅜ x 2	$2.50	**$1.50**
40/450 10/350	**BO710**	**BO71**	1⅜ x 2	2.60	**1.56**
80/450 50/50	**BO720**	**BO72**	1⅜ x 3	3.50	**2.10**
15/500 20/300	**BO730**	**BO73**	1 x 2½	2.30	**1.38**
20/500 100/300	**BO740**	**BO74**	1⅜ x 3	3.95	**2.37**
40/500 50/200	**BO750**	**BO75**	1⅜ x 2½	3.35	**2.01**
60/500 80/150	**BO760**	**BO76**	1⅜ x 3⅝	3.75	**2.25**
80/500 50/50	**BO770**	**BO77**	1⅜ x 3⅝	3.80	**2.28**

TRIPLE SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
20-20-20/25	**CO010**	**CO01**	1 x 2	1.95	**1.17**
40-40-40/25	**CO020**	**CO02**	1 x 2	2.15	**1.29**
30-30-30/50	**CO030**	**CO03**	1 x 2	2.15	**1.29**
20-20-20/150	†**CO040**	**CO04**	1 x 2	2.35	**1.41**
20-20-20/150	**XCO041**	**XCO01**	1 x 2	2.35	**1.41**
30-30-10/150	**CO050**	**CO05**	1 x 2	2.35	**1.41**
40-20-10/150	**CO060**	**CO06**	1 x 2	2.35	**1.41**
40-20-20/150	†**CO070**	**CO07**	1 x 2	2.40	**1.44**
40-20-20/150	**XCO071**	**XCO02**	1 x 2	2.40	**1.44**
40-30-20/150	**CO080**	**CO08**	1 x 2	2.50	**1.50**
40-40-40/150	**CO090**	**CO09**	1 x 2½	2.60	**1.56**
40-70-40/150	**CO100**	**CO10**	1 x 3	2.95	**1.77**
50-50-50/150	**XCO105**	**XCO03**	1 x 3	3.00	**1.80**
60-40-20/150	**CO110**	**CO11**	1 x 2½	2.75	**1.65**
80-40-20/150	**CO120**	**CO12**	1 x 3	2.90	**1.74**
80-80-80/150	**XCO123**	**XCO04**	1⅜ x 3	3.75	**2.25**
120-80-40/150	**XCO125**	**XCO05**	1⅜ x 3	3.70	**2.22**
20-20-10/250	**CO130**	**CO13**	1 x 2	2.50	**1.50**
30-20-10/250	**CO140**	**CO14**	1 x 2½	2.70	**1.62**
40-20-10/250	**CO150**	**CO15**	1⅜ x 2	2.85	**1.71**
40-20-20/250	**CO160**	**CO16**	1 x 3	2.90	**1.74**
80-80-60/250	**CO170**	**CO17**	1⅜ x 3⅝	4.90	**2.94**
20-80-10/300	**CO180**	**CO18**	1⅜ x 2½	3.80	**2.28**
60-20-10/300	**CO190**	**CO19**	1⅜ x 2½	3.45	**2.07**
80-40-40/300	**CO194**	**C154**	1⅜ x 3	4.75	**2.85**
120-50-40/300	**CO200**	**CO20**	1⅜ x 4⅛	5.65	**3.39**
10-10-10/350	•**CO210**	**CO21**	1 x 2	2.40	**1.44**
20-20-10/350	•**CO220**	**CO22**	1 x 3	2.95	**1.77**
60-40-20/350	**CO230**	**CO23**	1⅜ x 3	4.25	**2.55**
60-40-40/350	**CO232**	**C150**	1⅜ x 3⅝	4.70	**2.82**
100-100-10/350	**CO238**	—	1⅜ x 4⅛	5.55	**3.33**
10-10-10/450	**CO240**	**CO24**	1 x 2½	2.60	**1.56**
15-15-10/450	**CO250**	**CO25**	1 x 3	2.95	**1.77**
20-10-10/450	**CO260**	**CO26**	1 x 3	2.95	**1.77**
20-20-20/450	**CO270**	**CO27**	1⅜ x 2½	3.60	**2.16**
30-20-20/450	•**CO280**	**CO28**	1⅜ x 3	3.85	**2.31**
30-30-20/450	**CO290**	**CO29**	1⅜ x 3	4.10	**2.46**
30-30-30/450	**CO300**	**CO30**	1⅜ x 3	4.35	**2.61**
30-60-10/450	**CO310**	**CO31**	1⅜ x 3⅝	4.50	**2.70**
40-10-10/450	**CO320**	**CO32**	1⅜ x 3	3.35	**2.01**
40-30-20/450	**CO330**	**CO33**	1⅜ x 3	4.30	**2.58**
40-40-10/450	**CO340**	**CO34**	1⅜ x 3	4.15	**2.49**
40-40-20/450	**CO344**	**C155**	1⅜ x 3⅝	4.45	**2.67**
40-40-40/450	**CO350**	**CO35**	1⅜ x 3⅝	4.90	**2.94**
60-20-20/450	**CO360**	**CO36**	1⅜ x 3⅝	4.60	**2.76**
80-40-20/450	**CO370**	**CO37**	1⅜ x 4⅛	5.40	**3.24**
40-30-30/475	**CO374**	**C156**	1⅜ x 3⅝	5.15	**3.09**
10-10-10/500	**CO380**	**CO38**	1 x 3	2.70	**1.62**
30-20-20/500	**CO390**	**CO39**	1⅜ x 3	4.20	**2.52**
40-10-10/500	**CO400**	**CO40**	1⅜ x 3	3.90	**2.34**
40-40-10/500	**CO410**	**CO41**	1⅜ x 3⅝	5.05	**3.03**
15-15/150 1200/1.5	**CO420**	**CO42**	1 x 2	3.05	**1.83**
20-20/150 20/25	†**CO430**	**CO43**	1 x 2	2.20	**1.32**
20-20/150 20/25	**XCO431**	**XCO06**	1 x 2	2.20	**1.32**
20-20/150 100/10	**CO440**	**CO44**	1 x 2	2.35	**1.41**
20-20/150 250/10	**CO450**	**CO45**	1 x 2	2.60	**1.56**
30-30/150 20/25	**CO460**	**CO46**	1 x 2	2.35	**1.41**
30-30/150 200/10	**CO470**	**CO47**	1 x 2	2.50	**1.50**
40-20/150 20/25	†**CO480**	**CO48**	1 x 2	2.30	**1.38**
40-20/150 20/25	**XCO481**	**XCO07**	1 x 2	2.30	**1.38**
40-20/150 100/25	**CO490**	**CO49**	1 x 2	2.50	**1.50**
40-20/150 100/10	•**CO500**	**CO50**	1 x 2	2.40	**1.44**

§ Ask your Distributor for the C-D TELEVISION REPLACEMENT GUIDE No. TVR7.

† Superseded by ETCHED CATHODE Type UPE.

• Recommend Stocking Next Higher Voltage Rating.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CORNELL DUBILIER

TWIST-PRONG BASE ELECTROLYTICS

TRIPLE SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
40-20/150 200/25	C0510	C051	1 x 2½	$2.70	$1.62
40-20/150 200/10	•C0520	C052	1 x 2	2.50	1.50
40-20/150 250/10	C0530	C053	1 x 2	2.70	1.62
40-30/150 20/25	C0540	C054	1 x 2	2.35	1.41
40-40/150 20/25	†C0550	C055	1 x 2	2.40	1.44
40-40/150 20/25	XC0551	XC008	1 x 2	2.40	1.44
50-30/150 20/25	C0560	C056	1 x 2	2.50	1.50
50-30/150 100/25	C0570	C057	1 x 2½	2.70	1.62
50-50/150 20/25	C0580	C058	1 x 2½	2.65	1.59
60-20/150 20/25	C0590	C059	1 x 2	2.55	1.53
60-40/150 20/25	C0600	C060	1 x 2½	2.65	1.59
80-30/150 300/25	XC0604	XC012	1⅜ x 2½	3.65	2.19
80-40/150 20/25	C0610	C061	1 x 2½	2.80	1.68
120-60/150 20/25	C0620	C062	1⅜ x 2½	3.35	2.01
30-20/200 20/25	C0630	C063	1 x 2	2.55	1.53
40-80/200 100/50	C0634	C157	1⅜ x 3	3.50	2.10
60-5/200 20/50	C0636	—	1 x 2½	2.95	1.77
100-10/200 40/50	C0640	C064	1⅜ x 2	3.15	1.89
15-15/250 20/25	C0650	C065	1 x 2	2.35	1.41
20-15/250 20/25	C0660	C066	1 x 2	2.35	1.41
30-30/250 20/25	C0670	C067	1 x 2½	2.80	1.68
40-40/250 10/200	C0674	C158	1 x 3	2.95	1.77
70-70/250 20/50	C0680	C068	1⅜ x 3	3.90	2.34
80-80/250 10/450	C0690	C069	1⅜ x 3⅝	4.20	2.52
10-10/300 15/250	C0700	C070	1 x 2	2.45	1.47
20-20/300 20/25	•C0710	C071	1 x 2	2.75	1.65
30-30/300 25/50	C0720	C072	1 x 3	2.90	1.74
40-15/300 20/25	†C0730	C073	1 x 3	2.95	1.77
40-20/300 20/25	XC0732	XC009	1 x 2½	3.10	1.86
100/300 60-20/250	XC0736	XC010	1⅜ x 4⅛	4.90	2.94
200/300 20-60/250	XC0738	XC011	1⅜ x 5	5.45	3.27
10-5/350 30/50	C0739	C153	1 x 2½	2.55	1.53
10-5/350 150/50	C0740	C074	1 x 3	2.70	1.62
10-10/350 20/25	•C0750	C075	1 x 2	2.25	1.35
10-15/350 20/25	•C0760	C076	1 x 2	2.50	1.50
15-10/350 20/25	C0770	C077	1 x 2	2.50	1.50
20-10/350 20/25	•C0780	C078	1 x 2	2.55	1.53
20-10/350 5/250	C0790	C079	1 x 2	2.55	1.53
20-20/350 20/25	C0800	C080	1 x 2½	2.80	1.68
30-5/350 100/200	C0806	—	1⅜ x 2½	4.00	2.40
30-10/350 20/25	C0810	C081	1 x 2½	2.85	1.71
30-10/350 20/250	C0820	C082	1 x 3	3.05	1.83
30-20/350 20/25	C0830	C083	1 x 3	3.10	1.86
30-30/350 20/25	C0840	C084	1⅜ x 2	3.40	2.04
40-20/350 10/100	C0850	C085	1⅜ x 2	2.85	1.71
20-40/350 10/150	C0860	C086	1 x 3	3.20	1.92
40-40/350 50/25	C0870	C087	1⅜ x 2½	3.75	2.25
30-10/400 150/50	•C0880	C088	1⅜ x 2½	3.40	2.04
80-40/400 150/50	C0890	C089	1⅜ x 3⅝	5.15	3.09
100-10/400 20/50	C0894	C152	1⅜ x 3⅝	4.50	2.70
100-10/400 80/350	C0896	—	1⅜ x 4⅛	5.60	3.36
15-5/450 15/350	C0900	C090	1 x 3	2.85	1.71
10-10/450 20/25	C0910	C091	1 x 2	2.40	1.44
10-10/450 40/50	C0920	C092	1 x 2½	2.50	1.50
10-10/450 50/100	C0930	C093	1⅜ x 2	2.65	1.59
15-15/450 20/25	C0940	C094	1 x 2½	2.75	1.65
15-15/450 10/300	•C0950	C095	1 x 3	2.90	1.74
20-10/450 20/25	C0960	C096	1 x 2½	2.75	1.65
20-10/450 50/50	C0970	C097	1 x 3	2.85	1.71
20-15/450 20/25	C0980	C098	1 x 3	2.90	1.74
20-20/450 20/25	C0990	C099	1 x 3	3.05	1.83
20-20/450 100/50	C0992	C159	1⅜ x 2½	3.50	2.10
20-20/450 60/350	C1000	C100	1⅜ x 3	4.05	2.43
30-10/450 150/50	C1005	C178	1⅜ x 3	3.50	2.10
30-20/450 30/150	C1010	C101	1⅜ x 2½	3.50	2.10
30-30/450 20/25	C1020	C102	1⅜ x 2½	3.55	2.13
30-30/450 40/50	C1030	C103	1⅜ x 3	3.65	2.19
30-30/450 125/25	C1034	C160	1⅜ x 3	3.95	2.37
35-25/450 100/50	C1036	C161	1⅜ x 3	4.10	2.46
40-10/450 100/50	C1040	C104	1⅜ x 3	3.55	2.13
40-10/450 80/200	C1050	C105	1⅜ x 3	3.90	2.34
40-20/450 20/25	C1060	C106	1⅜ x 2½	3.50	2.10

TRIPLE SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
40-40/450 20/25	C1070	C107	1⅜ x 3	$3.95	$2.37
40-40/450 40/25	C1080	C108	1⅜ x 3	2.45	1.47
40-40/450 100/50	C1090	C109	1⅜ x 3⅝	4.30	2.58
40-40/450 40/150	C1100	C110	1⅜ x 3⅝	4.15	2.49
60-40/450 75/50	C1104	C162	1⅜ x 3⅝	4.65	2.79
80-10/450 125/25	C1106	C163	1⅜ x 3⅝	4.45	2.67
80-20/450 100/50	C1108	C164	1⅜ x 4⅛	4.80	2.88
80-40/450 100/25	C1110	C111	1⅜ x 4⅛	5.10	3.06
10-10/500 100/50	C1120	C112	1 x 3	2.85	1.71
10-10/500 4/350	C1130	C113	1 x 2½	2.50	1.50
20-10/500 100/50	C1150	C115	1 x 3⅝	3.30	1.98
20-20/500 60/400	C1160	C116	1⅜ x 3⅝	4.80	2.88
30-10/500 20/50	C1170	C117	1⅜ x 2½	3.10	1.86
40-40/500 100/200	C1180	C118	1⅜ x 4⅛	5.85	3.51
100/100 50-25/25	C1190	C119	1 x 3	2.65	1.59
20/150 250-100/15	C1200	C120	1⅜ x 2	2.90	1.74
120/300 15-10/450	C1210	C121	1⅜ x 3⅝	4.50	2.70
4/350 100-40/25	C1214	C165	1 x 2	2.25	1.35
30/350 20-10/250	•C1220	C122	1 x 3	3.00	1.80
80/400 20-10/300	C1230	C123	1⅜ x 3⅝	4.25	2.55
10/450 20-10/25	C1232	C166	1 x 2	2.15	1.29
20/450 40-10/250	C1240	C124	1⅜ x 2	3.15	1.89
20/450 80-10/350	C1246	C167	1⅜ x 3⅝	4.25	2.55
30/450 100-25/25	C1250	C125	1⅜ x 2	3.00	1.80
40/450 90-50/150	C1260	C126	1⅜ x 3	4.00	2.40
60/450 40-20/350	C1261	C168	1⅜ x 3⅝	4.60	2.76
80/450 100-20/50	C1263	C169	1⅜ x 3⅝	4.25	2.55
40/475 40-10/250	C1265	C170	1⅜ x 2½	4.00	2.40
40/475 80-10/300	C1266	C171	1⅜ x 3⅝	4.80	2.88
40/475 20-20/450	C1268	C172	1⅜ x 3	4.50	2.70
10/500 80-10/150	C1269	C151	1 x 3⅝	2.85	1.71
40/150 25/25 130/15	C1270	C127	1 x 3	2.35	1.41
50/150 100/50 20/25	C1274	C173	1 x 3	2.85	1.71
80/250 40/150 50/50	C1280	C128	1⅜ x 2½	3.30	1.98
100/300 60/150 20/25	C1290	C129	1⅜ x 3	4.20	2.52
20/350 50/100 100/75	C1300	C130	1 x 3	3.10	1.86
20/350 30/300 20/25	C1310	C131	1 x 3	3.15	1.89
50/350 10/250 500/5	C1320	C132	1⅜ x 2½	3.60	2.16
10/400 50/350 30/25	C1330	C133	1 x 3	3.10	1.86
40/400 80/350 100/200	C1336	—	1⅜ x 3⅝	5.30	3.18
60/400 40/300 20/25	C1340	C134	1⅜ x 3⅝	4.20	2.52
10/450 50/150 100/25	C1350	C135	1 x 3	2.75	1.65
10/450 40/300 10/150	C1360	C136	1⅜ x 2	3.10	1.86
10/450 40/350‡ 100/50	C1366	C174	1⅜ x 3⅝	3.40	2.04
10/450 30/400 30/300	C1370	C137	1⅜ x 2½	3.35	2.01
15/450 20/350 20/250	C1380	C138	1 x 3	3.00	1.80
20/450 60/250 100/25	C1390	C139	1⅜ x 2½	3.65	2.19
20/450 15/350 10/300	C1400	C140	1 x 3	3.05	1.83
20/450 80/350 100/50	C1410	C141	1⅜ x 3⅝	4.50	2.70
30/450 40/350 50/25	C1414	C149	1 x 4⅛	3.70	2.22
30/450 50/400 40/25	C1420	C142	1⅜ x 3	3.95	2.37
40/450 40/150 130/50	C1430	C143	1⅜ x 3	3.65	2.19
40/450 100/150 50/50	C1440	C144	1⅜ x 3	3.95	2.37
40/450 50/350 50/300	C1442	C175	1⅜ x 4⅛	4.85	2.91
10/475 4/350 40/250	C1444	C176	1⅜ x 2	2.75	1.65
10/475 4/350 100/50	C1445	—	1 x 2½	3.00	1.80
20/475 50/50 20/25	C1446	C177	1 x 3	2.75	1.65
20/475 10/350 5/150	C1448	—	1 x 2½	3.25	1.95
10/500 100/200 40/50	C1450	C145	1⅜ x 2½	3.35	2.01
20/500 20/300 40/25	C1460	C146	1⅜ x 2	3.10	1.86
40/500 40/250 100/50	C1470	C147	1⅜ x 3	4.30	2.58
40/500 40/400 25/50	C1480	C148	1⅜ x 3	4.30	2.58

QUADRUPLE SECTION

40-40-40-30/150	D0010	D001	1⅜ x 2	3.35	2.01
40-20-10-10/300	D0016	D111	1⅜ x 2	3.95	2.37
40-40-20-10/300	D0020	D002	1⅜ x 2½	4.55	2.73
60-40-10-10/300	D0024	D112	1⅜ x 3⅝	4.55	2.73
200-20-20-20/300	D0026	—	1⅜ x 5	5.60	3.36
10-10-10-10/350	•D0030	D003	1⅜ x 2	3.10	1.86
80-10-10-10/350	•D0040	D004	1⅜ x 3⅝	4.60	2.76
100-40-10-10/350	D0044	—	1⅜ x 3⅝	5.05	3.03

§ Ask your Distributor for the C-D TELEVISION REPLACEMENT GUIDE No. TVR7.
† Superseded by ETCHED CATHODE Type UPE.
• Recommend Stocking Next Higher Voltage Rating.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CORNELL DUBILIER

TWIST-PRONG BASE ELECTROLYTICS

QUADRUPLE SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
140-40-10-10/350	**D0046**	—	1⅜ x 4⅛	$5.25	**$3.15**
30-30-20-20/400	**D0050**	**D005**	1⅜ x 3	4.85	**2.91**
80-10-10-10/400	**D0058**	**D118**	1⅜ x 3⅝	4.70	**2.82**
80-20-10-10/400	**D0060**	**D006**	1⅜ x 3⅝	5.05	**3.03**
4-4-4-4/450	**D0070**	**D007**	1⅜ x 2	2.90	**1.74**
5-5-5-5/450	**D0080**	**D008**	1⅜ x 2	3.00	**1.80**
10-10-10-5/450	**D0088**	**D119**	1⅜ x 2	3.25	**1.95**
10-10-10-10/450	**D0090**	**D009**	1⅜ x 2	3.35	**2.01**
15-30-30-10/450	**D0100**	**D010**	1⅜ x 3	4.70	**2.82**
15-30-30-30/450	**D0110**	**D011**	1⅜ x 3⅝	5.30	**3.18**
20-10-10-10/450	**D0120**	**D012**	1⅜ x 2½	3.70	**2.22**
20-20-20-20/450	**D0130**	**D013**	1⅜ x 3	4.70	**2.82**
30-15-15-15/450	**D0140**	**D014**	1⅜ x 3	4.45	**2.67**
35-35-10-5/450	**D0150**	**D015**	1⅜ x 3⅝	4.65	**2.79**
40-10-10-10/450	**D0160**	**D016**	1⅜ x 3	4.15	**2.49**
40-20-10-10/450	**D0170**	**D017**	1⅜ x 3	4.45	**2.67**
40-40-4-4/450	**D0172**	**D120**	1⅜ x 3⅝	4.65	**2.79**
40-40-20-20/450	**D0174**	**D121**	1⅜ x 4⅛	5.55	**3.33**
40-40-30-30/450	**D0176**	**D122**	1⅜ x 4⅛	6.05	**3.63**
70-10-10-5/450	**D0178**	**D123**	1⅜ x 3⅝	4.75	**2.85**
10-10-10-10/500	**D0180**	**D018**	1⅜ x 2	3.50	**2.10**
20-20-20/150 20/25	**D0190**	**D019**	1⅜ x 2	2.90	**1.74**
30-20-20/150 200/10	**D0200**	**D020**	1⅜ x 2	3.10	**1.86**
30-30-30/150 40/25	**D0210**	**D021**	1⅜ x 2	3.10	**1.86**
40-20-20/150 20/25	**D0220**	**D022**	1⅜ x 2	2.95	**1.77**
40-40-20/150 200/10	**D0230**	**D023**	1⅜ x 2	3.25	**1.95**
40-40-30/150 20/25	**D0240**	**D024**	1⅜ x 2	3.10	**1.86**
40-40-40/150 20/25	**D0250**	**D025**	1⅜ x 2	3.15	**1.89**
40-40-40/150 100/25	**D0260**	**D026**	1⅜ x 2	3.35	**2.01**
40-40-40/150 160/25	**D0270**	**D027**	1⅜ x 2	3.55	**2.13**
50-30-30/150 100/25	**D0280**	**D028**	1⅜ x 2	3.45	**2.07**
50-50-50/150 20/25	**D0290**	**D029**	1⅜ x 2	3.55	**2.13**
60-40-20/150 200/10	**D0300**	**D030**	1⅜ x 2	3.50	**2.10**
75-75-75/150 30/25	**D0310**	**D031**	1⅜ x 3	4.30	**2.58**
80-40-40/150 20/25	**D0320**	**D032**	1⅜ x 2	3.55	**2.13**
80-40-40/150 100/25	**D0330**	**D033**	1⅜ x 2½	3.75	**2.25**
40-20-10/250 20/25	**D0340**	**D034**	1⅜ x 2	3.40	**2.04**
80-60-40/250 20/150	**D0350**	**D035**	1⅜ x 3⅝	5.10	**3.06**
100-40-10/250 100/50	**D0360**	**D036**	1⅜ x 3⅝	5.15	**3.09**
40-40-40/300 20/150	**D0370**	**D037**	1⅜ x 3	4.90	**2.94**
60-40-20/300 50/25	**D0380**	**D038**	1⅜ x 3	4.70	**2.82**
10-10-10/350 20/25	•**D0390**	**D039**	1⅜ x 2	2.95	**1.77**
15-15-15/350 50/50	**D0400**	**D040**	1⅜ x 2	3.80	**2.28**
20-10-5/350 20/25	**D0410**	**D041**	1⅜ x 2	3.10	**1.86**
30-20-20/350 20/25	•**D0420**	**D042**	1⅜ x 2½	4.10	**2.46**
40-40-20/350 20/25	**D0430**	**D043**	1⅜ x 3	4.70	**2.82**
40-20-20/350 25/25	**D0440**	**D044**	1⅜ x 2½	4.25	**2.55**
40-30-10/350 50/50	**D0450**	**D045**	1⅜ x 3	4.40	**2.64**
40-40-40/350 40/25	**D0460**	**D046**	1⅜ x 3	5.20	**3.12**
40-40-40/350 150/50	**D0470**	**D047**	1⅜ x 3⅝	5.70	**3.42**
80-60-60/350 10/50	**D0472**	—	1⅜ x 4⅛	6.20	**3.72**
100-40-30/350 50/50	**D0474**	—	1⅜ x 4⅛	6.55	**3.93**
20-10-10/400 25/25	**D0476**	**D124**	1⅜ x 2	3.25	**1.95**
80-40-30/400 40/25	**D0478**	**D125**	1⅜ x 4⅛	5.95	**3.57**
10-10-10/450 20/25	**D0480**	**D048**	1⅜ x 2	3.15	**1.89**
10-10-10/450 100/25	**D0490**	**D049**	1⅜ x 2	3.35	**2.01**
10-10-10/450 150/50	**D0500**	**D050**	1⅜ x 2½	3.70	**2.22**
15-10-10/450 20/25	**D0504**	**D126**	1⅜ x 2	3.30	**1.98**
20-10-10/450 100/25	**D0510**	**D051**	1⅜ x 2	3.70	**2.22**
20-20-20/450 20/25	**D0520**	**D052**	1⅜ x 2½	4.15	**2.49**
20-20-20/450 100/50	**D0530**	**D053**	1⅜ x 3	4.55	**2.73**
30-15-15/450 40/25	**D0540**	**D054**	1⅜ x 2½	4.15	**2.49**
30-20-20/450 20/25	**D0550**	**D055**	1⅜ x 3	4.40	**2.64**
30-30-15/450 30/50	**D0560**	**D056**	1⅜ x 3	4.15	**2.49**
30-30-15/450 100/50	**D0570**	**D057**	1⅜ x 3⅝	4.90	**2.94**
30-30-10/450 20/25	**D0580**	**D058**	1⅜ x 3	4.35	**2.61**
30-30-20/450 20/25	**D0590**	**D059**	1⅜ x 3	4.65	**2.79**
35-35-10/450 10/200	**D0592**	**D103**	1⅜ x 3⅝	4.60	**2.76**
40-10-10/450 250/25	**D0600**	**D060**	1⅜ x 3	4.25	**2.55**
40-10-10/450 40/300	**D0604**	**D127**	1⅜ x 3⅝	4.65	**2.79**
40-20-10/450 25/25	**D0610**	**D061**	1⅜ x 3	4.25	**2.55**
40-20-10/450 100/50	**D0620**	**D062**	1⅜ x 3⅝	4.65	**2.79**

QUADRUPLE SECTION

Cap./Volts	New Rotational Stock No.	Old Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
40-20-20/450 20/25	**D0624**	**D082**	1⅜ x 3	$4.60	**$2.76**
40-20-20/450 40/25	**D0630**	**D063**	1⅜ x 3	4.65	**2.79**
40-30-10/450 20/25	**D0640**	**D064**	1⅜ x 3	4.50	**2.70**
40-40-10/450 25/50	**D0650**	**D065**	1⅜ x 3⅝	4.70	**2.82**
40-40-10/450 100/100	**D0660**	**D066**	1⅜ x 3⅝	5.35	**3.21**
40-40-10/450 10/350	**D0662**	**D128**	1⅜ x 3⅝	4.80	**2.88**
50-40-5/450 20/25	**D0664**	**D129**	1⅜ x 3⅝	4.80	**2.88**
60-10-10/450 20/150	**D0670**	**D067**	1⅜ x 3	4.60	**2.76**
40-10-20/475 10/25	**D0680**	**D068**	1⅜ x 3	4.85	**2.91**
20-20-10/500 10/300	**D0690**	**D069**	1⅜ x 2½	4.30	**2.58**
50-30-10/500 20/300	**D0692**	**D102**	1⅜ x 3⅝	5.60	**3.36**
10/300 200-140-30/150	**D0694**	**D110**	1⅜ x 5	5.10	**3.06**
20/475 60-40-10/350	**D0696**	**D130**	1⅜ x 3⅝	5.20	**3.12**
20/500 80-20-10/300	**D0698**	**D114**	1⅜ x 3⅝	5.00	**3.00**
5/75 25-25/25 100/15	**D0700**	—	1⅜ x 2	2.75	**1.65**
20/300 150-150/150 100/30	**D0710**	**D071**	1⅜ x 4⅛	5.30	**3.18**
15/350 80-40/200 200/25	**D0720**	**D072**	1⅜ x 3	4.50	**2.70**
20/350 150-80/150 20/25	**D0722**	**D106**	1⅜ x 3	4.55	**2.73**
40/350 50-20/150 80/50	**D0724**	**D107**	1⅜ x 3	4.05	**2.43**
10/400 50-30/350 30/25	**D0730**	**D073**	1⅜ x 3	4.40	**2.64**
30/400 60-20/350 100/50	**D0731**	**D146**	1⅜ x 3	4.52	**1.63**
80/400 40-10/350 10/25	**D0732**	**D131**	1⅜ x 3⅝	5.30	**3.18**
50/400 60-40/350 20/25	**D0733**	**D147**	1⅜ x 3⅝	4.90	**1.76**
10/450 100-20/300 20/25	•**D0734**	**D108**	1⅜ x 3⅝	4.90	**2.94**
10/450 100-20/300 20/200	**D0736**	**D116**	1⅜ x 3⅝	5.05	**3.03**
10/450 60-40/350 25/25	**D0740**	**D074**	1⅜ x 3⅝	4.60	**2.76**
10/450 100-10/350 20/25	**D0750**	**D075**	1⅜ x 3⅝	5.25	**3.15**
20/450 80-20/200 50/50	**D0760**	**D076**	1⅜ x 3	4.15	**2.49**
20/450 80-50/350 100/50	**D0764**	**D132**	1⅜ x 4⅛	6.00	**3.60**
25/450 100-10/300 60/50	**D0768**	—	1⅜ x 3⅝	5.60	**3.36**
30/450 125-125/25 30/450	**D0770**	**D078**	1⅜ x 3	4.90	**2.94**
30/450 40-40/350 10/200	**D0780**	**D077**	1⅜ x 3⅝	5.15	**3.09**
40/450 40-40/250 20/25	**D0782**	**D133**	1⅜ x 3	4.55	**2.73**
5/500 100-10/300 200/150	**D0784**	—	1⅜ x 3⅝	6.95	**4.17**
10/500 100-10/300 100/25	**D0785**	**D117**	1⅜ x 3⅝	5.20	**3.12**
20/525 40-20/450 100/25	**D0786**	—	1⅜ x 3⅝	5.95	**3.57**
5-5/75 25/25 100/15	**D0788**	**D134**	1⅜ x 2	2.65	**1.59**
5-5/400 50/300 80/250	**D0790**	**D079**	1⅜ x 3	4.65	**2.79**
40-60/400 40/350 10/50	**D0800**	**D080**	1⅜ x 3⅝	5.75	**3.45**
10-10/450 60/200 100/50	**D0810**	**D081**	1⅜ x 3	3.85	**2.31**
35-25/450 20/200 100/50	**D0820**	**D104**	1⅜ x 3⅝	4.65	**2.79**
10-5/475 80/450 40/50	**D0830**	**D083**	1⅜ x 3⅝	4.95	**2.97**
15-15/475 80/300 40/50	**D0840**	**D084**	1⅜ x 3	4.80	**2.88**
40-10/475 4/350 40/300	**D0842**	**D105**	1⅜ x 3	4.95	**2.97**
40-40/150 40-40/25	**D0850**	**D085**	1⅜ x 2	3.05	**1.83**
40-40/150 100-100/25	**D0860**	**D086**	1⅜ x 2	3.35	**2.01**
140-40/150 50-30/50	**XD0864**	—	1⅜ x 2½	3.50	**2.10**
100-10/300 200-30/150	**D0866**	**D109**	1⅜ x 5	5.90	**3.54**
60-4/350 100-40/25	**D0868**	**D135**	1⅜ x 2½	3.80	**2.28**
60-40/350 60-20/200	**D0869**	**D145**	1⅜ x 3⅝	4.66	**1.68**
40-10/400 80-10/250	**D0870**	**D087**	1⅜ x 3⅝	4.70	**2.82**
10-10/450 20-20/25	**D0880**	**D088**	1⅜ x 2	2.95	**1.77**
20-20/450 20-20/25	**D0890**	**D089**	1⅜ x 2	3.60	**2.16**
20-20/450 30-30/350	**D0900**	**D090**	1⅜ x 3	5.05	**3.03**
30-10/450 150-30/50	•**D0906**	**D136**	1⅜ x 3	4.10	**2.46**
40-10/450 35-10/350	**D0910**	**D091**	1⅜ x 3	4.60	**2.76**
40-20/450 80-10/350	**D0912**	**D115**	1⅜ x 4⅛	5.80	**3.48**
40-40/450 100-60/200	**D0914**	**D137**	1⅜ x 4⅛	6.05	**3.63**
40-40/450 30-30/350	**D0920**	**D092**	1⅜ x 4⅛	5.90	**3.54**
100/300 40/50 80-20/25	**D0922**	**D070**	1⅜ x 2½	4.55	**2.73**
40/350 100/250 100-25/50	**D0924**	—	1⅜ x 3⅝	4.20	**2.52**
20/400 50/350 80-40/25	**D0926**	**D139**	1⅜ x 2½	4.15	**2.49**
30/500 10/450 150-30/50	**D0928**	**D113**	1⅜ x 3	4.20	**2.52**
120/300 20/250 20/25 100/50	**D0930**	**D093**	1⅜ x 4⅛	5.05	**3.03**
200/300 20/250 20/25 100/50	**D0940**	**D094**	1⅜ x 5	5.45	**3.27**
20/350 40/300 10/150 250/50	**D0950**	**D095**	1⅜ x 3	4.60	**2.76**
10/400 100/300 10/75 100/25	**D0952**	**D138**	1⅜ x 3	4.45	**2.67**
10/450 80/300 40/250 100/50	**D0954**	**D140**	1⅜ x 3⅝	4.90	**2.94**
60/450 40/250 10/150 80/50	**D0956**	**D141**	1⅜ x 3⅝	4.80	**2.88**
80/450 10/400 30/300 40/150	**D0960**	**D096**	1⅜ x 4⅛	5.25	**3.15**
10/475 40/350 80/200 100/50	•**D0962**	**D101**	1⅜ x 3⅝	4.80	**2.88**
10/475 40/400 100/50 10/25	**D0964**	**D142**	1⅜ x 2½	4.00	**2.40**
10/475 40/400 4/350 100/50	**D0966**	**D143**	1⅜ x 2½	4.05	**2.43**
10/475 10/450 80/200 50/60	**D0970**	**D097**	1⅜ x 2½	3.85	**2.31**
10/475 60/450 30/400 125/50	**D0980**	**D098**	1⅜ x 4⅛	5.45	**3.27**
20/475 40/300 100/50 80/25	**D0990**	**D099**	1⅜ x 3	4.50	**2.70**
25/475 20/450 40/300 100/50	**D1000**	**D100**	1⅜ x 3	4.95	**2.97**
40/475 40/250 50/150 80/50	**D1004**	**D144**	1⅜ x 3⅝	5.00	**3.00**

§ Ask your Distributor for the C-D TELEVISION REPLACEMENT GUIDE No. TVR7.
† Superseded by ETCHED CATHODE Type UPE.
• Recommend Stocking Next Higher Voltage Rating.

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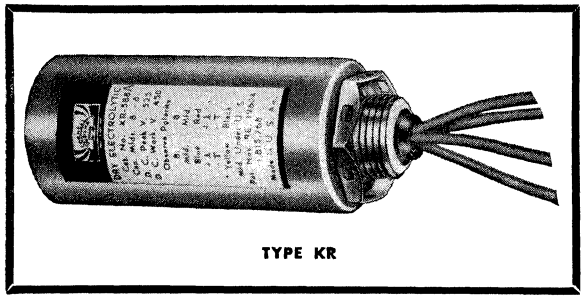
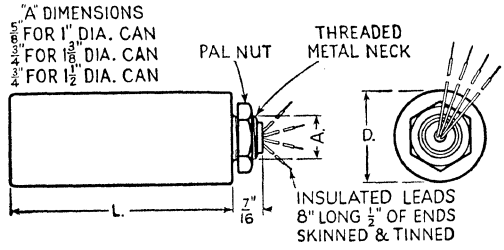
ROUND CAN-TYPE ELECTROLYTICS



TYPE KR



Types KR are single-hole mounting units compact etched foil type dry electrolytic capacitors furnished in round (inverted mounting) aluminum cans. Available in single, dual and triple sections with color-coded leads. Metal threaded neck.

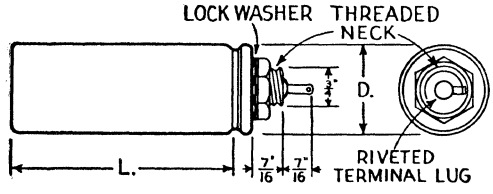
TYPE KR

TEMPERATURE RANGE to +65°C.

KR Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
KR 508	8	450	1 x 2½	2.20	**1.32**
KR 520	20	450	1⅜ x 2½	2.75	**1.65**
KR 540	40	450	1⅜ x 4⅜	3.15	**1.89**
KR 604C	4	600	1⅜ x 3½	2.95	**1.77**
KR 608C	8	600	1⅜ x 4⅜	3.15	**1.89**
KR 616C	16	600	1⅜ x 4⅜	3.75	**2.25**
Separate Section Units					
KR 588A	8–8	450	1⅜ x 3	3.75	**2.25**
KR 5888A	8–8–8	450	1⅜ x 4½	6.25	**3.75**

TYPE WR

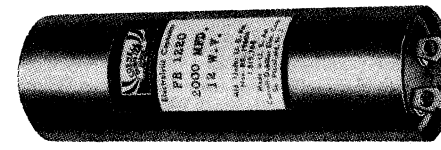
REPLACEMENTS FOR WET ELECTROLYTICS
TYPE WR—500-VOLT D.C.



TEMPERATURE RANGE to +65°C.

WR Cat. No.	Cap. Mfd.	Replacement for	Size—Ins. Dia. x Lgth.	List Price	Net Price
WR 10	10	4 to 12 mfd.	1⅜ x 2½	$2.30	**$1.38**
WR 20	20	16 to 20 mfd.	1⅜ x 2½	2.70	**1.62**
WR 30	30	20 to 30 mfd.	1⅜ x 3¼	2.95	**1.77**
WR 40	40	30 to 40 mfd.	1⅜ x 3¼	3.15	**1.89**

HIGH-CAPACITY LOW-VOLTAGE ELECTROLYTICS



TYPE FB ★

Type FB capacitors in round cardboard sleeved aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, and other low voltage circuits.

TEMPERATURE RANGE to +85°C.

FB Cat. No.	Cap. Mfd.	D.C. W. Volts	Can†† Size—Inches Dia. x Lgth.	List Price	Net Price
FB 1005	500	10	1⅜ x 2⅜	$3.10	**$1.86**
FB 1010	1000	10	1⅜ x 2⅜	3.55	**2.13**
FB 1015	1500	10	1⅜ x 2⅜	3.75	**2.25**
FB 1020	2000	10	1⅜ x 2⅝	3.95	**2.37**
FB 1030	3000	10	1⅜ x 3⅛	4.35	**2.61**
FB 1040	4000	10	1⅜ x 4⅛	4.75	**2.85**
FB 1050	5000	10	1½ x 4⅛	5.15	**3.09**
FB 1060	6000	10	1¾ x 4⅛	7.50	**4.50**
FB 1205	500	12	1⅜ x 2⅜	3.20	**1.92**
FB 1210	1000	12	1⅜ x 2⅜	3.75	**2.25**
FB 1215	1500	12	1⅜ x 2⅝	3.95	**2.37**
FB 1220	2000	12	1⅜ x 3⅛	4.15	**2.49**
FB 1225	2500	12	1⅜ x 3⅛	4.85	**2.91**
FB 1230	3000	12	1⅜ x 4⅛	5.05	**3.03**
FB 1240	4000	12	1½ x 4⅛	5.25	**3.15**
FB 1260	6000	12	2 x 4⅛	9.35	**5.61**
FB 1505	500	15	1⅜ x 2⅜	3.25	**1.95**
FB 1510	1000	15	1⅜ x 2⅜	3.80	**2.28**
FB 1515	1500	15	1⅜ x 2⅝	4.00	**2.40**
FB 1520	2000	15	1⅜ x 3⅛	4.70	**2.82**
FB 1530	3000	15	1⅜ x 4⅛	5.15	**3.09**
FB 1540	4000	15	1½ x 4⅛	8.10	**4.86**
FB 1560	6000	15	2 x 4⅛	10.00	**6.00**
FB 1805	500	18	1⅜ x 2⅜	3.00	**1.80**
FB 1810	1000	18	1⅜ x 2⅝	3.90	**2.34**
FB 1820	2000	18	1⅜ x 3⅛	4.90	**2.94**
FB 1840	4000	18	1½ x 4⅛	8.45	**5.07**
FB 2005	500	20	1⅜ x 2⅜	3.40	**2.04**
FB 2010	1000	20	1⅜ x 3⅛	4.10	**2.46**
FB 2020	2000	20	1⅜ x 4⅛	5.20	**3.12**
FB 2040	4000	20	2 x 4⅛	8.75	**5.25**
FB 2505	500	25	1⅜ x 2⅜	3.55	**2.13**
FB 2510	1000	25	1⅜ x 3⅛	4.80	**2.88**
FB 2520	2000	25	1⅜ x 4⅛	5.75	**3.45**
FB 2530	3000	25	1¾ x 4⅛	8.00	**4.80**
FB 2540	4000	25	2 x 4⅛	9.50	**5.70**
FB 2550	5000	25	2½ x 4⅛	11.00	**6.60**
FB 3005	500	30	1⅜ x 3⅛	3.60	**2.16**
FB 3010	1000	30	1⅜ x 4⅛	4.90	**2.94**
FB 3020	2000	30	1¾ x 4⅛	7.40	**4.44**
FB 3030	3000	30	2 x 4⅛	8.95	**5.37**
FB 3040	4000	30	2½ x 4⅛	10.50	**6.30**
FB 3505	500	35	1⅜ x 3⅛	3.70	**2.22**
FB 3510	1000	35	1⅜ x 4⅛	5.00	**3.00**
FB 3520	2000	35	1¾ x 4⅛	8.00	**4.80**
FB 3530	3000	35	2 x 4⅛	9.50	**5.70**
FB 3540	4000	35	2½ x 4⅛	11.00	**6.60**
FB 4005	500	40	1⅜ x 3⅛	3.80	**2.28**
FB 4010	1000	40	1⅜ x 4⅛	6.50	**3.90**
FB 4020	2000	40	1¾ x 4⅛	9.00	**5.40**
FB 4030	3000	40	2 x 4⅛	10.50	**6.30**
FB 4040	4000	40	2½ x 4⅛	11.50	**6.90**
FB 5005	500	50	1⅜ x 3⅛	3.90	**2.34**
FB 5010	1000	50	1⅜ x 4⅛	7.00	**4.20**
FB 5020	2000	50	1¾ x 4⅛	9.10	**5.46**
FB 5030	3000	50	2 x 4⅛	11.50	**6.90**
FB 5040	4000	50	2½ x 4⅛	12.50	**7.50**

★When JAN-C-62 units must be supplied, order according to specific CE type designations. ††For Overall Size add 1/16" to Diam. and 3/8" to Length.

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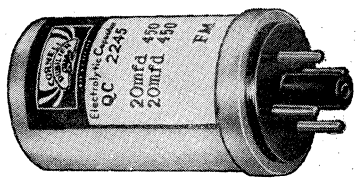
CORNELL DUBILIER

PLUG-IN ELECTROLYTIC



TYPE QC★

Type QC Capacitors are hermetically sealed in round aluminum containers with a four-pin octal base. Ideally suited for experimental, testing, juke box, government communication receiver uses and applications where quick capacitor changes are required. Ground lugs are furnished with all multiple-section units for cathode connection.

TEMPERATURE RANGE: to +85°C; except, +65°C at 500 V.D.C.W.

SINGLES

QC Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
QC 1045	10	450	1 5/32 x 2 1/2	$4.05	**$2.43**
QC 2045	20	450	1 5/32 x 2 1/2	4.30	**2.58**
QC 4045	40	450	1 3/8 x 2 1/2	4.55	**2.73**
QC 8045	80	450	1 3/8 x 3 1/2	5.55	**3.33**
QC 4050	40	500	1 3/8 x 2 1/2	5.00	**3.00**

DUALS

QC 2215	20–20	150	1 5/32 x 2 1/2	4.20	**2.52**
QC 4415	40–40	150	1 5/32 x 2 1/2	4.40	**2.64**
QC 5515	50–50	150	1 5/32 x 2 1/2	4.65	**2.79**
QC 8815	80–80	150	1 3/8 x 2 1/2	5.15	**3.09**
QC 1145	10–10	450	1 5/32 x 2 1/2	4.40	**2.64**
QC 2245	20–20	450	1 3/8 x 2 1/2	5.05	**3.03**
QC 3345	30–30	450	1 3/8 x 3	5.55	**3.33**
QC 4445	40–40	450	1 3/8 x 3 1/2	5.90	**3.54**
QC 2250	20–20	500	1 3/8 x 2 1/2	5.30	**3.18**

TRIPLES

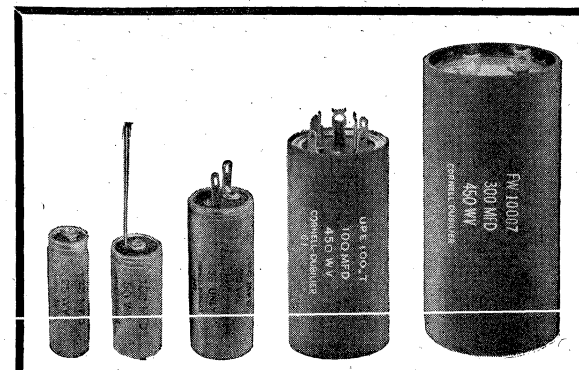
QC 22215	20–20–20	150	1 5/32 x 2 1/2	4.85	**2.91**
QC 44415	40–40–40	150	1 3/8 x 2 1/2	5.10	**3.06**
QC 11145	10–10–10	450	1 5/32 x 2 1/2	5.10	**3.06**
QC 22245	20–20–20	450	1 3/8 x 3	6.10	**3.66**
QC 4245C	40–20/20	450/25	1 3/8 x 3	6.00	**3.60**
QC 11150	10–10–10	500	1 3/8 x 2 1/2	5.30	**3.18**

QUADRUPLES

QC 11145C	10–10–10/20	450/25	1 3/8 x 2 1/2	5.65	**3.39**
QC 33145C	30–30–10/20	450/50	1 3/8 x 4 1/4	6.85	**4.11**

★When JAN-C-62 units must be supplied, order according to specific CE type designations.

HIGH VOLTAGE PHOTOFLASH



Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Length	Watt Seconds	List Price	Net Price
UPE 100T*	100 (2 x 50)	450	1 17/32 x 3 1/4	10	$5.50	**$3.30**
FB 10063*	200	450	2 1/16 x 4 1/2	20	6.85	**4.11**
FW 10005‡	200	500	2 1/16 x 4 3/8	25	10.50	**6.30**
FW 10007‡	300	450	2 1/16 x 4 3/8	30	10.50	**6.30**
FWS 10000†	300	450	2 1/16 x 4 3/8	30	11.50	**6.90**
FA 10300*	400	450	2 1/16 x 4 1/2	40	17.95	**10.77**
FWSN 10001†	525	450	2 1/16 x 4 3/8	53	22.60	**13.56**

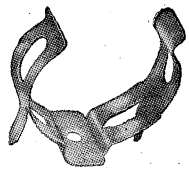
*Aluminum can with cardboard sleeve.

LOW VOLTAGE PHOTOFLASH

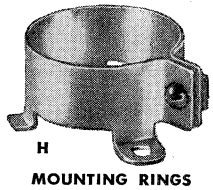
Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Length	List Price	Net Price
BRE 10001◆	40	150	3/4 x 1 7/16	$1.35	**$ .81**
FB 10077◆	100	30	1 x 2 11/16	3.35	**2.01**
BRH 10062◆	125	25	5/8 x 1 15/16	1.35	**.81**
BRH 10067◆	150	50	3/4 x 1 11/16	1.35	**.81**
BRH 2525*	250	25	15/16 x 1 7/8	1.70	**1.02**

*Aluminum can with cardboard sleeve. †Bakelite Case—Screw Terminals.
◆Aluminum can—no sleeve. ‡Bakelite Case—Solder Lug Terminals.

MOUNTING HARDWARE


UNIVERSAL CLIPS

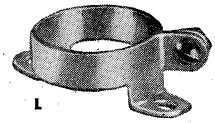
MOUNTING CLIPS



MOUNTING RINGS

"C" CLAMPS

MOUNTING STRAPS



Part No.	Description	List Price	Net Price
14582	Mounting Ring for 1" dia. Cans.....L....	$.10	**$.06**
12125	Mounting Ring for 1 3/8" dia. Cans....L....	.10	**.06**
15591	Mounting Ring for 1 1/2" dia. Cans....L....	.15	**.09**
16693	Mounting Ring for 1 3/4" dia. Cans....L....	.19	**.11**
14464	Mounting Ring for 2" dia. Cans.....L....	.23	**.14**
13590	Mounting Ring for 2 1/2" dia. Cans....L....	.23	**.14**
13591	Mounting Ring for 3" dia. Cans.....L....	.23	**.14**
15266	Mounting Ring for 3 1/2" dia. Cans....L....	.23	**.14**
17842	Mounting Ring for 1" dia. Cans.....H....	.10	**.06**
19213	Mounting Ring for 1 1/8" dia. Cans....H....	.10	**.06**
18573	Mounting Ring for 1 1/4" dia. Cans....H....	.10	**.06**
17843	Mounting Ring for 1 3/4" dia. Cans....H....	.10	**.06**
17844	Mounting Ring for 1 1/2" dia. Cans....H....	.15	**.09**
21368-1	Mounting Clip for 3/4" dia. Cans.....	.15	**.09**
21368-2	Mounting Clip for 1" dia. Cans.....	.15	**.09**
21368-3	Mounting Clip for 1 3/8" dia. Cans.....	.15	**.09**
17920	"C" Clamp for 5/8"-3/4" Cans or Tubulars...	.15	**.09**
17921	"C" Clamp for 7/8"-1" Cans or Tubulars....	.15	**.09**
16279	Tubular Mounting Straps, 7/16" ID.....	.07	**.04**
16280	Tubular Mounting Straps, 1/2" ID.....	.07	**.04**
16285	Tubular Mounting Straps, 11/16" ID.....	.07	**.04**
17203	Tubular Mounting Straps, 9/16" ID.....	.07	**.04**
17516	Tubular Mounting Straps, 5/8" ID.....	.07	**.04**
17517	Tubular Mounting Straps, 3/4" ID.....	.07	**.04**
27886	Tubular Mounting Straps, 7/8" ID.....	.07	**.04**
30010-1	Univ. Clips, 3/8"- 7/16" Cans or Tubulars....	.14	**.08**
30010-2	Univ. Clips, 1/2"- 9/16" Cans or Tubulars....	.14	**.08**
30010-3	Univ. Clips, 5/8"- 11/16" Cans or Tubulars....	.14	**.08**
30010-4	Univ. Clips, 3/4"- 13/16" Cans or Tubulars....	.14	**.08**
30010-5	Univ. Clips, 7/8"- 15/16" Cans or Tubulars....	.14	**.08**
30010-6	Univ. Clips, 1" -1 1/16" Cans or Tubulars....	.14	**.08**
30010-7	Univ. Clips, 1 3/8"-1 7/16" Cans or Tubulars....	.14	**.08**

Net
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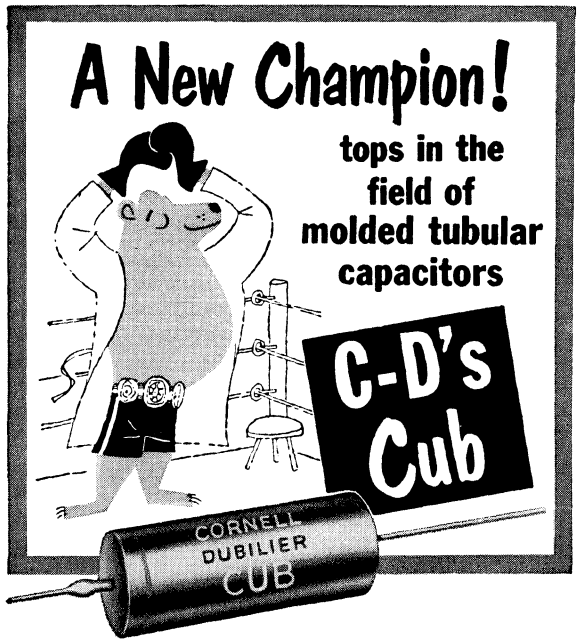
MOLDED TUBULAR
"The CUB"



The Cornell-Dubilier "CUB" is an *outstandingly superior* molded capacitor unequaled by any molded tubular heretofore developed. The "CUB" possesses characteristics that will meet the wide and demanding applications found in critical industrial, military and experimental electronic equipment.

This is **the** unit recommended for general replacement service. Sold exclusively through C-D electronic parts Distributors.

- ♦ Extra Hard, Non-Inflammable Bakelite Case
- ♦ Dry Assembly — Sealed After Impregnation
- ♦ Survives 30 Cycles JAN And MIL Temperature & Immersion Tests
- ♦ 50% Greater Resistance To Humidity
- ♦ 15%-25% Greater Voltage Breakdown
- ♦ Extra Strong Copper-weld Leads Eliminate Breakage

TEMP. RANGE: HT Compound —40°C to +90°C
Dykanol "C" —55°C to +100°C

THE CUB

CUB Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		200 V. D.C.		
CUB 2S2	.02	3/8 x 1	$.25	$.15
CUB 2S47	.047	7/16 x 1 1/4	.25	.15
CUB 2S5	.05	7/16 x 1 1/4	.25	.15
CUB 2P1	.1	7/16 x 1 1/4	.35	.21
CUB 2P15	.15	9/16 x 1 1/2	.35	.21
CUB 2P22	.22	11/16 x 1 7/8	.40	.24
CUB 2P25	.25	11/16 x 1 7/8	.40	.24
CUB 2P47	.47	11/16 x 1 7/8	.60	.36
CUB 2P5	.5	11/16 x 1 7/8	.60	.36
CUB 2W1	1.0	3/4 x 2 1/4	.90	.54
		400 V. D.C.		
CUB 4S1	.01	3/8 x 1	.25	.15
CUB 4S2	.02	7/16 x 1 1/4	.25	.15
CUB 4S22	.022	7/16 x 1 1/4	.25	.15
CUB 4S47	.047	7/16 x 1 1/4	.30	.18
CUB 4S5	.05	7/16 x 1 1/4	.30	.18
CUB 4S68	.068	9/16 x 1 1/2	.35	.21
CUB 4P1	.1	9/16 x 1 1/2	.35	.21
CUB 4P15	.15	11/16 x 1 7/8	.35	.21
CUB 4P22	.22	11/16 x 1 7/8	.40	.24
CUB 4P25	.25	11/16 x 1 7/8	.40	.24
CUB 4P47	.47	3/4 x 2 1/4	.60	.36
CUB 4P5	.5	3/4 x 2 1/4	.60	.36
*ST 4W1	1.0	1 x 2 7/8	.90	.54

THE CUB

CUB Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		600 V. D.C.		
CUB 6T1	.0001	3/8 x 1	$ .25	$ .15
CUB 6T25	.00025	3/8 x 1	.25	.15
CUB 6T4	.0004	3/8 x 1	.25	.15
CUB 6T5	.0005	3/8 x 1	.25	.15
CUB 6D1	.001	3/8 x 1	.25	.15
CUB 6D15	.0015	3/8 x 1	.25	.15
CUB 6D2	.002	3/8 x 1	.25	.15
CUB 6D22	.0022	3/8 x 1	.25	.15
CUB 6D3	.003	3/8 x 1	.25	.15
CUB 6D33	.0033	3/8 x 1	.25	.15
CUB 6D4	.004	3/8 x 1	.25	.15
CUB 6D47	.0047	3/8 x 1	.25	.15
CUB 6D5	.005	3/8 x 1	.25	.15
CUB 6D6	.006	7/16 x 1 1/4	.25	.15
CUB 6D68	.0068	7/16 x 1 1/4	.30	.18
CUB 6S1	.01	7/16 x 1 1/4	.30	.18
CUB 6S15	.015	7/16 x 1 1/4	.30	.18
CUB 6S2	.02	7/16 x 1 1/4	.30	.18
CUB 6S22	.022	7/16 x 1 1/4	.30	.18
CUB 6S3	.03	7/16 x 1 1/4	.35	.21
CUB 6S33	.033	9/16 x 1 1/2	.35	.21
CUB 6S4	.04	9/16 x 1 1/2	.35	.21
CUB 6S47	.047	9/16 x 1 1/2	.40	.24
CUB 6S5	.05	9/16 x 1 1/2	.40	.24
CUB 6S6	.06	11/16 x 1 7/8	.40	.24
CUB 6S68	.068	11/16 x 1 7/8	.40	.24
CUB 6P1	.1	11/16 x 1 7/8	.45	.27
CUB 6P2	.2	3/4 x 2 1/4	.55	.33
CUB 6P22	.22	3/4 x 2 1/4	.55	.33
CUB 6P25	.25	3/4 x 2 1/4	.55	.33
*ST 6P5	.5	1 x 2 7/8	.80	.48
		1000 V. D.C.		
CUB 10T5	.0005	3/8 x 1	.50	.30
CUB 10D1	.001	3/8 x 1	.50	.30
CUB 10D15	.0015	3/8 x 1	.50	.30
CUB 10D2	.002	3/8 x 1	.50	.30
CUB 10D22	.0022	3/8 x 1	.50	.30
CUB 10D3	.003	3/8 x 1	.50	.30
CUB 10D4	.004	7/16 x 1 1/4	.50	.30
CUB 10D47	.0047	7/16 x 1 1/4	.50	.30
CUB 10D5	.005	7/16 x 1 1/4	.50	.30
CUB 10D68	.0068	7/16 x 1 1/4	.50	.30
CUB 10S1	.01	7/16 x 1 1/4	.50	.30
CUB 10S15	.015	9/16 x 1 1/2	.50	.30
CUB 10S2	.02	9/16 x 1 1/2	.50	.30
CUB 10S22	.022	9/16 x 1 1/2	.50	.30
CUB 10S3	.03	9/16 x 1 1/2	.50	.30
CUB 10S33	.035	11/16 x 1 7/8	.50	.30
CUB 10S47	.047	11/16 x 1 7/8	.60	.36
CUB 10S5	.05	11/16 x 1 7/8	.60	.36
CUB 10S68	.068	11/16 x 1 7/8	.65	.39
CUB 10P1	.1	3/4 x 2 1/4	.75	.45
		1600 V. D.C.		
CUB 16T5	.0005	7/16 x 1 1/4	.65	.39
CUB 16D1	.001	7/16 x 1 1/4	.65	.39
CUB 16D15	.0015	7/16 x 1 1/4	.65	.39
CUB 16D2	.002	7/16 x 1 1/4	.65	.39
CUB 16D22	.0022	7/16 x 1 1/4	.65	.39
CUB 16D3	.003	7/16 x 1 1/4	.65	.39
CUB 16D33	.0033	7/16 x 1 1/4	.65	.39
CUB 16D4	.004	7/16 x 1 1/4	.65	.39
CUB 16D47	.0047	7/16 x 1 1/4	.65	.39
CUB 16D5	.005	7/16 x 1 1/4	.65	.39
CUB 16D6	.006	9/16 x 1 1/2	.65	.39
CUB 16D68	.0068	9/16 x 1 1/2	.65	.39
CUB 16D7	.007	9/16 x 1 1/2	.65	.39
CUB 16D75	.0075	9/16 x 1 1/2	.65	.39
CUB 16D8	.008	9/16 x 1 1/2	.65	.39
CUB 16S1	.01	9/16 x 1 1/2	.70	.42
CUB 16S15	.015	9/16 x 1 1/2	.70	.42
CUB 16S2	.02	11/16 x 1 7/8	.70	.42
CUB 16S22	.022	11/16 x 1 7/8	.70	.42
CUB 16S3	.03	11/16 x 1 7/8	.70	.42
CUB 16S4	.04	3/4 x 2 1/4	.70	.42
CUB 16S5	.05	3/4 x 2 1/4	.70	.42
		6000 V. D.C.		
CUB 60T5	.0005	9/16 x 1 1/2	1.35	.81
CUB 60D1	.001	9/16 x 1 1/2	1.35	.81
CUB 60D5	.005	11/16 x 1 7/8	1.35	.81
		10,000 V. D.C.		
CUB 100T5	.0005	11/16 x 1 7/8	1.50	.90
		12,500 V. D.C.		
CUB 125T25	.00025	11/16 x 1 7/8	1.70	1.02

*Furnished as a "BUDROC" unit.

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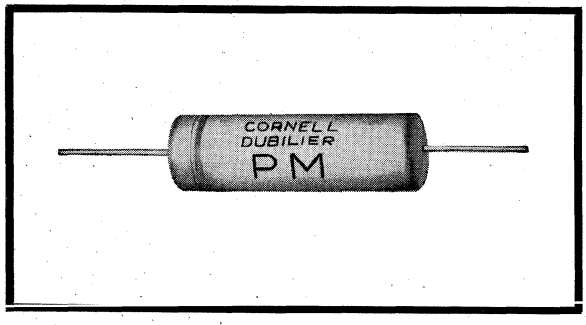
CORNELL DUBILIER

MOLDED MYLAR* TUBULARS



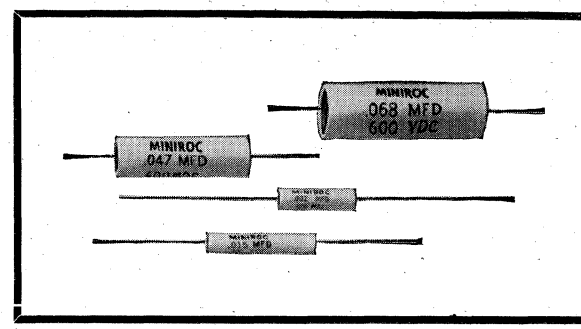
Cornell-Dubilier NEW PM SERIES of molded† tubular capacitors are designed to meet the need for a rugged, high-temperature MOLDED unit. These fine capacitors are fabricated with the Du Pont Company's latest new dielectric material, "MYLAR" which maintains excellent electrical characteristics at temperatures up to +130°C.

- TEMPERATURE RANGE: —55°C to +130°C. No voltage derating required to +100°C; to 130°C derate only to 75%.
- MOISTURE RESISTANT: Exceeds JAN-C-91 requirements.
- NON-INDUCTIVE: Construction insures low resistance connections and low RF impedance
- THERMOSET: Firmly secures leads and sections to withstand extremes of handling, vibration, shock and soldering temperatures.

*DU PONT trade mark.
†For metal-cased Mylar tubulars—See Type TWM Bul. No. 151.

PM Cat. No.	Cap. Mfd.	Dimensions—Inches Diameter x Length	List Price	Net Price
		400 V. D.C.W.		
PM 4S1	.010	5/16 x 1	$.85	$.51
PM 4S15	.015	3/8 x 1 1/4	.85	.51
PM 4S22	.022	7/16 x 1 1/4	.90	.54
PM 4S33	.033	7/16 x 1 1/4	.90	.54
PM 4S47	.047	7/16 x 1 1/4	.90	.54
PM 4S68	.068	1/2 x 1 1/2	.95	.57
PM 4P1	.10	1/2 x 1 1/2	.95	.57
PM 4P15	.15	9/16 x 1 9/16	1.15	.69
PM 4P22	.22	5/8 x 1 7/8	1.35	.81
PM 4P33	.33	11/16 x 1 15/16	1.70	1.02
PM 4P47	.47	3/4 x 2 1/4	2.05	1.23
PM 4P68	.68	1 x 2 1/8	2.80	1.68
PM 4W1	1.00	1 x 2 1/8	3.80	2.28
		600 V. D.C.W.		
PM 6T5	.0005	5/16 x 1	.75	.45
PM 6D1	.0010	5/16 x 1	.75	.45
PM 6D15	.0015	5/16 x 1	.75	.45
PM 6D22	.0022	5/16 x 1	.80	.48
PM 6D33	.0033	5/16 x 1	.80	.48
PM 6D47	.0047	3/8 x 1 1/4	.80	.48
PM 6D68	.0068	3/8 x 1 1/4	.85	.51
PM 6S1	.010	3/8 x 1 1/4	.85	.51
PM 6S15	.015	3/8 x 1 1/4	.85	.51
PM 6S22	.022	7/16 x 1 1/4	.90	.54
PM 6S33	.033	1/2 x 1 1/2	.90	.54
PM 6S47	.047	1/2 x 1 1/2	1.00	.60
PM 6S68	.068	9/16 x 1 9/16	1.10	.66
PM 6P1	.10	5/8 x 1 7/8	1.40	.84
PM 6P15	.15	11/16 x 1 15/16	1.55	.93
PM 6P22	.22	3/4 x 2 1/4	2.00	1.20
PM 6P33	.33	1 x 2 1/8	2.75	1.65
PM 6P47	.47	1 x 2 1/8	3.80	2.28
		1600 V. D.C.W.		
PM 16D1	.0010	3/8 x 1 1/4	.90	.54
PM 16D15	.0015	3/8 x 1 1/4	.95	.57
PM 16D22	.0022	3/8 x 1 1/4	1.00	.60
PM 16D33	.0033	3/8 x 1 1/4	1.05	.63
PM 16D47	.0047	7/16 x 1 1/4	1.15	.69
PM 16D68	.0068	1/2 x 1 1/2	1.20	.72
PM 16S1	.010	1/2 x 1 1/2	1.35	.81
PM 16S15	.015	1/2 x 1 1/2	1.50	.90
PM 16S22	.022	5/8 x 1 7/8	1.70	1.02
PM 16S33	.033	5/8 x 1 7/8	1.90	1.14
PM 16S47	.047	11/16 x 1 15/16	2.30	1.38
PM 16S68	.068	3/4 x 2 1/4	2.70	1.62
PM 16P1	.10	1 x 2 1/8	3.35	2.01

STEATITE-CASED MYLAR*



Cornell-Dubilier "MINIROC" tubular capacitors are high quality, sub-miniature, high temperature components in non-metallic (Steatite) cases. Fabricated from DuPont "Mylar" polyester film dielectric material.

- STEATITE CASES: Conform to JAN-1-10. Carefully processed for maximum protection against moisture.
- POLYKANE END FILL: Anchors lead wires and sections securely, will not crack, soften, or flow.
- WIDE TEMPERATURE RANGE: Rated from —55°C to +130°C.
- MOISTURE RESISTANT: Exceeds MIL-C-91 requirements.
- NON-INDUCTIVE: Extended foil construction insures low resistance connections and low RF impendance.
- STRONG CONSTRUCTION: Withstands extremes of soldering temperature without damage to the case material, moisture seal, lead connections, or electrical performance.

*DU PONT trade mark.

STM Cat. No.	Cap. Mfd.	Dimensions—Inches Diameter x Length	List Price	Net Price
		100 V. D.C.W.		
STM 1D1	.001	.170 x 5/8	$1.70	$1.02
STM 1D15	.0015	.170 x 5/8	1.70	1.02
STM 1D22	.0022	.170 x 5/8	1.70	1.02
STM 1D33	.0033	.170 x 5/8	1.70	1.02
STM 1D47	.0047	.170 x 5/8	1.70	1.02
STM 1D68	.0068	.170 x 5/8	1.70	1.02
STM 1S1	.01	.170 x 5/8	1.70	1.02
STM 1S15	.015	.190 x 3/4	1.70	1.02
STM 1S22	.022	.190 x 1 1/16	1.70	1.02
STM 1S33	.033	1/4 x 1 1/16	1.70	1.02
STM 1S47	.047	1/4 x 1 1/16	1.80	1.08
STM 1S68	.068	5/16 x 1 1/16	1.90	1.14
STM 1P1	.10	5/16 x 1 1/16	2.10	1.26
		400 V. D.C.W.		
STM 4D1	.001	.170 x 3/4	1.80	1.08
STM 4D15	.0015	.170 x 3/4	1.80	1.08
STM 4D22	.0022	.190 x 3/4	1.80	1.08
STM 4D33	.0033	.170 x 1 1/16	1.80	1.08
STM 4D47	.0047	.170 x 1 1/16	1.80	1.08
STM 4D68	.0068	.190 x 1 1/16	1.80	1.08
STM 4S1	.01	1/4 x 1 1/16	1.80	1.08
STM 4S15	.015	1/4 x 1 1/16	1.80	1.08
STM 4S22	.022	5/16 x 1 1/16	1.90	1.14
STM 4S33	.033	3/8 x 1 1/16	1.90	1.14
STM 4S47	.047	3/8 x 1 1/4	2.00	1.20
STM 4S68	.068	7/16 x 1 1/4	2.10	1.26
STM 4P1	.10	1/2 x 1 1/4	2.30	1.38
		600 V. D.C.W.		
STM 6D1	.001	.170 x 3/4	1.80	1.08
STM 6D15	.0015	.190 x 3/4	1.80	1.08
STM 6D22	.0022	.190 x 1 1/16	1.80	1.08
STM 6D33	.0033	.190 x 1 1/16	1.80	1.08
STM 6D47	.0047	1/4 x 1 1/16	1.80	1.08
STM 6D68	.0068	1/4 x 1 1/16	1.80	1.08
STM 6S1	.01	5/16 x 1 1/16	1.90	1.14
STM 6S15	.015	5/16 x 1 1/16	1.90	1.14
STM 6S22	.022	3/8 x 1 1/16	2.00	1.20
STM 6S33	.033	3/8 x 1 1/4	2.10	1.26
STM 6S47	.047	7/16 x 1 1/4	2.30	1.38
STM 6S68	.068	1/2 x 1 1/2	2.40	1.44
STM 6P1	.10	9/16 x 1 1/2	2.50	1.50

Net

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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CORNELL DUBILIER

STEATITE-CASED TUBULARS

C-D "BUDROC" capacitors are made with non-inductive paper and extended foil elements housed in the finest grade ceramic (steatite) tubes with Polykane end-seals. "BUDROCS" are designed and especially recommended for *manufacturing* applications.

- ♦ HIGH TEMPERATURE: Vikane-impregnated units (rated 600 VDCW and over) —55°C to +100°C. Units rated up to 400 VDCW impregnated with HT compound —40°C to +90°C.
- ♦ POLYKANE END-FILL
- ♦ MOISTURE RESISTANT
- ♦ STURDY CONSTRUCTION
- ♦ STURDY CONNECTIONS
- ♦ LONG LIFE

ST Cat. No.	Capacity Mfd.	Size—Inches D x L	List Price	Net Price
		200 VDCW		
ST 2S2	.02	3/8 x 1 1/4	$.25	$.15
ST 2S5	.05	3/8 x 1 1/4	.25	.15
ST 2P1	.10	7/16 x 1 1/4	.35	.21
ST 2P25	.25	11/16 x 1 7/8	.40	.24
ST 2P5	.50	11/16 x 1 7/8	.60	.36
ST 2W1	1.00	1 x 2 1/4	.90	.54
		400 VDCW		
ST 4S1	.01	5/16 x 1	.25	.15
ST 4S2	.02	3/8 x 1 1/4	.25	.15
ST 4S22	.022	3/8 x 1 1/4	.25	.15
ST 4S47	.047	7/16 x 1 1/4	.30	.18
ST 4S5	.05	7/16 x 1 1/4	.30	.18
ST 4S68	.068	1/2 x 1 1/2	.35	.21
ST 4P1	.10	1/2 x 1 1/2	.35	.21
ST 4P15	.15	9/16 x 1 3/4	.35	.21
ST 4P22	.22	11/16 x 1 7/8	.40	.24
ST 4P25	.25	11/16 x 1 7/8	.40	.24
ST 4P5	.50	13/16 x 2 1/4	.60	.36
ST 4W1	1.00	1 x 2 7/8	.90	.54
		600 VDCW		
ST 6T5	.0005	5/16 x 1	.25	.15
ST 6D1	.001	5/16 x 1	.25	.15
ST 6D15	.0015	5/16 x 1	.25	.15
ST 6D2	.002	5/16 x 1	.25	.15
ST 6D22	.0022	5/16 x 1	.25	.15
ST 6D3	.003	5/16 x 1	.25	.15
ST 6D33	.0033	5/16 x 1	.25	.15
ST 6D4	.004	5/16 x 1	25	.15
ST 6D47	.0047	5/16 x 1	.25	.15
ST 6D5	.005	5/16 x 1	.25	.15
ST 6D68	.0068	3/8 x 1 1/4	.30	.18
ST 6S1	.01	3/8 x 1 1/4	.30	.18
ST 6S15	.015	3/8 x 1 1/4	.30	.18
ST 6S2	.02	7/16 x 1 1/4	.30	.18
ST 6S22	.022	7/16 x 1 1/4	.30	.18
ST 6S25	.025	7/16 x 1 1/4	.35	.21
ST 6S3	.03	7/16 x 1 1/4	.35	.21
ST 6S4	.04	1/2 x 1 1/2	.35	.21
ST 6S47	.047	1/2 x 1 1/2	.40	.24
ST 6S5	.05	1/2 x 1 1/2	.40	.24
ST 6S68	.068	9/16 x 1 3/4	.45	.27
ST 6P1	.10	11/16 x 1 7/8	.45	.27
ST 6P25	.25	13/16 x 2 1/4	.55	.33
ST 6P5	.50	1 x 2 7/8	.80	.48
		1600 VDCW		
ST 16D1	.001	3/8 x 1 1/4	.65	.39
ST 16D15	.0015	3/8 x 1 1/4	.65	.39
ST 16D2	.002	3/8 x 1 1/4	.65	.39
ST 16D22	.0022	3/8 x 1 1/4	.65	.39
ST 16D3	.003	7/16 x 1 1/4	.65	.39
ST 16D33	.0033	7/16 x 1 1/4	.65	.39
ST 16D4	.004	7/16 x 1 1/4	.65	.39
ST 16D47	.0047	7/16 x 1 1/4	.65	.39
ST 16D5	.005	7/16 x 1 1/4	.65	.39
ST 16D56	.0056	7/16 x 1 1/4	.65	.39
ST 16D68	.0068	1/2 x 1 1/2	.65	.39
ST 16D82	.0082	1/2 x 1 1/2	.65	.39
ST 16S1	.01	1/2 x 1 1/2	.70	.42
ST 16S15	.015	1/2 x 1 1/2	.70	.42
ST 16S2	.02	9/16 x 1 3/4	.70	.42
ST 16S25	.025	11/16 x 1 7/8	.70	.42
ST 16S3	.03	11/16 x 1 7/8	.70	.42
ST 16S4	.04	3/4 x 2	.70	.42

MOLDED PLASTIC TUBULARS

Cornell-Dubilier "TINY-CHIEFS" are one of the toughest little capacitors ever offered servicemen for all types of television, auto radios, and other compact electronic equipment.

- ♦ Molded In Extra Hard Plastic
- ♦ Excellent Capacitance Stability
- ♦ Tested At Twice Rated Voltage
- ♦ Solidly Anchored Leads

TEMPERATURE RANGE: —40°C to +85°C.

PJ Cat. No.	Cap. Mfd.	Size—Inches Dia. & Length	List Price	Net Price
		200 V. D.C.		
PJ 2S2	.02	5/16 x 1	$.25	$.15
PJ 2S5	.05	3/8 x 1 1/4	.25	.15
PJ 2P1	.1	7/16 x 1 1/4	.35	.21
PJ 2P25	.25	5/8 x 1 7/8	.45	.27
PJ 2P5	.5	5/8 x 1 7/8	.60	.36
PJ 2W1	1.0	3/4 x 2 1/4	.90	.54
		400 V. D.C.		
PJ 4S1	.01	5/16 x 1	.25	.15
PJ 4S2	.02	3/8 x 1 1/4	.25	.15
PJ 4S22	.022	3/8 x 1 1/4	.25	.15
PJ 4S47	.047	7/16 x 1 1/4	.30	.18
PJ 4S5	.05	7/16 x 1 1/4	.30	.18
PJ 4S68	.068	1/2 x 1 1/2	.35	.21
PJ 4P1	.1	1/2 x 1 1/2	.35	.21
PJ 4P15	.15	5/8 x 1 7/8	.35	.21
PJ 4P22	.22	5/8 x 1 7/8	.40	.24
PJ 4P25	.25	5/8 x 1 7/8	.45	.27
PJ 4P5	.5	3/4 x 2 1/4	.60	.36
PJ 4W1	1.0	1 x 2 1/8	.90	.54
		600 V. D.C.		
PJ 6T25	.00025	5/16 x 1	.25	.15
PJ 6T5	.0005	5/16 x 1	.25	.15
PJ 6D1	.001	5/16 x 1	.25	.15
PJ 6D15	.0015	5/16 x 1	.25	.15
PJ 6D2	.002	5/16 x 1	.25	.15
PJ 6D22	.0022	5/16 x 1	.25	.15
PJ 6D3	.003	5/16 x 1	.25	.15
PJ 6D33	.0033	5/16 x 1	.25	.15
PJ 6D4	.004	5/16 x 1	.25	.15
PJ 6D47	.0047	5/16 x 1	.25	.15
PJ 6D5	.005	5/16 x 1	.25	.15
PJ 6D6	.006	3/8 x 1 1/4	.25	.15
PJ 6D68	.0068	3/8 x 1 1/4	.30	.18
PJ 6S1	.01	3/8 x 1 1/4	.30	.18
PJ 6S15	.015	3/8 x 1 1/4	.30	.18
PJ 6S2	.02	7/16 x 1 1/4	.30	.18
PJ 6S22	.022	7/16 x 1 1/4	.30	.18
PJ 6S25	.025	7/16 x 1 1/4	.30	.18
PJ 6S3	.03	7/16 x 1 1/4	.35	.21
PJ 6S4	.04	1/2 x 1 1/2	.35	.21
PJ 6S47	.047	1/2 x 1 1/2	.40	.24
PJ 6S5	.05	1/2 x 1 1/2	.40	.24
PJ 6S6	.06	5/8 x 1 7/8	.40	.24
PJ 6S68	.068	5/8 x 1 7/8	.40	.24
PJ 6P1	.1	5/8 x 1 7/8	.45	.27
PJ 6P25	.25	3/4 x 2 1/4	.55	.33
PJ 6P5	.5	1 x 2 1/8	.80	.48
		1600 V. D.C.		
PJ 16D1	.001	3/8 x 1 1/4	.65	.39
PJ 16D15	.0015	3/8 x 1 1/4	.65	.39
PJ 16D2	.002	3/8 x 1 1/4	.65	.39
PJ 16D22	.0022	3/8 x 1 1/4	.65	.39
PJ 16D3	.003	3/8 x 1 1/4	.65	.39
PJ 16D33	.0033	3/8 x 1 1/4	.65	.39
PJ 16D4	.004	3/8 x 1 1/4	.65	.39
PJ 16D47	.0047	3/8 x 1 1/4	.65	.39
PJ 16D5	.005	3/8 x 1 1/4	.65	.39
PJ 16D55	.0055	7/16 x 1 1/4	.65	.39
PJ 16D6	.006	7/16 x 1 1/4	.65	.39
PJ 16D68	.0068	7/16 x 1 1/4	.65	.39
PJ 16D7	.007	7/16 x 1 1/4	.65	.39
PJ 16D75	.0075	7/16 x 1 1/4	.65	.39
PJ 16D8	.008	7/16 x 1 1/4	.65	.39
PJ 16S1	.01	1/2 x 1 1/2	.70	.42
PJ 16S15	.015	1/2 x 1 1/2	.70	.42
PJ 16S2	.02	5/8 x 1 7/8	.70	.42
PJ 16S25	.025	5/8 x 1 7/8	.70	.42
PJ 16S3	.03	5/8 x 1 7/8	.70	.42
PJ 16S4	.04	5/8 x 1 7/8	.70	.42

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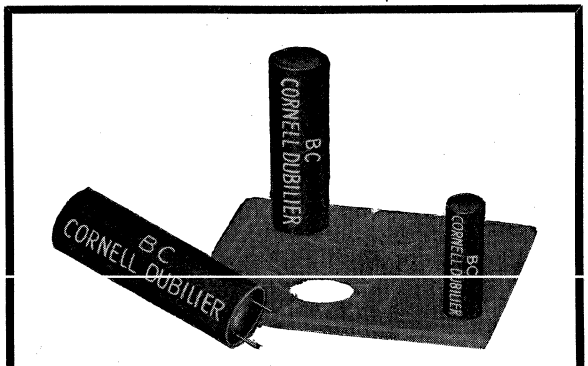
Net

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

PHENOLIC-CASED PAPER TUBULAR FOR PRINTED CIRCUITS



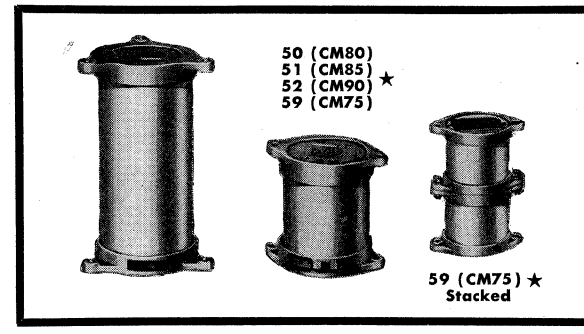
TYPE BC

- PARALLEL LEAD WIRES: May be plugged directly into printed circuit.
- PRE-MOLDED PHENOLIC SHELL: No distortion and no stresses are set up because capacitor section is not subjected to molding pressures.
- WIDE TEMPERATURE RANGE: Vikane impregnated units (rated at 600 WVDC) will withstand operating temperature from —55°C to +100°C. Units impregnated with HT compound (rated at 400 WVDC and 200 WVDC) will withstand operating temperatures from —40°C to +90°C.
- POLYKANE FILL: Securely anchors leads, locks section in place and provides a barrier to moisture.
- SOLID CONNECTIONS: Leads are soldered directly to the extended foils for low resistance connections.
- STRONG CONSTRUCTION: Will withstand the extremes of soldering temperatures without damage to case material, moisture seal, lead connections or electrical performance.

Type	Cap. Mfd.	Size	List Price	Net Price
		200 V. D.C.		
BC 2D68J	.0068	3/8 x 1	$.30	**$.18**
BC 2S1J	.01	3/8 x 1	.30	**.18**
BC 2S15J	.015	3/8 x 1 1/4	.30	**.18**
BC 2S22J	.022	3/8 x 1 1/4	.35	**.21**
BC 2S33J	.033	7/16 x 1 1/4	.35	**.21**
BC 2S47J	.047	1/2 x 1 1/4	.35	**.21**
BC 2S68J	.068	1/2 x 1 1/4	.35	**.21**
BC 2P1J	.10	1/2 x 1 1/2	.40	**.24**
BC 2P15J	.15	1/2 x 1 1/2	.45	**.27**
BC 2P22J	.22	5/8 x 1 7/8	.50	**.30**
BC 2P33J	.33	5/8 x 1 7/8	.55	**.33**
BC 2P47J	.47	7/8 x 2 1/2	.65	**.39**
BC 2P68J	.68	7/8 x 2 1/2	.70	**.42**
		600 V. D.C.		
BC 6D1J	.001	3/8 x 1	.30	**.18**
BC 6D15J	.0015	3/8 x 1	.30	**.18**
BC 6D22J	.0022	3/8 x 1	.30	**.18**
BC 6D33J	.0033	3/8 x 1	.30	**.18**
BC 6D47J	.0047	3/8 x 1	.30	**.18**
BC 6D68J	.0068	3/8 x 1	.30	**.18**
BC 6S1J	.01	3/8 x 1 1/4	.35	**.21**
BC 6S15J	.015	7/16 x 1 1/4	.35	**.21**
BC 6S22J	.022	7/16 x 1 1/4	.40	**.24**
BC 6S33J	.033	1/2 x 1 1/4	.40	**.24**
BC 6S47J	.047	1/2 x 1 1/2	.45	**.27**
BC 6S68J	.068	5/8 x 1 7/8	.50	**.30**
BC 6P1J	.10	5/8 x 1 7/8	.55	**.33**
BC 6P15J	.15	7/8 x 2 1/2	.60	**.36**
BC 6P22J	.22	7/8 x 2 1/2	.65	**.39**
BC 6P33J	.33	7/8 x 2 1/2	.70	**.42**
***BC 4P47J**	.47	7/8 x 2 1/2	.70	**.42**

*Rated at 400 V. D.C.

HIGH-POWER MICA CERAMIC-CASED



***SIZE DATA**

Type 50 — 5″ x 3 1/2″ x 3″ high Type 51 — 6 1/2″ x 5″ x 4″ high
Type 52 — 6 1/2″ x 5″ x 5 3/4″ high
Type 59 — 3 13/16″ x 2 13/16″ x 2 1/2″ high

BROADCAST TRANSMITTING TYPES

Cat. No.	Cap. Mfd.	Peak Working Voltage	List Price	Net Price
		BROADCAST TYPE 50		
2210-50	.0001	10,000	$65.55	**$39.33**
2220-50	.00015	10,000	65.55	**39.33**
2230-50	.0002	10,000	65.55	**39.33**
2251-50	.00051	10,000	65.55	**39.33**
2271-50	.00082	10,000	65.55	**39.33**
2280-50	.001	10,000	65.55	**39.33**
2300-50	.0015	10,000	65.55	**39.33**
2310-50	.002	10,000	65.55	**39.33**
2333-50	.0043	8,000	65.55	**39.33**
2341-50	.0051	6,000	65.55	**39.33**
2360-50	.01	5,000	69.15	**41.49**
2370-50	.015	4,000	69.15	**41.49**
2380-50	.02	3,000	69.15	**41.49**
		BROADCAST TYPE 51		
2411-51	.000051	20,000	$111.90	**$67.14**
2420-51	.0001	20,000	121.00	**72.60**
2430-51	.00015	20,000	126.00	**75.60**
2440-51	.0002	20,000	131.10	**78.66**
2483-51	.00051	20,000	137.15	**82.29**
2501-51	.00082	20,000	137.15	**82.29**
2510-51	.001	20,000	141.15	**84.69**
2530-51	.0015	15,000	143.20	**85.92**
2550-51	.002	15,000	143.20	**85.92**
2583-51	.0043	12,000	151.25	**90.75**
2591-51	.0051	10,000	151.25	**90.75**
2610-51	.01	8,000	147.20	**88.32**
2620-51	.02	5,000	151.25	**90.75**
		BROADCAST TYPE 52		
2710-52	.0001	30,000	$210.30	**$126.18**
2720-52	.00015	30,000	210.30	**126.18**
2740-52	.0003	30,000	221.16	**132.70**
2763-52	.00043	30,000	221.16	**132.70**
2773-52	.00051	30,000	221.16	**132.70**
2791-52	.00082	30,000	221.16	**132.70**
2800-52	.001	30,000	229.10	**137.46**
2820-52	.002	20,000	229.10	**137.46**
2853-52	.0043	15,000	234.30	**140.58**
2861-52	.0051	15,000	242.00	**145.20**
2882-52	.0082	12,000	260.00	**156.00**
2890-52	.01	10,000	272.44	**163.46**
2911-52	.043	5,000	272.44	**163.46**
		BROADCAST TYPE 59		
2011-59	.000051	6,000	$38.20	**$22.92**
2020-59	.0001	6,000	40.60	**24.36**
2040-59	.0002	6,000	40.60	**24.36**
2060-59	.0003	6,000	42.60	**25.56**
2083-59	.00051	6,000	46.65	**27.99**
2100-59	.001	6,000	46.65	**27.99**
2120-59	.002	6,000	48.90	**29.34**
2140-59	.003	6,000	50.60	**30.36**
2161-59	.0051	4,000	50.60	**30.36**
2170-59	.01	4,000	51.45	**30.87**
2180-59	.02	2,000	51.45	**30.87**

★When JAN-C-5 units must be supplied, order according to specific CM type designations listed in C-D Mica Capacitor Catalog No. 420.

Net
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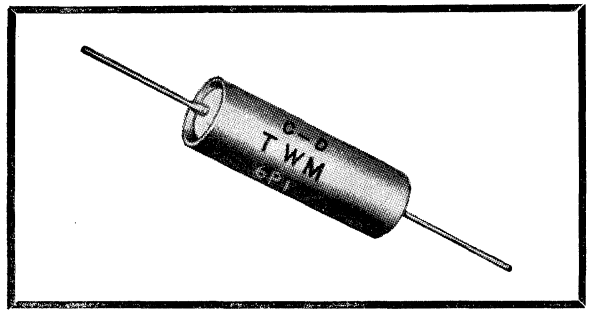
CORNELL DUBILIER

MINIATURE METAL-CASED TUBULARS "DEMICONS"



Cornell-Dubilier DEMICONS are hermetically sealed in metal cases, with glass-to-metal seal terminals and are available in a wide variety of mounting styles, impregnants, tolerances, and internal construction. See Bulletins NB-147 and NB-151.

STANDARD TOLERANCE: ±20%.

TEMPERATURE RANGE:

TWH	High Temperature wax	— 40°C to + 85°C.
TWC	"Dykanol C"*	— 55°C to + 85°C.
TWU	"Dykanol U"*	— 55°C to +125°C.
TWM	"Mylar"** polyester film	— 55°C to +160°C.

PRICES shown below are for BASIC STYLE—UNGROUNDED.

*Registered Cornell-Dubilier trade mark. **Registered Dupont trade mark.

"BASIC" STYLE UNGROUNDED DEMICONS

TWH Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWH 1D1	.001	100	.175 x 3/4	$2.25	**$1.35**
TWH 1D47	.0047	100	.175 x 3/4	2.30	**1.38**
TWH 1S1	.01	100	.175 x 3/4	2.30	**1.38**
TWH 1S22	.022	100	.175 x 3/4	2.30	**1.38**
TWH 1S47	.047	100	.235 x 3/4	2.35	**1.41**
TWH 1P1	.1	100	.312 x 7/8	2.50	**1.50**
TWH 1P22	.22	100	.400 x 7/8	2.55	**1.53**
TWH 1P47	.47	100	.400 x 1 3/8	2.70	**1.62**
TWH 1W1	1.0	100	.562 x 1 3/8	3.20	**1.92**
TWH 2D1	.001	200	.235 x 3/4	2.35	**1.41**
TWH 2D47	.0047	200	.235 x 3/4	2.40	**1.44**
TWH 2S1	.01	200	.235 x 3/4	2.40	**1.44**
TWH 2S22	.022	200	.235 x 3/4	2.40	**1.44**
TWH 2S47	.047	200	.312 x 7/8	2.50	**1.50**
TWH 2P1	.1	200	.312 x 7/8	2.60	**1.56**
TWH 2P47	.47	200	.562 x 1 1/8	2.95	**1.77**
TWH 2W1	1.0	200	.562 x 1 7/8	3.30	**1.98**
TWH 4D1	.001	400	.235 x 3/4	2.40	**1.44**
TWH 4D47	.0047	400	.235 x 3/4	2.45	**1.47**
TWH 4S1	.01	400	.235 x 3/4	2.50	**1.50**
TWH 4S22	.022	400	.312 x 7/8	2.55	**1.53**
TWH 4S47	.047	400	.312 x 7/8	2.55	**1.53**
TWH 4P1	.1	400	.400 x 1 1/8	2.70	**1.62**
TWH 4P47	.47	400	.562 x 1 7/8	3.35	**2.01**
TWH 4W1	1.0	400	.750 x 2 1/8	3.90	**2.34**

TWC Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWC 1D1	.001	100	.175 x 3/4	$2.30	**$1.38**
TWC 1D47	.0047	100	.175 x 3/4	2.35	**1.41**
TWC 1S1	.01	100	.175 x 3/4	2.40	**1.44**
TWC 1S22	.022	100	.195 x 3/4	2.40	**1.44**
TWC 1S47	.047	100	.312 x 7/8	2.50	**1.50**
TWC 1P1	.1	100	.312 x 7/8	2.60	**1.56**
TWC 1P47	.47	100	.562 x 1 1/8	3.00	**1.80**
TWC 1W1	1.0	100	.562 x 1 7/8	3.40	**2.04**
TWC 2D1	.001	200	.235 x 3/4	2.40	**1.44**
TWC 2D47	.0047	200	.235 x 3/4	2.45	**1.47**
TWC 2S1	.01	200	.235 x 3/4	2.50	**1.50**
TWC 2S22	.022	200	.235 x 3/4	2.50	**1.50**
TWC 2S47	.047	200	.312 x 7/8	2.60	**1.56**
TWC 2P1	.1	200	.400 x 7/8	2.70	**1.62**
TWC 2P22	.22	200	.400 x 1 3/8	2.90	**1.74**
TWC 2P47	.47	200	.562 x 1 3/8	3.25	**1.95**

TWC (cont'd)

TWC Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWC 2W1	1.0	200	.670 x 1 7/8	$3.80	**$2.28**
TWC 4D1	.001	400	.235 x 3/4	2.50	**1.50**
TWC 4D47	.0047	400	.235 x 3/4	2.50	**1.50**
TWC 4S1	.01	400	.235 x 3/4	2.55	**1.53**
TWC 4S22	.022	400	.312 x 7/8	2.65	**1.59**
TWC 4S47	.047	400	.400 x 7/8	2.75	**1.65**
TWC 4P1	.1	400	.400 x 1 3/8	2.90	**1.74**
TWC 4P22	.22	400	.562 x 1 3/8	3.25	**1.95**
TWC 4P47	.47	400	.670 x 1 7/8	3.75	**2.25**
TWC 6D1	.001	600	.235 x 3/4	2.50	**1.50**
TWC 6D47	.0047	600	.235 x 3/4	2.55	**1.53**
TWC 6S1	.01	600	.312 x 7/8	2.65	**1.59**
TWC 6S22	.022	600	.312 x 7/8	2.70	**1.62**
TWC 6S47	.047	600	.400 x 1 1/8	2.80	**1.68**
TWC 6P1	.1	600	.562 x 1 1/8	3.10	**1.86**
TWC 6P22	.22	600	.562 x 1 7/8	3.45	**2.07**
TWC 6P47	.47	600	.750 x 2 1/8	4.05	**2.43**

TWU Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWU 1D1	.001	100	.175 x 3/4	$2.60	**$1.56**
TWU 1D47	.0047	100	.175 x 3/4	2.60	**1.56**
TWU 1S1	.01	100	.175 x 3/4	2.65	**1.59**
TWU 1S22	.022	100	.195 x 3/4	2.65	**1.59**
TWU 1S47	.047	100	.312 x 7/8	2.80	**1.68**
TWU 1P1	.1	100	.312 x 7/8	2.90	**1.74**
TWU 1P47	.47	100	.562 x 1 1/8	3.35	**2.01**
TWU 1W1	1.0	100	.562 x 1 7/8	3.80	**2.28**
TWU 2D1	.001	200	.235 x 3/4	2.70	**1.62**
TWU 2D47	.0047	200	.235 x 3/4	2.75	**1.65**
TWU 2S1	.01	200	.235 x 3/4	2.80	**1.68**
TWU 2S22	.022	200	.235 x 3/4	2.80	**1.68**
TWU 2S47	.047	200	.312 x 7/8	2.90	**1.74**
TWU 2P1	.1	200	.400 x 7/8	3.00	**1.80**
TWU 2P22	.22	200	.400 x 1 3/8	3.20	**1.92**
TWU 2P47	.47	200	.562 x 1 3/8	3.60	**2.16**
TWU 2W1	1.0	200	.670 x 1 7/8	4.25	**2.55**
TWU 4D1	.001	400	.235 x 3/4	2.80	**1.68**
TWU 4D47	.0047	400	.235 x 3/4	2.80	**1.68**
TWU 4S1	.01	400	.235 x 3/4	2.85	**1.71**
TWU 4S22	.022	400	.312 x 7/8	2.95	**1.77**
TWU 4S47	.047	400	.400 x 7/8	3.05	**1.83**
TWU 4P1	.1	400	.400 x 1 3/8	3.25	**1.95**
TWU 4P22	.22	400	.562 x 1 3/8	3.60	**2.16**
TWU 4P47	.47	400	.670 x 1 7/8	4.20	**2.52**
TWU 6D1	.001	600	.235 x 3/4	2.80	**1.68**
TWU 6D47	.0047	600	.235 x 3/4	2.85	**1.71**
TWU 6S1	.01	600	.312 x 7/8	2.95	**1.77**
TWU 6S22	.022	600	.312 x 7/8	3.00	**1.80**
TWU 6S47	.047	600	.400 x 1 1/8	3.15	**1.89**
TWU 6P1	.1	600	.562 x 1 1/8	3.50	**2.10**
TWU 6P22	.22	600	.562 x 1 7/8	3.90	**2.34**
TWU 6P47	.47	600	.750 x 2 1/8	4.55	**2.73**

TWM Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWM 1S1	.01	100	.235 x 7/8	$3.10	**$1.86**
TWM 1S22	.022	100	.312 x 7/8	3.10	**1.86**
TWM 1S47	.047	100	.312 x 7/8	3.25	**1.95**
TWM 1P1	.1	100	.400 x 7/8	3.35	**2.01**
TWM 4D47	.0047	400	.235 x 7/8	3.25	**1.95**
TWM 4S1	.01	400	.312 x 7/8	3.30	**1.98**
TWM 4S22	.022	400	.400 x 7/8	3.40	**2.04**
TWM 4S47	.047	400	.400 x 1	3.55	**2.13**
TWM 4P1	.1	400	.562 x 1	3.75	**2.25**
TWM 4P22	.22	400	.562 x 1 3/8	4.20	**2.52**
TWM 4P47	.47	400	.670 x 1 7/8	4.85	**2.91**
TWM 4W1	1.0	400	.750 x 2 1/2	5.85	**3.51**
TWM 6D47	.0047	600	.312 x 1	3.30	**1.98**
TWM 6S1	.01	600	.312 x 1	3.40	**2.04**
TWM 6S22	.022	600	.400 x 1	3.50	**2.10**
TWM 6S47	.047	600	.400 x 1 3/8	3.65	**2.19**
TWM 6P1	.1	600	.562 x 1 3/8	4.05	**2.43**
TWM 6P22	.22	600	.670 x 1 5/8	4.50	**2.70**
TWM 6P47	.47	600	.750 x 2 3/8	5.30	**3.18**
TWM 6W1	1.0	600	1 x 2 11/16	7.00	**4.20**

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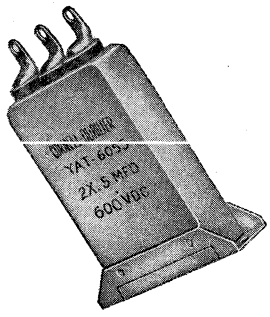
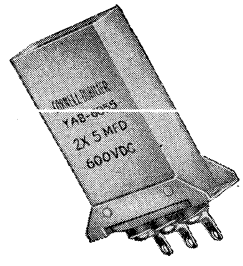
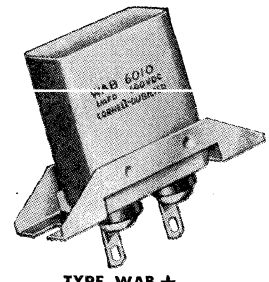
METAL CASED DYKANOL PAPER CAPACITORS



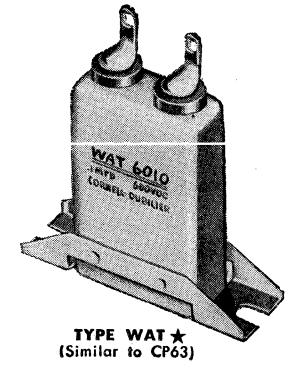
TYPE YAT ★
(Similar to CP67)



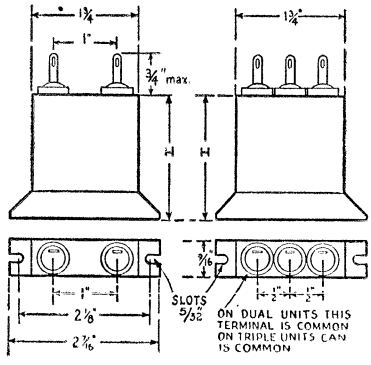
TYPE YAB ★
(YAB—Similar to CP69)



TYPE WAB ★
(Similar to CP65)



TYPE WAT ★
(Similar to CP63)

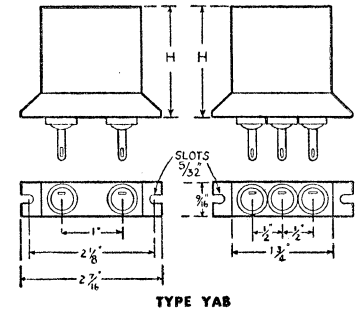


TYPE YAT

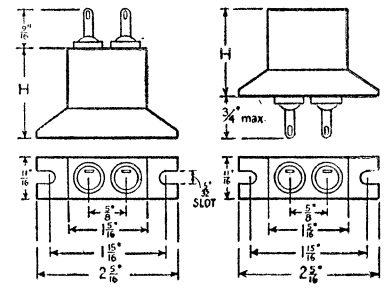
Types YAT and YAB are impregnated and filled with Dykanol "G" (chlorinated diphenyl) a synthetic, non-inflammable, non-oxidizable liquid compound. They are especially suited for use in bypass, audio frequency coupling circuits and other applications. Units are sealed in drawn metal shell containers and provided with leakproof terminals either on top or bottom of the can containers, designated as Types YAT and YAB. They will meet MIL-C-25A performance and test requirements.

TEMPERATURE RANGE: —55°C to +85°C.
STANDARD TOLERANCE: +20%, —10%.

YAT-YAB Cat. No.	Cap. Mfd.	Size—Inches L. x W. x H.	List Price	Net Price
		600 V. D.C. Work.		
YAT or YAB 6005	.05	1¾ x 9/16 x 1 1/16	$3.60	**$2.16**
YAT or YAB 6010	.1	1¾ x 9/16 x 1 1/16	3.60	**2.16**
YAT or YAB 6025	.25	1¾ x 9/16 x 1½	3.85	**2.31**
YAT or YAB 6050X	.5	1¾ x 9/16 x 2	4.15	**2.49**
YAT or YAB 6100	1.0	1¾ x 9/16 x 2½	4.70	**2.82**
YAT or YAB 60055	.05-.05	1¾ x 9/16 x 1 1/16	3.65	**2.19**
YAT or YAB 6011	.1-.1	1¾ x 9/16 x 1½	4.70	**2.82**
YAT or YAB 6022X	.25-.25	1¾ x 9/16 x 2	4.70	**2.82**
YAT or YAB 6055	.5-.5	1¾ x 9/16 x 2½	5.50	**3.30**
YAT or YAB 60555	.05-.05-.05	1¾ x 9/16 x 1 1/16	5.25	**3.15**
YAT or YAB 6111	.1-.1-.1	1¾ x 9/16 x 1½	5.50	**3.30**
YAT or YAB 6222	.25-.25-.25	1¾ x 9/16 x 2½	5.80	**3.48**
		1000 V. D.C. Work.		
YAT or YAB 10005	.05	1¾ x 9/16 x 1 1/16	3.70	**2.22**
YAT or YAB 10010	.1	1¾ x 9/16 x 1 1/16	4.00	**2.40**
YAT or YAB 10025X	.25	1¾ x 9/16 x 2	4.15	**2.49**
YAT or YAB 10050	.5	1¾ x 9/16 x 2½	4.40	**2.64**
YAT or YAB 100055	.05-.05	1¾ x 9/16 x 1 1/16	4.40	**2.64**
YAT or YAB 10011	.1-.1	1¾ x 9/16 x 1½	4.95	**2.97**
YAT or YAB 10022	.25-.25	1¾ x 9/16 x 2½	5.25	**3.15**
YAT or YAB 100555	.05-.05-.05	1¾ x 9/16 x 1½	5.80	**3.48**
YAT or YAB 10111	.1-.1-.1	1¾ x 9/16 x 2½	6.35	**3.81**



TYPE YAB



TYPE WAT **TYPE WAB**

Types WAT and WAB Capacitors are smaller size units of similar construction and electrical characteristics but only supplied in single section units with two terminals. These units are ideally suited for use in assemblies where space is limited and multiple units may be mounted close together. They will meet MIL-C-25A performance and test requirements.

TEMPERATURE RANGE: —55°C to +85°C.
STANDARD TOLERANCE: +20%, —10%.

WAT-WAB Cat. No.	Cap. Mfd.	Size—Inches L. x W. x H.	List Price	Net Price
		600 V. D.C. Work.		
WAT or WAB 6005X	.05	1 5/16 x 11/16 x 1 1/16	$3.85	**$2.31**
WAT or WAB 6010	.1	1 5/16 x 11/16 x 1⅜	4.15	**2.49**
WAT or WAB 6025	.25	1 5/16 x 11/16 x 1⅝	4.40	**2.64**
WAT or WAB 6050	.5	1 5/16 x 11/16 x 2	4.70	**2.82**
WAT or WAB 6100	1.0	1 5/16 x 11/16 x 2½	5.25	**3.15**
		1000 V. D.C. Work.		
WAT or WAB 10005	.05	1 5/16 x 11/16 x 1⅜	4.15	**2.49**
WAT or WAB 10010	.1	1 5/16 x 11/16 x 1⅝	4.15	**2.49**
WAT or WAB 10025	.25	1 5/16 x 11/16 x 2	4.40	**2.64**
WAT or WAB 10050	.5	1 5/16 x 11/16 x 2½	4.40	**2.64**

★When JAN-C-25 units must be supplied, order according to specific CP type designations listed in C-D Paper Capacitor Catalog No. 400.

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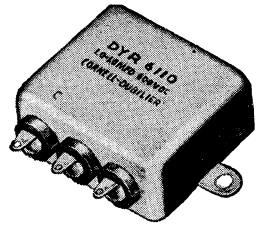
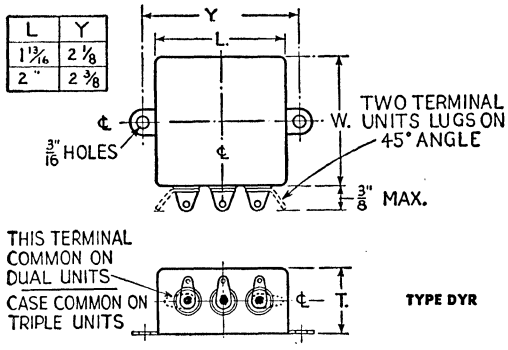
METAL CASED DYKANOL PAPER CAPACITORS



TYPE DYR
(Similar to CP53) ★



TYPE DYR

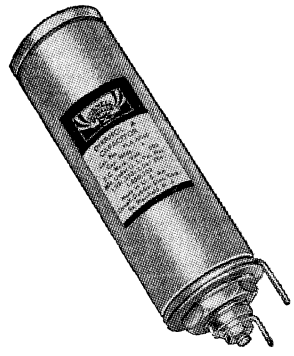
Type DYR Dykanol Bypass Capacitors are non-inductively wound and meet the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling under all humidity conditions. They are built to meet MIL-C25A performance and test requirements and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications.

TEMPERATURE RANGE: —55°C to +85°C.

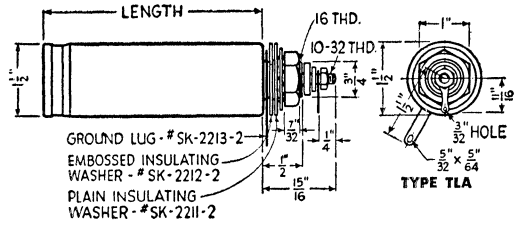
STANDARD TOLERANCE: +20%, —10%.

DYR Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		600 V. D.C. Work.		
DYR 6005	.05	1 13/16 x 1 x 3/4	$2.90	**$1.74**
DYR 6010	.1	1 13/16 x 1 x 3/4	2.95	**1.77**
DYR 6025	.25	1 13/16 x 1 x 3/4	3.10	**1.86**
DYR 6050	.5	1 13/16 x 1 x 7/8	3.30	**1.98**
DYR 6100	1	2 x 1 3/4 x 7/8	3.75	**2.25**
DYR 6200	2	2 x 2 x 1 1/8	5.00	**3.00**
DYR 60055	.05-.05	1 13/16 x 1 x 3/4	3.65	**2.19**
DYR 6011	.1-.1	1 13/16 x 1 x 3/4	3.70	**2.22**
DYR 6022X	.25-.25	1 13/16 x 1 x 7/8	3.75	**2.25**
DYR 6055	.5-.5	2 x 1 3/4 x 7/8	4.30	**2.58**
DYR 6110	1.-1.	2 x 2 x 1 1/8	5.30	**3.18**
DYR 6111	.1-.1-.1	1 13/16 x 1 x 3/4	4.20	**2.52**
DYR 6222	.25-.25-.25	2 x 1 3/4 x 13/16	4.75	**2.85**
DYR 6555	.5-.5-.5	2 x 2 x 1 1/8	5.75	**3.45**
		1000 V. D.C. Work.		
DYR 10005	.05	1 13/16 x 1 x 3/4	3.05	**1.83**
DYR 10010	.1	1 13/16 x 1 x 3/4	3.15	**1.89**
DYR 10025	.25	1 13/16 x 1 x 3/4	3.25	**1.95**
DYR 10050	.5	2 x 1 3/4 x 13/16	3.55	**2.13**
DYR 10100	1	2 x 2 x 1 1/8	4.40	**2.64**
DYR 100055	.05-.05	1 13/16 x 1 x 3/4	3.85	**2.31**
DYR 10011	.1-.1	1 13/16 x 1 x 3/4	4.00	**2.40**
DYR 10022	.25-.25	2 x 1 3/4 x 13/16	4.20	**2.52**
DYR 10055	.5-.5	2 x 2 x 1 1/8	5.45	**3.27**
DYR 10111X	.1-.1-.1	2 x 1 3/4 x 7/8	4.60	**2.76**
DYR 10222	.25-.25-.25	2 x 2 x 1 1/8	5.50	**3.30**

DYKANOL THREADED NECK CAPACITORS



TYPE TLA
(Similar to CP40) ★



TYPE TLA

Type TLA Capacitors are thoroughly impregnated and filled with Dykanol "G" (chlorinated diphenyl), a non-inflammable, fire-proof, non-oxidizable liquid compound which provides a high factor of safety and exceptionally long life. They will meet MIL-C25A performance and test requirements.

TEMPERATURE RANGE: —55°C to +85°C.

STANDARD TOLERANCE: +20%, —10%.

TLA Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Lgth. x Diam.	List Price	Net Price
TLA 6020	2	600	2 7/8 x 1 1/2	$4.60	**$2.76**
TLA 6040	4	600	4 1/2 x 1 1/2	6.30	**3.78**
TLA 10010	1	1000	2 7/8 x 1 1/2	4.20	**2.52**
TLA 10020	2	1000	4 1/2 x 1 1/2	5.45	**3.27**
TLA 15005	.5	1500	2 7/8 x 1 1/2	5.00	**3.00**
TLA 15010	1	1500	4 1/2 x 1 1/2	5.45	**3.27**

TEMPERATURE RANGE: —55°C to +85°C.

STANDARD TOLERANCE: +20%, —10%.

TNAD Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Lgth. x Diam.	List Price	Net Price
***TNAD 6020**	2	600	2 7/8 x 1 1/2	$5.40	**$3.24**
***TNAD 6040**	4	600	4 1/2 x 1 1/2	7.10	**4.26**
***TNAD 10010**	1	1000	2 7/8 x 1 1/2	5.00	**3.00**
***TNAD 10020**	2	1000	4 1/2 x 1 1/2	6.30	**3.78**
***TNAD 15005**	.5	1500	2 7/8 x 1 1/2	5.85	**3.51**
***TNAD 15010**	1	1500	4 1/2 x 1 1/2	6.30	**3.78**

*Type TNAD formerly TLAD—two solder lug terminals insulated from case. This type similar to CP41.

★ When JAN-C-25 units must be supplied, order according to specific CP type designations listed in C-D Paper Capacitor Catalog No. 400.

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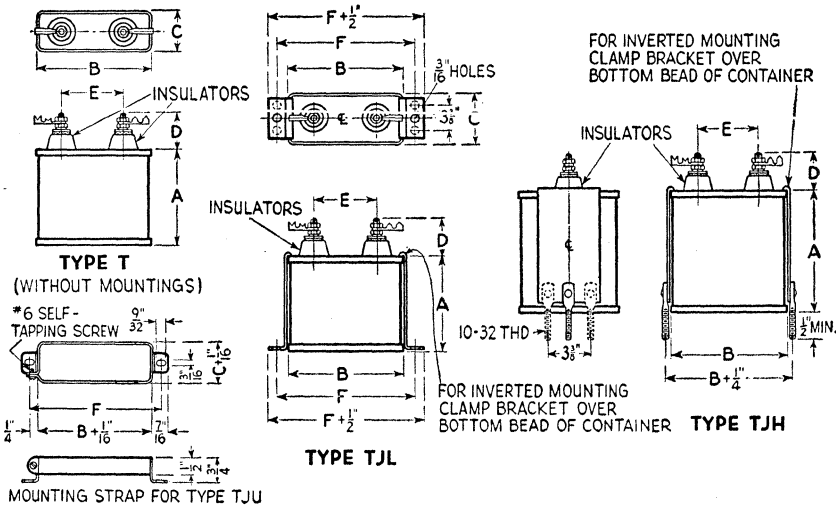
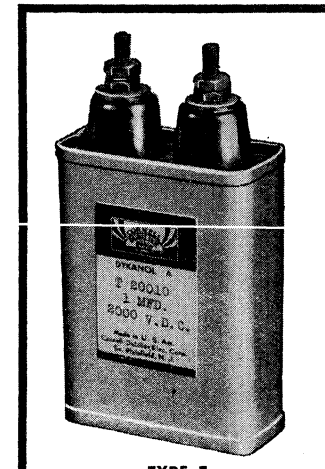
DYKANOL TRANSMITTING CAPACITORS





TYPE T
(Similar to CP70)
Provided with mounting brackets designated upon ordering as explained below.

Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

TYPE DESIGNATIONS—Type T (basic units) are without mountings. To order Types TJH, TJL or TJU with mountings as shown above, add letter symbols of type mountings desired to Cat. No. as follows:

TYPE T—(Basic unit) without mountings.
TYPE TJH—With screw spade-lug brackets.
TYPE TJL—With mounting foot brackets.
TYPE TJU—With universal mounting strap.

Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

TEMPERATURE RANGE: −55°C to +85°C. **STANDARD TOLERANCE:** ±10%.

T Cat. No.	Cap. Mfd.	Dimensions—Inches A	B	C	D	E	F	List Price	Net Price
600 V. D.C. Working									
T 6005	.5	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	$4.70	$2.82
T 6010	1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	5.80	3.48
T 6020	2	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	7.15	4.29
T 6030	3	3 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	8.25	4.95
T 6040	4	3 3/8	2 1/2	1 3/16	7/8	1 1/8	3	9.10	5.46
T 6050	5	4 3/4	1 13/16	1 1/16	7/8	13/16	2 1/4	10.45	6.27
T 6060	6	4 5/8	2 1/2	1 3/16	7/8	1 1/8	3	11.30	6.78
T 6080	8	3 13/16	3 3/4	1 1/4	7/8	2	4 3/8	13.50	8.10
T 6100	10	4 5/8	3 3/4	1 1/4	7/8	2	4 3/8	15.15	9.09
1000 V. D.C. Working									
T 10001	.1	2	1 13/16	1 1/16	7/8	13/16	2 1/4	4.15	2.49
T 100025	.25	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	4.70	2.82
T 10005	.5	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	4.95	2.97
T 10010	1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	6.35	3.81
T 10020	2	4	1 13/16	1 1/16	7/8	13/16	2 1/4	8.25	4.95
T 10030	3	3 1/2	2 1/2	1 3/16	7/8	1 1/8	3	9.65	5.79
T 10040	4	4 5/8	2 1/2	1 3/16	7/8	1 1/8	3	10.45	6.27
T 10050	5	3 13/16	3 3/4	1 1/4	7/8	2	4 3/8	12.65	7.59
T 10060	6	4 3/4	3 3/4	1 1/4	7/8	2	4 3/8	14.05	8.43
T 10080	8	4 3/4	3 3/4	1 1/4	7/8	2	4 3/8	15.15	9.09
T 10100	10	4 5/8	3 3/4	1 3/4	7/8	2	4 3/8	16.80	10.08
T 10120	12	3 13/16	3 3/4	2 1/4	7/8	2	4 3/8	18.15	10.89
T 10150	15	4 3/4	3 3/4	2 1/2	7/8	2	4 3/8	20.10	12.06
1500 V. D.C. Working									
T 15005	.5	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	6.35	3.81
T 15010	1	4	1 13/16	1 1/16	7/8	13/16	2 1/4	7.45	4.47
T 15020	2	4 1/8	2 1/2	1 3/16	7/8	1 1/8	3	10.20	6.12
T 15030	3	4 3/4	2 1/2	1 3/16	7/8	1 1/8	3	12.40	7.44
T 15040	4	4 5/8	3 3/4	1 1/4	7/8	2	4 3/8	14.05	8.43
T 15050	5	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	15.15	9.09
T 15060	6	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	17.05	10.23
T 15080	8	4 3/4	3 3/4	2 1/2	7/8	2	4 3/8	20.90	12.54
*T 15100	10	4 3/4	3 3/4	3 1/16	7/8	2	4 3/8	25.05	15.03
*T 15120	12	4 3/4	3 3/4	3 13/16	7/8	2	4 3/8	27.25	16.35
†*T 15150	15	4 3/4	3 3/4	4 9/16	7/8	2	4 3/8	30.00	18.00

NOTES—* Type TJU units are not furnished in these larger sizes.
† Types TJL and TJH units furnished with two mounting holes or spade lugs 3 3/8" apart. All other units furnished with a single mounting hole or spade lug centered on each bracket.

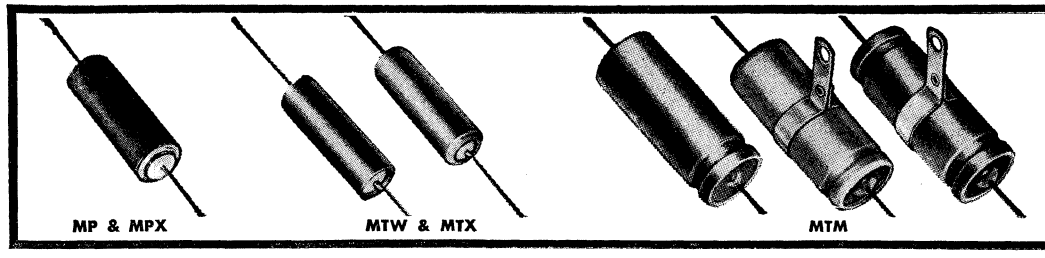
T Cat. No.	Cap. Mfd.	Dimensions—Inches A	B	C	D	E	F	List Price	Net Price
2000 V. D.C. Working									
T 20001	.1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	$6.60	$3.96
T 200025	.25	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	7.15	4.29
T 20005	.5	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	7.45	4.47
T 20010	1	3 5/8	2 1/2	1 3/16	1 1/4	1 1/8	3	9.10	5.46
T 20020	2	4	3 3/4	1 1/4	1 1/4	2	4 3/8	10.75	6.45
T 20030	3	4 3/4	3 3/4	1 1/4	1 1/4	2	4 3/8	13.20	7.92
T 20040	4	3 11/16	3 3/4	2 1/4	1 1/4	2	4 3/8	15.15	9.09
T 20050	5	4 3/4	3 3/4	2 1/4	1 1/4	2	4 3/8	16.80	10.08
*T 20060	6	4 3/4	3 3/4	3 1/16	1 1/4	2	4 3/8	20.10	12.06
*T 20080	8	4 3/4	3 3/4	3 13/16	1 1/4	2	4 3/8	25.05	15.03
†*T 20100	10	4 3/4	3 3/4	4 9/16	1 1/4	2	4 3/8	30.55	18.33
†*T 20120	12	5 3/8	3 3/4	4 9/16	1 1/4	2	4 3/8	33.30	19.98
2500 V. D.C. Working									
T 25005	.5	3 1/2	3 3/4	1 1/4	1 1/4	2	4 3/8	11.55	6.93
T 25010	1	3 1/4	3 3/4	1 3/4	1 1/4	2	4 3/8	13.20	7.92
T 25020	2	4 3/4	3 3/4	1 3/4	1 1/4	2	4 3/8	21.45	12.87
†*T 25040	4	4	3 3/4	4 9/16	1 1/4	2	4 3/8	30.00	18.00
†*T 25100A	10	6 3/8	3 3/4	4 9/16	1 1/4	2	4 3/8	75.10	45.06
3000 V. D.C. Working									
T 30001	.1	2	2 1/2	1 3/16	1 1/4	1 1/8	1	14.05	8.43
T 300025	.25	2 1/2	2 1/2	1 3/16	1 1/4	1 1/8	3	14.85	8.91
T 30005	.5	3 7/8	2 1/2	1 3/16	1 1/4	1 1/8	3	16.80	10.08
T 30010	1	3 13/16	3 3/4	2 1/4	1 1/4	2	4 3/8	20.10	12.06
*T 30020	2	4 1/8	3 3/4	3 1/16	1 1/4	2	4 3/8	25.05	15.03
†*T 30040	4	4 3/4	3 3/4	4 9/16	1 1/4	2	4 3/8	36.85	22.11
4000 V. D.C. Working									
T 40001	.1	2 3/4	3 3/4	2 1/4	2	2	4 3/8	18.00	10.80
T 400025	.25	2 3/4	3 3/4	2 1/4	2	2	4 3/8	20.00	12.00
T 40005	.5	4	3 3/4	2 1/4	2	2	4 3/8	23.00	13.80
T 40010	1	5	3 3/4	2 1/4	2	2	4 3/8	29.00	17.40
†*T 40020	2	5	3 3/4	4 5/16	2	2	4 3/8	39.00	23.40
†*T 40040A	4	8	3 3/4	4 5/16	2	1 3/4	4 3/8	66.85	40.11
5000 V. D.C. Working									
T 50005	.5	4 1/2	3 3/4	2 1/4	2	2	4 3/8	25.00	15.00
†*T 50010	1	4 1/4	3 3/4	4 5/16	2	2	4 3/8	34.00	20.40
†*T 50020	2	6	3 3/4	4 5/16	2	2	4 3/8	52.00	31.20
6000 V. D.C. Working									
T 60001	.1	2 3/4	3 3/4	2 1/4	2	1 3/4	4 3/8	27.00	16.20
†*T 60010A	1	8	3 3/4	4 1/16	2	1 3/4	4 3/8	49.00	29.40

For higher voltage units, from 6,000 to 25,000 v.d.c., write for data and prices on Type TK capacitors.

★When JAN-C-25 units must be supplied, order according to specific CP type designations listed in C-D Paper Capacitor Catalog No. 400.

CORNELL DUBILIER

COMPACT METALIZED-PAPER CAPACITORS



Cornell-Dubilier self-healing, metalized paper capacitors have better electrical characteristics and extra long service life. Units are light and compact.

"PUP" units have bare wire leads securely anchored in metal end-caps, wax-impregnated and dip-sealed against humidity. All units are extended foil—non-inductive wound for low impedance at high frequencies, have high insulation resistance, low power factor and small capacity change with temperature and life.

"METAPUPS" are one piece metal tubular cased, pressure sealed by spin-over on synthetic rubber gaskets.

"SEALPUPS" are a high quality metalized paper capacitor, designed for smallest size and positive seal against moisture. They are hermetically sealed in metal cases with solder-seal glass terminals. Especially recommended in military and commercial equipment where miniature size and light weight are paramount.

For further data on C-D metalized capacitors, write for Bulletins 142-3-4 and NB-152.

TEMPERATURE RANGE: —40°C to +60°C.

"PUP" METAL END-CAP CARDBOARD TUBULARS

MP Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	List Price	Net Price
MP 2S5	.05	200	3/8 x 5/8	$.65	$.39
MP 2P1	.1	200	3/8 x 5/8	.70	.42
MP 2P25	.25	200	13/32 x 5/8	.90	.54
MP 2P5	.5	200	13/32 x 1 1/8	1.05	.63
MP 2W1	1.0	200	9/16 x 1 1/8	1.30	.78
MP 2W2	2.0	200	5/8 x 1 5/8	1.80	1.08
MP 4S5	.05	400	13/32 x 5/8	.70	.42
MP 4P1	.1	400	13/32 x 1 1/8	.80	.48
MP 4P25	.25	400	9/16 x 1 1/8	1.00	.60
MP 4P5	.5	400	5/8 x 1 5/8	1.15	.69
MP 4W1	1.0	400	23/32 x 2 1/8	1.60	.96
MP 6S1	.01	600	3/8 x 5/8	.70	.42
MP 6P1	.1	600	13/32 x 1 1/8	.90	.54
MP 6P25	.25	600	5/8 x 1 1/8	1.10	.66
MP 6P5	.5	600	23/32 x 1 5/8	1.45	.87
MP 6W1	1.0	600	23/32 x 2 1/8	1.80	1.08

TEMPERATURE RANGE: —55°C to +95°C.

"METAPUP" ONE-PIECE METAL TUBULARS

STYLE A (Ungrounded)

MTM Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	*List Price	Net Price
MTM 2S5	.05	200	3/8 x 15/16	$1.90	$1.14
MTM 2P1	.1	200	7/16 x 15/16	1.95	1.17
MTM 2P25	.25	200	1/2 x 15/16	2.10	1.26
MTM 2P5	.5	200	1/2 x 1 1/4	2.20	1.32
MTM 2W1	1.0	200	5/8 x 1 7/16	2.60	1.56
MTM 2W2	2.0	200	5/8 x 1 15/16	3.10	1.86
MTM 4S5	.05	400	7/16 x 15/16	1.95	1.17
MTM 4P1	.1	400	7/16 x 1 1/4	2.10	1.26
MTM 4P25	.25	400	5/8 x 1 1/4	2.30	1.38
MTM 4P5	.5	400	5/8 x 1 15/16	2.50	1.50
MTM 4W1	1.0	400	3/4 x 2 7/16	3.00	1.80
MTM 4W2	2.0	400	1 x 2 7/16	4.10	2.46
MTM 6S1	.01	600	3/8 x 15/16	1.90	1.14
MTM 6P1	.1	600	1/2 x 1 7/16	2.20	1.32
MTM 6P25	.25	600	5/8 x 1 7/16	2.50	1.50
MTM 6P5	.5	600	3/4 x 1 15/16	2.90	1.74
MTM 6W1	1.0	600	15/16 x 2 7/16	3.50	2.10
MTM 6W2	2.0	600	1 1/4 x 2 7/16	4.50	2.70

*DEDUCT 50¢ from List Price for Basic GROUNDED style.

TEMPERATURE RANGE: —55°C to +95°C.

"SEALPUP" GLASS-METAL END-SEALED TUBULARS

STYLE A (Ungrounded)

MTW Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	*List Price	Net Price
MTW 2S5	.05	200	.235 x 3/4	$3.35	$2.01
MTW 2P1	.1	200	.312 x 3/4	3.45	2.07
MTW 2P25	.25	200	.312 x 1 1/16	3.90	2.34
MTW 2P5	.5	200	.400 x 1 1/16	4.50	2.70
MTW 2W1	1.0	200	.562 x 1 1/4	5.20	3.12
MTW 2W15	1.5	200	.562 x 1 3/4	5.90	3.54
MTW 2W2	2.0	200	.562 x 1 3/4	7.30	4.38
MTW 4S5	.05	400	.400 x 3/4	3.60	2.16
MTW 4P1	.1	400	.400 x 1 1/16	3.80	2.28
MTW 4P25	.25	400	.562 x 1 1/16	4.45	2.67
MTW 4P5	.5	400	.562 x 1 3/4	5.35	3.21
MTW 4W1	1.0	400	.670 x 2 1/4	6.15	3.69
MTW 6S1	.01	600	.312 x 3/4	3.40	2.04
MTW 6P1	.1	600	.500 x 1 1/4	4.15	2.49
MTW 6P25	.25	600	.670 x 1 3/8	5.00	3.00
MTW 6P5	.5	600	.750 x 1 3/4	6.35	3.81
MTW 6W1	1.0	600	.750 x 2 1/4	7.20	4.32

*DEDUCT 50¢ from List Price for Basic GROUNDED style.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CORNELL DUBILIER

HIGH TEMPERATURE Metalized-Paper CAPACITORS

- **POLYKANE-IMPREGNATED:** This impregnant insures excellent electrical properties over long service life.
- **MOISTURE RESISTANT:** MTX tubulars have the finest glass-to-metal solder seal terminals for maximum protection against moisture. MPX tubulars have POLYKANE-impregnated paper tubes, bonded securely to the POLYKANE fill. An external flash wax dip provides an increased moisture seal for extra long storage and service conditions under extremes of humidity.
- **NON-LEAKING:** "POLYKANE" is a solid thermosetting plastic that will not soften, crack, or leak at the maximum temperature. No oil or wax is used internally with these units.

MPX†—HIGH TEMPERATURE Paper-Cased TUBULARS

STANDARD TOLERANCE: +40 —20% to 1 mfd.
+30 —20% over 1 mfd.

TEMP. RANGE: —55°C to +130°C

MPX Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Dia. x Length	List Price	Net Price
MPX 2S5	.05	200	1/4 x 13/16	$1.60	$ .96
MPX 2P1	.10	200	5/16 x 13/16	1.75	1.05
MPX 2P25	.25	200	13/32 x 13/16	2.00	1.20
MPX 2P5	.50	200	13/32 x 1 1/8	2.50	1.50
MPX 2W1	1.0	200	9/16 x 13/16	3.00	1.80
MPX 2W2	2.0	200	5/8 x 1 1/2	4.00	2.40
MPX 4S5	.05	400	3/8 x 13/16	1.65	.99
MPX 4P1	.10	400	3/8 x 1 1/8	1.80	1.08
MPX 4P25	.25	400	9/16 x 13/16	2.10	1.26
MPX 4P5	.50	400	5/8 x 1 3/8	2.85	1.71
MPX 4W1	1.0	400	11/16 x 1 7/8	3.50	2.10
MPX 4W2	2.0	400	7/8 x 2 3/8	5.50	3.30
MPX 6S1	.01	600	1/4 x 13/16	1.45	.87
MPX 6P1	.10	600	1/4 x 1 1/8	1.90	1.14
MPX 6P25	.25	600	5/8 x 13/16	2.25	1.35
MPX 6P5	.50	600	11/16 x 1 1/2	3.00	1.80
MPX 6W1	1.0	600	13/16 x 1 7/8	4.00	2.40
MPX 6W2	2.0	600	1 x 2 3/8	6.00	3.60

†For High Temperature Metalized Paper Capacitors in "BATHTUB" TYPE cases (Type SBX)—See Bulletin NB-152.

MTX†—HIGH TEMPERATURE Metal-Cased‡ TUBULARS

STYLE BASIC (Ungrounded)

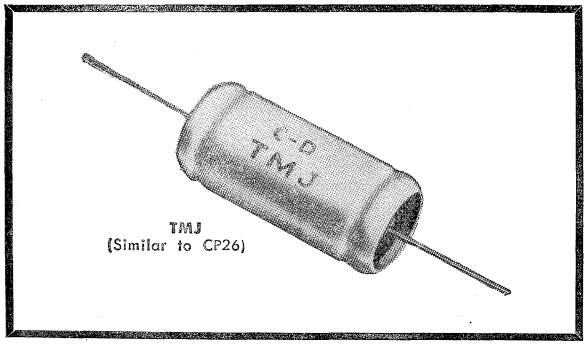
STANDARD TOLERANCE: +40 —20% to 1 mfd.
+30 —20% over 1 mfd.

TEMP. RANGE: —55°C to +130°C

MTX Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	*List Price	Net Price
MTX 2S5	.05	200	.235 x 13/16	$3.90	$2.34
MTX 2P1	.10	200	.312 x 13/16	3.95	2.37
MTX 2P25	.25	200	.312 x 1 1/8	4.50	2.70
MTX 2P5	.50	200	.400 x 1 1/8	5.20	3.12
MTX 2W1	1.0	200	.562 x 1 1/8	6.00	3.60
MTX 2W15	1.5	200	.562 x 1 13/16	6.75	4.05
MTX 2W2	2.0	200	.562 x 1 13/16	7.50	4.50
MTX 4S5	.05	400	.312 x 13/16	4.10	2.46
MTX 4P1	.10	400	.400 x 1 1/8	4.35	2.61
MTX 4P25	.25	400	.500 x 1 1/8	5.15	3.09
MTX 4P5	.50	400	.562 x 1 13/16	6.20	3.72
MTX 4W1	1.0	400	.670 x 2 5/16	7.50	4.50
MTX 6S1	.01	600	.312 x 13/16	3.85	2.31
MTX 6P1	.10	600	.400 x 1 1/8	4.80	2.88
MTX 6P25	.25	600	.562 x 1 5/16	5.75	3.45
MTX 6P5	.50	600	.670 x 1 13/16	7.25	4.35
MTX 6W1	1.0	600	.750 x 2 5/16	9.10	5.46

‡Other Styles available—See Bulletins NB-142, 3, 4 and NB-152.
*DEDUCT 50¢ from List for Basic GROUNDED style.

METAL CASED DYKANOL PAPER CAPACITORS



TMJ
(Similar to CP26)

TYPE TMJ....4P

C-D type TMJ-4P is a non-magnetic metal-cased, ungrounded section, tubular paper capacitor, the body of which is covered with a non-hygroscopic plastic insulating tube. The unit is also available with a mounting strap* on request.

The TMJ is impregnated with Dykanol "C" (oil) and meets MIL-C-25A temperature Characteristic "E".

STANDARD TOLERANCE: ±20%

TEMPERATURE RANGE: —55°C to +85°C

TMJ Cat. No.	Cap. Mfd.	Body Dimensions Overall Dia. x Length	List Price	Net Price
		600 VDCW		
TMJ 6D3-4P	.003	1/2 x 1 5/16	$1.30	$ .78
TMJ 6D6-4P	.006	1/2 x 1 5/16	1.30	.78
TMJ 6S1-4P	.01	1/2 x 1 5/16	1.30	.78
TMJ 6S2-4P	.02	1/2 x 1 13/16	1.45	.87
TMJ 6S5-4P	.05	11/16 x 1 11/16	1.55	.93
TMJ 6P1-4P	.10	11/16 x 2 1/16	1.75	1.05
TMJ 6P25-4P	.25	11/16 x 2 5/16	2.40	1.44
TMJ 6P5-4P	.50	11/16 x 2 13/16	3.05	1.83
		1000 VDCW		
TMJ 10D3-4P	.003	11/16 x 1 5/16	1.55	.93
TMJ 10D6-4P	.006	11/16 x 1 5/16	1.55	.93
TMJ 10S1-4P	.01	11/16 x 1 5/16	1.55	.93
TMJ 10S2-4P	.02	11/16 x 1 11/16	1.70	1.02
TMJ 10S5-4P	.05	13/16 x 1 13/16	1.80	1.08
TMJ 10P1-4P	.10	11/16 x 2 1/16	2.05	1.23
TMJ 10P25-4P	.25	11/16 x 2 13/16	2.70	1.62
		1600 VDCW		
TMJ 16D3-4P	.003	11/16 x 1 7/16	1.70	1.02
TMJ 16D6-4P	.006	11/16 x 1 7/16	1.70	1.02
TMJ 16S1-4P	.01	11/16 x 1 7/16	1.70	1.02
TMJ 16S2-4P	.02	11/16 x 1 13/16	1.80	1.08
TMJ 16S5-4P	.05	11/16 x 2 1/16	1.95	1.17
TMJ 16P1-4P	.10	11/16 x 2 5/16	2.55	1.53

*For unit with mounting strap, specify type as TMJ-6P (Ex. TMJ-6S1-6P).

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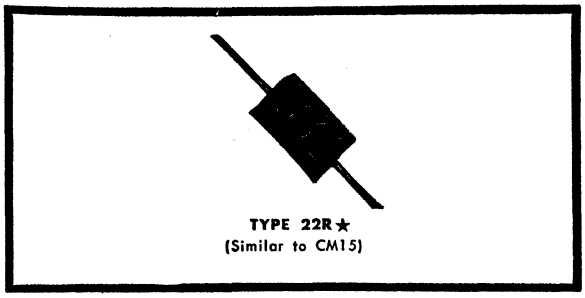
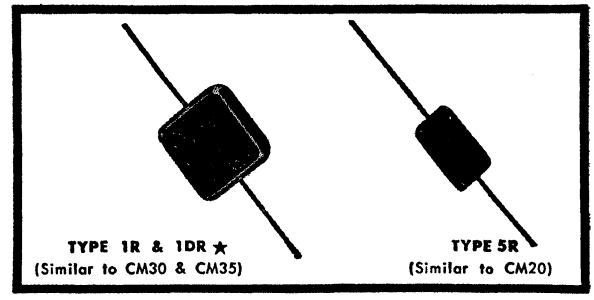
CORNELL DUBILIER

MOLDED MIDGET "SILVER-MIKE" CAPACITORS

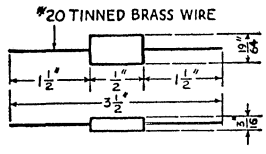


TYPE 22R★
(Similar to CM15)



TYPE 1R & 1DR ★
(Similar to CM30 & CM35)

TYPE 5R
(Similar to CM20)



HIGH-STABILITY "SILVER-MIKE"* UNITS

Type 22R miniature "Silver-Mike" capacitors are especially adapted for use in circuits where accuracy and stability of capacity is of prime importance. They are rated at 500 volts D.C.W. and tested at 1,000 volts D.C., molded in low-loss red plastic and fully protected against physical damage or changes in characteristics due to varying atmospheric conditions.

STANDARD TOLERANCE ±5%, but in no instance less than ±1mmf. For capacity Tolerance of: 20% deduct 10% from List; 10% deduct 5% from List; 3% add 10% to List; 2% add 15% to List; 1% add 25% to List.

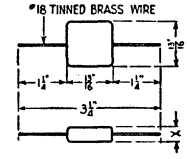
TYPE 22R

22R Cat. No.	Cap. Mfd.	List Price	Net Price
22R 5V2	.000002	$.40	$.24
22R 5V5	.000005	.40	.24
22R 5Q1	.00001	.40	.24
22R 5Q12	.000012	.40	.24
22R 5Q15	.000015	.40	.24
22R 5Q18	.000018	.40	.24
22R 5Q2	.00002	.40	.24
22R 5Q22	.000022	.40	.24
22R 5Q24	.000024	.40	.24
22R 5Q25	.000025	.40	.24
22R 5Q27	.000027	.40	.24
22R 5Q3	.00003	.40	.24
22R 5Q33	.000033	.40	.24
22R 5Q36	.000036	.40	.24
22R 5Q39	.000039	.40	.24
22R 5Q4	.00004	.40	.24
22R 5Q43	.000043	.40	.24
22R 5Q47	.000047	.40	.24
22R 5Q5	.00005	.40	.24
22R 5Q51	.000051	.40	.24
22R 5Q56	.000056	.40	.24
22R 5Q62	.000062	.40	.24
22R 5Q68	.000068	.40	.24
22R 5Q7	.00007	.40	.24
22R 5Q75	.000075	.40	.24
22R 5Q82	.000082	.40	.24
22R 5Q91	.000091	.40	.24
22R 5T1	.0001	.40	.24
22R 5T11	.00011	.45	.27
22R 5T12	.00012	.45	.27
22R 5T13	.00013	.45	.27
22R 5T15	.00015	.45	.27
22R 5T16	.00016	.45	.27
22R 5T18	.00018	.45	.27
22R 5T2	.0002	.45	.27
22R 5T22	.00022	.45	.27
22R 5T24	.00024	.45	.27
22R 5T25	.00025	.45	.27

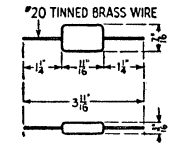
Notes On Ordering 5R, 1R, 1DR Units

Standard capacity tolerance is 5%. Also available, on special order, in tolerance ratings of plus or minus 3%, add 10% to list prices, 2% add 15% to list prices and 1% add 25% to list prices, (or within 1 mmfd.—whichever is greater). All types can also be supplied in plus or minus 10% and 20% tolerances at lower prices.

*Reg. U.S. Pat. Off.



TYPE 1R - X - ¼" THICK
TYPE 1DR - X - 3/16" THICK
TYPE 1R & 1DR



TYPE 5R

Types 1R, 1DR, and 5R "Silver-Mike" silvered mica capacitors are designed for use in high Q electronic circuits where frequency stability and minimum loss must be maintained. They are ideally suited for use in circuits where the LC product must be maintained constant, and particularly adapted for use in tuning IF transformers, push-button tuning circuits and other similar applications. Standard units are molded in low-loss red plastic.

Cap. Mfd.	500 V. D.C. W.—1000 V. D.C. T. Type 5R Cat. No.	Type 1R Cat. No.	Type 1DR Cat. No.	List Price	Net Price
.00027	5R 5T27			$ .55	$ .33
.0003	5R 5T3			.55	.33
.00033	5R 5T33			.55	.33
.00036	5R 5T36			.65	.39
.00039	5R 5T39			.65	.39
.0004	5R 5T4			.65	.39
.00043	5R 5T43			.65	.39
.00047	5R 5T47			.70	.42
.0005	5R 5T5			.70	.42
.00051	5R 5T51			.70	.42
.00056		1R 5T56		.85	.51
.0006		1R 5T6		.85	.51
.00062		1R 5T62		.85	.51
.00068		1R 5T68		.85	.51
.0007		1R 5T7		.85	.51
.00075		1R 5T75		.95	.57
.0008		1R 5T8		.95	.57
.00082		1R 5T82		.95	.57
.0009		1R 5T9		1.00	.60
.00091		1R 5T91		1.00	.60
.001		1R 5D1		1.10	.66
.0011		1R 5D11		1.10	.66
.0012		1R 5D12		1.35	.81
.0013		1R 5D13		1.35	.81
.0015		1R 5D15		1.35	.81
.0016		1R 5D16		1.35	.81
.0018		1R 5D18		1.35	.81
.002		1R 5D2		1.35	.81
.0022		1R 5D22		1.80	1.08
.0024		1R 5D24		1.80	1.08
.0025		1R 5D25		1.80	1.08
.0027		1R 5D27		2.05	1.23
.003		1R 5D3		2.05	1.23
.0033		1R 5D33		2.05	1.23
.0036		1R 5D36		2.15	1.29
.0039		1R 5D39		2.15	1.29
.004		1R 5D4		2.15	1.29
.0043		1R 5D43		2.15	1.29
.0047		1R 5D47		2.25	1.35
.005			1DR 5D5	2.25	1.35
.0051			1DR 5D51	2.25	1.35
.0056			1DR 5D56	2.25	1.35
.0062			1DR 5D62	2.25	1.35
			(300 V. D.C. W.—600 V. D.C. T.)		
.0068			1DR 3D68	2.50	1.50
.007			1DR 3D7	2.50	1.50
.0075			1DR 3D75	2.50	1.50
.008			1DR 3D8	2.50	1.50
.0082			1DR 3D82	2.50	1.50
.009			1DR 3D9	2.50	1.50
.0091			1DR 3D91	2.50	1.50
.01			1DR 351	2.50	1.50

★When JAN-C-5 units must be supplied, order according to specific CM type designations listed in C-D Mica Bulletin—Series 422.

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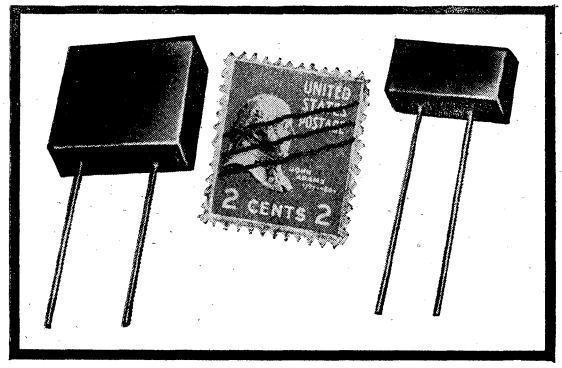
Net

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CORNELL DUBILIER

"Super MICADON"
ENCAPSULATED Molded-Case MIDGET MICA CAPACITORS



Cornell-Dubilier "SUPER MICADONS" represent an entirely new conception in Midget Mica Capacitor construction. The vastly improved design and construction of the new "C-D SUPER MICADONS" now makes it possible to produce miniature units of greatly increased capacitance and superior quality over conventional units of the same case size. Every characteristic desirable in a mica capacitor has been incorporated into one compact, miniature sized unit. No mica capacitor of *conventional* design has achieved this comprehensive quality.

SEE ENG. BUL. 160 FOR DETAILED DATA AND COMPLETE LISTINGS.

		Long	Wide	Thick
Type SIZES: in Inches	1A	$53/64$	$53/64$	$9/32$
	1AD	$53/64$	$53/64$	$11/32$
	5A	$51/64$	$15/32$	$7/32$
	22A	$35/64$	$5/16$	$7/32$

TEMPERATURE RANGE: −55°C to +130°C.

STANDARD TOLERANCE: ±5%; ±2% can also be supplied from stock when specified; ±½% and ±1% available on special order.

For ±2% Tol. add 15% to List.
For ±1% Tol. add 25% to List.
For ±½% Tol. add 50% to List.

CHARACTERISTICS*: All types are supplied from stock as follows:

From 1 to 24 mmfd. in Char. "C".
From 24 to 51 mmfd. in Char. "E".
From 51 to 41,000 mmfd. in Char. "E".
From 51 to 41,000 mmfd. ALSO AVAILABLE in Char. "F" on special order.*

22A - 5A - 1A - 1AD
All units 500 VDCW, except as noted.

Type 22A	Cap. Mfd.	List* Price	Net* Price
22A5V5	.000005	$ .40	$ .24
22A5Q1	.00001	.40	.24
22A5Q12	.000012	.40	.24
22A5Q15	.000015	.40	.24
22A5Q18	.000018	.40	.24
22A5Q2	.00002	.40	.24
22A5Q22	.000022	.40	.24
22A5Q24	.000024	.40	.24
22A5Q27	.000027	.40	.24
22A5Q3	.000030	.40	.24
22A5Q33	.000033	.40	.24
22A5Q36	.000036	.40	.24
22A5Q39	.000039	.40	.24
22A5Q43	.000043	.40	.24
22A5Q47	.000047	.40	.24
22A5Q51	.000051	.40	.24
22A5Q56	.000056	.40	.24
22A5Q62	.000062	.40	.24
22A5Q68	.000068	.40	.24
22A5Q75	.000075	.40	.24
22A5Q82	.000082	.40	.24
22A5Q91	.000091	.40	.24
22A5T1	.0001	.40	.24
22A5T11	.00011	.45	.27
22A5T12	.00012	.45	.27
22A5T13	.00013	.45	.27
22A5T15	00015	45	.27
22A5T16	.00016	.45	.27
22A5T18	.00018	.45	.27
22A5T2	.0002	.45	.27
22A5T22	.00022	.45	.27
22A5T24	.00024	.45	.27
22A5T27	.00027	.55	.33
22A5T3	.0003	.55	.33
22A5T33	.00033	.55	.33
22A5T36	.00036	.65	.39
22A5T39	.00039	.65	.39
22A5T43	.00043	.65	.39
22A5T47	.00047	.70	.42
22A5T51	.00051	.70	.42
22A5T56	.00056	.85	.51
22A5T62	.00062	.85	.51
22A5T68	.00068	.85	.51
22A5T75	.00075	.95	.57
22A5T82	.00082	.95	.57
22A5T91	.00091	1.00	.60
22A5D1	.001	1.10	.66
Type 5A			
5A5D11	.0011	1.10	.66
5A5D12	.0012	1.35	.81
5A5D13	.0013	1.35	.81
5A5D15	.0015	1.35	.81
5A5D16	.0016	1.35	.81
5A5D18	.0018	1.35	.81
5A5D2	.002	1.35	.81
5A5D22	.0022	1.80	1.08
5A5D24	.0024	1.80	1.08
5A5D27	.0027	2.05	1.23
5A5D3	.003	2.05	1.23
5A5D33	.0033	2.05	1.23
5A5D36	.0036	2.15	1.29
Type 1A			
1A5D39	.0039	2.15	1.29
1A5D43	.0043	2.15	1.29
1A5D47	.0047	2.25	1.35
1A5D51	.0051	2.25	1.35
1A5D56	.0056	2.25	1.35
1A5D62	.0062	2.25	1.35
1A5D68	.0068	2.50	1.50
1A5D75	.0075	2.50	1.50
1A5D82	.0082	2.50	1.50
1A5D91	.0091	2.50	1.50
1A551	.01	2.50	1.50
1A5511	.011	2.80	1.68
1A5512	.012	3.05	1.83
1A5513	.013	3.05	1.83
1A5515	.015	3.05	1.83
Type 1AD			
1AD5516	.016	3.55	2.13
1AD5518	.018	3.55	2.13
1AD552	.02	3.55	2.13
1AD5522	.022	4.35	2.61
1AD5524	.024	4.35	2.61
1AD5527	.027	4.55	2.73
1AD553	.03	4.55	2.73
†1AD3533	.033	5.85	3.51
†1AD3536	.036	5.85	3.51
†1AD3539	.039	5.85	3.51
†1AD354	.040	5.85	3.51

*PRICES cover CHARACTERISTICS "C" or "E"; for CHAR. "F" add 25¢ each to List Price.

†Rated at 300 VDCW.

Net

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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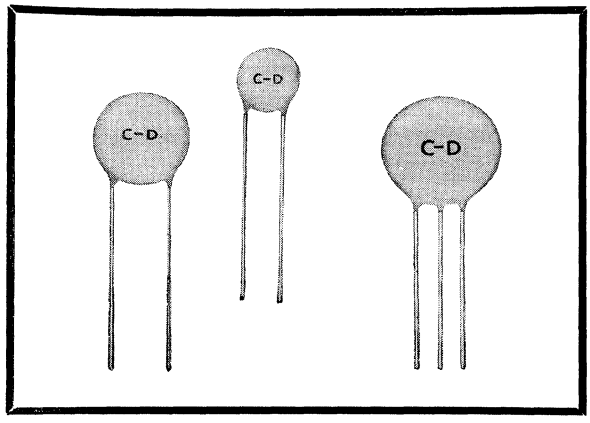
CORNELL DUBILIER

"TINYMIKE" CERAMIC CAPACITORS



THE CERAMIC WITH THE MILLION DOLLAR BODY

- Small, space-saving and lightweight.
- Available in all popular capacities.
- Guaranteed minimum capacity tolerance.
- Adapted for wide variety of applications.
- Minimized eddy current losses due to construction.
- Low inductance, stable, dependable performance.
- Available with temperature compensating characteristics.

General Purpose DISC HIGH K

TYPE: BYA — BYB

VOLTAGE: 1000 VDCW, except as noted.

TOLERANCE: GMC, except as noted.

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
470	**BYA10T47**	9/32	5/32	$.20	**$.12**
500	**BYA10T5**	9/32	5/32	.20	**.12**
680	**BYA10T68**	9/32	5/32	.20	**.12**
820	**BYA10T82**	9/32	5/32	.20	**.12**
*1000	**BYA6D1**	9/32	5/32	.20	**.12**
†1000	**BYA10D1M**	3/8	5/32	.20	**.12**
1500	**BYA10D15**	3/8	5/32	.20	**.12**
2000	**BYA10D2**	3/8	5/32	.20	**.12**
2200	**BYA10D22**	3/8	5/32	.20	**.12**
2500	**BYA10D25**	19/32	5/32	.20	**.12**
2700	**BYA10D27**	19/32	5/32	.20	**.12**
3000	**BYA10D3**	19/32	5/32	.20	**.12**
3300	**BYA10D33**	19/32	5/32	.20	**.12**
4000	**BYA10D4**	19/32	5/32	.20	**.12**
†4700	**BYA10D47M**	19/32	5/32	.20	**.12**
5000	**BYA10D5**	5/8	5/32	.20	**.12**
†5000	**BYA10D5M**	5/8	5/32	.30	**.18**
6800	**BYA10D68**	19/32	5/32	.20	**.12**
*10000	**BYA6S1**	5/8	5/32	.20	**.12**
10000	**BYA10S1**	3/4	5/32	.20	**.12**
†10000	**BYA10S1M**	5/8	5/32	.30	**.18**
15000	**BYA10S15**	7/8	5/32	.30	**.18**
*20000	**BYB6S2**	7/8	7/32	.30	**.18**
*30000	**BYB6S3**	7/8	7/32	.45	**.27**
*40000	**BYB6S4**	7/8	7/32	.50	**.30**

*Rated at 600 VDCW.
†Tolerance ±20%.

General Purpose DISC UNSHIELDED

TYPE: BYC

VOLTAGE: 600 VDCW

TOLERANCE: GMC

TEMPERATURE RANGE: —55°C to +85°C.

DUALS

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
2 x 1000	**BYC6DD1**	3/8	5/32	$.40	**$.24**
2 x 1500	**BYC6DD15**	19/32	5/32	.40	**.24**
2 x 2000	**BYC6DD2**	19/32	5/32	.40	**.24**
2 x 2200	**BYC6DD22**	19/32	5/32	.40	**.24**
2 x 2500	**BYC6DD25**	19/32	5/32	.40	**.24**
2 x 3000	**BYC6DD3**	3/4	5/32	.45	**.27**
2 x 4000	**BYC6DD4**	3/4	5/32	.45	**.27**
2 x 4700	**BYC6DD47**	3/4	5/32	.45	**.27**
2 x 5000	**BYC6DD5**	3/4	5/32	.45	**.27**

General Purpose DISC SHIELDED

TYPE: BYD

VOLTAGE: 600 VDCW

TOLERANCE: GMC

TEMPERATURE RANGE: —55°C to +85°C.

DUALS

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
2 x 1000	**BYD6DD1**	3/8	7/32	$.45	**$.27**
2 x 2000	**BYD6DD2**	3/8	7/32	.45	**.27**
2 x 5000	**BYD6DD5**	19/32	7/32	.50	**.30**
2 x 10000	**BYD6DS1**	5/8	7/32	.50	**.30**

General Purpose DISC CLOSE TOLERANCE

TYPE: L

VOLTAGE: 1000 VDCW

TOLERANCE: ±10%, except as noted, to 390 mmfd. incl.
±20%, 400 mmfd. and over.

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
†3.3	**L10V33**	9/32	5/32	$.20	**$.12**
†5.0	**L10V5**	9/32	5/32	.20	**.12**
†6.8	**L10V68**	9/32	5/32	.20	**.12**
7.0	**L10V7**	9/32	5/32	.20	**.12**
8.0	**L10V8**	9/32	5/32	.20	**.12**
10	**L10Q1**	9/32	5/32	.20	**.12**
12	**L10Q12**	9/32	5/32	.20	**.12**
15	**L10Q15**	9/32	5/32	.20	**.12**
18	**L10Q18**	9/32	5/32	.20	**.12**
20	**L10Q2**	9/32	5/32	.20	**.12**
22	**L10Q22**	9/32	5/32	.20	**.12**
24	**L10Q24**	9/32	5/32	.20	**.12**
25	**L10Q25**	9/32	5/32	.20	**.12**
27	**L10Q27**	9/32	5/32	.20	**.12**
30	**L10Q3**	9/32	5/32	.20	**.12**
33	**L10Q33**	9/32	5/32	.20	**.12**
39	**L10Q39**	9/32	5/32	.20	**.12**
47	**L10Q47**	9/32	5/32	.20	**.12**
50	**L10Q5**	9/32	5/32	.20	**.12**
51	**L10Q51**	9/32	5/32	.20	**.12**

†Tolerance ±.5 Mmfd.

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CORNELL DUBILIER

"TINYMIKE" CERAMIC CAPACITORS

TYPE: L (cont'd)

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
56	**L10Q56**	9/32	5/32	$.20	**$.12**
68	**L10Q68**	9/32	5/32	.20	**.12**
75	**L10Q75**	9/32	5/32	.20	**.12**
82	**L10Q82**	9/32	5/32	.20	**.12**
91	**L10Q91**	9/32	5/32	.20	**.12**
100	**L10T1**	9/32	5/32	.20	**.12**
110	**L10T11**	9/32	5/32	.20	**.12**
120	**L10T12**	9/32	5/32	.20	**.12**
130	**L10T13**	9/32	5/32	.20	**.12**
150	**L10T15**	9/32	5/32	.20	**.12**
180	**L10T18**	9/32	5/32	.20	**.12**
200	**L10T2**	9/32	5/32	.20	**.12**
220	**L10T22**	9/32	5/32	.20	**.12**
240	**L10T24**	9/32	5/32	.20	**.12**
250	**L10T25**	9/32	5/32	.20	**.12**
270	**L10T27**	9/32	5/32	.20	**.12**
300	**L10T3**	9/32	5/32	.20	**.12**
330	**L10T33**	9/32	5/32	.20	**.12**
350	**L10T35**	9/32	5/32	.20	**.12**
360	**L10T36**	9/32	5/32	.20	**.12**
390	**L10T39**	9/32	5/32	.20	**.12**
400	**L10T4**	9/32	5/32	.20	**.12**
420	**L10T42**	3/8	5/32	.20	**.12**
470	**L10T47**	3/8	5/32	.20	**.12**
500	**L10T5**	3/8	5/32	.20	**.12**
510	**L10T51**	3/8	5/32	.20	**.12**
560	**L10T56**	3/8	5/32	.20	**.12**
600	**L10T6**	3/8	5/32	.20	**.12**
620	**L10T62**	3/8	5/32	.20	**.12**
680	**L10T68**	3/8	5/32	.20	**.12**
750	**L10T75**	3/8	5/32	.20	**.12**
800	**L10T8**	3/8	5/32	.20	**.12**
820	**L10T82**	19/32	5/32	.20	**.12**
910	**L10T91**	19/32	5/32	.20	**.12**
1000	**L10D1**	19/32	5/32	.20	**.12**
1200	**L10D12**	19/32	5/32	.20	**.12**
1300	**L10D13**	19/32	5/32	.20	**.12**
1500	**L10D15**	19/32	5/32	.20	**.12**
1600	**L10D16**	19/32	5/32	.20	**.12**
1800	**L10D18**	19/32	5/32	.20	**.12**
2000	**L10D2**	19/32	5/32	.20	**.12**
2200	**L10D22**	19/32	5/32	.20	**.12**
2500	**L10D25**	3/4	5/32	.20	**.12**
2700	**L10D27**	3/4	5/32	.20	**.12**
3000	**L10D3**	3/4	5/32	.20	**.12**
3300	**L10D33**	3/4	5/32	.20	**.12**
3900	**L10D39**	7/8	5/32	.20	**.12**
4000	**L10D4**	7/8	5/32	.20	**.12**
4300	**L10D43**	7/8	5/32	.20	**.12**
4700	**L10D47**	7/8	5/32	.20	**.12**
5000	**L10D5**	7/8	5/32	.30	**.18**
5100	**L10D51**	7/8	5/32	.30	**.18**

General Purpose DISC HIGH VOLTAGE

TYPE: HVA — HVB — HVC

VOLTAGE: 1600 VDCW

TEMPERATURE RANGE: —55°C to +85°C.

TOLERANCE: 4.7 to 100 mmfd. incl. ±10%, except as noted.
150 to 1000 mmfd. incl. ±20%.
1200 to 6800 mmfd. incl. GMC.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
†4.7	**HVA16V47**	3/8	7/32	$.30	**$.18**
6.8	**HVA16V68**	3/8	7/32	.30	**.18**
10	**HVA16Q1**	3/8	7/32	.30	**.18**
12	**HVA16Q12**	3/8	7/32	.30	**.18**
15	**HVA16Q15**	3/8	7/32	.30	**.18**

TYPE: HVA — HVB — HVC (cont'd)

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
18	**HVA16Q18**	3/8	7/32	$.30	**$.18**
20	**HVA16Q2**	3/8	7/32	.30	**.18**
22	**HVA16Q22**	3/8	7/32	.30	**.18**
33	**HVA16Q33**	3/8	7/32	.30	**.18**
47	**HVA16Q47**	19/32	7/32	.30	**.18**
56	**HVA16Q56**	19/32	7/32	.30	**.18**
62	**HVA16Q62**	19/32	7/32	.30	**.18**
68	**HVA16Q68**	19/32	7/32	.30	**.18**
82	**HVA16Q82**	19/32	7/32	.30	**.18**
100	**HVA16T1**	19/32	7/32	.30	**.18**
150	**HVB16T15**	3/8	7/32	.30	**.18**
180	**HVB16T18**	3/8	7/32	.30	**.18**
220	**HVB16T22**	3/8	7/32	.30	**.18**
300	**HVB16T3**	3/8	7/32	.30	**.18**
330	**HVB16T33**	3/8	7/32	.30	**.18**
390	**HVB16T39**	3/8	7/32	.30	**.18**
470	**HVB16T47**	19/32	7/32	.30	**.18**
680	**HVB16T68**	19/32	7/32	.30	**.18**
1000	**HVB16D1**	19/32	7/32	.30	**.18**
1200	**HVC16D12**	19/32	7/32	.30	**.18**
1500	**HVC16D15**	19/32	7/32	.30	**.18**
2000	**HVC16D2**	19/32	7/32	.30	**.18**
2200	**HVC16D22**	19/32	7/32	.30	**.18**
3300	**HVC16D33**	19/32	7/32	.30	**.18**
4700	**HVC16D47**	3/4	7/32	.30	**.18**
6800	**HVC16D68**	7/8	7/32	.30	**.18**

†Tolerance ±.5 Mmfd.

High Voltage DISC for BUFFER Applications

TYPE: HVE

VOLTAGE: 1600 VDCW

TOLERANCE: GMC, except as noted.

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
3000	**HVE16D3**	3/4	7/32	$.35	**$.21**
4000	**HVE16D4**	3/4	7/32	.35	**.21**
5000	**HVE16D5**	3/4	7/32	.35	**.21**
6000	**HVE16D6**	7/8	7/32	.35	**.21**
7000	**HVE16D7**	7/8	7/32	.35	**.21**
7500	**HVE16D75**	7/8	7/32	.35	**.21**
8000	**HVE16D8**	7/8	7/32	.35	**.21**
10000	**HVE16S1**	7/8	7/32	.35	**.21**
†15000	**HVE16S15**	7/8	1/4	.60	**.36**

†Tolerance +80% —20%.

General Purpose DISC HIGH VOLTAGE

TYPE: HVA — HVB — HVC

VOLTAGE: 2000 VDCW

TEMPERATURE RANGE: —55°C to +85°C.

TOLERANCE: 4.7 to 82 mmfd. incl. ±10%, except as noted.
100 to 1500 mmfd. incl. ±20%.
2000 to 6000 mmfd. incl. GMC.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
†4.7	**HVA20V47**	3/8	7/32	$.35	**$.21**
6.8	**HVA20V68**	3/8	7/32	.35	**.21**
10	**HVA20Q1**	3/8	7/32	.35	**.21**

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Net

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"TINYMIKE" CERAMIC CAPACITORS

TYPE: HVA — HVB — HVC (cont'd)

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
15	**HVA20Q15**	3/8	7/32	$.35	**$.21**
22	**HVA20Q22**	3/8	7/32	.35	**.21**
33	**HVA20Q33**	3/8	7/32	.35	**.21**
39	**HVA20Q39**	19/32	7/32	.35	**.21**
47	**HVA20Q47**	19/32	7/32	.35	**.21**
56	**HVA20Q56**	19/32	7/32	.35	**.21**
62	**HVA20Q62**	19/32	7/32	.35	**.21**
68	**HVA20Q68**	19/32	7/32	.35	**.21**
75	**HVA20Q75**	19/32	7/32	.35	**.21**
82	**HVA20Q82**	19/32	7/32	.35	**.21**
100	**HVB20T1**	3/8	7/32	.35	**.21**
120	**HVB20T12**	3/8	7/32	.35	**.21**
150	**HVB20T15**	3/8	7/32	.35	**.21**
180	**HVB20T18**	3/8	7/32	.35	**.21**
200	**HVB20T2**	3/8	7/32	.35	**.21**
220	**HVB20T22**	3/8	7/32	.35	**.21**
270	**HVB20T27**	3/8	7/32	.35	**.21**
300	**HVB20T3**	3/8	7/32	.35	**.21**
330	**HVB20T33**	19/32	7/32	.35	**.21**
390	**HVB20T39**	19/32	7/32	.35	**.21**
470	**HVB20T47**	19/32	7/32	.35	**.21**
500	**HVB20T5**	19/32	7/32	.35	**.21**
560	**HVB20T56**	19/32	7/32	.35	**.21**
680	**HVB20T68**	19/32	7/32	.35	**.21**
1000	**HVB20D1**	3/4	7/32	.35	**.21**
1500	**HVB20D15**	3/4	7/32	.35	**.21**
2000	**HVC20D2**	19/32	7/32	.35	**.21**
2200	**HVC20D22**	19/32	7/32	.35	**.21**
3300	**HVC20D33**	3/4	7/32	.35	**.21**
4700	**HVC20D47**	3/4	7/32	.35	**.21**
5000	**HVC20D5**	3/4	7/32	.35	**.21**
6000	**HVC20D6**	7/8	7/32	.40	**.24**

†Tolerance ±.5 Mmfd.

High Voltage DISC for DEFLECTION YOKE Applications

TYPE: HVD

VOLTAGE: 2000 VDCW

TOLERANCE: ±10%

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
15	**HVD20Q15**	3/8	7/32	$.35	**$.21**
18	**HVD20Q18**	3/8	7/32	.35	**.21**
20	**HVD20Q2**	3/8	7/32	.35	**.21**
22	**HVD20Q22**	3/8	7/32	.35	**.21**
33	**HVD20Q33**	3/8	7/32	.35	**.21**
39	**HVD20Q39**	19/32	7/32	.35	**.21**
47	**HVD20Q47**	19/32	7/32	.35	**.21**
62	**HVD20Q62**	19/32	7/32	.35	**.21**
68	**HVD20Q68**	19/32	7/32	.35	**.21**
75	**HVD20Q75**	19/32	7/32	.35	**.21**
82	**HVD20Q82**	19/32	7/32	.35	**.21**
91	**HVD20Q91**	19/32	7/32	.35	**.21**

General Purpose DISC HIGH VOLTAGE

TYPE: HVA — HVB — HVC

VOLTAGE: 3000 VDCW

TEMPERATURE RANGE: —55°C to +85°C.

TOLERANCE: 4.7 to 60 mmfd. incl. ±10%, except as noted; 68 to 1000 mmfd. incl. ±20%; 1500 to 4000 mmfd. incl. GMC.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
†4.7	**HVA30V47**	3/8	7/32	$.40	**$.24**
6.8	**HVA30V68**	3/8	7/32	.40	**.24**
10	**HVA30Q1**	3/8	7/32	.40	**.24**
12	**HVA30Q12**	3/8	7/32	.40	**.24**
15	**HVA30Q15**	3/8	7/32	.40	**.24**
22	**HVA30Q22**	3/8	7/32	.40	**.24**
33	**HVA30Q33**	19/32	7/32	.40	**.24**
39	**HVA30Q39**	19/32	7/32	.40	**.24**
47	**HVA30Q47**	19/32	7/32	.40	**.24**
50	**HVA30Q5**	19/32	7/32	.40	**.24**
60	**HVA30Q6**	19/32	7/32	.40	**.24**
68	**HVB30Q68**	3/8	7/32	.40	**.24**
100	**HVB30T1**	3/8	7/32	.40	**.24**
120	**HVB30T12**	3/8	7/32	.40	**.24**
150	**HVB30T15**	3/8	7/32	.40	**.24**
180	**HVB30T18**	3/8	7/32	.40	**.24**
200	**HVB30T2**	3/8	7/32	.40	**.24**
220	**HVB30T22**	19/32	7/32	.40	**.24**
250	**HVB30T25**	19/32	7/32	.40	**.24**
270	**HVB30T27**	19/32	7/32	.40	**.24**
300	**HVB30T3**	19/32	7/32	.40	**.24**
330	**HVB30T33**	19/32	7/32	.40	**.24**
390	**HVB30T39**	19/32	7/32	.40	**.24**
470	**HVB30T47**	19/32	7/32	.40	**.24**
500	**HVB30T5**	19/32	7/32	.40	**.24**
680	**HVB30T68**	3/4	7/32	.40	**.24**
1000	**HVB30D1**	7/8	7/32	.40	**.24**
1500	**HVC30D15**	19/32	7/32	.40	**.24**
2000	**HVC30D2**	3/4	7/32	.40	**.24**
2200	**HVC30D22**	3/4	7/32	.40	**.24**
3300	**HVC30D33**	7/8	7/32	.40	**.24**
4000	**HVC30D4**	7/8	7/32	.40	**.24**

General Purpose DISC HIGH VOLTAGE

TYPE: HVA — HVB

VOLTAGE: 5000 VDCW

TOLERANCE: ±20%

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
4.7	**HVA50V47**	3/8	7/32	$.45	**$.27**
10	**HVA50Q1**	3/8	7/32	.45	**.27**
22	**HVA50Q22**	19/32	7/32	.45	**.27**
47	**HVB50Q47**	3/8	7/32	.45	**.27**
100	**HVB50T1**	7/8	7/32	.45	**.27**
220	**HVB50T22**	19/32	7/32	.45	**.27**
330	**HVB50T33**	19/32	7/32	.45	**.27**
470	**HVB50T47**	3/4	7/32	.45	**.27**

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CORNELL DUBILIER

"TINYMIKE" CERAMIC CAPACITORS

Temperature Compensating DISC Coefficient NPO

TYPE: C

VOLTAGE: 1000 VDCW

TOLERANCE: ±10%, except as noted.

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
†1.5	**C10V15C**	9/32	5/32	$.50	**$.30**
†2.0	**C10V2C**	9/32	5/32	.50	**.30**
†2.2	**C10V22C**	9/32	5/32	.50	**.30**
†3.0	**C10V3C**	9/32	5/32	.50	**.30**
†3.3	**C10V33C**	9/32	5/32	.50	**.30**
†4.0	**C10V4C**	9/32	5/32	.50	**.30**
†4.7	**C10V47C**	9/32	5/32	.50	**.30**
5.0	**C10V5C**	9/32	5/32	.50	**.30**
6.0	**C10V6C**	9/32	5/32	.50	**.30**
6.8	**C10V68C**	9/32	5/32	.50	**.30**
7.0	**C10V7C**	9/32	5/32	.50	**.30**
8.0	**C10V8C**	9/32	5/32	.50	**.30**
8.2	**C10V82C**	9/32	5/32	.50	**.30**
9.0	**C10V9C**	9/32	5/32	.50	**.30**
10	**C10Q1C**	9/32	5/32	.50	**.30**
12	**C10Q12C**	3/8	5/32	.50	**.30**
13	**C10Q13C**	3/8	5/32	.50	**.30**
15	**C10Q15C**	3/8	5/32	.50	**.30**
18	**C10Q18C**	3/8	5/32	.50	**.30**
20	**C10Q2C**	3/8	5/32	.50	**.30**
22	**C10Q22C**	19/32	5/32	.50	**.30**
24	**C10Q24C**	19/32	5/32	.50	**.30**
25	**C10Q25C**	19/32	5/32	.50	**.30**
27	**C10Q27C**	19/32	5/32	.50	**.30**
30	**C10Q3C**	19/32	5/32	.50	**.30**
33	**C10Q33C**	19/32	5/32	.50	**.30**
36	**C10Q36C**	19/32	5/32	.50	**.30**
39	**C10Q39C**	19/32	5/32	.50	**.30**
43	**C10Q43C**	19/32	5/32	.50	**.30**
47	**C10Q47C**	19/32	5/32	.50	**.30**
50	**C10Q5C**	3/4	5/32	.55	**.33**
51	**C10Q51C**	3/4	5/32	.55	**.33**
56	**C10Q56C**	3/4	5/32	.55	**.33**
62	**C10Q62C**	3/4	5/32	.55	**.33**
68	**C10Q68C**	3/4	5/32	.55	**.33**
75	**C10Q75C**	3/4	5/32	.55	**.33**
82	**C10Q82C**	3/4	5/32	.55	**.33**
91	**C10Q91C**	7/8	5/32	.55	**.33**
100	**C10T1C**	7/8	5/32	.55	**.33**

†Tolerance ±.5 Mmfd.

Temperature Compensating DISC Coefficient N750

TYPE: C

VOLTAGE: 1000 VDCW

TOLERANCE: ±10%

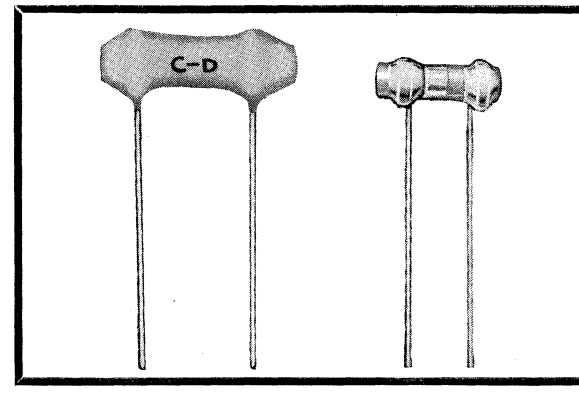
TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
5.0	**C10V5U**	9/32	5/32	$.50	**$.30**
6.0	**C10V6U**	9/32	5/32	.50	**.30**
6.8	**C10V68U**	9/32	5/32	.50	**.30**
7.0	**C10V7U**	9/32	5/32	.50	**.30**
8.0	**C10V8U**	9/32	5/32	.50	**.30**
8.2	**C10V82U**	9/32	5/32	.50	**.30**
9.0	**C10V9U**	9/32	5/32	.50	**.30**
10	**C10Q1U**	9/32	5/32	.50	**.30**
12	**C10Q12U**	9/32	5/32	.50	**.30**
13	**C10Q13U**	9/32	5/32	.50	**.30**
15	**C10Q15U**	9/32	5/32	.50	**.30**
18	**C10Q18U**	9/32	5/32	.50	**.30**
20	**C10Q2U**	9/32	5/32	.50	**.30**
22	**C10Q22U**	9/32	5/32	.50	**.30**
24	**C10Q24U**	9/32	5/32	.50	**.30**

TYPE: C (cont'd)

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
25	**C10Q25U**	9/32	5/32	$.50	**$.30**
27	**C10Q27U**	9/32	5/32	.50	**.30**
30	**C10Q3U**	9/32	5/32	.50	**.30**
33	**C10Q33U**	9/32	5/32	.50	**.30**
36	**C10Q36U**	3/8	5/32	.50	**.30**
39	**C10Q39U**	3/8	5/32	.50	**.30**
43	**C10Q43U**	3/8	5/32	.50	**.30**
47	**C10Q47U**	3/8	5/32	.50	**.30**
50	**C10Q5U**	3/8	5/32	.50	**.30**
51	**C10Q51U**	3/8	5/32	.50	**.30**
56	**C10Q56U**	3/8	5/32	.50	**.30**
62	**C10Q62U**	3/8	5/32	.50	**.30**
68	**C10Q68U**	3/8	5/32	.50	**.30**
75	**C10Q75U**	19/32	5/32	.50	**.30**
82	**C10Q82U**	19/32	5/32	.50	**.30**
91	**C10Q91U**	19/32	5/32	.50	**.30**
100	**C10T1U**	19/32	5/32	.50	**.30**
110	**C10T11U**	19/32	5/32	.50	**.30**
120	**C10T12U**	19/32	5/32	.50	**.30**
130	**C10T13U**	19/32	5/32	.50	**.30**
150	**C10T15U**	19/32	5/32	.50	**.30**
160	**C10T16U**	3/4	5/32	.55	**.33**
175	**C10T175U**	3/4	5/32	.55	**.33**
180	**C10T18U**	3/4	5/32	.55	**.33**
200	**C10T2U**	3/4	5/32	.55	**.33**
220	**C10T22U**	3/4	5/32	.55	**.33**
240	**C10T24U**	3/4	5/32	.55	**.33**
270	**C10T27U**	7/8	5/32	.55	**.33**
300	**C10T3U**	7/8	5/32	.55	**.33**
330	**C10T33U**	7/8	5/32	.55	**.33**



General Purpose TUBULAR CLOSE TOLERANCE

TYPE: LT

VOLTAGE: 600 VDCW

TOLERANCE: ±20%, except as noted.

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
3.0	**LT6V3**	.240	.460	$.20	**$.12**
5.0	**LT6V5**	.240	.460	.20	**.12**
6.8	**LT6V68**	.240	.460	.20	**.12**
8.0	**LT6V8**	.240	.460	.20	**.12**
10	**LT6Q1**	.240	.460	.20	**.12**
12	**LT6Q12**	.240	.460	.20	**.12**
15	**LT6Q15**	.240	.460	.20	**.12**
18	**LT6Q18**	.240	.460	.20	**.12**
22	**LT6Q22**	.240	.460	.20	**.12**
25	**LT6Q25**	.240	.460	.20	**.12**

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"TINYMIKE" CERAMIC CAPACITORS

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
27	LT6Q27	.240	.460	$.20	$.12
33	LT6Q33	.240	.460	.20	.12
39	LT6Q39	.240	.460	.20	.12
47	LT6Q47	.240	.460	.20	.12
50	LT6Q5	.240	.460	.20	.12
56	LT6Q56	.240	.460	.20	.12
68	LT6Q68	.240	.460	.20	.12
75	LT6Q75	.240	.460	.20	.12
100	LT6T1	.240	.460	.20	.12
120	LT6T12	.240	.460	.20	.12
150	LT6T15	.240	.460	.20	.12
180	LT6T18	.240	.460	.20	.12
200	LT6T2	.240	.460	.20	.12
220	LT6T22	.240	.460	.20	.12
250	LT6T25	.240	.460	.20	.12
270	LT6T27	.240	.460	.20	.12
300	LT6T3	.240	.460	.20	.12
330	LT6T33	.240	.460	.20	.12
390	LT6T39	.240	.460	.20	.12
400	LT6T4	.240	.460	.20	.12
470	LT6T47	.240	.460	.20	.12
500	LT6T5	.240	.460	.20	.12
560	LT6T56	.240	.460	.20	.12
600	LT6T6	.240	.460	.20	.12
680	LT6T68	.240	.460	.20	.12
750	LT6T75	.240	.460	.20	.12
1000	LT6D1	.240	.710	.20	.12
1200	LT6D12	.240	.710	.20	.12
1500	LT6D15	.240	.710	.20	.12
1800	LT6D18	.240	.710	.20	.12
2000	LT6D2	.240	.710	.20	.12
† 2200	LT6D22	.240	.460	.20	.12
† 2500	LT6D25	.240	.460	.20	.12
† 2700	LT6D27	.240	.460	.20	.12
† 3000	LT6D3	.240	.460	.20	.12
† 3300	LT6D33	.240	.710	.20	.12
† 4000	LT6D4	.240	.710	.20	.12
† 4700	LT6D47	.240	.710	.20	.12
† 5000	LT6D5	.240	.710	.20	.12
† 5600	LT6D56	.240	.710	.20	.12
† 6800	LT6D68	.240	.710	.20	.12
†10000	LT6S1	.300	.910	.20	.12
†15000	LT6S15	.345	1.180	.30	.18
†20000	LT6S2	.345	1.180	.30	.18
†25000	LT6S25	.345	1.180	.30	.18

†Tolerance GMC.

Temperature Compensating TUBULAR UNINSULATED Coefficient NPO

TYPE: CTA

VOLTAGE: 600 VDCW

TOLERANCE: ±10%, except as noted.

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
†1.5	CTA6V15C	.200	.400	$.50	$.30
†2.2	CTA6V22C	.200	.400	.50	.30
†3.3	CTA6V33C	.200	.400	.50	.30
†4.7	CTA6V47C	.200	.400	.50	.30
6.8	CTA6V68C	.200	.400	.50	.30
10	CTA6Q1C	.200	.400	.50	.30
12	CTA6Q12C	.200	.400	.50	.30
15	CTA6Q15C	.200	.400	.50	.30
18	CTA6Q18C	.200	.400	.50	.30
20	CTA6Q2C	.200	.400	.50	.30
22	CTA6Q22C	.200	.400	.50	.30
24	CTA6Q24C	.200	.400	.50	.30
27	CTA6Q27C	.200	.656	.50	.30
30	CTA6Q3C	.200	.656	.50	.30
33	CTA6Q33C	.200	.656	.50	.30
36	CTA6Q36C	.200	.656	$.50	$.30
39	CTA6Q39C	.200	.656	.50	.30
43	CTA6Q43C	.200	.656	.50	.30
47	CTA6Q47C	.250	.860	.50	.30
51	CTA6Q51C	.250	.860	.50	.30
56	CTA6Q56C	.250	.860	.50	.30
62	CTA6Q62C	.250	.860	.50	.30
68	CTA6Q68C	.250	.860	.50	.30
75	CTA6Q75C	.250	.860	.50	.30
82	CTA6Q82C	.250	.860	.50	.30
91	CTA6Q91C	.250	.860	.50	.30
100	CTA6T1C	.250	.860	.50	.30
110	CTA6T11C	.315	1.165	.50	.30
120	CTA6T12C	.315	1.165	.50	.30
130	CTA6T13C	.315	1.165	.50	.30
150	CTA6T15C	.315	1.165	.50	.30
160	CTA6T16C	.315	1.165	.50	.30
180	CTA6T18C	.315	1.165	.50	.30

†Tolerance ±.5 Mmfd.

Temperature Compensating TUBULAR UNINSULATED Coefficient N750

TYPE: CTA

VOLTAGE: 600 VDCW

TOLERANCE: ±10%

TEMPERATURE RANGE: —55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
10	CTA6Q1U	.200	.400	$.50	$.30
12	CTA6Q12U	.200	.400	.50	.30
15	CTA6Q15U	.200	.400	.50	.30
18	CTA6Q18U	.200	.400	.50	.30
20	CTA6Q2U	.200	.400	.50	.30
22	CTA6Q22U	.200	.400	.50	.30
24	CTA6Q24U	.200	.400	.50	.30
27	CTA6Q27U	.200	.400	.50	.30
30	CTA6Q3U	.200	.400	.50	.30
33	CTA6Q33U	.200	.400	.50	.30
36	CTA6Q36U	.200	.400	.50	.30
39	CTA6Q39U	.200	.400	.50	.30
43	CTA6Q43U	.200	.400	.50	.30
47	CTA6Q47U	.200	.400	.50	.30
51	CTA6Q51U	.200	.400	.50	.30
56	CTA6Q56U	.200	.400	.50	.30
62	CTA6Q62U	.200	.400	.50	.30
68	CTA6Q68U	.200	.656	.50	.30
75	CTA6Q75U	.200	.656	.50	.30
82	CTA6Q82U	.200	.656	.50	.30
91	CTA6Q91U	.200	.656	.50	.30
100	CTA6T1U	.200	.656	.50	.30
110	CTA6T11U	.200	.656	.50	.30
120	CTA6T12U	.200	.656	.50	.30
130	CTA6T13U	.200	.656	.50	.30
150	CTA6T15U	.250	.860	.50	.30
160	CTA6T16U	.250	.860	.50	.30
180	CTA6T18U	.250	.860	.50	.30
200	CTA6T2U	.250	.860	.50	.30
220	CTA6T22U	.250	.860	.50	.30
240	CTA6T24U	.250	.860	.50	.30
270	CTA6T27U	.250	.860	.50	.30
300	CTA6T3U	.315	1.165	.50	.30
330	CTA6T33U	.315	1.165	.50	.30
360	CTA6T36U	.315	1.165	.50	.30
390	CTA6T39U	.315	1.165	.50	.30
430	CTA6T43U	.315	1.165	.50	.30
470	CTA6T47U	.315	1.165	.50	.30
510	CTA6T51U	.315	1.165	.50	.30

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Net

ERIE RESISTOR CORPORATION—ERIE, PA.

ERIE GENERAL PURPOSE CERAMICONS®

TYPES GP1 — GP2 — GP3

ERIE CERAMICONS are small fixed capacitors consisting essentially of a ceramic dielectric with silver electrodes which are fired on at a very high temperature. Erie Ceramicons are outstanding because of their excellent high frequency characteristics, small size, rugged construction and availability in a wide range of capacity values.

GP1 CERAMICONS — The performance specifications of Type GP1 Ceramicons are identical with those of temperature compensating types of Ceramicons. A GP designation does allow the capacitor manufacturer added flexibility in selecting ceramic body. These capacitors meet performance specifications of RETMA Standard No. REC-107-A, Class 1, Characteristic U2.

GP2 CERAMICONS — The capacitance of GP2 Ceramicons will not vary more than + 10% or − 35% from + 25°C. value, as the temperature is varied from − 40°C. to + 85°C. These capacitors meet the performance specifications of RETMA Standard No. REC-107-A, Class 2, Characteristic Y5Y.

GP3 CERAMICONS — The capacitance of GP3 Ceramicons will not vary more than + 25% or − 50% from the 25°C. value, as the temperature is varied from + 10°C. to + 75°C. These capacitors meet the performance specifications of RETMA Standard No. REC-107-A, Class 2, Characteristic Z5Z.

For Dimensions see page 5 of this Catalog.

"GP"® GENERAL PURPOSE CERAMICONS

are ideally suited for such applications as coupling and by-passing, in circuits where temperature coefficient is not important — in other words for all receiver applications except in frequency determining circuits. Working voltage — 600 volts D. C. Use Erie "GP" Ceramicons as replacements for molded mica and paper tubular capacitors.

Available in both molded and phenolic insulated styles

Order by Catalog Number from Table Below

600 VDCW—STOCK ITEMS—1500 VDC TEST

STANDARD TOLERANCE ± 10% 5 MMF THROUGH 1500 MMF
± 20% 1800 MMF THROUGH 10,000 MMF

Catalog No.	Erie Part No.	Cap. MMF	Body Style*
GP-5	GP1K-050	5	315 or 331
GP-10	GP1K-100	10	315 or 331
GP-12	GP1K-120	12	315 or 331
GP-15	GP1K-150	15	315 or 331
GP-18	GP1K-180	18	315 or 331
GP-20	GP1K-200	20	315 or 331
GP-22	GP1K-220	22	315 or 331
GP-24	GP1K-240	24	315 or 331
GP-25	GP1K-250	25	315 or 331
GP-27	GP1K-270	27	315 or 331
GP-30	GP1K-300	30	315 or 331
GP-33	GP1K-330	33	315 or 331
GP-39	GP1K-390	39	315 or 331
GP-47	GP1K-470	47	315 or 331
GP-50	GP1K-500	50	315 or 331
GP-51	GP1K-510	51	315 or 331
GP-56	GP1K-560	56	315 or 331
GP-68	GP1K-680	68	315 or 331
GP-75	GP1K-750	75	315 or 331
GP-82	GP1K-820	82	315 or 331
GP-100	GP1K-101	100	315 or 331
GP-110	GP2K-111	110	315 or 331
GP-120	GP2K-121	120	315 or 331
GP-150	GP2K-151	150	315 or 331
GP-180	GP2K-181	180	315 or 331
GP-200	GP2K-201	200	315 or 331
GP-220	GP2K-221	220	315 or 331
GP-240	GP2K-241	240	315 or 331
GP-250	GP2K-251	250	315 or 331

Catalog No.	Erie Part No.	Cap. MMF	Body Style*
GP-270	GP2K-271	270	315 or 331
GP-300	GP2K-301	300	315 or 331
GP-330	GP2K-331	330	315 or 331
GP-360	GP2K-361	360	315 or 331
GP-390	GP2K-391	390	315 or 331
GP-470	GP2K-471	470	315 or 331
GP-500	GP2K-501	500	315 or 331
GP-510	GP2K-511	510	315 or 331
GP-560	GP2K-561	560	315 or 331
GP-680	GP2K-681	680	315 or 331
GP-750	GP2L-751	750	316 or 332
GP-820	GP2L-821	820	316 or 332
GP-1,000	GP2L-102	1,000	316 or 332
GP-1,200	GP2L-122	1,200	316 or 332
GP-1,500	GP2L-152	1,500	316 or 332
GP-1,800	GP2-333-182	1,800	333
GP-2,000	GP2-333-202	2,000	333
GP-2,200	GP2-333-222	2,200	333
GP-2,500	GP2-333-252	2,500	333
GP-2,700	GP2-333-272	2,700	333
GP-3,000	GP2-333-302	3,000	333
GP-3,300	GP2-333-332	3,300	333
GP-4,000	GP2-333-402	4,000	333
GP-4,700	GP2-333-472	4,700	333
GP-5,000	GP2-333-502	5,000	333
GP-5,600	GP3-333-562	5,600	333
GP-6,000	GP3-333-602	6,000	333
GP-6,800	GP3-333-682	6,800	333
GP-7,500	GP3-333-752	7,500	333
GP-10,000	GP3-333-103	10,000	333

***To specify styles 331 and/or 332 add letter "x" after Catalog Number.**

Note: "Ceramicon" and "GP Ceramicon" are registered trade names and refer to ceramic dielectric capacitors manufactured only by Erie Resistor Corporation.

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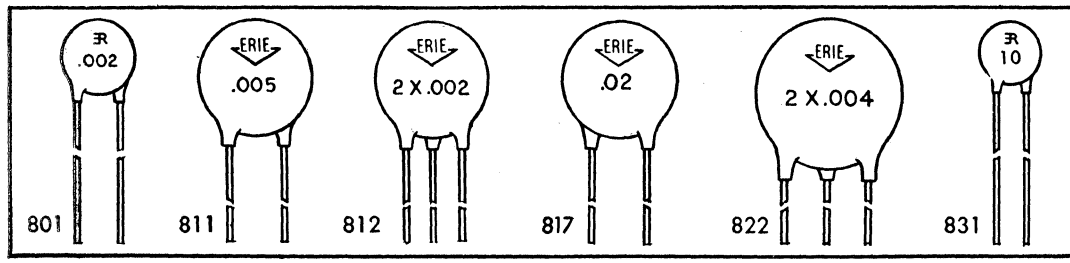
ERIE DISC CERAMICONS®

Erie Disc Ceramicons consist of a flat ceramic dielectric with silver fired onto the dielectric. Lead wires are firmly soldered to the silver electrodes, and the unit is given a protective coating of phenolic. Low series inductance assures efficient high frequency operation.



Order by Catalog Number from Table Below

600 VDCW — STOCK ITEMS — 1500 VDC TEST

HIGH STABILITY GENERAL PURPOSE CERAMICONS

Catalog No.	Erie Part No.	Capacity	Capacity Tolerance	Body Size
ED-5	831-050	5 mmf	10%	1/4"
ED-10	831-100	10 mmf	10%	1/4"
ED-12	831-120	12 mmf	10%	1/4"
ED-15	831-150	15 mmf	10%	1/4"
ED-18	831-180	18 mmf	10%	1/4"
ED-20	831-200	20 mmf	10%	1/4"
ED-22	831-220	22 mmf	10%	1/4"
ED-24	831-240	24 mmf	10%	1/4"
ED-25	831-250	25 mmf	10%	1/4"
ED-27	831-270	27 mmf	10%	1/4"
ED-30	831-300	30 mmf	10%	1/4"
ED-33	831-330	33 mmf	10%	1/4"
ED-39	831-390	39 mmf	10%	1/4"
ED-47	831-470	47 mmf	10%	1/4"
ED-50	831-500	50 mmf	10%	1/4"
ED-51	831-510	51 mmf	10%	1/4"
ED-56	831-560	56 mmf	10%	1/4"
ED-68	801-680	68 mmf	10%	3/8"
ED-75	801-750	75 mmf	10%	3/8"
ED-82	801-820	82 mmf	10%	3/8"
ED-91	801-910	91 mmf	10%	3/8"
ED-100	801-101	100 mmf	10%	3/8"
ED-120	811-121	120 mmf	10%	19/32"

Catalog No.	Erie Part No.	Capacity	Capacity Tolerance	Body Size
ED-150	811-151	150 mmf	10%	19/32"
ED-180	811-181	180 mmf	10%	19/32"
ED-200	811-201	200 mmf	10%	19/32"
ED-220	811-221	220 mmf	10%	19/32"
ED-240	811-241	240 mmf	10%	19/32"
ED-250	811-251	250 mmf	10%	19/32"
ED-270	811-271	270 mmf	10%	19/32"
ED-300	811-301	300 mmf	10%	19/32"
ED-330	811-331	330 mmf	10%	19/32"
ED-360	811-361	360 mmf	10%	19/32"
ED-390	811-391	390 mmf	10%	19/32"
ED-470	811-471	470 mmf	10%	19/32"
ED-500	811-501	500 mmf	10%	19/32"
ED-510	811-511	510 mmf	10%	19/32"
ED-560	811-561	560 mmf	10%	19/32"
ED-680	811-681	680 mmf	10%	19/32"
ED-750	811-751	750 mmf	10%	19/32"
ED-820	811-821	820 mmf	10%	19/32"
ED-910	811-911	910 mmf	10%	19/32"
ED-1000	811-102	1000 mmf	10%	19/32"
ED-1200	811-122	1200 mmf	10%	19/32"
ED-1500	811-152	1500 mmf	10%	19/32"
ED-1800	811-182	1800 mmf	10%	19/32"

HI-K BY-PASS AND COUPLING CERAMICONS

Catalog No.	Erie Part No.	Capacity	Capacity Tolerance	Body Size
ED-.00047	831-471	.00047 mfd	GMV	1/4"
ED-.0008	831-801	.0008 mfd	GMV	1/4"
ED-.001	801-.001	.001 mfd	GMV	3/8"
ED-.0012	801-.0012	.0012 mfd	GMV	3/8"
ED-.0015	801-.0015	.0015 mfd	GMV	3/8"
ED-.002	801-.002	.002 mfd	GMV	3/8"
ED-.0022	811-.0022	.0022 mfd	GMV	19/32"
ED-.0025	811-.0025	.0025 mfd	GMV	19/32"
ED-.0027	811-.0027	.0027 mfd	GMV	19/32"
ED-.003	811-.003	.003 mfd	GMV	19/32"
ED-.0033	811-.0033	.0033 mfd	GMV	19/32"
ED-.004	811-.004	.004 mfd	GMV	19/32"
ED-.0047	811-.0047	.0047 mfd	GMV	19/32"
ED-.005	811-.005	.005 mfd	GMV	19/32"
ED-.0068	811-.0068	.0068 mfd	GMV	19/32"
ED-.01	811-.01	.01 mfd	GMV	19/32"
ED-.015	817-.015	.015 mfd	GMV	19/32"
ED-.02	817-.02	.02 mfd	GMV	19/32"

HI-K DUAL CERAMICONS

Catalog No.	Erie Part No.	Capacity	Capacity Tolerance	Body Size
ED2-.001	812-.001	2x.001 mfd	GMV	19/32"
ED2-.0015	812-.0015	2x.0015 mfd	GMV	19/32"
ED2-.002	812-.002	2x.002 mfd	GMV	19/32"
ED2-.003	822-.003	2x.003 mfd	GMV	3/4"
ED2-.004	822-.004	2x.004 mfd	GMV	3/4"

DISC CAPACITORS TO MIL-C-11015A SPECIFICATIONS ARE ALSO STOCK ITEMS

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TEMPERATURE COMPENSATING CERAMICONS®

Erie Ceramicons are capacity-sensitive to temperature in varying pre-determined degrees, and because of this characteristic have found wide-spread application as temperature-compensating elements in circuits which must be frequency-stabilized over wide temperature ranges. They are also manufactured with practically no thermal sensitivity for use in applications requiring a capacitor whose value is not affected by temperature.

NPO TEMPERATURE COEFFICIENT CERAMICONS®

NPO Temperature Coefficient Ceramicons are highly recommended for frequency determining applications where no capacity change with change in temperature is desired. "Q" for NPO Ceramicons above 30 mmf is 1000 or higher. Below 30 mmf "Q" decreases slightly as capacity decreases. Working voltage — 600 volts D. C. **Recommended as replacements for silver-mica capacitors.**

Order by Catalog Number from Table Below

STOCK ITEMS — 600 VDCW

Catalog No.	Erie Part No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TCO-.5	NPOA-0R5	0.5	0.25 mmf	±250	301 or A
TCO-.68	NPOA-0R68	0.68	0.25 mmf	±250	301 or A
TCO-1	NPOA-010	1.0	0.25 mmf	±250	301 or A
TCO-1.5	NPOA-1R5	1.5	0.25 mmf	±250	301 or A
TCO-2.2	NPOA-2R2	2.2	0.25 mmf	±120	301 or A
TCO-3	NPOA-030	3.0	0.25 mmf	±120	301 or A
TCO-3.3	NPOA-3R3	3.3	0.50 mmf	±120	301 or A
TCO-4.7	NPOA-4R7	4.7	0.50 mmf	± 60	301 or A
TCO-5	NPOA-050	5.0	0.50 mmf	± 60	301 or A
TCO-6.8	NPOA-6R8	6.8	0.50 mmf	± 60	301 or A
TCO-8.2	NPOA-8R2	8.2	0.50 mmf	± 60	301 or A
TCO-10	NPOA-100	10	0.50 mmf	± 30	301 or A
TCO-12	NPOK-120	12	0.50 mmf	± 30	315 or K
TCO-15	NPOK-150	15	0.50 mmf	± 30	315 or K
TCO-18	NPOK-180	18	0.50 mmf	± 30	315 or K
TCO-20	NPOK-200	20	0.5 mmf	± 30	315 or K
TCO-22	NPOK-220	22	5%	± 30	315 or K
TCO-24	NPOL-240	24	5%	± 30	316 or L
TCO-25	NPOL-250	25	5%	± 30	316 or L
TCO-27	NPOL-270	27	5%	± 30	316 or L
TCO-30	NPOL-300	30	5%	± 30	316 or L
TCO-33	NPOL-330	33	5%	± 30	316 or L
TCO-36	NPOL-360	36	5%	± 30	316 or L
TCO-39	NPOL-390	39	5%	± 30	316 or L

Catalog No.	Erie Part No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TCO-43	NPOL-430	43	5%	±30	316 or L
TCO-47	NPO-338-470	47	5%	±30	338
TCO-50	NPO-338-500	50	5%	±30	338
TCO-51	NPO-338-510	51	5%	±30	338
TCO-56	NPO-337-560	56	5%	±30	337
TCO-62	NPO-337-620	62	5%	±30	337
TCO-68	NPO-337-680	68	5%	±30	337
TCO-75	NPO-337-750	75	5%	±30	337
TCO-82	NPO-337-820	82	5%	±30	337
TCO-91	NPO-337-910	91	5%	±30	337
TCO-100	NPO-337-101	100	5%	±30	337
TCO-110	NPO-333-111	110	5%	±30	333
TCO-120	NPO-333-121	120	5%	±30	333
TCO-130	NPO-333-131	130	5%	±30	333
TCO-150	NPO-334-151	150	5%	±30	334
TCO-160	NPO-334-161	160	5%	±30	334
TCO-175	NPO-334-1750	175	5%	±30	334
TCO-180	NPO-334-181	180	5%	±30	334
TCO-200	NPO-334-201	200	5%	±30	334
TCO-220	NPO-335-221	220	5%	±30	335
TCO-240	NPO-335-241	240	5%	±30	335
TCO-270	NPO-335-271	270	5%	±30	335
TCO-300	NPO-335-301	300	5%	±30	335

PARALLELING TC AND CAPACITIES

A wide range of capacitance values and temperature coefficients can be obtained by using Erie NPO capacitors in parallel with either N330 or N750 units. The following formulae are used in determining the capacitance of the various temperature compensating units that are required to obtain any desired temperature coefficient and capacitance:

1. $\frac{\text{(Capacitance in MMF) (Temp. Coef. Required)}}{*750}$ =

   Capacitance in MMF of the N750 unit to be used (use nearest standard capacitance value)

2. (Total Capacitance Required) minus the value found in step 1 = capacitance in MMF of the NPO unit to be used.
3. The total desired capacitance and temperature coefficient are obtained by connecting the units found in steps 1 and 2 in parallel.

*If an N330 unit is to be used in parallel with an NPO unit, substitute 330 for 750 in this equation.

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NEGATIVE TEMPERATURE COEFFICIENT CERAMICONS®

N330 and N750 units provide temperature compensation to eliminate drift. Positive and Negative Temperature Coefficient Ceramicons P100 through N1500 are available on special order through your distributor. See table on next page for other values and styles.

ERIE TUBULAR TYPE N330 CERAMICONS®

Order by Catalog Number from Table Below

STOCK ITEMS — 600 VDCW

Catalog No.	Erie Part No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TC3-1	N330A-010	1.0	0.5 mmf	±250	301 or A
TC3-1.5	N330A-1R5	1.5	0.5 mmf	±250	301 or A
TC3-2.2	N330A-2R2	2.2	0.5 mmf	±120	301 or A
TC3-3.3	N330A-3R3	3.3	0.5 mmf	±120	301 or A
TC3-3.9	N330A-3R9	3.9	0.5 mmf	±120	301 or A
TC3-4.7	N330A-4R7	4.7	5%	± 60	301 or A
TC3-5.6	N330A-5R6	5.6	5%	± 60	301 or A
TC3-6.8	N330A-6R8	6.8	5%	± 60	301 or A
TC3-8.2	N330A-8R2	8.2	5%	± 60	301 or A
TC3-10	N330A-100	10	5%	± 60	301 or A
TC3-12	N330K-120	12	5%	± 60	315 or K
TC3-15	N330K-150	15	5%	± 60	315 or K
TC3-18	N330K-180	18	5%	± 60	315 or K
TC3-22	N330K-220	22	5%	± 60	315 or K
TC3-27	N330K-270	27	5%	± 60	315 or K

Catalog No.	Erie Part No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TC3-33	N330K-330	33	5%	±60	315 or K
TC3-39	N330L-390	39	5%	±60	316 or L
TC3-47	N330L-470	47	5%	±60	316 or L
TC3-56	N330L-560	56	5%	±60	316 or L
TC3-68	N330L-680	68	5%	±60	316 or L
TC3-82	N330-338-820	82	5%	±60	338
TC3-100	N330-337-101	100	5%	±60	337
TC3-120	N330-337-121	120	5%	±60	337
TC3-150	N330-337-151	150	5%	±60	337
TC3-180	N330-333-181	180	5%	±60	333
TC3-220	N330-334-221	220	5%	±60	334
TC3-270	N330-334-271	270	5%	±60	334
TC3-330	N330-334-331	330	5%	±60	334
TC3-390	N330-335-391	390	5%	±60	335
TC3-470	N330-335-471	470	5%	±60	335

ERIE TUBULAR TYPE N750 CERAMICONS®

Order by Catalog Number from Table Below

STOCK ITEMS — 600 VDCW

Catalog No.	Erie Part No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TC7-2.2	N750A-2R2	2.2	0.5 mmf	±120	301 or A
TC7-3.3	N750A-3R3	3.3	0.5 mmf	±120	301 or A
TC7-5	N750A-050	5	0.5 mmf	±120	301 or A
TC7-6.8	N750A-6R8	6.8	0.5 mmf	±120	301 or A
TC7-10	N750A-100	10	0.5 mmf	±120	301 or A
TC7-12	N750K-120	12	0.5 mmf	±120	315 or K
TC7-15	N750K-150	15	0.5 mmf	±120	315 or K
TC7-18	N750K-180	18	0.5 mmf	±120	315 or K
TC7-20	N750K-200	20	0.5 mmf	±120	315 or K
TC7-22	N750K-220	22	5%	±120	315 or K
TC7-24	N750K-240	24	5%	±120	315 or K
TC7-25	N750K-250	25	5%	±120	315 or K
TC7-27	N750K-270	27	5%	±120	315 or K
TC7-30	N750K-300	30	5%	±120	315 or K
TC7-33	N750K-330	33	5%	±120	315 or K
TC7-36	N750K-360	36	5%	±120	315 or K
TC7-39	N750K-390	39	5%	±120	315 or K
TC7-43	N750K-430	43	5%	±120	315 or K
TC7-47	N750K-470	47	5%	±120	315 or K
TC7-50	N750K-500	50	5%	±120	315 or K
TC7-51	N750K-510	51	5%	±120	315 or K
TC7-56	N750K-560	56	5%	±120	315 or K
TC7-62	N750K-620	62	5%	±120	315 or K
TC7-68	N750L-680	68	5%	±120	316 or L
TC7-75	N750L-750	75	5%	±120	316 or L

Catalog No.	Erie Part No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TC7-82	N750L-820	82	5%	±120	316 or L
TC7-91	N750L-910	91	5%	±120	316 or L
TC7-100	N750L-101	100	5%	±120	316 or L
TC7-110	N750L-111	110	5%	±120	316 or L
TC7-120	N750L-121	120	5%	±120	316 or L
TC7-130	N750-337-131	130	5%	±120	337
TC7-150	N750-337-151	150	5%	±120	337
TC7-160	N750-337-161	160	5%	±120	337
TC7-180	N750-337-181	180	5%	±120	337
TC7-200	N750-337-201	200	5%	±120	337
TC7-220	N750-337-221	220	5%	±120	337
TC7-240	N750-337-241	240	5%	±120	337
TC7-270	N750-337-271	270	5%	±120	337
TC7-300	N750-333-301	300	5%	±120	333
TC7-330	N750-333-331	330	5%	±120	333
TC7-360	N750-333-361	360	5%	±120	333
TC7-390	N750-334-391	390	5%	±120	334
TC7-430	N750-334-431	430	5%	±120	334
TC7-470	N750-334-471	470	5%	±120	334
TC7-510	N750-334-511	510	5%	±120	334
TC7-560	N750-334-561	560	5%	±120	334
TC7-620	N750-335-621	620	5%	±120	335
TC7-680	N750-335-681	680	5%	±120	335
TC7-750	N750-335-751	750	5%	±120	335

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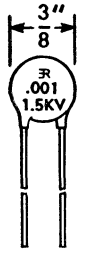
ERIE HIGH VOLTAGE DISC CERAMICONS®

Designed to employ the same basic diameters that have been standardized in 600 volt capacitors. Careful and detailed life testing has been accomplished over a long period of time to establish required dielectric thicknesses to assure conservative ratings in the high voltage line. They differ in appearance from lower voltage units in having greater thickness, the degree of difference depending on voltage rating.

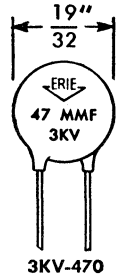


1R5KV-102

1500 VDCW — STOCK ITEMS — ± 20% TOLERANCE

Catalog No.	Erie Part No.	Capacity MMF	Size-Max. Dia.
HD15-4R7	1R5KV-4R7	4.7	3/8"
HD15-6R8	1R5KV-6R8	6.8	3/8"
HD15-10	1R5KV-100	10	3/8"
HD15-15	1R5KV-150	15	3/8"
HD15-22	1R5KV-220	22	3/8"
HD15-33	1R5KV-330	33	3/8"
HD15-47	1R5KV-470	47	19/32"
HD15-68	1R5KV-680	68	19/32"
HD15-100	1R5KV-101	100	19/32"
HD15-150	1R5KV-151	150	3/8"
HD15-180	1R5KV-181	180	3/8"

Catalog No.	Erie Part No.	Capacity MMF	Size-Max. Dia.
HD15-220	1R5KV-221	220	3/8"
HD15-330	1R5KV-331	330	3/8"
HD15-470	1R5KV-471	470	3/8"
HD15-680	1R5KV-681	680	3/8"
HD15-1000	1R5KV-102	1000	3/8"
HD15-1500	1R5KV-152	1500	19/32"
HD15-2200	1R5KV-222	2200	19/32"
HD15-3300	1R5KV-332	3300	19/32"
HD15-4700	1R5KV-472	4700	3/4"
HD15-5600	1R5KV-562	5600	3/4"
HD15-6200	1R5KV-622	6200	3/4"

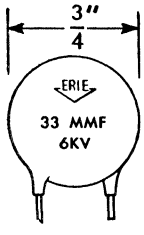


3KV-470

3000 VDCW — STOCK ITEMS — ± 20% TOLERANCE

Catalog No.	Erie Part No.	Capacity MMF	Size-Max. Dia.
HD3-4R7	3KV-4R7	4.7	3/8"
HD3-6R8	3KV-6R8	6.8	3/8"
HD3-10	3KV-100	10	3/8"
HD3-15	3KV-150	15	3/8"
HD3-22	3KV-220	22	19/32"
HD3-33	3KV-330	33	19/32"
HD3-47	3KV-470	47	19/32"
HD3-56	3KV-560	56	3/4"
HD3-68	3KV-680	68	3/4"
HD3-100	3KV-101	100	3/8"

Catalog No.	Erie Part No.	Capacity MMF	Size-Max. Dia.
HD3-150	3KV-151	150	3/8"
HD3-220	3KV-221	220	3/8"
HD3-330	3KV-331	330	3/8"
HD3-470	3KV-471	470	3/8"
HD3-680	3KV-681	680	3/8"
HD3-1000	3KV-102	1000	19/32"
HD3-1500	3KV-152	1500	19/32"
HD3-2200	3KV-222	2200	3/4"
HD3-3300	3KV-332	3300	3/4"



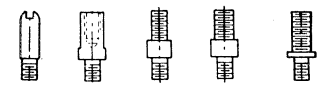
6KV-330

6000 VDCW — STOCK ITEMS — ± 20% TOLERANCE

Catalog No.	Erie Part No.	Capacity MMF	Size-Max. Dia.
HD6-4R7	6KV-4R7	4.7	19/32"
HD6-6R8	6KV-6R8	6.8	3/4"
HD6-10	6KV-100	10	3/4"
HD6-15	6KV-150	15	19/32"
HD6-22	6KV-220	22	3/4"
HD6-33	6KV-330	33	3/4"

Catalog No.	Erie Part No.	Capacity MMF	Size-Max. Dia.
HD6-150	6KV-151	150	19/32"
HD6-180	6KV-181	180	3/4"
HD6-220	6KV-221	220	19/32"
HD6-330	6KV-331	330	3/4"
HD6-470	6KV-471	470	3/4"

ERIE UNIVERSAL 20 KV CERAMICONS®


413-203 413-204 413-205 413-206-1 413-206-2

STYLE 413

A highly universal 20 KV television power supply filter Ceramicon. Five types of terminals are available. By selecting the correct combinations of these, the correct replacement is provided for practically any existing receiver. Approved by leading TV manufacturers for replacement units.

Capacity of Style 413 is 500 MMF. Tolerance $^{+\ 50\%}_{-\ 20\%}$

Order by Part Number from Table Below

TERMINALS

Erie Part No.	Description
413-203	Slotted
413-204	Female — 6/32 Tap
413-205	Male — 6/32 Thread
413-206-1	Male — 8/32 Thread — 1/4"—Long
413-206-2	Male — 8/32 Thread — 3/8"—Long

Terminals are packaged 5 of a type per bag.

CERAMICONS

Erie Part No.	Description
*413	Bulk — No Terminals
413-1	Single Box — 7 Terminals
413-6	Kit — 6 Bodies, 14 Terminals

*Does not include terminals, order them from terminal chart at left.

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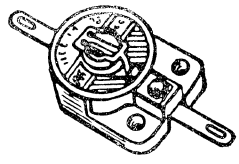
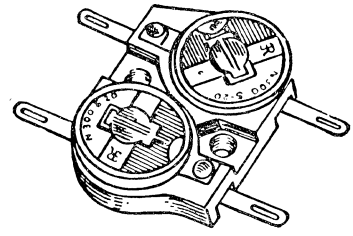
ERIE CERAMICON® TRIMMERS

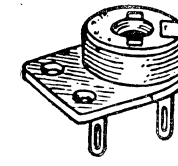
These trimmers have been well known for years for their stability under the most exacting conditions. The top of the base and underside of the titanium dioxide rotor are lapped optically flat, thus eliminating air space variations with temperature. Fired silver electrodes are applied to top of base and rotor, so that capacity is changed by varying the amount of overlap. Capacity change per degree of rotation is approximately constant, resulting in a smoothness of adjustment not possible with compression type trimmers, where the greater part of capacity change is concentrated close to one end of adjustment.



STYLE TS2A



STYLE TD2A



STYLE 557
Patented

Order by Catalog Number from Table Below

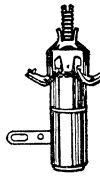
STOCK ITEMS — 500 VDCW

Catalog No.	Erie Part No.	Capacity Range (MMF)	Temperature Coefficient
TS-A	TS2A-1.5	1.5-7	NPO
TS-B	TS2A-3	3-12	NPO
TS-C	TS2A-4	4-30	N500
TS-D	TS2A-5	5-20	N300
TS-E	TS2A-7	7-45	N500
TD-A	TD2A-1.5	1.5-7	NPO
TD-B	TD2A-3	3-12	NPO
TD-C	TD2A-4	4-30	N500
TD-D	TD2A-5	5-20	N300
TD-E	TD2A-7	7-45	N500
557-A	557-1.5	1.5-7	NPO
557-B	557-3	3-12	NPO
557-F	557-5	5-25	NPO
557-G	557-5	5-30	N750
557-H	557-8	8-50	N750

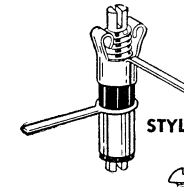
JAN C-81A Trimmers		
CV11A070	1.5-7	NPO
CV11A120	3-12	NPO
CV11A250	4.5-25	NPO
CV11B130	3-13	N300
CV11B200	5-20	N300
CV11C300	4-30	N500
CV11C450	7-45	N500
CV11D300	4-30	N650
CV11D450	7-45	N650
CV11D500	8-50	N650

ERIE TUBULAR TRIMMERS

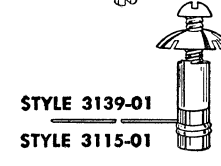
These are compact, economical Tubular Trimmers that are ideal for applications calling for a low minimum capacity and a high ratio of maximum to minimum capacity. Styles 532 and 535 have molded plastic dielectric. Styles 3115-01 and 3139-01 have ceramic dielectric.



STYLE 532



STYLE 535



STYLE 3139-01
STYLE 3115-01

Order by Catalog Number from Table Below

STOCK ITEMS — 500 VDCW

Catalog No.	Erie Part No.	Capacity Range (MMF)	Panel Thickness
532-A	532-08-0R5	0.5-5	.040" to .065"
532-B	532-10	1-8	.040" to .065"
535-C	535-0R7	0.7-3	up to .050"
3115-D	3115-01-0R5	0.5-3	.025" to .065"
3115-E	3115-01-10	1-4	.025" to .065"
3139-D	3139-01-0R5	0.5-3	.025" to .065"
3139-E	3139-01-10	1-4	.025" to .065"

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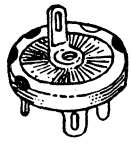
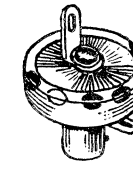
ERIE BUTTON®
SILVER-MICA CAPACITORS

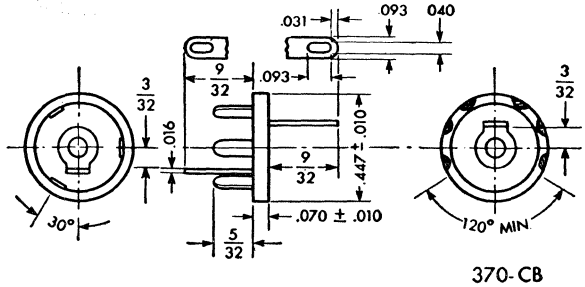


STYLE CB

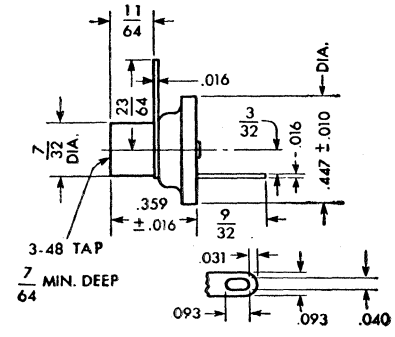
These are midget silver-mica capacitors, for use where compact size, minimum series inductance, and high leakage resistance are essential. They offer high stability of capacitance over the full temperature range — 55°C. to + 85°C. Erie button silver-mica capacitors are unmatched for V.H.F. and U.H.F. work. "Q" at 1 MC is not less than 1000 above 100 MMF; not less than 700 between 50 and 100 MMF; not less than 500 below 50 MMF. Type 370-CB has ring type metal shell with three soldering ears. High potential terminal at either end for feed-thru connection. Type 370-FA is fastened to chassis with 3-48 screw. Meet MIL-C-10950-A characteristics "W" or "X" specification.

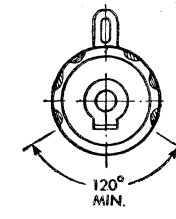


STYLE FA



370-CB





370-FA

Order by Part Number from Table Below

STOCK ITEMS — 500 VDCW

Part No. FA Styles	Part No. CB Styles	Cap. MMF	Tol.
370-FA-150K	370-CB-150K	15	10%
370-FA-150J	370-CB-150J	15	5%
370-FA-250K	370-CB-250K	25	10%
370-FA-250J	370-CB-250J	25	5%
370-FA-500K	370-CB-500K	50	10%
370-FA-500J	370-CB-500J	50	5%
370-FA-101K	370-CB-101K	100	10%
370-FA-101J	370-CB-101J	100	5%
370-FA-151K	370-CB-151K	150	10%
370-FA-151J	370-CB-151J	150	5%
370-FA-201K	370-CB-201K	200	10%
370-FA-201J	370-CB-201J	200	5%

Part No. FA Styles	Part No. CB Styles	Cap. MMF	Tol.
370-FA-251K	370-CB-251K	250	10%
370-FA-251J	370-CB-251J	250	5%
370-FA-301K	370-CB-301K	300	10%
370-FA-301J	370-CB-301J	300	5%
370-FA-401K	370-CB-401K	400	10%
370-FA-401J	370-CB-401J	400	5%
370-FA-501K	370-CB-501K	500	10%
370-FA-501J	370-CB-501J	500	5%
370-FA-751K	370-CB-751K	750	10%
370-FA-751J	370-CB-751J	750	5%
370-FA-102K	370-CB-102K	1000	10%
370-FA-102J	370-CB-102J	1000	5%

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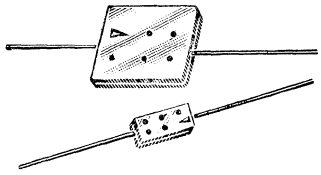
CORNING GLASS WORKS ELECTRONIC COMPONENTS

CORNING FIXED GLASS CAPACITORS



CONFORMS TO MIL-11272-A SPECIFICATIONS

Glass dielectric material is formed as homogeneous, continuous ribbon. The properties of the capacitor are those of the closely controlled dielectric, and are not determined by assembly method or affected by any subsequent treatment. Offers a higher degree of miniaturization and maximum reliability and electrical stability at high temperatures.

DIMENSIONS

CY10 — 5/16" to 27/64" long, 9/64" to 15/64" wide, 3/64" to 7/64" thick, #24 AWG wire.
CY15 — 27/64" to 35/64" long, 15/64" to 21/64" wide, 1/16" to 5/32" thick, #22 AWG wire.
CY20 — 43/64" to 57/64" long, 3/8" to 1/2" wide, 3/32" to 3/16" thick, #20 AWG wire.
CY30 — 43/64" to 57/64" long, 43/64" to 53/64" wide, 3/32" to 3/16" thick, #20 AWG wire.

CY10 SERIES

Type Designation	Cap.	Tol.
CY10C050J 300V	5	± 5%
CY10C050J 500V	5	± 5%
CY10C050K 300V	5	±10%
CY10C050K 500V	5	±10%
CY10C8R2D 300V	8.2	±.5 mmf
CY10C8R2D 500V	8.2	±.5 mmf
CY10C100J 300V	10	± 5%
CY10C100J 500V	10	± 5%
CY10C100K 300V	10	±10%
CY10C100K 500V	10	±10%
CY10C120J 300V	12	± 5%
CY10C120J 500V	12	± 5%
CY10C120K 300V	12	±10%
CY10C120K 500V	12	±10%
CY10C150J 300V	15	± 5%
CY10C150J 500V	15	± 5%
CY10C150K 300V	15	±10%
CY10C150K 500V	15	±10%
CY10C180J 300V	18	± 5%
CY10C180J 500V	18	± 5%
CY10C180K 300V	18	±10%
CY10C180K 500V	18	±10%
CY10C200J 300V	20	± 5%
CY10C200J 500V	20	± 5%
CY10C200K 300V	20	±10%
CY10C200K 500V	20	±10%
CY10C220J 300V	22	± 5%
CY10C220J 500V	22	± 5%
CY10C220K 300V	22	±10%
CY10C220K 500V	22	±10%
CY10C240J 300V	24	± 5%
CY10C240J 500V	24	± 5%
CY10C270J 300V	27	± 5%
CY10C270J 500V	27	± 5%
CY10C270K 300V	27	±10%
CY10C270K 500V	27	±10%
CY10C300J 300V	30	± 5%
CY10C300J 500V	30	± 5%
CY10C330J 300V	33	± 5%
CY10C330J 500V	33	± 5%
CY10C330K 300V	33	±10%
CY10C330K 500V	33	±10%
CY10C360J 300V	36	± 5%
CY10C360J 500V	36	± 5%
CY10C390J 300V	39	± 5%
CY10C390J 500V	39	± 5%
CY10C390K 300V	39	±10%
CY10C390K 500V	39	±10%
CY10C430J 300V	43	± 5%
CY10C430J 500V	43	± 5%
CY10C470J 300V	47	± 5%
CY10C470J 500V	47	± 5%
CY10C470K 300V	47	±10%
CY10C470K 500V	47	±10%
CY10C500J 300V	50	± 5%
CY10C500J 500V	50	± 5%
CY10C510G 300V	51	± 2%
CY10C510G 500V	51	± 2%
CY10C510J 300V	51	± 5%
CY10C510J 500V	51	± 5%
CY10C510K 300V	51	±10%
CY10C510K 500V	51	±10%
CY10C560J 300V	56	± 5%
CY10C560J 500V	56	± 5%
CY10C560K 300V	56	±10%
CY10C560K 500V	56	±10%
CY10C620J 300V	62	± 5%
CY10C620J 500V	62	± 5%
CY10C680J 300V	68	± 5%
CY10C680J 500V	68	± 5%
CY10C680K 300V	68	±10%
CY10C680K 500V	68	±10%
CY10C750J 300V	75	± 5%
CY10C750J 500V	75	± 5%
CY10C820J 300V	82	± 5%
CY10C820J 500V	82	± 5%
CY10C820K 300V	82	±10%
CY10C820K 500V	82	±10%
CY10C910J 300V	91	± 5%
CY10C910J 500V	91	± 5%
CY10C101J 300V	100	± 5%
CY10C101J 500V	100	± 5%
CY10C101K 300V	100	±10%
CY10C101K 500V	100	±10%
CY10C111J 300V	110	± 5%
CY10C121J 300V	120	± 5%
CY10C121K 300V	120	±10%
CY10C131J 300V	130	± 5%
CY10C151J 300V	150	± 5%
CY10C151K 300V	150	±10%
CY10C161J 300V	160	± 5%
CY10C181J 300V	180	± 5%
CY10C181K 300V	180	±10%
CY10C201J 300V	200	± 5%
CY10C201K 300V	200	±10%
CY10C221J 300V	220	± 5%
CY10C221K 300V	220	±10%
CY10C241J 300V	240	± 5%
CY10C241K 300V	240	±10%

CY15 SERIES

Type Designation	Cap.	Tol.
CY15C101J 500V	100	± 5%
CY15C111J 500V	110	± 5%
CY15C121J 500V	120	± 5%
CY15C131J 500V	130	± 5%
CY15C151J 500V	150	± 5%
CY15C161J 500V	160	± 5%
CY15C181J 500V	180	± 5%
CY15C201J 500V	200	± 5%
CY15C221J 500V	220	± 5%
CY15C241J 500V	240	± 5%
CY15C271J 500V	270	± 5%
CY15C301J 500V	300	± 5%
CY15C331J 500V	330	± 5%
CY15C361J 500V	360	± 5%
CY15C361K 500V	360	±10%
CY15C391J 500V	390	± 5%
CY15C431J 500V	430	± 5%
CY15C471G 500V	470	± 2%
CY15C471J 500V	470	± 5%
CY15C471K 500V	470	±10%
CY15C511J 500V	510	± 5%
CY15C511K 500V	510	±10%
CY15C561J 300V	560	± 5%
CY15C561K 300V	560	±10%
CY15C621J 300V	620	± 5%
CY15C681J 300V	680	± 5%
CY15C681K 300V	680	±10%
CY15C751J 300V	750	± 5%
CY15C821J 300V	820	± 5%
CY15C911J 300V	910	± 5%
CY15C102F 300V	1000	± 1%
CY15C102G 300V	1000	± 2%
CY15C102J 300V	1000	± 5%
CY15C102K 300V	1000	±10%
CY15C112J 300V	1100	± 5%
CY15C122G 300V	1200	± 2%
CY15C122J 300V	1200	± 5%
CY15C122K 300V	1200	±10%

CY20 SERIES

Type Designation	Cap.	Tol.
CY20C561J 500V	560	± 5%
CY20C621J 500V	620	± 5%
CY20C681J 500V	680	± 5%
CY20C751J 500V	750	± 5%
CY20C821J 500V	820	± 5%
CY20C911J 500V	910	± 5%
CY20C102J 500V	1000	± 5%
CY20C102K 500V	1000	±10%
CY20C112J 500V	1100	± 5%
CY20C122J 500V	1200	± 5%
CY20C132J 500V	1300	± 5%
CY20C152G 500V	1500	± 2%
CY20C152J 500V	1500	± 5%
CY20C152K 500V	1500	±10%
CY20C162J 500V	1600	± 5%
CY20C182J 500V	1800	± 5%
CY20C202G 500V	2000	± 2%
CY20C202J 500V	2000	± 5%
CY20C202K 500V	2000	±10%
CY20C222J 500V	2200	± 5%
CY20C242J 500V	2400	± 5%
CY20C272G 500V	2700	± 2%
CY20C272J 500V	2700	± 5%
CY20C302J 500V	3000	± 5%
CY20C332G 500V	3300	± 2%
CY20C332J 500V	3300	± 5%
CY20C362J 300V	3600	± 5%
CY20C392J 300V	3900	± 5%
CY20C432J 300V	4300	± 5%
CY20C472J 300V	4700	± 5%
CY20C472K 300V	4700	±10%
CY20C512G 300V	5100	± 2%
CY20C512J 300V	5100	± 5%

CY30 SERIES

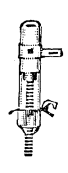
Type Designation	Cap.	Tol.
CY30C302J 300V	3000	± 5%
CY30C332J 300V	3300	± 5%
CY30C362J 300V	3600	± 5%
CY30C392J 300V	3900	± 5%
CY30C432J 300V	4300	± 5%
CY30C472J 300V	4700	± 5%
CY30C502J 300V	5000	± 5%
CY30C512J 300V	5100	± 5%
CY30C562J 300V	5600	± 5%
CY30C622J 300V	6200	± 5%
CY30C682J 300V	6800	± 5%
CY30C752J 300V	7500	± 5%
CY30C822J 300V	8200	± 5%
CY30C912J 300V	9100	± 5%
CY30C103F 300V	10000	± 1%
CY30C103G 300V	10000	± 2%
CY30C103J 300V	10000	± 5%
CY30C103K 300V	10000	±10%

CORNING GLASS MIDGET TRIMMERS

MIDGET ROTARY TYPE

Offers outstanding performance coupled with economy. Features pan cap terminal. Rotary tuning motion. 500 volt DC breakdown voltage for all types. O.D., .252" to .270".

*Push-on mount with saddle clip, brass core.
†Split-bushing mount with pan terminal, Invar core.



Erie No.	Range, MMF	Dimensions
680000*	0.5-3	2 5/32" ± 1/32"
680001*	1-8	1 5/16" ± 1/32"
680002*	1-12	1 11/64" ± 1/32"
683038†	0.5-3	1 3/16" ± 1/32"
683039†	1-8	1 1/32" ± 1/32"
683040†	1-12	1 15/32" ± 1/32"

DIRECT TRAVERSE TYPE

Ruggedness, thermal stability, smooth tuning characteristic. Mount in "D" hole, .237" x .257". Invar core.

No.	Capacity MMF	Dimensions
682024	0.5-3.0	1 1/16" x 13/16"
682054	1.0-7.5	1 1/16" x 13/16"
682064	1.0-8.0	1 29/32" x 1 1/32"
681024	1.0-12.0	2 9/16" x 1 15/32"

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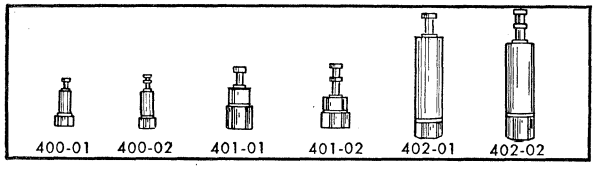
ERIE TEFLON* STAND-OFF INSULATORS

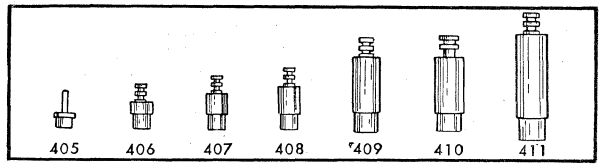
TE-400 SERIES



These Insulators are designed for low-loss, high frequency service in radar, television and other electronic equipment, as completely insulated tie-points in circuit wiring — unaffected by a wide range in ambient temperatures, pressure, altitudes, humidity, and mechanical shock and vibration.

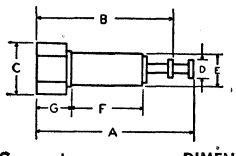
*duPont Trademark

TE-405 SERIES



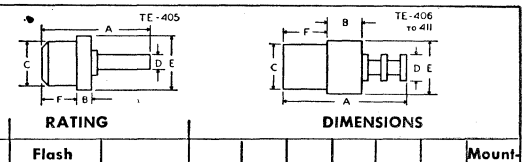
These Miniature Stand-Off Insulators are compressed into mounting holes, are self-fastening, requiring no additional hardware. Hand tool for mounting available.
High heat resistance permits soldering without damage to insulators.
Excellent electrical characteristics adapt them to miniaturization and high frequency, high temperature, high voltage circuits.

Order by Catalog Number from Table Below



Insulator Number	RATING Flash Over Point†	RATING Capacitance	DIMENSIONS A	B	C	D	E	F	G
TE-400-01,02	3,000 VAC-RMS	.24 mmfd.	31/64	19/64	5/32	.066	1/8	.245	.128
TE-401-01,02	5,000 VAC-RMS	.48 mmfd.	23/32	19/32	1/4	.140	1/4	.195	.261
TE-402-01,02	10,000 VAC-RMS	.15 mmfd.	1 11/32	1 3/16	1/4	.140	1/4	.745	.261

†Readings taken at Sea Level, Short Time Test.

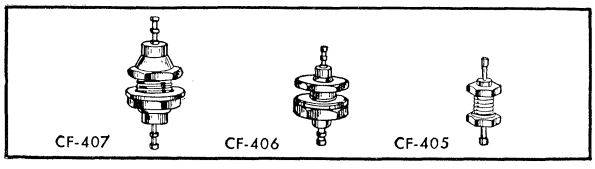


Insulator Number	RATING Flash Over Point†	RATING Capacitance	DIMENSIONS A	B	C	D	E	F	Mounting Hole
TE-405	500 VAC	.35 mmfd.	.350	.040	.148	.040	.172	.100	.136
TE-406	1500 VAC	.30 mmfd.	.431	.125	.165	3/32	3/16	.150	.152
TE-407	3000 VAC	.20 mmfd.	.493	.187	.165	3/32	3/16	.150	.152
TE-408	4000 VAC	.20 mmfd.	.556	.250	.165	3/32	3/16	.150	.152
TE-409	5000 VAC	.20 mmfd.	.831	.400	.165	1/8	3/16	.150	.152
TE-410	6000 VAC	.20 mmfd.	.968	.500	.215	1/8	1/4	.187	.202
TE-411	9000 VAC	.20 mmfd.	1.268	.800	.215	1/8	1/4	.187	.202

†Readings taken at Sea Level, Short Time Test.

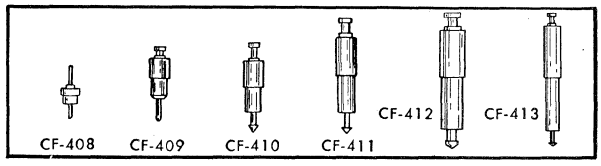
ERIE TEFLON FEED-THRU INSULATORS

CF-405 SERIES



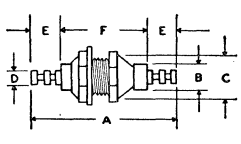
Series CF-405 Feed-Thru Insulators have a hollow threaded metal body which fits through the bed plate and is secured by a hex nut.
The terminal, which passes through the hollow body, is spaced by a force-fitted Teflon plug.
These Feed-Thru Insulators combine the unsurpassed insulating properties of Teflon for high frequency, high temperature, high voltage service with mechanical ruggedness unusual in miniature insulator design.

CF-408 SERIES



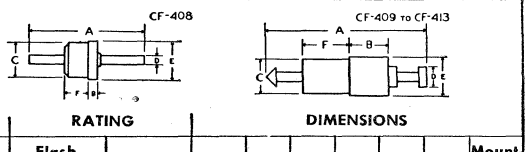
Teflon Miniature Feed-Thru Insulators, compression type, are force-fitted into mounting holes, are self-fastening and self-sealing. No additional hardware is required for assembly.
The resiliency of the Teflon bodies insures against breakage in assembly and transit, and offers shock-proof and vibration-proof durability in service. Hand tool for mounting available.
Teflon's unexcelled electrical properties for high frequency, high temperature and high voltage use, unaffected by a wide range in ambient temperatures, pressure, altitudes and humidity, recommend them for critical circuits.

Order by Catalog Number from Table Below



Insulator Number	RATING Flash Over Point†	RATING Capacitance	DIMENSIONS A	B	C	D	E	F
CF-405	1500 VAC	1.8 mmfd.	.690	.135	.203	.052	.163	.337
CF-406	3000 VAC	1.9 mmfd.	.876	.162	.250	.055	.188	.500
CF-407	4000 VAC	2.4 mmfd.	1.316	.256	.375	.095	.283	.750

†Readings taken at Sea Level, Short Time Test.



Insulator Number	RATING Flash Over Point†	RATING Capacitance	DIMENSIONS A	B	C	D	E	F	Mounting Hole
CF-408	500 VAC	.4 mmfd.	.515	.040	.148	.040	.172	.100	.136
CF-409	3000 VAC	.6 mmfd.	.740	.187	.171	3/32	3/16	.212	.158
CF-410	4000 VAC	.7 mmfd.	.865	.250	.171	3/32	3/16	.275	.158
CF-411	5000 VAC	.8 mmfd.	1.115	.375	.171	1/8	3/16	.400	.158
CF-412	6000 VAC	.9 mmfd.	1.365	.500	.217	1/8	1/4	.525	.204
CF-413	9000 VAC	1.0 mmfd.	1.965	.800	.217	1/8	1/4	.825	.204

†Readings taken at Sea Level, Short Time Test.

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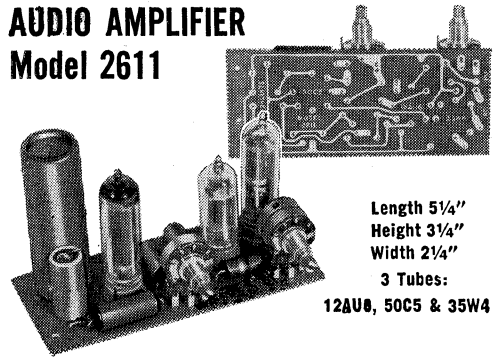
You Benefit! by PRINTED CIRCUITS

...in THESE PRODUCTS by...

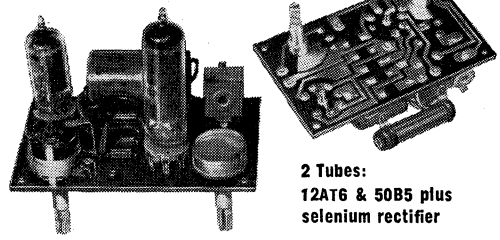
Photocircuits CORPORATION

AUDIO AMPLIFIER Model 2611



Length 5¼"
Height 3¼"
Width 2¼"
3 Tubes:
12AU8, 50C5 & 35W4

AUDIO AMPLIFIER Model 2610



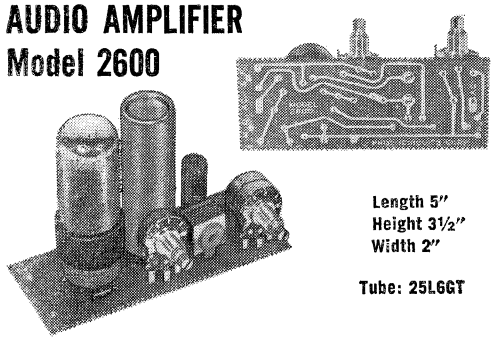
Length 4⅛"
Height 3¼"
Width 2½"
2 Tubes:
12AT6 & 50B5 plus selenium rectifier

Modern PRINTED CIRCUIT chassis.
(Models 2611 & 2610)

Uses: For high gain phono amplifiers, magnetic (tape or wire) recorders, intercommunication equipment, radio or TV sub-assemblies.

Tone control. Low cost! Deliveries as needed!

AUDIO AMPLIFIER Model 2600



Length 5"
Height 3½"
Width 2"
Tube: 25L6GT

Modern PRINTED CIRCUIT chassis.

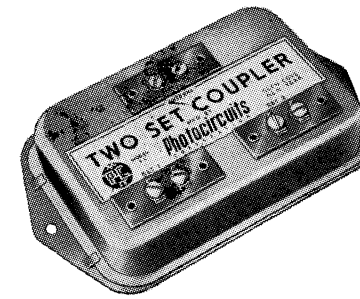
Use: Designed expressly for low cost phonograph manufacturing (for 90 volt 300 milliamp. phono motor connected in series with tube filament or equivalent resistor).

Tone control.

Deliveries as needed!

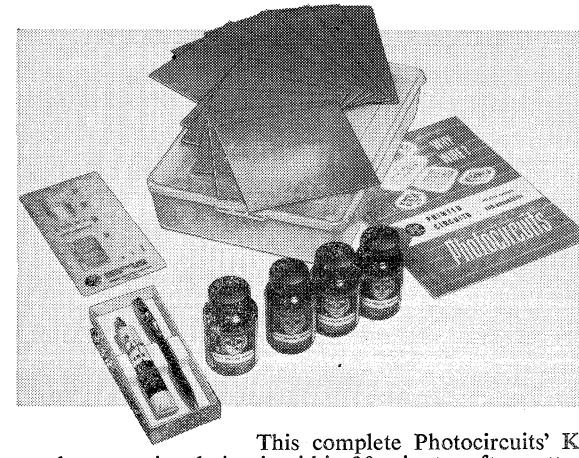
Photocircuits Corporation *pioneered* "printed circuitry" ...is the oldest printed circuit manufacturer and the largest supplier to the radio industry. That is the kind of *experience* that backs the distributor and dealer who sell these units!

TWO SET COUPLER with Printed Circuitry



This NEW Two Set Coupler operates a SECOND TV or FM set from ONE ANTENNA... provides perfect matching. It results in equal *or better quality* of both picture and sound... on every channel or frequency. Low in cost. Eliminates a cause of "ghosts." No inefficient resistors or transformers. Easy to install (just hook it up!).

PRINTED CIRCUIT Model Maker's KIT



This complete Photocircuits' Kit produces a printed circuit within 30 minutes after pattern is drawn! Includes everything from drawing guide to tube-sockets (10 of them). Full, easy instructions!

SEE YOUR LOCAL DISTRIBUTOR OR WRITE

PHOTOCIRCUITS CORPORATION
Glen Cove, N. Y.

Technological **LEADERSHIP** • *Production* **EXPERIENCE** • *Production* **CAPACITY** • *Reputation for* **QUALITY**

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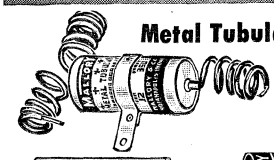
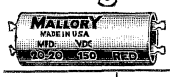


Metal Tubular Dry Electrolytic Capacitors

For filter and audio by-pass circuits. Sealed aluminum tube with external insulating sleeve. 3″ bare, tinned-copper or insulated leads at each end, except TCS styles which have solder lugs. For use up to 85°C except types designated (†).



Single Section

Catalog Number	Cap. Mfd.	DC Wkg. Volts	Size Dia. Length	List Price
TC310	1000	3	1 5/16 x 1¾	**$1.70**
TC605	500	6	1 3/16 x 1¾	**1.55**
TC610	1000	6	1 5/16 x 2	**1.90**
TC1502	200	15	1 3/16 x 1½	**1.40**
TC1501	1000	15	1 1/16 x 2¼	**2.30**
TC1505	500	15	1 5/16 x 2	**1.75**
TC22	10	25	7/16 x 1 5/16	**1.00**
TC26	25	25	3/8 x 1 5/16	**1.00**
TC29	50	25	9/16 x 1½	**1.10**
TC2501	100	25	1 1/16 x 1¾	**1.35**
TC2505	500	25	1 1/16 x 2¼	**2.30**
TC302	2	50	7/16 x 1 5/16	**.90**
TC30	5	50	9/16 x 1¼	**1.00**
TC31	1	50	9/16 x 1¼	**.90**
TC32	10	50	3/8 x 1 5/16	**1.00**
TC36	25	50	1 1/16 x 1¼	**1.05**
TC39	50	50	1 3/16 x 1¼	**1.20**
TC3501	100	50	1 1/16 x 1¾	**1.40**
TC40	5	150	3/8 x 1 5/16	**1.40**
TC41	8	150	3/8 x 1 13/16	**1.05**
TC42	10	150	3/8 x 1 13/16	**1.05**
TC43	12	150	3/8 x 1 13/16	**1.10**
TC44	16	150	1 1/16 x 1½	**1.15**
TC45	20	150	1 3/16 x 1½	**1.20**
TC47	30	150	1 3/16 x 1½	**1.30**
TC48	40	150	1 5/16 x 1¾	**1.35**
TC49	50	150	1 5/16 x 1¾	**1.40**
TC492	80	150	1 5/16 x 2	**1.60**
TC495	150	150	1 1/16 x 2¼	**1.90**
TC50X	5	250	1 1/16 x 1¼	**1.05**
TC51	8	250	1 1/16 x 1¾	**1.15**
TC52	10	250	1 1/16 x 1¾	**1.20**
TC53	12	250	1 3/16 x 1¾	**1.25**
TC54	16	250	1 3/16 x 1¾	**1.30**
TC55	20	250	1 3/16 x 1¾	**1.35**
TC58	40	250	1 1/16 x 1¾	**1.55**
TC59	50	250	1 1/16 x 1¾	**1.70**
TC60	5	350	1 1/16 x 1¾	**1.05**
TC61	8	350	1 3/16 x 1¾	**1.20**
TC62	10	350	1 3/16 x 1¾	**1.25**
TC63	12	350	1 3/16 x 1¾	**1.30**
TC64	16	350	1 5/16 x 1¾	**1.40**
TC65	20	350	1 5/16 x 1¾	**1.45**
TC68	60	350	1 1/16 x 2¼	**1.95**
TC70	5	450	1 1/16 x 1¾	**1.20**
TC71	8	450	1 3/16 x 1¾	**1.25**
TC72	10	450	1 3/16 x 1¾	**1.30**
TC73	12	450	1 5/16 x 1¾	**1.35**
TC74	16	450	1 5/16 x 1¾	**1.40**
TC75	20	450	1 1/16 x 1¾	**1.55**
TC77	30	450	1 1/16 x 2¼	**1.70**
TC78	40	450	1 1/16 x 2¼	**1.80**
TC79	50	450	1 1/16 x 2¼	**2.10**
TC80	80	450	1 1/16 x 4	**2.80**
†TC81	10	500	1 5/16 x 1¾	**1.35**
TC82	10	500	1 1/16 x 2 5/16	**2.70**
†TC83	20	500	1 1/16 x 1¾	**1.60**
†TC84	30	500	1 1/16 x 2¼	**1.75**
TC92	10	600	1 1/16 x 2 5/16	**2.95**
TC50025	250	50	1 5/16 x 1¾	**1.75**
TC308	.5Z @ 15750 Cycles 3 V.N.P.		1 1/16 x 2	**2.20**
TC420	1.5Z @ 60 Cycles 4 V		1 1/16 x 2⅞	**3.50**
TC421	1.5Z @ 120 Cycles 6 V		1 1/16 x 2	**3.00**
TC1025	25	10 VNP	9/16 x 1¼	**1.15**
TC412	500	10 VNP	1 1/16 x 2¼	**2.00**
TC415	1000	15 VNP	1 x 3	**2.90**
TC425	100	25 VNP	1 x 1⅝	**1.70**

Dual Common Negative

TCD204	250-1000	10-6	1¼ x 2¼	**$2.80**
TCD2155	100-100	150-150	1 1/16 x 4	**3.20**
TCD2165	30-30	200-200	1 1/16 x 2¼	**2.20**
TCD2169	50-75	250-50	1 1/16 x 2¼	**2.40**
TCD2174	100-150	250-50	1 1/16 x 4	**3.60**
TCD2173	8-8	250-250	1 5/16 x 1¾	**1.60**
TCD2274	40-40	300-300	1 1/16 x 3⅛	**2.95**
TCD2297	40-50	450-50	1 1/16 x 3⅛	**2.50**
TCD2302	30-60	450-300	1 1/16 x 4	**3.20**
TCD26	25-25	25	1 3/16 x 1¾	**1.40**
TCD45	20-20	150	1 3/16 x 2	**1.65**
TCD47	30-30	150	1 5/16 x 1¾	**1.80**

Dual Common Negative—Continued

Catalog Number	Cap. Mfd.	DC Wkg. Volts	Size Dia. Length	List Price
TCD48	40-40	150	1 1/16 x 2	**$1.85**
TCD485	40-20	150	1 5/16 x 1¾	**1.75**
TCD49	50-50	150	1 1/16 x 2¼	**2.10**
TCD497	50-30	150	1 5/16 x 2	**1.95**
TCD498	80-50	150	1 1/16 x 2¼	**2.35**
TCD52	10-10	250	1 5/16 x 2	**1.65**
TCD55	20-20	250	1 1/16 x 2	**1.85**
TCD62	10-10	350	1 5/16 x 2	**1.70**
TCD65	20-20	350	1 1/16 x 3⅛	**2.25**
TCD71	8-8	450	1 5/16 x 2	**1.70**
TCD72	10-10	450	1 1/16 x 2	**1.85**
TCD74	15-15	450	1 1/16 x 3⅛	**2.20**
TCD75	20-20	450	1 1/16 x 3⅛	**2.50**

Dual Separate Section

TCS44	15-15	150	1 3/16 x 2⅜	**$2.00**
TCS45	20-20	150	1 5/16 x 2⅜	**2.10**
TCS47	30-30	150	1 1/16 x 2⅜	**2.25**
TCS48	40-40	150	1 1/16 x 2⅞	**2.35**
TCS505	70-70	175	1 1/16 x 3⅞	**3.60**
TCS52	10-10	250	1 5/16 x 2⅜	**2.10**
TCS55	20-20	250	1 1/16 x 2⅞	**2.35**
TCS61	8-8	350	1 5/16 x 2⅜	**2.10**
TCS64	15-15	350	1 1/16 x 2⅞	**2.75**
TCS71	8-8	450	1 1/16 x 2⅜	**2.15**
TCS74	15-15	450	1 1/16 x 2⅞	**2.75**
TCS75	20-20	450	1 1/16 x 3½	**3.15**

FP-WP Dry Electrolytic Capacitors

For use at ambient temperatures up to 85°C in filter and by-pass circuits in radio, TV and industrial electronics. Sealed in aluminum cans with twist-prong, lug construction. FP types have Mallory exclusive Fabricated Plates. WP have special etched plates. All feature low RF impedance and minimum coupling between sections. Separate anode terminals. Case is common cathode. For hardware, see page 11, Mallory Capacitors Section, of this catalog.

FP-WP Singles††

Catalog Number	Capacity Mfd.	Working Volts—DC	Size D L	List Price
WP510	.5Z/15750 cycles	3V	1 x 2	**$2.20**
WP540	1.0Z/60 cycles	3V	1⅜ x 3	**4.00**
WP505	10Z/30 cycles	3V	¾ x 2	**2.00**
WP035	225	15	¾ x 2	**1.75**
WP039	1000	15	1 x 2½	**2.55**
WP041	2000	15	1⅜ x 2½	**3.45**
WP042	3000	15	1⅜ x 3	**3.50**
WP052	40	25	¾ x 2	**1.35**
WP055	100	25	1 x 2	**1.60**
WP057	500	25	1 x 2½	**2.55**
WP059	1000	25	1⅜ x 2	**3.55**
WP063	4	50	¾ x 2	**1.25**
WP065	500	50	1⅜ x 2	**2.65**
WP068	1500	50	1⅜ x 4	**3.85**
FP113	30	150	¾ x 2	**1.55**
FP115	50	150	1 x 2	**1.65**
FP116	100	150	1 x 2½	**2.00**
FP116.5	120	150	1 x 3	**2.05**
FP117	150	150	1 x 3	**2.15**
FP118	200	150	1⅜ x 2½	**2.45**
FP119	300	150	1⅜ x 3	**2.80**
FP125	15	250	¾ x 2	**1.55**
FP126	200	250	1⅜ x 3	**4.05**
FP128	80	300	1 x 3	**2.55**
FP129.1	100	300	1 x 3	**2.90**
FP131	150	300	1⅜ x 3	**3.50**
FP135	30	350	1 x 2	**1.90**
FP137	50	350	1 x 2½	**2.10**
FP137.2	60	350	1 x 3	**2.20**
FP138	80	350	1⅜ x 2½	**2.85**
FP140	125	350	1⅜ x 3	**3.95**
FP142	10	450	¾ x 2	**1.55**
FP143	15	450	1 x 2	**1.70**
FP144	20	450	1 x 2	**1.80**
FP145	30	450	1 x 2½	**1.95**
FP146	40	450	1 x 2½	**2.05**
FP148	60	450	1⅜ x 2½	**2.80**
FP149	80	450	1⅜ x 2½	**3.05**
FP150	100	450	1⅜ x 3	**3.45**
FP171	10	500	1 x 2	**1.60**
FP173	20	500	1 x 2	**1.85**
FP175	30	500	1 x 2½	**2.00**
FP177	40	500	1 x 3	**2.50**
FP187	90	500	1⅜ x 3	**3.50**

†† Numerical Sequence by Voltage

See next page for additional values

Mallory Electrolytic Capacitors make excellent replacements in selenium rectifier power supply circuits.

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MALLORY DRY ELECTROLYTIC CAPACITORS

FP-WP—Duals

Catalog Number	Capacity Mfd.	Working Volts—DC	Size D L	List Price
WP204	250-1000	10-6	1⅜ x 2	**$2.85**
WP205	.5Z-2.5Z/ 15750C-60C	12-6V	1⅜ x 4	**3.60**
WP200	1000-1000	15-15	1⅜ x 2½	**4.40**
WP201.1	40-40	25-25	1 x 2	**1.55**
WP202.1	50-50	50-50	1 x 2	**1.70**
WP202.5	100-100	50-50	1 x 2	**2.10**
WP206	50-150	150-25	1 x 2½	**2.20**
FP208	20-20	150-150	1 x 2	**1.70**
FP211	30-30	150-150	1 x 2	**1.85**
FP210	40-20	150-150	1 x 2	**1.80**
FP212	40-40	150-150	1 x 2½	**1.90**
FP213	50-30	150-150	1 x 2	**2.00**
FP214	50-50	150-150	1 x 2½	**2.15**
FP214.5	75-75	150-150	1⅜ x 2	**2.60**
FP215	125-100	150-150	1⅜ x 2½	**3.40**
FP216	80-40	150-150	1 x 3	**2.30**
FP216.1	200-5	200-200	1⅜ x 2½	**2.75**
FP216.3	200-150	150-150	1⅜ x 4	**3.75**
FP216.4	200-200	150-150	1⅜ x 4	**4.00**
FP216.6	60-60	200-200	1 x 3	**2.55**
FP216.8	40-25	250-150	1 x 2½	**2.15**
FP217	20-20	250-250	1 x 2	**1.90**
FP221	40-40	250-250	1 x 3	**2.50**
FP217.7	150-150	250-250	1⅜ x 4	**5.15**
FP217.74	200-200	250-250	1⅜ x 4	**6.00**
FP217.8	20-60	300-250	1 x 3	**2.75**
WP217.85	35-50	300-6	1 x 2½	**2.80**
FP217.87	40-40	300-300	1⅜ x 2	**2.95**
FP217.9	75-75	300-300	1⅜ x 3	**3.80**
FP218	120-20	300-300	1⅜ x 3	**4.00**
FP223	5-75	350-150	1 x 3	**2.10**
FP225	15-15	350-350	1 x 2	**2.25**
FP227	20-20	350-350	1 x 2½	**2.30**
FP227.3	30-30	350-350	1 x 3	**2.90**
FP227.5	80-40	350-350	1⅜ x 3	**3.60**
FP227.6	80-80	350-350	1⅜ x 4	**4.70**
FP227.7	100-100	350-350	1⅜ x 4	**6.15**
FP229	35-100	400-50	1 x 3	**2.60**
FP229.3	75-75	400-400	1⅜ x 4	**4.85**
FP229.4	80-40	400-400	1⅜ x 4	**4.70**
FP229.5	120-40	400-400	1⅜ x 4	**5.25**
FP229.6	50-100	450-50	1⅜ x 2½	**3.00**
FP229.8	80-100	450-50	1⅜ x 3	**3.75**
FP229.9	30-200	450-150	1⅜ x 3	**3.50**
FP244	80-50	450-50	1⅜ x 3	**3.50**
FP230	20-50	450-250	1 x 3	**2.80**
FP235	20-80	450-350	1⅜ x 2½	**3.65**
FP550*	10-80	450-400	1⅜ x 3	**3.45**
FP230.3	40-10	450-300	1 x 3	**2.60**
FP230.6	10-100	450-350	1⅜ x 3	**4.00**
WP230.9	5-5	450-450	1 x 2	**1.70**
FP231	10-10	450-450	1 x 2	**1.90**
FP231.3	20-10	450-450	1 x 2½	**2.20**
FP234	20-20	450-450	1 x 3	**2.55**
FP237	30-30	450-450	1⅜ x 2½	**3.05**
FP238	40-40	450-450	1⅜ x 3	**3.45**
FP239	50-40	450-450	1⅜ x 3	**3.65**
FP240††	50-50	450-450	1⅜ x 3	**3.85**
FP242	60-20	450-450	1⅜ x 3	**3.50**
FP242.5	60-60	450-450	1⅜ x 4	**4.50**
FP245	80-10	450-450	1⅜ x 3	**3.60**
FP245.2	80-20	450-450	1⅜ x 3	**3.90**
FP245.3	80-30	450-450	1⅜ x 4	**4.15**
FP247	100-40	450-450	1⅜ x 4	**4.85**
FP250	40-80	475-200	1⅜ x 2½	**3.65**
FP255	20-100	475-300	1⅜ x 3	**3.95**
FP256	20-100	475-400	1⅜ x 4	**4.50**
FP258	15-15	475-475	1 x 2½	**2.35**
FP259	30-10	475-475	1 x 3	**2.60**
FP260	40-10	475-475	1⅜ x 3	**3.10**
FP262	40-40	475-475	1⅜ x 3	**4.30**
FP263	60-40	475-475	1⅜ x 4	**4.55**
FP264.5	80-40	475-475	1⅜ x 4	**5.05**
FP266	80-50	475-475	1⅜ x 4	**5.20**
FP277*	60-80	500-150	1⅜ x 3	**3.75**
FP280*	40-50	500-200	1⅜ x 2½	**3.30**
FP284	30-30	500-500	1⅜ x 2½	**3.25**
FP288*	40-40	500-500	1⅜ x 3	**4.30**

FP-WP—Triples

WP301	30-30-30	50-50-50	1 x 2	**$2.15**
WP520	40-40-40	25-25-25	1 x 2	**2.15**
FP303	20-250-100	150-15-15	1⅜ x 2	**2.90**
FP312	100-50-25	150-50-25	1 x 3	**3.00**
WP302*	15-15-1000	150-150-2	1 x 2	**3.00**
WP302.1	15-15-1200	150-150-2	1 x 2	**3.00**
FP302.4	80-20-200	150-150-10	1⅜ x 2	**2.85**
FP302.7	80-30-300	150-150-10	1⅜ x 2	**3.15**
FP302.8	100-80-200	150-150-10	1⅜ x 2½	**3.60**
FP302.9	80-20-100	150-150-15	1⅜ x 2	**2.80**
FP306	40-20-20	150-150-25	1 x 2	**2.30**
FP307	40-20-100	150-150-25	1 x 2½	**2.50**
FP304	40-20-200	150-150-25	1 x 2½	**2.70**
FP310	40-40-20	150-150-25	1 x 2½	**2.40**
FP314	40-40-200	150-150-25	1 x 3	**2.80**
WP308.1	40-40-250	150-150-25	1 x 3	**3.15**

FP-WP—Triples—Continued

Catalog Number	Capacity Mfd.	Working Volts—DC	Size D L	List Price
FP309	50-30-100	150-150-25	1 x 2½	**$2.70**
FP311	50-50-20	150-150-25	1 x 3	**2.65**
FP311.1	80-40-25	150-150-25	1 x 3	**2.75**
FP311.15	80-40-300	150-150-25	1⅜ x 2½	**3.70**
FP311.2	20-20-20	150-150-150	1 x 2	**2.30**
FP311.4	40-20-20	150-150-150	1 x 2½	**2.40**
FP311.5	40-40-40	150-150-150	1 x 3	**2.60**
FP311.55	50-20-20	150-150-150	1 x 2½	**2.55**
FP311.6	50-40-10	150-150-150	1 x 2	**2.55**
FP311.65	50-50-50	150-150-150	1 x 3	**3.00**
FP311.67	80-30-10	150-150-150	1 x 3	**2.75**
FP311.7	80-40-20	150-150-150	1⅜ x 2	**2.90**
FP311.9	120-120-40	150-150-150	1⅜ x 3	**4.05**
FP312.5	200-100-60	150-150-150	1⅜ x 4	**4.55**
FP313*	30-20-20	200-200-25	1 x 2	**2.55**
FP318.3	20-20-40	200-200-150	1 x 2½	**2.70**
FP318.5	20-20-20	200-200-200	1 x 2½	**2.50**
FP318.7	30-20-20	200-200-200	1 x 2½	**2.70**
FP319	80-40-50	250-150-50	1⅜ x 2½	**3.30**
FP360*	15-20-20	250-150-150	1 x 2	**2.40**
FP319.5	90-90-20	250-250-50	1⅜ x 3	**4.60**
FP319.8	20-20-20	250-250-250	1 x 2	**2.60**
FP320	40-20-20	250-250-250	1⅜ x 2	**2.90**
FP321	40-20-20	250-250-250	1 x 3	**2.90**
FP326	100-60-20	300-150-25	1⅜ x 3	**4.20**
FP326.2	20-150-80	300-150-150	1⅜ x 3	**3.95**
FP326.3	100-200-60	300-150-150	1⅜ x 4	**5.45**
FP334*	20-80-10	300-250-200	1⅜ x 2½	**3.45**
FP326.4	60-30-30	300-250-250	1⅜ x 2½	**3.75**
FP335	100-60-20	300-250-250	1⅜ x 3	**4.90**
FP336	200-60-20	300-250-250	1⅜ x 4	**5.80**
FP326.6	100-10-60	300-300-50	1⅜ x 2½	**4.05**
WP326.8	4-100-40	350-25-25	1 x 2	**2.25**
FP327	40-100-25	350-50-25	1⅜ x 2	**3.20**
WP327.2	20-50-100	350-100-75	1 x 3	**3.30**
FP327.4	125-5-100	350-200-75	1⅜ x 4	**5.30**
FP327.6	30-20-100	350-250-50	1 x 3	**3.25**
FP331	30-30-20	350-300-25	1 x 3	**3.15**
FP327.8	30-50-20	350-300-25	1⅜ x 2½	**3.60**
FP328	15-10-20	350-350-25	1 x 2	**2.50**
FP327.9	20-4-100	350-350-25	1 x 3	**2.60**
FP329.5	20-20-20	350-350-25	1 x 2	**2.80**
FP330	30-20-20	350-350-25	1 x 3	**3.10**
FP330.15	10-5-30	350-350-50	1 x 2	**2.20**
FP330.2	10-5-150	350-350-50	1 x 2½	**2.70**
FP330.21	20-5-150	350-350-50	1 x 3	**2.95**
FP330.25	30-20-100	350-350-150	1⅜ x 2½	**4.00**
FP330.3	20-10-5	350-350-250	1 x 2	**2.55**
FP330.5	10-10-10	350-350-350	1 x 2	**2.40**
FP330.7	30-20-10	350-350-350	1 x 3	**3.25**
FP330.9	60-50-50	350-350-350	1⅜ x 4	**4.90**
FP331.3	80-60-60	350-350-350	1⅜ x 4	**5.55**
FP331.6	90-40-20	350-350-350	1⅜ x 4	**5.25**
FP332.4	100-100-10	350-350-350	1⅜ x 4	**6.80**
FP333	10-50-30	400-350-25	1⅜ x 2	**3.10**
FP333.2	80-40-100	400-400-50	1⅜ x 4	**5.00**
FP333.3	80-40-150	400-400-50	1⅜ x 4	**5.15**
FP333.5	20-10-40	400-400-350	1 x 4	**3.40**
FP333.6	20-20-10	400-400-350	1 x 3	**3.00**
FP333.7	60-30-20	400-400-350	1⅜ x 3	**4.55**
FP333.8	80-20-10	400-400-350	1⅜ x 3	**4.30**
FP333.9	90-10-5	400-400-400	1⅜ x 3	**4.40**
WP334.6	20-500-500	450-25-25	1⅜ x 3	**5.35**
FP342	40-40-130	450-150-50	1⅜ x 2½	**3.70**
FP343	40-100-50	450-150-50	1⅜ x 3	**3.95**
WP339.5	10-50-100	450-150-75	1 x 3	**3.25**
FP340	20-50-100	450-150-75	1⅜ x 2	**3.40**
FP341	40-90-50	450-150-150	1⅜ x 3	**4.00**
FP341.3	20-80-50	450-200-150	1⅜ x 2½	**3.60**
FP341.5	20-60-100	450-250-25	1⅜ x 2½	**3.65**
FP341.8	10-80-80	450-250-250	1⅜ x 3	**4.35**
FP342.2	5-80-40	450-300-300	1⅜ x 3	**4.15**
FP342.5	30-15-40	450-350-25	1⅜ x 3	**3.20**
FP342.7	30-40-50	450-350-25	1 x 4	**3.70**
FP343.1	15-20-20	450-350-250	1 x 3	**2.95**
FP343.4	20-15-15	450-350-350	1 x 3	**3.25**
FP343.6	20-40-10	450-350-350	1⅜ x 2½	**3.50**
FP343.9	10-30-150	450-400-5	1 x 3	**3.00**
FP344.2	60-80-20	450-400-250	1⅜ x 4	**5.45**
FP344.4	4-40-40	450-400-300	1⅜ x 2½	**3.70**
FP344.5	10-30-40	450-400-300	1⅜ x 2½	**3.65**
FP345.2	10-10-20	450-450-25	1 x 2	**2.40**
FP345.3	40-20-20	450-450-25	1⅜ x 2½	**3.50**
FP345.4	80-10-120	450-450-25	1⅜ x 3	**4.40**
FP345.5	15-15-40	450-450-25	1 x 2½	**2.75**
FP345.8	20-20-20	450-450-25	1 x 2½	**3.05**
FP346	40-40-20	450-450-25	1⅜ x 3	**3.95**
FP364	80-40-100	450-450-25	1⅜ x 4	**5.10**
FP366	20-10-50	450-450-50	1 x 3	**2.85**
FP366.5	30-10-150	450-450-50	1⅜ x 2½	**3.50**
FP367	35-25-100	450-450-50	1⅜ x 3	**3.95**
FP367.5	40-30-25	450-450-50	1⅜ x 2½	**3.75**
FP368	60-40-75	450-450-50	1⅜ x 4	**4.60**
FP368.3	80-20-100	450-450-50	1⅜ x 4	**4.80**
FP368.6	30-30-125	450-450-75	1⅜ x 3	**4.50**
FP369.1	40-40-40	450-450-150	1⅜ x 3	**4.15**
FP370	40-10-80	450-450-200	1⅜ x 3	**3.90**
FP375	40-40-100	450-450-200	1⅜ x 4	**4.95**
FP375.2	15-10-120	450-450-300	1⅜ x 4	**4.50**

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MALLORY DRY ELECTROLYTIC CAPACITORS

FP-WP—Triples—Continued

Catalog Number	Capacity Mfd.	Working Volts—DC	Size D L	List Price
FP375.4	40-40-60	450-450-350	1⅜ x 4	**$4.90**
FP375.5	40-40-80	450-450-350	1⅜ x 4	**5.55**
FP375.6	60-20-40	450-450-350	1⅜ x 4	**4.90**
FP375.7	20-10-15	450-450-400	1 x 3	**3.10**
FP375.8	10-10-10	450-450-450	1 x 2½	**2.60**
FP376.1	15-15-10	450-450-450	1 x 3	**2.95**
FP376.3	20-10-10	450-450-450	1 x 3	**2.90**
FP376.5	20-20-20	450-450-450	1⅜ x 2½	**3.60**
FP376.6	30-10-10	450-450-450	1⅜ x 2	**3.15**
FP376.7	30-30-30	450-450-450	1⅜ x 3	**4.45**
FP376.8	40-40-10	450-450-450	1⅜ x 3	**4.15**
FP376.9	40-40-20	450-450-450	1⅜ x 3	**4.45**
FP377	40-40-40	450-450-450	1⅜ x 4	**4.90**
FP377.2	50-40-30	450-450-450	1⅜ x 4	**4.90**
FP377.4	60-10-10	450-450-450	1⅜ x 3	**3.90**
FP377.6	60-30-10	450-450-450	1⅜ x 3	**4.50**
FP378	80-40-20	450-450-450	1⅜ x 4	**5.40**
FP379.1	20-50-20	475-50-25	1 x 3	**2.75**
FP381.1	80-80-50	475-150-50	1⅜ x 4	**4.85**
FP382.1	40-40-100	475-250-100	1⅜ x 3	**4.10**
FP384	20-20-40	475-300-25	1⅜ x 2	**3.10**
FP384.14	5-100-200	475-300-150	1⅜ x 4	**5.15**
FP384.2	10-4-40	475-350-300	1⅜ x 2	**3.00**
FP384.5	10-45-100	475-450-50	1⅜ x 3	**3.65**
FP384.7	40-40-25	475-450-50	1⅜ x 3	**4.40**
FP385	10-40-100	475-450-200	1⅜ x 3	**4.20**
FP385.5	40-80-10	475-450-450	1⅜ x 4	**5.50**
FP386	10-10-5	475-475-25	1 x 2½	**2.45**
FP387.1	10-10-150	475-475-50	1 x 3	**3.00**
FP388.1	25-10-20	475-475-50	1 x 3	**2.95**
FP389.1	20-10-100	475-475-400	1⅜ x 4	**5.25**
FP391.1	20-20-60	475-475-450	1⅜ x 4	**4.85**
FP394	10-10-10	475-475-475	1 x 3	**2.70**
FP396	30-30-20	475-475-475	1⅜ x 3	**4.45**
FP396.1	40-20-20	475-475-475	1⅜ x 3	**4.75**
FP396.12	40-30-10	475-475-475	1⅜ x 3	**4.50**
FP396.14	40-30-30	475-475-475	1⅜ x 4	**5.15**
FP396.2	40-10-10	475-475-475	1⅜ x 2½	**3.85**
FP397	40-35-10	475-475-475	1⅜ x 3	**4.55**
FP398	10-40-40	500-450-450	1⅜ x 3	**4.15**

FP-WP—Quads

FP403	50-20-150-30	150-150-15-15	1⅜ x 2	**$3.20**
FP405	20-20-160-40	150-150-25-25	1⅜ x 2	**3.20**
WP405.5	40-50-160-40	150-150-25-25	1⅜ x 2	**3.35**
WP406	40-40-200-100	150-150-25-25	1⅜ x 2	**3.55**
FP407	30-20-20-200	150-150-150-10	1⅜ x 2	**3.10**
FP407.5	40-40-20-200	150-150-150-10	1⅜ x 2	**3.20**
FP408	60-40-20-200	150-150-150-10	1⅜ x 2	**3.45**
FP408.5	80-80-10-100	150-150-150-10	1⅜ x 2½	**3.90**
FP409	40-40-30-20	150-150-150-25	1⅜ x 2	**3.10**
FP409.4	50-20-20-200	150-150-150-25	1⅜ x 2	**3.50**
FP409.6	50-10-40-50	150-150-150-25	1⅜ x 2	**3.15**
FP410	50-50-50-20	150-150-150-25	1⅜ x 2½	**3.55**
FP410.3	60-40-20-20	150-150-150-25	1⅜ x 2	**3.30**
FP410.7	60-60-10-60	150-150-150-25	1⅜ x 2½	**3.50**
FP411	80-40-30-100	150-150-150-25	1⅜ x 2½	**3.70**
FP411.3	80-40-40-20	150-150-150-25	1⅜ x 2½	**3.50**
FP411.32	80-40-40-40	150-150-150-25	1⅜ x 2½	**3.60**
FP411.4	80-50-50-25	150-150-150-25	1⅜ x 2½	**3.80**
FP411.5	100-90-60-200	150-150-150-25	1⅜ x 3	**4.95**
FP411.7	125-125-40-100	150-150-150-25	1⅜ x 4	**4.85**
FP412	100-80-60-40	150-150-150-150	1⅜ x 3	**4.65**
FP412.2	40-40-50-80	250-250-150-50	1⅜ x 2½	**4.10**
FP417	100-40-80-20	300-50-25-25	1⅜ x 2½	**4.55**
FP417.3	10-200-140-30	300-150-150-150	1⅜ x 4	**5.10**
FP417.8	10-200-200-30	300-150-150-150	1⅜ x 4	**5.35**
FP418.3	120-20-100-20	300-250-50-25	1⅜ x 4	**5.05**
FP419	200-20-100-20	300-250-50-25	1⅜ x 4	**5.80**
FP423	40-40-40-40	300-250-250-25	1⅜ x 2½	**4.40**
FP419.1	150-20-10-250	300-300-250-50	1⅜ x 4	**6.05**
FP419.2	40-30-20-50	300-300-300-25	1⅜ x 2½	**4.15**
FP419.7	60-40-20-50	300-300-300-25	1⅜ x 3	**4.65**
FP419.35	60-30-10-60	300-300-300-50	1⅜ x 2½	**4.20**
FP419.37	150-30-30-150	300-300-300-50	1⅜ x 4	**6.10**
FP419.4	100-10-200-30	300-300-150-150	1⅜ x 4	**5.90**
FP419.5	40-40-30-20	300-300-300-300	1⅜ x 3	**4.85**
FP419.53	60-40-10-10	300-300-300-300	1⅜ x 3	**4.55**
FP419.54	200-20-20-20	300-300-300-300	1⅜ x 4	**6.45**
FP419.56	60-60-30-160	350-150-150-25	1⅜ x 3	**4.60**
FP419.58	20-60-160-40	350-200-25-25	1⅜ x 2½	**4.00**
FP419.65	160-60-10-4	350-300-300-300	1⅜ x 4	**6.40**
FP414	15-80-40-200	350-200-200-25	1⅜ x 3	**4.50**
FP419.6	40-10-10-25	350-350-25-25	1⅜ x 2	**3.75**
FP419.62	60-4-100-40	350-350-25-25	1⅜ x 2½	**3.80**
FP419.64	40-20-50-25	350-350-150-25	1⅜ x 2½	**4.15**
FP419.66	60-40-60-20	350-350-250-150	1⅜ x 4	**5.40**
FP419.68	15-15-15-15	350-350-300-25	1⅜ x 2	**3.45**
FP419.8	35-35-10-20	350-350-300-25	1⅜ x 2½	**4.15**
FP419.82	20-10-5-10	350-350-350-25	1⅜ x 2	**3.10**
FP419.84	30-10-5-200	350-350-350-25	1⅜ x 2	**3.80**
FP419.86	40-20-5-10	350-350-350-25	1⅜ x 2½	**3.80**
FP419.87	40-20-20-50	350-350-350-25	1⅜ x 2½	**4.25**
FP419.88	40-30-15-3	350-350-350-25	1⅜ x 2½	**4.50**
FP419.3	40-40-20-20	350-350-350-25	1⅜ x 3	**4.65**
FP419.9	15-15-15-50	350-350-350-50	1⅜ x 2	**3.75**

FP-WP—Quads—Continued

Catalog Number	Capacity Mfd.	Working Volts—DC	Size D L	List Price
FP420.2	50-40-40-160	350-350-350-50	1⅜ x 4	**$5.75**
FP420.23	100-10-10-20	350-350-350-50	1⅜ x 3	**5.15**
FP420.26	100-40-30-50	350-350-350-50	1⅜ x 4	**6.55**
FP420.28	140-20-10-100	350-350-350-50	1⅜ x 4	**6.05**
FP420.29	90-30-5-100	350-350-350-75	1⅜ x 4	**5.90**
FP420.32	20-10-5-60	350-350-350-200	1⅜ x 2½	**3.65**
FP420.35	40-20-20-10	350-350-350-350	1⅜ x 2½	**4.35**
FP420.38	40-40-40-40	350-350-350-350	1⅜ x 4	**6.00**
FP420.41	40-120-10-150	400-250-250-50	1⅜ x 4	**5.80**
FP420.44	30-40-50-200	400-300-250-150	1⅜ x 4	**6.00**
FP420.45	40-80-100-25	400-350-200-50	1⅜ x 4	**6.05**
FP420.47	20-50-40-80	400-350-350-50	1⅜ x 3	**5.00**
FP420.5	30-60-20-100	400-350-350-50	1⅜ x 4	**5.00**
FP420.53	20-5-20-20	400-400-25-25	1⅜ x 2	**3.05**
FP420.56	50-25-100-20	400-400-50-25	1⅜ x 3	**4.65**
FP420.6	80-40-100-20	400-400-50-25	1⅜ x 4	**5.60**
FP420.8	20-10-10-25	400-400-100-25	1⅜ x 2	**3.10**
FP421	5-5-50-80	400-400-300-250	1⅜ x 3	**4.65**
FP421.2	60-40-40-10	400-400-350-50	1⅜ x 4	**5.75**
FP421.4	30-30-15-20	400-400-400-25	1⅜ x 3	**4.30**
FP421.6	80-40-30-40	400-400-400-25	1⅜ x 4	**5.95**
FP421.8	40-40-40-150	400-400-400-50	1⅜ x 4	**5.70**
FP422.1	20-80-20-50	450-200-200-50	1⅜ x 2½	**4.10**
FP422.7	60-80-40-20	450-250-250-150	1⅜ x 4	**5.65**
FP422.9	10-100-20-20	450-300-300-300	1⅜ x 3	**5.25**
FP413X	40-40-40-20	450-300-300-150	1⅜ x 3	**4.90**
FP423.4	10-40-100-100	450-350-250-50	1⅜ x 3	**5.55**
FP424.1	10-100-10-20	450-350-350-25	1⅜ x 3	**5.20**
FP425*	30-40-40-10	450-350-350-200	1⅜ x 3	**5.15**
FP425.1	80-10-40-30	450-400-300-300	1⅜ x 4	**5.80**
FP426	20-15-20-20	450-450-25-25	1⅜ x 2	**3.45**
FP426.5	20-20-60-100	450-450-150-25	1⅜ x 2½	**4.25**
FP426.9	40-40-125-125	450-450-150-25	1⅜ x 4	**5.70**
FP427.5	10-10-60-100	450-450-200-50	1⅜ x 2½	**3.85**
FP427.6	35-25-20-100	450-450-200-50	1⅜ x 3	**4.65**
FP427.7	10-10-10-50	450-450-300-25	1⅜ x 2	**3.15**
FP427.9	20-20-20-10	450-450-350-350	1⅜ x 3	**4.15**
FP428	40-10-35-10	450-450-350-350	1⅜ x 3	**4.60**
FP428.4	40-40-30-30	450-450-350-350	1⅜ x 4	**5.90**
FP424	15-15-10-20	450-450-450-25	1⅜ x 2	**3.50**
FP428.9	30-30-10-125	450-450-450-25	1⅜ x 3	**4.30**
FP432	40-10-10-250	450-450-450-25	1⅜ x 3	**4.70**
FP431	40-15-10-25	450-450-450-25	1⅜ x 2½	**4.10**
FP430.2	40-20-20-25	450-450-450-25	1⅜ x 3	**4.60**
FP436	40-20-20-40	450-450-450-25	1⅜ x 3	**4.65**
FP429	40-30-10-20	450-450-450-25	1⅜ x 3	**4.50**
FP430.6	40-40-40-40	450-450-450-25	1⅜ x 4	**5.50**
FP430.9	60-40-40-10	450-450-450-25	1⅜ x 4	**6.00**
FP430.95	60-50-5-20	450-450-450-25	1⅜ x 4	**5.35**
FP437	20-20-20-100	450-450-450-50	1⅜ x 2½	**4.55**
FP431.2	40-40-10-25	450-450-450-50	1⅜ x 3	**4.70**
FP431.3	40-40-10-50	450-450-450-50	1⅜ x 4	**3.55**
FP431.4	60-40-10-25	450-450-450-50	1⅜ x 4	**5.25**
FP431.7	40-40-10-100	450-450-450-100	1⅜ x 4	**5.30**
FP433	60-10-10-20	450-450-450-150	1⅜ x 3	**4.60**
FP432.4	40-40-30-10	450-450-450-200	1⅜ x 4	**5.35**
FP432.9	40-20-10-100	450-450-450-250	1⅜ x 4	**5.85**
FP433.2	40-10-10-40	450-450-450-350	1⅜ x 3	**4.75**
FP433.4	40-20-20-20	450-450-450-350	1⅜ x 3	**5.00**
WP433.6	5-5-5-5	450-450-450-450	1⅜ x 2	**3.00**
FP434	10-10-10-10	450-450-450-450	1⅜ x 2	**3.35**
FP434.5	20-10-10-10	450-450-450-450	1⅜ x 2	**3.70**
FP444	20-20-20-20	450-450-450-450	1⅜ x 3	**4.70**
FP444.4	30-15-15-15	450-450-450-450	1⅜ x 3	**4.45**
FP444.5	30-30-20-10	450-450-450-450	1⅜ x 3	**4.60**
FP444.6	30-30-15-10	450-450-450-450	1⅜ x 3	**4.70**
FP444.8	30-30-20-20	450-450-450-450	1⅜ x 3	**5.20**
FP444.9	30-30-30-15	450-450-450-450	1⅜ x 4	**5.30**
FP445	35-35-10-5	450-450-450-450	1⅜ x 3	**4.60**
FP446	40-35-10-10	450-450-450-450	1⅜ x 3	**4.80**
FP447	40-40-20-20	450-450-450-450	1⅜ x 4	**5.55**
FP447.5	40-40-30-30	450-450-450-450	1⅜ x 4	**6.05**
FP448	60-20-20-20	450-450-450-450	1⅜ x 4	**5.65**
FP448.5	60-30-10-2	450-450-450-450	1⅜ x 3	**5.10**
FP449	70-10-10-5	450-450-450-450	1⅜ x 3	**4.75**
FP450	80-10-10-10	450-450-450-450	1⅜ x 4	**5.05**
FP451	10-100-10-100	475-300-300-25	1⅜ x 3	**4.90**
FP452	20-80-20-10	475-300-300-300	1⅜ x 3	**5.00**
FP453	20-40-80-100	475-350-200-100	1⅜ x 4	**5.45**
FP453.4	10-40-80-100	475-350-300-100	1⅜ x 4	**5.55**
FP453.8	10-30-5-80	475-350-350-50	1⅜ x 2½	**3.70**
FP454.2	20-60-40-10	475-350-350-350	1⅜ x 3	**5.20**
FP454.6	10-40-4-100	475-400-350-50	1⅜ x 2½	**4.05**
FP456	25-20-40-100	475-450-300-50	1⅜ x 3	**4.95**
FP456.5	10-60-30-125	475-450-400-50	1⅜ x 4	**5.55**
FP455	10-50-30-30	475-450-450-25	1⅜ x 3	**4.75**
FP457*	10-40-10-20	475-450-450-50	1⅜ x 2½	**3.95**
FP459	10-40-10-100	475-450-450-50	1⅜ x 2½	**4.30**
FP461	15-15-80-40	475-475-300-50	1⅜ x 3	**4.80**
FP463	50-30-20-20	475-475-300-300	1⅜ x 4	**5.70**
FP464.9	40-10-4-40	475-475-350-350	1⅜ x 3	**4.95**
FP467	20-10-20-100	475-475-450-25	1⅜ x 2½	**4.20**
FP474	10-10-10-10	475-475-475-475	1⅜ x 2	**3.50**
FP474.5	20-20-10-10	475-475-475-475	1⅜ x 2½	**4.35**
FP475	20-20-20-20	475-475-475-475	1⅜ x 3	**5.20**
FP475.5	40-10-10-10	475-475-475-475	1⅜ x 3	**4.65**
FP476	40-20-10-10	475-475-475-475	1⅜ x 3	**5.10**
FP495	40-40-8-8	500-500-500-500	1⅜ x 4	**5.70**

* See Table of Recommended Replacements for Modified and Discontinued FP and WP Types, page 11, Mallory Capacitors section, this catalog.
†† FP240 recommended for photoflash applications. Can is ungrounded. △ pin should be used as ground.

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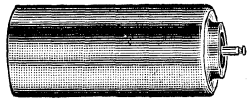
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY



XT Type Tantalum Capacitors

Application—Originally designed to meet the exacting requirements of geophysical, well drilling and other applications where a ruggedly constructed, hermetically sealed electrolytic capacitor was necessary. The possible applications for the present models of the Mallory tantalum capacitors are unlimited in circuit designs requiring rugged use and wide variations in temperature.

Description—The Mallory metal encased tantalum capacitor is the answer to applications calling for a capacitor designed to withstand temperatures ranging from −55°C. to +200°C. The XT type is enclosed in a hermetically sealed steel case which will withstand 100 hours of 20% salt spray at 95°F without harmful corrosion. The case is sealed with a glass-to-metal end seal.

The standard case diameter for all XT types is ⅜". The height will vary from ½" to 4 1/16", depending on capacity and voltage ratings.

Terminals—Provided with a wrap-around terminal for easy soldering.

Mounting—Mounting hardware is not supplied with the capacitor. The variety of applications for this capacitor is not conducive to a single means of mounting. Insulating material, such as Teflon, etc., should be used between the capacitor and mounting bracket where the cathode is not at chassis potential. CAUTION: Soldering to any part of the case is not recommended.

Type XT

Catalog Number	Mfd.	DC Volts 175°C.	DC Volts 85°C.	Max. Ohms ESR	Max. Ohms IMP	Height (In.)	Suggested Industrial Price
XTL120	120	12	18	2.5	45	½	**$10.90**
XTH240	240	12	18	2.5	35	1 1/16	**13.55**
XTL75	75	20	30	2.5	50	½	**10.90**
XTH150	150	20	30	2.5	40	1 1/16	**13.55**
XTL40	40	38	60	2.5	75	½	**10.90**
XTH80	80	38	60	2.5	50	1 1/16	**13.55**
XTL25	25	60	100	2.5	100	½	**10.90**
XTH50	50	60	100	2.5	70	1 1/16	**13.55**
XTL12	12	120	180	5	200	27/32	**18.90**
XTH25	25	120	180	5	140	1¼	**20.25**
XTL8	8	180	270	7.5	300	1 3/16	**25.90**
XTH16	16	180	270	7.5	210	1 1 3/16	**33.25**
XTL6	6	240	360	10	400	1 17/32	**34.00**
XTH12	12	240	360	10	280	2⅜	**42.25**
XTL5	5	300	450	12.5	500	1 29/32	**42.50**
XTH10	10	300	450	12.5	350	2 15/16	**51.25**
XTL4	4	360	540	15	600	2¼	**50.90**
XTH8	8	360	540	15	420	3½	**60.00**
XTL3.5	3.5	420	630	17.5	700	2 9/32	**58.25**
XTH7	7	420	630	17.5	490	4 1/16	**70.00**

For Screw Terminal and Nut—add "s" to part number and add: $0.65 each for any quantity

For 100% Environmental Testing add $1.55 each for any quantity

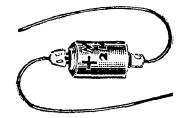
Prices are for 175°C. maximum. For 200°C. ratings, add "X" to part number and add 10% to base price. i.e.: XTL-120 becomes XTLX-120

Cathode Tab can be supplied at no extra charge—add "A" to part number. i.e.: XTL-120A

MALLORY MOLDED TUBULAR CAPACITORS

Effectively sealed against moisture ingress and mechanical shock.

See page 6 — Mallory Section.



Mallory Type TAW and TAP Silverlytic Capacitors

Application—Designed for those who need an extremely small (subminiaturized) capacitor for transistor applications.

Description—The Mallory type TAW and TAP Silverlytic Capacitors are the result of intensive development and research and are designed to meet the most rigid specifications for performance, stability, and reliability. They are premium capacitors, ruggedly constructed and capable of giving a performance equivalent to standard electrolytics of conventional size. They possess extremely long operational life, double seal construction, "a case within a case," and excellent low temperature characteristics. Operating temperature for the TAW Silverlytic ranges from −55°C. to +65°C., and for the TAP Silverlytic operating range is −55°C. to +85°C. DC leakage is less than 1 microampere after 10 minutes of rated voltage. Capacity tolerance for the TAW is −15% to +100%, and for the TAP −15% to +75%.

Terminals—Axial leads 1½" long, tinned for easy soldering.

Mounting—Designed for mounting with attached leads.

Packaging—5 units per display carton.

Type TAW

Catalog Number	Capacity Mfd.	Volts DC	Color Code	Size Dia. Length	List Price
TAW24A1	1	24	Blue	.145 x ⅜	**$3.85**
TAW12A2	2	12	Orange	.145 x ⅜	**3.85**
TAW8A3	3	8	Yellow	.145 x ⅜	**3.85**
TAW4A4	4	4	Green	.145 x ⅜	**2.75**
TAW4A6	6	4	Red	.145 x ⅜	**3.85**

Type TAP

Catalog Number	Capacity Mfd.	Volts DC	Size Dia. Length	List Price
TAP125-1M	1.5	125	7/32 x ⅜	**$6.75**
TAP100-2	2	100	7/32 x ⅜	**6.75**
TAP75-3M	3.5	75	7/32 x ⅜	**6.75**
TAP60-4	4	60	7/32 x ⅜	**6.75**
TAP50-5	5	50	7/32 x ⅜	**6.75**
TAP40-6	6	40	7/32 x ⅜	**6.75**
TAP30-8	8	30	7/32 x ⅜	**6.75**
TAP25-10	10	25	7/32 x ⅜	**6.75**
TAP20-12	12	20	7/32 x ⅜	**6.75**
TAP15-15	15	15	7/32 x ⅜	**6.75**
TAP10-20	20	10	7/32 x ⅜	**6.75**
TAP6-30	30	6	7/32 x ⅜	**6.75**

You Expect More . . .

You Get More from

P.R. MALLORY & CO. Inc. MALLORY

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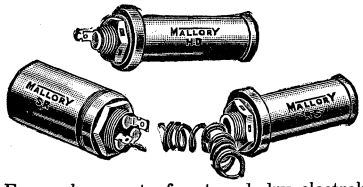


Aluminum Can Threaded Neck Dry Electrolytic Capacitors

For replacement of wet and dry electrolytic capacitors. RS, RM and HS have flexible, insulated leads. HD and SR have solder lug anode connections; cathodes are connected to case.

Catalog Number	Capacity Mfd.	Volts DC	Size Dia.	Size Length	List Price
RS207	30	250	1	3½	**$2.05**
RS212	8	450	1⅜	3	**2.20**
RS213	8	450	1	2¾	**2.20**
RS214	12	450	1⅜	3	**2.40**
RS215	12	450	1	2¾	**2.40**
RS216	16	450	1	3½	**2.45**
RS217	16	450	1⅜	3	**2.45**
RS219	20	450	1⅜	3	**2.70**
RS223	30	450	1⅜	3	**3.00**
RS224	40	450	1⅜	3	**3.15**
HD684	10	450	1	3	**2.30**
HS691*	4	600	1⅜	4	**2.95**
HS693*	8	600	1⅜	4	**3.15**
HS696*	20	600	1⅜	4¼	**3.85**
RM262	8-8	450	1⅜	3	**3.00**
RM265	8-8-8	450	1⅜	4¼	**5.00**
SR638	8-8	450	1⅜	2¾	**3.00**
SR645	8-8	450	1⅜	2¾	**3.00**

* Will operate at 85°C. Others operate at 65°C.

Cardboard Tubular Dry Electrolytic Capacitors

Economical, cardboard tube, wax-sealed filter and by-pass units. Have flexible, insulated leads out one end except those marked (*) which have negative leads out opposite ends. All units (except TN111) are supplied with mounting strap; in addition all units marked (†) have special feet for vertical mounting.

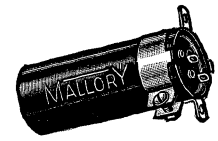
Catalog Number	Capacity Mfd.	Volts DC	Size D	Size L	List Price
Single Section					
ST75	70	50 VAC	⅞	2⅝	**$1.25**
ST595†	8	450	1 3/16	2⅛	**1.25**
ST597†	16	450	⅞	2¾	**1.40**
ST598†	20	450	1	2¾	**1.55**
ST599†	30	450	1	3¼	**1.70**
ST645	60	450	1 3/16	3⅜	**2.35**
ST845	80	450	1 3/16	4⅜	**2.80**
Dual Common Negative					
TN111§	10-10	25-25	⅝	1¾	**$1.40**
2N501	250-1000	10-6	1 1/16	2⅝	**2.80**
2N509*	20-20	150-150	⅞	2⅛	**1.65**
2N513*	30-30	150-150	⅞	2⅜	**1.80**
2N514*	40-20	150-150	⅞	2½	**1.75**
2N511*	40-40	150-150	1 5/16	2½	**1.85**
2N521†	50-50	150-150	1	2⅞	**2.10**
2N523	100-100	150-150	1⅛	3⅜	**3.20**
2N525	30-30	200-200	1	2⅝	**2.20**
2N527	50-75	250-50	1¼	2⅝	**2.40**
2N529	100-150	250-50	1⅜	3⅜	**3.60**
2N516*	8-8	250-250	⅞	2⅛	**1.60**
2N531	40-40	300-300	1⅛	3⅜	**2.95**
2N533	40-50	450-50	1⅛	3⅜	**2.50**
2N535	30-60	450-300	1¼	3⅜	**3.20**
2N518†	8-8	450-450	1 5/16	2¾	**1.70**
Dual Separate Section					
2S556†	30-30	150-150	1	2¾	**$2.25**
2S567†	8-8	450-450	1⅛	2¾	**2.15**
2S569†	16-16	450-450	1¼	3⅞	**2.80**

Cardboard Tubular Dry Electrolytic Capacitors
(Continued from Preceding Column)

Catalog Number	Capacity Mfd.	Volts DC	Size D	Size L	List Price
Triple Common Negative					
3N527*	20-20-20	150-150-25	1 5/16	2¼	**$2.05**
3N533*	30-30-20	150-150-25	1	2⅜	**2.20**
TN125*	20-10-10	150-150-150	⅞	2⅜	**2.00**
TN129†	40-20-20	150-150-150	1 5/16	2⅞	**2.25**
3N540	80-50-50	150-150-150	1 1/16	3½	**3.10**
3N535	40-30-40	350-250-150	1 3/16	3⅜	**3.30**
3N537	30-50-100	450-150-25	1¼	3½	**3.20**
3N539	30-30-30	450-350-250	1⅜	3⅜	**3.75**
3N541	40-20-10	450-450-450	1⅜	3⅜	**3.55**
Triple Separate Section					
3S579†	8-8-20	450-450-25	1 3/16	2⅞	**$2.65**
3S584†	8-8-8	450-450-450	1 3/16	2⅞	**2.85**
Quad Common Negative					
4N723	10-10-10-150	450-450-450-50	1 3/16	3⅜	**$3.60**
4N727	10-10-10-10	450-450-450-450	1⅛	3⅜	**3.25**
Quad Separate Section					
4S715†	16-16-10-10	150-150-25-25	1⅛	2⅝	**$3.25**

§ Has bare tinned leads out both ends.

Plastic Cased High Capacity and Non-Polarized Electrolytic Capacitors



HC types are for use with dry disc rectifiers, in such applications as; movie equipment and electric fence power supplies. NP types are non-polarized for intermittent AC service.

Catalog Number	Capacity Mfd.	DC Wkg. Volts	Size D	Size L	List Price
HC1020	2000	10	1 7/16	3⅜	**$3.95**
HC1040	4000	10	1 3/16	3⅜	**4.75**
HC10100	10000	10-15	2 1/16	4⅜	**8.25**
HC1060A*	6000	10	1½	4⅛	**5.55**
HC1520	2000	15	1 7/16	3⅜	**4.70**
HC1540	4000	15	1 3/16	3⅜	**5.50**
HC1560	6000	15	1 3/16	4⅜	**6.30**
HC2060	6000	20-30	2 1/16	4⅜	**8.65**
HC2510	1000	25	1 7/16	3⅜	**4.85**
HC2520	2000	25	1 3/16	3⅜	**5.75**
HC2540	4000	25	1 3/16	4⅜	**6.75**
HC4040	4000	40-60	2 1/16	4⅜	**9.50**
HC5005	500	50	1 7/16	3⅜	**3.90**
HC5010	1000	50	1 3/16	3⅜	**6.40**
HC5020	2000	50	1 3/16	4⅜	**8.75**
HC15010	1000	150	2 1/16	4⅜	**10.50**
HC20005	500	200	2 1/16	4⅜	**9.80**
HC45003**	300	450	2 1/16	4⅜	**10.50**
FF45052**	525	450	2 1/16	4⅜	**22.50**
NP1225	200	125	1 3/16	4⅜	**5.00**
NP1235	300	125	2 1/16	4⅜	**5.75**
NP1255	500	125	2 1/16	4⅜	**7.50**
NP3003	15	300	1 7/16	3⅜	**3.75**
NP3014	100	300	1 3/16	4⅜	**6.75**
NP3025	200	300	2 1/16	4⅜	**9.50**
NP4505	50	450	1 3/16	3⅜	**7.50**
NP4510	100	450	2 1/16	4⅜	**11.60**

* This unit in Aluminum Case
** Designed for Photoflash Application

Silverlytic Subminiature Capacitors

Catalog Number	Capacity Mfd.	DC Wkg. Volts	Size D	Size L	List Price
ALA-10A1	1	10	7/32	⅜	**$2.20**
ALA-5A2	2	5	7/32	⅜	**2.35**
ALA-4A4	4	4	7/32	⅜	**2.55**

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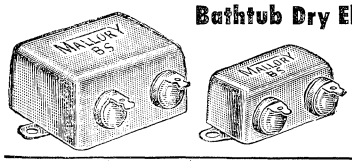
DRY ELECTROLYTIC AND PLASTIC TUBULAR CAPACITORS

P. R. MALLORY & CO. INC. · INDIANAPOLIS

P.R. MALLORY & CO. Inc. MALLORY

Bathtub Dry Electrolytic Capacitors



Hermetically sealed for marine, aircraft and geophysical service. Will operate, without derating, from −40°F to 185°F. Have mounting flanges and solder lugs.

Catalog Number	Cap. Mfd.	DC Wkg. Volts	Size* H W L Y	List Price
BS26	25	25	¾ x 1 x 1¾ x 2⅛	**$4.50**
BS29	50	25	¾ x 1 x 1¾ x 2⅛	**4.60**
BS36	25	50	¾ x 1 x 1¾ x 2⅛	**4.55**
BS39	50	50	⅞ x 1 x 1¾ x 2⅛	**4.70**
BS45	20	150	⅞ x 1 x 1¾ x 2⅛	**4.70**
BS48	40	150	1 x 1¼ x 1¾ x 2⅛	**4.85**
BS62	10	300	⅞ x 1 x 1¾ x 2⅛	**4.75**
BS65	20	300	1⅛ x 1¼ x 1¾ x 2⅛	**4.90**
BS81	8	500	1 x 1¾ x 2 x 2⅜	**5.75**
BS91	8	600	1 x 1¾ x 2 x 2⅜	**5.85**

* H—Height; W—Width; L—Length; Y—Mounting Centers

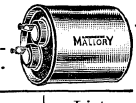
AC Motor Starting Capacitors

PS type—round, moisture-proof, plastic case. For mounting accessories, see page 11, Mallory Capacitors section, this catalog.

Catalog Number	Mfd. New	Rating Old	Volts AC	Size D L	List Price
PS2010*	20	20-24	110	1 7/16 x 2¾	**$2.05**
PS2610*	26	26-30	110	1 7/16 x 2¾	**2.10**
PS3210*	32	32-36	110	1 7/16 x 2¾	**2.10**
PS3810*	38	38-42	110	1 7/16 x 2¾	**2.10**
PS4310*	43	43-48	110	1 7/16 x 2¾	**2.10**
PS5310	53	53-60	110	1 7/16 x 3⅜	**2.15**
PS6410	64	64-72	110	1 7/16 x 3⅜	**2.25**
PS7010	70	70-78	110	1 7/16 x 3⅜	**2.40**
PS7510	75	75-84	110	1 7/16 x 3⅜	**2.55**
PS8610	86	86-96	110	1 7/16 x 3⅜	**2.65**
PS9710	97	97-107	110	1 7/16 x 3⅜	**2.80**
PS10810	108	108-120	110	1 7/16 x 3⅜	**2.85**
PS12410	124	124-138	110	1 7/16 x 3⅜	**2.95**
PS13010	130	130-157	110	1 7/16 x 3⅜	**2.95**
PS14510	145	145-162	110	1 7/16 x 3⅜	**3.20**
PS16110	161	161-180	110	1 7/16 x 3⅜	**3.25**
PS19410	194	194-216	110	1 7/16 x 3⅜	**3.90**
PS20010*	200	200-220	110	1 13/16 x 3⅜	**3.90**
PS21610	216	216-240	110	1 13/16 x 3⅜	**4.05**
PS24310	243	243-270	110	1 13/16 x 3⅜	**4.70**
PS27010	270	270-300	110	1 13/16 x 4⅜	**4.75**
PS32410	324	324-360	110	1 13/16 x 4⅜	**5.40**
PS34010	340	340-412	110	1 13/16 x 4⅜	**5.55**
PS37810	378	378-420	110	2 1/16 x 4⅜	**6.00**
PS40010	400	400-450	110	2 1/16 x 4⅜	**6.05**
PS43010	430	430-485	110	2 1/16 x 4⅜	**6.95**
PS48510	485	485-540	110	2 1/16 x 4⅜	**7.60**
PS2520	25	25-30	220	1 7/16 x 3⅜	**4.60**
PS3220	32	32-36	220	1 7/16 x 3⅜	**4.90**
PS3820	38	38-42	220	1 13/16 x 3⅜	**5.30**
PS4320	43	43-48	220	1 13/16 x 3⅜	**5.55**
PS5320	53	53-60	220	1 13/16 x 3⅜	**5.75**
PS6420	64	64-72	220	1 13/16 x 4⅜	**6.75**
PS7020	70	70-78	220	2 1/16 x 4⅜	**7.00**
PS7520	75	75-84	220	2 1/16 x 4⅜	**7.35**
PS8620	86	86-96	220	2 1/16 x 4⅜	**7.65**

* Cases will not accommodate PL caps and HB brackets.

AC Motor Running Capacitors



Have sealed metal cases. Non-inflammable oil impregnation. For continuous AC duty. Not suitable for DC. Capacity tolerance ±10%.

Catalog Number	Cap. Mfd.	Volts AC	Size Dia. Length	List Price
RP-3301	1	330	1⅜ x 1⅞	**$4.20**
RP-3302	2	330	1⅜ x 3 3/16	**5.20**
RP-3303	3	330	2 x 2⅜	**5.55**
RP-3304	4	330	2 x 2⅞	**6.20**
RP-3305	5	330	2 x 3⅜	**6.80**
RP-3306	6	330	2 x 3⅞	**7.50**
RP-3307	7	330	2 x 4⅜	**7.90**
RP-3308	8	330	2 x 5⅛	**8.35**
RP-3310	10	330	2½ x 4 9/16	**9.55**
RP-3312	12	330	2½ x 5 3/16	**10.90**
RP-3315	15	330	2½ x 6 1/16	**13.80**

Molded Tubular Paper Capacitors

Cases are molded from high grade mineral-filled bakelite, effectively sealed against moisture ingress and mechanical shock, by Epoxy Resin. (See Mallory Catalog 556 for more complete listing.)

Catalog Number	Capacity Mfd.	Size Dia. Length	List Price
Working Voltage 400 V.D.C., Test 1000 V.D.C.			
GEM-421	.001	5/16 x 1	**$0.25**
GEM-425	.005	5/16 x 1	**.25**
GEM-411	.01	5/16 x 1	**.25**
GEM-4115	.015	⅜ x 1¼	**.25**
GEM-412	.02	⅜ x 1¼	**.25**
GEM-4122	.022	⅜ x 1¼	**.30**
GEM-4125	.025	⅜ x 1¼	**.30**
GEM-413	.03	⅜ x 1¼	**.30**
GEM-4133	.033	7/16 x 1¼	**.30**
GEM-414	.04	7/16 x 1¼	**.30**
GEM-4147	.047	7/16 x 1¼	**.30**
GEM-415	.05	7/16 x 1¼	**.30**
GEM-416	.06	½ x 1¼	**.35**
GEM-4168	.068	½ x 1½	**.35**
GEM-401	.1	½ x 1½	**.35**
GEM-4015	.15	⅝ x 1⅞	**.40**
GEM-402	.2	¾ x 2¼	**.45**
GEM-4022	.22	¾ x 2¼	**.45**
GEM-4025	.25	¾ x 2¼	**.45**
GEM-4033	.33	¾ x 2¼	**.50**
GEM-4047	.47	1 x 2⅜	**.60**
GEM-405	.5	1 x 2⅜	**.60**
GEM-41	1.0	1 x 2⅜	**1.25**
Working Voltage 600 V.D.C., Test 1500 V.D.C.			
GEM-621	.001	5/16 x 1	**$0.25**
GEM-6215	.0015	5/16 x 1	**.25**
GEM-622	.002	5/16 x 1	**.25**
GEM-6222	.0022	5/16 x 1	**.25**
GEM-6225	.0025	5/16 x 1	**.25**
GEM-623	.003	5/16 x 1	**.25**
GEM-6233	.0033	5/16 x 1	**.25**
GEM-624	.004	5/16 x 1	**.25**
GEM-6247	.0047	5/16 x 1	**.25**
GEM-625	.005	⅜ x 1¼	**.25**
GEM-626	.006	⅜ x 1¼	**.25**
GEM-6268	.0068	⅜ x 1¼	**.30**
GEM-627	.007	⅜ x 1¼	**.30**
GEM-628	.008	⅜ x 1¼	**.30**
GEM-6282	.0082	⅜ x 1¼	**.30**
GEM-611	.01	⅜ x 1¼	**.30**
GEM-6112	.012	⅜ x 1¼	**.30**
GEM-6115	.015	⅜ x 1¼	**.30**
GEM-612	.02	7/16 x 1¼	**.30**
GEM-6122	.022	7/16 x 1¼	**.30**
GEM-6125	.025	7/16 x 1¼	**.35**
GEM-613	.03	7/16 x 1¼	**.35**
GEM-6133	.033	½ x 1½	**.35**
GEM-614	.04	½ x 1½	**.35**
GEM-6147	.047	½ x 1½	**.40**
GEM-615	.05	½ x 1½	**.40**
GEM-6156	.056	⅝ x 1⅞	**.40**
GEM-616	.06	⅝ x 1⅞	**.40**
GEM-6168	.068	⅝ x 1⅞	**.45**
GEM-601	.1	⅝ x 1⅞	**.45**
GEM-602	.2	¾ x 2¼	**.70**
GEM-6022	.22	¾ x 2¼	**.70**
GEM-6025	.25	¾ x 2¼	**.55**
GEM-6027	.27	1 x 2⅜	**.70**
GEM-6047	.47	1 x 2⅜	**.80**
GEM-605	.5	1 x 2⅜	**.80**
GEM-61	1.0	1 x 2⅝	**1.25**
Working Voltage 1600 V.D.C., Test 3200 V.D.C.			
GEM-16225	.0025	7/16 x 1¼	**$0.65**
GEM-1623	.003	7/16 x 1¼	**.55**
GEM-16233	.0033	7/16 x 1¼	**.55**
GEM-1624	.004	7/16 x 1¼	**.55**
GEM-16247	.0047	½ x 1¼	**.55**
GEM-1625	.005	½ x 1½	**.55**
GEM-16256	.0056	½ x 1¼	**.65**
GEM-1626	.006	½ x 1½	**.55**
GEM-16268	.0068	½ x 1½	**.65**
GEM-1627	.007	½ x 1½	**.55**
GEM-16275	.0075	½ x 1½	**.55**
GEM-1628	.008	½ x 1½	**.60**
GEM-16282	.0082	½ x 1½	**.65**
GEM-1611	.01	½ x 1½	**.60**
GEM-1612	.02	⅝ x 1⅞	**.70**
GEM-161125	.0125	⅝ x 1⅞	**.70**
GEM-1615	.05	⅝ x 1⅞	**.70**

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Metal Cased Oil Impregnated Paper Capacitors

For vibrator buffer, coupling and other electronic circuits where highest quality, tubular-type capacitors are required. Mineral oil-impregnated, heremetically sealed, metal-cased tubulars with external insulating sleeves. 2⅜" leads. For operation at 85°C.

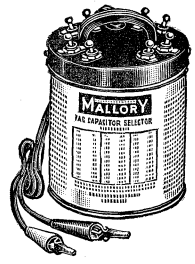
Catalog Number	Capacity Mfd.	Working Volts DC	Size Dia.	Size Length	List Price
OT101	.01	600	⅝	1 3/16	**$0.95**
OT103	.02	600	⅝	1 3/16	**1.05**
OT106	.05	600	1 1/16	1⅜	**1.10**
OT110	.1	600	1 1/16	1 1/16	**1.25**
OT113	.25	600	1 3/16	2⅛	**1.70**
OT116	.5	600	1 1/16	2¼	**2.20**
OT301	.01	1000	⅝	1 3/16	**1.10**
OT303	.02	1000	1 1/16	1⅜	**1.20**
OT306	.05	1000	1 1/16	2 3/16	**1.30**
OT310	.1	1000	1 3/16	2 3/16	**1.50**
OT370	.002	1600	⅝	1⅜	**1.20**
OT377	.003	1600	⅝	1⅜	**1.20**
OT371	.005	1600	⅝	1⅜	**1.20**
OT372	.008	1600	⅝	1⅜	**1.20**
OT373	.01	1600	1 1/16	1⅜	**1.20**
OT375	.015	1600	1 1/16	1 1/16	**1.25**
OT376	.02	1600	1 1/16	1 1/16	**1.30**
OT378	.03	1600	1 1/16	2 3/16	**1.30**
OT379	.04	1600	1 1/16	2 3/16	**1.30**
OT380	.05	1600	1 1/16	2 7/16	**1.40**
OT458	.0025	2000	1 1/16	1⅜	**1.25**
OT459	.005	2000	1 1/16	1 1/16	**1.25**
OT460	.0075	2000	1 1/16	1⅝	**1.25**
OT461	.01	2000	1 1/16	1⅝	**1.25**
OT462	.0125	2000	1 1/16	1⅞	**1.30**
OT463	.015	2000	1 1/16	1⅞	**1.30**
OT464	.02	2000	1 1/16	2	**1.35**
OT465	.03	2000	1 3/16	2	**1.40**
OT466	.04	2000	1 3/16	2 9/16	**1.40**
OT467	.05	2000	1 3/16	2 9/16	**1.45**

Oil Impregnated Cardboard Cased Tubular Paper Capacitors

Ideal for auto set buffer circuits.

Catalog Number	Capacity Mfd.	Working Volts DC	Size Dia.	Size Length	List Price
OW635	.0005	6000	9/16	1¾	**$1.10**
OW621	.001	6000	1 1/16	1¾	**1.10**
OW622	.002	6000	27/32	1¾	**1.10**
OW623	.003	6000	1	1¾	**1.15**
OW625	.005	6000	27/32	2½	**1.15**
OW6275	.0075	6000	15/16	2½	**1.20**
OW611	.01	6000	1 1/32	2½	**1.20**
OW612	.02	6000	17/32	3	**1.25**
OW613	.03	6000	1¼	3¾	**1.25**
OW615	.05	6000	1⅜	4⅜	**1.75**

Packaged in Individual Display Carton with Mounting Strap.



Capacitor Selector

For determining correct capacity to use in making replacements of defective motor starting capacitors which have lost their identity. For checking capacity ranges from 25 to 645 mfd. 110-125 VAC.

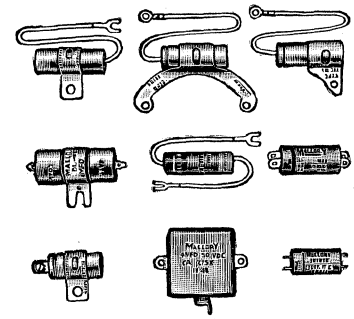
Catalog No. **MSS-101** **$15.00** Net

Octal Base Plug-in Electrolytic Capacitors

Designed for military and communication equipment Parts replacement, also very useful for the designer and builder. Replacement of a filter is no more difficult than replacing a tube with these new plug-in units.

Catalog Number	Capacity	Voltage	Size Dia. Length	List Price
PB110	20	150	1 5/32 x 2½	**$3.95**
PB114	40	150	1 5/32 x 2½	**4.10**
PB139	100	350	1⅜ x 3	**5.85**
PB142	10	450	1 5/32 x 2½	**4.05**
PB144	20	450	1 5/32 x 2½	**4.30**
PB146	40	450	1 5/32 x 2½	**4.55**
PB149	80	450	1⅜ x 3½	**5.55**
PB208	20-20	150-150	1 5/32 x 2½	**4.20**
PB212	40-40	150-150	1 5/32 x 2½	**4.35**
PB234	20-20	450-450	1⅜ x 2½	**5.05**
PB238	40-40	450-450	1⅜ x 3½	**5.95**
PB311.2	20-20-20	150-150-150	1 5/32 x 2½	**4.80**
PB345.8	20-20-20	450-450-25	1⅜ x 2½	**5.55**
PB375.8	10-10-10	450-450-450	1 5/32 x 2½	**5.10**

Automotive Noise Suppression Capacitors



Top Row: AG Types; FM442; FM441
Center Row: DL445X; AM454; RF482
Bottom Row: AS types; CA275X; RF481

For suppressing radio interference emanating from auto generators, oil gauges, ammeters and other automotive, aircraft or marine equipment.

AM—For ammeter and gauge suppression.
FM—For Ford generator suppression.
DL—For domelight suppression.
RF—For vibrator hash suppression.
CA—For general suppression in aircraft and marine applications.
AS, AG—For generator, ammeter and contact spark suppression.

Wax impregnated cartridges assembled in various style housings. Type AG is hermetically sealed, provides low impedance and is ideal for extreme climatic conditions.

Catalog Number	Cap. Mfd.	Working Volts DC	Size D	Size L	Signal Corps No.	List Price
RF481	.5	50	¾	1⅜		**$0.90**
RF482	1.0	50	⅞	1⅝		**1.15**
CA275X	4.0	50	2	2 x 1		**3.00**
AS125‡	.01	100	.675	1 5/16	CA-432	**1.20**
AG442*	.05	100	⅜	1¼		**.80**
AG443	.05	100	7/16	1 3/16		**1.00**
AS145‡	.1	100	.675	1⅜	CA-442	**1.40**
AS165‡	.25	100	¾	1½	CA-452	**1.50**
AS185‡	.5	100	1	1⅝	CA-462	**1.75**
FM441	.5	100	.675	1⅞		**.85**
RF480	.5	100	1 3/16	1 5/16		**.80**
AG450	.5-.5	100	⅞	2		**1.50**
FM442	.5	160	.675	1⅞		**.65**
AG444	.25	200	⅝	1¾		**.60**
DL445X	.4	200	1	2⅜		**2.25**
AM454	.5	200	1 1/16	2		**.65**
AG451	.5	200	¾	2		**.65**
AG453†	.5	200	¾	2		**1.50**
AG452	1.0	200	1	2 3/16		**.90**
AS525‡	.01	500 AC-DC	.675	1	CA-472	**1.35**
AS545‡	.1	500 AC-DC	1	2½	CA-482	**1.60**
AS565‡	.25	500 AC-DC	1	2½	CA-502	**2.00**

* For Midget Aircraft Motors.
† Has shielded lead.
‡ Also marked with Signal Corps Number as shown.

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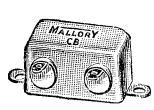
Steel-Cased, Oil-Filled Capacitors



For general use in aircraft, marine, geophysical and industrial electronic equipment where extreme dependability under severe conditions is desired. Oil impregnated, single, dual, and triple section units housed in rugged, hermetically sealed, hot-tinned steel cases. Single sections have two terminals. Dual section units have three terminals with left terminal common, and both are internally insulated from case. Triple units have three terminals with common ground to case. All terminals protrude in a row on one long side of case.

Catalog Number	Cap. Mfd.	Working Volts DC	Size* H W L X	List Price
CB403	.25	400	¾ x ⅞ x 1¾ x 2⅛	$2.25
CB404	.5	400	⅞ x 1 x 1¾ x 2⅛	2.40
CB405	1.0	400	¾ x 1¾ x 2 x 2⅜	2.85
CB406	2.0	400	1⅛ x 2 x 2 x 2⅜	3.60
CB602	.1	600	¾ x ⅞ x 1¾ x 2⅛	2.65
CB603	.25	600	¾ x 1 x 1¾ x 2⅛	2.80
CB604	.5	600	⅞ x 1¼ x 1¾ x 2⅛	3.00
CB605	1.0	600	⅞ x 1¾ x 2 x 2⅜	3.40
CB1002	.1	1000	¾ x ⅞ x 1¾ x 2⅛	2.85
CB1003	.25	1000	¾ x 1¼ x 1¾ x 2⅛	2.95
CB1004	.5	1000	⅞ x 1¾ x 2 x 2⅜	3.20
CBD403	.25-.25	400	¾ x 1¼ x 1¾ x 2⅛	3.25
CBD404	.5-.5	400	¾ x 1¾ x 2 x 2⅜	3.75
CBD602	.1-.1	600	¾ x ⅞ x 1¾ x 2⅛	3.35
CBT403	3X .25	400	¾ x 1¾ x 2 x 2⅜	4.00
CBT404	3X .5	400	1 x 1¾ x 2 x 2⅜	4.75
CBT602	3X .1	600	⅞ x 1 x 1¾ x 2⅛	3.80

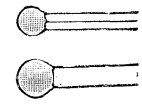
* H—Height; W—Width; L—Length; X—Mounting Centers.

High Voltage Ceramic Capacitors— 500 MMFD/ 20KV WVDC

Designed for exact replacements as filters in high voltage circuits of television sets. The three capacitors have identical electrical characteristics and case styles, but differ in terminal arrangements. High quality ceramic dielectric materials and low loss plastic cases assure consistent operating results. Combinations of plain copper, internally threaded, slotted, or externally threaded studs are offered.

Catalog Number	Stud Description	List Price
HV-20035	Plain No. 6 copper, ½" long equipped with universal adapter	$1.85
HV-20035A	(1) Internally threaded for 6-32 MS with .187 flat	
	(2) Externally threaded for 6-32 MS with .187 flat	1.85
HV-20035B	(1) Internally threaded for 6-32 MS with .187 flat	
	(2) No. 6 gauge with 1/16" slot	1.85

Disc Ceramic Capacitors



Small physical size, rugged construction, and excellent electrical characteristics. These unique capacitors are particularly suitable for replacement of molded mica and paper tubular units. They have dipped phenolic coating for maximum protection from moisture.

600 Working Volts DC

Catalog Number	Capacity (mfd)	Size Max. Dia.	List Price
DC-521	.001	19/32	$0.25
DC-5215	.0015	19/32	.25
DC-522	.002	19/32	.30
DC-525	.005	19/32	.25
DC-511	.01	¾	.25
DCD-521	.001-.001	19/32	.40
DCD-5215	.0015-.0015	19/32	.40
DCD-522	.002-.002	19/32	.40
DCD-524	.004-.004	¾	.45

3000 Working Volts DC

Catalog Number	Capacity (mmfd.)	Size Max. Dia.	List Price
DC3054R7	4.7	⅜	$0.50
DC3056R8	6.8	⅜	.50
DC3041	10	⅜	.50
DC30415	15	⅜	.50
DC30422	22	19/32	.50
DC30433	33	19/32	.50
DC30447	47	19/32	.50
DC30456	56	¾	.50
DC30468	68	¾	.50
DC3031	100	⅜	.55
DC30322	220	⅜	.60
DC30333	330	⅜	.60
DC30347	470	⅜	.65
DC30368	680	⅜	.75
DC3021	1000	19/32	.75
DC30215	1500	19/32	.85
DC30222	2200	¾	1.05
DC30233	3300	¾	1.25

6000 Working Volts DC

Catalog Number	Capacity (mmfd.)	Size Max. Dia.	List Price
DC6054R7	4.7	19/32	$1.00
DC6056R8	6.8	¾	1.00
DC6041	10	¾	1.00
DC60415	15	19/32	1.00
DC60422	22	¾	1.00
DC60318	180	19/32	1.00
DC60322	220	19/32	1.00
DC60333	330	¾	1.00

For the *Best* in Batteries

Buy MALLORY MERCURY Batteries

Only Mallory can supply genuine Fabricated Plate (metallized cotton gauze) designed to operate at 185°F.

See pages 1 and 2, this section.

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*Fig. 1

*Fig. 2

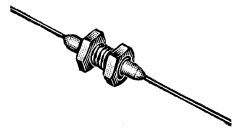


*Fig. 3

Mallory Ceramic Tubular Trimmers

Have high quality, silvered, steatite tubes; screw adjustment; low minimum capacitance and tinned-copper leads. 500 wkg. V. DC.

Cat. No.	mmfd	Length of Body	Fig. No.*	List Price
CT565A	.5-3	3/8"	1	**$0.50**
CT565	.5-3	5/8"	1	**.50**
CT551	1-4	5/8"	1	**.50**
CT552	2-6	5/8"	1	**.50**

Stand-Off Ceramic Capacitors

Recommended for the dual purpose of by-passing R.F. current to ground, and of mechanically supporting other circuit elements. They are especially suited for VHF and UHF applications because of their low inductance and high resonant frequency.

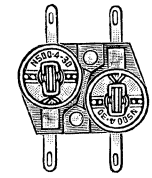
Cat. No.	Cap. mmfd	Tolerance	Fig. No.*	List Price
SC-521	1000	20%	2	**$1.00**
SC-535	500	20%	2	**1.00**

Feed-Thru Ceramic Capacitor

A well built, sturdy, feed-thru capacitor used to by-pass R.F. to ground in feed-thru applications. Wire terminals are rugged and will serve as tie points for several connections for supporting other circuit elements, and are sufficiently long for point-to-point wiring.

Cat. No.	Cap. mmfd	Tolerance	Fig. No.*	List Price
FC5215	1500	20%	3	**$1.00**

Ceramic Trimmer Capacitors



Small, electrically stable capacitors for use in high frequency FM-TV circuits. Each capacitor consists of fired silver electrodes on a ceramic rotor and base. They have a 360° rotor with a substantially constant capacity change and are completely sealed from dust and dirt. Single or dual units are available.

Solder type lugs at each end of capacitor.

Two clearance holes are provided in each capacitor for screw mounting.

Single Units—Overall size 2 1/32" x 27/32" x 3/8" thick. Voltage Rating—600 VDC

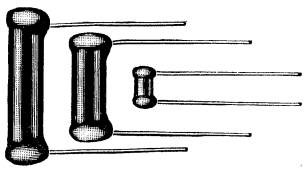
Catalog No.	Cap. Range (mmfd)	Temperature Coefficient	List Price
ST-5515-Z	1.5 to 7	Zero	**$1.50**
ST-553-Z	3 to 12	Zero	**1.50**
ST-554-N	4 to 30	Neg. 500 Parts/Million/°C.	**1.50**
ST-557-N	7 to 45	Neg. 500 Parts/Million/°C.	**1.50**

Dual Units—Overall size 1 19/64" x 7/8" x 3/8" thick. Voltage Rating—600 VDC

Catalog No.	Cap. Range Each Section (mmfd)	Temperature Coefficient	List Price
DT-5515-Z	1.5 to 7	Zero	**$2.50**
DT-553-Z	3 to 12	Zero	**2.50**
DT-554-N	4 to 30	Neg. 500 Parts/Million/°C.	**2.50**
DT-557-N	7 to 45	Neg. 500 Parts/Million/°C.	**2.50**

Fixed Ceramic Capacitors

(Voltage Rating—600 VDC)



Mallory tubular, fixed, ceramic capacitors are manufactured in 3 types. UC is general purpose type for by-passing, coupling and other applications where a moderate capacitance change with temperature change can be tolerated. ZT is zero temperature type, the nominal capacitance of which remains substantially constant over a temperature variation from −55°C to 85°C. NT is negative temperature type with a negative coefficient of 750 parts/million/degrees C. These capacitors are supplied with a dipped phenolic insulation for protection against moisture and have radially placed bare, tinned-copper leads approximately 1¼" long.

Voltage Rating—600VDC.

General Purpose ±20% Tolerance

Cat. No.	Capacity (mmfd)	Size*	List Price
UC-541	10	1	**$0.25**
UC-5412	12	1	**.25**
UC-5415	15	1	**.25**
UC-5418	18	1	**.25**
UC-5422	22	1	**.25**
UC-5425	25	1	**.25**
UC-5427	27	1	**.25**
UC-5433	33	1	**.25**
UC-5439	39	1	**.25**
UC-5447	47	1	**.25**
UC-545	50	1	**.25**
UC-5456	56	1	**.25**
UC-5468	68	1	**.25**
UC-5475	75	1	**.25**
UC-531	100	1	**.25**
UC-5312	120	1	**.25**
UC-5315	150	1	**.25**
UC-532	200	1	**.25**
UC-5322	220	1	**.25**
UC-5325	250	1	**.25**
UC-5327	270	1	**.25**
UC-533	300	1	**.25**
UC-5333	330	1	**.25**
UC-5339	390	1	**.25**
UC-5347	470	1	**.25**
UC-535	500	1	**.25**
UC-5356	560	1	**.25**
UC-5368	680	1	**.25**
UC-5375	750	2	**.25**
UC-521	1000	2	**.25**
UC-5212	1200	2	**.25**
UC-5215	1500	2	**.25**
UC-5218	1800	3	**.25**
UC-522	2000	3	**.25**
UC-5222	2200	3	**.25**
UC-5225	2500	3	**.25**
UC-5227	2700	3	**.25**
UC-523	3000	3	**.25**
UC-5233	3300	3	**.25**
UC-5240	4000	3	**.25**
UC-5247	4700	3	**.25**
UC-525	5000	3	**.30**

Zero Temperature Coefficient ±10% Tolerance

Cat. No.	Capacity (mmfd)	Size*	List Price
ZT-5675	.75	1	**$0.75**
ZT-5515	1.5	1	**.50**
ZT-553	3	1	**.50**
ZT-5533	3.3	1	**.50**
ZT-5547	4.7	1	**.50**
ZT-555	5	1	**.50**
ZT-5568	6.8	1	**.50**
ZT-541	10	1	**.50**
ZT-542	20	1	**.50**
ZT-5425	25	2	**.50**
ZT-5433	33	2	**.50**
ZT-545	50	3	**.55**
ZT-5475	75	3	**.55**
ZT-531	100	3	**.55**
ZT-5315	150	4	**.60**
ZT-53175	175	4	**.60**

Negative Temperature Coefficient 750 Parts/Million/°C ±10% Tolerance

Cat. No.	Capacity (mmfd)	Size*	List Price
NT-555	5	1	**$0.50**
NT-541	10	1	**.50**
NT-5447	47	2	**.50**
NT-5475	75	3	**.50**
NT-531	100	3	**.50**

*** SIZE CHART**

Sizes	Diameter	Length
1	.240	.460
2	.240	.710
3	.315	1.250
4	.415	1.213

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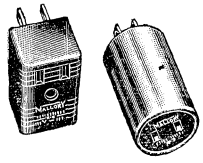
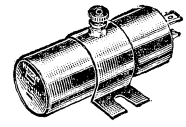
Mallory Noise Filters



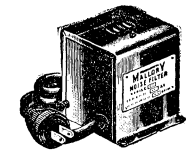
Type X

Type W



Type Z

Type Z8A



Type LC

Type LB

For reducing or eliminating radio frequency interference caused by various electrical appliances.
Type W has dual capacitors housed in metal tubes. Common lead of capacitors connected to case, except WSP type which has shock-limiting capacitor from common lead to case. Designed for direct mounting. **Type X** has single and dual capacitors housed in round metal case, except X6 which is housed in rectangular plastic case. Designed for plug-in mounting. **Type Z**—Single and dual inductance-capacity filters housed in round metal container and designed for insertion between appliance and electrical outlet. Types Z6 and Z8 have terminal for return lead to ground of appliance. Type Z8A designed for direct mounting and is equipped with 5″ flexible leads. **Type LC**—combination inductance-capacity filter housed in rectangular metal case. Equipped with line cord and plug as well as outlet for appliance. **Type LB**—heavy duty choke-capacity, combination filters sealed in rectangular, standard, heavy-gauge metal cut-out boxes. Equipped with heavy, flexible insulated wire leads for splicing with house or motor wiring.

Catalog Number	Amps	Volts	Size	Intensity or Degree of Interference	Source of Interference	List Price
W7		110-220 AC-DC	⅞ x 2	Light	Compressors, Sewing Machines, Vacuum Cleaners	$1.35
W9		115-220 AC-DC	1 x 3	Medium	Air-Conditioners, Dental Equipment, Fans, Signs	1.75
W11		115-220 AC-DC	1⅜ x 3	Severe	Grinders, Thermostats, Motors	2.10
W7SP		115-220 AC-DC	⅞ x 2	Light	Adding Machines, Cash Registers, Dishwashers	1.80
W9SP		115-220 AC-DC	1 x 2⅝	Medium	Vacuum Cleaners, Washing Machines	2.20
X1	5	110	1⅜ x 1¾	Slight	Heating Pads, Radio Receivers	1.60
X3	5	110-220	1⅜ x 2 3/16	Medium	Barber Clippers, Hair Dryers (small)	1.80
X5	5	110-220	1⅜ x 2 3/16	Medium	Floor Polishers, Refrigerators	2.70
X6	15	125 AC-DC	1¼ x 2 x 1	Light	Electric Razors, Food Mixers and Grinders	1.60
Z2	3	110-220	1⅜ x 2 13/16	Medium	Violet Ray, Radio Receivers, Barber Clippers	2.20
Z4	3	110-220	1⅜ x 2 13/16	Severe	Heating Pads, Humidifiers (plug type)	2.50
Z6	3	110-220	1⅛ x 3¼	Severe	Electric razors, Radio Receivers	3.60
Z8	3	110-220	1⅛ x 3¼	Severe	Sewing Machines, Hair Dryers (small)	3.60
Z8A	3	115-220 AC-DC	1 7/16 x 2¾	Severe	Fans (plug type) Vacuum Cleaners	3.00
LC5	5	115-220 AC-DC	2 15/16 x 3 1/16 x 3 9/16	Heavy	Air Conditioners, Cash Registers	11.25
LC10	10	115-220 AC-DC	2 15/16 x 3 1/16 x 3 9/16	Heavy	Dictating Machines, Ironing Machines	15.00
LB10	10	220	6½ x 6½ x 4	Heavy	Sign Flashers, Oil Burners, Neon Signs	17.50
LB20	20	220	10¼ x 10¼ x 6	Heavy	Stokers, Garbage Grinders, Fans, Compressors	47.50
LB40	40	220	12 x 10¼ x 6	Heavy	Motors, Sign Flashers	58.75
NF1-115	1	115 AC—500 DC	1¾ x 1¼ x ⅞		NF type filters are designed for professional-industrial noise filtering problems. May be used in such applications as; electric motors, lighting systems, make and break relay systems and fans. Should be installed and used exactly as suggested on applicable instruction sheets.	8.90
NF3-220	3	220 AC	2 x 1¾ x 1			13.20
NF5-115	5	115 AC—500 DC	2 x 1¾ x ⅞			7.30
NF10-115	10	115 AC—500 DC	2 x 2 x 1⅛			9.75
NF15-220	15	220 AC	2 1/16 x 2½ x 1 5/16			27.10
NF25-230	25	230 AC	2 x 2 x 1¼			12.10

MALLORY TYPE "K"
VITREOUS WIRE-WOUND POWER RHEOSTATS AND POTENTIOMETERS

Hinged-spring contact arm; low contact resistance; low wear; easy cleaning and brush replacement; antibacklash characteristic.

See complete line Mallory page 4
Potentiometers, Rheostats, Resistors Section

MALLORY GEM TYPE
Molded Tubular Paper Capacitors

A Complete Line of Ratings

Sealed against moisture by Epoxy Resin which assures *Longer*, more trouble-free life.

See page 6

For a more complete listing from 200 V.D.C. to 15,000 V.D.C. send for Mallory Catalog 556

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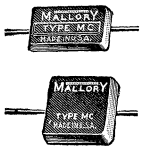
Mica Receiver Capacitors



Designed for use in radio, TV and industrial electronic circuits. Made with carefully selected mica and foil. Phenolic case with RTMA color coding for identification.

Case Size—7/16" x 25/32" x 7/32" with 1 1/8" Wire Leads

Voltage Rating =500 VDC Working—1000 VDC Test

Capacity mmfd.	Standard Mica ±20% Cap. Tolerance		Silver Mica ±10% Cap. Tolerance		Silver Mica ±2% Cap. Tolerance	
	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price
5	MC205	$0.25	MCB205	$0.45		
10	MC215	.25	MCB215	.40	MCE215	$0.50
25	MC220	.25	MCB220	.40	MCE220	.50
40	MC223	.20	MCB223	.40	MCE223	.50
50	MC225	.20	MCB225	.40	MCE225	.50
75	MC230	.20	MCB230	.40	MCE230	.50
100	MC235	.20	MCB235	.40	MCE235	.50
150	MC236	.20	MCB236	.45	MCE236	.55
200	MC237	.20	MCB237	.45	MCE237	.55
250	MC240	.25	MCB240	.45	MCE240	.55
300	MC241	.25	MCB241	.55	MCE241	.70
400	MC243	.25	MCB243	.65	MCE243	.80
500	MC245	.25	MCB245	.70	MCE245	.85
800	MC251	.25	MCB251	.95	MCE251	1.10
1000	MC255	.30	MCB255	1.10	MCE255	1.35
1500	MC256	.30				

Case Size—1 3/16" x 1 3/16" x 5/16" with 1 1/8" Wire Leads

Voltage Rating =500 VDC Working—1000 VDC Test

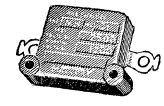
500	MC445	.30	MCB445	.70	MCE445	.85
800	MC451	.30	MCB451	.95	MCE451	1.15
1500			MCB456	1.35	MCE456	1.65
2000	MC457	.40	MCB457	1.35	MCE457	1.65
2500	MC460	.45	MCB460	1.80	MCE460	2.20
3000	MC461	.50	MCB461	2.05	MCE461	2.45
4000	MC463	.55	MCB463	2.15	MCE463	2.60
5000	MC465	.60	MCB465	2.25	MCE465	2.70
6000	MC467	.75	MCB467	2.60	MCE467	3.15
7000	MC469	.90	MCB469	2.90	MCE469	3.50
8000	MC471	1.00	MCB471	3.20	MCE471	3.85
10000	MC475	1.20	MCB475	3.50	MCE475	4.20

High-Voltage Mica Capacitors for TV Replacement

±20% Cap. Tolerance

Catalog Number	Capacity mmfd	Working Volts DC	Size W L H	List Price
MCP53R3	3.3	3000	25/32 x 7/16 x 7/32	$0.35
MCP550	5	3000	1 x 5/8 x 1 1/32	.35
MCP410	10	3000	1 x 5/8 x 1 1/32	.35
MCM422	22	2500	25/32 x 7/16 x 7/32	.30
MCM433	33	2500	25/32 x 7/16 x 7/32	.35
MCL420	20	2000	25/32 x 7/16 x 7/32	.35
MCL427	27	2000	25/32 x 7/16 x 7/32	.35
MCL443	43	2000	25/32 x 7/16 x 7/32	.35
MCL447	47	2000	25/32 x 7/16 x 7/32	.30
MCL450	50	2000	25/32 x 7/16 x 7/32	.40
MCL456	56	2000	25/32 x 7/16 x 7/32	.40
MCL426	62	2000	25/32 x 7/16 x 7/32	.40
MCL468	68	2000	25/32 x 7/16 x 7/32	.35
MCL482	82	2000	25/32 x 7/16 x 7/32	.40
MCL315	150	2000	25/32 x 7/16 x 7/32	.45
MCL320	200	2000	25/32 x 7/16 x 7/32	.60
MCL325	250	2000	25/32 x 7/16 x 7/32	.65
MCL330	300	2000	25/32 x 7/16 x 7/32	.70
MCL339	391	2000	25/32 x 7/16 x 7/32	.85
MCL347	470	2000	1 3/16 x 1 3/16 x 1 1/32	.90
MCL350	500	2000	1 3/16 x 1 3/16 x 1 1/32	.90
MCK475	75	1500	25/32 x 7/16 x 7/32	.30
MCK310	100	1500	25/32 x 7/16 x 7/32	.35
MCK315	150	1500	25/32 x 7/16 x 7/32	.35
MCK318	180	1500	25/32 x 7/16 x 7/32	.35
MCK322	220	1500	25/32 x 7/16 x 7/32	.40
MCK327	270	1500	25/32 x 7/16 x 7/32	.45
MCK333	330	1500	25/32 x 7/16 x 7/32	.50
MCK347	470	1500	25/32 x 7/16 x 7/32	.60
MCK368	680	1500	1 x 5/8 x 1 1/32	.65
MCK382	820	1500	1 x 5/8 x 1 1/32	.75
MCK210	1000	1500	1 x 5/8 x 1 1/32	.80
MCK215	1500	1500	1 x 5/8 x 1 1/32	1.10
MCK220	2000	1500	1 x 5/8 x 1 1/32	1.35
MCK224	2400	1500	1 x 5/8 x 1 1/32	1.55

Mica Transmitting Capacitors (Type MH)



For use in transmitting and power amplifier circuits. Made with accurately gauged, high-quality, India mica in molded phenolic case.

Test volts are 200% of WVDC. Case size 1 5/8" x 1 1/8" (minus terminals).

Catalog Number	Cap. Mfd.	Working Volts DC	Test Volts DC	Thickness	List Price
MH535	.0001	600	1200	23/64	$1.20
MH635	.0001	1200	2500	23/64	1.55
MH735	.0001	2500	5000	23/64	1.80
MH545	.0005	600	1200	23/64	1.20
MH645	.0005	1200	2500	23/64	1.55
MH745	.0005	2500	5000	23/64	2.40
MH555	.001	600	1200	23/64	1.20
MH655	.001	1200	2500	23/64	1.80
MH755	.001	2500	5000	23/64	2.80
MH557	.002	600	1200	23/64	1.30
MH657	.002	1200	2500	23/64	2.40
MH757	.002	2500	5000	23/64	4.10
MH565	.005	600	1200	23/64	1.50
MH665	.005	1200	2500	29/64	3.30
MH765	.005	2500	5000	29/64	6.25
MH575	.01	600	1200	23/64	2.25
MH675	.01	1200	2500	29/64	5.25
MH577	.02	600	1200	29/64	3.05

You can depend on MALLORY CAPACITORS Ask for them by name!

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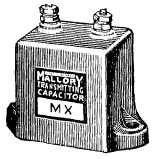


Mica Transmitting Capacitors (Type MX)

Ideal for amateur transmitting equipment. May also be used in coupling, tank and by-pass circuits at currents within specified rating.

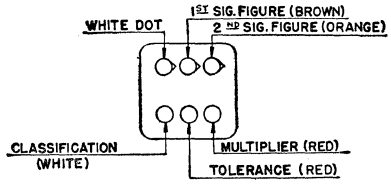
Catalog Number	Cap. Mfd.	Test Volts DC	Max. Amps.	Freq. KC.	List Price
MX855	.001	12,500	9.0 10.0 11.0 12.0	15000 7500 3750 1875	**$8.00**
MX857	.002	12,500	9.0 12.0 13.0 15.0	15000 7500 3750 1875	**11.00**
MX865	.005	10,000	10.0 13.0 14.0 15.0	15000 7500 3750 1875	**14.50**
MX875	.01	7,000	10.0 13.0 15.0 15.0	15000 7500 3750 1875	**15.25**
MX877	.02	3,500	10.0 13.0 17.0 17.0	15000 7500 3750 1875	**16.00**
MX885	.05	3,500	11.0 14.0 16.0 18.0	15000 7500 3750 1875	**18.50**
MX895	.1	2,000	11.0 14.0 16.0 18.0	15000 7500 3750 1875	**18.50**

Case Size: 4 1/16" x 2¾" x 2⅛" (Minus Terminals).

Capacity tolerance ±20%.

Instructions for use of RETMA Color Code

Hold capacitor with arrow pointing to right. From left to right, the first dot shall always be white to indicate standard RETMA molded mica capacitor. The second and third dots become the first two significant figures in the capacitance. The second row is read from right to left. The lower right dot should be the multiplier. The lower second dot indicates the tolerance and the lower left dot indicates the class.



Example shown above = 1300 mmfd. ±2% , 500 V.W.

The key to color significance is as follows:

Color	Sig. Fig.	Mult.	Tol.	Class.*
Black	0	1	±20%	A
Brown	1	10		B
Red	2	100	± 2%	C
Orange	3	1000	± 3%	D
Yellow	4	10000		
Green	5		± 5%	
Blue	6			
Violet	7			
Gray	8			I
White	9			J
Gold		0.1		
Silver		0.01	±10%	

* Denotes various electrical characteristics.
Voltage ratings vary with capacitance as shown in RMA Specification—April, 1946.

Transmitting Capacitors (Type TX)

For radio, television, transmitting and all circuits requiring high voltage capacitors. Compact rectangular oil filled capacitors of sturdy construction. Capacity tolerance −10% +20%. Do not use on AC.

Catalog Number	Cap. Mfd.	Working Volts DC	Size* W	L	H	List Price
TX801	1	600	1	x 1¾	x 2⅛	**$5.20**
TX802	2	600	1	x 1¾	x 2⅝	**6.50**
TX803	4	600	1	x 1¾	x 4¼	**8.50**
TX816	6	600	1 3/16	x 2½	x 4⅝	**10.50**
TX817	10	600	1¼	x 3¾	x 4⅝	**14.00**
TX822	.5	1000	1	x 1¾	x 2⅛	**4.55**
TX804	1	1000	1	x 1¾	x 2⅝	**5.70**
TX805	2	1000	1	x 1¾	x 3⅞	**7.60**
TX806	4	1000	1 3/16	x 2½	x 4⅝	**9.60**
TX824	6	1000	1¼	x 3¾	x 4⅝	**12.75**
TX825	10	1000	1¾	x 3¾	x 4⅝	**15.50**
TX807	1	1500	1	x 1¾	x 4¼	**6.85**
TX808	2	1500	1 3/16	x 2½	x 4⅝	**9.50**
TX809	4	1500	1½	x 3¾	x 4⅝	**12.75**
TX829	6	1500	1¾	x 3¾	x 4⅝	**15.75**
TX830	10	1500	3 3/16	x 3¾	x 4⅝	**23.00**
TX831	.25	2000	1	x 1¾	x 2⅛	**6.50**
TX832	.5	2000	1	x 1¾	x 2⅞	**6.90**
TX810	1	2000	1 3/16	x 2½	x 3⅜	**8.40**
TX811	2	2000	1¼	x 3¾	x 4¼	**9.95**
TX823	4	2000	2¼	x 3¾	x 4¾	**13.75**
TX833	6	2000	3 3/16	x 3¾	x 4⅝	**18.00**
TX834	10	2000	4 9/16	x 3¾	x 4⅝	**28.50**
TX812	1	2500	1 3/16	x 2½	x 4¼	**12.25**
TX813	2	2500	1¾	x 3 23/32	x 4¾	**20.00**
TX835	.1	3000	1 3/16	x 2½	x 2⅜	**12.75**
TX836	.25	3000	1 3/16	x 2½	x 3⅜	**14.00**
TX837	.5	3000	1 3/16	x 2½	x 4⅜	**15.50**
TX814	1	3000	1¾	x 3¾	x 4⅝	**18.75**
TX815	2	3000	3 3/16	x 3¾	x 4⅝	**23.25**
TX838	4	3000	4 9/16	x 3¾	x 5½	**34.00**
TX839	1	4000	2¼	x 3¾	x 4¾	**34.00**
TX827	2	4000	4 9/16	x 3¾	x 4¾	**43.00**
TX818	1	5000	5⅛	x 3½	x 5⅝	**39.00**
TX819	2	5000	5⅛	x 3½	x 9	**50.00**
TX820	.5	6000	4⅝	x 5⅛	x 3½	**62.00**
TX821	1	6000	3 15/16	x 4 3/16	x 6 3/16	**77.00**

* W—Width; L—Length; H—Height.

Transmitting Capacitors (Type TZ)

For filter and by-pass circuits in power amplifiers, television and transmitting equipment where compact round can units are desired. Capacity tolerance −10% +20%. Do not use on AC.

Catalog Number	Capacity Mfd.	Working Volts DC	Size Dia.	Height	List Price
TZ382	2.0	600	1⅜ x	2⅝	**$4.65**
TZ383	4.0	600	1⅜ x	4⅛	**6.20**
TZ384	1.0	1000	1⅜ x	2⅝	**4.30**
TZ389	4.0	1000	2 x	4	**7.25**
TZ387	1.0	1500	2 x	2⅜	**5.45**
TZ388	2.0	1500	2 x	4	**7.25**
TZ390	1.0	2000	2 x	3¼	**6.85**
TZ391	2.0	2000	2 x	4½	**7.60**

TERMINAL HEIGHTS

TX Capacitors	TZ Capacitors
600 through 2500V—1¼	600V—⅝ 1 and 2 mfd at 1000V—⅝
3000 through 4000V—1⅝	.5 and 1 mfd at 1500V—⅝ 4 mfd at 1000V—1⅜
5000 through 6000V—2½	2 mfd at 1500V—1⅜ 1 mfd at 2000V—1⅜ 2 mfd at 2000V—1⅜

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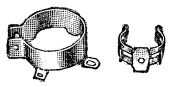
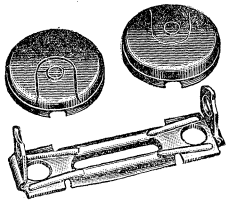


Type TH—Special clips for horizontal mounting of any tubular or FP unit within the diameter range shown. Designed primarily to mount without tools under special chassis lances in original equipment; they may also be attached to chassis with 5-32 screw and nut in any ⅛" hole.

Type VR—Brackets for vertical mounting round units.

Cat. No.	Description	Size	List Price
TH-13	Spring clip for TC	⅜	**$0.05**
TH-15	Spring clip for TC	½ to 9/16	**.05**
TH-17	Spring clip for TC	⅝ to 1 1/16	**.05**
TH-19	Spring clip for TC and FP	¾ to 1 3/16	**.05**
TH-21	Spring clip for TC	⅞ to 1 5/16	**.05**
TH-23	Spring clip for TC and FP	1 to 1 1/16	**.05**
TH-25	Spring clip for TC and FP	1⅜ to 1 7/16	**.10**
VR-1	Clamp for vertical mounting	1 to 1 1/16	**.15**
VR-3	Clamp for vertical mounting	1⅜ to 1 7/16	**.15**
VR-4	Clamp for vertical mounting	1½ to 1 9/16	**.20**
VR-6	Clamp for vertical mounting	1¾ to 1 13/16	**.25**
VR-8	Clamp for vertical mounting	2 to 2 1/16	**.30**
VR-10	Clamp for vertical mounting	2½	**.35**



Type "P" Hardware

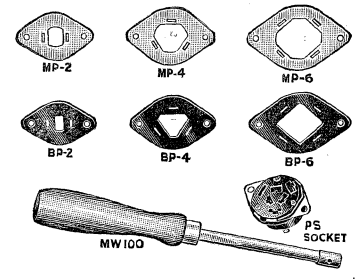
Types PL and PL-A—Plastic end cap to protect terminals on HC, NP or P units when desired.

Type HB—Horizontal bracket for mounting HC, NP or P units, using end cap type PL or PLA.

Cat. No.	Description	Size	List Price
PL-3	Plastic end cap, For "On Motor" mounting	1 7/16	**$0.20**
PL-6	Plastic end cap, For "On Motor" mounting	1 13/16	**.25**
PL-8	Plastic end cap, For "On Motor" mounting	2 1/16	**.30**
PL-3A	Plastic end cap, For "Off Motor" mounting	1 7/16	**.20**
PL-6A	Plastic end cap, For "Off Motor" mounting	1 13/16	**.25**
PL-8A	Plastic end cap, For "Off Motor" mounting	2 1/16	**.30**
HB-4	Horizontal bracket (plastic cases)	3⅜	**.30**
HB-8	Horizontal bracket (plastic cases)	4⅜	**.35**

Type "MSU," P, HC and NP Hardware

Catalog Number	Description	Size	List Price
115-1	Top Cap	1⅜	**$0.20**
116-1	Top Cap	2	**.20**
118-1	Bottom Cap	1⅜	**.20**
119-1	Bottom Cap	2	**.20**
121-1	Bracket	1⅜ x 3¼	**.35**
122-1	Bracket	1⅜ x 4¼	**.35**
123-1	Bracket	2 x 3⅛	**.35**
124-1	Bracket	2 x 4⅛	**.35**



Type MP—Metal plates for grounded mounting of FP and WP capacitors.

Type BP—Phenolic plates for insulated mounting of FP and WP capacitors.

Type PS—Molded plastic sockets for plug-in mounting FP or WP capacitors. (Blank ear on capacitor should be removed to permit polarization with respect to socket.)

Type MW-100—Special wrench for twisting mounting ears on FP or WP capacitors.

Cat. No.	Description	Size	List Price
MP-2	Metal mounting wafer for FP	¾	**$0.05**
MP-4	Metal mounting wafer for FP	1	**.05**
MP-6	Metal mounting wafer for FP	1⅜	**.05**
BP-2	Phenolic mounting wafer for FP	¾	**.05**
BP-4	Phenolic mounting wafer for FP	1	**.05**
BP-4A	Phenolic mounting wafer for FP. (To mount 1" FP in chassis punched for 1⅜" wafer)	1	**.05**
BP-6	Phenolic mounting wafer for FP	1⅜	**.05**
PS-4	Plug-in socket for FP	1	**.70**
PS-6	Plug-in socket for FP	1⅜	**.90**
PSC-4	Retainer clamp for PS-4 socket		**.10**
MW-100	Mounting wrench for FP		**1.75**

Recommended Replacements for Modified and Discontinued FP and WP Types

(as listed on pages 1 and 2, Mallory Capacitor Section, this catalog)

Old Catalog Number	Recommended Replacement	Old Catalog Number	Recommended Replacement
FP228	**FP227.3**	FP373	**FP385**
FP236	**FP260**	FP376*	**FP396.2**
FP246X	**FP266**	FP379*	**FP385**
FP313*	**FP330**	FP380	**FP343.4†**
FP316*	**FP343.1**	FP387	**FP387.1**
FP318*	**FP319.5**	FP389	**FP375.8†**
FP332	**FP345.2†**	FP390	**FP376.1†**
FP334*	**FP333.8**	FP391	**FP391.1**
FP339	**FP345.8†**	FP393	**FP376.8†**
FP342*	**FP342.5**	FP395	**FP369.1†**
FP344	**FP344.5**	FP416*	**FP419.3**
FP345	**FP370†**	FP418*	**FP418.3**
FP352	**FP341.5†**	FP420*	**FP447**
FP353	**FP343.6**	FP422	**FP423.4**
FP354	**FP311.2†**	FP425*	**FP432.4**
FP355	**FP311.4†**	FP427	**FP422.1†**
FP356	**FP311.7†**	FP457*	**FP476**
FP357	**FP311.5†**	FP465*	**FP467**
FP358	**FP311.9†**	FP471	**FP476**
FP360*	**FP343.1**	FP550*	**FP245**
FP363	**FP320†**	WP032	**WP042**
FP367	**FP330.5†**	WP302*	**WP302.1**
FP369	**FP330.3†**		

* Will be deleted from line when present stocks are exhausted.
† Change in catalog number only. No change in rating.

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vitramon® CAPACITORS

STABLE
RUGGED
LOW LOSS
MINIATURE
LOW NOISE
VAPORPROOF
WIDE TEMP. RANGE

There are many kinds of capacitors . . . some stable . . . or rugged . . . or vaporproof . . . or tiny . . . some very good at averting loss or noise . . . or efficient over a wide temperature range. Some capacitors combine two, or even three of these features.

"VITRAMON" Capacitors Give You All 7

Only two materials go into "VITRAMON" Capacitors . . . porcelain enamel for the dielectric and encasing insulation . . . fine-silver for the electrodes. Perfectly bonded, the two become, effectively, one homogenous unit —

Stable over a Wide Temperature range.

The solid black of "quality crockery" in which the silver electrodes are immersed makes "VITRAMON" Capacitors both

Rugged and varporproof.

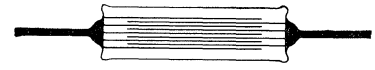
Pure materials plus perfect bonding combine to eliminate both

Loss and Noise.

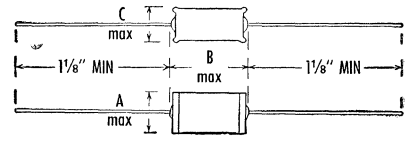
Finally . . . their unique construction allows for "layering" the electrodes so that much greater active dielectric area can be squeezed into the same cubic content . . . They're

Miniature.

Only "VITRAMON" Gives You All 7



Two materials — a monolithic block of porcelain enamel and fine-silver electrodes — fused into one strong, stable, efficient and effectively homogenous unit.



DIMENSIONS (inches)

TYPE	A	B	C
70	.24	.40	.25
71	.30	.57	.25
29	.47	.93	.25
73	.83	.93	.31
72	.30	.57	.30

NOMINAL CAPACITY ($\mu\mu$f)

500-vdcw Rating

0.5	1.0	1.5	2.2	2.7	3.0	3.3	3.6	3.9	4.3	4.7		
5.1	5.6	6.2	6.8	7.5	8.2	9.1	10	11	12	13		
15	16	18	20	22	24	27	30	33	36	39		
43	47	51	56	62	68	75	82	91				
100	110	120	130	150	160	180	200					
220	240	270	300	330	360	390	430	470				
510	560	620	680	750	820	910	1000					
1100	1200	1300	1500	1600	1800	2000	2200	2400	2700	3000	3300	

250-vdcw Rating

220	240	270	300									
430	470	510	560	620	680	750	820	910	1000			
1100	1200	1300	1500	1600	1800	2000						
3300	3600	3900	4300	4700	5100	5600	6200	6800				

Capacitors above in **bold** type are less than the 0.22" max. thickness of CM15 and CM20 Case.

SUGGESTED CONSUMER PRICES

CAPACITY VALUE	TOLERANCES 5%	2%	1%
0.5 to 43 $\mu\mu$f	$0.57	$0.712	$0.803
47 to 91 $\mu\mu$f	0.735	0.923	1.028
100 to 200 $\mu\mu$f	0.825	1.045	1.165
220 to 430 $\mu\mu$f	1.045	1.298	1.488
470 to 620 $\mu\mu$f	1.245	1.560	1.755
680 to 910 $\mu\mu$f	1.740	2.175	2.445
1000 to 2000 $\mu\mu$f	1.980	2.475	2.775
2200 to 3900 $\mu\mu$f	5.025	6.270	7.050
4300 to 6800 $\mu\mu$f	5.91	7.395	8.280

IMPORTANT USES

as Tank, Coupling, and By-Pass Condensers where low loss is required;

as Tank Capacitors in High-Stability Beating Oscillators;

in Low-Drift R-C Oscillators;

in UHF Circuits requiring minimum inductance;

wherever Minimum Noise is essential and/or 200° C ambient temperature are specified.

CAPACITIES

Capacities available from stock range from 0.5 to 6800 $\mu\mu$f, measured at 1 mc. Standard Tolerance is $\pm$5% of nominal, with a minimum of $\pm$0.25 $\mu\mu$f.

LEADS

Leads are of tinned copper, high-temperature brazed to the Capacitors to withstand 5 pounds of axial pull, and 2 pounds pull at 90° subsequently reversed 180°. This strength is maintained thru 200° C, and soft-soldered connections may be made as close as ⅛ inch to the body. On Types 70, 71 and 72, No. 22 wire is used; on Types 29 and 73, No. 20 wire is used.

MARKINGS

The Capacity and Voltage Rating of each "VITRAMON" capacitor are indicated by numerals, and all are identified by the Trade Mark.

CY SERIES

Send for Catalog M, with full information on the new Series CY "VITRAMON" capacitors, directly interchangeable with the Standard Type shown here. They offer additionally (1) unitized electrode/lead construction, plus (2) better adaptability to both radial and axial-lead applications.

"V"® and "Vitramon"®
are Registered Trade Marks
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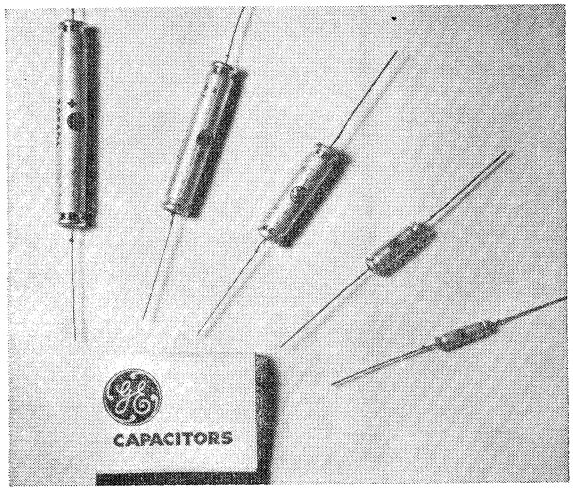
Net

TANTALYTIC* CAPACITORS

*Registered trade-mark of General Electric Co.

TANTALYTIC CAPACITORS FOR LOW-VOLTAGE USE



Legend for Fig. 1

1. Solderable lead; 2. Tantalum lead; 3. Silver-plated copper case; 4. Weld between tantalum and solderable leads; 5. Polarity mark, used only on polar units; 6. Bushing.

Case Size	Dimensions in Inches	
	A	B
B	$\frac{11}{16}$	$\frac{3}{16}$
C	$\frac{7}{8}$	$\frac{9}{32}$
D1	$1\frac{7}{16}$	$\frac{3}{8}$
D2	$2\frac{1}{8}$	$\frac{3}{8}$
D3	$2\frac{3}{4}$	$\frac{3}{8}$

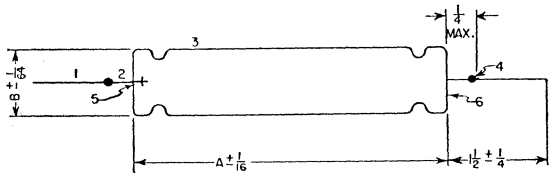


Fig. 1. Outline diagram

The Tantalytic capacitor is designed for certain direct-current applications up to 150 WVDC where aluminum electrolytics and paper capacitors are not entirely satisfactory, and is suggested for use where superior characteristics and ultimate size reduction in the high-quality electrolytic field are of prime importance.

This capacitor is a tantalum-electrode electrolytic unit, similar in construction to an aluminum electrolytic capacitor, but smaller in size because of the characteristics of the tantalum. The Tantalytic capacitor has lower leakage currents, longer shelf life, and a wider range of temperature operation (—55 C to +85 C), without derating, than the conventional aluminum electrolytic capacitor.

Both polarized- and nonpolarized-type capacitors are available. Polarized types are suitable for applications where no reversal of potential occurs. Nonpolarized units are for use in applications where reversal of potential does occur. However, the cathode (negative) electrode in the polarized type is formed to 3.75 volts as protection against small reversals.

Tantalytic capacitors, in a wide range of ratings, are currently being used in telephone equipment and military communication and ordnance equipment.

These capacitors are available in either plain or etched tantalum foil. Advantages of each and a comparison thereof appear in the specifications, GET-2333.

Write for Bulletin GEC-808.

TABLE 1—STANDARD RATINGS

Volts D-c	Type	Case Size B—Fig. 1				Case Size C—Fig. 1				Case Size D1—Fig. 1				Case Size D2—Fig. 1				Case Size D3—Fig. 1			
		Plain Foil, μf	Cat. No.	Etch Foil, μf	Cat. No.	Plain Foil, μf	Cat. No.	Etch Foil, μf	Cat. No.	Plain Foil, μf	Cat. No.	Etch Foil, μf	Cat. No.	Plain Foil, μf	Cat. No.	Etch Foil, μf	Cat. No.	Plain Foil, μf	Cat. No.	Etch Foil, μf	Cat. No.
3.75	NP	10	29F528	x	.....	45	29F529	x	.....	140	29F530	x	.....	280	29F531	x	.....	100	29F532	x	.....
6	P	8	29F533	x	.....	30	29F442	x	.....	100	29F534	x	.....	200	29F535	x	.....	300	29F536	x	.....
	NP	7	29F537	x	.....	25	29F538	x	.....	85	29F539	x	.....	175	29F540	x	.....	250	29F541	x	.....
10	P	6	29F542	x	.....	25	29F543	x	.....	80	29F544	x	.....	160	29F545	x	.....	220	29F546	x	.....
	NP	4	29F547	x	.....	16	29F548	x	.....	55	29F549	x	.....	110	29F550	x	.....	150	29F551	x	.....
15	P	4.5	29F552	15	29F480	18	29F553	60	29F481	55	29F554	200	29F482	110	29F555	400	29F483	160	29F556	580	29F484
	NP	2.5	29F557	10	29F510	10	29F558	40	29F511	35	29F559	125	29F512	70	29F560	250	29F513	100	29F561	350	29F514
25	P	3	29F562	10	29F446	12	29F563	40	29F485	35	29F564	125	29F486	70	29F467	250	29F487	100	29F468	350	29F488
	NP	1.5	29F565	5	29F489	6	29F566	20	29F490	20	29F567	70	29F491	40	29F568	140	29F492	60	29F569	200	29F612
30	P	2.5	29F617	8	29F610	10	29F618	32	29F627	30	29F619	110	29F628	60	29F620	220	29F629	85	29F621	300	29F630
	NP	1.4	29F622	4.5	29F631	5.5	29F623	18	29F632	18	29F624	60	29F633	36	29F625	120	29F634	45	29F626	170	29F635
50	P	1.5	29F570	4.5	29F473	6	29F571	18	29F474	20	29F572	60	29F475	40	29F573	100	29F410	55	29F574	150	29F476
	NP	.8	29F575	2.5	29F493	3	29F576	10	29F494	10	29F577	30	29F495	20	29F578	60	29F496	30	29F579	80	29F497
75	P	1	29F580	3	29F498	4	29F581	12	29F499	14	29F582	30	29F500	28	29F583	70	29F501	40	29F584	100	29F502
	NP	.5	29F585	1.5	29F503	2	29F586	6	29F504	7	29F587	15	29F505	14	29F588	35	29F506	20	29F589	50	29F507
100	P	.8	29F590	2	29F515	3	29F591	8	29F472	10	29F592	25	29F516	20	29F593	50	29F517	30	29F594	70	29F518
	NP	.4	29F595	1	29F519	1.5	29F596	4	29F520	5	29F597	12	29F521	10	29F598	25	29F522	15	29F599	35	29F523
150	P	.5	29F600	1	29F469	2	29F413	4	29F447	7	29F601	13	29F477	14	29F602	25	29F478	20	29F603	36	29F479
	NP	.25	29F408	.5	29F524	1	29F401	2	29F470	3.5	29F604	6	29F525	7	29F605	12	29F526	10	29F606	18	29F527

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TANTALYTIC* AND PYRANOL* CAPACITORS

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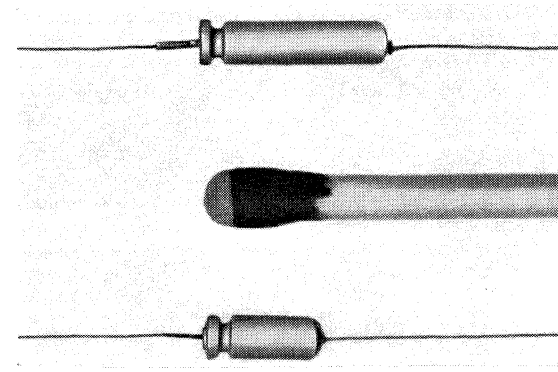
MICRO-MINIATURE TANTALYTIC CAPACITORS

Micro-miniature Tantalytic capacitors are designed for low-voltage d-c applications where long shelf life, electrical stability, and ultimate size reduction are of prime importance. Widely used in hearing aids and other subminiature assemblies employing transistors, micro-miniatures are rated as high as 4 volts, 8 μf in the $\frac{5}{16}$-inch case; higher ratings can be achieved in the $\frac{1}{2}$-inch case. Capacitance tolerance for all units is —0% +200%.

The micro-miniature employs a tantalum anode enclosed in a silver case and impregnated with a nonacid electrolyte. A synthetic plug is roll-crimped into the end of the case and a solderable tin-coated nickel lead is lap-welded to the projecting tantalum anode lead. This permits connection up to the bushing. The case itself is the cathode and is equipped with a tin-coated nickel lead soldered to the case. The unit is of the polarized type.

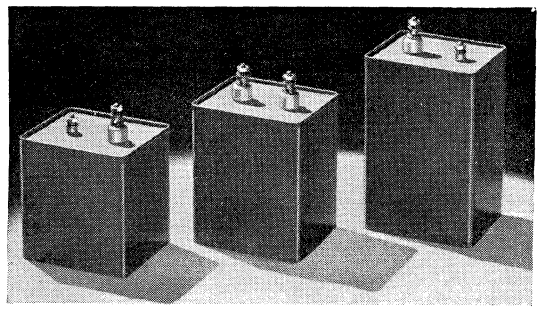
Write for Bulletin GEA-6065.



RATINGS AND DIMENSIONS

Volts	μf	Cat. No.	Color Code	Case Dimensions, Inches	
				A Length	B Diameter
4	2	29F822	Blue	9/32	.095
4	2	29F813	Blue	5/16	.130
4	4	29F821	Yellow	9/32	.095
4	4	29F812	Yellow	5/16	.130
4	8	29F811	Green	5/16	.130
8	1	29F823	Orange	9/32	.095
8	1	29F814	Orange	5/16	.130
16	.5	29F824	Brown	9/32	.095
16	.5	29F815	Brown	5/16	.130
20	.1	29F825	Red	9/32	.095
20	.1	29F817	Red	5/16	.130
20	.2	29F816	Gray	5/16	.130

ENERGY-STORAGE DISCHARGE CAPACITORS



G-E light-duty energy-storage capacitors are made in a wide range of ratings to fit practically every requirement of high-speed flash photography, as well as home and industrial welders for light metals. Careful construction, high-quality materials, and skillful design contribute to long life and efficient operation.

Write for Bulletin GEA-4646.

STANDARD RATINGS

Max. D-c volts	Capacitance, Microfarads	Max. D-c volts	Capacitance, Microfarads
2000	28	4000	50
		4000	100
2500	14	5000	25/50
		6000	55
3000	60	6000	25
3500	12.5		
4000	25/50		

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PYRANOL* CAPACITORS

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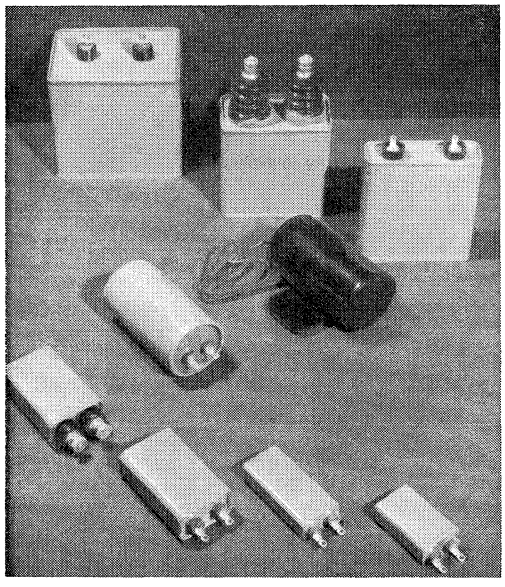
STANDARD COMMERCIAL TYPES

For A-c and D-c Applications — Fixed Paper-dielectric Capacitors



A-c/d-c dual-rated Pyranol capacitors for motors, controls, luminous-tube transformers, electronic equipments, and other applications will reduce inventories, simplify design problems, and increase standardization. Capacitors in the voltage ranges 236 through 660 volts, a-c, and 400 through 1500 volts, d-c, are now dual-rated and can be used for either a-c or d-c applications. Other a-c and d-c ratings available: 0.01 to 75 microfarads, 236 to 660 volts, a-c, and 400 to 100,000 volts, d-c.

Because of the high dielectric strength, high permittivity, and exceptional stability of Pyranol, its use as a treating material has made possible a capacitor which is much smaller in size, and far superior to those formerly available.

Design Advantages

(1) Units are small and compact, because of the use of Pyranol.

(2) A wide range of ratings is available in rectangular, cylindrical, and oval cases.

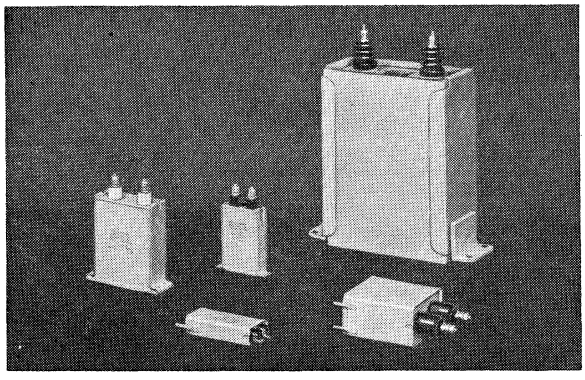
(3) Three styles of mounting brackets are available and are supplied separate from the units. Units may be operated in any position.

Write to the nearest G-E Apparatus Sales Office for Bulletin GEC-809.

STANDARD RATING RANGE

Rated Voltage 60 Cycles		Capacitance Ratings — Microfarads			
A-c	D-c	Case Style 60	Case Style 70	Fabricated Rectangular	Cylindrical Motor Line
236	400	2	4-16	—	—
330	—	—	—	1-50	1.2-12
330	600	0.25-1	1-50	—	—
440	—	—	—	28	—
440	1000	0.1-0.5	1-15	—	—
660	—	—	—	2-6	—
660	1500	0.01-0.05	1-15	—	—
—	2000-100,000	—	0.05-75	—	—

Case Style 70



Case Style 70 units with various types of terminals and removable mounting brackets

These Pyranol fixed paper-dielectric capacitors in Case Style 70 are hermetically sealed in rectangular cases. This line includes standard ratings, ranging from very small units weighing only three ounces to large high-voltage units weighing up to 175 pounds.

All are of single-capacity construction, with a capacitance tolerance of ±10 per cent. Cases are isolated and the two bushings are brought out through the cover. Units in 600-, 1000-, and 1500-volt ratings are available with either solder-lug terminals or with pillar-insulator terminals. All higher-voltage ratings have pillar-insulator terminals. These units may be operated in altitudes up to 7500 feet.

Up to 600 volts d-c, bushings with solder-lug terminals are made of G-E silicone; above this rating, they are of phenolic-cup construction. Bushings with pillar-

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PYRANOL* CAPACITORS

*Registered trade-mark of General Electric Co.

Case Style 70 (Cont.)

insulator terminals are made of molded phenolic or porcelain of the highest quality. All bushings are thoroughly bonded to the container to provide a permanent liquid-tight seal.

All units can be supplied with removable mounting brackets. Both spade-lug and L-type are available. Brackets can be attached to either the top or the bottom of the units to permit upright or inverted mounting.

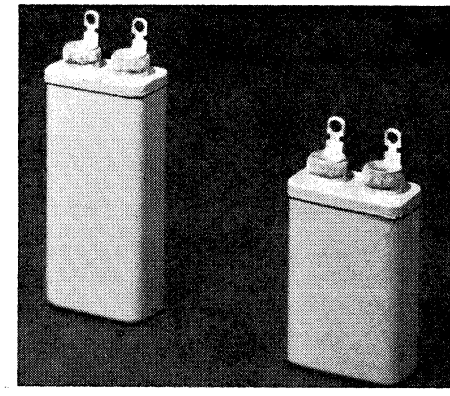
Write to the nearest G-E Apparatus Sales Office for Bulletin GEC-809.

STANDARD RATINGS

Nominal Direct Voltage Rating	Capacitance Ratings, Microfarads
2000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0
2500	0.50, 1.0, 2.0 4.0, 10.0, 20.0, 25.0, 55.0, 75.0
3000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 8.0, 12.0, 20.0, 45.0, 60.0
4000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 7.0, 13.0, 20.0, 30.0
5000	0.05, 0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 14.0, 18.0
6000	0.10, 1.0, 2.0, 4.0, 5.0, 10.0, 14.0
7500	0.10, 0.25, 0.50, 1.0, 2.0, 3.0, 7.0, 9.0
10,000	0.10, 0.25, 0.50, 1.0, 1.5, 2.0, 3.5, 5.0
12,500	0.05, 0.10, 0.25, 0.50, 0.75, 1.0, 1.2, 2.5, 3.3
15,000	0.25, 0.50, 0.75, 0.90, 1.75, 2.25
20,000	0.15, 0.25, 0.50, 1.0, 1.25, 3.0
25,000	0.10, 0.25, 0.60, 1.0
30,000	0.25, 0.5, 0.75
40,000	0.10, 0.20, 0.25, 0.35
50,000	0.17, 0.25
75,000*	0.25
100,000*	0.125

*Mid-point connected to case.

Case Style 60



These small rectangular-case fixed-paper-dielectric units are of narrower width than the "bathtub" units, and will fit into a very restricted panel surface, where case height is not the limiting dimension. Removable-type mounting lugs are of very sturdy construction.

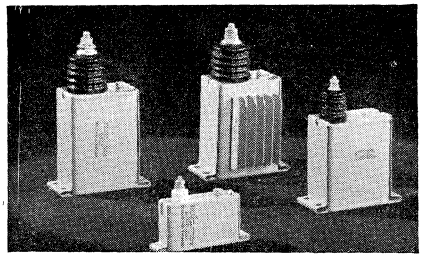
These units have solder-lug terminals, and are available in either single- or dual-section construction for all circuit diagrams.

The metallic containers are hermetically sealed, and of deep-drawn construction.

Case Style 60 units have no brackets, but removable brackets of either the footed or spade-lug type can be supplied.

NOTE: Case styles 50, 60, and 70 capacitors are also available to MIL-C-25A Specification.

CAPACITORS FOR OSCILLATOR TANK CIRCUITS



This line of fixed paper-dielectric capacitors has been developed primarily for grid and plate blocking service in the electronic oscillator circuits of high-frequency induction-heating equipments. They can also be used to advantage in other high-frequency oscillator circuits of a similar nature.

G-E high-voltage paper-dielectric capacitors are of relatively high capacitance (0.01 μf) for high-frequency units, yet they are more economical than conventional high-frequency units of considerably smaller capacitance values. They can, therefore, be applied with savings in cost as well as reduced losses and lower voltage drop across the capacitor.

features

- Hermetically sealed in metallic cases.
- Single-bushing construction for minimum size.
- Removable mounting brackets.
- Internal lead connections arranged for minimum inductance.

STANDARD RATINGS

D-c Voltage Rating	Microfarad Rating
5000	0.01
15,000	0.01
20,000	0.01
20,000*	0.01

* With cooling fins for higher current-carrying capacity.
Capacitance tolerance ±10%.

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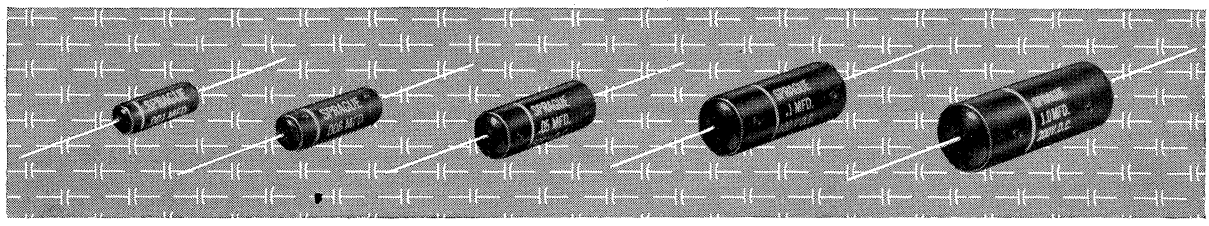
SPRAGUE CAPACITORS

BLACK BEAUTY® TELECAP® MOLDED TUBULARS



- Premium Quality at No Extra Cost
- Ideally Suited for High Humidity and High Temperature Operation
- Extremely High Insulation Resistance
- Excellent Retrace Characteristics and Capacitance Stability
- Withstand Severe Heat, Moisture, and Shock
- Housed in Tough Mineral-filled Phenolic
- Non-flammable Case for Greater Protection
- 200 volt thru 1000 volt Units Will Operate at 105°C (221°F)
- 1600 volt thru 12,500 volt Units Will Operate at 85°C (185°F)

μF	D. x L.	Cat. No.	List
200 WVDC			
.02	3/8 x 1 1/4	2TM-S2	$.25
.022	3/8 x 1 1/4	2TM-S22	.25
.047	3/8 x 1 1/4	2TM-S47	.25
.05	3/8 x 1 1/4	2TM-S5	.25
.1	7/16 x 1 1/4	2TM-P1	.35
.15	1/2 x 1 1/2	2TM-P15	.35
.22	5/8 x 1 7/8	2TM-P22	.40
.25	5/8 x 1 7/8	2TM-P25	.40
.47	5/8 x 1 7/8	2TM-P47	.60
.5	5/8 x 1 7/8	2TM-P5	.60
1.0	3/4 x 2 1/4	2TM-M1	.90
400 WVDC			
.01	5/16 x 1	4TM-S1	.25
.015	3/8 x 1 1/4	4TM-S15	.25
.02	3/8 x 1 1/4	4TM-S2	.25
.022	3/8 x 1 1/4	4TM-S22	.25
.025	3/8 x 1 1/4	4TM-S25	.30
.03	3/8 x 1 1/4	4TM-S3	.30
.04	7/16 x 1 1/4	4TM-S4	.30
.047	7/16 x 1 1/4	4TM-S47	.30
.05	7/16 x 1 1/4	4TM-S5	.30
.068	1/2 x 1 1/2	4TM-S68	35
.1	1/2 x 1 1/2	4TM-P1	.35
.15	5/8 x 1 7/8	4TM-P15	.35
.2	5/8 x 1 7/8	4TM-P2	.40
.22	5/8 x 1 7/8	4TM-P22	.40
.25	5/8 x 1 7/8	4TM-P25	.40
.47	3/4 x 2 1/4	4TM-P47	.60
.5	3/4 x 2 1/4	4TM-P5	.60
600 WVDC			
.0001	5/16 x 1	6TM-T1	.25
.00025	5/16 x 1	6TM-T25	.25
.0004	5/16 x 1	6TM-T4	.25
.0005	5/16 x 1	6TM-T5	.25
.001	5/16 x 1	6TM-D1	.25
.0015	5/16 x 1	6TM-D15	.25
.002	5/16 x 1	6TM-D2	.25
.0022	5/16 x 1	6TM-D22	$.25
.0025	5/16 x 1	6TM-D25	.25
.003	5/16 x 1	6TM-D3	.25
.0033	5/16 x 1	6TM-D33	.25
.004	5/16 x 1	6TM-D4	.25
.0047	5/16 x 1	6TM-D47	.25
.005	3/8 x 1 1/4	6TM-D5	.25
.006	3/8 x 1 1/4	6TM-D6	.25
.0068	3/8 x 1 1/4	6TM-D68	.30
.008	3/8 x 1 1/4	6TM-D8	.30
.01	3/8 x 1 1/4	6TM-S1	.30
.015	3/8 x 1 1/4	6TM-S15	.30
.02	7/16 x 1 1/4	6TM-S2	.30
.022	7/16 x 1 1/4	6TM-S22	.30
.03	7/16 x 1 1/4	6TM-S3	.35
.033	1/2 x 1 1/2	6TM-S33	.35
.035	1/2 x 1 1/2	6TM-S35	.35
.04	1/2 x 1 1/2	6TM-S4	.35
.047	1/2 x 1 1/2	6TM-S47	.40
.05	1/2 x 1 1/2	6TM-S5	.40
.06	5/8 x 1 7/8	6TM-S6	.40
.068	5/8 x 1 7/8	6TM-S68	.45
.1	5/8 x 1 7/8	6TM-P1	.45
.15	3/4 x 2 1/4	6TM-P15	.50
.2	3/4 x 2 1/4	6TM-P2	.55
.22	3/4 x 2 1/4	6TM-P22	.55
.25	3/4 x 2 1/4	6TM-P25	.55
.5	1 x 2 3/8	6TM-P5	.80
1.0	1 x 2 5/8	*TC-10	1.25
1000 WVDC			
.0005	5/16 x 1	10TM-T5	.50
.001	5/16 x 1	10TM-D1	.50
.0015	5/16 x 1	10TM-D15	.50
.002	5/16 x 1	10TM-D2	.50
.0022	5/16 x 1	10TM-D22	.50
.003	3/8 x 1 1/4	10TM-D3	.50
.004	3/8 x 1 1/4	10TM-D4	.50
.0047	3/8 x 1 1/4	10TM-D47	.50
.005	3/8 x 1 1/4	10TM-D5	.50
.0068	3/8 x 1 1/4	10TM-D68	.50
.01	3/8 x 1 1/4	10TM-S1	.50
.015	7/16 x 1 1/4	10TM-S15	.50
.02	1/2 x 1 1/2	10TM-S2	.50
.022	1/2 x 1 1/2	10TM-S22	$.50
.03	1/2 x 1 1/2	10TM-S3	.50
.035	1/2 x 1 1/2	10TM-S35	.50
.047	5/8 x 1 7/8	10TM-S47	.60
.05	5/8 x 1 7/8	10TM-S5	.60
.068	5/8 x 1 7/8	10TM-S68	.65
.1	3/4 x 2 1/4	10TM-P1	.75
★ 1600 WVDC			
.0005	3/8 x 1 1/4	MB-T5	.65
.001	3/8 x 1 1/4	MB-D1	.65
.0015	3/8 x 1 1/4	MB-D15	.65
.002	3/8 x 1 1/4	MB-D2	.65
.0022	3/8 x 1 1/4	MB-D22	.65
.003	7/16 x 1 1/4	MB-D3	.65
.0033	7/16 x 1 1/4	MB-D33	.65
.004	7/16 x 1 1/4	MB-D4	.65
.0047	7/16 x 1 1/4	MB-D47	.65
.005	7/16 x 1 1/4	MB-D5	.65
.006	1/2 x 1 1/2	MB-D6	.65
.0068	1/2 x 1 1/2	MB-D68	.65
.007	1/2 x 1 1/2	MB-D7	.65
.0075	7/16 x 1 1/4	MB-D75	.65
.008	1/2 x 1 1/2	MB-D8	.65
.01	1/2 x 1 1/2	MB-S1	.70
.015	5/8 x 1 7/8	MB-S15	.70
.02	5/8 x 1 7/8	MB-S2	.70
.022	5/8 x 1 7/8	MB-S22	.70
.03	5/8 x 1 7/8	MB-S3	.70
.04	5/8 x 1 7/8	MB-S4	.70
.05	3/4 x 2 1/8	*TR-15	.70
2 x .015	3/4 x 2	*TR-215	.80
6000 WVDC			
.0005	1/2 x 1 1/2	TVM-356	1.35
.001	1/2 x 1 1/2	TVM-216	1.35
.005	5/8 x 1 7/8	TVM-256	1.35
10,000 WVDC			
.0005	5/8 x 1 7/8	TVM-351	1.50
12,500 WVDC			
.00025	5/8 x 1 7/8	12TVM-325	1.70

*Supplied in waxed cardboard units pending completion of molds.

★ DESIGNED FOR BUFFER APPLICATIONS

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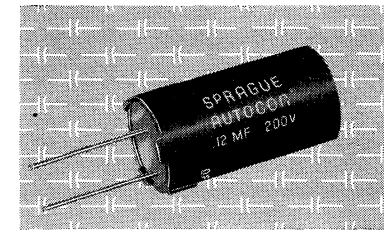
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

AUTOCON* MOLDED TUBULAR CAPACITORS

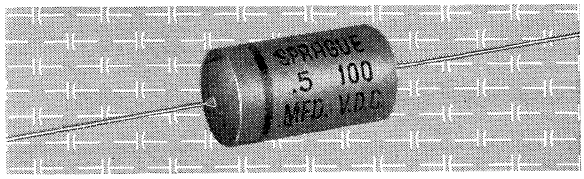
- Generous 1" Lead Lengths make Autocons Universal Replacements for All Single-Ended Original Equipment Types.
- Impregnated with HCX, an Exclusive New Solid Dielectric Material.
- High Insulation Resistance, Low Power Factor.
- Extremely Flat Temperature-Capacitance Curve.
- Premolded Thermosetting Plastic Shell with Plastic Resin Endseal for Protection Against Humidity.
- Index Key on Shell Identifies Outside Foil Lead.
- "Standoff" Feet Prevent Dust and Moisture Traps. Also Prevent Printed Chassis Wiring Shorts.

*trademark



μF	WVDC	Diam. x Length	Cat. No.	List
.001	200	3/8 x 1	2SE-D10	$.30
.0015	200	3/8 x 1	2SE-D15	.30
.0022	200	3/8 x 1	2SE-D22	.30
.0033	200	3/8 x 1	2SE-D33	.30
.0047	200	3/8 x 1	2SE-D47	.30
.0068	200	3/8 x 1	2SE-D68	.30
.01	200	3/8 x 1	2SE-S10	.30
.015	200	3/8 x 1	2SE-S15	.30
.022	200	3/8 x 1 3/8	2SE-S22	.35
.033	200	3/8 x 1 3/8	2SE-S33	.35
.047	200	7/16 x 1 3/8	2SE-S47	.35
.068	200	7/16 x 1 3/8	2SE-S68	.35
.1	200	1/2 x 1 1/2	2SE-P10	.40
.15	200	5/8 x 1 1/4	2SE-P15	.45
.22	200	5/8 x 1 7/8	2SE-P22	.50
.33	200	5/8 x 1 7/8	2SE-P33	.55
.47	200	3/4 x 1 7/8	2SE-P47	.65
.001	400	3/8 x 1	4SE-D10	.30
.0015	400	3/8 x 1	4SE-D15	.30
.0022	400	3/8 x 1	4SE-D22	.30
.0033	400	3/8 x 1	4SE-D33	.30
.0047	400	3/8 x 1	4SE-D47	.30
.0068	400	3/8 x 1	4SE-D68	.30
.01	400	3/8 x 1	4SE-S10	.30
.015	400	3/8 x 1 3/8	4SE-S15	$.30
.022	400	7/16 x 1 3/8	4SE-S22	.35
.033	400	7/16 x 1 3/8	4SE-S33	.35
.047	400	1/2 x 1 1/4	4SE-S47	.35
.068	400	1/2 x 1 1/2	4SE-S68	.40
.1	400	5/8 x 1 1/4	4SE-P10	.45
.15	400	5/8 x 1 7/8	4SE-P15	.50
.22	400	5/8 x 1 7/8	4SE-P22	.55
.33	400	3/4 x 1 7/8	4SE-P33	.65
.001	600	3/8 x 1	6SE-D10	.30
.0015	600	3/8 x 1	6SE-D15	.30
.0022	600	3/8 x 1	6SE-D22	.30
.0033	600	3/8 x 1	6SE-D33	.30
.0047	600	3/8 x 1	6SE-D47	.30
.0068	600	3/8 x 1 3/8	6SE-D68	.30
.01	600	3/8 x 1 3/8	6SE-S10	.35
.015	600	7/16 x 1 3/8	6SE-S15	.35
.022	600	7/16 x 1 3/8	6SE-S22	.40
.033	600	1/2 x 1 1/4	6SE-S33	.40
.047	600	1/2 x 1 1/2	6SE-S47	.45
.068	600	5/8 x 1 7/8	6SE-S68	.50
.1	600	5/8 x 1 7/8	6SE-P10	.55
.15	600	3/4 x 1 7/8	6SE-P15	.60

68P MIDGET® TUBULARS



- Amazingly Small in Size Without Any Sacrifice in
- Performance — The Smallest Reliable Paper Tubular Capacitor
- Will Fit Tight Spots in Pocket Radios, Auto Radios and Other Small Electronic Assemblies that Require High Temperature Operation, Good Humidity Performance, and Minimum Size at Moderate Cost
- Designed for 85°C (185°F) Operation

μF	WVDC	Diam. x Length	Cat. No.	List
.25	100	15/32 x 1 1/8	68P19	$.70
.5	100	5/8 x 1 1/8	68P20	.80
.005	200	1/4 x 11/16	68P11	.35
.006	200	1/4 x 11/16	68P12	.35
.01	200	9/32 x 11/16	68P14	.40
.02	200	9/32 x 13/16	68P15	.45
.05	200	5/16 x 1	68P16	.50
.1	200	13/32 x 1	68P17	.60
.2	200	15/32 x 1 1/8	68P18	.65
.25	200	17/32 x 1 1/8	68P24	.70
.5	200	5/8 x 1 3/8	68P25	.80
.001	400	1/4 x 11/16	68P1	.35
.003	400	1/4 x 11/16	68P3	.35
.004	400	1/4 x 11/16	68P4	.35
.005	400	1/4 x 13/16	68P5	.35
.006	400	1/4 x 13/16	68P6	.35
.01	400	5/16 x 13/16	68P8	.40
.02	400	5/16 x 1	68P9	.45
.05	400	13/32 x 1	68P10	$.50
.1	400	15/32 x 1 1/8	68P21	.65
.2	400	5/8 x 1 1/8	68P38	.70
.25	400	5/8 x 1 3/8	68P22	.75
.5	400	5/8 x 2 5/16	68P23	.85
.001	600	1/4 x 11/16	68P26	.35
.002	600	1/4 x 11/16	68P27	.35
.003	600	9/32 x 11/16	68P28	.35
.004	600	9/32 x 13/16	68P29	.35
.005	600	9/32 x 13/16	68P30	.40
.006	600	5/16 x 13/16	68P31	.40
.008	600	5/16 x 1	68P32	.40
.01	600	5/16 x 1	68P33	.45
.02	600	11/32 x 1	68P34	.50
.05	600	15/32 x 1 1/8	68P35	.55
.1	600	5/8 x 1 1/8	68P36	.70
.2	600	5/8 x 1 11/16	68P40	.80
.25	600	5/8 x 2	68P37	.80

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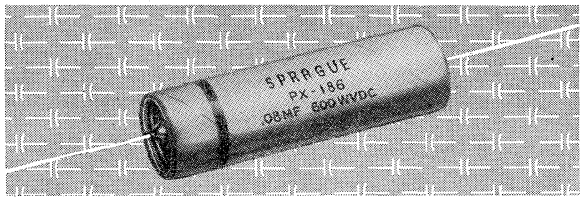
SPRAGUE CAPACITORS

PX METAL-ENCASED TUBULARS



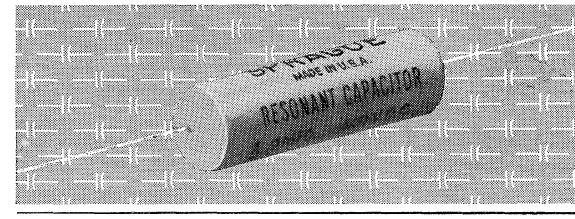
- Rubber-Phenolic Compression Disc Seals Assure Positive Hermetic Closure
- Oil-Filled and Oil-Impregnated for Greater Dielectric Strength at Higher Temperatures
- Furnished with Insulating Kraftboard Outer Sleeve

µF	Diam. x Length	Cat. No.	List
600 WVDC			
.0001	½ x 1¼	PX-316	$ .95
.00025	½ x 1¼	PX-3256	.95
.0005	½ x 1¼	PX-356	.95
.001	½ x 1¼	PX-216	.95
.002	½ x 1¼	PX-226	.95
.003	½ x 1¼	PX-236	.95
.004	½ x 1¼	PX-246	.95
.005	½ x 1¼	PX-256	.95
.006	½ x 1¼	PX-266	.95
.007	½ x 1¼	PX-276	.95
.008	½ x 1¼	PX-286	.95
.009	½ x 1¼	PX-296	.95
.01	½ x 1¼	PX-116	.95
.02	½ x 1¾	PX-126	1.05
.03	⅝ x 1⅝	PX-136	1.10
.04	⅝ x 1⅝	PX-146	1.10
.05	⅝ x 1⅝	PX-156	1.10
.06	11/16 x 1⅝	PX-166	1.20
.08	11/16 x 1⅞	PX-186	1.20
.1	11/16 x 1⅞	PX-16	$1.25
.25	13/16 x 2 13/16	PX-26	1.70
.5	1 1/16 x 2 13/16	PX-56	2.20
1.0	1 1/16 x 3 11/16	PX-106	3.00
1000 WVDC			
.0001	1 1/16 x 1¼	PX-311	1.10
.00025	1 1/16 x 1¼	PX-3251	1.10
.0005	1 1/16 x 1¼	PX-351	1.10
.001	1 1/16 x 1¼	PX-211	1.10
.002	1 1/16 x 1¼	PX-221	1.10
.003	1 1/16 x 1¼	PX-231	1.10
.004	1 1/16 x 1¼	PX-241	1.10
.005	1 1/16 x 1¼	PX-251	1.10
.006	1 1/16 x 1¼	PX-261	1.10
.007	1 1/16 x 1¼	PX-271	1.10
.008	1 1/16 x 1¼	PX-281	1.10
.009	1 1/16 x 1¼	PX-291	1.10
.01	1 1/16 x 1¼	PX-111	1.10
.02	⅝ x 1⅝	PX-121	1.20
.03	1 1/16 x 1¾	PX-131	1.20
.04	1 1/16 x 1¾	PX-141	1.20
.05	1 1/16 x 1¾	PX-151	1.30
.06	1 1/16 x 2	PX-161	$1.35
.08	1 1/16 x 2	PX-181	1.40
.1	1 1/16 x 2	PX-11	1.50
.25	1 1/16 x 2 13/16	PX-21	2.00
.5	1 1/16 x 3 11/16	PX-51	2.85
1500 WVDC			
.002	⅝ x 1¼	PX-2215	1.20
.005	⅝ x 1¼	PX-2515	1.20
.01	1 1/16 x 1⅝	PX-1115	1.20
.02	1 1/16 x 1⅝	PX-1215	1.30
2000 WVDC			
.0005	1 3/16 x 1⅜	PX-352	1.25
.001	1 3/16 x 1⅜	PX-212	1.25
.005	1 3/16 x 1¾	PX-252	1.25
.006	1 3/16 x 1¾	PX-262	1.25
.0075	1 3/16 x 1¾	PX-2752	1.25
.01	1 3/16 x 1¾	PX-112	1.25
.02	1 3/16 x 2⅛	PX-122	1.35
.03	1 3/16 x 2⅛	PX-132	1.40
.04	1 3/16 x 2½	PX-142	1.40
.05	1 3/16 x 2½	PX-152	1.45

72P RESONANT CAPACITORS

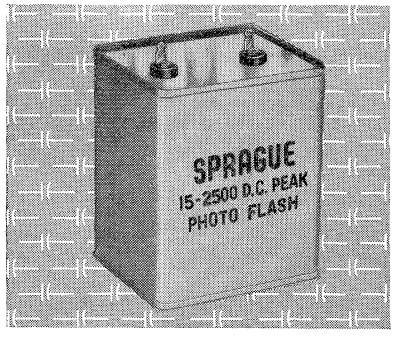
PEP UP OLD RADIO SETS!

- Stabilize Any AC-DC "Squealer" Receiver
- Stop Self-oscillation, Permitting "On-the-nose" Alignment in a Jiffy
- Very Low Impedance at 465 KC Intermediate Frequency
- By-pass Unwanted I-F Signals
- Improve Set Performance



µF	WVDC	Dia. x Length	Cat. No.	List
.05	400	½ x 1⅛	72P51	$.50
.1	400	½ x 1⅝	72P52	.65
.2	400	9/16 x 1⅞	72P53	.70

PQ PHOTOFLASH CAPACITORS



DESIGNED EXPRESSLY FOR PHOTOFLASH USE—NOT COMPARABLE TO STANDARD HEAVY-DUTY CAPACITORS SUCH AS THE CR TRANSMITTING TYPES

- Oil-Impregnated, Oil Filled
- Hermetically Sealed
- Uniform Energy Storage
- High Insulation Resistance
- Smallest Possible Construction with Maximum Dependability

µF	DC Peak* Volts	Watt/Sec. Total	Dimensions T. x W. x H.	Weight lbs.	Cat. No.	List Price
10	2500	31	2¼ x 3¾ x 4½	1¾	PQ-2510	$17.00
15	2500	47	3 3/16 x 3¾ x 4⅝	2½	PQ-2515	20.00
25	2500	78	4 3/16 x 3¾ x 5¼	4¼	PQ-2525	26.50
35	2500	109	4 3/16 x 3¾ x 7	6	PQ-2535	32.50
15	3000	67	3 3/16 x 3¾ x 4⅞	3	PQ-315	24.50
25	4000	200	4 3/16 x 3¾ x 9¼	7¼	PQ-425	42.50

*Do not exceed Peak Voltage Rating under highest line voltage condition.

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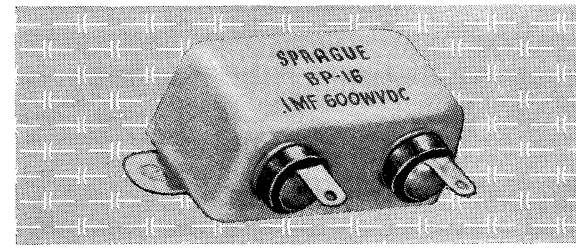
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

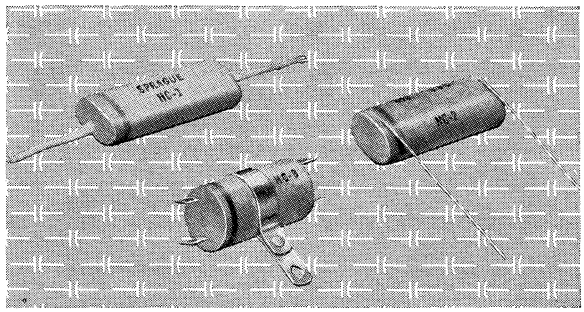
BP BATHTUB CAPACITORS

- For Applications Where Severe Operating Conditions Are Encountered
- Hermetically Sealed for Extra Protection
- Seamless Drawn Metal Can
- Oil-Filled and Oil-impregnated
- Convenient Mounting Ears are Integral Part of Metal Container



μF	L. x W. x H.	Cat. No.	List
400 WVDC			
.1	1 13/16 x 1 x 3/4	BP-1	$2.20
.25	1 13/16 x 1 x 3/4	BP-25	2.50
.5	1 13/16 x 1 x 7/8	BP-50	2.65
1.0	2 x 1 3/4 x 7/8	BP-10	3.15
.1 + .1	1 13/16 x 1 x 3/4	BP-21	3.30
.25 + .25	1 13/16 x 1 x 7/8	BP-225	3.60
.5 + .5	2 x 1 3/4 x 7/8	BP-250	4.15
.1 + .1 + .1	1 13/16 x 1 x 3/4	BP-31	4.00
600 WVDC			
.05	1 13/16 x 1 x 3/4	BP-56	2.90
.1	1 13/16 x 1 x 3/4	BP-16	2.95
.25	1 13/16 x 1 x 3/4	BP-256	3.10
.5	1 13/16 x 1 x 7/8	BP-506	3.30
1.0	2 x 1 3/4 x 7/8	BP-106	3.75
2.0	2 x 2 x 1 1/8	BP-206	5.00
.05 + .05	1 13/16 x 1 x 3/4	BP-2056	3.65
.1 + .1	1 13/16 x 1 x 3/4	BP-216	$3.70
.25 + .25	1 13/16 x 1 x 7/8	BP-2256	3.75
.5 + .5	2 x 1 3/4 x 7/8	BP-2506	4.30
1.0 + 1.0	2 x 2 x 1 1/8	BP-116	5.30
.1 + .1 + .1	1 13/16 x 1 x 3/4	BP-316	4.20
.25 + .25 + .25	2 x 1 3/4 x 7/8	BP-3256	4.75
.5 + .5 + .5	2 x 2 x 1 1/8	BP-356	5.75
1000 WVDC			
.05	1 13/16 x 1 x 3/4	BP-51	3.05
.1	1 13/16 x 1 x 3/4	BP-11	3.15
.25	1 13/16 x 1 x 3/4	BP-251	3.25
.5	2 x 1 3/4 x 7/8	BP-501	3.55
1.0	2 x 2 x 1 1/8	BP-101	4.40
.05 + .05	1 13/16 x 1 x 3/4	BP-2051	3.85
.1 + .1	1 13/16 x 1 x 3/4	BP-211	4.00
.25 + .25	2 x 1 3/4 x 7/8	BP-2251	4.20
.5 + .5	2 x 2 x 1 1/8	BP-2501	5.45
.1 + .1 + .1	1 13/16 x 1 x 7/8	BP-311	4.60
.25 + .25 + .25	2 x 2 x 1 1/8	BP-3251	5.50

HC HASH CAPACITORS



FOR AUTOMOBILE RADIOS

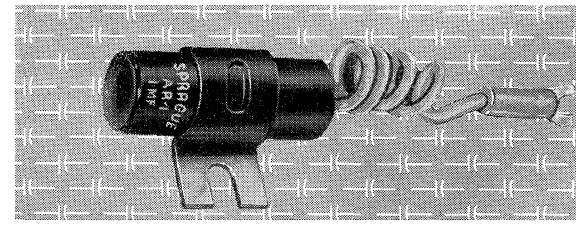
- HC-1—Braided Leads for Low R-F Resistance
- HC-2—Has Radial Side Leads
- HC-3—Has Flat Strap Leads for Minimum R-F Impedance

μF	WVDC	Size	Cat. No.	List
.5	120	7/16 x 3/4 x 2 (oval tube)	HC-1	$ .90
.5	120	5/16 x 3/4 x 2 (oval tube)	HC-2	.90
.5	120	3/4 x 1 3/8 (round tube)	HC-3	1.10

AR AUTO GENERATOR TYPES

- Exceptionally Sturdy Design
- Withstand Bouncing and Vibration
- Oil-impregnated, Metal Encased
- Resist Heat and Humidity

μF	Size	Cat. No.	List
1.0	1 x 2 3/16	AR-1	$1.75
.5	11/16 x 1 1/8	AR-2	.90
.5+.5	1 x 2 3/16	AR-25	3.25
.5	11/16 x 1 7/8	AR-Ford	1.45



SPECIAL AUTO TYPES

Description	Cat. No.	μF	WVDC	D. x L.	List
Ford Replacement	P-2077	.5	200	11/16x1 7/8	$1.25
Motorola Replacement	P-2153	2x.0008	1000	3/4x1 3/8	.80

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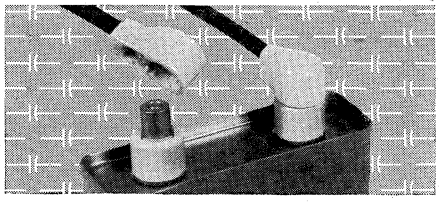
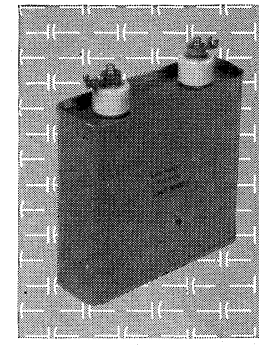
SPRAGUE CAPACITORS

CR RECTANGULAR OILS

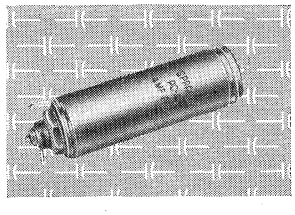


- Hermetically Sealed in Rugged Rectangular Metal Cans
- Oil-Impregnated and Oil-Filled
- Extremely High Insulation Resistance
- Will Withstand High Surge Voltages and High Ambient Temperatures
- Furnished With Adapters (as shown above) to Fit Standard Transmitting Tube Grid Caps
- Wrap-around Footed Clamp Furnished with Each Unit



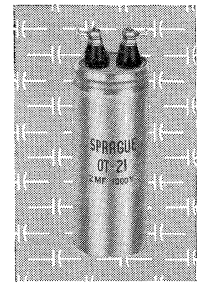
μF	WVDC	T. x W. x L.	Cat. No.	List
.5	600	1 1/16 x 1 13/16 x 2 1/4	CR-056	$4.70
1.0	600	1 1/16 x 1 13/16 x 2 1/4	CR-16	5.80
2.0	600	1 1/16 x 1 13/16 x 2 7/8	CR-26	7.15
3.0	600	1 1/16 x 1 13/16 x 3 1/4	CR-36	8.25
4.0	600	1 3/16 x 2 1/2 x 3 1/2	CR-46	9.10
6.0	600	1 3/16 x 2 1/2 x 4 3/4	CR-66	11.30
8.0	600	1 1/4 x 3 3/4 x 3 7/8	CR-86	13.50
10.0	600	1 1/4 x 3 3/4 x 4 3/4	CR-106	15.15
.1	1000	1 1/16 x 1 13/16 x 1 5/8	CR-011	4.15
.25	1000	1 1/16 x 1 13/16 x 2 1/4	CR-0251	4.70
.5	1000	1 1/16 x 1 13/16 x 2 1/4	CR-051	4.95
1.0	1000	1 1/16 x 1 13/16 x 2 1/4	CR-11	6.35
2.0	1000	1 1/16 x 1 13/16 x 3 7/8	CR-21	8.25
4.0	1000	1 3/16 x 2 1/2 x 4 3/4	CR-41	10.45
8.0	1000	1 1/4 x 3 3/4 x 4 3/4	CR-81	15.15
10.0	1000	1 3/4 x 3 3/4 x 4 3/4	CR-101	16.80
12.0	1000	2 1/4 x 3 3/4 x 4 1/2	CR-121	18.15
15.0	1000	2 1/2 x 3 3/4 x 4 3/4	CR-151	20.10
.5	1500	1 1/16 x 1 13/16 x 2 7/8	CR-0515	6.35
1.0	1500	1 1/16 x 1 13/16 x 3 7/8	CR-115	7.45
2.0	1500	1 3/16 x 2 1/2 x 4 1/4	CR-215	10.20
4.0	1500	1 1/4 x 3 3/4 x 4 3/4	CR-415	14.05
5.0	1500	1 1/4 x 3 3/4 x 4 3/4	CR-515	15.15
8.0	1500	2 1/2 x 3 3/4 x 4 3/4	CR-815	20.90
10.0	1500	3 3/16 x 3 3/4 x 4 3/4	CR-1015	25.05
.1	2000	1 3/16 x 2 1/2 x 2 1/2	CR-012	6.60
.25	2000	1 3/16 x 2 1/2 x 2 1/2	CR-0252	7.15
.5	2000	1 3/16 x 2 1/2 x 2 7/8	CR-052	7.45
1.0	2000	1 3/16 x 2 1/2 x 3 1/2	CR-12	9.10
2.0	2000	1 1/4 x 3 3/4 x 4 1/4	CR-22	10.75
3.0	2000	1 1/4 x 3 3/4 x 4 3/4	CR-32	$13.20
4.0	2000	2 1/4 x 3 3/4 x 3 7/8	CR-42	15.15
6.0	2000	3 3/16 x 3 3/4 x 4 1/2	CR-62	20.10
10.0	2000	4 5/16 x 3 3/4 x 4 3/4	CR-102	30.55
.1	2500	1 3/16 x 2 1/2 x 2 1/2	CR-0125	10.15
.5	2500	1 1/4 x 3 3/4 x 3 1/4	CR-0525	11.55
1.0	2500	1 3/4 x 3 3/4 x 3 1/4	CR-125	13.20
2.0	2500	1 3/4 x 3 3/4 x 4 3/4	CR-225	21.45
4.0	2500	4 5/16 x 3 3/4 x 4 3/8	CR-425	30.00
.1	3000	1 3/16 x 2 1/2 x 2 1/2	CR-013	14.05
.25	3000	1 3/16 x 2 1/2 x 2 7/8	CR-0253	14.85
.5	3000	1 3/16 x 2 1/2 x 4 1/4	CR-053	16.80
1.0	3000	2 1/4 x 3 3/4 x 3 7/8	CR-13	20.10
2.0	3000	3 3/16 x 3 3/4 x 4 1/2	CR-23	25.05
4.0	3000	4 5/16 x 3 3/4 x 4 3/4	CR-43	36.85
.1	4000	2 1/4 x 3 3/4 x 2 3/4	CR-014	18.00
.25	4000	2 1/4 x 3 3/4 x 2 3/4	CR-0254	20.00
.5	4000	2 1/4 x 3 3/4 x 3 7/8	CR-054	23.00
1.0	4000	2 1/4 x 3 3/4 x 5 1/8	CR-14	29.00
2.0	4000	4 5/16 x 3 3/4 x 5 1/8	CR-24	39.00
.2	5000	1 3/4 x 3 3/4 x 3 7/8	CR-025	20.00
.5	5000	2 1/4 x 3 3/4 x 4 1/2	CR-055	25.00
1.0	5000	4 5/16 x 3 3/4 x 4 3/8	CR-15	34.00
2.0	5000	4 5/16 x 3 3/4 x 6	CR-25	52.00
.1	6000	2 1/4 x 3 3/4 x 3 3/8	CR-0160	27.00
.2	6000	1 3/4 x 3 3/4 x 4 1/4	CR-0260	30.00
1.0	6000	4 5/16 x 3 3/4 x 7 1/2	CR-160	49.00
.1	7500	2 1/4 x 3 3/4 x 3 7/8	CR-0175	29.00
.2	7500	1 3/4 x 3 3/4 x 4 3/4	CR-0275	33.00

PC SCREWBASE OILS



- Oil-Impregnated
- Oil-Filled
- Screwbase Can For Easy Single Hole Mounting
- Small Size—Will Fit Tight Spaces

μF	WVDC	Dia.xLength	Cat. No.	List
2	600	1 1/2 x 2 7/8	PC-26	$5.40
3	600	1 1/2 x 3 1/2	PC-36	6.15
4	600	1 1/2 x 4 1/2	PC-46	7.10
1	1000	1 1/2 x 2 7/8	PC-11	5.00
2	1000	1 1/2 x 4 1/2	PC-21	6.30
0.5	1500	1 1/2 x 2 3/8	PC-515	5.85
1	1500	1 1/2 x 3 7/8	PC-115	6.30



CYLINDRICAL OT OILS

- Oil-Impregnated, Oil-Filled
- Hermetically Sealed
- Ceramic Terminals
- Furnished with Terminal Adapters As Shown Above

μF	WVDC	Dia.xLength	Cat. No.	List
2	600	2 x 2 15/32	OT-26	$5.45
1	1000	2 x 2 15/32	OT-11	4.65
2	1000	2 x 3 3/32	OT-21	6.30
4	1000	2 x 5 3/32	OT-41	8.00
0.5	1500	2 x 2 15/32	OT-515	5.05
1	1500	2 x 2 21/32	OT-115	5.85
2	1500	2 x 4 15/32	OT-215	8.00
1	2000	2 x 4 3/32	OT-12	7.55
2	2000	2 1/2 x 4 15/32	OT-22	8.40
1	3000	2 1/2 x 4 23/32	OT-13	15.15

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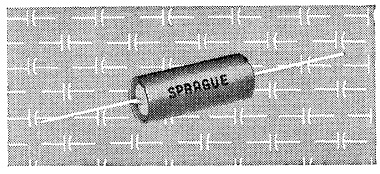
SPRAGUE CAPACITORS

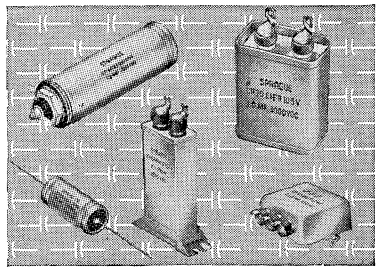
INDUSTRIAL AND MILITARY ITEMS AVAILABLE THRU YOUR SPRAGUE APPOINTED INDUSTRIAL DISTRIBUTOR

The capacitors, resistors, and filters mentioned on this page will be of special interest to Engineers and Buyers of components for industrial and military applications. Complete listings of ratings, sizes, availability of items etc., can be furnished by your Sprague. Appointed Industrial Distributor. Write to Sprague Products Company North Adams, Massachusetts for the name of the one nearest you.



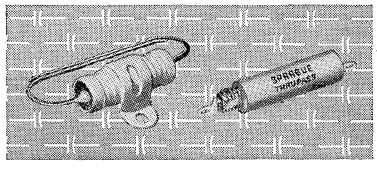
SUBMINIATURE PAPER CAPACITORS

Electrically and mechanically designed to meet stringent operating requirements. Hermetically sealed in metal cases. A variety of mounting arrangements are available. Can be had in grounded or ungrounded cases, with inserted tab or extended foil construction. Available with stabilized wax or Vitamin Q® impregnants. High insulation resistance. To 125°C operation.



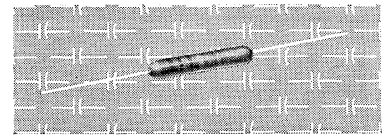
PAPER CAPACITORS TO MIL-C-25A

Types CP25, CP26, CP27, CP28, CP29 tubulars. Types CP40, CP41 cylindricals. Types CP53, CP54, CP55 "bathtubs". Types CP61, CP63, CP65, CP67, CP69 small rectangulars. Type CP70 large rectangulars. Made in accordance with military specification MIL-C-25A. Hermetically sealed in metal cases. Impregnated with specially-processed mineral oil. Available in Characteristics E and K.



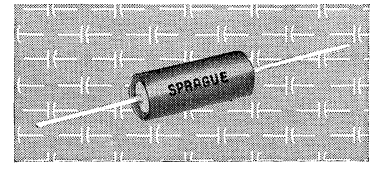
HYPASS® AND THRU-PASS CAPACITORS

3-terminal network "feed-through" units for high frequency filtering applications in communication and radar equipment, etc. Connected in a circuit in a manner similar to low pass filters. Terminals are connected in series with the circuit to be filtered and the case is grounded. Extremely low inductance to ground. Hermetically sealed in metal cases. High insulation resistance. Minimum capacitance change with temperature.



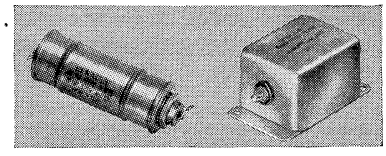
PROKAR® MOLDED CAPACITORS

Developed for use where small capacitors are required to operate continuously at high temperatures. Impregnated with exclusive material which polymerizes to solid resin. Molded in mineral-filled plastic. Will operate over a temperature range of −55°C to +125°C. More stable performance, in smaller sizes, at higher temperatures than any other capacitor of type.



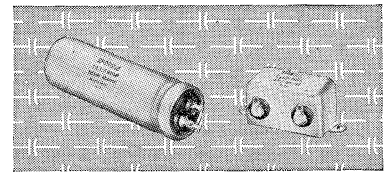
METALLIZED PAPER CAPACITORS

Hermetically sealed in metal cases. Unusually high insulation resistance and long life. Two types, for operation to 85°C and 125°C. Because Sprague metallizes its own paper, quality is carefully controlled in every operation, resulting in superior performance. Available in a wide variety of mounting styles.



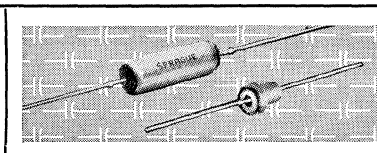
RADIO INTERFERENCE FILTERS

Designed for aircraft and mobile electrical and electronic equipment. These high insertion loss noise filters are smaller in size, weight, and volume than previous designs, without any sacrifice in performance. Hermetically sealed in cylindrical or "bathtub" metal cases. Filter types available for low-current applications, ac-dc applications, power supply applications, auto applications, high-current applications, etc. Current ratings from 0.1 ampere to 50 amperes.



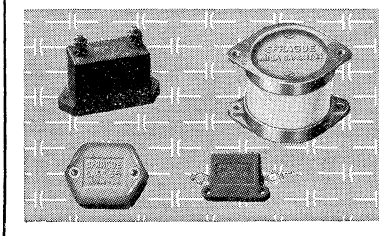
"LYTIC" CAPACITORS TO MIL-C-62A

Suitable for use in filter and bypass circuits where excesses of capacitance over nominal rating can be tolerated. Available in a variety of operating temperature ranges. Made in accordance with military specification MIL-C-62A. Special etching and formation techniques and high-stability oxide film are unmatched for long shelf life. These units will withstand high temperatures, high surge voltages, and high ripple currents.



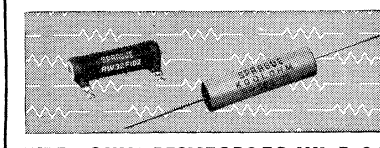
TANTALEX® TANTALUM CAPACITORS

Miniature d-c electrolytics for operation from −55°C to +85°C. Intended for low-voltage applications where small size and stable electrical characteristics are required. Extremely low leakage current, low power factor, small capacitance drop-off at low temperatures. Tantalex capacitors exhibit virtually no shelf aging. Ratings in voltages from 3 vdc to 150 vdc.



MICA CAPACITORS TO MIL-C-5A

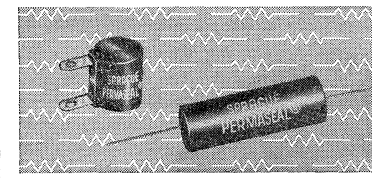
Ear-mounting Types CM45, CM50. Semi-hexagona Types CM55, CM60. Molded case potted Types CM65, CM70. Stack-mounting ceramic case Types CM75, CM80, CM85, CM90. Made according to military specification MIL-C-5A.



WIREWOUND RESISTORS TO MIL-R-26B

Vitreous enamel Blue Jacket® Types RW29 through RW47. Blue Jackets meet severe humidity tests of MIL-R-26B for characteristics G and V. Thermal expansion characteristics of winding cores, terminal bands, and coating enamel are closely matched.

Ceramic-jacketed Koolohm Types RW50 through RW56. Koolohm "tropicalized" ceramic outer shell enables resistors to withstand humidity tests for characteristics G and J. Can be mounted against live or grounded parts with absolute safety.



PERMASEAL® PRECISION RESISTORS

For 85°C and 125°C ambient temperatures. Designed for applications which require highly accurate resistance values in small physical sizes. Standard resistance tolerance ±1%. Closer tolerances available upon request. Carefully aged for maximum stability. Available with radial tab or axial lead terminals. Will meet severe humidity requirements of MIL-R-93A.

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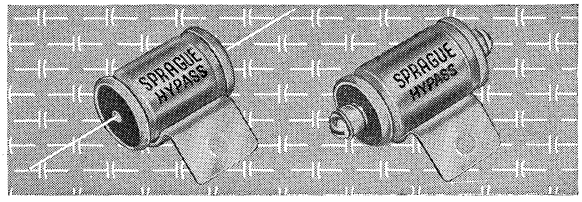
SPRAGUE FILTERS

HYPASS® CAPACITORS

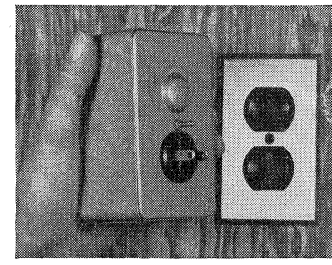


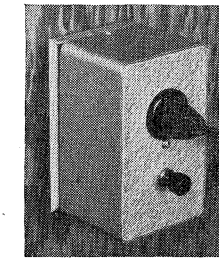
- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Interference caused by Line-conducted Radiation Between Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

μF	Amps.	WVDC	Dia. x Length	Cat. No.	List
.5	40	50	1 x 1 13/16	*48P18	$3.80
.1	20	250(VAC)	11/16 x 1 13/16	*48P9	2.60
.002	15	600	1/4 x 1 5/8	46P12	2.15
.005	15	600	1/4 x 1 5/8	46P8	2.15
.01	20	600	7/16 x 1 1/4	47P6	2.35
.1	20	600	11/16 x 1 13/16	*†80P3	2.95
.005	20	1000	7/16 x 1 1/4	47P12	2.40
.01	20	1000	7/16 x 1 1/2	47P13	2.60
.005	20	2500	1 x 1 5/16	47P14	2.90
.01	20	2500	1 x 1 5/16	47P15	3.10
.002	20	5000	1 x 1 5/16	47P16	3.20

*Has female screw terminals
†Bulkhead mounting.

NEW! TYPE F-400 MIRACLE FILTEROL®



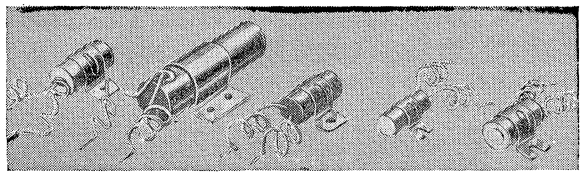


A LINE FILTER THAT REALLY WORKS!

- Effectively Suppresses Radio and TV Interference by Filtering Power Lines of Receivers and Appliances
- Maximum Noise Eliminating Efficiency because of Practically Zero Length of Ground Lead
- Plugs into Standard Duplex Wall Outlet—Captive Screw Fastens Filterol F-400 to Outlet for Safe, Secure Mounting
- Direct Wall-Mounting Provides Neat Installation—No Unsightly Cord—Receiver or Appliance Plugs into Standard Outlet on Face of F-400
- Will Also Operate at Slightly Reduced Efficiency in Older Homes where Wiring is of Knob and Tube or 2-Conductor Non-Metallic Sheathed Cable Type by Using the External Grounding Post Provided for this Purpose
- Handsomely Finished in Gray Hammerloid Baked Enamel
- Rated at 5 Amperes, 125 Volts AC or DC

TYPE F-400 FILTEROL.....$7.45 net

TYPE IF FILTERS



IF-15 IF-11 IF-21 IF-S1 IF-37

IF-15—TRIPLE-SECTION FILTER for small motor-operated devices such as fans, drills, etc. designed to prevent shocks from discharge of filter capacitors.

IF-11—DUAL HIGH-CAPACITY FILTER designed for use on motors over 1 hp up to 220 volts ac-dc. Also used on high-current arcing devices.

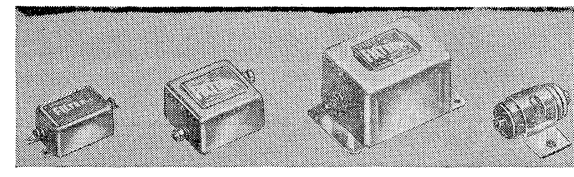
IF-21—COMPACT DUAL FILTER for use on fractional horsepower motors with case grounded to motor frame. Also used across line terminals of motors.

IF-S1—SINGLE SECTION 2-LEAD FILTER for use across make-and-break contacts, such as thermostats, circuit breakers, etc.

IF-37—3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures. Also used on governor-type motors. *UL approved.*

Cat. No.	Volts AC or DC	Dia. x Length	List
IF-15	220	1 x 2 3/16	$2.60
IF-11	220	1 3/8 x 3 1/2	7.80
IF-21	220	1 x 2 3/16	1.75
IF-S1	220	3/4 x 2 1/16	1.15
IF-37	220	1 x 2 7/16	2.25

FILTEROL® FILTERS



FILTEROL 1 FILTEROL 2 FILTEROL 3 FILTEROL 4

Filterol Types 1, 2, and 3—Designed for connection in series with power supply lines to interference-producing devices . . . A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous operating current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary . . . For three or four-wire systems, a Filterol in each wire is necessary.

Filterol Type 4—A new, exclusive Sprague development incorporating a Sprague HYPASS® Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.

Cat. No.	Amps.	Volts AC or DC	Size	List
Filterol 1	1	115	7/8 x 1 1/4 x 1 3/4	$13.50
Filterol 2	10	115	1 1/8 x 2 x 2	14.80
Filterol 3	35	115	1 7/8 x 2 7/8 x 3 1/8	27.40
Filterol 4	20	115	1" dia. x 1 13/16" long	3.05

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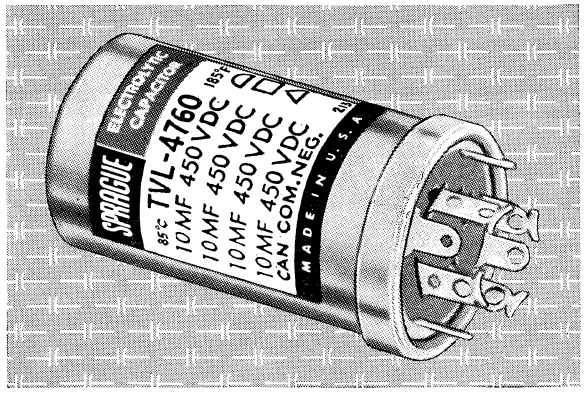
SPRAGUE CAPACITORS

TVL TWIST-LOK® ELECTROLYTICS



- Especially Designed for Tough TV and Radio Replacement Applications
- Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance
- Stand Up Under Extremely High Temperatures and High Surge Voltages as well as in High Ripple Selenium Rectifier Circuits
- Easy to Mount—A Twist of the Tabs Locks Unit Firmly in Place
- Furnished Complete with Bakelite and Metal Mounting Plates
- Designed for 85°C (185°F) Operation, up to 450 Working Volts D-C

SINGLE UNITS

μF	WVDC	Dia. x Length	Cat. No.	List
.5Ω@15.75 KC	3N.P.	1 x 2	TVL-1010	$2.10
1Ω@60 CPS	3N.P.	1¾ x 2½	TVL-1015	3.20
10Ω@30 CPS	3N.P.	⅜ x 2	TVL-1020	2.20
1000	6	1¾ x 2	TVL-1112	1.90
2000	6	1⅜ x 2	TVL-1115	2.55
1000	10	1 x 2½	TVL-1125	2.55
3000	10	1⅜ x 2½	TVL-1140	2.90
225	15	¾ x 2	TVL-1160	1.75
1000	15	1 x 2½	TVL-1165	2.55
1500	15	1 x 3	TVL-1167	2.75
2000	15	1⅜ x 2	TVL-1168	3.45
3000	15	1⅜ x 3	TVL-1170	3.50
4000	15	1⅜ x 3½	TVL-1173	3.75
25	25	¾ x 2	TVL-1207	1.25
40	25	¾ x 2	TVL-1210	1.35
50	25	1 x 2	TVL-1211	1.35
100	25	¾ x 2	TVL-1215	1.60
500	25	1 x 2	TVL-1220	2.55
1000	25	1⅜ x 2	TVL-1230	3.55
4	50	¾ x 2	TVL-1305	1.25
25	50	¾ x 2	TVL-1308	1.35
100	50	¾ x 2	TVL-1317	1.65
150	50	¾ x 2½	TVL-1320	1.80
250	50	1 x 2½	TVL-1324	2.00
500	50	1⅜ x 2½	TVL-1330	2.65
1000	50	1⅜ x 3½	TVL-1338	3.75
1500	50	1⅜ x 4	TVL-1341	3.85
10	150	1 x 2	TVL-1403	1.30
20	150	1 x 2	TVL-1405	1.45
25	150	1 x 2	TVL-1407	1.50
30	150	1 x 2	TVL-1408	1.55
40	150	1 x 2	TVL-1412	1.60
50	150	1 x 2	TVL-1415	1.65
60	150	1 x 2	TVL-1417	1.75
80	150	1 x 2½	TVL-1420	1.85
80	150	1⅜ x 2	TVL-1421	1.85
100	150	1 x 2½	TVL-1423	2.00
110	150	1 x 3	TVL-1424	2.15
120	150	1 x 3½	TVL-1425	2.15
120	150	1⅜ x 2½	TVL-1426	2.15
140	150	1 x 3	TVL-1428	2.15
150	150	1 x 3	TVL-1429	2.15
150	150	1⅜ x 3	TVL-1430	2.15
200	150	1⅜ x 4	TVL-1431	2.45
300	150	1⅜ x 3½	TVL-1434	2.80
40	200	1 x 2	TVL-1460	1.70
160	200	1⅜ x 3	TVL-1473	3.15
15	250	1 x 2	TVL-1505	1.55
20	250	1 x 2	TVL-1509	$1.60
30	250	1 x 2	TVL-1516	1.70
40	250	1 x 2	TVL-1519	1.80
50	250	1 x 2½	TVL-1522	1.95
60	250	1 x 3	TVL-1525	2.05
80	250	1 x 3½	TVL-1530	2.15
100	250	1 x 3	TVL-1535	2.70
150	250	1⅜ x 2½	TVL-1540	3.10
200	250	1⅜ x 3½	TVL-1547	3.65
15	300	1 x 2	TVL-1560	1.60
30	300	1 x 2	TVL-1563	1.75
50	300	1 x 2½	TVL-1567	2.05
60	300	1 x 3	TVL-1570	2.10
80	300	1 x 3½	TVL-1573	2.55
100	300	1 x 4	TVL-1578	2.90
125	300	1⅜ x 3½	TVL-1580	3.50
150	300	1⅜ x 3½	TVL-1584	3.50
250	300	1⅜ x 4	TVL-1590	5.55
10	350	1 x 2	TVL-1605	1.50
15	350	1 x 2	TVL-1608	1.65
20	350	1 x 2	TVL-1612	1.75
30	350	1 x 2½	TVL-1617	1.90
40	350	1 x 2	TVL-1621	2.00
50	350	1 x 3	TVL-1622	2.10
60	350	1 x 3	TVL-1624	2.20
80	350	1⅜ x 3	TVL-1630	2.85
125	350	1⅜ x 3½	TVL-1638	3.95
140	350	1⅜ x 4	TVL-1641	3.95
150	350	1⅜ x 4	TVL-1642	3.95
10	400	1 x 2	TVL-1655	1.50
20	400	1 x 2	TVL-1660	1.75
40	400	1⅜ x 2	TVL-1663	2.50
50	400	1⅜ x 2½	TVL-1666	2.20
80	400	1⅜ x 3	TVL-1675	2.95
100	400	1⅜ x 3½	TVL-1679	3.40
4	450	1 x 2	TVL-1702	1.40
10	450	1 x 2	TVL-1705	1.55
15	450	1 x 2	TVL-1709	1.70
20	450	1 x 2	TVL-1714	1.80
25	450	1 x 2½	TVL-1716	1.90
30	450	1 x 2½	TVL-1720	1.95
40	450	1 x 3	TVL-1725	2.05
50	450	1 x 3	TVL-1728	2.35
60	450	1⅜ x 2½	TVL-1730	2.60
80	450	1⅜ x 2½	TVL-1735	3.05
100	450	1⅜ x 3	TVL-1750	3.45
125	450	1⅜ x 4	TVL-1760	3.85
20	475	1 x 2½	TVL-1807	1.85
30	475	1 x 3	TVL-1810	2.00

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TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.	List
40	475	1⅜ x 2	TVL-1820	$2.50
90	475	1⅜ x 3½	TVL-1850	3.50
10	500	1 x 2	TVL-1940	1.70
20	500	1 x 2½	TVL-1943	1.85
30	500	1 x 3	TVL-1947	2.00
40	500	1 x 3½	TVL-1950	2.50
80	500	1⅜ x 3	TVL-1958	3.20
90	500	1⅜ x 3½	TVL-1960	3.50
15	525	1⅜ x 3	TVL-1980	1.85

DUAL UNITS

.5Ω@15.75 KC— 2.5Ω@60 CPS		1⅜ x 2	TVL-2010	$3.60
1000-500	6N.P.-6N.P.	1⅜ x 2	TVL-2120	3.90
250-1000	10-6	1⅜ x 2	TVL-2140	2.85
200-40	10-10	1 x 2	TVL-2151	1.60
1000-1000	15-15	1 x 3½	TVL-2160	4.40
1000-1000	15-15	1⅜ x 2½	TVL-2161	4.40
20-20	25-25	1 x 2	TVL-2207	1.45
40-40	25-25	1 x 2	TVL-2210	1.60
100-70	25-25	1 x 2	TVL-2224	1.80
150-50	25-25	1 x 2	TVL-2230	1.90
500-500	25-25	1⅜ x 2	TVL-2233	4.40
1000-500	25-25	1⅜ x 2	TVL-2239	5.45
50-50	50-50	1 x 2	TVL-2320	1.70
100-25	50-50	1 x 2	TVL-2324	1.85
100-100	50-50	1 x 2	TVL-2326	2.10
50-500	150-5	1 x 3	TVL-2404	2.45
40-20	150-25	1 x 2	TVL-2408	1.70
40-150	150-25	1 x 2	TVL-2409	2.05
50-150	150-25	1 x 2½	TVL-2410	2.20
150-100	150-25	1⅜ x 2½	TVL-2411	2.70
40-20	150-50	1 x 2	TVL-2412	2.05
20-10	150-150	1 x 2	TVL-2414	1.60
20-20	150-150	1 x 2	TVL-2415	1.70
30-15	150-150	1 x 2	TVL-2418	1.75
30-20	150-150	1 x 2	TVL-2420	1.75
30-30	150-150	1 x 2	TVL-2422	1.85
40-20	150-150	1 x 2	TVL-2425	1.85
40-30	150-150	1 x 2	TVL-2427	1.85
40-40	150-150	1 x 2½	TVL-2428	1.90
50-30	150-150	1 x 2½	TVL-2432	2.00
50-50	150-150	1 x 2½	TVL-2435	2.15
60-20	150-150	1 x 2	TVL-2436	2.00
60-60	150-150	1 x 3½	TVL-2438	2.35
70-30	150-150	1 x 2½	TVL-2439	2.20
75-75	150-150	1 x 3	TVL-2440	2.60
80-40	150-150	1⅜ x 2½	TVL-2442	2.30
80-50	150-150	1 x 2½	TVL-2442.1	2.40
80-60	150-150	1 x 3	TVL-2442.2	2.40
80-80	150-150	1⅜ x 2	TVL-2442.4	2.65
100-30	150-150	1 x 2½	TVL-2442.7	2.25
100-100	150-150	1⅜ x 2½	TVL-2443	3.25
125-100	150-150	1⅜ x 2½	TVL-2443.3	3.35
150-80	150-150	1⅜ x 2½	TVL-2443.5	3.05
150-150	150-150	1⅜ x 3	TVL-2443.7	3.50
200-5	150-150	1⅜ x 3	TVL-2444	2.70
200-125	150-150	1⅜ x 3½	TVL-2445	3.75
200-150	150-150	1⅜ x 4	TVL-2446	3.75
200-200	150-150	1⅜ x 4	TVL-2447	4.00
60-125	200-25	1 x 3	TVL-2453	2.40
30-10	200-50	1 x 2	TVL-2455	1.85
100-100	200-50	1⅜ x 2½	TVL-2458	2.85
40-40	200-200	1 x 3	TVL-2460	2.30
60-60	200-200	1 x 3	TVL-2461	3.40
60-60	200-200	1⅜ x 2	TVL-2462	3.40
100-100	200-200	1⅜ x 3	TVL-2464	3.50
40-350	250-15	1⅜ x 2	TVL-2502	$2.75
40-25	250-25	1 x 2½	TVL-2505	2.00
50-100	250-50	1⅜ x 2	TVL-2507	2.60
80-100	250-50	1⅜ x 2½	TVL-2508	2.85
100-150	250-50	1⅜ x 3	TVL-2509	3.65
40-25	250-150	1 x 2½	TVL-2509.7	2.75
10-10	250-250	1 x 2	TVL-2510	1.70
20-20	250-250	1 x 2	TVL-2515	1.90
30-30	250-250	1 x 2½	TVL-2517	2.20
40-20	250-250	1 x 3	TVL-2519	2.20
40-40	250-250	1 x 3½	TVL-2520	2.50
150-40	250-250	1⅜ x 3	TVL-2534	3.85
150-150	250-250	1⅜ x 4	TVL-2535	5.15
200-200	250-250	1⅜ x 4	TVL-2538	6.05
35-500	300-6	1 x 2½	TVL-2552	2.80
20-20	300-25	1 x 2	TVL-2555	1.85
20-100	300-25	1 x 2½	TVL-2556	2.70
10-40	300-50	1 x 2	TVL-2557	1.70
80-100	300-50	1⅜ x 3	TVL-2559	3.15
80-100	300-150	1⅜ x 2½	TVL-2560	3.65
60-10	300-200	1 x 3½	TVL-2561	2.50
20-60	300-250	1 x 3½	TVL-2563	2.75
10-10	300-300	1 x 2	TVL-2565	1.75
15-15	300-300	1 x 2	TVL-2568	1.90
40-30	300-300	1 x 3	TVL-2574	2.65
40-40	300-300	1⅜ x 2½	TVL-2575	3.00
50-50	300-300	1⅜ x 2½	TVL-2576	3.35
60-20	300-300	1⅜ x 2½	TVL-2578	2.80
60-60	300-300	1⅜ x 2½	TVL-2579	3.40
75-75	300-300	1⅜ x 3	TVL-2580	3.80
80-40	300-300	1⅜ x 2½	TVL-2582	3.55
80-60	300-300	1⅜ x 3½	TVL-2584	3.70
80-80	300-300	1⅜ x 3½	TVL-2585	4.05
120-20	300-300	1⅜ x 3½	TVL-2588	4.00
120-40	300-300	1⅜ x 3½	TVL-2589	4.35
20-20	350-25	1 x 2	TVL-2604	1.90
40-20	350-25	1 x 2½	TVL-2605	2.35
80-100	350-50	1⅜ x 3	TVL-2607	4.50
20-100	350-75	1 x 2½	TVL-2608	2.25
5-75	350-150	1 x 2½	TVL-2610	2.10
40-10	350-200	1⅜ x 2	TVL-2612	2.45
20-30	350-250	1 x 3	TVL-2615	2.30
40-10	350-250	1 x 3	TVL-2617	2.45
60-80	350-250	1⅜ x 3½	TVL-2618	3.45
20-10	350-300	1 x 2	TVL-2620	2.05
30-30	350-300	1 x 3½	TVL-2621	2.65
60-20	350-300	1⅜ x 2½	TVL-2623	2.85
15-15	350-350	1 x 2	TVL-2625	2.25
20-20	350-350	1 x 3	TVL-2626	2.30
30-20	350-350	1 x 3½	TVL-2627	2.60
30-30	350-350	1 x 3	TVL-2628	2.90
50-30	350-350	1⅜ x 2½	TVL-2630	3.15
60-30	350-350	1⅜ x 3	TVL-2631	3.15
80-4	350-350	1⅜ x 2½	TVL-2632	3.20
80-20	350-350	1⅜ x 3	TVL-2633	3.50
80-40	350-350	1⅜ x 3	TVL-2634	4.10
80-80	350-350	1⅜ x 4	TVL-2635	4.70
90-40	350-350	1⅜ x 3	TVL-2637	4.30
100-40	350-350	1⅜ x 3	TVL-2638	4.60
100-60	350-350	1⅜ x 3½	TVL-2639	4.80
100-100	350-350	1⅜ x 4	TVL-2641	6.15
160-10	350-350	1⅜ x 3	TVL-2643	4.30
35-100	400-50	1 x 3	TVL-2651	2.60
40-100	400-50	1⅜ x 2	TVL-2653	2.70
100-30	400-50	1⅜ x 3	TVL-2655	3.90
80-80	400-200	1⅜ x 3½	TVL-2656	3.95
60-80	400-250	1⅜ x 4	TVL-2657	3.90
15-15	400-400	1 x 2½	TVL-2660	2.25
30-10	400-400	1 x 3	TVL-2663	2.35

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.	List
60-60	400-400	1⅜ x 4	TVL-2668	$4.40
75-75	400-400	1⅜ x 4	TVL-2670	4.85
80-10	400-400	1⅜ x 3½	TVL-2672	3.40
80-20	400-400	1⅜ x 3	TVL-2673	3.65
80-40	400-400	1⅜ x 4	TVL-2675	4.10
80-60	400-400	1⅜ x 4	TVL-2677	4.70
120-40	400-400	1⅜ x 4	TVL-2679	5.25
10-20	450-25	1 x 2	TVL-2701	1.70
20-20	450-25	1 x 2	TVL-2702	2.00
20-100	450-25	1 x 2½	TVL-2703	2.20
40-20	450-25	1 x 3	TVL-2704	2.45
80-10	450-25	1⅜ x 3	TVL-2705	3.40
80-20	450-25	1⅜ x 3	TVL-2706	3.40
10-100	450-50	1 x 2½	TVL-2708	2.05
30-25	450-50	1 x 2½	TVL-2708.3	2.30
40-50	450-50	1 x 3½	TVL-2708.8	3.00
40-100	450-50	1 x 3½	TVL-2709	2.80
50-100	450-50	1⅜ x 2½	TVL-2709.3	3.00
80-50	450-50	1⅜ x 3	TVL-2710	3.50
80-100	450-50	1⅜ x 3	TVL-2711	3.75
10-50	450-100	1⅜ x 2	TVL-2712	2.05
20-100	450-100	1⅜ x 2	TVL-2713	2.90
30-40	450-150	1⅜ x 2	TVL-2714	2.90
30-200	450-150	1⅜ x 3	TVL-2715	3.50
40-150	450-150	1⅜ x 3	TVL-2716	3.45
80-50	450-150	1⅜ x 3	TVL-2717	3.75
80-60	450-150	1⅜ x 3½	TVL-2718	4.15
80-40	450-200	1⅜ x 3	TVL-2720	3.80
20-50	450-250	1 x 3	TVL-2722	2.80
40-10	450-300	1 x 3	TVL-2724	2.60
10-100	450-350	1⅜ x 3½	TVL-2727	4.00
20-80	450-350	1⅜ x 3½	TVL-2730	3.65
25-15	450-350	1 x 3	TVL-2732	2.55
40-10	450-350	1⅜ x 2½	TVL-2735	2.60
40-20	450-350	1⅜ x 2½	TVL-2736	2.85
40-40	450-350	1⅜ x 3	TVL-2737	3.30
30-20	450-400	1 x 3	TVL-2741	2.70
5-5	450-450	1 x 2	TVL-2748	1.70
10-10	450-450	1 x 2	TVL-2750	1.90
15-10	450-450	1 x 2½	TVL-2752	2.25
15-15	450-450	1 x 2½	TVL-2753	2.25
20-10	450-450	1 x 2½	TVL-2754	2.25
20-20	450-450	1 x 3	TVL-2755	2.55
30-10	450-450	1 x 3	TVL-2757	2.40
30-10	450-450	1⅜ x 2	TVL-2757.2	2.40
30-15	450-450	1⅜ x 2	TVL-2758	2.65
30-30	450-450	1⅜ x 2½	TVL-2759	3.05
40-5	450-450	1 x 3	TVL-2760	2.55
40-15	450-450	1⅜ x 2½	TVL-2761	2.80
40-20	450-450	1⅜ x 2½	TVL-2762	3.25
40-40	450-450	1⅜ x 3	TVL-2764	3.45
50-40	450-450	1⅜ x 3	TVL-2766	3.60
50-50	450-450	1⅜ x 3	TVL-2767	3.85
60-20	450-450	1⅜ x 3	TVL-2768	3.55
60-40	450-450	1⅜ x 3½	TVL-2770	3.95
60-60	450-450	1⅜ x 4	TVL-2772	4.50
80-10	450-450	1⅜ x 3	TVL-2776	3.60
80-20	450-450	1⅜ x 3½	TVL-2776.5	3.90
80-30	450-450	1⅜ x 4	TVL-2777	4.20
80-40	450-450	1⅜ x 3½	TVL-2778	5.05
100-40	450-450	1⅜ x 4	TVL-2780	4.85
10-20	475-25	1 x 2	TVL-2802	1.70
75-50	475-50	1⅜ x 3	TVL-2804	3.65
40-80	475-200	1⅜ x 2½	TVL-2807	3.65
20-100	475-300	1⅜ x 3½	TVL-2810	3.95
20-100	475-400	1⅜ x 4	TVL-2813	4.50
40-40	475-400	1⅜ x 3	TVL-2815	3.75
15-15	475-475	1 x 2½	TVL-2820	2.35
30-10	475-475	1⅜ x 2	TVL-2824	2.60
40-10	475-475	1⅜ x 2½	TVL-2827	3.10
40-40	475-475	1⅜ x 3	TVL-2830	$4.30
60-40	475-475	1⅜ x 4	TVL-2840	4.55
80-40	475-475	1⅜ x 4	TVL-2850	5.05
80-50	475-475	1⅜ x 4	TVL-2851	5.20
80-50	500-50	1⅜ x 3½	TVL-2907	3.80
60-80	500-150	1⅜ x 3	TVL-2916	3.75
40-50	500-200	1⅜ x 3	TVL-2920	3.35
15-20	500-300	1 x 2½	TVL-2922	2.30
20-100	500-300	1⅜ x 3	TVL-2924	3.90
40-40	500-400	1⅜ x 3	TVL-2926	3.75
4-4	500-500	1 x 2½	TVL-2931	1.70
10-10	500-500	1 x 2½	TVL-2933	1.95
20-20	500-500	1⅜ x 2½	TVL-2935	2.85
30-10	500-500	1⅜ x 3	TVL-2936	2.60
30-30	500-500	1⅜ x 3	TVL-2937	3.25
40-25	500-500	1⅜ x 3	TVL-2939	3.65
40-40	500-500	1⅜ x 3	TVL-2940	4.30
60-40	500-500	1⅜ x 3½	TVL-2944	4.60

TRIPLE UNITS

μF	WVDC	Dia. x Length	Cat. No.	List
1500-1500-1500	3-3-3	1 x 3½	TVL-3015	$6.00
40-500-500	25-10-10	1 x 2½	TVL-3202	3.35
20-20-20	25-25-25	1 x 2	TVL-3210	1.95
40-40-40	25-25-25	1 x 2	TVL-3230	2.15
30-30-30	50-50-50	1 x 2	TVL-3320	2.15
20-250-100	150-15-15	1⅜ x 2	TVL-3403	2.90
40-25-130	150-25-15	1 x 3	TVL-3404	3.30
50-100-20	150-50-25	1 x 3	TVL-3405	2.85
100-50-25	150-50-25	1 x 3	TVL-3407	3.00
15-15-1200	150-150-2	1 x 2	TVL-3410	3.15
30-20-100	150-150-6	1 x 2	TVL-3412	2.40
20-20-100	150-150-10	1 x 2	TVL-3413	2.35
20-20-250	150-150-10	1 x 2	TVL-3413.2	2.60
30-30-200	150-150-10	1 x 2	TVL-3413.3	2.50
40-20-150	150-150-10	1 x 2	TVL-3413.4	2.40
40-20-200	150-150-10	1 x 2½	TVL-3413.5	2.50
40-20-250	150-150-10	1 x 2½	TVL-3413.6	2.70
40-40-100	150-150-10	1 x 2½	TVL-3413.7	2.50
40-40-250	150-150-10	1 x 2½	TVL-3413.8	3.75
80-20-200	150-150-10	1⅜ x 2	TVL-3414	2.85
80-30-300	150-150-10	1⅜ x 2	TVL-3414.2	3.15
90-40-400	150-150-10	1⅜ x 2½	TVL-3414.5	3.50
100-20-200	150-150-10	1⅜ x 2½	TVL-3414.6	3.30
100-80-200	150-150-10	1⅜ x 2½	TVL-3414.7	3.60
60-40-400	150-150-15	1⅜ x 2	TVL-3414.8	3.20
80-20-100	150-150-15	1⅜ x 2	TVL-3414.9	2.80
20-20-20	150-150-25	1 x 2	TVL-3415	2.20
20-20-200	150-150-25	1 x 3	TVL-3416	2.60
30-20-20	150-150-25	1 x 2	TVL-3417	2.25
30-30-20	150-150-25	1 x 2	TVL-3419	2.30
40-20-20	150-150-25	1 x 2½	TVL-3422	2.30
40-20-100	150-150-25	1 x 3	TVL-3423	2.50
40-20-200	150-150-25	1 x 3	TVL-3423.2	2.70
40-30-20	150-150-25	1 x 2	TVL-3424	2.35
40-30-25	150-150-25	1 x 2½	TVL-3425	2.35
40-40-20	150-150-25	1 x 2½	TVL-3426	2.40
40-40-200	150-150-25	1 x 3	TVL-3426.3	2.80
40-40-250	150-150-25	1 x 3	TVL-3426.4	3.15
50-30-20	150-150-25	1 x 2½	TVL-3426.7	2.50
50-30-100	150-150-25	1 x 3	TVL-3427	2.70
50-30-200	150-150-25	1⅜ x 2	TVL-3428	2.90
50-30-300	150-150-25	1 x 3	TVL-3429	3.40
50-50-20	150-150-25	1 x 3	TVL-3430	2.65
50-50-200	150-150-25	1 x 3	TVL-3430.7	3.05
60-20-20	150-150-25	1 x 2	TVL-3431	2.55
60-40-200	150-150-25	1 x 3	TVL-3431.3	3.05
60-60-100	150-150-25	1⅜ x 2	TVL-3431.4	3.05
80-20-20	150-150-25	1 x 3	TVL-3431.5	2.65
80-30-300	150-150-25	1⅜ x 2	TVL-3431.8	3.65

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SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.	List
80-40-20	150-150-25	1 x 2½	TVL-3432	$2.80
80-40-300	150-150-25	1⅜ x 2½	TVL-3432.4	3.70
120-60-20	150-150-25	1⅜ x 2½	TVL-3432.6	3.35
10-10-10	150-150-150	1 x 2	TVL-3432.8	2.05
20-20-20	150-150-150	1 x 2½	TVL-3433	2.30
30-30-10	150-150-150	1 x 2	TVL-3435	2.35
40-20-10	150-150-150	1 x 2	TVL-3436	2.35
40-20-20	150-150-150	1 x 2½	TVL-3437	2.40
40-30-20	150-150-150	1 x 2	TVL-3438	2.50
40-40-40	150-150-150	1 x 3½	TVL-3440	2.60
50-20-20	150-150-150	1 x 2½	TVL-3440.4	2.55
50-40-10	150-150-150	1 x 2½	TVL-3441	2.55
50-50-10	150-150-150	1⅜ x 2	TVL-3441.7	2.70
50-50-50	150-150-150	1 x 3	TVL-3442	3.00
50-50-50	150-150-150	1⅜ x 3	TVL-3442.1	3.00
60-40-20	150-150-150	1 x 3	TVL-3443	2.75
60-40-30	150-150-150	1⅜ x 2	TVL-3443.1	2.80
60-50-50	150-150-150	1⅜ x 2	TVL-3443.2	3.10
70-15-15	150-150-150	1 x 2½	TVL-3443.3	2.70
70-40-40	150-150-150	1 x 3	TVL-3443.4	4.05
80-20-20	150-150-150	1 x 3½	TVL-3443.6	2.80
80-30-10	150-150-150	1 x 3	TVL-3443.8	2.75
80-40-20	150-150-150	1 x 3	TVL-3444	2.90
80-80-80	150-150-150	1⅜ x 3	TVL-3446	3.75
100-30-10	150-150-150	1 x 3	TVL-3447	3.05
120-80-40	150-150-150	1⅜ x 3½	TVL-3448	3.80
120-120-40	150-150-150	1⅜ x 3	TVL-3448.2	4.05
150-50-25	150-150-150	1⅜ x 3	TVL-3449	3.60
200-100-60	150-150-150	1⅜ x 3½	TVL-3450	4.55
200-140-60	150-150-150	1⅜ x 4	TVL-3451	4.45
200-150-150	150-150-150	1⅜ x 4	TVL-3452	7.50
80-40-50	200-100-50	1⅜ x 2½	TVL-3460	3.05
40-40-20	200-150-25	1 x 3	TVL-3461	2.60
60-200-140	200-150-150	1⅜ x 4	TVL-3461.4	4.80
20-20-20	200-200-25	1 x 2	TVL-3462	2.30
30-20-20	200-200-25	1 x 2	TVL-3463	2.55
30-20-40	200-200-25	1 x 2	TVL-3464	2.55
60-5-20	200-200-50	1 x 2½	TVL-3467	2.50
70-70-20	250-250-50	1⅜ x 3	TVL-3470	3.90
80-10-20	200-200-50	1 x 3	TVL-3471	2.80
80-40-100	200-200-50	1⅜ x 3	TVL-3472	3.50
90-90-20	200-200-50	1⅜ x 3	TVL-3474	3.80
100-10-40	200-200-50	1⅜ x 2	TVL-3475	3.15
30-20-40	200-200-150	1 x 2½	TVL-3477	2.70
20-20-20	200-200-200	1 x 2½	TVL-3480	2.50
30-20-20	200-200-200	1 x 2½	TVL-3481	2.70
50-30-30	200-200-200	1⅜ x 2	TVL-3485	3.15
40-40-20	250-150-25	1⅜ x 2	TVL-3504	2.70
80-40-50	250-150-50	1⅜ x 2½	TVL-3506	2.35
15-20-20	250-150-150	1 x 2	TVL-3507	2.40
60-40-20	250-200-25	1⅜ x 2	TVL-3508	3.30
15-15-20	250-250-25	1 x 2	TVL-3510	2.35
20-15-20	250-250-25	1 x 2½	TVL-3511	2.35
30-30-20	250-250-25	1 x 3	TVL-3513	2.80
60-60-25	250-250-25	1 x 3½	TVL-3514	3.80
70-70-20	250-250-50	1⅜ x 3	TVL-3515	3.90
90-90-20	250-250-50	1⅜ x 3	TVL-3516	4.60
40-20-10	250-250-150	1⅜ x 2	TVL-3517	2.75
40-40-10	250-250-200	1⅜ x 2	TVL-3520	2.95
80-80-60	250-250-200	1⅜ x 3½	TVL-3525	4.50
15-15-10	250-250-250	1 x 2	TVL-3530	2.45
20-20-10	250-250-250	1 x 2	TVL-3531	2.50
20-20-20	250-250-250	1 x 2	TVL-3532	2.60
30-15-10	250-250-250	1 x 2½	TVL-3534	2.70
30-15-15	250-250-250	1 x 2	TVL-3535	2.75
30-20-10	250-250-250	1 x 2	TVL-3537	2.70
40-20-10	250-250-250	1 x 2½	TVL-3539	2.85
40-20-20	250-250-250	1 x 3½	TVL-3540	2.90
80-10-10	250-250-250	1 x 3	TVL-3543	3.20
80-80-60	250-250-250	1⅜ x 3	TVL-3545	4.90
10-500-500	300-15-15	1⅜ x 2½	TVL-3553	$3.90
20-10-10	300-75-25	1 x 2	TVL-3555	2.35
100-60-20	300-150-25	1⅜ x 3	TVL-3560	4.20
20-150-80	300-150-150	1⅜ x 3	TVL-3560.2	3.95
100-150-30	300-150-150	1⅜ x 4	TVL-3560.4	4.95
100-200-6	300-150-150	1⅜ x 4	TVL-3560.5	5.00
100-200-30	300-150-150	1⅜ x 4	TVL-3560.6	5.20
20-80-10	300-250-200	1⅜ x 2½	TVL-3561	3.45
16-20-20	300-250-250	1 x 3	TVL-3561.3	2.60
40-80-40	300-250-250	1⅜ x 3	TVL-3561.5	4.20
60-30-30	300-250-250	1⅜ x 2½	TVL-3561.7	3.75
100-60-20	300-250-250	1⅜ x 4	TVL-3562	4.90
200-60-20	300-250-250	1⅜ x 4	TVL-3563	5.50
20-20-20	300-300-25	1 x 2½	TVL-3565	2.75
40-15-20	300-300-25	1 x 3	TVL-3570	2.95
40-20-20	300-300-25	1⅜ x 2	TVL-3573	3.10
140-10-100	300-300-25	1⅜ x 3½	TVL-3573.3	4.45
30-30-25	300-300-50	1 x 3	TVL.3573.6	2.90
100-10-60	300-300-50	1⅜ x 2½	TVL-3574	4.05
125-20-100	300-300-50	1⅜ x 3	TVL-3574.5	4.90
125-60-40	300-300-50	1⅜ x 4	TVL-3574.6	4.90
200-20-10	300-300-100	1⅜ x 4	TVL-3575	4.90
40-40-20	300-300-150	1⅜ x 2	TVL-3577	3.60
10-10-15	300-300-250	1 x 2	TVL-3578	2.45
10-10-10	300-300-300	1 x 2	TVL-3580	2.40
60-20-10	300-300-300	1⅜ x 2	TVL-3581	3.45
80-20-10	300-300-300	1⅜ x 2½	TVL-3582	3.80
80-40-40	300-300-300	1⅜ x 3½	TVL-3583	4.75
120-50-40	300-300-300	1⅜ x 4	TVL-3585	5.85
160-60-20	300-300-300	1⅜ x 4	TVL-3587	5.45
200-140-20	300-300-300	1⅜ x 4	TVL-3589	7.05
4-100-40	350-25-25	1 x 2	TVL-3603	2.25
5-100-40	350-25-25	1 x 2	TVL-3604	2.35
40-100-25	350-50-25	1⅜ x 2	TVL-3604.3	3.20
10-50-100	350-100-75	1 x 3	TVL-3605	2.85
20-50-100	350-100-75	1 x 3	TVL-3606	3.10
10-10-250	350-150-15	1 x 2½	TVL-3607	2.75
10-50-100	350-150-50	1 x 3½	TVL-3608	2.85
40-80-500	350-200-25	1⅜ x 3½	TVL-3609	5.05
125-5-100	350-200-75	1⅜ x 3½	TVL-3610	5.30
50-10-500	350-250-5	1⅜ x 2½	TVL-3611	3.70
50-10-1000	350-250-5	1⅜ x 2½	TVL-3611.2	4.05
20-30-20	350-250-25	1 x 3	TVL-3612	2.80
30-20-100	350-250-50	1 x 3	TVL-3613	3.25
30-20-10	350-250-250	1 x 3½	TVL-3615	3.00
10-80-25	350-300-25	1⅜ x 3	TVL-3617	3.40
10-40-5	350-300-150	1 x 2½	TVL-3618	2.85
20-40-10	350-300-150	1 x 3½	TVL-3619	3.15
30-30-20	350-300-25	1 x 3	TVL-3620	3.15
30-50-20	350-300-25	1⅜ x 2½	TVL-3621	3.60
40-20-10	350-300-200	1⅜ x 2	TVL-3623	3.30
10-10-1400	350-350-3	1⅜ x 3	TVL-3626	3.25
10-10-20	350-350-25	1 x 2	TVL-3628	3.25
30-20-100	350-350-75	1⅜ x 2½	TVL-3629	4.00
15-10-20	350-350-25	1 x 2½	TVL-3630	2.50
15-15-20	350-350-25	1 x 2½	TVL-3632	2.70
20-5-30	350-350-25	1 x 2	TVL-3633	2.45
20-5-100	350-350-25	1 x 3	TVL-3633.3	2.60
20-10-20	350-350-25	1 x 2½	TVL-3634	2.55
20-20-20	350-350-25	1 x 2½	TVL-3635	2.90
30-10-20	350-350-25	1 x 2½	TVL-3635.5	3.05
30-20-20	350-350-25	1 x 3½	TVL-3636	3.10
30-20-40	350-350-25	1 x 3	TVL-3636.2	3.15
30-30-20	350-350-25	1⅜ x 2	TVL-3636.3	3.40
40-5-30	350-350-25	1⅜ x 2	TVL-3636.4	2.90
40-40-50	350-350-25	1⅜ x 2½	TVL-3636.5	3.75
90-40-50	350-350-25	1⅜ x 3½	TVL-3636.7	4.90
200-10-50	350-350-25	1⅜ x 4	TVL-3636.8	5.25
10-5-30	350-350-50	1 x 2	TVL-3637	2.20
10-5-150	350-350-50	1 x 3	TVL-3638	2.70
20-5-150	350-350-50	1 x 3	TVL-3638.1	2.95

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SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.	List
20-10-100	350-350-50	1⅜ x 2½	TVL-3638.2	$2.90
80-10-40	350-350-50	1⅜ x 3	TVL-3638.3	3.80
80-10-100	350-350-50	1⅜ x 3	TVL-3638.4	4.10
150-4-30	350-350-50	1⅜ x 3½	TVL-3638.5	4.75
40-20-10	350-350-100	1⅜ x 2	TVL-3638.6	2.85
30-20-100	350-350-150	1⅜ x 2½	TVL-3638.7	4.00
40-20-10	350-350-100	1 x 3	TVL-3638.8	3.20
40-40-100	350-350-200	1⅜ x 3½	TVL-3638.9	4.80
80-40-100	350-350-200	1⅜ x 4	TVL-3639	5.45
100-60-20	350-350-200	1⅜ x 4	TVL-3639.2	5.50
20-10-5	350-350-250	1 x 2½	TVL-3639.4	2.55
30-10-20	350-350-250	1 x 3	TVL-3639.5	3.05
20-20-10	350-350-350	1 x 3	TVL-3639.7	2.95
30-20-10	350-350-350	1 x 3	TVL-3639.8	3.25
50-50-50	350-350-350	1⅜ x 3½	TVL-3639.9	4.85
60-40-20	350-350-350	1⅜ x 4	TVL-3640	4.25
60-40-40	350-350-350	1⅜ x 4	TVL-3640.2	4.70
60-50-50	350-350-350	1⅜ x 4	TVL-3641	4.90
80-40-40	350-350-350	1⅜ x 4	TVL-3641.5	5.30
80-60-60	350-350-350	1⅜ x 4	TVL-3642	5.55
90-40-20	350-350-350	1⅜ x 4	TVL-3645	5.25
40-200-60	400-200-200	1⅜ x 4	TVL-3653	5.55
10-5-40	400-300-25	1 x 2	TVL-3655	2.20
60-40-20	400-300-25	1⅜ x 3½	TVL-3663	4.20
10-40-10	400-300-150	1⅜ x 2	TVL-3665	2.90
80-20-10	400-300-300	1⅜ x 3½	TVL-3667	4.25
10-50-30	400-350-25	1 x 3½	TVL-3670	3.10
80-20-100	400-350-50	1⅜ x 3½	TVL-3671	4.50
100-10-20	400-350-50	1⅜ x 3½	TVL-3672	4.50
20-15-10	400-350-350	1 x 3	TVL-3673	2.95
15-15-40	400-400-25	1 x 3	TVL-3675	2.80
20-20-20	400-400-25	1 x 3	TVL-3678	2.85
20-10-40	400-400-50	1 x 3	TVL-3682	2.65
30-10-150	400-400-50	1⅜ x 2½	TVL-3682.4	3.40
80-40-100	400-400-50	1⅜ x 4	TVL-3683	5.00
80-40-150	400-400-50	1⅜ x 4	TVL-3684	5.25
100-10-20	400-400-50	1⅜ x 3½	TVL-3685	4.50
20-20-20	400-400-100	1 x 3	TVL-3686	2.95
20-10-10	400-400-350	1 x 3	TVL-3687	2.70
20-10-40	400-400-350	1 x 4	TVL-3687.2	3.40
20-20-10	400-400-350	1 x 3	TVL-3687.4	3.00
60-30-20	400-400-350	1⅜ x 3	TVL-3688	4.55
80-20-10	400-400-350	1⅜ x 3	TVL-3689	4.30
100-10-80	400-400-350	1⅜ x 4	TVL-3689.3	6.10
10-10-10	400-400-400	1 x 2½	TVL-3690	2.40
90-10-5	400-400-400	1⅜ x 3	TVL-3696	4.40
10-20-10	450-25-25	1 x 2	TVL-3701	2.15
30-20-20	450-25-25	1 x 3	TVL-3702	2.75
30-100-25	450-25-25	1⅜ x 2	TVL-3703	2.95
10-100-20	450-50-25	1 x 3	TVL-3703.5	2.55
80-100-20	450-50-50	1⅜ x 3	TVL-3704	4.25
10-50-100	450-150-25	1 x 3	TVL-3705	2.75
40-40-130	450-150-50	1⅜ x 3	TVL-3706	3.70
40-50-100	450-150-50	1⅜ x 2½	TVL-3706.4	3.65
40-100-50	450-150-50	1⅜ x 3	TVL-3707	3.95
10-50-100	450-150-75	1 x 3	TVL-3707.4	3.25
20-50-100	450-150-75	1⅜ x 2	TVL-3707.5	3.40
40-90-50	450-150-150	1⅜ x 3	TVL-3708	4.00
20-80-50	450-200-50	1⅜ x 2½	TVL-3709	3.40
20-60-100	450-250-25	1⅜ x 2½	TVL-3711	3.65
10-60-60	450-250-250	1⅜ x 3	TVL-3711.8	4.00
10-80-80	450-250-250	1⅜ x 4	TVL-3712	4.15
20-40-10	450-250-250	1⅜ x 2	TVL-3713	3.15
20-60-40	450-250-250	1⅜ x 3	TVL-3713.2	3.95
80-40-40	450-250-250	1⅜ x 4	TVL-3713.4	4.80
10-40-10	450-300-150	1⅜ x 2	TVL-3713.7	3.10
30-10-10	450-300-150	1 x 3	TVL-3714	2.95
5-80-40	450-300-300	1⅜ x 3	TVL-3714.7	4.15
10-100-20	450-300-300	1⅜ x 3	TVL-3715	4.35
20-15-10	450-300-300	1 x 3½	TVL-3716	2.85
10-10-20	450-350-25	1 x 2½	TVL-3719	2.30
60-80-20	450-400-250	1⅜ x 4	TVL-3720	$5.45
10-10-50	450-350-25	1 x 3	TVL-3721	2.40
20-80-100	450-350-50	1⅜ x 3½	TVL-3722	4.50
30-15-40	450-350-25	1⅜ x 2	TVL-3722.3	3.20
30-40-50	450-350-25	1 x 4	TVL-3723	3.70
15-20-20	450-350-250	1⅜ x 2	TVL-3724	2.95
20-15-10	450-350-300	1 x 3	TVL-3724.1	3.05
40-50-50	450-350-300	1⅜ x 4	TVL-3724.2	4.85
20-15-15	450-350-350	1 x 3	TVL-3724.3	3.25
20-40-10	450-350-350	1⅜ x 2½	TVL-3724.4	3.50
20-80-10	450-350-350	1⅜ x 3	TVL-3724.5	4.25
40-80-40	450-350-350	1⅜ x 3½	TVL-3724.7	5.40
50-80-10	450-350-350	1⅜ x 3½	TVL-3724.8	4.90
60-20-20	450-350-350	1⅜ x 3½	TVL-3725	4.30
60-40-20	450-350-350	1⅜ x 3½	TVL-3725.2	4.60
10-30-150	450-400-5	1 x 3	TVL-3725.5	3.00
30-50-40	450-400-25	1⅜ x 3	TVL-3725.6	3.90
10-30-30	450-400-300	1⅜ x 2½	TVL-3726	3.35
10-30-40	450-400-300	1⅜ x 2½	TVL-3726.1	3.65
20-80-10	450-350-350	1⅜ x 3	TVL-3727	4.25
4-40-40	450-400-300	1⅜ x 2½	TVL-3728	4.60
10-10-10	450-450-25	1 x 2½	TVL-3729	2.40
10-10-20	450-450-25	1 x 2½	TVL-3731	2.40
15-15-20	450-450-25	1 x 3	TVL-3733	2.70
15-15-40	450-450-25	1 x 2½	TVL-3734	2.75
20-10-20	450-450-25	1 x 3	TVL-3735	2.70
20-15-20	450-450-25	1 x 3½	TVL-3737	2.90
20-20-20	450-450-25	1 x 3	TVL-3739	3.05
30-30-20	450-450-25	1⅜ x 2½	TVL-3741	3.55
30-30-125	450-450-25	1⅜ x 3	TVL-3743	3.95
40-20-20	450-450-25	1⅜ x 2½	TVL-3743.7	3.50
40-40-20	450-450-25	1⅜ x 3	TVL-3744	3.90
40-40-40	450-450-25	1⅜ x 3	TVL-3744.2	3.95
80-10-125	450-450-25	1⅜ x 3½	TVL-3745	4.45
80-40-100	450-450-25	1⅜ x 4	TVL-3746	5.05
10-10-40	450-450-50	1 x 2½	TVL-3749	2.50
20-10-50	450-450-50	1 x 3	TVL-3751	2.85
20-20-100	450-450-50	1⅜ x 2½	TVL-3751.4	3.50
30-10-150	450-450-50	1⅜ x 2½	TVL-3752	3.50
30-15-150	450-450-50	1⅜ x 3	TVL-3753	3.70
35-25-150	450-450-50	1⅜ x 3	TVL-3753.3	3.95
30-30-40	450-450-50	1⅜ x 3	TVL-3753.6	3.65
40-10-40	450-450-50	1⅜ x 2½	TVL-3754	3.25
40-10-100	450-450-50	1⅜ x 3	TVL-3754.2	4.30
40-30-25	450-450-50	1⅜ x 2½	TVL-3754.5	3.75
40-40-100	450-450-50	1⅜ x 3½	TVL-3755	4.30
60-40-75	450-450-50	1⅜ x 4	TVL-3756	4.65
80-20-100	450-450-50	1⅜ x 4	TVL-3757	4.80
30-30-125	450-450-75	1⅜ x 3	TVL-3757.3	4.50
10-10-50	450-450-100	1⅜ x 2	TVL-3757.5	2.65
30-20-30	450-450-150	1⅜ x 2½	TVL-3757.7	3.50
40-40-40	450-450-150	1⅜ x 3½	TVL-3758	4.15
40-10-80	450-450-200	1⅜ x 3	TVL-3761	3.90
40-10-100	450-450-200	1⅜ x 3½	TVL-3762	4.15
40-40-60	450-450-200	1⅜ x 3½	TVL-3763	4.45
40-40-100	450-450-200	1⅜ x 4	TVL-3764	4.95
15-10-120	450-450-300	1⅜ x 3½	TVL-3765	4.70
15-15-10	450-450-300	1 x 3½	TVL-3766	2.85
15-5-15	450-450-350	1 x 3	TVL-3768	2.85
20-20-60	450-450-350	1⅜ x 3½	TVL-3770	5.05
40-10-10	450-450-350	1⅜ x 3	TVL-3772	3.30
40-40-60	450-450-350	1⅜ x 4	TVL-3773	4.90
40-40-80	450-450-350	1⅜ x 4	TVL-3774	5.55
60-20-40	450-450-350	1⅜ x 4	TVL-3775	4.90
10-10-10	450-450-450	1 x 3	TVL-3776	2.60
15-15-10	450-450-450	1 x 3½	TVL-3778	2.95
15-15-15	450-450-450	1 x 3	TVL-3778.2	3.10
20-10-10	450-450-450	1 x 3	TVL-3779	2.90
20-20-20	450-450-450	1⅜ x 2½	TVL-3780	3.60
30-10-10	450-450-450	1⅜ x 2	TVL-3780.5	3.15
30-20-20	450-450-450	1⅜ x 3	TVL-3781	3.85

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TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia.x Length	Cat. No.	List
30-30-10	450-450-450	1⅜ x 3	TVL-3781.5	$3.75
30-30-30	450-450-450	1⅜ x 3½	TVL-3782	4.35
40-10-10	450-450-450	1⅜ x 3	TVL-3783	3.35
40-30-20	450-450-450	1⅜ x 3	TVL-3784	4.30
40-40-10	450-450-450	1⅜ x 3½	TVL-3785	4.15
40-40-20	450-450-450	1⅜ x 3	TVL-3786	4.45
40-40-40	450-450-450	1⅜ x 3½	TVL-3787	4.90
50-30-30	450-450-450	1⅜ x 3½	TVL-3787.7	4.75
50-40-30	450-450-450	1⅜ x 3½	TVL-3788	4.90
60-10-10	450-450-450	1⅜ x 3	TVL-3788.5	3.90
60-20-20	450-450-450	1⅜ x 3	TVL-3789	4.60
60-30-10	450-450-450	1⅜ x 3	TVL-3790	4.50
60-40-20	450-450-450	1⅜ x 3½	TVL-3791	5.00
80-40-10	450-450-450	1⅜ x 4	TVL-3792	5.05
80-40-20	450-450-450	1⅜ x 4	TVL-3793	5.40
10-100-40	475-200-50	1⅜ x 2½	TVL-3800	3.35
20-50-20	475-50-25	1 x 3	TVL-3801	2.75
80-80-50	475-150-50	1⅜ x 4	TVL-3801.5	4.85
40-40-100	475-250-50	1⅜ x 3	TVL-3802	4.30
40-40-100	475-250-100	1⅜ x 3	TVL-3803	4.10
40-40-10	475-250-250	1⅜ x 3½	TVL-3804	4.00
20-20-40	475-300-25	1⅜ x 2	TVL-3805	3.10
40-40-100	475-300-50	1⅜ x 3½	TVL-3805.3	4.50
40-80-10	475-300-300	1⅜ x 3½	TVL-3806	4.80
10-100-25	475-350-25	1⅜ x 3	TVL-3806.4	3.70
10-4-100	475-350-50	1 x 2½	TVL-3806.6	2.60
20-10-5	475-350-150	1 x 2½	TVL-3806.8	2.80
10-4-40	475-350-250	1⅜ x 2	TVL-3807	2.75
20-20-10	475-350-350	1 x 3	TVL-3809	3.20
40-40-25	475-400-50	1⅜ x 3	TVL-3813	4.30
10-45-100	475-450-50	1⅜ x 3	TVL-3815	3.65
40-40-20	475-450-50	1⅜ x 3	TVL-3815.2	4.40
10-40-100	475-450-200	1⅜ x 3	TVL-3815.3	4.20
40-20-20	475-450-450	1⅜ x 3	TVL-3815.6	4.50
40-80-10	475-450-450	1⅜ x 4	TVL-3816	5.50
40-40-500	475-475-10	1⅜ x 3½	TVL-3816.2	5.45
10-10-5	475-475-25	1 x 2½	TVL-3816.3	2.45
10-10-100	475-475-25	1 x 3	TVL-3816.4	2.65
20-10-20	475-475-25	1 x 3	TVL-3816.5	2.90
10-10-150	475-475-50	1 x 3	TVL-3816.7	3.00
20-10-20	475-475-50	1 x 3	TVL-3816.8	2.95
20-10-100	475-475-50	1⅜ x 2	TVL-3817	3.25
25-10-20	475-475-50	1 x 3	TVL-3818	2.95
20-10-100	475-475-400	1⅜ x 4	TVL-3819	5.25
20-20-60	475-475-400	1⅜ x 3½	TVL-3820	4.80
20-20-60	475-475-450	1⅜ x 4	TVL-3822	4.85
10-10-10	475-475-475	1 x 3	TVL-3835	2.70
30-30-10	475-475-475	1⅜ x 3	TVL-3839	4.00
30-30-20	475-475-475	1⅜ x 3	TVL-3840	4.45
40-10-10	475-475-475	1⅜ x 3	TVL-3841	3.85
40-20-20	475-475-475	1⅜ x 3	TVL-3842	4.75
40-30-10	475-475-475	1⅜ x 3	TVL-3842.6	4.50
40-30-30	475-475-475	1⅜ x 4	TVL-3843	5.15
40-35-10	475-475-475	1⅜ x 3	TVL-3844	4.55
10-80-10	500-150-150	1 x 3½	TVL-3902	2.85
10-100-40	500-200-50	1⅜ x 2½	TVL-3903	3.35
40-40-100	500-250-50	1⅜ x 3	TVL-3905	4.30
20-20-40	500-300-25	1⅜ x 2	TVL-3907	3.10
20-40-100	500-300-25	1⅜ x 2½	TVL-3908	3.60
5-100-200	500-300-150	1⅜ x 4	TVL-3908.4	5.15
40-40-25	500-400-50	1⅜ x 3	TVL-3909	4.30
20-40-100	500-450-25	1⅜ x 3	TVL-3910	3.80
80-20-100	500-450-50	1⅜ x 4	TVL-3910.6	5.10
10-40-40	500-450-450	1⅜ x 3½	TVL-3911	4.15
30-20-20	500-500-25	1⅜ x 2½	TVL-3920	3.55
10-10-100	500-500-50	1 x 3½	TVL-3926	2.85
20-10-100	500-500-50	1 x 4	TVL-3928	3.30
30-10-20	500-500-50	1⅜ x 2½	TVL-3930	3.10
40-40-100	500-500-200	1⅜ x 4	TVL-3935	5.80
10-10-5	500-500-350	1 x 2½	TVL-3939	2.50
20-20-60	500-500-400	1⅜ x 3½	TVL-3942	$4.80
10-10-10	500-500-500	1 x 3	TVL-3952	2.70
30-20-20	500-500-500	1⅜ x 3	TVL-3956	4.20
40-10-10	500-500-500	1⅜ x 3	TVL-3962	3.90
40-40-10	500-500-500	1⅜ x 3½	TVL-3965	5.05

QUADRUPLE UNITS

40-40-40-40	25-25-25-25	1⅜ x 2	TVL-4210	$2.75
5-5-25-100	75-75-25-15	1⅜ x 2	TVL-4351	2.65
50-20-150-30	150-150-15-15	1⅜ x 2	TVL-4408	3.15
40-40-50-200	150-150-25-10	1⅜ x 2	TVL-4408.4	3.15
20-20-160-40	150-150-25-25	1⅜ x 2	TVL-4409	3.20
40-40-100-100	150-150-25-25	1⅜ x 2	TVL-4410	3.35
40-40-200-100	150-150-25-25	1⅜ x 2	TVL-4410.3	3.55
50-40-160-40	150-150-25-25	1⅜ x 2	TVL-4410.7	3.55
80-20-160-40	150-150-25-25	1⅜ x 2	TVL-4411	3.70
80-30-100-40	150-150-25-25	1⅜ x 2	TVL-4411.2	3.45
40-40-100-100	150-150-50-50	1⅜ x 2	TVL-4411.5	3.70
30-20-20-200	150 150-150-10	1⅜ x 2	TVL-4412	3.10
40-40-20-200	150-150-150-10	1⅜ x 2	TVL-4413	3.20
50-30-25-200	150-150-150-10	1⅜ x 2	TVL-4413.4	3.35
60-40-20-200	150-150-150-10	1⅜ x 2	TVL-4414	3.45
80-80-10-200	150-150-150-10	1⅜ x 2½	TVL-4414.3	3.90
60-20-20-1000	150-150-150-15	1⅜ x 2½	TVL-4414.5	4.65
20-20-20-20	150-150-150-25	1⅜ x 2	TVL-4414.7	2.90
30-20-20-100	150-150-150-25	1⅜ x 2	TVL-4414.8	3.15
30-30-30-40	150-150-150-25	1⅜ x 2	TVL-4415	3.10
40-20-20-20	150-150-150-25	1⅜ x 2	TVL-4417	2.95
40-30-20-100	150-150-150-25	1⅜ x 2	TVL-4418	3.20
40-40-30-20	150-150-150-25	1⅜ x 2	TVL-4420	3.10
40-40-30-120	150-150-150-25	1⅜ x 2	TVL-4420.3	3.50
40-40-40-20	150-150-150-25	1⅜ x 2	TVL-4421	3.15
40-40-40-100	150-150-150-25	1⅜ x 2	TVL-4422	3.35
40-40-40-160	150-150-150-25	1⅜ x 2	TVL-4423	3.55
50-20-20-200	150-150-150-25	1⅜ x 2	TVL-4424	3.50
50-30-30-100	150-150-150-25	1⅜ x 2	TVL-4424.5	3.40
50-50-50-20	150-150-150-25	1⅜ x 2	TVL-4425	3.55
50-50-50-100	150-150-150-25	1⅜ x 2	TVL-4425.3	3.75
60-30-10-60	150-150-150-25	1⅜ x 2	TVL-4426	3.25
60-40-20-20	150-150-150-25	1⅜ x 2	TVL-4427	3.30
60-60-10-60	150-150-150-25	1⅜ x 2	TVL-4428	3.50
70-40-40-25	150-150-150-25	1⅜ x 2½	TVL-4429	3.45
80-40-30-100	150-150-150-25	1⅜ x 2½	TVL-4430	3.70
80-40-40-20	150-150-150-25	1⅜ x 2	TVL-4431	3.55
80-40-40-40	150-150-150-25	1⅜ x 2½	TVL-4432	3.60
80-40-40-100	150-150-150-25	1⅜ x 2½	TVL-4434	3.75
80-50-50-25	150-150-150-25	1⅜ x 2½	TVL-4435	3.80
80-60-40-100	150-150-150-25	1⅜ x 2½	TVL-4436	3.95
100-90-60-200	150-150-150-25	1⅜ x 3	TVL-4437	4.95
125-125-40-100	150-150-150-25	1⅜ x 3	TVL-4438	4.95
250-200-10-25	150-150-150-50	1⅜ x 4	TVL-4440	5.35
40-40-40-30	150-150-150-150	1⅜ x 2	TVL-4441	3.30
50-40-30-30	150-150-150-150	1⅜ x 2	TVL-4442	3.40
50-50-50-50	150-150-150-150	1⅜ x 2½	TVL-4443	3.90
80-50-20-20	150-150-150-150	1⅜ x 2½	TVL-4444	3.70
100-80-60-40	150-150-150-150	1⅜ x 3	TVL-4445	4.65
40-20-10-20	200-200-200-25	1⅜ x 2	TVL-4470	3.20
40-40-50-80	250-250-150-150	1⅜ x 2½	TVL-4508	4.10
100-40-10-100	250-250-250-50	1⅜ x 3½	TVL-4516	5.15
80-60-40-20	250-250-250-150	1⅜ x 4	TVL-4524	5.10
40-40-20-20	250-250-250-250	1⅜ x 2½	TVL-4536	4.00
100-40-80-20	300-50-25-25	1⅜ x 3	TVL-4555	4.55
20-150-150-100	300-150-150-30	1⅜ x 4	TVL-4557	5.30
10-200-140-30	300-150-150-150	1⅜ x 3½	TVL-4559	5.10
10-200-200-30	300-150-150-150	1⅜ x 4	TVL-4559.2	5.35
100-60-10-20	300-200-150-50	1⅜ x 3½	TVL-4559.5	4.85
40-40-40-40	300-250-250-25	1⅜ x 2½	TVL-4560	4.40
100-40-125-50	300-300-150-50	1⅜ x 4	TVL-4560.4	6.20
140-10-10-100	300-300-150-25	1⅜ x 3½	TVL-4560.6	5.05

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia.x Length	Cat. No.	List
100-10-200-30	300-300-150-150	1¾ x 4	TVL-4561	$5.90
140-10-200-30	300-300-150-150	1⅜ x 4	TVL-4561.3	6.25
120-20-20-100	300-250-25-30	1⅜ x 3½	TVL-4562	5.25
200-20-100-20	300-250-50-25	1⅜ x 4	TVL-4563	5.80
150-20-10-250	300-300-250-50	1⅜ x 4	TVL-4564	6.05
10-10-10-20	300-300-300-25	1⅜ x 2	TVL-4565	2.95
40-30-20-50	300-300-300-25	1⅜ x 2½	TVL-4568	4.15
60-40-20-50	300-300-300-25	1⅜ x 3½	TVL-4570	4.70
30-30-15-30	300-300-300-50	1⅜ x 3	TVL-4572	3.65
60-30-10-60	300-300-300-50	1⅜ x 2½	TVL-4573	4.20
150-30-30-150	300-300-300-50	1⅜ x 4	TVL-4574	6.10
40-40-40-20	300-300-300-150	1⅜ x 3	TVL-4575	4.90
120-40-40-10	300-300-300-250	1⅜ x 4	TVL-4577	6.30
40-20-10-10	300-300-300-300	1⅜ x 2	TVL-4578	3.95
40-40-20-10	300-300-300-300	1⅜ x 3½	TVL-4579	4.55
40-40-30-20	300-300-300-300	1⅜ x 3	TVL-4580	4.85
60-40-10-10	300-300-300-300	1⅜ x 2½	TVL-4583	4.55
200-20-20-20	300-300-300-300	1⅜ x 4	TVL-4590	6.25
20-150-80-20	350-150-150-25	1⅜ x 3	TVL-4603	4.55
60-60-30-160	350-150-150-25	1⅜ x 3	TVL-4603.2	4.55
40-50-20-80	350-150-150-50	1⅜ x 3	TVL-4603.4	4.05
20-60-160-40	350-200-25-25	1⅜ x 2	TVL-4603.6	4.00
15-80-40-200	350-200-200-25	1⅜ x 3	TVL-4603.8	4.50
20-100-100-10	350-200-200-100	1⅜ x 4	TVL-4604	5.00
20-100-100-20	350-200-200-200	1⅜ x 4	TVL-4604.3	5.15
20-40-10-250	350-300-150-50	1⅜ x 3	TVL-4604.5	4.60
20-150-10-250	350-300-150-50	1⅜ x 4	TVL-4604.7	6.10
40-40-20-20	350-300-300-25	1⅜ x 3½	TVL-4605	4.50
160-60-10-4	350-300-300-300	1⅜ x 4	TVL-4605.5	6.30
40-10-100-25	350-350-25-25	1⅜ x 2	TVL-4606	3.75
60-4-100-40	350-350-25-25	1⅜ x 2½	TVL-4607	3.80
60-20-80-100	350-350-150-50	1⅜ x 4	TVL-4608	4.90
40-20-10-20	350-350-200-25	1⅜ x 2	TVL-4608.5	3.90
80-20-20-200	350-350-200-50	1⅜ x 3½	TVL-4608.7	5.40
60-40-60-20	350-350-200-150	1⅜ x 3½	TVL-4609	5.05
80-60-60-10	350-350-200-150	1⅜ x 4	TVL-4609.3	5.60
50-30-8-20	350-350-250-200	1⅜ x 2½	TVL-4609.6	4.50
15-15-15-15	350-350-300-25	1⅜ x 2	TVL-4610	3.45
35-35-10-20	350-350-300-25	1⅜ x 2½	TVL-4610.6	4.15
30-30-50-100	350-300-300-75	1⅜ x 3	TVL-4611	5.25
10-10-10-10	350-350-300-300	1⅜ x 2	TVL-4612	3.10
10-10-10-20	350-350-350-25	1⅜ x 2	TVL-4618	2.95
20-10-5-10	350-350-350-25	1⅜ x 2	TVL-4620	3.10
30-10-5-200	350-350-350-25	1⅜ x 2	TVL-4620.3	3.80
30-20-20-20	350-350-350-25	1⅜ x 2½	TVL-4620.5	4.10
40-20-5-10	350-350-350-25	1⅜ x 2½	TVL-4621	3.80
40-20-20-25	350-350-350-25	1⅜ x 2½	TVL-4621.3	4.25
40-40-20-20	350-350-350-25	1⅜ x 3	TVL-4621.6	4.65
40-40-30-10	350-350-350-25	1⅜ x 3	TVL-4622	4.95
40-40-40-40	350-350-350-25	1⅜ x 3	TVL-4622.3	5.20
15-15-15-50	350-350-350-50	1⅜ x 2	TVL-4623	3.75
40-30-10-50	350-350-350-50	1⅜ x 3	TVL-4624	4.40
90-30-5-100	350-350-350-75	1⅜ x 3½	TVL-4625	6.15
40-40-40-150	350-350-350-50	1⅜ x 4	TVL-4628	5.65
50-40-20-100	350-350-350-50	1⅜ x 3	TVL-4628.3	5.15
50-40-40-160	350-350-350-50	1⅜ x 4	TVL-4629	5.75
60-25-25-100	350-350-350-50	1⅜ x 3½	TVL-4630	5.15
60-30-30-150	350-350-350-50	1⅜ x 3	TVL-4630.4	5.50
70-40-10-50	350-350-350-50	1⅜ x 3	TVL-4631	5.25
100-10-10-20	350-350-350-50	1⅜ x 3½	TVL-4632	5.15
100-20-10-20	350-350-350-50	1⅜ x 3½	TVL-4633	5.40
100-40-30-50	350-350-350-50	1⅜ x 4	TVL-4634	6.55
140-20-10-100	350-350-350-50	1⅜ x 3½	TVL-4634.2	6.15
80-60-40-20	350-350-350-150	1⅜ x 4	TVL-4634.4	6.10
20-10-5-60	350-350-350-200	1⅜ x 2½	TVL-4634.5	3.65
30-10-5-100	350-350-350-200	1⅜ x 2½	TVL-4634.7	4.55
40-20-20-10	350-350-350-350	1⅜ x 2½	TVL-4635	4.35
40-40-40-40	350-350-350-350	1⅜ x 4	TVL-4635.3	6.00
80-60-40-20 Ⓒ	350-350-350-350	1⅜ x 4	TVL-4635.7	6.40
90-40-30-30	350-350-350-350	1⅜ x 4	TVL-4635.8	$6.80
50-20-100-25	400-200-150-25	1⅜ x 2½	TVL-4636	4.65
20-20-10-40	400-250-250-25	1⅜ x 2½	TVL-4636.5	3.35
40-120-10-150	400-250-250-50	1⅜ x 4	TVL-4637	5.90
10-100-10-100	400-300-75-25	1⅜ x 3½	TVL-4638	4.70
30-40-50-200	400-300-250-150	1⅜ x 4	TVL-4640	6.00
20-30-20-20	400-300-300-25	1⅜ x 2½	TVL-4640.3	3.80
80-40-20-10	400-300-300-300	1⅜ x 4	TVL-4641	5.55
20-40-100-10	400-350-50-50	1⅜ x 3	TVL-4650	4.20
20-10-10-20	400-350-200-25	1⅜ x 2	TVL-4652	3.20
40-80-100-25	400-350-200-50	1⅜ x 3½	TVL-4654	5.95
40-10-80-10	400-350-250-250	1⅜ x 4	TVL-4657	4.65
10-50-30-30	400-350-350-25	1⅜ x 3	TVL-4658	4.40
35-25-25-20	400-350-350-25	1⅜ x 2½	TVL-4658.4	4.55
80-40-10-10	400-350-350-25	1⅜ x 4	TVL-4659	5.30
20-50-40-80	400-350-350-50	1⅜ x 3	TVL-4660	5.00
30-60-20-100	400-350-350-50	1⅜ x 4	TVL-4661	5.00
10-10-25-25	400-400-25-25	1⅜ x 2	TVL-4662	2.80
20-5-20-20	400-400-25-25	1⅜ x 2	TVL-4662.4	3.05
50-25-100-20	400-400-50-25	1⅜ x 3	TVL-4663	4.65
50-40-100-100	400-400-50-25	1⅜ x 4	TVL-4663.2	5.10
80-40-100-20	400-400-50-25	1⅜ x 4	TVL-4663.4	5.60
100-10-30-20	400-400-50-50	1⅜ x 3½	TVL-4663.5	5.10
20-10-10-25	400-400-100-25	1⅜ x 2	TVL-4663.7	3.10
20-10-20-25	400-400-200-25	1⅜ x 2	TVL-4663.8	3.30
10-10-40-10	400-400-200-50	1⅜ x 2	TVL-4664	3.20
40-30-80-10	400-400-200-200	1⅜ x 3½	TVL-4664.4	4.95
40-10-80-10	400-400-250-250	1⅜ x 3½	TVL-4665	4.70
5-5-50-80	400-400-300-250	1⅜ x 3	TVL-4665.3	4.65
50-20-20-25	400-400-350-25	1⅜ x 3	TVL-4665.5	4.45
60-40-40-10	400-400-350-50	1⅜ x 3½	TVL-4666	5.75
20-20-20-20	400-400-400-25	1⅜ x 2½	TVL-4667	3.85
60-30-30-150	400-400-400-25	1⅜ x 4	TVL-4668	5.80
80-40-10-20	400-400-400-25	1⅜ x 4	TVL-4669	5.30
80-40-30-40	400-400-400-25	1⅜ x 4	TVL-4670	5.95
90-40-10-40	400-400-400-25	1⅜ x 4	TVL-4670.3	5.80
40-40-40-150	400-400-400-50	1⅜ x 4	TVL-4670.5	5.70
90-20-10-50	400-400-400-50	1⅜ x 4	TVL-4670.7	5.40
80-20-10-100	400-400-400-50	1⅜ x 3½	TVL-4671	5.25
80-40-30-4	400-400-400-350	1⅜ x 4	TVL-4672	5.90
30-30-20-20	400-400-400-400	1⅜ x 3	TVL-4672.8	4.85
40-35-10-10	400-400-400-400	1⅜ x 3	TVL-4673	4.45
50-40-30-20	400-400-400-400	1⅜ x 4	TVL-4674	5.65
80-10-10-10	400-400-400-400	1⅜ x 3½	TVL-4675	4.70
80-25-10-10	400-400-400-400	1⅜ x 4	TVL-4680	5.25
40-40-30-10	450-150-50-50	1⅜ x 3	TVL-4695	3.75
10-80-40-100	450-200-200-50	1⅜ x 3	TVL-4700	4.25
20-80-20-50	450-200-200-50	1⅜ x 3	TVL-4701	4.10
60-40-10-80	450-250-150-50	1⅜ x 3½	TVL-4701.5	4.80
40-40-40-20	450-250-250-25	1⅜ x 3	TVL-4702	4.55
60-80-40-20	450-250-250-150	1⅜ x 4	TVL-4702.3	5.65
10-100-10-100	450-300-75-25	1⅜ x 3	TVL-4702.6	4.75
10-40-40-100	450-300-250-50	1⅜ x 3½	TVL-4703	4.40
30-40-50-200	450-300-250-150	1⅜ x 4	TVL-4703.3	6.00
25-100-10-60	450-300-300-50	1⅜ x 3	TVL-4703.5	5.30
40-40-40-20	450-300-300-150	1⅜ x 3	TVL-4703.7	4.90
10-100-20-20	450-300-300-200	1⅜ x 3	TVL-4704	5.05
10-10-60-100	450-300-200-50	1⅜ x 3	TVL-4705	3.80
10-100-20-20	450-300-300-300	1⅜ x 3	TVL-4705.2	5.25
10-40-80-10	450-350-200-200	1⅜ x 3½	TVL-4705.4	4.70
10-40-100-100	450-350-250-50	1⅜ x 3	TVL-4705.5	5.55
40-30-15-50	450-350-300-50	1⅜ x 3	TVL-4705.8	4.35
10-100-10-20	450-350-350-25	1⅜ x 3	TVL-4706	5.20
10-60-40-25	450-350-350-25	1⅜ x 4	TVL-4707	4.60
20-15-15-20	450-350-350-25	1⅜ x 2½	TVL-4708	3.80
30-40-40-10	450-350-350-200	1⅜ x 3½	TVL-4708.3	5.15
5-60-50-20	450-400-350-25	1⅜ x 3½	TVL-4709	5.05
80-10-30-40	450-400-300-150	1⅜ x 4	TVL-4710	5.25
80-10-40-30	450-400-300-300	1⅜ x 4	TVL-4710.2	5.80
10-40-30-40	450-400-400-25	1⅜ x 3	TVL-4710.4	4.40
80-40-10-150	450-400-400-50	1⅜ x 4	TVL-4710.5	6.00

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SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.	List
10-40-40-100	450-400-400-50	1⅜ x 3½	TVL-4710.7	$4.85
20-80-50-100	450-350-350-50	1⅜ x 4	TVL-4711	6.00
60-40-20-20	450-400-400-400	1⅜ x 4	TVL-4711.3	5.80
10-10-20-20	450-450-25-25	1⅜ x 2	TVL-4711.6	2.95
20-10-100-50	450-450-25-25	1⅜ x 2	TVL-4711.8	3.55
20-15-20-20	450-450-25-25	1⅜ x 2	TVL-4712	3.45
30-30-125-125	450-450-25-25	1⅜ x 3	TVL-4712.3	4.85
30-10-150-30	450-450-50-50	1⅜ x 3	TVL-4712.5	4.10
20-20-60-100	450-450-150-25	1⅜ x 2½	TVL-4712.7	4.25
40-40-125-125	450-450-150-25	1⅜ x 4	TVL-4712.8	5.70
10-10-60-100	450-450-200-50	1⅜ x 3	TVL-4713	3.85
35-25-20-100	450-450-200-50	1⅜ x 3	TVL-4714	4.65
40-40-100-60	450-450-200-200	1⅜ x 4	TVL-4714.3	6.05
40-40-10-50	450-450-300-50	1⅜ x 3½	TVL-4714.7	4.70
20-20-30-30	450-450-300-300	1⅜ x 3½	TVL-4715	4.50
10-10-10-50	450-450-300-25	1⅜ x 2	TVL-4716	3.15
20-20-30-30	450-450-350-350	1⅜ x 3	TVL-4717	5.05
40-10-35-10	450-450-350-350	1⅜ x 3½	TVL-4718	4.60
40-20-80-10	450-450-350-350	1⅜ x 4	TVL-4719	5.80
40-40-30-30	450-450-350-350	1⅜ x 4	TVL-4720	5.90
10-10-10-20	450-450-450-25	1⅜ x 2	TVL-4723	3.15
10-10-10-100	450-450-450-25	1⅜ x 2	TVL-4723.3	3.25
15-10-10-20	450-450-450-25	1⅜ x 3	TVL-4723.5	3.30
20-10-10-100	450-450-450-25	1⅜ x 2	TVL-4724	3.70
20-20-20-20	450-450-450-25	1⅜ x 2½	TVL-4724.2	4.15
30-15-15-40	450-450-450-25	1⅜ x 2½	TVL-4724.4	4.15
30-20-20-20	450-450-450-25	1⅜ x 3	TVL-4724.5	4.40
30-30-10-20	450-450-450-25	1⅜ x 3	TVL-4724.7	4.35
30-30-10-125	450-450-450-25	1⅜ x 3	TVL-4725	4.70
30-30-20-20	450-450-450-25	1⅜ x 3	TVL-4725.4	4.65
40-10-10-250	450-450-450-25	1⅜ x 3	TVL-4726	4.70
40-15-10-25	450-450-450-25	1⅜ x 3	TVL-4729	4.10
40-20-10-20	450-450-450-25	1⅜ x 3	TVL-4730	4.25
40-20-20-20	450-450-450-25	1⅜ x 3	TVL-4731	4.60
40-20-20-40	450-450-450-25	1⅜ x 3	TVL-4732	4.65
40-30-10-20	450-450-450-25	1⅜ x 3½	TVL-4734	4.50
40-40-10-20	450-450-450-25	1⅜ x 3½	TVL-4736	4.70
40-40-20-20	450-450-450-25	1⅜ x 3½	TVL-4737	5.00
40-40-40-40	450-450-450-25	1⅜ x 4	TVL-4739	5.50
50-40-5-20	450-450-450-25	2⅜ x 3	TVL-4739.3	4.80
60-40-40-10	450-450-450-25	1⅜ x 4	TVL-4739.4	6.00
60-50-5-20	450-450-450-25	1⅜ x 4	TVL-4739.5	5.35
80-40-40-40	450-450-450-25	1⅜ x 4	TVL-4739.6	6.45
10-10-10-150	450-450-450-50	1⅜ x 2½	TVL-4739.7	3.70
20-20-20-100	450-450-450-50	1⅜ x 2½	TVL-4740	4.55
30-30-15-30	450-450-450-50	1⅜ x 3	TVL-4742	4.55
30-30-15-100	450-450-450-50	1⅜ x 3½	TVL-4742.2	4.90
40-20-10-100	450-450-450-50	1⅜ x 3½	TVL-4743	4.60
40-40-10-25	450-450-450-50	1⅜ x 3½	TVL-4745	4.70
40-40-10-50	450-450-450-50	1⅜ x 4	TVL-4746	4.80
60-40-10-25	450-450-450-50	1½ x 4	TVL-4746.5	5.25
40-40-10-100	450-450-450-100	1⅜ x 3½	TVL-4747	5.55
10-10-10-10	450-450-450-150	1⅜ x 2	TVL-4750	3.15
60-10-10-20	450-450-450-150	1⅜ x 3	TVL-4753	4.55
35-35-10-10	450-450-450-200	1⅜ x 3½	TVL-4755	4.60
40-10-10-100	450-450-450-200	1⅜ x 4	TVL-4755.4	4.90
40-40-30-10	450-450-450-200	1⅜ x 4	TVL-4756	5.35
30-10-10-10	450-450-450-250	1⅜ x 2½	TVL-4756.3	3.85
40-10-10-40	450-450-450-250	1⅜ x 3½	TVL-4756.6	4.45
40-20-10-100	450-450-450-250	1⅜ x 4	TVL-4757	5.85
60-10-10-40	450-450-450-250	1⅜ x 4	TVL-4757.5	4.85
40-10-10-40	450-450-450-350	1⅜ x 3	TVL-4758	4.75
40-20-20-20	450-450-450-350	1⅜ x 3	TVL-4758.4	5.00
40-40-10-10	450-450-450-350	1⅜ x 3½	TVL-4759	4.80
5-5-5-5	450-450-450-450	1⅜ x 2	TVL-4759.7	3.00
10-10-10-10	450-450-450-450	1⅜ x 2	TVL-4760	3.35
20-10-10-10	450-450-450-450	1⅜ x 2½	TVL-4761	3.70
20-20-20-20	450-450-450-450	1⅜ x 3	TVL-4763	4.70
25-20-20-20	450-450-450-450	1⅜ x 3½	TVL-4763.4	4.85
30-15-15-15	450-450-450-450	1⅜ x 3	TVL-4766	4.45
30-20-20-10	450-450-450-450	1⅜ x 3	TVL-4767	$4.60
30-30-15-10	450-450-450-450	1⅜ x 3½	TVL-4769	4.70
30-30-20-20	450-450-450-450	1⅜ x 3	TVL-4769.4	5.20
30-30-30-15	450-450-450-450	1⅜ x 4	TVL-4770	5.30
35-35-10-5	450-450-450-450	1⅜ x 3½	TVL-4771	4.60
40-10-10-10	450-450-450-450	1⅜ x 3	TVL-4771.3	4.10
40-20-20-10	450-450-450-450	1⅜ x 3	TVL-4771.6	4.80
40-35-10-10	450-450-450-450	1⅜ x 3	TVL-4771.8	4.80
40-40-4-4	450-450-450-450	1⅜ x 3½	TVL-4772	4.65
40-40-20-20	450-450-450-450	1⅜ x 4	TVL-4773	5.55
40-40-30-30	450-450-450-450	1⅜ x 4	TVL-4774	6.05
40-40-40-40	450-450-450-450	1⅜ x 4	TVL-4775	6.45
60-20-20-20	450-450-450-450	1⅜ x 4	TVL-4778	5.65
60-30-10-2	450-450-450-450	1⅜ x 3	TVL-4779	5.10
70-10-10-5	450-450-450-450	1⅜ x 3	TVL-4780	4.75
80-10-10-10	450-450-450-450	1⅜ x 4	TVL-4783	5.05
40-40-50-80	475-250-150-50	1⅜ x 3½	TVL-4793	5.00
20-40-100-80	475-300-50-25	1⅜ x 3	TVL-4800	4.45
20-80-20-10	475-300-300-300	1⅜ x 3½	TVL-4801	5.00
10-100-10-100	475-300-300-25	1⅜ x 3½	TVL-4802	4.90
10-40-80-100	475-350-200-100	1⅜ x 3½	TVL-4802.6	4.80
20-40-80-100	475-350-200-100	1⅜ x 4	TVL-4802.7	5.45
10-40-80-100	475-350-300-100	1⅜ x 4	TVL-4802.8	5.55
10-30-5-80	475-350-350-50	1⅜ x 2½	TVL-4803	3.70
10-140-4-100	475-350-350-50	1⅜ x 4	TVL-4803.3	5.85
10-130-20-10	475-350-350-350	1⅜ x 4	TVL-4803.4	6.00
20-60-40-10	475-350-350-350	1⅜ x 3½	TVL-4803.7	5.20
30-130-10-10	475-350-350-350	1⅜ x 4	TVL-4803.8	6.40
10-40-100-10	475-400-50-25	1⅜ x 2½	TVL-4804	4.00
10-40-4-100	475-400-350-50	1⅜ x 2½	TVL-4805	4.05
5-70-25-5	475-400-400-400	1⅜ x 3½	TVL-4805.5	5.05
10-10-80-50	475-450-200-60	1⅜ x 3	TVL-4806	3.85
25-20-20-100	475-450-300-50	1⅜ x 3	TVL-4809	4.60
25-20-40-100	475-450-300-50	1⅜ x 3½	TVL-4810	4.95
10-60-30-125	475-450-400-50	1⅜ x 4	TVL-4811	5.55
10-50-30-30	475-450-450-25	1⅜ x 3	TVL-4813	4.75
10-40-10-100	475-450-450-50	1⅜ x 2½	TVL-4814	4.30
15-15-80-40	475-475-300-50	1⅜ x 3	TVL-4815	4.80
50-30-20-20	475-475-300-300	1⅜ x 4	TVL-4816	5.70
40-10-4-40	475-475-350-300	1⅜ x 3	TVL-4817	4.95
20-10-20-100	475-475-450-25	1⅜ x 2½	TVL-4818	4.20
10-5-80-40	475-475-450-50	1⅜ x 3½	TVL-4819	4.90
30-30-10-20	475-475-475-25	1⅜ x 3	TVL-4821	4.55
40-20-10-10	475-475-475-25	1⅜ x 3	TVL-4822	4.85
80-30-10-20	475-475-475-25	1⅜ x 4	TVL-4824	5.75
20-20-10-10	475-475-475-300	1⅜ x 2½	TVL-4826	4.30
50-30-10-20	475-475-475-300	1⅜ x 3½	TVL-4827	5.60
10-10-10-10	475-475-475-475	1⅜ x 2	TVL-4830	3.50
20-20-10-10	475-475-475-475	1⅜ x 2½	TVL-4832	4.35
20-20-20-20	475-475-475-475	1⅜ x 3	TVL-4834	5.10
40-10-10-10	475-475-475-475	1⅜ x 3	TVL-4838	4.65
40-20-10-10	475-475-475-475	1⅜ x 3	TVL-4840	5.10
10-100-30-100	500-300-300-25	1⅜ x 3½	TVL-4910	5.20
5-100-10-200	500-300-300-150	1⅜ x 4	TVL-4912	5.85
20-80-20-10	500-300-300-300	1⅜ x 3½	TVL-4914	5.00
30-10-150-30	500-450-50-50	1⅜ x 3	TVL-4917	4.20
10-10-10-10	500-500-500-500	1⅜ x 2	TVL-4940	3.50
40-40-8-8	500-500-500-500	1⅜ x 4	TVL-4944	5.70

INSULATING TUBES

These closed-top black insulating sleeves are made of tightly fitting Kraftboard. Order with capacitors as required.

Cat. No.	Description	Cat. No.	Description
HKT-1	For 1" x 2" can	HKT-6	For 1⅜" x 2½" can
HKT-2	For 1" x 2½" can	HKT-7	For 1⅜" x 3" can
HKT-3	For 1" x 3" can	HKT-8	For 1⅜" x 3½" can
HKT-4	For 1" x 4" can	HKT-9	For 1⅜" x 4" can
HKT-5	For 1⅜" x 2" can		

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

SCREWBASE ELECTROLYTICS

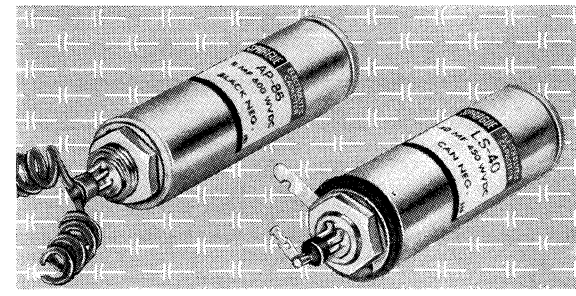
Type PLS—Sections have Separate Positive Leads and Common Negative Lead

Types LS and SC—Lug Connection is Positive, Can is Negative

Type CL—Can Insulated from Sections . . . Separate Positive and Negative Leads

Type WR—Designed to Replace Wet Electrolytics . . . Will Withstand Extremely High A-C Ripples . . . Has Lug Terminal

Type AP—Sections are Connected in Series . . . Insulated Leads

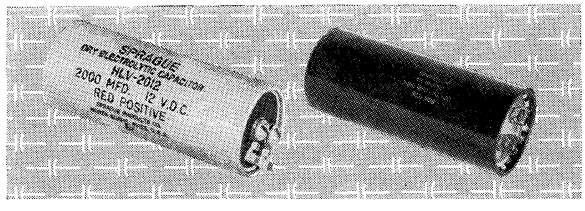


μF	Diam. x Length	Cat. No.	List
TYPE PLS—450 WVDC, 525 V Surge			
4	1 3/8 x 2 7/16	PLS-4	$2.00
8	1 3/8 x 2 7/16	PLS-8	2.20
12	1 3/8 x 2 7/16	PLS-12	2.40
16	1 3/8 x 2 7/16	PLS-16	2.45
20	1 3/8 x 2 7/16	PLS-20	2.70
25	1 3/8 x 3 7/16	PLS-25	2.90
30	1 3/8 x 3 7/16	PLS-30	3.00
40	1 3/8 x 3 15/16	PLS-40	3.15
4+8	1 3/8 x 2 15/16	PLS-48	2.95
8+8	1 1/2 x 2 15/16	PLS-88	3.00
8+16	1 1/2 x 2 15/16	PLS-816	3.30
16+16	1 1/2 x 3 15/16	PLS-216	3.55
8+8+8	1 1/2 x 2 15/16	PLS-888	5.00

μF	Diam. x Length	Cat. No.	List
TYPE LS—450 WVDC, 525 V Surge			
8	1 3/8 x 2 15/16	LS-8	$2.20
12	1 3/8 x 2 15/16	LS-12	2.40
16	1 3/8 x 2 15/16	LS-16	2.45
20	1 3/8 x 2 15/16	LS-20	2.70
25	1 3/8 x 3 7/16	LS-25	2.90
30	1 3/8 x 3 7/16	LS-30	3.00
40	1 3/8 x 3 15/16	LS-40	3.15
8+8	1 3/8 x 2 1/4	LS-88	3.00
TYPE CL—475 WVDC, 600 V Surge			
8	1 3/8 x 4 7/16	CL-8	2.75
16	1 1/2 x 4 7/16	CL-16	3.15
8+8	1 1/2 x 4 15/16	CL-88	4.10

μF	Diam. x Length	Cat. No.	List
TYPE SC—475 WVDC, 600 V Surge			
4	1 x 3 7/16	SC-4	$2.55
8	1 3/8 x 4 7/16	SC-8	2.75
12	1 3/8 x 4 7/16	SC-12	2.95
16	1 1/2 x 4 7/16	SC-16	3.15
8+8	1 3/8 x 4 1/4	SC-88	4.10
TYPE WR—500 WVDC, 600 V Surge			
8	1 3/8 x 3 15/16	WR-8	2.85
16	1 3/8 x 4 7/16	WR-16	3.30
25	1 1/2 x 5 7/16	WR-25	3.75
TYPE AP—600 WVDC, 800 V Surge			
4	1 x 4 7/16	AP-46	2.95
8	1 3/8 x 4 7/16	AP-86	3.15
16	1 1/2 x 4 7/16	AP-16	3.75

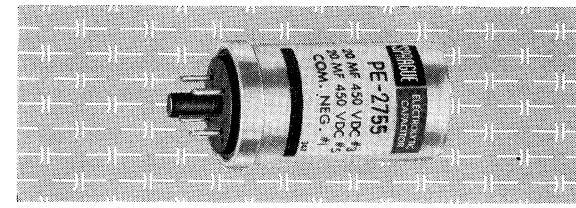
HIGH-CAPACITANCE 'LYTICS



- Designed for Filter Circuits in High Gain Amplifier Equipment
- **Type HLV** Hermetically Sealed, Metal Can, Outer Insulating Tube
- **Type HLVB*** Housed in Molded Bakelite Case

μF	WVDC	Diam. x Length	Cat. No.	List
500	6	1 x 2 1/8	HLV-506	$ 3.05
1000	6	1 3/8 x 2 1/4	HLV-106	3.40
1500	6	1 3/8 x 2 3/4	HLV-156	3.60
2000	6	1 3/8 x 3 1/4	HLV-206	3.80
500	12	1 3/8 x 2 1/4	HLV-5012	3.20
1000	12	1 3/8 x 2 1/4	HLV-1012	3.75
1500	12	1 3/8 x 2 3/4	HLV-1512	3.95
2000	12	1 3/8 x 3 1/4	HLV-2012	4.15
500	15	1 3/8 x 2 1/4	HLV-5015	3.25
1000	15	1 3/8 x 2 1/4	HLV-1015	3.80
1500	15	1 3/8 x 3 1/4	HLV-1515	4.00
2000	15	1 1/2 x 3 3/4	HLV-2015	4.70
500	25	1 3/8 x 2 1/4	HLV-525	3.80
1000	25	1 3/8 x 3 1/4	HLV-1025	4.80
2000	25	1 3/4 x 4 1/4	HLV-2025	5.75
500	50	1 3/8 x 2 3/4	HLV-550	4.25
1000	50	1 3/8 x 4 1/4	HLV-1050	7.00
2000	50	1 3/4 x 4 1/4	HLV-2050	9.10
3000	50	2 1/2 x 4 1/4	HLV-3050	11.50
4000	50	2 1/2 x 4 1/4	HLV-4050	12.50
500	50	1 7/16 x 3 3/8	*HLVB-550	4.25
1000	50	1 13/16 x 3 3/8	*HLVB-1050	7.00
2000	50	1 13/16 x 4 3/8	*HLVB-2050	9.10

PE OCTAL-BASE 'LYTICS



- For Applications where Rapid Changing of Capacitors is Desired
- Will Fit Standard Octal-Base Tube Sockets
- Hermetically Sealed in Metal Cans for Long Life
- Will Stand Up Under High Temperatures, High Ripple Currents, High Surge Voltages

μF	WVDC	Dia. x Length	Cat. No.	List
100	350	1 3/8 x 3	PE-1636	$5.85
10	450	1 5/32 x 2 1/2	PE-1705	4.05
20	450	1 5/32 x 2 1/2	PE-1714	4.30
40	450	1 3/8 x 2 1/2	PE-1725	4.55
80	450	1 3/8 x 3 1/2	PE-1730	5.55
20-20	150-150	1 5/32 x 2 1/2	PE-2415	4.20
40-40	150-150	1 5/32 x 2 1/2	PE-2428	4.40
10-10	450-450	1 5/32 x 2 1/2	PE-2750	4.40
20-20	450-450	1 3/8 x 2 1/2	PE-2755	5.05
40-40	450-450	1 3/8 x 2 1/2	PE-2764	5.95
10-10-10	450-450-450	1 5/32 x 2 1/2	PE-3776	5.10
20-20-20	450-450-450	1 3/8 x 3	PE-3780	6.10
30-30-10-20	450-450-450-50	1 3/8 x 3 1/2	PE-4741	6.85

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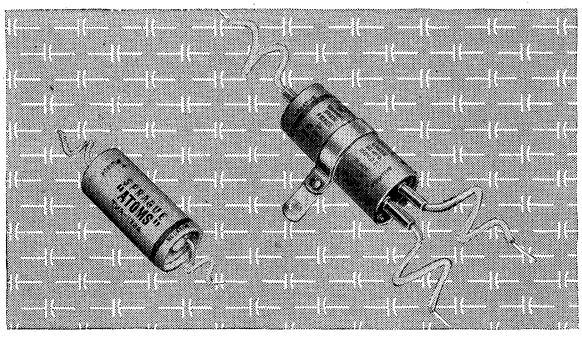
SPRAGUE CAPACITORS

ATOM® ELECTROLYTICS



- The Smallest Dependable Dry Electrolytic—The Only Small Size Capacitor Designed For 85°C (185°F) operation In Voltages To 450 WVDC
- Whether For AC-DC Sets, Auto Radios, Home Radio-phono Combinations, Or TV Sets, The SPRAGUE Line Will Handle All Your Replacement Requirements—No Dual Inventory Problems
- Small Enough To Fit Anywhere, Work Anywhere
- Have Low Leakage And Long Shelf Life
- Will Withstand High Temperatures, High Ripple Currents, High Surge Voltages
- Metal Case Construction with Outer Insulating Tube

SINGLE UNITS

μF	WVDC	Diam. x Length*	Cat. No.	List
50	6	3/8 x 1 1/4	TVA-1100	$ .95
100	6	1/2 x 1 1/8	TVA-1101	1.20
250	6	5/8 x 1 7/16	TVA-1102	1.35
500	6	5/8 x 2 3/16	TVA-1103	1.55
1000	6	11/16 x 2 3/16	TVA-1104	1.90
1500	6	13/16 x 2 11/16	TVA-1105	2.10
2000	6	13/16 x 2 15/16	TVA-1106	2.30
100	12	9/16 x 1 3/16	TVA-1130	1.20
250	12	5/8 x 1 11/16	TVA-1131	1.45
500	12	3/4 x 1 11/16	TVA-1132	1.70
1000	12	13/16 x 2 3/16	TVA-1133	2.25
100	15	5/8 x 1 3/16	TVA-1160	1.25
250	15	5/8 x 1 11/16	TVA-1161	1.55
500	15	11/16 x 2 3/16	TVA-1162	1.75
1000	15	7/8 x 2 3/16	TVA-1163	2.30
2	25	3/8 x 1 1/4	TVA-1201	.90
5	25	3/8 x 1 1/4	TVA-1203	1.00
10	25	3/8 x 1 1/4	TVA-1204	1.00
25	25	3/8 x 1 1/4	TVA-1205	1.00
50	25	9/16 x 1 3/16	TVA-1206	1.10
100	25	9/16 x 1 11/16	TVA-1207	1.35
250	25	3/4 x 1 11/16	TVA-1208	1.70
500	25	7/8 x 2 3/16	TVA-1209	2.30
1	50	3/8 x 1 1/4	TVA-1300	.90
2	50	3/8 x 1 1/4	TVA-1301	.90
5	50	3/8 x 1 1/4	TVA-1303	1.00
10	50	3/8 x 1 1/4	TVA-1304	1.00
25	50	7/16 x 1 7/16	TVA-1306	1.05
50	50	9/16 x 1 11/16	TVA-1308	1.20
100	50	5/8 x 1 11/16	TVA-1310	1.40
150	50	3/4 x 1 11/16	TVA-1311	1.55
250	50	15/16 x 1 11/16	TVA-1312	1.75
4	150	3/8 x 1 1/4	TVA-1402	1.00
5	150	3/8 x 1 1/4	TVA-1403	1.00
8	150	3/8 x 1 3/4	TVA-1405	1.05
10	150	3/8 x 1 3/4	TVA-1406	1.05
12	150	3/8 x 1 3/4	TVA-1407	1.10
16	150	9/16 x 1 11/16	TVA-1409	1.15
20	150	9/16 x 1 11/16	TVA-1410	1.20
25	150	5/8 x 1 11/16	TVA-1411	1.25
30	150	5/8 x 1 11/16	TVA-1412	1.30
40	150	3/4 x 1 11/16	TVA-1413	1.35
50	150	13/16 x 1 11/16	TVA-1414	1.40
60	150	7/8 x 1 11/16	TVA-1415	1.50
80	150	7/8 x 1 15/16	TVA-1418	1.60
100	150	7/8 x 2 3/16	TVA-1420	1.75
150	150	1 x 2 3/16	TVA-1422	1.90
200	150	1 1/16 x 3 15/16	TVA-1423†	2.20
300	150	1 3/8 x 3 7/8	TVA-1425†	2.55
200	200	1 3/8 x 3 3/8	TVA-1480†	2.90
4	250	7/16 x 1 5/8	TVA-1501	$1.00
8	250	1/2 x 1 5/8	TVA-1503	1.15
10	250	9/16 x 1 11/16	TVA-1504	1.20
12	250	9/16 x 1 11/16	TVA-1505	1.25
16	250	5/8 x 1 11/16	TVA-1507	1.30
20	250	11/16 x 1 11/16	TVA-1508	1.35
30	250	11/16 x 2 3/16	TVA-1510	1.45
40	250	3/4 x 2 3/16	TVA-1511	1.55
140	300	1 3/8 x 3 3/8	TVA-1575†	3.15
4	350	1/2 x 1 5/8	TVA-1601	1.05
8	350	5/8 x 1 11/16	TVA-1603	1.20
10	350	11/16 x 1 11/16	TVA-1604	1.25
12	350	11/16 x 1 11/16	TVA-1605	1.30
16	350	3/4 x 1 11/16	TVA-1607	1.40
20	350	13/16 x 1 11/16	TVA-1608	1.45
30	350	13/16 x 2 3/16	TVA-1610	1.65
40	350	7/8 x 2 7/16	TVA-1611	1.75
60	350	1 x 2 7/16	TVA-1613	1.95
2	450	7/16 x 1 5/8	TVA-1701	1.10
4	450	9/16 x 1 11/16	TVA-1702	1.15
8	450	11/16 x 1 11/16	TVA-1704	1.25
10	450	11/16 x 1 11/16	TVA-1705	1.30
12	450	3/4 x 1 11/16	TVA-1706	1.35
16	450	3/4 x 2 3/16	TVA-1708	1.40
20	450	3/4 x 2 3/16	TVA-1709	1.55
30	450	7/8 x 2 3/16	TVA-1711	1.70
40	450	7/8 x 2 11/16	TVA-1712	1.80
50	450	7/8 x 3 3/16	TVA-1713	2.10
60	450	1 x 3 11/16	TVA-1714	2.35
80	450	1 x 3 11/16	TVA-1716	2.80
10	475	3/4 x 1 15/16	TVA-1802	1.35
20	475	7/8 x 2 7/16	TVA-1804	1.60
8	500	7/8 x 1 11/16	TVA-1902	1.30
16	500	15/16 x 2 3/16	TVA-1905	1.50
20	500	1 x 2 3/16	TVA-1906	1.60
8	600	15/16 x 2 5/8	TVA-1962	1.40
10	600	1 x 3 1/16	TVA-1963	1.45
16	600	7/8 x 4 1/2	TVA-1965	1.65
20	600	1 x 4 1/8	TVA-1966	1.70

DUAL UNITS
(COMMON NEGATIVE—3 LEADS)

10-10	25-25	7/8 x 1 7/16	TVA-2210	1.40
10-10	50-50	7/8 x 1 7/16	TVA-2315	1.40
8-8	150-150	7/8 x 1 7/16	TVA-2415	1.50
16-16	150-150	7/8 x 1 7/16	TVA-2420	1.80
20-12	150-150	7/8 x 1 7/16	TVA-2425	1.60
20-20	150-150	7/8 x 1 7/16	TVA-2428	1.65
30-20	150-150	7/8 x 1 11/16	TVA-2421	1.70
30-30	150-150	7/8 x 1 11/16	TVA-2434	1.80

*Add 1/16" to diameter and 1/8" to length to allow for outer insulating tube on all units except those marked (†) which are of cardboard construction.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

ATOM ELECTROLYTICS, continued

μF	WVDC	Diam. x Length*	Cat. No.	List
40-20	150-150	7/8 x 1 11/16	TVA-2438	$1.75
40-30	150-150	7/8 x 1 15/16	TVA-2442	1.80
40-40	150-150	7/8 x 1 15/16	TVA-2445	1.85
50-30	150-150	7/8 x 1 15/16	TVA-2450	1.95
50-50	150-150	7/8 x 2 7/16	TVA-2453	2.10
80-30	150-150	7/8 x 2 7/16	TVA-2460	2.20
80-50	150-150	1 x 3 1/4	TVA-2462	2.35
100-100	150-150	1 3/8 x 3 3/8	TVA-2464†	3.20
200-5	150-150	1 x 3 7/8	TVA-2467†	2.65
20-20	250-250	7/8 x 1 15/16	TVA-2515	1.85
40-10	250-250	7/8 x 2 3/16	TVA-2520	2.05
80-10	250-250	15/16 x 3 3/16	TVA-2525	2.55
120-80	250-250	1 3/8 x 3 7/8	TVA-2535†	4.00
140-5	350-350	1 1/4 x 3 7/8	TVA-2640†	4.15
80-100	450-50	1 3/8 x 4 3/8	TVA-2711†	3.70
8-8	450-450	7/8 x 1 11/16	TVA-2720	1.70
10-10	450-450	7/8 x 1 15/16	TVA-2722	1.85
16-8	450-450	7/8 x 2 3/16	TVA-2725	2.00
20-20	450-450	7/8 x 2 15/16	TVA-2730	2.50
30-30	450-450	1 x 3 3/16	TVA-2735	3.00
40-40	450-450	1 x 3 15/16	TVA-2740	3.40

DUAL UNITS
(SEPARATE SECTIONS—4 LEADS)

20-20	150-150	1 x 2 3/8	TU-220	2.05
40-20	150-150	1 1/16 x 2 5/8	TU-420	2.20
16-16	250-250	1 x 2 7/8	TU-216	2.20
8-8	450-450	1 1/16 x 3 3/8	TU-88	2.15
16-16	450-450	1 3/8 x 3 1/8	TU-1616	2.80

TRIPLE UNITS

20-20-20	150-150-25	7/8 x 1 7/16	TVA-3415	2.05
30-30-100	150-150-12	7/8 x 1 15/16	TVA-3419	2.30

μF	WVDC	D. x L.	Cat. No.	List
40-30-20	150-150-25	7/8 x 1 15/16	TVA-3423	$2.20
40-40-100	150-150-25	7/8 x 2 7/16	TVA-3427	2.45
50-30-20	150-150-25	7/8 x 2 3/16	TVA-3430	2.35
50-30-200	150-150-25	1 x 2 3/16	TVA-3433	2.75
50-50-20	150-150-25	15/16 x 2 3/16	TVA-3436	2.50
80-20-100	150-150-25	1 1/4 x 2 7/8	TVA-3437†	2.75
20-20-20	150-150-150	7/8 x 1 11/16	TVA-3440	2.20
30-30-30	150-150-150	7/8 x 2 3/16	TVA-3444	2.35
40-30-20	150-150-150	7/8 x 2 3/16	TVA-3448	2.35
40-40-40	150-150-150	1 x 2 7/16	TVA-3451	2.45
80-40-20	150-150-150	1 x 2 15/16	TVA-3455	2.75
80-10-100	300-250-50	1 3/8 x 3 3/8	TVA-3556†	3.60
120-40-10	300-300-250	1 3/8 x 4 5/8	TVA-3563†	4.85
140-5-200	350-350-200	1 1/2 x 5 1/8	TVA-3620†	6.70
5-80-40	450-400-400	1 3/8 x 4 1/8	TVA-3712†	4.55
12-12-20	450-450-25	1 x 2 7/8	TVA-3716	2.30

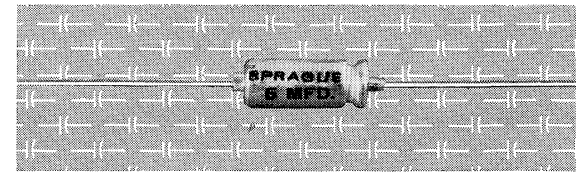
QUADRUPLE UNITS

140-5-200-30	300-300-150-150	1 1/2 x 4 7/8	TVA-4576†	5.15
120-40-40-10	300-300-300-250	1 3/8 x 4 5/8	TVA-4584†	6.20
140-5-200-30	350-300-200-200	1 1/2 x 5 1/8	TVA-4607†	7.65
80-60-40-20	350-350-300-150	1 1/2 x 4 5/8	TVA-4618†	5.90
80-10-40-100	400-400-300-50	1 3/8 x 4 1/8	TVA-4659†	5.45
10-80-40-100	450-300-250-50	1 3/8 x 4 1/8	TVA-4705†	4.80
20-120-40-100	450-300-250-50	1 3/8 x 4 3/8	TVA-4706†	6.15
10-80-40-40	450-300-250-250	1 3/8 x 4 3/8	TVA-4708†	4.95
10-20-20-10	450-300-300-300	1 3/8 x 3 1/8	TVA-4712†	3.50
20-20-20-10	450-450-450-450	1 3/8 x 3 5/8	TVA-4742†	4.25
40-20-20-10	450-450-450-450	1 3/8 x 4 3/8	TVA-4748†	4.70
40-40-20-20	450-450-450-450	1 1/2 x 4 1/4	TVA-4750†	5.45

*Add 1/16" to diameter and 1/8" to length to allow for outer insulating tube on all units except those marked (†) which are of cardboard construction.

TE LITTL-LYTIC® ELECTROLYTICS

- A *NEW* Approach to Reliability in Reasonably-priced Sub-miniature Electrolytic Capacitors
- Hermetically-sealed, Metal Encased
- Ultra-low Leakage Current, Long Shelf Life
- Excellent Replacement Capacitors for Transistorized Radios, Hearing Aids, Wireless Microphones, Pocket Wire Recorders, and Other Miniature Electronic Equipment



μF	WVDC	Diam. x Length	Cat. No.	List
5	1	3/16 x 9/16	TE-1010	$1.00
2	3	3/16 x 1/2	TE-1051	1.00
10	3	1/4 x 5/8	TE-1053	1.00
25	3	1/4 x 5/8	TE-1055	1.00
40	3	1/4 x 3/4	TE-1057	1.00
110	3	3/8 x 3/4	TE-1060	1.10
200	3	3/8 x 1	TE-1064	1.20
1	6	3/16 x 1/2	TE-1080	1.00
2	6	3/16 x 1/2	TE-1081	1.00
3	6	3/16 x 1/2	TE-1082	1.00
4	6	3/16 x 5/8	TE-1083	1.00
5	6	3/16 x 5/8	TE-1084	1.00
8	6	1/4 x 5/8	TE-1086	1.05
10	6	1/4 x 5/8	TE-1087	1.05
15	6	1/4 x 5/8	TE-1089	1.05
25	6	1/4 x 5/8	TE-1091	1.05
30	6	3/8 x 5/8	TE-1092	1.10
40	6	3/8 x 5/8	TE-1095	1.10
50	6	3/8 x 3/4	TE-1100	1.10
60	6	3/8 x 3/4	TE-1101	$1.10
100	6	3/8 x 7/8	TE-1102	1.20
10	10	1/4 x 5/8	TE-1114	1.05
15	10	1/4 x 3/4	TE-1116	1.05
25	10	3/8 x 5/8	TE-1118	1.05
5	12	1/4 x 5/8	TE-1127	1.05
10	12	1/4 x 5/8	TE-1128	1.05
5	15	1/4 x 5/8	TE-1152	1.10
10	15	1/4 x 5/8	TE-1155	1.10
20	15	3/8 x 5/8	TE-1157	1.15
30	15	3/8 x 3/4	TE-1158	1.20
5	25	1/4 x 5/8	TE-1202	1.10
6	25	1/4 x 5/8	TE-1203	1.10
10	25	3/8 x 5/8	TE-1204	1.15
15	25	3/8 x 5/8	TE-1205	1.15
20	25	3/8 x 5/8	TE-1206	1.20
5	50	1/4 x 3/4	TE-1303	1.15
10	50	3/8 x 5/8	TE-1304	1.20
20	50	3/8 x 7/8	TE-1305	1.20

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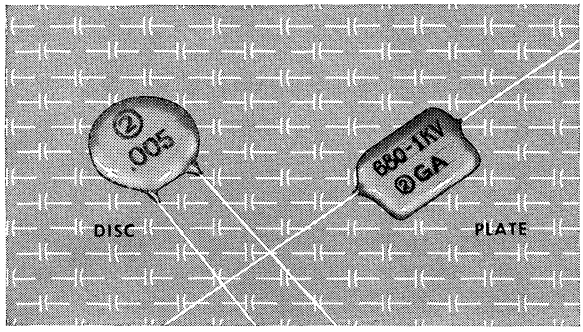
SPRAGUE CAPACITORS

CERA-MITE* CERAMIC CAPACITORS



- Tiny, Tough, Dependable In Every Application
- Low Self-inductance Of Silvered Flat-plate Design Means Very High By-pass Efficiency In All TV Circuits
- Flat-plate Construction Permits Higher Self-resonant Frequency Than Tubular Ceramic Or Molded Mica Capacitors
- Tough Moisture-proof Coating Protects Against Short-circuiting And Assures Good Performance Under Severe Conditions Of Humidity And Vibration
- Cera-mite Capacitors Easily Fit Into Tight Spaces, Even Across Subminiature Tube Sockets
- Designed For 85 °C (185 °F) Continuous Operation

★Trademark

GENERAL APPLICATION TYPES

- Excellent Where Temperature Coefficient Is Not Important, Such As By-pass and Coupling Applications
- Ideal For Replacing Older Types Of General Application Capacitors Such as Molded Micas, Tubular Ceramics, and Paper Tubulars

μμF	Cat. No.	List
300 WVDC (plates) Std. Tolerance ±20%		
470	3GAB-T47	$.35
1000	3GAB-D1	.35
2200	3GAB-D22	.45
4700	3GAB-D47	.45
.01 MF	3GAB-S1	.65
.022	3GAB-S22	.65
.047	3GAB-S47	.70
.1	3GAB-P1	.75
.15	3GAB-P15	.80
400 WVDC (discs) Std. Tolerance ±20%		
10	4GA-Q1	$.25
15	4GA-Q15	.25
22	4GA-Q22	.25
33	4GA-Q33	.25
47	4GA-Q47	.25
68	4GA-Q68	.25
100	4GA-T1	.25
150	4GA-T15	.25
220	4GA-T22	.25
330	4GA-T33	.25
470	4GA-T47	.25
1000 WVDC (discs) Std. Tolerance ±20%		
5	5GA-V5	$.25
6	5GA-V6	.25
7.5	5GA-V75	.25
8	5GA-V8	.25
10	5GA-Q1	.25
12	5GA-Q12	.25
15	5GA-Q15	.25
18	5GA-Q18	.25
20	5GA-Q2	.25
22	5GA-Q22	.25
25	5GA-Q25	.25
27	5GA-Q27	.25
30	5GA-Q3	.25
33	5GA-Q33	.25
39	5GA-Q39	.25
47	5GA-Q47	$.25
50	5GA-Q5	.25
56	5GA-Q56	.25
68	5GA-Q68	.25
75	5GA-Q75	.25
82	5GA-Q82	.25
91	5GA-Q91	.25
100	5GA-T1	.25
120	5GA-T12	.25
130	5GA-T13	.25
150	5GA-T15	.25
180	5GA-T18	.25
200	5GA-T2	.25
220	5GA-T22	.25
240	5GA-T24	.25
250	5GA-T25	.25
270	5GA-T27	.25
300	5GA-T3	.25
330	5GA-T33	.25
350	5GA-T35	.25
360	5GA-T36	.25
390	5GA-T39	.25
400	5GA-T4	.25
470	5GA-T47	.25
500	5GA-T5	.25
560	5GA-T56	.25
600	5GA-T6	.25
680	5GA-T68	.25
750	5GA-T75	.25
800	5GA-T8	.25
820	5GA-T82	.25
1000	5GA-D1	.25
1200	5GA-D12	.25
1300	5GA-D13	.25
1500	5GA-D15	.25
1600	5GA-D16	.25
1800	5GA-D18	.25
2000	5GA-D2	.25
2200	5GA-D22	.25
2500	5GA-D25	.25
2700	5GA-D27	.25
3000	5GA-D3	.25
3300	5GA-D33	.25
3900	5GA-D39	.25
4000	5GA-D4	.25
4300	5GA-D43	$.30
4700	5GA-D47	.30
5000	5GA-D5	.30
10000	†5GA-S1	.30
20000	†5GA-S2	.60
†500 WVDC		
1000 WVDC (plates) Std. Tolerances: Type 10GAB-V47 ±.5 MMF, other types 10GAB ±20%, types 10HKB MRC		
4.7	10GAB-V47	$.30
10	10GAB-Q1	.30
18	10GAB-Q18	.30
22	10GAB-Q22	30
25	10GAB-Q25	.30
33	10GAB-Q33	.30
39	10GAB-Q39	.30
47	10GAB-Q47	.30
68	10GAB-Q68	.30
75	10GAB-Q75	.30
82	10GAB-Q82	.30
100	10GAB-T1	.30
120	10GAB-T12	.30
150	10GAB-T15	.30
180	10GAB-T18	.30
200	10GAB-T2	.30
220	10GAB-T22	.30
250	10GAB-T25	.30
270	10GAB-T27	.30
300	10GAB-T3	.30
330	10GAB-T33	.30
390	10GAB-T39	.30
470	10GAB-T47	.30
500	10GAB-T5	.30
560	10GAB-T56	.50
680	*10HKB-T68	.50
1000	*10HKB-D1	.50
1200	*10HKB-D12	.50
1500	*10HKB-D15	.50
2200	*10HKB-D22	.50
3300	*10HKB-D33	.50
4700	*10HKB-D47	.50
.01 MF	*10HKB-S1	.60
.015	*10HKB-S15	1.10
.022	*10HKB-S22	1.35
1500 WVDC (plates) Std. Tolerances: thru 4.7 MMF ±.5 MMF, all others ±20%		
3.3	15GAB-V33	$ 30
4.7	15GAB-V47	.30
6	15GAB-V6	.30
7.5	15GAB-V75	.30
10	15GAB-Q1	.30
12	15GAB-Q12	.30
15	15GAB-Q15	.30
18	15GAB-Q18	.30
20	15GAB-Q2	.30
22	15GAB-Q22	.30
33	15GAB-Q33	.30
47	15GAB-Q47	.30
56	15GAB-Q56	.30
62	15GAB-Q62	.30
68	15GAB-Q68	.30
82	15GAB-Q82	.35
100	15GAB-T1	.35
150	15GAB-T15	.35
180	15GAB-T18	.35
220	15GAB-T22	.35
300	15GAB-T3	.35
330	15GAB-T33	.35
390	15GAB-T39	.35
470	15GAB-T47	.35
2000 WVDC (discs) Std. Tolerances: thru 5 MMF ±.5 MMF, thru 82 MMF ±10%, thru 1000 MMF ±20%, thru 6000 MMF MRC		
3.3	20GA-V33	$.35
5	20GA-V5	.35
7.5	20GA-V75	.35
10	20GA-Q1	.35
12	20GA-Q12	.35
15	20GA-Q15	.35
18	20GA-Q18	.35
20	20GA-Q2	.35
22	20GA-Q22	.35
33	20GA-Q33	.35
39	20GA-Q39	.35
47	20GA-Q47	$.35
56	20GA-Q56	.35
62	20GA-Q62	.35
68	20GA-Q68	.35
75	20GA-Q75	.35
82	20GA-Q82	.35
100	20GA-T1	.35
120	20GA-T12	.35
150	20GA-T15	.35
180	20GA-T18	.35
200	20GA-T2	.35
220	20GA-T22	.35
300	20GA-T3	.35
330	20GA-T33	.35
390	20GA-T39	.35
470	20GA-T47	.35
500	20GA-T5	.35
1000	20GA-D1	.55
4000	*20HK-D4	.55
5000	*20HK-D5	.70
6000	*20HK-D6	.70
2000 WVDC (plates) Std. Tolerances: 5 MMF ±.5 MMF, other types 20GAB ±20%, types 20HKB MRC		
5	20GAB-V5	$.35
10	20GAB-Q1	.35
15	20GAB-Q15	.35
22	20GAB-Q22	.35
30	20GAB-Q3	.35
33	20GAB-Q33	.35
39	20GAB-Q39	.35
47	20GAB-Q47	.35
100	20GAB-T1	.35
150	20GAB-T15	.35
200	20GAB-T2	.35
220	*20HKB-T22	.35
300	*20HKB-T3	.35
500	*20HKB-T5	.35
1000	*20HKB-D1	.55
5000	*20HKB-D5	.70
8000	*20HKB-D8	.70
10000	*20HKB-S1	.70

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

CERA-MITE CERAMIC CAPACITORS, continued

μμF	Cat. No.	List
3000 WVDC (discs)		
Std. Tolerances: 1.5 μμF ±.25 μμF, 4.7 μμF ±.5 μμF, thru 68 μμF ±10%, thru 500 μμF ±20%		
1.5	30GA-V15	$.40
4.7	30GA-V47	.40
10	30GA-Q1	.40
12	30GA-Q12	.40
15	30GA-Q15	.40
25	30GA-Q25	.40
30	30GA-Q3	.40
39	30GA-Q39	.40
50	30GA-Q5	.40
60	30GA-Q6	.40
68	30GA-Q68	.40
100	30GA-T1	.40
120	30GA-T12	.40
150	30GA-T15	$.40
180	30GA-T18	.40
200	30GA-T2	.40
220	30GA-T22	.40
250	30GA-T25	.40
270	30GA-T27	.40
300	30GA-T3	.40
500	30GA-T5	.40
3000 WVDC (plates)		
Std. Tolerances: 1.5 μμF ±.25 μμF, 4.7 μμF ±.5 μμF, other types 30GAB ±20%		
1.5	30GAB-V15	$.40
4.7	30GAB-V47	.40
10	30GAB-Q1	.40
15	30GAB-Q15	.40
47	30GAB-Q47	.40
60	30GAB-Q6	.40
68	30GAB-Q68	$.40
100	30GAB-T1	.40
120	30GAB-T12	.40
150	30GAB-T15	.40
180	30GAB-T18	.40
5000 WVDC (discs)		
Std. Tolerances: 4.7 μμF ±.5 μμF, thru 22 μμF ±10%, thru 500 μμF ±20%		
4.7	50GA-V47	$.45
10	50GA-Q1	.45
22	50GA-Q22	.45
47	50GA-Q47	.45
100	50GA-T1	.45
220	50GA-T22	.45
330	50GA-T33	.55
500	50GA-T5	1.00
6000 WVDC (plates)		
Std. Tolerances: 4.7 μμF ±.5 μμF, other types 60GAB ±20% types 60HKB MRC		
4.7	60GAB-V47	$.50
8.2	60GAB-V82	.50
10	60GAB-Q1	.50
12	60GAB-Q12	.50
15	60GAB-Q15	.50
18	60GAB-Q18	.50
20	60GAB-Q2	.50
22	60GAB-Q22	.50
30	60GAB-Q3	.50
33	60GAB-Q33	.50
47	60GAB-Q47	.50
100	*60HKB-T1	.50
470	*60HKB-T47	.65
7500 WVDC (discs)		
Std. Tolerances: 4.7 μμF ±.5 μμF, thru 18 μμF ±10%, thru 470 μμF ±20%		
4.7	75GA-V47	$.50
8.2	75GA-V82	.50
10	75GA-Q1	.50
12	75GA-Q12	.50
15	75GA-Q15	.50
18	75GA-Q18	.50
20	75GA-Q2	.50
22	75GA-Q22	.50
30	75GA-Q3	.50
33	75GA-Q33	.50
47	75GA-Q47	.50
56	75GA-Q56	.50
100	75GA-T1	.50
470	75GA-T47	.65

HIGH-K TYPES

- Designed Specifically for Minimum Capacitance Requirements
- Intended for By-pass and Coupling Applications where Additional Capacitance is Not Important
- Rated at 1000 WVDC
- Units listed below are discs

μF	Cat. No.	List
SINGLE UNITS		
.001	5HK-D1	$.25
.0015	5HK-D15	.25
.002	5HK-D2	.25
.0022	5HK-D22	.25
.0025	5HK-D25	.25
.0033	5HK-D33	.25
.004	5HK-D4	.25
.0047	5HK-D47	.25
.005	5HK-D5	.25
.0068	5HK-D68	.25
.01	5HK-S1	.30
.015	5HK-S15	.40
.02	5HK-S2	$.60
.025	5HK-S25	.65
.03	5HK-S3	.65
.05	†5HK-S5	.70
.1	†5HK-P1	.80
DUAL UNITS		
2 x .001	5HK-2D1	$.40
2 x .0015	5HK-2D15	.40
2 x .002	5HK-2D2	.40
2 x .0022	5HK-2D22	.40
2 x .004	5HK-2D4	.45
2 x .0047	5HK-2D47	.45
2 x .01	5HK-2S1	.50
2 x .02	†5HK-2S2	.70

†500WVDC

NPO TYPES

- Zero Temperature-coefficient Capacitors
- Used Where Capacitance Change with Temperature is Undesirable
- Superior to Silvered-mica Types in Stability, High "Q", and Insulation Resistance
- Rated at 500 WVDC
- Units listed below are discs, except those marked with a star (★), which are plate capacitors

μμF	Cat. No.	List
1.0	★5TCCB-V1	$.50
1.5	★5TCCB-V15	.50
2.2	★5TCCB-V22	.50
3.3	★5TCCB-V33	.50
4.7	★5TCCB-V47	.50
6.8	★5TCCB-V68	.50
10	5TCC-Q1	.50
15	5TCC-Q15	.50
20	5TCC-Q2	.50
22	5TCC-Q22	.50
25	5TCC-Q25	.50
33	5TCC-Q33	$.50
39	5TCC-Q39	.55
47	5TCC-Q47	.55
50	5TCC-Q5	.55
68	5TCC-Q68	.55
75	5TCC-Q75	.55
100	5TCC-T1	.55
120	5TCC-T12	.60
150	5TCC-T15	.60
175	5TCC-T175	.60
220	5TCC-T22	.70
270	5TCC-T27	.80

N750 TYPES

- Eliminate Frequency Drift
- Negative Temp-Coefficient is 750 ppm/° C.
- Rated at 500 V
- Starred (★) item is a Plate. All others are Discs

μμF	Cat. No.	List
5.0	★5TCUB-V5	$.50
10	5TCU-Q1	.50
15	5TCU-Q15	.50
20	5TCU-Q2	.50
22	5TCU-Q22	.50
25	5TCU-Q25	.50
33	5TCU-Q33	.50
47	5TCU-Q47	.50
68	5TCU-Q68	.50
75	5TCU-Q75	.50
100	5TCU-T1	.50
150	5TCU-T15	.50
200	5TCU-T2	.50
220	5TCU-T22	.50
330	5TCU-T33	.50

DISC CERAMIC TYPES FOR AC APPLICATIONS

- Rated at 125 VAC
- Standard Capacitance Tolerance ±20%

μF	Cat. No.	List
.001	125L-D10	$.25
.0015	125L-D15	.25
.002	125L-D20	.25
.0047	125L-D47	.25
.005	125L-D50	.25
.01	125L-S10	.30
.015	125L-S15	.30
.02	125L-S20	.30
2 x .005	125L-2D50	.45
2 x .01	125L-2S10	.50

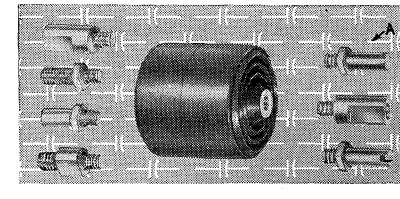
DISC CERAMIC TYPES FOR BUFFER APPLICATIONS

- Rated at 2000 WVDC
- Standard Capacitance Tolerance ±20%

μF	Cat. No.	List
.001	BL-D10	$.35
.002	BL-D20	.35
.003	BL-D30	.35
.004	BL-D40	.35
.005	BL-D50	.35
.006	BL-D60	.35
.007	BL-D70	.35
.0075	BL-D75	.35
.008	BL-D80	.35
.01	BL-S10	.35

HI-VOLTAGE DOORKNOB CERAMICS

- Capacitor Body has Female Threads for Interchangeable Screw-in Terminals.
- Molded in Non-Flammable, Moisture-resistant, Thermosetting Plastic.



- Molded Guard Rings Lengthen Surface Creepage Path.
- 20DK-T5 Comes Complete with 7 Terminals, as illustrated. (Packaged 2 per plastic box, with 14 terminals.)
- 30DK-T5 is Supplied with 2 Terminals, as per Style Marked "A".

μμF	KV	Diam. x Length	Cat. No.	List
500	20	1 x 3 1/32	20DK-T5	$1.85
500	30	1 5/16 x 1 1/4	30DK-T5	3.00

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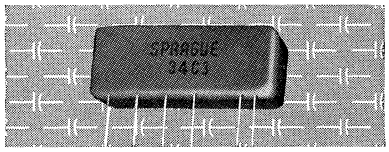
SPRAGUE CAPACITORS

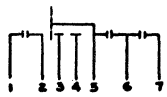
BULPLATE® MULTIPLE CERAMICS



- These Rugged Units Combine in One Compact Assembly All the Capacitors Used in One or More Stages of a Radio Circuit
- Fit Tight Spaces in Miniature Sets
- Rated at 500 WVDC, 1000 VDC Test

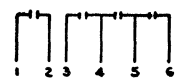
	MFD.
1&2	.002 +100% −25%
3&4	.00022 ±50%
4&5	.00022 ±50%
5&6	.005 +100% −25%

Cat. No. 34C3 — List, $.75



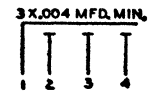
	MFD.
1&2	.002 +100% −25%
3&5	.00015 +100% −0%
4&5	.005 MIN.
5&6	.0001 +75% −25%
6&7	.005 +100% −25%

Cat. No. 34C4 — List, $.90



	MFD.
1&2	.002 +100% −25%
3&4	.005MIN.
4&5	.0001 +75% −25%
5&6	.005 +100% −25%

Cat. No. 34C5 — List, $.75

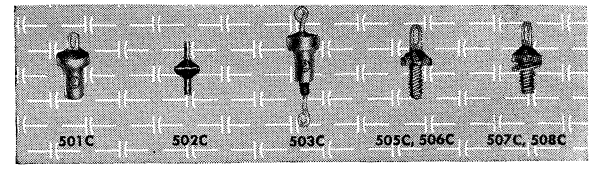


MFD.
3 x .004

Cat. No. 34C6 — List, $.65

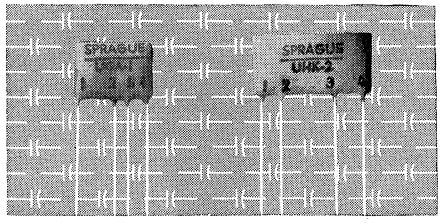
BUTTON CERAMICS

μμF	Class	List
TYPE 501C		
100	GA ± 20%	$.70
470	GA ± 20%	.70
1000	MRC	.70
1500	MRC	.70
TYPE 502C		
10	SL	.65
22	SL	.65
TYPE 503C		
100	GA ± 20%	.75
470	GA ± 20%	.75
1000	MRC	.75
1500	MRC	.75
TYPE 505C		
100	GA ± 20%	.70
220	GA ± 20%	.70
470	MRC	$.70
1000	MRC	.70
TYPE 506C		
470	GA ± 20%	.75
1000	MRC	.75
1500	MRC	.75
TYPE 507C		
100	GA ± 20%	.90
220	GA ± 20%	.90
470	MRC	.90
680	MRC	.90
1000	MRC	.90
TYPE 508C		
470	GA ± 20%	.95
1000	MRC	.95
1500	MRC	.95



- Designed for u-h-f TV Receivers and Electronic Equipment
- Flat Disc Design Means Low Self-inductance and High Self-resonant Frequency — Superior to Similar Units using Tubular Ceramic Elements
- Capacitor Element Sealed in Top of Unit with Plastic Resin
- 502C "shirt studs" are for u-h-f Coupling Applications in TV Sets
- 503C are Feed-thru Capacitors Intended for Filtering Leads thru Chassis—Ferrule Shank fits Standard Push Clip
- Stand-off Capacitors for By-pass Applications: 501C has Ferrule Shank to fit Standard push clip, 505C has Self-tapping 6-32 Thread, 507C has Standard 6-32 Thread, 506C has Self-tapping 10-32 Thread, 508C has Standard 10-32 Thread—All Screw-mounting Types Have Hexagon Heads
- Order by Type, Capacitance, Voltage, Class—Units Listed here are Rated at 500 WVDC

"UNIVERSAL" CERAMIC CAPACITORS



- Another EXCLUSIVE Sprague Development Designed for the Convenience of Dealers and Service Technicians
- Intended for Field or Shop Use as Replacements for Conventional Capacitors Which Cannot Be Immediately Obtained
- These Remarkable New Units are Ceramic Plate Capacitors with four leads. By Using Certain Leads for Terminals, Soldering Certain Leads Together, and Cutting Off Certain Leads, Many Ratings May Be Obtained
- UGA-1 and UGA-2 Are General Application Types Intended for Bypass and Coupling Applications. Ideal for Replacing Older G-A Types, such as Molded Micas, Tubular Ceramics, Paper Tubulars
- UHK-1 and UHK-2 Are High-K Types for Use Where Minimum Capacitance is Required. Can Also Be Used for Bypass and Coupling Where Additional Capacitance Is Not Important
- "Universal" Ceramics Come Complete With Simple Instructions on How To Make Up Desired Ratings

"UNIVERSAL" CERAMICS CAN BE QUICKLY CONVERTED TO RATINGS (μF) SHOWN IN TABLE BELOW

UGA-1	UGA-2	UHK-1	UHK-2
.0004	.0006		
.00047	.00068	.001	.0025
.0005	.00075		
.00056	.0008	.0015	.0033
.0006	.00082	.002	.004
.00068	.001		
.00075	.0012	.0022	.0047
.0008	.0013		
.00082	.0015	.0025	.005
.001	.0016		
.0012	.0018	.0033	.0068
.0013	.002		
	.0022	.004	.01
	.0025		
	.0027		.015

Cat. No.	Type	Ratings Available	Capacitance (Range μF)	Tolerance	WVDC	L.xW.xT.	List
UGA-1	G-A	12	.0004 to .0013	±20%	500	25/32x5/8x5/32	$.50
UGA-2	G-A	15	.0006 to .0027	±20%	500	1 1/8x5/8x5/32	.60
UHK-1	High-K	7	.001 to .004	gmv	500	25/32x5/8x5/32	.50
UHK-2	High-K	8	.0025 to .015	gmv	500	1 1/8x5/8x5/32	.60

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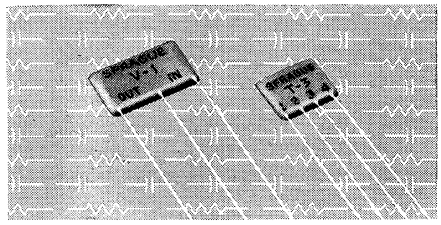
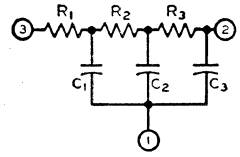
SPRAGUE CAPACITORS

BULPLATE® PRINTED CIRCUITS



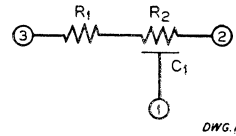
- Especially Designed to Save Space and Reduce Assembly Time
- A Combination of Resistors and Capacitors of Maximum Compactness
- Integral Connections are "Printed" and Brought Out to External Leads Which Are Anchored to the Basic Ceramic Plate
- Completed Unit is Protected by a Moisture-proof Coating
- Capacitors are rated at 500 volts d-c, 1000 volts test, while the maximum voltage to be applied across the resistors is 250 volts d-c; except on D-1 where all elements are rated at 100 volts d-c.

VERTICAL INTEGRATOR



C_1 (μF)	C_2 C_3 (μF)	R_1 (KΩ)	R_2 R_3 (KΩ)	Cat. No.	List Price
.0022	.0047	22	8.2	V-1	$1.10

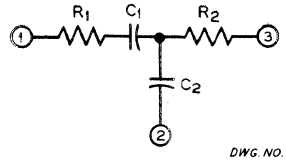
VERTICAL INTEGRATOR



DWG. NO. A-1262

C_1 (μF)	R_1 (KΩ)	R_2 (KΩ)	Cat. No.	List Price
.012	22	16.4	V-3	$1.10

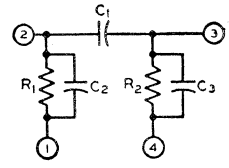
VERTICAL INTEGRATOR



DWG. NO. A-1264

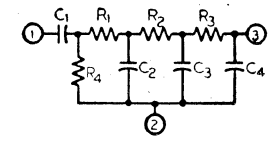
C_1 ($\mu\mu$F)	C_2 ($\mu\mu$F)	R_1 (KΩ)	R_2 (KΩ)	Cat. No.	List Price
4700	4700	22	10	V-5	$1.00

TRIODE COUPLING



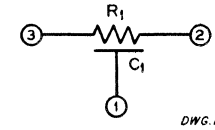
C_1 (μF)	C_2+C_3 ($\mu\mu$F)	R_1 (MΩ)	R_2 (MΩ)	Cat. No.	List Price
.01	250	.5	.5	T-1	$.75
.01	250	.25	.5	T-2	.75
.005	250	.5	.5	T-3	.70
.005	250	.25	.5	T-4	.70

VERTICAL INTEGRATOR



C_1 (μF)	C_2 (μF)	C_2 C_4 (μF)	R_1 R_4 (KΩ)	R_2 R_3 (KΩ)	Cat. No.	List Price
.01	.002	.005	22	8.2	V-2	$1.25

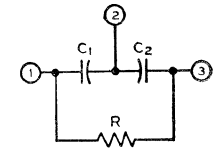
VERTICAL INTEGRATOR



DWG. NO. A-1263

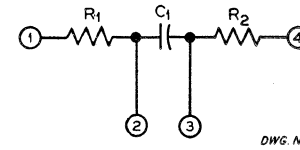
C_1 (μF)	R_1 (KΩ)	Cat. No.	List Price
.012	16.4	V-4	$1.10

DIODE FILTER



C_1 ($\mu\mu$F)	C_2 ($\mu\mu$F)	R (KΩ)	Cat. No.	List Price
100	100	47	D-1	$.60
150	150	47	D-2	.60
50	50	47	D-3	.60

TRIODE COUPLING



DWG. NO. A-1265

C_1 (μF)	R_1 (KΩ)	R_2 (MΩ)	Cat. No.	List Price
.01	470	1	T-5	$.75

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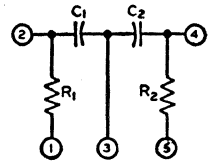
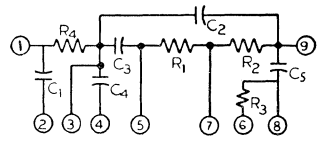
BULPLATE PRINTED CIRCUITS, continued

DECOUPLING FILTER



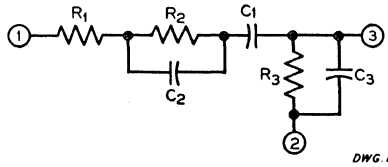
C_1 (μF)	C_2 (μF)	R_1 (Ω)	R_2 (Ω)	Cat. No.	List Price
.0047	.0047	1000	820	F-1	$.85
.0047	.0047	220	1000	F-2	.85

DETECTOR PENTODE COUPLING



C_1 (μF)	C_2 C_4 ($\mu\mu$F)	C_3 (μF)	C_5 (μF)	R_1 (MΩ)	R_2 (MΩ)	R_3 (MΩ)	R_4 (MΩ)	Cat. No.	List Price
.002	150	.01	.005	4.7	1.0	3.3	10	DP-1	$1.25

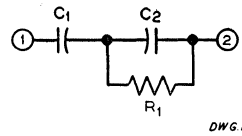
SYNC TAKE-OFF NETWORK



DWG. NO. A-1266

C_1 (μF)	C_2 ($\mu\mu$F)	C_3 ($\mu\mu$F)	R_1 (KΩ)	R_2 (KΩ)	R_3 (MΩ)	Cat. No.	List Price
.01	270	25	10	330	2.2	ST-1	$1.25
.01	270	25	10	220	2.2	ST-2	1.25

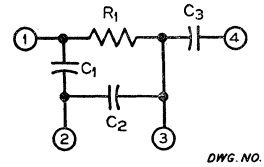
MISCELLANEOUS (Special Application)



DWG. NO. A-1268

C_1 (μF)	C_2 ($\mu\mu$F)	R_1 (KΩ)	Cat. No.	List Price
.01	150	270	PB-1	$ .75

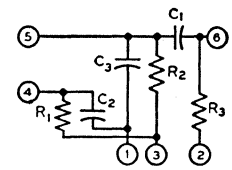
MISCELLANEOUS (Special Application)



DWG. NO. A-1270

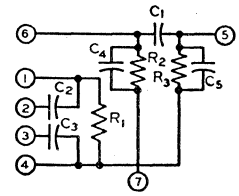
C_1 ($\mu\mu$F)	C_2 (μF)	C_3 (μF)	R_1 (KΩ)	Cat. No.	List Price
1000	.004	.01	22	PB-3	$ .75

PENTODE COUPLING



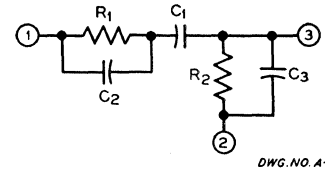
C_1 (μF)	C_2 (μF)	C_3 ($\mu\mu$F)	R_1 (MΩ)	R_2 (MΩ)	R_3 (Ω)	Cat. No.	List Price
.0047	.0022	47	4.7	1.0	2.2	P-1	$ .90
.0047	.0047	100	4.7	1.0	2.2	P-2	.90
.002	.005	100	4.7	1.0	2.2	P-3	1.00

AUDIO OUTPUT



C_1 (μF)	C_2 (μF)	C_3 ($\mu\mu$F)	C_4+C_5 ($\mu\mu$F)	R_1 (MΩ)	R_2 R_3 (MΩ)	Cat. No.	List Price
.0047	.0022	220	220	6.8	.47	DT-1	$1.00
.005	.005	220	220	6.8	.47	DT-2	1.15
.005	.002	220	500	6.8	.47	DT-3	1.00
.005	.002	220	250	6.8	.47	DT-4	1.00
.005	.005	220	250	6.8	.47	DT-5	1.15
.005	.005	220	250	10	.47	DT-6	1.15

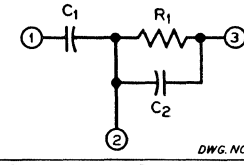
SYNC TAKE-OFF NETWORK



DWG. NO. A-1267

C_1 (μF)	C_2 ($\mu\mu$F)	C_3 ($\mu\mu$F)	R_1 (KΩ)	R_2 (MΩ)	Cat. No.	List Price
.01	270	25	220	2.2	ST-3	$1.25

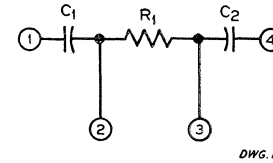
MISCELLANEOUS (Special Application)



DWG. NO. A-1269

C_1 (μF)	C_2 ($\mu\mu$F)	R_1 (MΩ)	Cat. No.	List Price
.01	50	4.7	PB-2	$ .75

MISCELLANEOUS (Special Application)



DWG. NO. A-1271

C_1 ($\mu\mu$F)	C_2 (μF)	R_1 (MΩ)	Cat. No.	List Price
250	.01	4.7	PB-4	$1.00

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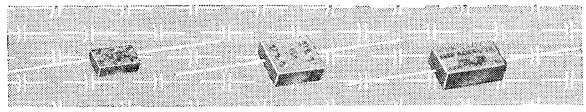
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

MICA TYPES

- Each Mica Capacitor Section Receives a Radio Frequency Test Before Molding
- Careful Selection and Electrical Grading of Raw Mica Assures Maximum Quality
- Section Foils on Foil Micas are Connected to Terminals through Special Low-resistance R-F Bonds
- R-F Current Tested for Peak Ratings After Impregnation and Molding

TYPE MS & 1FM MICAS



TYPE MS—SILVERED MICA

(Standard Capacity Tolerance ±5%)

MF	Cat. No.	List	MF	Cat. No.	List	MF	Cat. No.	List
500 WVDC, 1000 V Test			.000120	MS-312	$ .45	.001300	MS-213	$ 1.25
			.000130	MS-313	.45	.001500	MS-215	1.35
			.000150	MS-315	.45	.001600	MS-216	1.35
.000005	MS-55	$ .45	.000160	MS-316	.45	.001800	MS-218	1.35
.000010	MS-41	.40	.000180	MS-318	.45	.002000	MS-22	1.35
.000012	MS-412	.40	.000200	MS-32	.45	.002200	MS-222	1.50
.000015	MS-415	.40	.000220	MS-322	.45	.002400	MS-224	1.80
.000018	MS-418	.40	.000240	MS-324	.55	.002500	MS-225	1.80
.000020	MS-42	.40	.000250	MS-325	.55	.002700	MS-227	1.90
.000022	MS-422	.40	.000270	MS-327	.55	.003000	MS-23	2.05
.000024	MS-424	.40	.000300	MS-33	.55	.003300	MS-233	2.05
.000025	MS-425	.40	.000330	MS-333	.55	.003600	MS-236	2.10
.000027	MS-427	.40	.000360	MS-336	.55	.003900	MS-239	2.15
.000030	MS-43	.40	.000390	MS-339	.65	.004000	MS-24	2.15
.000033	MS-433	.40	.000400	MS-34	.65	.004300	MS-243	2.15
.000036	MS-436	.40	.000430	MS-343	.65	.004700	MS-247	2.15
.000039	MS-439	.40	.000470	MS-347	.70	.005000	MS-25	2.25
.000040	MS-44	.40	.000500	MS-35	.70	.005100	MS-251	2.25
.000043	MS-443	.40	.000510	MS-351	.70	.005600	MS-256	2.50
.000047	MS-447	.40	.000560	MS-356	.75	.006000	MS-26	2.40
.000050	MS-45	.40	.000600	MS-36	.80	.006200	MS-262	2.60
.000051	MS-451	.40	.000620	MS-362	.80	**300 WVDC, 600 V Test**		
.000056	MS-456	.40	.000680	MS-368	.85			
.000060	MS-46	.40	.000700	MS-37	.85			
.000062	MS-462	.40	.000750	MS-375	.90	.006800	MS-268	2.60
.000068	MS-468	.40	.000800	MS-38	.95	.007000	MS-27	2.60
.000070	MS-47	.40	.000820	MS-382	.95	.007500	MS-275	2.80
.000075	MS-475	.40	.000900	MS-39	1.00	.008000	MS-28	2.80
.000082	MS-482	.40	.000910	MS-391	1.00	.008200	MS-282	2.80
.000091	MS-491	.40	.001000	MS-21	1.10	.009000	MS-29	3.10
.000100	MS-31	.40	.001100	MS-211	1.20	.009100	MS-291	3.10
.000110	MS-311	.45	.001200	MS-212	1.30	.010000	MS-11	3.40

TYPE 1FM

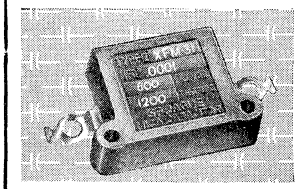
(Standard Capacity Tolerance ± 20%)

MF	Cat. No.	List	MF	Cat. No.	List	MF	Cat. No.	List
500 WVDC 1000 V Test			.000150	1FM-315	$ .20	.001500	1FM-215	$ .30
			.000160	1FM-316	.20	.001600	1FM-216	.30
			.000180	1FM-318	.20	.001800	1FM-218	.40
.000010	1FM-41	$ .25	.000200	1FM-32	.20	.002000	1FM-22	.40
.000012	1FM-412	.25	.000220	1FM-322	.25	.002200	1FM-222	.40
.000015	1FM-415	.25	.000240	1FM-324	.25	.002400	1FM-224	.50
.000018	1FM-418	.25	.000250	1FM-325	.25	.002500	1FM-225	.50
.000020	1FM-42	.25	.000270	1FM-327	.25	.002700	1FM-227	.50
.000022	1FM-422	.25	.000300	1FM-33	.25	.003000	1FM-23	.50
.000024	1FM-424	.25	.000330	1FM-333	.25	.003300	1FM-233	.60
.000027	1FM-427	.25	.000350	1FM-335	.25	.003600	1FM-236	.60
.000030	1FM-43	.25	.000360	1FM-336	.25	.003900	1FM-239	.60
.000033	1FM-433	.25	.000390	1FM-339	.25	.004000	1FM-24	.55
.000036	1FM-436	.25	.000400	1FM-34	.25	.004300	1FM-243	.60
.000039	1FM-439	.25	.000430	1FM-343	.25	.004700	1FM-247	.60
.000040	1FM-44	.25	.000470	1FM-347	.25	.005000	1FM-25	.60
.000043	1FM-443	.20	.000500	1FM-35	.25	.005100	1FM-251	.60
.000047	1FM-447	.20	.000510	1FM-351	.25	.005600	1FM-256	.65
.000050	1FM-45	.20	.000560	1FM-356	.25	.006000	1FM-26	.65
.000051	1FM-451	.20	.000620	1FM-362	.25	.006200	1FM-262	.65
.000056	1FM-456	.20	.000680	1FM-368	.25	**300 WVDC, 600 V Test**		
.000062	1FM-462	.20	.000700	1FM-37	.25			
.000068	1FM-468	.20	.000750	1FM-375	.30	.006800	1FM-268	.85
.000075	1FM-475	.20	.000820	1FM-382	.30	.007000	1FM-27	.85
.000082	1FM-482	.20	.000910	1FM-391	.30	.007500	1FM-275	.85
.000091	1FM-491	.20	.001000	1FM-21	.30	.008000	1FM-28	1.00
.000100	1FM-31	.20	.001100	1FM-211	.30	.008200	1FM-282	1.00
.000110	1FM-311	.20	.001200	1FM-212	.30	.009000	1FM-29	1.00
.000120	1FM-312	.20	.001300	1FM-213	.30	.009100	1FM-291	1.00
.000130	1FM-313	.20				.010000	1FM-11	1.20

MS and 1FM Dimensions

Catalog Nos.	L x W x T	Catalog Nos.	L x W x T
MS-55 through MS-356	21/32x13/32x7/32	1FM-41 through 1FM-356	5/16x15/32x7/32
MS-36 through MS-236	25/32x25/32x7/32	1FM-362 through 1FM-236	53/64x53/64x9/32
MS-239 through MS-282	25/32x25/32x11/32	1FM-239 through 1FM-282	53/64x53/64x11/32
MS-29 through MS-11	1x5/8x3/16	1FM-29 through 1FM-11	1x5/8x3/16

TYPES XFM, YFM & ZFM



(Standard Capacity Tolerance ±10%)

MF	Cat. No.	List
XFM—600 WVDC, 1200 V TEST		
.00005	XFM-45	$1.20
.0001	XFM-31	1.20
.0002	XFM-32	1.20
.00025	XFM-325	1.20
.0003	XFM-33	1.20
.0004	XFM-34	1.20
.0005	XFM-35	1.20
.001	XFM-21	1.20
.0015	XFM-215	1.20
.002	XFM-22	1.30
.0025	XFM-225	1.30
.003	XFM-23	1.45
.004	XFM-24	1.50
.005	XFM-25	1.55
.006	XFM-26	1.80
.007	XFM-27	1.85
.008	XFM-28	1.90
.01	XFM-11	2.15
.02	XFM-12	3.05
.03	XFM-13	4.45

Catalog Nos.	L x W x T
XFM-45 thru XFM-11	1 5/8 x 1 1/8 x 1 1/32
XFM-12 thru XFM-13	1 5/8 x 1 1/8 x 7/16

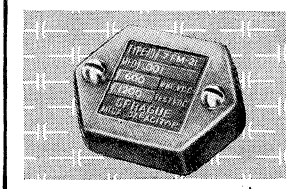
MF	Cat. No.	List
YFM—1200 WVDC, 2500 V TEST		
.00005	YFM-45	1.60
.0001	YFM-31	1.60
.0002	YFM-32	1.60
.00025	YFM-325	1.60
.0003	YFM-33	1.60
.0004	YFM-34	1.60
.0005	YFM-35	1.60
.001	YFM-21	1.80
.0015	YFM-215	2.30
.002	YFM-22	2.40
.0025	YFM-225	2.80
.003	YFM-23	3.05
.004	YFM-24	3.05
.005	YFM-25	3.30
.006	YFM-26	3.30
.007	YFM-27	3.45
.008	YFM-28	3.85
.01	YFM-11	5.10

Catalog Nos.	L x W x T
YFM-45 thru YFM-24	1 5/8 x 1 1/8 x 1 1/32
YFM-25 thru YFM-11	1 5/8 x 1 1/8 x 7/16

MF	Cat. No.	List
ZFM—2500 WVDC, 5000 V TEST		
.00005	ZFM-45	1.90
.0001	ZFM-31	1.90
.0002	ZFM-32	1.90
.00025	ZFM-325	2.20
.0003	ZFM-33	2.25
.0004	ZFM-34	2.30
.0005	ZFM-35	2.40
.001	ZFM-21	2.80
.0015	ZFM-215	3.55
.002	ZFM-22	4.15
.003	ZFM-23	4.90
.004	ZFM-24	5.65
005	ZFM-25	6.40

Catalog Nos.	L x W x T
ZFM-45 thru ZFM-22	1 5/8 x 1 1/8 x 1 1/32
ZFM-23 thru ZFM-25	1 5/8 x 1 1/8 x 7/16

TYPES 7FM, 8FM & 9FM



(Standard Capacity Tolerance ±10%)

MF	Cat. No.	List
7FM—600 WVDC, 1200 V TEST		
.00005	7FM-45	$1.45
.0001	7FM-31	1.45
.00015	7FM-315	1.45
.0002	7FM-32	1.45
.00025	7FM-325	1.45
.0005	7FM-35	1.45
.001	7FM-21	1.45
.002	7FM-22	1.65
.0025	7FM-225	1.70
.003	7FM-23	1.85
.004	7FM-24	2.00
.005	7FM-25	2.10
.006	7FM-26	2.20
.008	7FM-28	2.45
.01	7FM-11	2.80
.015	7FM-115	3.05
.02	7FM-12	3.55
.03	7FM-13	4.55
.04	7FM-14	5.85
.05	7FM-15	7.10
.06	7FM-16	8.05

Catalog Nos.	L x W x T
7FM-45 thru 7FM-13	1 3/4 x 1 5/16 x 7/16
7FM-14 thru 7FM-16	1 3/4 x 1 5/16 x 3/4

MF	Cat. No.	List
8FM—1200 WVDC, 2500 V TEST		
.00005	8FM-45	1.60
.0001	8FM-31	1.60
.00015	8FM-315	1.60
.0002	8FM-32	1.60
.00025	8FM-325	1.60
.0005	8FM-35	1.60
.001	8FM-21	1.90
.002	8FM-22	2.50
.0025	8FM-225	2.80
.003	8FM-23	2.95
.004	8FM-24	3.10
.005	8FM-25	3.30
.006	8FM-26	3.45
.008	8FM-28	4.10
.01	8FM-11	4.70
.015	8FM-115	5.80
.02	8FM-12	7.05
.025	8FM-125	7.90
.03	8FM-13	8.10

Catalog Nos.	L x W x T
8FM-45 thru 8FM-115	1 3/4 x 1 5/16 x 7/16
8FM-12 thru 8FM-13	1 3/4 x 1 5/16 x 3/4

MF	Cat. No.	List
9FM—2500 WVDC, 5000 V TEST		
.00005	9FM-45	1.90
.0001	9FM-31	1.90
.00025	9FM-325	2.15
.0005	9FM-35	2.55
.001	9FM-21	2.90
.002	9FM-22	4.25
.0025	9FM-225	4.60
.003	9FM-23	5.10
.004	9FM-24	5.65
.005	9FM-25	6.20
.006	9FM-26	6.35
.008	9FM-28	6.85
.01	9FM-11	7.30
.015	9FM-115	8.05

Catalog Nos.	L x W x T
9FM-45 thru 9FM-26	1 3/4 x 1 5/16 x 7/16
9FM-28 thru 9FM-115	1 3/4 x 1 5/16 x 3/4

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All prices subject to change without notice.

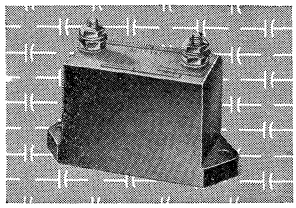
The *MASTER*—21st Edition

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE CAPACITORS

MICA CAPACITORS, continued

TYPES 1MC & 2MC



(Standard Capacity Tolerance ±5%)

TYPE 1MC

Dimensions—2" L. x 15/16" W. x 1 19/32" H.

MF	VAC Peak	Cat. No.	List
.00005	3000	1MC-45	$12.60
.0001	3000	1MC-31	12.60
.00015	3000	1MC-315	12.60
.0002	3000	1MC-32	12.60
.00025	3000	1MC-325	12.60
.0003	3000	1MC-33	12.60
.0004	3000	1MC-34	12.60
.0005	3000	1MC-35	12.60
.0006	3000	1MC-36	12.60
.0007	3000	1MC-37	12.60
.0008	3000	1MC-38	12.60
.001	3000	1MC-21	12.60
.0015	3000	1MC-215	12.60
.002	3000	1MC-22	12.60
.003	2000	1MC-23	12.60
.004	2000	1MC-24	12.60
.005	2000	1MC-25	12.60
.006	2000	1MC-26	12.60
.007	2000	1MC-27	12.60
.008	1500	1MC-28	12.60
.01	1000	1MC-11	12.60
.015	1000	1MC-115	12.60
.02	1000	1MC-12	14.30
.03	500	1MC-13	14.30
.04	500	1MC-14	14.30
.05	250	1MC-15	14.30
.1	250	1MC-1	15.10

TYPE 2MC

Dimensions—2 1/4" L. x 1 1/4" W. x 1 13/16" H.

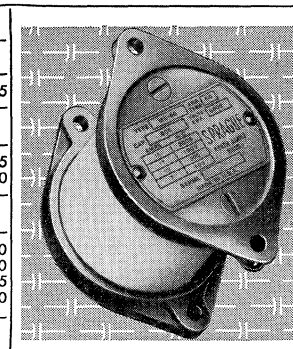
.00005	5000	2MC-45	17.30
.0001	5000	2MC-31	17.30
.00015	5000	2MC-315	17.30
.0002	5000	2MC-32	17.30
.00025	5000	2MC-325	17.30
.0003	5000	2MC-33	17.30
.0004	5000	2MC-34	17.30
.0005	5000	2MC-35	17.30
.0006	5000	2MC-36	17.30
.0007	5000	2MC-37	17.30
.0008	5000	2MC-38	17.30
.001	5000	2MC-21	17.30
.0015	5000	2MC-215	17.30
.002	5000	2MC-22	17.30
.003	3000	2MC-23	17.30
.004	3000	2MC-24	17.30
.005	3000	2MC-25	17.30
.006	3000	2MC-26	17.30
.007	3000	2MC-27	17.30
.008	2000	2MC-28	17.30
.01	2000	2MC-11	17.30
.015	2000	2MC-115	17.30
.02	2000	2MC-12	17.30
.03	1500	2MC-13	17.30
.04	1500	2MC-14	17.30
.05	1500	2MC-15	17.30
.06	1000	2MC-16	18.60
.07	1000	2MC-17	18.60
.08	500	2MC-18	19.20
.1	500	2MC-1	19.20

TYPES 1CC, 2CC, 3CC & 4CC

(Standard Capacity Tolerance ±5%)

MF	Cat. No.	List
TYPE 1CC		
Dimensions—2 13/16" D. x 2 1/2" H.		
6000 VAC Peak		
.00005	1CC-45	$38.20
.000075	1CC-475	40.00
.0001	1CC-31	40.60
.00015	1CC-315	40.60
.0002	1CC-32	40.60
.00025	1CC-325	40.60
.0003	1CC-33	44.35
.0004	1CC-34	44.35
.0005	1CC-35	46.65
.0006	1CC-36	46.65
.0007	1CC-37	46.65
.0008	1CC-38	46.65
.001	1CC-21	46.65
.0015	1CC-215	48.90
.002	1CC-22	48.90
.003	1CC-23	50.60
.004	1CC-24	50.60
4000 VAC Peak		
.005	1CC-25	50.60
.006	1CC-26	51.45
.007	1CC-27	51.45
.008	1CC-28	51.45
.01	1CC-11	51.45
3000 VAC Peak		
.015	1CC-115	51.45
2000 VAC Peak		
.02	1CC-12	51.45
.025	1CC-125	51.80
1500 VAC Peak		
.03	1CC-13	55.75
.04	1CC-14	58.50
.05	1CC-15	60.75
.06	1CC-16	62.80
1000 VAC Peak		
.07	1CC-17	64.25
.08	1CC-18	65.75
.1	1CC-1	68.50
TYPE 2CC		
Dimensions—3 1/2" D. x 3" H.		
10,000 VAC Peak		
.00005	2CC-45	65.55
.000075	2CC-475	65.55
.0001	2CC-31	65.55
.00015	2CC-315	65.55
.0002	2CC-32	65.55
.0003	2CC-33	65.55
.0004	2CC-34	65.55
.0005	2CC-35	65.55
.0006	2CC-36	65.55
.0007	2CC-37	65.55
.0008	2CC-38	65.55
.001	2CC-21	65.55
.0015	2CC-215	65.55
.002	2CC-22	65.55
8000 VAC Peak		
.003	2CC-23	65.55
.004	2CC-24	65.55
6000 VAC Peak		
.005	2CC-25	65.55
5000 VAC Peak		
.006	2CC-26	69.15
.007	2CC-27	69.15
.008	2CC-28	69.15
.01	2CC-11	69.15

MF	Cat. No.	List.
4000 VAC Peak		
.015	2CC-115	$ 69.15
3000 VAC Peak		
.02	2CC-12	69.15
.025	2CC-125	72.00
2000 VAC Peak		
.03	2CC-13	73.50
.04	2CC-14	77.80
.05	2CC-15	80.75
.06	2CC-16	83.00
1500 VAC Peak		
.07	2CC-17	85.00
.08	2CC-18	86.50
.1	2CC-1	90.00
TYPE 3CC		
Dimensions—5" D. x 4" H.		
20,000 VAC Peak		
.00005	3CC-45	110.90
.000075	3CC-475	121.00
.0001	3CC-31	121.00
.00015	3CC-315	131.10
.0002	3CC-32	131.10
.0003	3CC-33	131.10
.0004	3CC-34	137.15
.0005	3CC-35	137.15
.0006	3CC-36	137.15
.0007	3CC-37	137.15
.0008	3CC-38	137.15
.001	3CC-21	141.15
15,000 VAC Peak		
.0015	3CC-215	143.20
.002	3CC-22	143.20
12,000 VAC Peak		
.003	3CC-23	151.25
.004	3CC-24	151.25
10,000 VAC Peak		
.005	3CC-25	151.25
.006	3CC-26	151.25
.007	3CC-27	151.25
.008	3CC-28	151.25
8000 VAC Peak		
.01	3CC-11	151.25
5000 VAC Peak		
.015	3CC-115	151.25
.02	3CC-12	151.25
3000 VAC Peak		
.025	3CC-125	151.25
.03	3CC-13	151.25
.04	3CC-14	151.25
.05	3CC-15	151.25
.06	3CC-16	158.50
2000 VAC Peak		
.07	3CC-17	164.00
.08	3CC-18	172.00
.1	3CC-1	182.00



MF	Cat. No.	List
TYPE 4CC		
Dimensions—5" D. x 5 3/4" H.		
30,000 VAC Peak		
.0001	4CC-31	$210.30
.00015	4CC-315	210.30
.0002	4CC-32	221.16
.0003	4CC-33	221.16
.0004	4CC-34	221.16
.0005	4CC-35	221.16
.0006	4CC-36	221.16
.0007	4CC-37	221.16
.0008	4CC-38	221.16
.001	4CC-21	229.10
25,000 VAC Peak		
0015	4CC-215	229.10
20,000 VAC Peak		
.002	4CC-22	229.10
.003	4CC-23	229.10
15,000 VAC Peak		
.004	4CC-24	234.35
.005	4CC-25	242.00
.006	4CC-26	252.25
.007	4CC-27	260.00
12,000 VAC Peak		
.008	4CC-28	260.00
.009	4CC-29	260.00
10,000 VAC Peak		
.01	4CC-11	272.44
8000 VAC Peak		
.015	4CC-115	272.44
6000 VAC Peak		
.02	4CC-12	272.44
.03	4CC-13	272.44
5000 VAC Peak		
.04	4CC-14	272.44
.05	4CC-15	272.44
.06	4CC-16	290.00
4000 VAC Peak		
.07	4CC-17	300.00
3000 VAC Peak		
.08	4CC-18	308.00
.1	4CC-1	326.00

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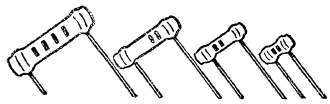
CERAMIC CAPACITORS

BC HI-KAP® TUBULARS



For by-pass, coupling and general use in AM, FM, TV, Audio, or other r.f. circuits. Double coating of Durez phenolic for extra protection. 85° C. plus operation. Tropicalized. 1200 volts D.C. test; 600 volts D.C. working. Packaged 5 per envelope (min.).

D6 SERIES BC HI-KAP® TUBULARS

Cap. mmf.	Cat. No.	Tolerance	Size
3	D6-030	±.5 mmf.	A
5	D6-050	±10%	A
10	D6-100	±10%	A
12	D6-120	±10%	A
15	D6-150	±10%	A
18	D6-180	±10%	A
20	D6-200	±10%	A
22	D6-220	±10%	A
25	D6-250	±10%	A
27	D6-270	±10%	A
33	D6-330	±10%	A
39	D6-390	±10%	A
40	D6-400	±10%	A
47	D6-470	±10%	A
50	D6-500	±10%	A
56	D6-560	±10%	A
68	D6-680	±10%	A
75	D6-750	±10%	A
82	D6-820	±10%	A
91	D6-910	±10%	A
100	D6-101	±10%	A
120	D6-121	±10%	A
150	D6-151	±10%	A
180	D6-181	±10%	A
200	D6-201	±10%	A
220	D6-221	±10%	A
250	D6-251	±10%	A
270	D6-271	±10%	A
300	D6-301	±10%	A
330	D6-331	±10%	A
390	D6-391	±10%	B
400	D6-401	±10%	B
470	D6-471	±10%	B
500	D6-501	±10%	B
560	D6-561	±10%	B
600	D6-601	±10%	B
680	D6-681	±10%	B
750	D6-751	±20%	A
820	D6-821	±20%	A
1,000	D6-102	±20%	A
1,200	D6-122	±20%	B
1,500	D6-152	±20%	B
1,800	D6-182	±20%	B
2,000	D6-202	±20%	B
2,200	D6-222	±20%	B
2,500	D6-252	GMV	B
2,700	D6-272	GMV	B
3,000	D6-302	GMV	B
3,300	D6-332	GMV	C
4,000	D6-402	GMV	C
4,700	D6-472	GMV	C
5,000	D6-502	GMV	D
6,800	D6-682	GMV	D
7,500	D6-752	GMV	D
10,000	D6-103	GMV	D

List Price..... $1.25 per envelope of 5

BODY DIMENSIONS

A = .250" diam., .500" length
B = .250" diam., .790" length
C = .280" diam., .900" length
D = .330" diam., 1.210" length

CERAMIC CAPACITOR KITS

Save Time — Have Capacitors on Hand When You Need Them

METAL KIT No. DK-200—Comprehensive assortment of 200 Type D6 Tubular Hi-Kaps (600 v.d.c.w.) of most generally used values. Packed in 4-drawer metal cabinet ..... List Price $50.00

PLASTI-PAK No. DK-100—100 Type D6 Tubular Hi-Kaps, 20 each of the five most popular values. Packed in handy plastic Box..... List Price $25.00

PLASTIC-PAK No. DK-25—25 Type D6 Tubular Hi-Kaps, 5 each of the five most popular values. Packed in handy plastic box..... List Price $6.25

METAL KIT No. DDK-200—Comprehensive assortment of 200 standard, Type DD Disc Hi-Kaps of most generally used values rated 1000 v.d.c.w. Packed in 4-drawer metal cabinet ..... List Price $50.00

PLASTI-PAK No. DDK-100—100 standard, Type DD Disc Hi-Kaps in an assortment of eight most popular values. Packed in handy plastic box. List Price $25.00

PLASTI-PAK No. DDK-40—40 Type DD Disc Hi-Kaps, five each of eight most popular values. Packed in handy plastic box..... List Price $10.00

PLASTI-PAK No. DDK-25—25 Type DD Disc Hi-Kaps, five each of five most popular values. Packed in handy plastic box..... List Price $6.25

METAL KIT No. MDK-200—Comprehensive assortment of 200 Type MD Molded, Ceramic Disc Hi-Kaps of most generally used values. Packed in 4-drawer metal cabinet ..... List Price $50.00

PLASTI-PAK No. MDK-100—100 Type MD, Molded, Ceramic Disc Hi-Kaps in an assortment of eight most popular values. Packed in handy plastic box List Price $25.00

PLASTI-PAK No. MDK-40—40 Type MD, Molded, Ceramic Disc Hi-Kaps, five each of eight most popular values. Packed in handy plastic box. List Price $10.00

HANDY PLASTI-PAK† No. DDK-16 of 16 1600 V.D.C.W. Disc Hi-Kaps

Sixteen 1600 V.D.C.W. Disc HI-KAPS, two each of the eight most popular values used as buffers in auto radio sets.

Cap.	Quant.	Cat. No.	Cap.	Quant.	Cat. No.
3,000 mmf. (.003)	2	DD16-302	7,000 mmf. (.007)	2	DD16-702
4,000 mmf. (.004)	2	DD16-402	7,500 mmf. (.0075)	2	DD16-752
5,000 mmf. (.005)	2	DD16-502	8,000 mmf. (.008)	2	DD16-802
6,000 mmf. (.006)	2	DD16-602	10,000 mmf. (.01)	2	DD16-103

Kit No. DDK-16..... List Price $5.60

† Trademark

TC TEMPERATURE COMPENSATING TUBULARS

Designed especially to limit frequency drift in r.f. circuits where temperature variations are prevalent. These capacitors are constructed with a ceramic body which changes capacities as the temperature varies. Use Centralab TC Hi-Kaps when servicing superhet receivers — replace older types in oscillator and detector circuits in TV, AM and FM receivers. 1,200 volts D.C. test; 600 volts D.C. working. Comply to JAN-20-A specifications.

TCZ TUBULAR HI-KAP®

All TC Hi-Kaps conform to JAN-C-20A specifications. NPO Units (JAN-CH-CJ-CK) which show zero capacitance change over temperature range—20° C. to +85° C.

Cap. mmf.	Tolerance	CRL Cat. No.	Size Type
.5	±.25 mmf.	TCZ-.5	CC20
.68	±.25 mmf.	TCZ-.68	CC20
1.0	±.25 mmf.	TCZ-1	CC20
1.5	±.25 mmf.	TCZ-1.5	CC20
2.2	±.25 mmf.	TCZ-2.2	CC20
3.3	±.25 mmf.	TCZ-3.3	CC20
4.7	±.5 mmf.	TCZ-4.7	CC20
6.8	±.5 mmf.	TCZ-6.8	CC20
10	±.5 mmf.	TCZ-10	CC20
12	±2%	TCZ-12	CC20
15	±2%	TCZ-15	CC20
18	±2%	TCZ-18	CC20
20	±2%	TCZ-20	CC20
22	±2%	TCZ-22	CC20
24	±2%	TCZ-24	CC20
25	±2%	TCZ-25	CC25
27	±2%	TCZ-27	CC25
30	±2%	TCZ-30	CC25
33	±2%	TCZ-33	CC25
36	±2%	TCZ-36	CC25
39	±2%	TCZ-39	CC25
43	±2%	TCZ-43	CC25
47	±2%	TCZ-47	CC25
50	±2%	TCZ-50	CC25
51	±2%	TCZ-51	CC25
56	±2%	TCZ-56	CC25
62	±2%	TCZ-62	CC32
68	±2%	TCZ-68	CC32
75	±2%	TCZ-75	CC32
82	±2%	TCZ-82	CC32
91	±2%	TCZ-91	CC32
100	±2%	TCZ-100	CC32
110	±5%	TCZ-110	CC35
120	±5%	TCZ-120	CC35
130	±5%	TCZ-130	CC35
150	±5%	TCZ-150	CC35
160	±5%	TCZ-160	CC35
180	±5%	TCZ-180	CC35
200	±5%	TCZ-200	CC45
220	±5%	TCZ-220	CC45
240	±5%	TCZ-240	CC45
270	±5%	TCZ-270	CC45
300	±5%	TCZ-300	CC45

List Price $0.50 each

TCN TUBULAR HI-KAP®

N750 Units (JAN-UJ, UK) which show capacity change of minus 750 parts per million[2a] per each degree C rise in temperature.

Cap. mmf.	Tolerance	CRL Cat. No.	Size Type
3.3	±.5 mmf.	TCN-3.3	CC20
5	±.5 mmf.	TCN-5	CC20
10	±.5 mmf.	TCN-10	CC20
12	±2%	TCN-12	CC20
15	±2%	TCN-15	CC20
18	±2%	TCN-18	CC20
20	±2%	TCN-20	CC20
22	±2%	TCN-22	CC20
24	±2%	TCN-24	CC20
25	±2%	TCN-25	CC20
27	±2%	TCN-27	CC20
30	±2%	TCN-30	CC20
33	±2%	TCN-33	CC20
36	±2%	TCN-36	CC20
39	±2%	TCN-39	CC20
43	±2%	TCN-43	CC20
47	±2%	TCN-47	CC20
50	±2%	TCN-50	CC20
51	±2%	TCN-51	CC20
56	±2%	TCN-56	CC20
62	±2%	TCN-62	CC20
68	±2%	TCN-68	CC25
75	±2%	TCN-75	CC25
82	±2%	TCN-82	CC25
91	±2%	TCN-91	CC25
100	±2%	TCN-100	CC25
110	±5%	TCN-110	CC25
120	±5%	TCN-120	CC25
130	±5%	TCN-130	CC25
150	±5%	TCN-150	CC25
160	±5%	TCN-160	CC22
180	±5%	TCN-180	CC32
200	±5%	TCN-200	CC32
220	±5%	TCN-220	CC32
240	±5%	TCN-240	CC32
270	±5%	TCN-270	CC35
300	±5%	TCN-300	CC35
330	±5%	TCN-330	CC35
360	±5%	TCN-360	CC35
390	±5%	TCN-390	CC35
430	±5%	TCN-430	CC35
470	±5%	TCN-470	CC35
510	±5%	TCN-510	CC35
560	±5%	TCN-560	CC45
620	±5%	TCN-620	CC45
680	±5%	TCN-680	CC45
750	±5%	TCN-750	CC45

List Price $0.50 each

TCA — N330 TC UNITS

Cap. mmf.	Tolerance	CRL Cat. No.	Size Type
10	±.5 mmf.	TCA-10	CC20
15	±2%	TCA-15	CC20
22	±2%	TCA-22	CC20
33	±2%	TCA-33	CC20
47	±2%	TCA-47	CC25
68	±2%	TCA-68	CC25
100	±2%	TCA-100	CC32

List Price Type TCA $0.50 ea.

TCL — N1500 TC UNITS

Cap. mmf.	Tolerance	CRL Cat. No.	Size Type
10	±.5 mmf.	TCL-10	CC20
15	±2%	TCL-15	CC20
22	±2%	TCL-22	CC20
33	±2%	TCL-33	CC20
47	±2%	TCL-47	CC20
68	±2%	TCL-68	CC20
100	±2%	TCL-100	CC25

List Price Type TCL $0.50 ea.

MAXIMUM BODY DIMENSIONS

Size	Diameter	Length	Size	Diameter	Length
CC20	.200"	.400"	CC35	.285"	1.165"
CC25	.200"	.690"	CC45	.285"	1.625"
CC32	.225"	.860"			

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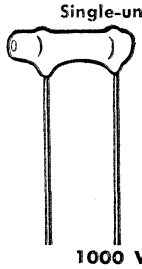
CERAMIC CAPACITORS (Cont'd)

MODEL TRC-100 TUBE-R-Cap*

Single-unit tubular resistor-capacitor combination



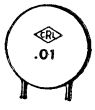
Another Centralab first for miniaturization and cost savings. Parallel resistor and capacitor in the same space as a tubular capacitor alone. Built to Underwriters Laboratories specifications.

CAPACITY: 470 mmf. GMV — 1500 volts A.C. test per U/L specifications

RESISTANCE: ½ Megohm nominal — ½ watt
SIZE: CC32 — max. length = .900", max. diameter = .280"

List price.....$.80 package of 2

1000 V.D.C.W. STANDARD DISC HI-KAPS®



- The most complete line of standard disc capacitors available.
- All units 1000 VDCW—100% tested at 2000 V.D.C.
- All units thru .005 mmf. built to Underwriters' Labs test specifications for use in A.C. lines.
- Close tolerances — smallest available sizes.
- Double coating of Durez phenolic insulation to give maximum breakdown strength.

CAP. mmf.	TOL.	DIAM.	CAT. No.	CAP. mmf.	TOL.	DIAM.	CAT. No.
3.3	±.5 mmf.	¼"	DD-3R3	330	20%	¼"	DD-331
5	.5 mmf.	¼"	DD-050	390	20%	¼"	DD-391
6.8	.5 mmf.	¼"	DD-6R8	470	20%	¼"	DD-471
10	±10%	¼"	DD-100	500	20%	¼"	DD-501
15	10%	¼"	DD-150	560	20%	¼"	DD-561
20	10%	¼"	DD-200	680	20%	¼"	DD-681
25	10%	¼"	DD-250	750	20%	¼"	DD-751
33	10%	¼"	DD-330	800	20%	¼"	DD-801
39	10%	¼"	DD-390				
47	10%	¼"	DD-470	Mfd.			
50	10%	¼"	DD-500	.001	20%	⅜"	DD-102
56	10%	¼"	DD-560	.0015	20%	⅜"	DD-152
68	10%	¼"	DD-680	.002	20%	⅜"	DD-202
75	10%	¼"	DD-750	.003	20%	9/16"	DD-302
100	10%	¼"	DD-101	.0047	20%	9/16"	DD-472
120	10%	¼"	DD-121	.005	20%	9/16"	DD-5022†
150	10%	¼"	DD-151	.005	GMV	⅝"	DD-502
180	10%	¼"	DD-181	.01	20%	¾"	DD-1032†
200	10%	¼"	DD-201	.01	GMV	¾"	DD-103
220	±20%	¼"	DD-221	.01 (600VDCW)	GMV	⅝"	DD6-103
250	20%	¼"	DD-251				
270	20%	¼"	DD-271	.02 (600VDCW)	GMV	⅝"	DD-203†
300	20%	¼"	DD-301				

LIST PRICE ALL ABOVE—$1.25 package of 5 (min.)
Except † $1.50 per 5

TYPE DD2 — DUAL DISCS

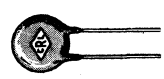
CAP. MFD.	TOL.	DIAM.	VDCW	CAT. NO.	LIST Pkg. of 5
2 x .001	GMV	⅜"	600	DD2-102	$2.00
2 x .0015	GMV	9/16"	600	DD2-152	2.00
2 x .005	−20% +80%	⅝"	600	DD2-502	2.25

TYPE DD3 — PATENTED SHIELDED DUAL DISC HI-KAPS®

CAP. MFD.	TOL.	DIAM.	VDCW	CAT. NO.	LIST PRICE EACH
2 x .001	GMV	⅜"	600	DD3-102	$0.45
2 x .0015	GMV	⅜"	600	DD3-152	.45
2 x .002	GMV	9/16"	600	DD3-202	.45
2 x .005	GMV	9/16"	600	DD3-502	.50
2 x .01	GMV	⅝"	600	DD3-103	.50

MIN-KAP® MINIATURE DISCS

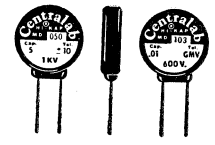
250 VDCW units for smaller voltage requirement applications (500 VDC test) — extremely small in size — ⅜" diam. in high capacity values. Packaged five per envelope (MIN.). Ideal for hearing aid, miniature radio, intercom, and experimental rigs.



CAP.	VDCW	CAT. NO.	THICKNESS	LIST Pkg. of 5
.005 mf.	250	DDM-502	.146"	$2.50
.01 mf.	250	DDM-103	.146"	2.50
.02 mf.	250	DDM-203	.166"	4.50
		DUAL UNIT		
2 x .01 mf.	250	DDM2-103	.166"	4.50

MOLDED DISC CERAMIC HI-KAPS®

For Bypass, Coupling and General Applications



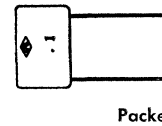
Molded disc ceramics feature highest available breakdown to ground, highest lead strength, and resistance to mechanical damage, closest tolerance. "MD's" can be placed directly against a chassis, or adjacent to high voltage leads without danger of flashover or breakdown. Low inductance makes these units highly efficient in high frequency circuits. They are not recommended for use in resonant or tuning applications. Voltage Rating: 1,000 V.D.C.W. to 5,000 mmf, 600 V.D.C.W. over 5,000 mmf. Maintain high capacity and stand up under +85° C. operation. Insulation—Molded Centrathene†. 2,500 V.D.C. breakdown to ground. Electrical properties constant to 3,000 megacycles. Insulation resistance of molding 300,000 megohms. Moisture absorption .005%. Power factor of molding .02%. Fungus resistant. Unaffected by ozone, salt water, any known acid, or solvent at room temperature. Will not become brittle at —55° C. Leads — No. 22 tinned copper 1½" long. All units one size —1 1/16" diameter, 3/16" thick, maximum. Packaged — 5 units per polyethelene bag. 5 bags (25 units) per carton.

TYPE MD MOLDED DISC CERAMIC HI-KAPS®

Cap. mmf.	Per Cent Tolerance	CRL Cat. No.	Cap. mmf.	Per Cent Tolerance	CRL Cat. No.
5	±10%	—MD-050	390	±10%	—MD-391
10	±10%	—MD-100	400	±10%	—MD-401
12	±10%	—MD-120	470	±10%	—MD-471
15	±10%	—MD-150	500	±10%	—MD-501
18	±10%	—MD-180	560	±10%	—MD-561
20	±10%	—MD-200	600	±10%	—MD-601
22	±10%	—MD-220	680	±10%	—MD-681
25	±20%	—MD-250	750	±20%	—MD-751
27	±10%	—MD-270	820	±20%	—MD-821
33	±10%	—MD-330	1,000	±20%	—MD-102
39	±10%	—MD-390	1,200	±20%	—MD-122
47	±10%	—MD-470	1,500	±20%	—MD-152
50	±10%	—MD-500	1,800	±20%	—MD-182
56	±10%	—MD-560	2,000	±20%	—MD-202
68	±10%	—MD-680	2,200	±20%	—MD-222
75	±10%	—MD-750	2,500	±20%	—MD-252
82	±10%	—MD-820	2,700	±20%	—MD-272
100	±10%	—MD-101	3,000	±20%	—MD-302
120	±10%	—MD-121	3,300	±20%	—MD-332
150	±10%	—MD-151	4,000	±20%	—MD-402
180	±10%	—MD-181	4,700	±20%	—MD-472
200	±10%	—MD-201	5,000	±20%	—MD-502
220	±10%	—MD-221	5,600	GMV	—MD-562
250	±10%	—MD-251	6,800	GMV	—MD-682
270	±10%	—MD-271	7,500	GMV	—MD-752
300	±10%	—MD-301	10,000	GMV	—MD-103
330	±10%	—MD-331			

List Price.....$0.25 — $1.25 per envelope of 5

TYPE DF FLAT HI-KAPS®
600 V.D.C.W. — 1200 V.D.C. TEST



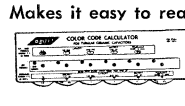
High capacity, low mass weight, unusual thinness, plus inherent Centralab ceramic capacitor stability make these units extremely popular both as bypass and filter capacitors. Compare the size — compare the guarantee of performance. No. 20 tinned wire leads.

Packed 1 per envelope, 5 units per carton.

CAP. MFD.	CAT. NO.	TOLERANCE	MAXIMUM DIMENSIONS	LIST PRICE
.1	DF-104	+80 −20%	1 7/16" x 15/16" x 1 9/64"	$0.80
.075	DF-753	GMV	1 7/16" x 15/16" x 1 9/64"	.80
.05	DF-503	GMV	1 7/16" x 15/16" x 7/32"	.70
.04	DF-403	GMV	1 7/16" x 15/16" x 7/32"	.70
.03	DF-303	GMV	1 7/16" x 15/16" x 7/32"	.70

RESISTOR-CAPACITOR COLOR CODE CALCULATOR

Makes it easy to read the coding on tubular or disc ceramic capacitors and radial- or axial-lead resistors. Printed in 11 colors for quick identification. Available only from Centralab distributors. Sugg'd. Dealer Net $0.25



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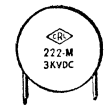
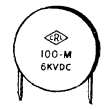
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CERAMIC CAPACITORS *(Cont'd)*

3000-6000 V. HI-VO-DISC† CAPACITORS





These new units are highly efficient for bypass-coupling in high frequency circuits under conditions of extreme humidity or temperature.

- TEMPERATURE — Maintain high capacity and performance at 85° C.
- TOLERANCES — All units, ±20%.
- VOLTAGES—DD30 Series, 3000 VDCW, 6000 VDC Test.
  DD60 Series, 6000 VDCW, 12,000 VDC Test.
- SIZES: (A) 3/16"x5/8"; (B) 5/16"x3/4"; (C) 3/16"x7/8".

CAPACITY MMF.	CAT. NO. 3000 VDCW	SIZE	CAT. NO. 6000 VDCW	SIZE
4.7	DD30-4R7	(A)	DD60-4R7	(A)
6.8	DD30-6R8	(A)	DD60-6R8	(A)
8.2	DD30-8R2	(A)	DD60-8R2	(A)
10	DD30-100	(A)	DD60-100	(B)
12	DD30-120	(A)	DD60-120	(B)
15	DD30-150	(A)	DD60-150	(B)
22	DD30-220	(A)	DD60-220	(B)
25	DD30-250	(A)	DD60-250	(B)
27	DD30-270	(A)	DD60-270	(B)
30	———	(A)	DD60-300	(B)
33	DD30-330	(A)	DD60-330	(B)
39	DD30-390	(A)	DD60-390	(B)
47	DD30-470	(A)	DD60-470	(B)
50	DD30-500	(A)	DD60-500	(B)
56	DD30-560	(A)	DD60-560	(B)
68	DD30-680	(A)	DD60-680	(B)
75	DD30-750	(A)	DD60-750	(B)
82	DD30-820	(A)	DD60-820	(B)
100	DD30-101	(A)	DD60-101	(B)
120	DD30-121	(A)	DD60-121	(B)
150	DD30-151	(A)	DD60-151	(B)
180	DD30-181	(A)	DD60-181	(B)
200	DD30-201	(A)	DD60-201	(B)
220	DD30-221	(A)	DD60-221	(B)
250	DD30-251	(A)	DD60-251	(B)
270	DD30-271	(A)	DD60-271	(B)
300	DD30-301	(A)	DD60-301	(B)
330	DD30-331	(A)	DD60-331	(B)
390	DD30-391	(A)	DD60-391	(B)
400	DD30-401	(A)	DD60-401	(B)
470	DD30-471	(A)	DD60-471	(B)
500	DD30-501	(A)	DD60-501	(B)
560	DD30-561	(A)	DD60-561	(B)
680	DD30-681	(A)	DD60-681	(B)
750	DD30-751	(A)	DD60-751	(B)
820	DD30-821	(A)	DD60-821	(B)
1000	DD30-102	(A)	DD60-102	(B)
1200	DD30-122	(A)	DD60-122	(C)
1500	DD30-152	(A)	DD60-152	(C)
2000	DD30-202	(B)	DD60-202	(C)
2200	DD30-222	(B)	DD60-222	(C)
2500	DD30-252	(C)	———	———
2700	DD30-272	(C)	———	———
3000	DD30-302	(C)	———	———
3300	DD30-332	(C)	———	———
3900	DD30-392	(C)	———	———
4700	DD30-472	(C)	———	———

LIST PRICES—DD30 Series, Pkg. of 5, Min.....$2.00
DD60 Series, Pkg. of 5, Min..... 2.50

*Minimum Order Quantity. † Trademark

TYPE DM MIN-KAPS®

Miniature capacitors for use where space is at a premium.

Cap. mfd.	Cap. mmf.	Cat. No.	VDCW	Tolerance	List Price
.0001	100	DM -101	150	− 20% + 50%	$1.75/5
.0002	200	DM -201	150	− 20% + 50%	1.75/5
.0003	300	DM -301	150	− 20% + 50%	1.75/5
.0005	500	DM -501	150	− 20% + 50%	1.75/5
.001	1000	DM -102	150	− 20% + 50%	1.75/5
.002	2000	DM -202	150	− 20% + 50%	2.25/5
.002	2000	DM-2024	450	GMV	3.25/5
.003	3000	DM -302	150	− 20% + 80%	2.25/5
.005	5000	DM -502	150	− 20% + 80%	2.25/5
.01	10000	DM -103	150	− 20% + 80%	.65 ea.
2x.005	2x5000	DM2-502	150	− 20% + 80%	.65 ea.

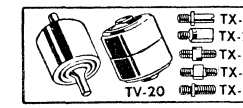
TYPE DD16 BUFFERS

1600 V.D.C.W., 3000 V.D.C. Test — Originally designed for use in electric shavers, these units have wide acceptance for use as buffers in auto radio sets, as they are totally unaffected by heat, humidity or vibration. Meet U.L.-A.C. requirements.

Cap. mf.	Cat. No.	Tolerance	Diam.	Thick.	List Price Pkg. of 5
.003	DD16-302	GMV	7/8"	5/32"	$1.75
.004	DD16-402	GMV	7/8"	5/32"	1.75
.005	DD16-502	GMV	7/8"	5/32"	1.75
.006	DD16-602	GMV	7/8"	5/32"	1.75
.007	DD16-702	GMV	7/8"	5/32"	1.75
.0075	DD16-752	GMV	7/8"	5/32"	1.75
.008	DD16-802	GMV	7/8"	5/32"	1.75
.01	DD16-103	GMV	7/8"	5/32"	1.75
.015	DD16-153	− 20% + 80%	7/8"	1/4"	3.00

Packaged 5 per envelope—25 units per carton

HI-VO-KAPS®



Factory guaranteed exact replacement. Accepted standard for filter and bypass applications in TV high voltage power supplies. Brass cadmium terminals available in combinations shown below. Capacity tolerance — 20% +50%.

Voltage D.C.W.	Cap. mmf.	CRL Cat. No.	Voltage D.C. Test	Terminals	List Price
12,500	500	TV1-501	22,500	2 Rods	$1.00
12,500	500	TV2-501	22,500	1 Slot, 1 Tap	1.00
12,500	500	TV3-501	22,500	1 Tap, 1 Thread	1.00
20,000	500	TV1-502	40,000	2 Rod	1.50
20,000	500	TV2-502	40,000	1 Slot, 1 Tap	1.50
20,000	500	TV3-502	40,000	1 Tap, 1 Thread	1.50
20,000	500	TV4-502	40,000	2 Male Thread	1.50
20,000	500	TV5-502	40,000	2 Female Tap	1.50
20,000	500	TV7-502	40,000	1 8-32 thd., 1, 6-32 thd.	1.50
30,000	500	TV1-503	48,000	2 Rod	3.00
30,000	500	TV8-503	48,000	2 Spec. 8-32 thd.	3.00

ATTACHABLE TERMINAL HI-VO-KAP

Heavy threads prevent terminal breakage—100% tested at twice rated voltage.

TV-20 500 mmf. 20KVDC $1.50 List

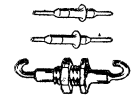
TERMINALS

Package of 5 (Min.).....$0.50

TX-1—Plain Slotted Rod
TX-2—6-32 Female Tap
TX-3—6-32 Male Thread
TX-4—Short 8-32 Male
TX-5—Long 8-32 Male

KIT TV-207—1 TV-20, 7 asst. terminals.....LIST $1.85
KIT TXK-25—5 each of the 5 terminals.....LIST 2.50
KIT TXK-125—25 each of the 5 terminals.....LIST 11.50
KIT TVK-5-50—5 TV-20's, 10 each terminal.....NET 9.17

CERAMIC FEED-THRU HI-KAPS®
TYPES FT AND MFT



Type FT bushing-mounted capacitors for high-frequency circuits needing both feed-thru and ground to either chassis or shield. Lead inductance virtually eliminated. Type MFT Miniature Eyelet Feed-Thru is condensed for ultra-high-frequency applications where space is at a premium. Both styles, 500 V.D.C.W., 1,000 V.D.C. test.

Cap. mmf.	CRL Cat. No.	Tolerance
500	FT-500	±20%
1,000	FT-1,000	±20%
1,500	FT-1,500	− 20% + 50%
1,800	FT-1,800	− 20% + 50%
2,300	FT-2,300	− 20% + 50%

List Price $1.00 each

Cap. mmf.	CRL Cat. No.	Tolerance
50	MFT-50	±10%
100	MFT-100	±10%
500	MFT-500	±20%
1,000	MFT-1,000	GMV

List Price $0.50 each

TYPE S1 AND S2 TUBULAR STANDOFF CAPACITORS

Designed for bypassing RF to ground in low power transmitter-exciter units, receivers and similar HF, UHF, and VHF circuits. Size — Type S1 — 5/8" maximum length. S2 — 7/8" maximum length. 500 V.D.C.W., 1,000 V.D.C. Flash Test.

TYPE S1

Cap. mmf.	Cat. No.	Tolerance	Cap. mmf.	Cat. No.	Tolerance
50	S1-500	±10%	680	S1-681	±10%
100	S1-101	±10%	1,000	S1-102	±20%
250	S1-251	±10%	1,500	S1-152	±20%
470	S1-471	±10%	2,400	S1-242	±20%
500	S1-501	±10%	2,500	S1-252	±20%

List Price.....$0.60 each

TYPE S2

Cap. mmf.	Cat. No.	Tolerance	
4,700	S2-472	± 20%	LIST PRICE $1.00 each
5,000	S2-502	± 20%	
7,500	S2-752	GMV	
10,000	S2-103	− 20% + 80%	

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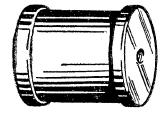
CERAMIC CAPACITORS (Cont'd)

TRANSMITTING CAPACITORS

VOLTAGE — 20,000 V.D.C.W., 30,000 V.D.C.T. R.F. LOAD—30 amps or greater for 30° C. rise at 30 mc.
MOUNTING—Terminal ends tapped 10-32.
DIMENSIONS—Overall length 2 7/8", diam. 2".
Tolerance ± 10%.

Cap. mmf.	CRL Cat. No.	Temp. Coef.
50	859S-50Z	NPO
100	859S-100Z	NPO
250	859S-250N	N750
500	859S-500N	N2200

List Price.....$75.00 each



Type 851 ceramic capacitors are high voltage units, held to ±10% tolerance. Size 1 9/32" diam. x 1 15/32". End terminal plates are center tapped 10-32. 851-200N 7500 V.D.C.W. — All others 15000 V.D.C.W.

Cap. mmf.	CRL Cat. No.	Temp. Coef.
25	851-25Z	NPO
50	851-50Z	NPO
100	851-100N	N750
200	851-200N	N750

List Price.....$10.00 each

TYPES 850-858 5KV AND 7.5KV

Tolerance, ±10%. Dimensions, 13/16" diameter, 5/8" long. Mounting—S Series: 1/8" hex studs tapped 6-32 thd. SL Series: 17/32" solder lugs with 6-32 tapped hole.

Cap. mmf.	VDCW	Temp. Coef.	Cat. No. Studs	Cat. No. Lugs
25	7500	NPO	850S-25Z	850SL-25Z
50	7500	NPO	850S-50Z	850SL-50Z
50	7500	N750	850S-50N	850SL-50N
75	7500	N750	850S-75N	850SL-75N
100	5000	N750	850S-100N	850SL-100N
500	7500	Hi-K	858S-500	.....
1000	7500	Hi-K	858S-1000	.....

List Price.....$3.00 each

SMALL HIGH VOLTAGE UNITS TYPES 853-853A, 854-854A, 855-855A

The three series which follow are exceedingly compact ceramic capacitors. 5000 V.D.C.W. Mounting is with axial screw type terminals tapped 2-56. Tolerance ±10%. Sizes: 853, 9/16" diam. x 1/2". 854, 7/16" diam. x 7/16". 855, 5/16" diam. x 3/8". Types 853, 854 and 855 also available with axial leads. 1 1/2" long, in place of screw terminals. For lead types, use same Cat. Nos., omitting "A". Same price.

Cap. mmf.	Cat. No.	Temp. Coef.	Cap. mmf.	Cat. No.	Temp. Coef.
10	853A-10Z	NPO	3	855A-3Z	NPO
20	853A-20Z	NPO	5	855A-5Z	NPO
20	853A-20N	N750	10	855A-10N	N750
40	853A-40N	N750			

List Price.....$3.00 each

TYPE 950 HIGH-ACCURACY CAPACITORS

Excellent for use as prime or secondary standards, or for holding oscillator frequencies to the close limits formerly obtained only by crystal control.

TOLERANCE — ±1%.

TEMPERATURE COEFFICIENT — Zero (NPO) ±10 ppm, −40° to +60° C.

MOUNTING TERMINALS — Metal case acts as r.f. shield, is grounded, includes 6-32 threaded stud 11/32" long. Other terminal is plain stud 1/4" long from opposite end.

Cap. mmf.	Cat. No.	V.D.C.W.	V.D.C.T.	Dimensions	List Price
500	950-501	500	1000	15/16" x 9/16"	$15.00
1000	950-102	500	1000	15/16" x 1 1/16"	20.00
2000	950-202	500	1000	15/16" x 15/16"	30.00

CERAMIC TRIMMER CAPACITORS

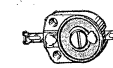
TYPE 827 MINIATURE MOLDED CERAMIC TRIMMER

Base, high grade phenolic. Two .120" diam. mounting holes spaced 5/16". Can be mounted on chassis through 9/16" diam. hole. Initial Insulation Resistance—10,000 megohms minimum. Body size: 17/32" x 3/4".

Cap. Range mmf.	CRL Cat. No.	Cap. Range mmf.	CRL Cat. No.
2.5 to 7	827A	6.0 to 30	827C
3.0 to 12	827B	7.0 to 35	827D

List Price.....$1.00 each

TYPE 822 CERAMIC TRIMMER

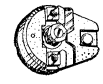


Medium weight Steatite body. Numbers ending in Z are of zero temperature coefficient (NPO); those ending in N are negative temperature coefficient. Both rotor and stator plates are of metallic silver fired to ceramic rotor and stator. Mounting holes are clearance for No. 4 machine screws. Body size, approx. 27/32" x 21/32".

Cap. Range mmf.	CRL Cat. No.	JAN-C-81 Number	Cap. Range mmf.	CRL Cat. No.	JAN-C-81 Number
1.5 to 3	822-DZ	—	4.5 to 25.0	822-AZ	CV11A250
1.5 to 7	822-EZ	CV11A070	2.0 to 6.0	822-DN	CV11D060
2.0 to 7.5	822-CZ	—	4.0 to 30.0	822-EN	CV11D300
2.5 to 13.0	822-BZ	—	4.5 to 25.0	822-CN	—
3.0 to 12.0	822-FZ	CV11A120	7.0 to 45.0	822-BN	CV11D450
			8.0 to 50.0	822-AN	—

List Price.....$1.50 each

TYPE 823 CERAMIC TRIMMER



A trimmer of highest quality. Medium heavy Steatite base. Numbers ending in Z are of zero temperature coefficient (NPO); those ending in N are of negative temperature coefficient. Both rotor and stator plates are of metallic silver fired to ceramic rotor and stator. Mounting studs are set in the base, tapped 3/16" deep for 4-40 machine screws. Body size, approx. 1 1/4" x 1-15/16".

Cap. Range mmf.	CRL Cat. No.	JAN No.	Cap. Range mmf.	CRL Cat. No.	JAN No.
5.0 to 12.0	823-EZ	CV12A120	5.0 to 15.0	823-FN	CV12D150
6.0 to 25.0	823-DZ	CV12A250	8.0 to 25.0	823-EN	—
10.0 to 50.0	823-BZ	—	8.0 to 50.0	823-DN	CV12D500
12.0 to 60.0	823-AZ	CV12A620	10.0 to 100	823-BN	—
			20.0 to 125	823-AN	CV12D121

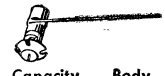
List Price.....$2.50 each

TYPE 820 TRIMMER

Lightweight ceramic body. Stator plate metallic silver fired to ceramic body. Mounting bracket with 1/8" hole and locating fin. Body size, approx. 27/32" x 5/8".

Cap. mmf.	Cat. No.	List Price	Cap. mmf.	Cat. No.	List Price
1.0 to 3.5	820D	$0.75	35 to 55	820E*	$0.75
2.5 to 6.0	820A	.75	55 to 75	820F*	.75
5.0 to 20.0	820B	.75	70 to 90	820G*	.75
7.0 to 35.0	820C	.75	*Less bracket		

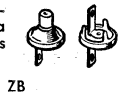
TYPE 829 TUBULAR CERAMIC TRIMMER



Special tiny, tubular trimmer, widely used in TV and FM applications. Ceramic body, .215" diameter.

Capacity Range mmf.	Body Length(B)	Cat. No.	List Price	Capacity Range mmf.	Body Length(B)	Cat. No.	List Price
.5 to 3	1/2"	829-3	$0.50	1 to 7.5	3/4"	829-7	$0.60
1 to 4	1/2"	829-4	.50	1.5 to 10	3/4"	829-10	.60
1 to 6	5/8"	829-6	.50				

TYPE ZA AND ZB — "ZIPPERS"® BUTTON-SHAPE CERAMICS



This solder-sealed button shape ceramic capacitor is an accurate, dependable, long-life replacement for old style mica capacitors . . . Zippers. Packaged—Singly—Five envelopes per carton. 500 V.D.C.W., 1,000 V.D.C. Flash Test.

TYPE ZA TAPPED GROUND TERMINAL CRL Cap. mmf.	Cat. No.	Tolerance	TYPE ZB RIM TYPE FEED-THRU CRL Cap. mmf.	Cat. No.	Tolerance
10	ZA-100	±10%	10	ZB-100	±10%
15	ZA-150	±10%	15	ZB-150	±10%
25	ZA-250	±10%	25	ZB-250	±10%
33	ZA-330	±10%	33	ZB-330	±10%
50	ZA-500	±10%	50	ZB-500	±10%
75	ZA-750	±20%	75	ZB-750	±20%
100	ZA-101	±20%	100	ZB-101	±20%
150	ZA-151	±20%	150	ZB-151	±20%
200	ZA-201	±20%	200	ZB-201	±20%
250	ZA-251	±20%	250	ZB-251	±20%
300	ZA-301	±20%	300	ZB-301	±20%
400	ZA-401	±20%	400	ZB-401	±20%
500	ZA-501	±20%	500	ZB-501	±20%
600	ZA-601	±20%	600	ZB-601	±20%
750	ZA-751	±20%	750	ZB-751	±20%
1,000	ZA-102	GMV	1,000	ZB-102	GMV

List Price.....$1.25 each

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

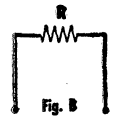
PACKAGED ELECTRONIC CIRCUITS (P. E. C.)®

Centralab Packaged Electronic Circuits have been proved by the performance of more than 60,000,000 now in use. Original-equipment manufacturers have marveled at the extremely low failure percentage of P.E.C.'s, as compared to individual standard components.

However, millions of old radio and TV sets were built before P.E.C.'s were used. Locating a shorted or intermittent component in these old-style circuits wastes valuable time.

Now, with a single Centralab P.E.C., you can replace an entire section of the circuit quickly and easily. You not only replace the one worn-out component — you automatically replace all components of the same age. That way, you make another set-owner happy in the long run and save yourself a costly call-back.

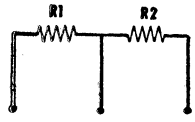
PC-2



R=2 Meg.

PC-2
SINGLE RESISTOR
$.35 List

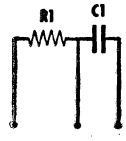
PC-21



R_1=500K
R_2=110K

PC-21
DUAL RESISTOR
$.50 List

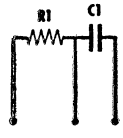
PC-30



R_1=240K
C_1=1000 mmf.

PC-30
RESISTOR-CAPACITOR
$.50 List

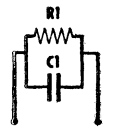
PC-33



R_1=1 Meg.
C_1=1000 mmf.

PC-33
RESISTOR-CAPACITOR
$.50 List

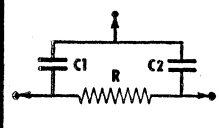
PC-36



R_1=100K
C_1=100 mmf.

PC-36
RESISTOR-CAPACITOR
$.50 List

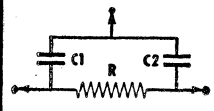
PC-50



R=47K
C_1=100 mmf.
C_2=100 mmf.

PC-50
FILPEC®
$.60 List

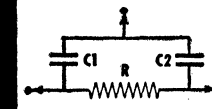
PC-51



R=47K
C_1=150 mmf.
C_2=150 mmf.

PC-51
FILPEC®
$.60 List

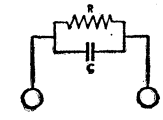
PC-52



R=47K
C_1=50 mmf.
C_2=50 mmf.

PC-52
FILPEC®
$.60 List

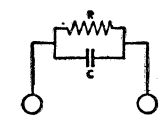
PC-60



R=270K
C=100 mmf.

PC-60
RESISTOR-CAPACITOR
$.50 List

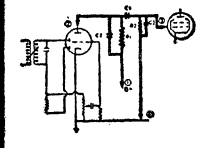
PC-61



R=270K
C=300 mmf.

PC-61
RESISTOR-CAPACITOR
$.50 List

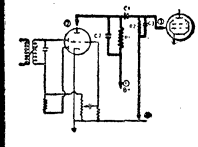
PC-70



R_1=500K
R_2=500K
C_1=5000 mmf.
C_2+C_3 =250 mmf.

PC-70
MIDGET COUPLATE®
$.70 List

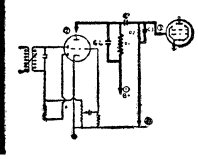
PC-71



R_1=250K
R_2=500K
C_1=5000 mmf.
C_2+C_3 =250 mmf.

PC-71
MIDGET COUPLATE®
$.70 List

PC-80



R_1=500K
R_2=500K
C_1=.01 mfd.
C_2+C_3 =250 mmf.

PC-80
STANDARD COUPLATE®
$.75 List

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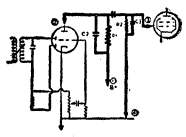
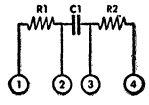
PC-81



R_1=250K
R_2=500K
C_1=.01 mfd.
C_2+C_3 =250 mmf.

PC-81
STANDARD COUPLATE®
$.75 List

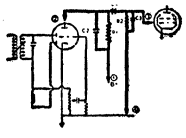
PC-82



R_1=470K
R_2=1 Meg.
C_1=.01 mf.

PC-82
SPECIAL
$.75 List

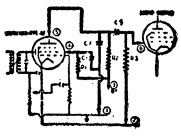
PC-84



R_1=500K
R_2=500K
C_1=.01 mfd.
C_2+C_3 =500 mmf.

PC-84
STANDARD COUPLATE®
$.75 List

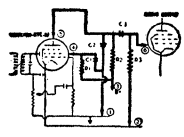
PC-90



R_1=4.7 Meg.
R_2=1 Meg.
R_3=2.2 Meg.
C_1=5000 mmf.
C_2=50 mmf.
C_3=2000 mmf.

PC-90
PENTODE COUPLATE®
$.90 List

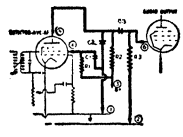
PC-91



R_1=4.7 Meg.
R_2=1 Meg.
R_3=2.2 Meg.
C_1=5000 mmf.
C_2=100 mmf.
C_3=5000 mmf.

PC-91
PENTODE COUPLATE®
$.90 List

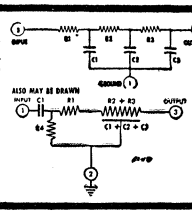
PC-92



R_1=4.7 Meg.
R_2=1 Meg.
R_3=2.2 Meg.
C_1=5000 mmf.
C_2=100 mmf.
C_3=2000 mmf.

PC-92
PENTODE COUPLATE®
$1.00 List

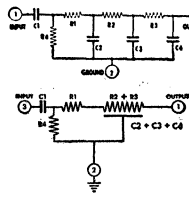
PC-100



R_1=22K
R_2=8.2K
R_3=8.2K
C_1=2000 mmf.
C_2=5000 mmf.
C_3=5000 mmf.

PC-100
VERTICAL INTEGRATOR
$1.10 List

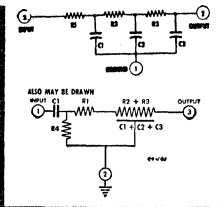
PC-101



R_1=22K
R_2=8.2K
R_3=8.2K
R_4=22K
C_1=.01 mfd.
C_2=2000 mmf.
C_3=5000 mmf.
C_4=5000 mmf.

PC-101
VERTICAL INTEGRATOR
$1.25 List

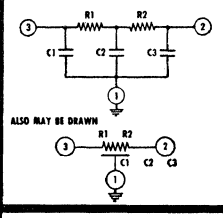
PC-104



R_1=22K
R_2+R_3=16.4K
$C_1+C_2+C_3$ =.012 mf.
Greatly reduces stray capacities

PC-104
VERTICAL INTEGRATOR
$1.10 List

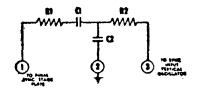
PC-105



R_1+R_2=16.4K
$C_1+C_2+C_3$ =.012 mf.

PC-105
VERTICAL INTEGRATOR
$1.10 List

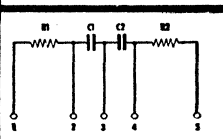
PC-106



R_1=22K
R_2=10K
C_1=.0047 mf.
C_2=.0047 mf.

PC-106
SPECIAL VERTICAL INTEGRATOR
$1.00 List

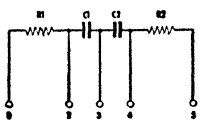
PC-110



R_1=1000
R_2=820
C_1=.005 mfd.
C_2=.005 mfd.

PC-110
FILPLATE® FILTER PLATE
$.75 List

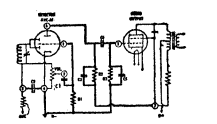
PC-111



R_1=220
R_2=1000
C_1=.005 mfd.
C_2=.005 mfd.

PC-111
FILPLATE® FILTER PLATE
$.75 List

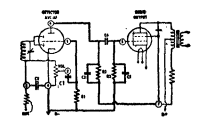
PC-150



R_1=6.8 Meg.
R_2=470K
R_3=470K
C_1=2000 mmf.
C_2=220 mmf.
C_3+C_5 =250 mmf.
C_4=5000 mmf.

PC-150
AUDET® OUTPUT STAGE
$1.00 List

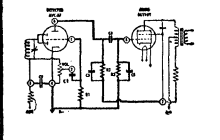
PC-151



R_1=6.8 Meg.
R_2=470K
R_3=470K
C_1=5000 mmf.
C_2=220 mmf.
C_3+C_5 =250 mmf.
C_4=5000 mmf.
(Use for added bass response)

PC-151
AUDET® OUTPUT STAGE
$1.15 List

PC-154



R_1=6.8 Meg.
R_2=470K
R_3=470K
C_1=.002 mmf.
C_2=220 mmf.
C_3+C_5 =500 mmf.
C_4=.005 mmf.

PC-154
AUDET® OUTPUT STAGE
$1.00 List

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

R_1=6.8 Meg.
R_2=470K
R_3=470K
C_1=.002 mf.
C_2=.220 mmf.
C_3+C_5 =250 mmf.
C_4=.005 mf.

PC-157
AUDET® OUTPUT STAGE
$1.00 List

R_1=6.8 Meg.
R_2=470K
R_3=470K
C_1=.005 mf.
C_2=220 mmf.
C_3+C_5 =250 mmf.
C_4=.005 mf.

PC-158
AUDET® OUTPUT STAGE
$1.15 List

R_1=10 Meg.
R_2=470K
R_3=470K
C_1=.005 mf.
C_2=220 mmf.
C_3+C_5 =250 mmf.
C_4=.005 mf.

PC-159
AUDET® OUTPUT STAGE
$1.15 List

R_1=4.7 Meg.
R_2=1.0 Meg.
R_3=3.3 Meg.
R_4=10 Meg.
C_1=.002 mfd.
C_2=150 mmf.
C_3=.01 mfd.
C_4=150 mmf.
C_5=.005 mfd.

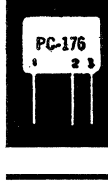
PC-160
PENDET® PENTODE DETECTOR COUPLATE®
$1.25 List

R_1=4.7 Meg.
R_2=1.0 Meg.
R_3=3.3 Meg.
R_4=10 Meg.
C_1=.002 mfd.
C_2=150 mmf.
C_3=.01 mfd.
C_4=150 mmf.
C_5=.005 mfd.
(To greatly reduce stray capacity effects)

PC-165
PENDET® PENTODE DETECTOR COUPLATE®
$1.35 List

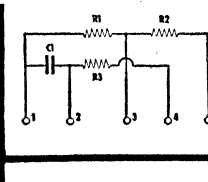
R_1=4.7 Megs.
C_1=250 mmf.
C_2=.01 mf.

PC-175
SPECIAL
$1.00 List



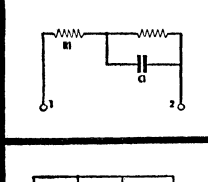
R_1=82K
R_2=39K
C_1=.001 mfd.
C_2=.002 mfd.

PC-176
SPECIAL
$.75 List



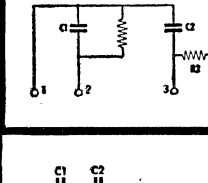
R_1=150K
R_2=47K
R_3=1 Meg.
C_1=.01 mfd.

PC-177
SPECIAL
$1.00 List



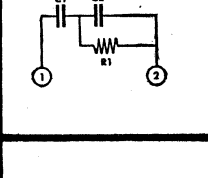
R_1=15K
R_2=270K
C_1=150 mmf.

PC-178
SPECIAL
$.75 List



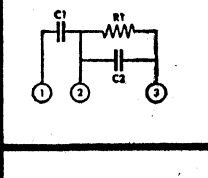
R_1=150
R_2=220
C_1=.005 mfd.
C_2=.005 mfd.

PC-179
SPECIAL
$.90 List



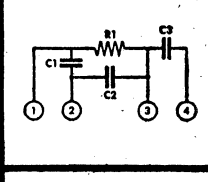
R=270K
C_1=.01 mf.
C_2=150 mmf.

PC-184
SPECIAL
$.75 List



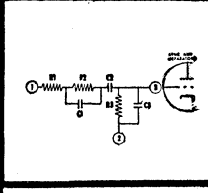
R=4.7 Megs.
C_1=.01 mf.
C_2=50 mmf.

PC-185
SPECIAL
$.75 List



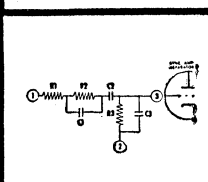
R=22K
C_1=.001 mf.
C_2=.004 mf.
C_3=.01 mf.

PC-186
SPECIAL
$.75 List



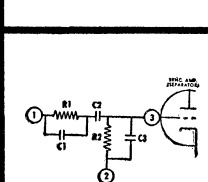
R_1=10K
R_2=330K
R_3=2.2 Megs.
C_1=270 mmf.
C_2=.01 mf.
C_3=25 mmf.

PC-260
SYNC TAKEOFF COUPLATE®
$1.25 List



R_1=10K
R_2=220K
R_3=2.2 Megs.
C_1=270 mmf.
C_2=.01 mf.
C_3=25 mmf.

PC-262
SYNC TAKEOFF COUPLATE®
$1.25 List



R1=220K
R2=2.2 Megs.
C_1=270 mmf.
C_2=.01 mf.
C_3=25 mmf.

PC-263
SYNC TAKEOFF COUPLATE®
$1.25 List

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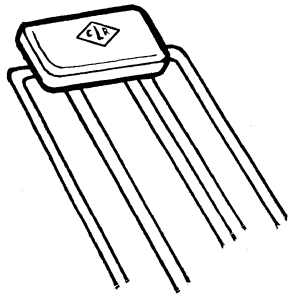
PACKAGED ELECTRONIC CIRCUITS (P.E.C.)† *(Cont'd)*

MODEL TA-11 FOUR-STAGE PACKAGED TRANSISTOR AMPLIFIER



A new, ultra-miniature transistor amplifier intended for use in pocket-size radios and recorders, hearing aids, computers, and wherever an exceptionally small, high-gain audio amplifier with highest specifications is desired.

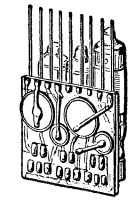
GAIN: 75 db. nominal at 1-KC
INPUT IMPEDANCE: 1000 ohms
SIGNAL-TO-NOISE RATIO: 38 db. nominal
SUPPLY VOLTAGE: 1.345
POWER OUTPUT: 1 milliwatt max. at 10% distortior., .36 mw at 2%
CURRENT DRAIN: 4 milliamperes
FREQUENCY CHARACTERISTICS: 250 to 7000 c.p.s. ± 5 db.

List Price — $50.00

MODEL TA-6 — One-stage packaged transistor amplifier.

Details upon request.....List Price $16.65

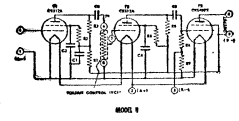
AMPEC® THREE-STAGE P. E. C. AUDIO AMPLIFIER



Model 2 AMPEC

The wonder of the electronic age — a P. E. C. exclusive. Complete 3-stage audio amplifier smaller than a book of matches. For hearing aids, miniature radios, model control, etc.

	List Price
PC-200 less tubes	$15.00
PC-201 with 3 subminiature tubes	25.00



Model 3 AMPEC

Even smaller than the original Model 2 — about the size of a postage stamp with added tone circuit.

	List Price
PC-202 Zero Bias Output, no tubes	$17.50
PC-203 Zero Bias Output, with tubes	32.00
PC-204 Grid Bias Output, no tubes	17.50
PC-205 Grid Bias Output, with tubes	33.50

Write for complete details. Ask for booklet 42-142.

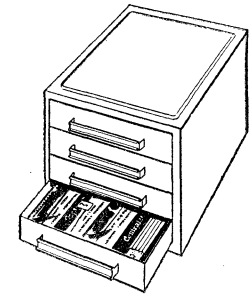
† Trademark

PACKAGED ELECTRONIC CIRCUIT KITS

HANDY PLASTI-PAKS†

No. PCK-18 — 18 P.E.C.'s in nine most popular types. Equal to stock of 42 old-style resistors and 52 old-style capacitors. Packed in hinged-lid plastic box with P.E.C. Guide.....List Price $15.00

No. PCK-45 — 45 P.E.C.'s in 21 most popular types. Equal to stock of 106 ceramic-based resistors and 133 ceramic capacitors. Packed in hinged-lid plastic box with P.E.C. Guide.....List Price $40.00



HANDY SHOP CABINETS

No. PCK-110 — 110 P.E.C.'s, five each of 22 widely-used types. Equal to stock of 255 ceramic-based resistors, 305 ceramic capacitors. Packed in four-drawer metal cabinet.....List Price $93.00

No. PCK-220 — Master assortment of 220 P.E.C.'s in 23 widely-used types. Equal to stock of 525 resistors and 620 capacitors. Packed in four-drawer metal cabinet.....List Price $193.00

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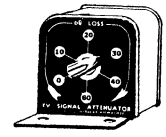
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

PACKAGED ELECTRONIC CIRCUITS (P.E.C.)† *(Cont'd)*

TV ATTENUATOR SWITCH CAT. No. PCH-4
PACKAGED ELECTRONIC CIRCUIT H PADS

The Centralab PCH-4 Television Attenuator Switch is designed as a service tool to determine the amount of attenuation required to secure best TV reception. It is also valuable for permanent installation in receivers. The switch incorporates Centralab's exclusive Packaged Circuit TV H-Pads.



ADVANTAGES OF SWITCH

The switching arrangement makes it possible to attenuate each station as much or as little as necessary depending on daily conditions such as weather or existing interference, and allows for proper attenuation to balance two or more stations. Switching also eliminates the "hit-or-miss" method of installing H-Pads. Switch is installed in series with 300 ohm — twin-lead. PCH-4.....List Price $7.50

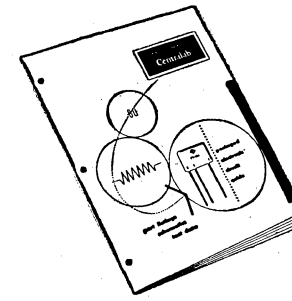
SEPARATE H-PADS
(Listed for Convenience)

Cat. No.	Attenuation Rating	Cat. No.	Attenuation Rating
PCH-10	10 db.	PCH-30	30 db.
PCH-20	20 db.	PCH-40	40 db.

List Price.....$0.80 each

PCH-100 SET OF FOUR H-PADS

One each of the above, in plastic box.....List Price $3.00

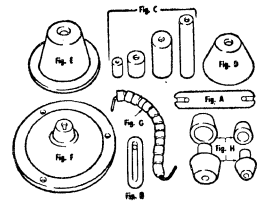


ASK YOUR CENTRALAB DISTRIBUTOR FOR PACKAGED ELECTRONIC CIRCUIT GUIDE NO. 3

A practical working manual that saves you time and money. Shows circuit schematics that guide you in using P.E.C.'s to replace standard components. Gives other useful information.

STEATITE

Centralab has been producing fine ceramics since 1928 . . . primarily for its own use in fixed resistors, ceramic capacitors, switches, and more recently, packaged electronic circuits. Often called upon by other manufacturers to produce many "standard" and custom designs, some very intricate. Centralab is the only ceramic manufacturer capable of producing many of these in quantity. All items listed are Grade L-5 Steatite, approved without limitation for Army and Navy use. Characteristics: Uniform, white appearance, high dielectric strength, exceedingly low loss at high frequencies, and strong mechanically. Impervious to moisture and common acids, will not warp, withstands high temperatures; harder than hardest quartz.



FISH SPINE BEADS

See Fig. G. Four Beads will cover 1", or package of 100 covers 25" of buss wire. 5/16" O.D., 1/8" I.D. Packaged 100 per envelope.
Cat. No. X-40 Carton of 100 Beads.....List Price $ 1.00
Cat. No. X-40G Giant 2 lb. pack (approx. 1200).....List Price 10.00

SPREADERS — STRAIN INSULATORS

Deluxe Grade—Fig. A. Rounded and grooved. Packaged singly.

Cat. No.	O. A. Length	Diam.	Line Spacing	List Price
X-1	2¾"	½"	2"	$0.70
X-2	4"	¾"	3"	1.00
X-3	6"	¾"	5"	1.25

Standard Grade—Not illustrated. Square and rectangular bars. Packaged singly.

Cat. No.	O. A. Length	Size	Line Spacing	List Price
X-4	3"	½" x ⅜"	2"	$0.15
X-5	5"	½" x ½"	4"	.25
X-6	7"	½" x ½"	6"	.45

Deluxe Aircraft Type Insulator—Fig. B. Fully glazed. Packaged singly.

Cat. No.	O. A. Length	Diam.	Line Spacing	List Price
X-7	1½"	17/32"	¾"	$0.65

STANDOFF OR PILLAR INSULATORS

See Figure C. Circumference glazed, tapped for screw sizes shown. "X" numbers below are catalog numbers.

Length	¼" DIAM.* #6-32 Thd.	List Price
¼"	X-63	$0.50 pkg.
⅜"	X-64	.50 pkg.
½"	X-8	.55 pkg.
¾"	X-9	.55 pkg.
1"	X-10	.60 pkg.
1¼"	X-11	.70 pkg.

Length	½" DIAM.** #6-32 Thd.	List Price
½"	X-12	$0.12
¾"	X-13	.15
1"	X-14	.16
1¼"	X-15	.17
1½"	X-16	.17
2"	X-17	.18
2½"	X-18	.19
3"	X-19	.20

Length	1" DIAM.** ¼"-20 Thd.	List Price
1"	X-28	$0.18
1¼"	X-29	.19
1½"	X-30	.20
2"	X-31	.21

Length	⅜" DIAM.** #6-32 Thd.	List Price
⅜"	X-65	$0.12
½"	X-48	.12
⅝"	X-50	.12
¾"	X-52	.12
1"	X-54	.15
1¼"	X-56	.16
1½"	X-58	.17
2"	X-60	.17
2¼"	X-62	.18

*5 per carton. **1 per carton.

Length	¾" DIAM.** #10-32 Thd.	List Price
¾"	X-20	$0.16
1"	X-21	.17
1¼"	X-22	.18
1½"	X-23	.18
2"	X-24	.19
2½"	X-25	.20
3"	X-26	.22
4"	X-27	.25

Length	1" DIAM.** ¼"-20 Thd.	List Price
2½"	X-32	$0.23
3"	X-33	.28
4"	X-34	.33
5"	X-35	.37

FEED-THROUGH INSULATORS

Glazed Surface—No hardware included. Packaged Singly.

Cat. No.	Fig.	Height	Base Diam.	Max. Screw Size	List Price
X-36	D	⅞"	1¼"	10-32	$0.25
X-37	D	1⅛"	1¾"	¼"-20	.30
X-38	E	1⅝"	2½"	⅜"-16	1.50
X-39	F	1"	3⅛"	8-32	1.50

THROUGH PANEL BUSHINGS

See Fig. H. Matched pairs of male and female bushings for feeding through chassis, panels, shields, racks or cases. No hardware included. Packaged one matched pair per carton.

Cat. No. Pair	Top Height	Max. Diam.	Panel Hole	Panel Thickness	Max. Screw Size	List Price
X-41	⅛"	½"	5/16"	to ⅛"	6-32	$0.30
X-42	7/32"	5/8"	7/16"	to ⅛"	8-32	.40
X-43	⅜"	½"	¼"	to 3/16"	6-32	.35
X-44	⅜"	5/8"	⅜"	to ⅜"	8-32	.40
X-45	¾"	1⅛"	¾"	to ⅜"	10-32	1.00
X-46	1⅝"	1¼"	½"	to 2"	10-32	1.70

JAN CERAMIC STANDOFF INSULATORS

Complete listings and prices on steatite standoffs made to JAN-1-8 and JAN-1-10 specifications. All styles carried in stock. Ask for Bulletin 42-181.

STOCK CERAMIC FEED-THRU BUSHINGS

22 styles of feed-thru bushings, male and female, are carried in stock. Complete details, dimensions, and prices are found in Bulletin 42-214.

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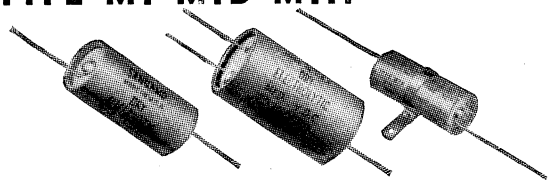
SANGAMO CAPACITORS

ELECTROLYTIC CAPACITORS

TYPE MT-MTD-MTH



SANGAMO Type MT electrolytics are especially designed for television and other electronic applications where operation at 85°C. temperatures is required. They are hermetically sealed in round aluminum containers which are encased in heavy insulating sleeves on which polarity is clearly indicated. Being small in physical size they are most popular where mounting in limited space is required — They will fit anywhere and can be mounted in almost any position.

Single Units

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
MT-0210	10	25	5/8 x 1 1/16	$1.00	$0.60
MT-0220	20	25	5/8 x 1 1/16	1.00	0.60
MT-0225	25	25	5/8 x 1 1/16	1.00	.60
MT-0250	50	25	5/8 x 1 5/16	1.10	.66
MT-02100	100	25	3/4 x 1 9/16	1.17	.70
MT-0502	2	50	5/8 x 1 1/16	1.00	.60
MT-0504	4	50	5/8 x 1 1/16	1.00	.60
MT-0510	10	50	5/8 x 1 1/16	1.00	.60
MT-0520	20	50	5/8 x 1 1/16	1.05	.63
MT-0525	25	50	5/8 x 1 5/16	1.05	.63
MT-0550	50	50	3/4 x 1 9/16	1.20	.72
MT-05100	100	50	7/8 x 1 9/16	1.72	1.03
MT-1504	4	150	5/8 x 1 1/16	1.00	.60
MT-1508	8	150	5/8 x 1 5/16	1.05	.63
MT-1510	10	150	5/8 x 1 5/16	1.15	.69
MT-1512	12	150	5/8 x 1 5/16	1.10	.66
MT-1516	16	150	5/8 x 1 9/16	1.15	.69
MT-1520	20	150	5/8 x 1 9/16	1.20	.72
MT-1530	30	150	3/4 x 1 9/16	1.30	.78
MT-1540	40	150	3/4 x 1 13/16	1.35	.81
MT-1550	50	150	7/8 x 1 13/16	1.40	.84
MT-1580	80	150	1 x 1 13/16	1.65	.99
MT-15100	100	150	1 x 2 5/16	1.75	1.05
MT-15150	150	150	1 x 2 7/8	2.00	1.20
MT-2504	4	250	5/8 x 1 1/16	1.15	.63
MT-2508	8	250	5/8 x 1 9/16	1.15	.69
MT-2512	12	250	5/8 x 1 13/16	1.25	.75
MT-2516	16	250	3/4 x 1 9/16	1.30	.78
MT-2520	20	250	3/4 x 1 13/16	1.35	.81
MT-2530	30	250	7/8 x 1 13/16	1.55	.93
MT-2540	40	250	7/8 x 2 5/16	1.55	.93
MT-25100	100	250	1 x 2 7/8	2.45	1.47
MT-3508	8	350	3/4 x 1 9/16	1.20	$0.72
MT-3512	12	350	3/4 x 1 13/16	1.30	.78
MT-3516	16	350	7/8 x 1 13/16	1.40	.84
MT-4502	2	450	5/8 x 1 1/16	1.15	.69
MT-4504	4	450	5/8 x 1 5/16	1.15	.69
MT-4508	8	450	3/4 x 1 9/16	1.25	.75
MT-4510	10	450	3/4 x 1 9/16	1.30	.78
MT-4512	12	450	7/8 x 1 9/16	1.35	.81
MT-4516	16	450	7/8 x 1 13/16	1.40	.84
MT-4520	20	450	1 x 1 13/16	1.55	.93
MT-4530	30	450	1 x 2 5/16	1.70	1.02
MT-4540	40	450	1 x 2 7/8	1.80	1.08
MT-4550	50	450	1 x 2 7/8	1.90	1.14
MT-4580	80	450	1 x 3 1/16	2.25	1.35
MT-4710	10	475	7/8 x 1 9/16	1.35	.81
MT-4720	20	475	1 x 1 13/16	1.60	1.08

Dual Units

MTD-0210	10-10	25	7/8 x 1 1/16	$1.40	$0.84
MTD-0220	20-20	25	7/8 x 1 1/16	1.40	.84
MTD-0510	10-10	50	7/8 x 1 5/16	1.40	.84
MTD-301	50-30	150	1 x 1 13/16	1.95	1.17
MTD-302..	40-20	150	1 x 1 13/16	1.75	1.05
MTD-303	80-40	150	1 x 2 7/8	2.25	1.35
MTD-304	40-30	150	1 x 1 13/16	1.80	1.14
MTD-305	30-20	150	7/8 x 1 9/16	1.70	1.02
MTD-1508	8-8	150	7/8 x 1 1/16	1.50	.90
MTD-1516	16-16	150	3/4 x 1 9/16	1.80	1.08
MTD-1520	20-20	150	3/4 x 1 9/16	1.65	.99
MTD-1530	30-30	150	7/8 x 1 9/16	1.80	1.08
MTD-1540	40-40	150	1 x 1 13/16	1.85	1.11
MTD-1550	50-50	150	1 x 2 5/16	2.10	1.26
MTD-2516	16-16	250	1 x 1 13/16	1.70	1.02
MTD-2520	20-20	250	1 x 1 13/16	1.85	1.11
MTD-3520	20-20	350	1 x 2 7/8	2.25	1.35
MTD-308	8-16	450	1 x 1 13/16	2.00	1.20
MTD-4508	8-8	450	7/8 x 1 13/16	1.70	1.02
MTD-4510	10-10	450	1 x 1 13/16	1.85	1.11
MTD-4520	20-20	450	1 x 2 7/8	2.50	1.50
MTD-4530	30-30	450	1 x 3 5/16	3.10	1.86
MTD-4540	40-40	450	1 x 3 11/16	3.35	2.01
MTH-0610	100	6	5/8 x 1 1/16	$1.20	$0.72
MTH-0625	250	6	5/8 x 1 1/16	1.35	.81
MTH-0650	500	6	3/4 x 2 5/16	1.55	.93
MTH-06100	1000	6	1 x 1 13/16	1.90	1.14
MTH-06150	1500	6	1 x 2 5/16	2.10	1.26
MTH-1210	100	12	5/8 x 1 1/16	1.20	.72
MTH-1225	250	12	3/4 x 1 13/16	1.45	.87
MTH-1250	500	12	7/8 x 2 5/16	1.70	1.02
MTH-1510	100	15	5/8 x 1 1/16	1.25	.75
MTH-1525	250	15	3/4 x 1 13/16	1.55	.93
MTH-1550	500	15	7/8 x 2 5/16	1.75	1.05
MTH-2510	100	25	3/4 x 1 9/16	1.35	.81
MTH-2525	250	25	7/8 x 1 13/16	1.70	1.02
MTH-2550	500	25	1 x 2 5/16	2.30	1.38
MTH-5010	100	50	7/8 x 1 9/16	1.40	.84

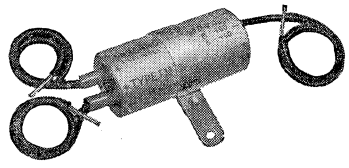
NOTE: Dimensions are for metal tubes. Add 1/16" to diameter and 3/16" to length for dimensions over cardboard insulating tube.

NOTE: Packaging 10, 25, or 50 capacitors per display carton.

NOTE: Packaging: 10, 25, or 50 capacitors per display carton.

NOTE: Diagram dimensions are for metal tubes. Add 1/16" to diameter and 3/16" to length for dimensions over cardboard insulating tubes.

TYPE FM



The SANGAMO Type FM electrolytic capacitors are similar in design to the Type MT "Chieftain" in every respect except leads. The Type FM is equipped with flexible, insulated wire leads and stud terminals eliminating the problem of crossed wires and the necessity for the use of insulating sleeves.

Dual Units

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
FMD-0210	10-10	25	7/8 x 1 1/16	$1.40	$0.84
FMD-0220	20-20	25	7/8 x 1 1/16	1.40	.84
FMD-0510	10-10	50	7/8 x 1 5/16	1.40	.84
FMD-301	50-30	150	1 x 1 13/16	1.95	1.17
FMD-302	40-20	150	1 x 1 13/16	1.75	1.05
FMD-303	80-40	150	1 x 2 7/8	2.20	1.32
FMD-304	40-30	150	1 x 1 13/16	1.80	1.08
FMD-305	30-20	150	7/8 x 1 9/16	1.70	1.02
FMD-1508	8-8	150	7/8 x 1 1/16	1.50	.90
FMD-1516	16-16	150	3/4 x 1 9/16	1.80	1.08
FMD-1520	20-20	150	3/4 x 1 9/16	1.65	.99
FMD-1530	30-30	150	7/8 x 1 9/16	1.80	1.08
FMD-1540	40-40	150	1 x 1 13/16	1.85	1.11
FMD-1550	50-50	150	1 x 2 5/16	2.10	1.26
FMD-2516	16-16	250	1 x 1 13/16	1.65	.99
FMD-2520	20-20	250	1 x 1 13/16	1.85	1.11
FMD-3520	20-20	350	1 x 2 7/8	2.35	1.41
FMD-308	8-16	450	1 x 1 13/16	2.00	1.20
FMD-4508	8-8	450	7/8 x 1 13/16	1.70	1.02
FMD-4510	10-10	450	1 x 1 13/16	2.50	1.50
FMD-4520	20-20	450	1 x 2 7/8	2.50	1.50
FMD-4530	30-30	450	1 x 3 5/16	3.00	1.80
FMD-4540	40-40	450	1 x 3 11/16	3.35	2.01

Triple Units

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
FMT-310	40-20-20	150	7/8 x 2 5/16	$2.25	$1.35
FMT-312	40-30-20	150	7/8 x 2 5/16	2.35	1.41
FMT-315	50-30-20	150	1 x 2 5/16	2.45	1.47
FMT-1520	20-20-20	150	7/8 x 1 9/16	2.20	1.32
FMT-1530	30-30-30	150	7/8 x 2 5/16	2.35	1.41
FMT-1540	40-40-40	150	1 x 2 5/16	2.45	1.47
FMT-317	20-20/20	150/25	7/8 x 1 9/16	1.95	1.17
FMT-321	40-20/20	150/25	1 x 1 13/16	2.05	1.23
FMT-323	40-30/20	150/25	1 x 1 13/16	2.10	1.26
FMT-327	50-30/20	150/25	1 x 1 13/16	2.25	1.35
FMT-331	50-30/100	150/25	1 x 2 5/16	2.45	1.47
FMT-333	80-40/20	150/25	1 x 2 7/8	2.50	1.50
FMT-339	80-40/20	150	1 x 2 7/8	2.75	1.65
FMT-337	12-12/20	450/25	1 x 2 5/16	2.20	1.32

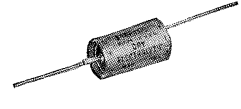
NOTE: Packaging: 10, 25, or 50 capacitors per display carton.

NOTE: Diagram dimensions are for metal tubes. Add 1/16" to diameter and 3/16" to length for dimensions over cardboard insulating tube.

NOTE: All units are supplied with mounting strap attached.

TYPE MMT

MINIATURE TUBES



SANGAMO Type MMT miniature tubular electrolytic capacitors are designed for use in miniaturized equipment and are ideally suited to meet the precise operating requirements of low voltage circuits.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
MMT-605	5	6	3/8 x 1 1/16	$0.80	$0.48
MMT-0505	5	50	3/8 x 1 1/16	1.00	.60
MMT-0210	10	25	3/8 x 1 1/16	1.00	.60
MMT-0510	10	50	3/8 x 1 1/16	1.00	.60
MMT-0220	20	25	3/8 x 1 1/16	1.00	.60
MMT-325	25	3	3/8 x 1 1/16	.85	.51
MMT-625	25	6	3/8 x 1 1/16	.85	.51
MMT-350	50	3	3/8 x 1 1/16	.95	.57
MMT-650	50	6	3/8 x 1 1/16	.95	.57
MMT-1505	5	150	3/8 x 1 1/16	1.00	.60
MMT-4501	1	450	3/8 x 1 1/16	1.00	.60

NOTE: Diagram dimensions are for metal tubes. Add 1/16 inch to diameter and 1/16 inch to length for dimensions over cardboard insulating tube.

SANGAMO CAPACITORS

ELECTROLYTIC CAPACITORS

TYPE PL

FOR TELEVISION AND OTHER ELECTRONIC APPLICATIONS . . .

The SANGAMO Type PL electrolytic capacitors are specially designed for all television and electronic applications requiring long life and dependable performance at 85°C under conditions of extreme ripple currents and high surge voltages. They are sealed in round aluminum cans and have twist-prong tabs for washer or direct chassis mounting. The capacitor element current carrying tabs are securely clamped and staked to the terminal lugs, providing permanent, low resistance connections. In all cases the aluminum can is negative and the mounting ring provides the negative electrical connection.

The Type PL has been specially engineered for the rigid TV replacement applications found in all of the leading television receivers manufactured in the industry.

Stock No.	Catalog No.	Capacity mfd.	Wkg. Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
S-005	PL-7001	2000	6	1⅜	x 2	$2.55	$1.53
S-010	PL-7002	1000	10	1	x 3	2.55	1.53
S-015	PL-700	3000	10	1⅜	x 3	2.90	1.74
S-020	PL-701	1000	15	1	x 3	2.55	1.53
S-025	PL-703	2000	15	1⅜	x 3	3.45	2.07
S-035	PL-02100	100	25	1	x 2	1.35	.81
S-035	PL-02100	100	25	1	x 2	1.60	.96
S-040	PL-02500	500	25	1	x 3	2.55	1.53
S-045	PL-705	1000	25	1⅜	x 3	3.55	2.13
S-050	PL-0525	25	50	¾	x 2	1.35	.81
S-055	PL-05150	150	50	1	x 2	1.80	1.08
S-060	PL-05500	500	50	1⅜	x 3	2.65	1.59
S-065	PL-1520	20	150	1	x 2	1.45	.87
S-070	PL-1530	30	150	1	x 2	1.55	.93
S-075	PL-1540	40	150	1	x 2	1.60	.96
S-080	PL-1550	50	150	1	x 2	1.65	.99
S-085	PL-1580	80	150	1	x 2	1.85	1.11
S-090	PL-15100	100	150	1	x 3	2.00	1.20
S-095	PL-15120	120	150	1⅜	x 2	2.10	1.26
S-100	PL-15140	140	150	1⅜	x 2½	2.15	1.29
S-105	PL-15150	150	150	1⅜	x 2½	2.15	1.29
S-110	PL-15200	200	150	1⅜	x 3	2.45	1.47
S-115	PL-15300	300	150	1⅜	x 3½	2.80	1.68
S-120	PL-2040	40	200	1	x 2	1.70	1.02
S-125	PL-2515	15	250	1	x 2	1.55	.93
S-130	PL-2520	20	250	1	x 2	1.60	.96
S-135	PL-2530	30	250	1	x 2	1.70	1.02
S-140	PL-2540	40	250	1	x 2	1.80	1.08
S-145	PL-2550	50	250	1	x 2½	1.95	1.17
S-150	PL-2560	60	250	1	x 2½	2.05	1.23
S-155	PL-2580	80	250	1	x 3	2.15	1.29
S-160	PL-25150	150	250	1⅜	x 3	3.10	1.86
S-165	PL-3015	15	300	1	x 2	1.60	.96
S-170	PL-3030	30	300	1	x 2	1.75	1.05
S-175	PL-3050	50	300	1	x 2½	2.05	1.23
S-180	PL-3060	60	300	1	x 3	2.10	1.26
S-185	PL-3080	80	300	1	x 3	2.55	1.53
S-190	PL-30100	100	300	1⅜	x 3	2.90	1.74
S-195	PL-30125	125	300	1⅜	x 3	3.50	2.10
S-200	PL-30150	150	300	1⅜	x 3½	3.50	2.10
S-205	PL-3520	20	350	1	x 2	1.75	1.05
S-210	PL-3530	30	350	1	x 2½	1.90	1.14
S-215	PL-3540	40	350	1	x 2½	2.00	1.20
S-220	PL-3550	50	350	1	x 3	2.10	1.26
S-225	PL-3580	80	350	1⅜	x 2½	2.85	1.71
S-230	PL-35125	125	350	1⅞	x 3	3.65	2.19
S-235	PL-4050	50	400	1⅜	x 2½	2.20	1.32
S-240	PL-4080	80	400	1⅜	x 2½	2.95	1.77
S-241	PL-40100	100	400	1⅜	x 3	3.05	1.83
S-245	PL-4504	4	450	1	x 2	1.50	.90
S-250	PL-4510	10	450	1	x 2	1.55	.93
S-255	PL-4515	15	450	1	x 2	1.70	1.02
S-260	PL-4520	20	450	1	x 2	1.80	1.08
S-265	PL-4530	30	450	1	x 2½	1.95	1.17
S-270	PL-4540	40	450	1	x 3	2.05	1.23
S-275	PL-4550	50	450	1	x 3½	2.35	1.41
S-280	PL-4580	80	450	1⅜	x 3	3.05	1.83
S-285	PL-45100	100	450	1⅜	x 3½	3.50	2.10
S-290	PL-45125	125	450	1⅜	x 4	3.85	2.31
S-295	PL-4730	30	475	1	x 3	2.00	1.20
S-300	PL-4740	40	475	1⅜	x 2	2.50	1.50
S-305	PL-4790	90	475	1⅜	x 3½	3.50	2.10
S-310	PL-5010	10	500	1	x 2½	1.60	.96
S-315	PL-5020	20	500	1	x 3	1.85	1.11
D-005	PLD-7057	250-50	6	1	x 2	2.50	1.50
D-010	PLD-7059	100-100	10	1	x 2	1.75	1.05
D-015	PLD-706	1000-1000	15	1⅜	x 2½	4.40	2.64
D-020	PLD-0240	40-40	25	1	x 2	1.60	.96
D-025	PLD-7065	150-50	25	1	x 2	1.90	1.14
D-030	PLD-0550	50-50	50	1	x 2	1.70	1.02
D-035	PLD-7067	100-25	50	1	x 2	1.80	1.08
D-040	PLD-1520	20-20	150	1	x 2	$1.70	$1.02
D-045	PLD-707	30-15	150	1	x 2	1.75	1.05
D-050	PLD-1530	30-30	150	1	x 2	1.85	1.11
D-055	PLD-712	40-20	150	1	x 2	1.80	1.08
D-060	PLD-1540	40-40	150	1	x 2	1.90	1.14
D-065	PLD-716	50-30	150	1	x 2	2.00	1.20
D-070	PLD-1550	50-50	150	1	x 2½	2.15	1.29
D-075	PLD-7163	60-20	150	1	x 3	2.00	1.20
D-080	PLD-1560	60-60	150	1	x 3	2.35	1.41
D-085	PLD-7165	80-40	150	1	x 3	2.30	1.38
D-086	PLD-71653	100-30	150	1	x 2½	2.25	1.35
D-088	PLD-71656	200-5	150	1⅜	x 2½	2.70	1.62
D-090	PLD-7166	200-125	150	1⅜	x 3½	3.75	2.25
D-095	PLD-15200	200-200	150	1⅜	x 4	4.00	2.40
D-100	PLD-20100	100-100	200	1⅜	x 3	3.45	2.07
D-105	PLD-2510	10-10	250	1	x 2	1.70	1.02
D-110	PLD-2520	20-20	250	1	x 2	1.90	1.14
D-115	PLD-2540	40-10	250	1	x 3	2.55	1.53
D-120	PLD-3010	10-10	300	1	x 2	1.75	1.05
D-125	PLD-3015	15-15	300	1	x 2	1.90	1.14
D-130	PLD-3040	40-40	300	1⅜	x 2½	3.00	1.80
D-135	PLD-3060	60-60	300	1⅜	x 3	3.40	2.04
D-140	PLD-7167	80-40	300	1⅜	x 3	3.55	2.13
D-145	PLD-3080	80-80	300	1⅜	x 3½	4.05	2.43
D-150	PLD-715	120-20	300	1⅜	x 3½	3.80	2.28
D-155	PLD-3515	15-15	350	1	x 2	2.25	1.35
D-160	PLD-3520	20-20	350	1	x 2½	2.30	1.38
D-165	PLD-7175	30-20	350	1	x 3	2.60	1.56
D-170	PLD-7177	50-30	350	1⅜	x 2½	3.15	1.89
D-175	PLD-3580	80-80	350	1⅜	x 4	4.70	2.82
D-177	PLD-7179	100-40	350	1⅜	x 3	4.60	2.76
D-180	PLD-4015	15-15	400	1	x 2½	2.25	1.35
D-185	PLD-4040	40-40	400	1⅜	x 3	3.30	1.98
D-190	PLD-4060	60-60	400	1⅜	x 3½	4.40	2.64
D-195	PLD-717	80-10	400	1⅜	x 3	3.40	2.04
D-200	PLD-4510	10-10	450	1	x 2	1.90	1.14
D-205	PLD-718	15-10	450	1	x 3	2.25	1.35
D-210	PLD-7185	20-10	450	1	x 3	2.25	1.35
D-215	PLD-4520	20-20	450	1	x 3	2.55	1.53
D-220	PLD-7186	25-20	450	1	x 3	2.65	1.59
D-225	PLD-4530	30-30	450	1⅜	x 2½	3.05	1.83
D-230	PLD-7187	40-20	450	1⅜	x 2½	3.00	1.80
D-235	PLD-4540	40-40	450	1⅜	x 3	3.45	2.07
D-240	PLD-7188	60-40	450	1⅜	x 3	3.95	2.37
D-245	PLD-719	80-10	450	1⅜	x 3	3.60	2.16
D-250	PLD-7193	80-80	450	1⅜	x 4	4.20	2.52
D-255	PLD-7195	80-40	450	1⅜	x 4	4.35	2.61
D-260	PLD-4720	20-20	475	1	x 3	2.80	1.68
D-265	PLD-4740	40-40	475	1⅜	x 3	4.30	2.58
D-270	PLD-5020	20-20	500	1⅜	x 2½	2.85	1.71
D-275	PLD-5040	40-40	500	1⅜	x 3½	4.30	2.58
D-280	PLD-7196	500/50	5/150	1	x 3	2.45	1.47
D-285	PLD-7197	250/1000	10/6	1⅜	x 2	2.85	1.71
D-290	PLD-7198	40/20	150/25	1	x 2	1.70	1.02
D-295	PLD-7199	40/150	150/25	1	x 2	2.05	1.23
D-300	PLD-71995	150/100	150/25	1⅜	x 2½	2.70	1.62
D-305	PLD-71997	40/25	250/25	1	x 2½	1.70	1.02
D-310	PLD-720	20/20	300/25	1	x 2	1.85	1.11
D-315	PLD-7201	20/60	300/350	1⅜	x 2½	2.85	1.71
D-320	PLD-7202	20/20	350/25	1	x 2	1.90	1.14
D-322	PLD-72025	80/100	350/50	1⅞	x 3	4.50	2.70
D-325	PLD-7203	20/30	350/250	1	x 3	2.30	1.38
D-330	PLD-7204	60/80	350/250	1⅜	x 3½	3.45	2.07
D-335	PLD-72045	20/10	350/300	1	x 2	2.05	1.23
D-340	PLD-7205	30/30	350/300	1	x 3	2.65	1.59
D-342	PLD-7206	40/100	400/50	1⅜	x 2	2.70	1.62
D-343	PLD-7206.1	100/30	400/50	1⅜	x 3½	3.25	1.95
D-344	PLD-7206.2	80/80	400/200	1⅜	x 3½	3.75	2.25
D-345	PLD-7207	10/20	450/25	1	x 2	1.90	1.14
D-350	PLD-7209	20/20	450/25	1	x 2½	2.00	1.20
D-355	PLD-7215	40/20	450/25	1	x 3	2.35	1.41
D-360	PLD-725	80/10	450/25	1⅜	x 3	3.40	2.04
D-365	PLD-726	80/50	450/50	1⅜	x 3	3.50	2.10
D-370	PLD-7261	20/100	450/100	1⅜	x 2½	2.65	1.59
D-375	PLD-7263	30/40	450/150	1⅜	x 2	2.50	1.50
D-380	PLD-7265	40/150	450/150	1⅜	x 3	3.45	2.07
D-385	PLD-7267	80/50	450/150	1⅜	x 3	3.75	2.25
D-390	PLD-721	20/80	450/350	1⅜	x 3½	3.65	2.19
D-395	PLD-7217	25/15	450/350	1	x 3	2.55	1.53
D-400	PLD-722	40/10	450/350	1⅜	x 2	2.60	1.56
D-405	PLD-7225	40/20	450/350	1⅜	x 2½	2.85	1.71
D-410	PLD-727	20/100	475/300	1⅜	x 3½	3.95	2.37
D-415	PLD-728	40/50	500/200	1⅜	x 3½	3.35	2.01
T-005	PLT-0220	20-20-20	25	1	x 2	1.95	1.17
T-010	PLT-0240	40-40-40	25	1	x 2	2.15	1.27
T-015	PLT-0530	30-30-30	50	1	x 2	2.15	1.27
T-020	PLT-1520	20-20-20	150	1	x 2	2.30	1.38
T-025	PLT-730	30-30-10	150	1	x 2	2.35	1.41
T-030	PLT-7305	40-20-10	150	1	x 2	2.35	1.41
T-035	PLT-731	40-20-20	150	1	x 2	2.40	1.44
T-040	PLT-738	40-30-20	150	1	x 2	2.50	1.50
T-045	PLT-1540	40-40-40	150	1	x 3	2.60	1.56
T-050	PLT-1550	50-50-50	150	1	x 3	3.00	1.80
T-055	PLT-7385	80-40-20	150	1	x 3	2.90	1.74
T-060	PLT-1580	80-80-80	150	1⅜	x 3	3.75	2.25
T-065	PLT-7387	120-80-40	150	1⅜	x 3½	3.80	2.28

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Net

SANGAMO CAPACITORS

TYPE PL ELECTROLYTIC CAPACITORS *(Continued)*

Stock No.	Catalog No.	Capacity mfd.	Wkg. Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
T-070	PLT-739	10-15-15	250	1	x 2	$2.45	$1.47
T-075	PLT-7393	20-20-10	250	1	x 2½	2.50	1.50
T-080	PLT-7395	30-15-10	250	1	x 2½	2.70	1.62
T-085	PLT-7397	40-20-10	250	1⅜	x 2	2.85	1.71
T-090	PLT-740	40-20-20	250	1	x 3	2.90	1.74
T-095	PLT-3010	10-10-10	300	1	x 2	2.40	1.44
T-100	PLT-3020	20-20-20	300	1	x 3	3.10	1.86
T-105	PLT-3510	10-10-10	350	1	x 2	2.40	1.44
T-110	PLT-7407	60-40-20	350	1⅜	x 3	4.25	2.55
T-115	PLT-7409	80-60-60	350	1⅜	x 5	5.60	3.36
T-120	PLT-4010	10-10-10	400	1	x 2½	2.40	1.44
T-125	PLT-4510	10-10-10	450	1	x 2½	2.60	1.56
T-130	PLT-741	15-15-10	450	1	x 3	2.95	1.77
T-135	PLT-7412	20-10-10	450	1	x 3	2.95	1.77
T-140	PLT-4520	20-20-20	450	1⅜	x 2½	3.60	2.16
T-145	PLT-7413	30-20-20	450	1⅜	x 3	3.85	2.31
T-150	PLT-7414	30-30-20	450	1⅜	x 3	4.10	2.46
T-155	PLT-4530	30-30-30	450	1⅜	x 3	4.35	2.61
T-160	PLT-74145	40-30-20	450	1⅜	x 3	4.30	2.58
T-165	PLT-7415	40-40-10	450	1⅜	x 3	4.15	2.49
T-170	PLT-4540	40-40-40	450	1⅜	x 3½	4.90	3.54
T-175	PLT-7417	60-30-10	450	1⅜	x 3	4.50	2.70
T-180	PLT-7419	80-40-20	450	1⅜	x 4	5.40	3.24
T-185	PLT-4710	10-10-10	475	1	x 3	2.70	1.62
T-190	PLT-742	30-30-20	475	1⅜	x 3	4.45	2.67
T-195	PLT-4730	30-30-30	475	1⅜	x 3½	4.65	2.79
T-200	PLT-5010	10-10-10	500	1	x 3	2.70	1.62
T-205	PLT-7425	30-20-20	500	1⅜	x 3	4.20	2.52
T-210	PLT-745	20/250-100	150/15-15	1⅜	x 2	2.90	1.74
T-215	PLT-746	100/50/25	150/50/25	1	x 3	3.00	1.80
T-220	PLT-747	30-20/100	150-150/6	1	x 2	2.40	1.44
T-225	PLT-7471	30-20/100	150-150/10	1	x 2	2.40	1.44
T-230	PLT-7473	30-30/200	150-150/10	1	x 2	2.50	1.50
T-235	PLT-7475	40-20/150	150-150/10	1	x 2	2.40	1.44
T-240	PLT-7477	40-20/200	150-150/10	1	x 2	2.56	1.50
T-242	PLT-7479	100-80/200	150-150/10	1⅜	x 2½	3.20	1.92
T-245	PLT-748	20-20/20	150-150/25	1	x 2	2.20	1.32
T-250	PLT-750	30-20/20	150-150/25	1	x 2	2.25	1.35
T-255	PLT-751	30-30/20	150-150/25	1	x 2	2.30	1.38
T-260	PLT-749	40-20/20	150-150/25	1	x 2	2.30	1.38
T-265	PLT-7517	40-20/100	150-150/25	1	x 2½	2.50	1.50
T-270	PLT-7519	40-20/200	150-150/25	1	x 2½	2.70	1.62
T-275	PLT-752	40-30/20	150-150/25	1	x 2	2.35	1.41
T-280	PLT-7521	40-30/25	150-150/25	1	x 2½	2.35	1.41
T-285	PLT-7525	40-40/20	150-150/25	1	x 2½	2.40	1.44
T-290	PLT-7526	40-40/40	150-150/25	1	x 2½	2.45	1.47
T-295	PLT-7527	50-30/20	150-150/25	1	x 2	2.50	1.50
T-300	PLT-753	50-30/100	150-150/25	1	x 2½	2.70	1.62
T-305	PLT-754	50-50/20	150-150/25	1	x 2½	2.65	1.59
T-310	PLT-7541	60-40/25	150-150/25	1	x 3	2.65	1.59
T-315	PLT-7543	120-60/20	150-150/25	1⅜	x 2½	3.35	2.01
T-320	PLT-7545	30-20/20	200-200/25	1	x 2½	2.55	1.53
T-325	PLT-7547	100-10/40	200-200/50	1⅜	x 2½	3.15	1.89
T-330	PLT-757	15-15/20	250-250/25	1	x 2	2.35	1.41
T-335	PLT-7575	20-15/20	250-250/25	1	x 2	2.35	1.41
T-340	PLT-758	30-30/20	250-250/25	1	x 2½	2.80	1.68
T-345	PLT-7585	70-70/20	250-250/50	1⅜	x 3	3.90	2.34
T-350	PLT-7587	40-20/10	250-250/150	1⅜	x 2	2.75	1.65
T-355	PLT-7588	40-40/10	250-250/200	1⅜	x 3	2.10	1.86
T-360	PLT-759	80-80/60	250-250/200	1⅜	x 3½	4.50	2.70
T-365	PLT-7593	30/20/20	250/350/25	1	x 3	2.80	1.68
T-370	PLT-7595	100/60/20	300/150/25	1⅜	x 3	4.20	2.52
T-375	PLT-7597	100/60-20	300/250-250	1⅜	x 3½	4.90	2.94
T-378	PLT-761	10-10/10	300-300/15	1	x 2	2.40	1.44
T-380	PLT-762	20-20/20	300-300/25	1	x 2½	2.75	1.65
T-385	PLT-763	40-15/20	300-300/25	1	x 3	2.95	1.77
T-390	PLT-7631	40-20/20	300-300/25	1⅜	x 2	3.10	1.86
T-395	PLT-7632	30-30/25	300-300/50	1	x 3	2.90	1.74
T-397	PLT-7634	200-20/10	300-300/100	1⅜	x 4	4.90	2.94
T-400	PLT-7635	10-10/15	300-300/250	1	x 2	2.45	1.47
T-405	PLT-7633	20/100/100	350/100/50	1⅜	x 3	3.45	2.07
T-410	PLT-7636	10/50/100	350/100/75	1	x 3	3.05	1.83
T-415	PLT-7638	10/50/100	350/150/50	1	x 3½	2.85	1.71
T-417	PLT-76382	125/5/100	350/200/75	1⅜	x 3½	5.30	3.18
T-420	PLT-76385	20/30/20	350/250/25	1	x 3	2.80	1.68
T-425	PLT-760	30/20-10	350/250-250	1	x 3	3.00	1.80
T-430	PLT-7639	30/30/20	350/300/25	1	x 3	3.15	1.89
T-435	PLT-7605	20/40/10	350/300/150	1	x 3½	3.15	1.89
T-440	PLT-764	40/20/10	350/300/200	1⅜	x 2	3.30	1.98
T-445	PLT-7645	30/20/20	350/300/250	1	x 3	3.30	1.98
T-450	PLT-765	10-10/20	350-350/25	1	x 2	2.25	1.35
T-455	PLT-7655	10-15/20	350-350/25	1	x 2	2.50	1.50
T-460	PLT-766	15-15/20	350-350/25	1	x 2½	2.70	1.62
T-465	PLT-7665	20-10/20	350-350/25	1	x 2½	2.55	1.53
T-470	PLT-7671	20-20/20	350-350/25	1	x 2½	2.80	1.68
T-475	PLT-7672	30-10/20	350-350/25	1	x 2½	2.85	1.71
T-480	PLT-767	30-20/20	350-350/25	1	x 3	3.10	1.86
T-485	PLT-7674	30-30/20	350-350/25	1⅜	x 2½	3.40	2.04
T-490	PLT-76745	40-40/50	350-350/25	1⅜	x 2½	3.75	2.25
T-495	PLT-7675	10-5/150	350-350/50	1	x 3	2.70	1.62
T-500	PLT-76755	40-20/10	350-350/100	1¾	x 2	2.85	1.71
T-505	PLT-7677	20-10/5	350-350/250	1	x 2½	2.55	1.53
T-510	PLT-7679	30-10/20	350-350/250	1	x 3	$3.05	$1.83
T-515	PLT-768	60/40/20	400/300-25	1⅜	x 3	4.20	2.52
T-520	PLT-7681	10/40/10	400/300/150	1⅜	x 2	2.90	1.74
T-525	PLT-7682	80/20-10	400/300-300	1⅜	x 3½	4.25	2.55
T-530	PLT-7687	10/50/30	400/350/25	1	x 3½	3.10	1.86
T-535	PLT-7688	40/10/100	400/350/50	1⅜	x 3	3.40	2.04
T-537	PLT-76885	100/10/20	400/350/50	1⅜	x 3½	4.50	2.70
T-540	PLT-7689	60/20-20	400/350-350	1⅜	x 3	4.30	2.58
T-545	PLT-769	15-15/40	400-400/25	1	x 2½	2.80	1.68
T-550	PLT-770	20-20/20	400-400/25	1	x 3	2.85	1.71
T-552	PLT-7704	80-40/100	400-400/50	1⅜	x 4	5.25	3.15
T-555	PLT-7707	40-40/20	400-400/300	1⅜	x 3½	4.15	2.49
T-560	PLT-771	30/100-25	450/25-25	1⅜	x 2	3.00	1.80
T-565	PLT-7712	40/40/130	450/150/50	1⅜	x 3	3.65	2.19
T-570	PLT-7714	40/100/50	450/150/50	1⅜	x 3	3.95	2.37
T-575	PLT-7715	40/90-50	450/150-150	1⅜	x 3½	4.00	2.40
T-580	PLT-77152	20/80/50	450/200/50	1⅜	x 2½	3.40	2.04
T-585	PLT-7716	20/60/100	450/250/25	1⅜	x 2½	3.65	2.19
T-590	PLT-77165	20/80/10	450/250/200	1⅜	x 3	3.60	2.16
T-595	PLT-77168	10/80-80	450/250-250	1⅜	x 4	4.20	2.52
T-600	PLT-7717	20/40-10	450/250-250	1⅜	x 2	3.15	1.89
T-602	PLT-7718	5/80-40	450/300-300	1⅜	x 3	5.05	3.03
T-605	PLT-7719	20/15-10	450/300-300	1	x 3½	2.85	1.71
T-610	PLT-772	10/10/20	450/350/25	1	x 2	2.30	1.38
T-615	PLT-773	10/10/50	450/350/25	1	x 3	2.40	1.44
T-620	PLT-7735	20/80/100	450/350/50	1⅜	x 3½	4.50	2.70
T-625	PLT-774	15/20/20	450/350/250	1⅜	x 2	3.00	1.80
T-630	PLT-7745	20/80/10	450/350/300	1⅜	x 3	4.30	2.58
T-632	PLT-7747	60/40-20	450/350-350	1⅜	x 3½	4.50	2.70
T-633	PLT-7748	4/40/40	450/400/300	1⅜	x 2½	4.60	2.76
T-635	PLT-775	10/30/30	450/400/300	1¾	x 2½	3.35	2.01
T-640	PLT-776	10-10/10	450-450/25	1	x 2½	2.40	1.44
T-645	PLT-777	10-10/20	450-450/25	1	x 2½	2.40	1.44
T-650	PLT-779	15-15/20	450-450/25	1	x 3	2.75	1.65
T-655	PLT-778	20-10/20	450-450/25	1	x 3	2.70	1.62
T-660	PLT-780	20-15/20	450-450/25	1	x 3	2.90	1.74
T-665	PLT-782	20-20/20	450-450/25	1	x 3	3.05	1.83
T-670	PLT-7825	30-20/20	450-450/25	1⅜	x 2½	3.30	1.98
T-675	PLT-783	30-30/20	450-450/25	1⅜	x 2½	3.55	2.13
T-680	PLT-7831	40-40/20	450-450/25	1⅜	x 3	3.95	2.37
T-685	PLT-7832	40-40/40	450-450/25	1⅜	x 3	4.00	2.40
T-690	PLT-7834	80-40/100	450-450/25	1⅜	x 4	5.10	3.06
T-695	PLT-7835	10-10/40	450-450/50	1	x 2½	2.75	1.65
T-700	PLT-7837	20-10/50	450-450/50	1	x 3	2.85	1.71
T-702	PLT-78372	30-10/150	450-450/50	1⅜	x 2½	3.70	2.22
T-705	PLT-78375	30-30/40	450-450/50	1⅜	x 3	3.65	2.19
T-710	PLT-78377	40-10/40	450-450/50	1⅜	x 2½	3.25	1.95
T-715	PLT-7839	40-40/40	450-450/50	1⅜	x 3	4.00	2.40
T-720	PLT-78395	40-40/100	450-450/50	1⅜	x 3½	4.30	2.58
T-725	PLT-7841	40-40/40	450-450/150	1⅜	x 3½	4.15	2.49
T-730	PLT-785	40-10/80	450-450/200	1⅜	x 3	3.90	2.34
T-735	PLT-7855	40-10/100	450-450/200	1⅜	x 3½	4.15	2.49
T-740	PLT-7857	40-40/100	450-450/200	1⅜	x 4	4.95	2.97
T-742	PLT-7858	40-40/10	450-450/250	1⅜	x 3½	4.90	2.94
T-745	PLT-7859	15-10/120	450-450/300	1⅜	x 3½	4.70	2.82
T-750	PLT-786	15-15/10	450-450/300	1	x 3	2.85	1.71
T-755	PLT-7865	15-5/15	450-450/350	1	x 3	2.85	1.71
T-760	PLT-787	20-20/60	450-450/350	1⅜	x 3½	4.05	2.43
T-765	PLT-789	40-10/10	450-450/350	1⅜	x 3	3.30	1.98
T-768	PLT-7893	20/50/20	475/50/25	1	x 2½	2.75	1.65
T-770	PLT-7895	10/100/40	475/200/50	1¾	x 2½	3.35	2.01
T-772	PLT-7896	40/40/100	475/250/50	1⅜	x 2½	4.30	2.58
T-775	PLT-7897	40/40-10	475/250-250	1⅜	x 3	4.05	2.43
T-780	PLT-790	20/20/40	475/300/25	1⅜	x 2	3.10	1.86
T-782	PLT-791	40/80-10	475/300-300	1⅜	x 3½	4.80	2.88
T-785	PLT-792	40/40/25	475/400/50	1¾	x 3	4.30	2.58
T-790	PLT-793	40/20-20	475/450-450	1¾	x 3	4.50	2.70
T-795	PLT-794	20-20/60	475-475/400	1⅜	x 3½	4.80	2.88
T-800	PLT-7945	40/40/100	500/250/50	1⅜	x 3	4.30	2.58
T-805	PLT-795	20/20/40	500/300/25	1¾	x 2	3.10	1.86
T-810	PLT-7955	10-10/100	500-500/50	1	x 3	2.85	1.71
T-815	PLT-796	30-10/20	500-500/50	1⅜	x 2½	3.10	1.86
T-820	PLT-7965	10-10/4	500-500/350	1	x 3	2.50	1.50
Q-005	PLQ-797	40-40-40-30	150	1¾	x 2	3.35	2.01
Q-010	PLQ-798	40-40-20-10	300	1⅜	x 3½	4.55	2.73
Q-012	PLQ-3540	40-40-40-40	350	1¾	x 3½	5.55	3.33
Q-015	PLQ-7981	30-30-20-20	400	1¾	x 3½	4.85	2.91
Q-017	PLQ-7982	50-40-30-20	400	1¾	x 4	5.50	3.30
Q-020	PLQ-7983	80-10-10-10	400	1⅜	x 3½	4.70	2.82
Q-025	PLQ-7984	80-25-10-10	400	1⅜	x 4	5.25	3.15
Q-030	PLQ-4510	10-10-10-10	450	1¾	x 2	3.35	2.01
Q-035	PLQ-7986	20-10-10-10	450	1⅜	x 2½	3.70	2.22
Q-040	PLQ-4520	20-20-20-20	450	1⅜	x 3	4.70	2.82
Q-045	PLQ-799	30-15-15-15	450	1⅜	x 3	4.45	2.67
Q-050	PLQ-800	30-30-15-10	450	1⅜	x 3½	4.70	2.82
Q-055	PLQ-8002	40-10-10-10	450	1⅜	x 3	4.15	2.49
Q-060	PLQ-8004	40-20-10-10	450	1⅜	x 3	4.45	2.67
Q-065	PLQ-4540	40-40-40-40	450	1⅜	x 5	6.45	3.87
Q-067	PLQ-8006	70-10-10-5	450	1⅜	x 3	4.75	2.85
Q-070	PLQ-4710	10-10-10-10	475	1¾	x 2	3.50	2.10
Q-075	PLQ-801	40-20-10-10	475	1⅜	x 3	5.10	3.06
Q-080	PLQ-8012	40-40/100-100	150-150/25-25	1⅜	x 2	3.35	2.01
Q-085	PLQ-8013	30-20-20/200	150-150-150/10	1⅜	x 2	3.10	1.86
Q-090	PLQ-8015	60-40-20/200	150-150-150/10	1⅜	x 3	3.50	2.10
Q-095	PLQ-802	30-30-30/40	150-150-150/25	1⅜	x 2	3.10	1.86
Q-100	PLQ-803	40-40-30/20	150-150-150/25	1⅜	x 2	3.10	1.86
Q-105	PLQ-8035	40-40-40/20	150-150-150/25	1⅜	x 2	3.15	1.89
Q-110	PLQ-804	40-40-40/100	150-150-150/25	1⅜	x 2	3.35	2.01
Q-115	PLQ-805	50-50-50/20	150-150-150/25	1⅜	x 2	3.55	2.13

SANGAMO CAPACITORS

Type PL Electrolytic Capacitors (Cont'd.)

Stock No.	Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
Q-120	PLQ-8050	80-40-10/10	150-150-150/25	1⅜	x 3	$3.60	$2.16
Q-125	PLQ-80502	80-40-10/100	150-150-150/25	1⅜	x 2½	3.75	2.25
Q-130	PLQ-8011	150-150/20/100	150-150/300/50	1⅜	x 3½	5.30	3.18
Q-135	PLQ-8051	40-20-10/20	200-200-200/25	1⅜	x 2	3.20	1.92
Q-140	PLQ-8052	100-40-10/100	250-250-250/50	1⅜	x 3½	5.15	3.09
Q-145	PLQ-8054	80-60-10-20	250-250-250/150	1⅜	x 3½	5.10	3.06
Q-150	PLQ-8055	100/40/80-20	300/50/25-25	1⅜	x 3½	4.55	2.73
Q-152	PLQ-8056	10/200-110-30	300/150-150-150	1⅜	x 3½	5.10	3.06
Q-155	PLQ-8057	120/20/20/100	300/250/25/50	1⅜	x 4	5.05	3.03
Q-160	PLQ-8059	200/20/20/100	300/250/25/50	1⅜	x 5	5.45	3.27
Q-162	PLQ-80593	100-10/200-30	300-300/150-150	1⅜	x 4	5.90	3.54
Q-163	PLQ-80595	100-10/200/30	300-300/200/150	1⅜	x 5	5.90	3.54
Q-165	PLQ-806	10-10-10/20	300-300-300/25	1⅜	x 2	2.95	1.77
Q-170	PLQ-808	60-40-20-50	300-300-300/25	1⅜	x 3½	4.70	2.82
Q-175	PLQ-8085	40-40-40/20	300-300-300/150	1⅜	x 3	4.90	2.94
Q-180	PLQ-809	15/80-40/200	350/200-200/25	1⅜	x 3	4.50	2.70
Q-185	PLQ-810	40/10-20/20	350/300-300/25	1⅜	x 3	4.50	2.70
Q-186	PLQ-8101	60-1/100-10	350-350/25-25	1⅜	x 2½	3.80	2.28
Q-187	PLQ-8102	80-20/20/100	350-350/200/50	1⅜	x 3	4.65	2.79
Q-188	PLQ-8103	60-10/60-20	350-350/200/150	1⅜	x 3½	5.05	3.03
Q-190	PLQ-8105	30-30/15/20	350-350/300/25	1⅜	x 3	4.15	2.49
Q-195	PLQ-811	10-10/10-10	350-350/300-300	1⅜	x 2	3.10	1.86
Q-200	PLQ-8113	20-10-5/10	350-350-350/25	1⅜	x 2	3.10	1.86
Q-205	PLQ-8115	20-10-5/20	350-350-350/25	1⅜	x 2	3.10	1.86
Q-210	PLQ-8116	40-20-20/25	350-350-350/25	1⅜	x 2½	4.25	2.55
Q-215	PLQ-8117	40-40-40/40	350-350-350/25	1⅜	x 3½	5.20	3.12
Q-220	PLQ-8119	40-40-40/150	350-350-350/50	1⅜	x 4	5.70	3.42
Q-221	PLQ-81191	60-25-25/100	350-350-350/50	1⅜	x 3	5.15	3.09
Q-221.5	PLQ-81191.5	100-40-30/50	350-350-350/50	1⅜	x 4	5.90	3.54
Q-222	PLQ-81192	90-30-5/100	350-350-350/75	1⅜	x 3½	5.70	3.42
Q-223	PLQ-81193	10/40-10/10	400/200-200/50	1⅜	x 2	3.20	1.92
Q-224	PLQ-81194	10/100/10/100	400/300/75/25	1⅜	x 3	4.70	2.82
Q-225	PLQ-81195	80/40-20-10	400/300-300-300	1⅜	x 4	5.55	3.33
Q-230	PLQ-81197	20/40/100-10	400/350/50-50	1⅜	x 3	4.20	2.52
Q-235	PLQ-812	40/10/80-10	400/350/250-250	1⅜	x 3½	4.65	2.79
Q-237	PLQ-8123	80/40-10/10	400/350-350/25	1⅜	x 3½	5.30	3.18
Q-240	PLQ-8125	10-10/25-25	400-400/25-25	1¾	x 2	2.80	1.68
Q-245	PLQ-8127	40-10/80-10	400-400/250-250	1⅜	x 3½	4.70	2.82
Q-250	PLQ-814	20-20-20/20	400-400-400/25	1⅜	x 2½	3.85	2.31
Q-251	PLQ-8141	80-40-30/40	400-400-400/25	1⅜	x 1	5.95	3.57
Q-253	PLQ-8143	10/80-50/100	450/200-200/50	1⅜	x 3	4.25	2.55
Q-255	PLQ-8145	20/80-20/50	450/200-200/50	1⅜	x 3	4.15	2.49
Q-260	PLQ-8147	40/40-40/20	450/250-250/25	1⅜	x 3	4.55	2.73
Q-265	PLQ-8149	10/10/60/100	450/300/200/50	1⅜	x 2½	3.80	2.28
Q-270	PLQ-815	20/15-15/20	450/350-350/25	1⅜	x 2	3.80	2.28
Q-275	PLQ-8152	10/60-40/25	450/350-350/25	1⅜	x 3½	4.60	2.76
Q-280	PLQ-8154	10/100-10/20	450/350-350/25	1⅜	x 3½	5.25	3.15
Q-282	PLQ-8155	20/80-50/100	450/350-350/50	1⅜	x 4	6.00	3.60
Q-285	PLQ-8156	30/40-40/10	450/350-350/200	1⅜	x 3½	5.15	3.09
Q-290	PLQ-8158	80/10/30/40	450/400/300/150	1⅜	x 4	5.25	3.15
Q-295	PLQ-8159	10-10/20-20	450-450/25-25	1⅜	x 2	2.95	1.77
Q-300	PLQ-816	20-15/20-20	450-450/25-25	1⅜	x 2	3.45	2.07
Q-305	PLQ-817	20-20/20-20	450-450/25-25	1⅜	x 2	3.60	2.16
Q-307	PLQ-8172	35-25/20/100	450-450-200/50	1⅜	x 3	4.65	2.79
Q-310	PLQ-8175	40-40/10/50	450-450/300/50	1⅜	x 3	4.75	2.85
Q-315	PLQ-818	20-20/30-30	450-450/300-300	1⅜	x 3	4.50	2.70
Q-320	PLQ-819	40-10/35-10	450-450/350-350	1⅜	x 3½	4.60	2.76
Q-325	PLQ-8195	40-40/30-30	450-450/350-350	1⅜	x 4	5.90	3.54
Q-330	PLQ-820	10-10-10/20	450-450-450/25	1⅜	x 2	3.15	1.89
Q-335	PLQ-8202	20-10-10/100	450-450-450/25	1⅜	x 2½	3.70	2.22
Q-340	PLQ-8205	20-20-20/20	450-450-450/25	1⅜	x 2½	4.15	2.49
Q-345	PLQ-82055	30-20-20/20	450-450-450/25	1⅜	x 3	4.40	2.64
Q-350	PLQ-82057	30-30-10/20	450-450-450/25	1⅜	x 3	4.35	2.61
Q-355	PLQ-8206	30-30-20/20	450-450-450/25	1⅜	x 3	4.65	2.79
Q-360	PLQ-8207	40-10-10/250	450-450-450/25	1⅜	x 3	4.25	2.55
Q-365	PLQ-82075	40-15-10/20	450-450-450/25	1⅜	x 3	4.10	2.46
Q-370	PLQ-8208	40-20-20/20	450-450-450/25	1⅜	x 3	4.60	2.76
Q-375	PLQ-8209	40-20-20/40	450-450-450/25	1⅜	x 3	4.65	2.79
Q-380	PLQ-821	40-30-10/20	450-450-450/25	1⅜	x 3	4.50	2.70
Q-385	PLQ-8215	40-40-10/20	450-450-450/25	1⅜	x 3	4.70	2.82
Q-390	PLQ-8216	40-40-40/40	450-450-450/25	1⅜	x 4	5.50	3.30
Q-395	PLQ-8217	20-20-20/100	450-450-450/50	1⅜	x 3	4.55	2.73
Q-400	PLQ-822	30-30-15/30	450-450-450/50	1⅜	x 3	4.15	2.49
Q-405	PLQ-8225	40-20-10/100	450-450-450/50	1⅜	x 3½	4.65	2.79
Q-410	PLQ-8226	40-40-10/25	450-450-450/50	1⅜	x 3½	4.70	2.82
Q-415	PLQ-8227	40-40-10/100	450-450-450/100	1⅜	x 4	5.35	3.21
Q-420	PLQ-823	10-10-10/10	450-450-450/150	1⅜	x 2	3.15	1.89
Q-425	PLQ-8235	20-10-10/10	450-450-450/150	1⅜	x 3	3.50	2.10
Q-430	PLQ-824	60-10-10/20	450-450-450/150	1⅜	x 3	4.60	2.76
Q-432	PLQ-824-5	35-35-10/10	450-450-450/200	1⅜	x 3	4.60	2.76
Q-435	PLQ-8240	40/40/50/80	475-250/150/50	1⅜	x 3½	5.05	3.03
Q-440	PLQ-8241	20/40/100/80	475/300/50/25	1⅜	x 3	4.50	2.70
Q-442	PLQ-82415	10/40/100/10	475/400/50/25	1⅜	x 2½	4.00	2.40
Q-445	PLQ-8242	10/10/80/50	475/450/200/60	1⅜	x 3	3.85	2.31
Q-450	PLQ-8243	25/20/20/100	475/450/300/50	1⅜	x 3	4.60	2.76
Q-455	PLQ-8244	25/20/40/100	475/450/300/50	1⅜	x 3½	4.95	2.97
Q-460	PLQ-8246	10/60/30/125	475/450/400/50	1⅜	x 4	5.45	3.27
Q-465	PLQ-8247	15-15/80/40	475-475/300/50	1⅜	x 3	4.80	2.88
Q-467	PLQ-8248	40-10/4/40	475-475/350/300	1⅜	x 3	4.95	2.97
Q-470	PLQ-8249	10-5/80/40	475-475/450/50	1⅜	x 3½	4.95	2.97
Q-475	PLQ-8250	30-30-10/20	475-475-475/25	1⅜	x 3	4.55	2.73
Q-480	PLQ-825	40-20-10/10	475-475-475/25	1⅜	x 3	4.85	2.91
Q-485	PLQ-826	20-20-10/10	475-475-475/300	1⅜	x 2½	4.30	2.58

NOTE: Maximum operating temperature of 475 and 500 volt units is 65°C.

NOTE: Each unit is supplied with a bakelite and a metal mounting plate. Additional hardware available at extra cost.

NOTE: Packaging: Individual display carton.

CARDBOARD INSULATING TUBES

Catalog Number	Description	List Price	Resale Net Price
KCT-1	For 1" x 2" can	$0.06	$0.03
KCT-2	For 1" x 2½" can	.06	.03
KCT-3	For 1" x 3" can	.06	.03
KCT-4	For 1" x 4" can	.06	.03
KCT-5	For 1⅜" x 2" can	.06	.03
KCT-6	For 1⅜" x 2½" can	.06	.03
KCT-7	For 1⅜" x 3" can	.06	.03
KCT-8	For 1⅜" x 3½" can	.06	.03
KCT-9	For 1⅜" x 4" can	.06	.03

ELECTROLYTIC CAPACITORS

TYPE BTE

The SANGAMO Type BTE electrolytic capacitor is ideally suited for filter and bypass circuits in marine, aircraft, geophysical and many other applications. The Type BTE cartridges are first sealed in aluminum tubes and then encased in sturdy-corrosion-resistant, hot tinned steel cases providing a complete hermetic seal under extremes of weather conditions. All units are equipped with glass-to-metal sealed terminals. Mounting flanges with 3/16" holes are provided at each end.

Catalog Number	Capacity mfd.	Working Volts D.C.	—Size— W	L	H	List Price	Resale Net Price
BTE-0225	25	25	1	1 13/16	15/16	$4.50	$2.70
BTE-0250	50	25	1	1 13/16	15/16	4.60	2.76
BTE-0275	75	25	1	1 13/16	15/16	4.65	2.79
BTE-0525	25	50	1	1 13/16	15/16	4.55	2.73
BTE-0550	50	50	1	1 13/16	15/16	4.70	2.82
BTE-1510	10	150	1	1 13/16	15/16	4.65	2.79
BTE-1520	20	150	1	1 13/16	15/16	4.70	2.82
BTE-2510	10	250	1	1 13/16	15/16	4.50	2.70
BTE-2512	12	250	1	1 13/16	15/16	4.65	2.79
BTE-3508	8	350	1	1 13/16	15/16	4.75	2.85
BTE-4504	4	450	1	1 13/16	15/16	5.50	3.30

Designed and fabricated to conform to all physical and performance requirements of the CE63 style capacitor of Joint Armed Services Specification MIL-C-62.

Similar design in case styles CE61, CE62, and CE64 may be furnished upon request.

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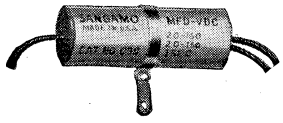
Net

SANGAMO CAPACITORS

ELECTROLYTIC CAPACITORS

TYPE CS



The SANGAMO Type CS electrolytic capacitors are contained in wax-filled cardboard tubes with insulated leads approximately 8 inches in length extending from both ends of the unit. Capacity, voltage and polarity of each section is clearly indicated by color of the lead wires; coding information necessary to identify the individual sections is clearly stamped on the tube. Each unit is supplied with a mounting strap to facilitate mounting to the chassis.

Dual Common Negative Units

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia.	Len.	Net Price	Resale Net Price
CSD-0210	10-10	25	⅝	x 2⅜	$1.40	$0.84
CSD-0510	10-10	50	⅝	x 2⅜	1.40	.84
CSD-1508	8- 8	150	⅝	x 2⅜	1.50	.90
CSD-1516	16-16	150	¾	x 2½	1.80	1.08
CSD-1520	20-20	150	¾	x 2½	1.65	.99
CSD-500	30-20	150	⅞	x 2½	1.70	1.02
CSD-1530	30-30	150	⅞	x 2½	1.80	1.08
CSD-505	40-20	150	1	x 2½	1.75	1.05
CSD-506	40-30	150	1	x 2½	1.80	1.08
CSD-1540	40-40	150	1	x 2½	1.85	1.11
CSD-512	50-30	150	1	x 2½	1.95	1.17
CSD-1550	50-50	150	1	x 3	2.10	1.26
CSD-2516	16-16	250	1	x 2½	1.75	1.05
CSD-4508	8- 8	450	1	x 2½	1.70	1.02
CSD-522	8-16	450	1	x 2⅞	2.00	1.20
CSD-4520	20-20	450	1	x 3⅝	2.50	1.50

Dual Separate Sections

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia.	Len.	Net Price	Resale Net Price
CSS-1520	20-20	150	1	x 2½	$2.05	$1.23
CSS-4508	8- 8	450	1	x 3⅛	2.15	1.29
CSS-4516	16-16	450	1¼	x 3⅛	2.80	1.68

Triple Common Negative Units

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia.	Len.	Net Price	Resale Net Price
CST-1520	20-20-20	150	1	x 2⅞	$2.20	$1.32
CST-523	40-20-20	150	1	x 2⅞	2.25	1.35
CST-524	40-30-20	150	1	x 2⅞	2.35	1.41
CST-1540	40-40-40	150	1	x 3⅛	2.45	1.47
CST-526	20-20-20	150-150-25	1	x 2½	2.05	1.23
CST-527	40-20-20	150-150-25	1	x 2⅞	2.15	1.29
CST-528	40-30-20	150-150-25	1	x 2⅞	2.20	1.32
CST-532	50-30-20	150-150-25	1	x 2⅞	2.35	1.41
CST-533	50-30-100	150-150-25	1	x 3⅛	2.55	1.53
CST-534	80-40-20	150-150-25	1	x 3⅛	2.60	1.56
CST-535	12-12-20	450-450-25	1	x 2⅞	2.30	1.38
CST-537	20-20-20	450-450-25	1¼	x 3⅛	2.90	1.74

NOTE: Packaging: 10, 25, or 50 per display carton.

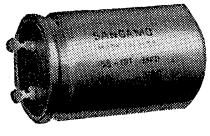
COLOR CODE OF WIRE LEADS FOR TYPES FM, CS, AND SL CAPACITORS

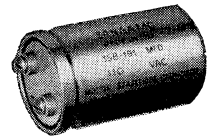
Black	Common negative
Orange	Positive, highest voltage or capacity
Red	Positive, next highest voltage or capacity
Blue	Positive, next highest voltage or capacity
Yellow	Positive, next highest voltage or capacity
Brown	Negative, in separate section unit

NOTE: Lead colors are determined by the rated working voltages. Where there are two or more sections of different voltages and the same capacity, the lead color will designate the voltage; with the same voltages and unequal capacities, the lead color will designate the capacity. If there are two sections with equal capacities and voltages the two lead wires will be in the same color.

NOTE: Based upon proposed R.T.M.A. Color code.

TYPE EM (MOTOR STARTING)





The SANGAMO Type EM electrolytic capacitor is a standard universal replacement for all motor starter types presently in use, and its dimensions are comparable in every respect. The Type EML is provided with solder lug terminals, the Type EMS being equipped with screw types; otherwise the two units are identical in construction and operational characteristics. Insulating tubes are supplied with both types.

110 Volts A.C.

EML Catalog Number	Capacity, mfds. Range	Nominal	Can Size, less insulating tube. Dia.	Len.	List Price	Resale Net Price
EML-1120	20- 24	20	1⅜	x 3⅛	$2.05	$1.43
EML-1126	26- 30	26	1⅜	x 3⅛	2.10	1.47
EML-1132	32- 36	32	1⅜	x 3⅛	2.10	1.47
EML-1138	38- 42	38	1⅜	x 3⅛	2.10	1.47
EML-1143	43- 48	43	1⅜	x 3⅛	2.10	1.47
EML-1153	53- 60	53	1⅜	x 3⅛	2.15	1.50
EML-1164	64- 72	64	1⅜	x 3⅛	2.25	1.57
EML-1170	70- 78	70	1⅜	x 3⅛	2.30	1.61
EML-1175	75- 84	75	1⅜	x 3⅛	2.30	1.61
EML-1186	86- 96	86	1⅜	x 3⅛	2.60	1.82
EML-1197	97-107	97	1⅜	x 3⅛	2.65	1.85
EML-11108	108-120	108	1⅜	x 3½	2.85	1.99
EML-11124	124-138	124	1⅜	x 3½	2.95	2.06
EML-11145	145-162	145	1⅜	x 3⅞	3.20	2.24
EML-11161	161-180	161	1⅜	x 4⅛	3.25	2.27
EML-11161	161-180	161	2	x 3⅛	3.25	2.27
EML-11189	189-216	189	2	x 3⅛	3.75	2.62
EML-11216	216-240	216	2	x 3⅛	4.05	2.83
EML-11243	243-270	243	2	x 3⅛	4.70	3.29
EML-11270	270-300	270	2	x 3⅛	4.75	3.32
EML-11324	324-360	324	2	x 4⅛	5.40	3.78
EML-11378	378-420	378	2	x 4⅛	6.00	4.20
EML-11400	400-480	400	2	x 4⅛	6.05	4.23

220 Volts A.C.

EML Catalog Number	Capacity, mfds. Range	Nominal	Can Size, less insulating tube. Dia.	Len.	List Price	Resale Net Price
EML-2220	20-24	20	1¾	x 3⅛	$2.91	$2.03
EML-2226	26-30	26	1¾	x 3⅛	3.35	2.34
EML-2232	32-36	32	2	x 4⅛	3.79	2.65
EML-2238	38-42	38	2	x 4⅛	4.30	3.01
EML-2243	43-48	43	2	x 4⅛	4.55	3.18
EML-2253	53-60	53	2	x 4⅛	5.19	3.63

110 Volts A.C.

EMS Catalog Number	Capacity, mfds. Range	Nominal	Can Size, less insulating tube. Dia.	Len.	List Price	Resale Net Price
EMS-1120	20- 24	20	1⅜	x 3⅛	$2.05	$1.43
EMS-1126	26- 30	26	1⅜	x 3⅛	2.10	1.47
EMS-1132	32- 36	32	1⅜	x 3⅛	2.10	1.47
EMS-1138	38- 42	38	1⅜	x 3⅛	2.10	1.47
EMS-1143	43- 48	43	1⅜	x 3⅛	2.10	1.47
EMS-1153	53- 60	53	1⅜	x 3⅛	2.15	1.50
EMS-1164	64- 72	64	1⅜	x 3⅛	2.25	1.57
EMS-1170	70- 78	70	1⅜	x 3⅛	2.30	1.61
EMS-1175	75- 84	75	1⅜	x 3⅛	2.30	1.61
EMS-1186	86- 96	86	1⅜	x 3⅛	2.60	1.82
EMS-1197	97-107	97	1⅜	x 3⅛	2.65	1.85
EMS-11108	108-120	108	1⅜	x 3⅛	2.85	1.99
EMS-11124	124-138	124	1⅜	x 3⅛	2.95	2.06
EMS-11145	145-162	145	1⅜	x 3⅛	3.20	2.24
EMS-11161	161-180	161	1⅜	x 4⅛	3.25	2.27
EMS-11161	161-180	161	2	x 3⅛	3.25	2.27
EMS-11189	189-216	189	2	x 3⅛	3.75	2.62
EMS-11216	216-240	216	2	x 3⅛	4.05	2.83
EMS-11243	243-270	243	2	x 3⅛	4.70	3.29
EMS-11270	270-300	270	2	x 3⅛	4.75	3.32
EMS-11324	324-360	324	2	x 4⅛	5.40	3.78
EMS-11378	378-420	378	2	x 4⅛	6.00	4.20
EMS-11400	400-480	400	2	x 4⅛	6.05	4.23

220 Volts A.C.

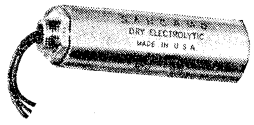
EMS Catalog Number	Capacity, mfds. Range	Nominal	Can Size, less insulating tube. Dia.	Len.	List Price	Resale Net Price
EMS-2220	20-24	20	1⅜	x 3¼	$2.96	$2.06
EMS-2226	26-30	26	1⅜	x 3⅛	3.40	2.37
EMS-2232	32-36	32	2	x 4⅛	3.84	2.68
EMS-2238	38-42	38	2	x 4⅛	4.35	3.04
EMS-2243	43-48	43	2	x 4⅛	4.60	3.21
EMS-2253	53-60	53	2	x 4⅛	5.24	3.66

NOTE: For insulating tube dimensions add $\frac{1}{16}$" to the can diameter and ⅝" to the can length.

NOTE: Packaging: Individual display carton.

SANGAMO CAPACITORS

TYPE SL



Designed primarily as replacements for wet electrolytics, the Type SL electrolytic capacitors are assembled in round aluminum cans with threaded necks providing easy mounting to a chassis with the aid of a palnut which is supplied. The Type SL is completely insulated from the container, the negative connection being made to one of the insulated leads extending through the threaded neck of the can.

Single Section

Catalog Number	Capacity mfd.	Wkg. Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
SL-2512	12	250	1	x 2½	$1.75	$1.05
SL-2525	25	250	1	x 3½	1.95	1.17
SL-4508	8	450	1⅜	x 2½	2.20	1.32
SL-4512	12	450	1⅜	x 2½	2.40	1.44
SL-4516	16	450	1⅜	x 2½	2.45	1.47
SL-4520	20	450	1⅜	x 2½	2.70	1.62
SL-4530	30	450	1⅜	x 3½	3.00	1.80
SL-4540	40	450	1⅜	x 4¼	3.15	1.89

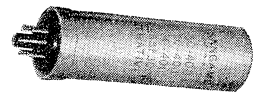
Common Negative Section

Catalog Number	Capacity mfd.	Wkg. Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
SLD-4508	8- 8	450	1⅜	x 3½	$3.00	$1.80
SLD-4516	16-16	450	1⅜	x 3½	3.55	2.13
SLT-4508	8-8-8	450	1⅜	x 3½	5.00	3.00

High Voltage, Series Wound Sections

Catalog Number	Capacity mfd.	Wkg. Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
SL-6004	4	600	1⅜	x 3½	$2.95	$1.77
SL-6008	8	600	1⅜	x 4¼	3.15	1.89
SL-6016	16	600	1⅞	x 4¼	3.75	2.25

TYPE TS



Ideally suited for all applications where quick capacitor changes are required, the SANGAMO Type TS units are equipped with a four-pin octal base mounting for use with standard octal base tube sockets. The special design of the bakelite octal base insures that the aluminum container will not contact the mounting surface and the connections to the brass pin terminals are imbedded in this bakelite base. The base pins are nickel-plated to prevent corrosion and insure good contact with the socket terminals.

Single Section

Catalog Number	Capacity mfd.	Wkg. Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
TS-1520	20	150	1⅜	x 2½	$3.95	$2.37
TS-1540	40	150	1⅜	x 2½	4.10	2.46
TS-4510	10	450	1⅜	x 2½	4.05	2.43
TS-4520	20	450	1⅜	x 2½	4.30	2.58
TS-4540	40	450	1⅜	x 2½	4.55	2.73
TS-4580	80	450	1⅞	x 4¼	5.55	3.33

Dual Sections

Catalog Number	Capacity mfd.	Wkg. Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
TSD-1520	20-20	150	1⅜	x 2½	$4.20	$2.52
TSD-1540	40-40	150	1⅜	x 2½	4.40	2.64
TSD-4510	10-10	450	1⅜	x 2½	4.40	2.64
TSD-4520	20-20	450	1⅜	x 2½	5.05	3.03

Multiple Sections

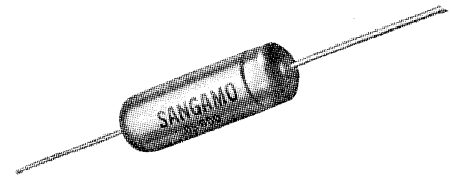
Catalog Number	Capacity mfd.	Wkg. Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
TST-4510	10-10-10	450	1⅜	x 2½	$5.10	$3.06
TST-901	20-20-20	450-450-25	1⅜	x 2½	5.55	3.33

NOTE: Not normally carried in stock. Available on special order only.

NOTE: Packaging: Individual display carton.

PAPER CAPACITORS

PLASTIC MOLDED TUBULAR



The SANGAMO is molded in Sangamo HUMIDITITE to provide more stable capacity values, unsurpassed moisture resistance, excellent seal characteristic, and operation up to 85°C. temperature. Small in physical size, and rugged in construction, this tubular is especially adaptable to television, auto radio, small AC-DC set, and other uses. The leads are firmly imbedded in the hard plastic case and have been especially designed to resist breakage. The "Telechief" assures operating dependability under extremes of heat, humidity and physical stress.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
330221	.001	200	5/16	x 1	$0.25	$0.15
330225	.005	200	5/16	x 1	.25	.15
330211	.01	200	7/8	x 1 1/8	.25	.15
330212	.02	200	7/8	x 1 1/8	.25	.15
3302147	.047	200	7/16	x 1 1/8	.30	.18
330215	.05	200	7/16	x 1 1/4	.30	.18
330201	.1	200	1/2	x 1 1/2	.35	.21
3302015	.15	200	9/16	x 1 5/8	.35	.21
3302022	.22	200	5/8	x 2	.40	.24
3302025	.25	200	5/8	x 2	.45	.27
3302047	.47	200	3/4	x 2	.60	.36
330205	.5	200	3/4	x 2	.60	.36
330210	1.0	200	1	x 2 1/8	.90	.54
330421	.001	400	5/16	x 1	.25	.15
330425	.005	400	5/16	x 1	.25	.15
330411	.01	400	7/8	x 1 1/8	.25	.15
330412	.02	400	7/8	x 1 1/8	.25	.15
3304122	.022	400	7/16	x 1 1/8	.25	.15
3304147	.047	400	7/16	x 1 1/8	.30	.18
330415	.05	400	7/16	x 1 1/4	.30	.18
3304168	.068	400	1/2	x 1 1/2	.35	.21
330401	.1	400	1/2	x 1 5/8	.35	.21
3304015	.15	400	9/16	x 2	.35	.21
330402	.2	400	5/8	x 2	.40	.24
3304022	.22	400	5/8	x 2	.40	.24
3304025	.25	400	5/8	x 2	.45	.27
330405	.5	400	7/8	x 2	.60	.36
330410	1.0	400	1 1/16	x 2 1/2	.90	.54
330635	.0005	600	5/16	x 1	$0.25	$0.15
330621	.001	600	5/16	x 1	.25	.15
3306215	.0015	600	5/16	x 1	.25	.15
330622	.002	600	5/16	x 1	.25	.15
3306222	.0022	600	5/16	x 1	.25	.15
330623	.003	600	5/16	x 1	.25	.15
330624	.004	600	5/16	x 1	.25	.15
3306247	.0047	600	5/16	x 1	.25	.15
330625	.005	600	5/16	x 1	.25	.15
330626	.006	600	7/8	x 1 1/8	.25	.15
3306268	.0068	600	7/8	x 1 1/8	.30	.18
330611	.01	600	7/16	x 1 1/8	.30	.18
3306115	.015	600	7/16	x 1 1/8	.30	.18
330612	.02	600	7/16	x 1 1/4	.30	.18
3306122	.022	600	7/16	x 1 1/4	.30	.18
330613	.03	600	1/2	x 1 1/2	.35	.21
330614	.04	600	1/2	x 1 1/2	.35	.21
3306147	.047	600	1/2	x 1 1/2	.40	.24
330615	.05	600	1/2	x 1 1/2	.40	.24
330616	.06	600	9/16	x 1 5/8	.40	.24
330601	.1	600	9/16	x 2	.45	.27
330602	.2	600	3/4	x 2	.55	.33
3306025	.25	600	3/4	x 2	.55	.33
330605	.5	600	1	x 2 1/8	.80	.48
330610	1.0	600	1 3/8	x 2 5/8	1.25	.75

NOTE: Additional capacity values in the 200 and 400 volt ratings can be supplied on request.

NOTE: Packaging: 20, 50, or 100 per display carton.

NOTE: Standard capacity tolerance:
.005 mfd. . . . . +60% —25
.001 mfd. to .01 mfd. . . . . +60% —20
.01 mfd. to .15 mfd. . . . . ±20%
.15 mfd. and up. . . . . +20% —10

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Net

SANGAMO CAPACITORS

PAPER CAPACITORS

TYPE 50

The Type 50 paper capacitors are primarily intended for bypass application. They are non-inductively wound, are supplied in fractional capacity values, and will provided efficient and continuous operation in R.F. and A.F. bypass, audio frequency coupling, and other A.C. circuits. These units are impregnated and filled with mineral oil and may be operated under severe humidity conditions at temperatures up to +85°C.

600 W.V. D.C.

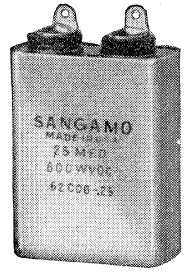
Catalog Number	Capacity mfd.	Dimensions — Inches L	W	H	List Price	Resale Net Price
5006-.05	.05	1 3/16	1	3/4	$2.90	$1.74
5006-.1	.1	1 3/16	1	3/4	2.95	1.77
5006-.25	.25	1 3/16	1	3/4	3.10	1.86
5006-.5	.5	1 3/16	1	1	3.30	1.98
5006-1	1.0	2	1 3/4	7/8	3.75	2.25
5006-2	2.0*	2	2	1 1/8	5.00	3.00
5006-.05x2	.05-.05	1 3/16	1	3/4	3.65	2.19
5006-.1x2	.1-.1	1 3/16	1	3/4	3.70	2.22
5006-.25x2	.25-.25	1 3/16	1	7/8	3.75	2.25
5006-.5x2	.5-.5	2	1 3/4	7/8	4.30	2.58
5006-1x2	1.0-1.0*	2	2	1 1/8	5.30	3.18
5006-.1x3	.1-.1 .1	1 3/16	1	3/4	4.20	2.52
5006-.25x3	.25-.25-.25	2	1 3/4	7/8	4.75	2.85
5006-.5x3	.5-.5-.5*	2	2	1 1/8	5.75	3.45

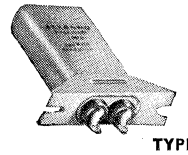
1000 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions — Inches L	W	H	List Price	Resale Net Price
5010-.05	.05	1 3/16	1	3/4	$3.05	$1.83
5010-.1	.1	1 3/16	1	3/4	3.15	1.89
5010-.25	.25	1 3/16	1	7/8	3.25	1.95
5010-.5	.5	2	1 3/4	7/8	3.55	2.13
5010-1	1.0*	2	2	1 1/8	4.40	2.64
5010-.05x2	.05-.05	1 3/16	1	3/4	3.85	2.31
5010-.1x2	.1-.1	1 3/16	1	7/8	4.00	2.40
5010-.25x2	.25-.25	2	1 3/4	7/8	4.20	2.52
5010-.5x2	.5-.5*	2	2	1 1/8	5.45	3.27
5010-.1x3	.1-.1-.1	2	1 3/4	7/8	4.60	2.76
5010-.25x3	.25-.25-.25*	2	2	1 1/8	5.50	3.00

NOTE: *For bottom or top terminal, case size becomes 2" x 2" x 1¼".
NOTE: Packaging: Individual display carton.
NOTE: The above units built to comply with the electrical requirements of specification MIL-C-25 Style CP-53-54-55.
NOTE: Standard capacity tol. +20% —10%.

TYPE 62-64





The Types 62 and 64 SANGAMO non-inductively wound paper capacitors are impregnated and filled with mineral oil and are hermetically sealed in seamless drawn-steel cases. The mineral oil impregnant assures dependable service betwen the wide temperature limits of —55°C. and +85°C. Standard capacitors are supplied with top terminals and brackets for upright mounting. When bottom terminals and inverted mounting are required, add the letter "B" to the end of the catalog number.

TYPE 62 PAPER CAPACITORS
600 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions incldg. bracket L	W	H	List Price	Resale Net Price
62B06-.01	.01	1 3/8	31/32	1 5/32	$3.65	$2.19
62B06-.05	.05	1 3/8	31/32	1 5/32	3.65	2.19
62B06-.1	.1	1 3/8	31/32	1 5/32	3.65	2.19
62B06-.25	.25	1 3/8	31/32	1 5/32	3.90	2.34
62C06-.5	.5	1 3/8	31/32	1 27/32	4.20	2.52
62A06-1.	1.0	1 3/8	31/32	2 1/4	4.65	2.79
62A06-2.	2.0	1 3/8	1 1/4	2 5/8	6.10	3.66

1000 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions incldg. bracket L	W	H	List Price	Resale Net Price
62B10-.05	.05	1 3/8	31/32	1 5/32	$3.75	$2.25
62B10-.1	1.	1 3/8	31/32	1 5/32	4.00	2.40
62C10-.25	.25	1 3/8	31/32	1 27/32	4.20	2.52
62A10-.5	.5	1 3/8	31/32	2 1/4	4.45	2.67
62A10-1.	1.0	1 3/8	1 1/4	2 5/8	5.20	3.12

TYPE 64 PAPER CAPACITORS
600 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions incldg. bracket L	W	H	List Price	Resale Net Price
64A06-.01	.01	2 5/16	31/32	2 5/8	$3.55	$2.13
64A06-.05	.05	2 5/16	31/32	2 5/8	3.55	2.13
64A06-.1	.1	2 5/16	31/32	2 5/8	3.55	2.13
64A06-.25	.25	2 5/16	31/32	2 5/8	3.85	2.31
64A06-.5	.5	2 5/16	31/32	2 5/8	4.10	2.46
64A06-1.	1.0	2 5/16	31/32	2 5/8	4.70	2.82
64A06-2.	2.0	1 7/8	1 1/8	2 3/8	6.05	3.63

1000 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions incldg. bracket L	W	H	List Price	Resale Net Price
64A10-.05	.05	2 5/16	31/32	2 5/8	$3.70	$2.22
64A10-.1	.1	2 5/16	31/32	2 5/8	3.95	2.37
64A10-.25	.25	2 5/16	31/32	2 5/8	4.15	2.49
64A10-.5	.5	2 5/16	31/32	2 5/8	4.40	2.64
64A10-1.	1.0	1 7/8	1 1/8	2 3/8	5.15	3.09

NOTE: Not normally carried in stock. Available on special order only.
NOTE: Packaging: Individual display carton.
NOTE: The above units built to comply with the electrical requirements of specification MIL-C-25 Style CP-61-63-65-67-69.

TYPE 40-41

The SANGAMO Types 40 and 41 diaclor impregnated and filled paper capacitors are ideal for use in high voltage filter applications. Enclosed in aluminum containers, they facilitate convenient mounting to the chassis, an insulating washer and spade lug being provided for this purpose. In the Type 40 one connection is provided by an insulated terminal and the other is provided by the case. In the Type 41 both terminals are completely insulated from the case.

NOTE: These units built to comply with the electrical requirements of specification MIL-C-25 Style CP-40-41.

TYPE 40 PAPER CAPACITORS

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
4006-1	1.	600	1½ x	1⅝	$3.85	$2.31
4006-2	2.	600	1½ x	2⅜	4.60	2.76
4006-4	4.	600	1½ x	3⅝	6.30	3.78
4010-1	1.	1000	1½ x	2⅜	4.20	2.52
4010-2	2.	1000	1½ x	3⅝	5.45	3.27
4015-.25	.25	1500	1½ x	1⅝	4.85	2.91
4015-.5	.5	1500	1½ x	2⅜	5.00	3.00
4015-1	1.	1500	1½ x	3⅜	5.45	3.27

TYPE 41 PAPER CAPACITORS

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia.	Len.	List Price	Resale Net Price
4106-1	1.	600	1½ x	1⅝	$4.70	$2.82
4106-2	2.	600	1½ x	2⅜	5.40	3.24
4106-4	4.	600	1½ x	3⅝	7.10	4.26
4110-1	1.	1000	1½ x	2⅜	5.00	3.00
4110-2	2.	1000	1½ x	3⅝	6.30	3.78
4115-.25	.25	1500	1½ x	1⅝	5.65	3.39
4115-.5	.5	1500	1½ x	2⅜	5.85	3.51
4115-1	1.	1500	1½ x	3⅜	6.30	3.78

NOTE: Packaging: Individual display carton.

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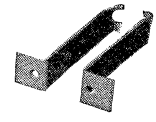
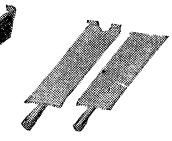
SANGAMO CAPACITORS

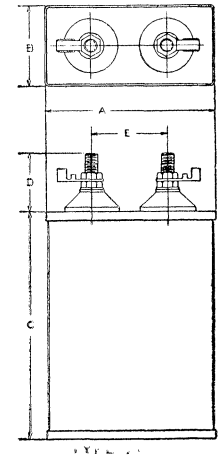
PAPER CAPACITORS

TYPE 71

SANGAMO Type 71 diaclor impregnated and filled paper capacitors have the advantage of light weight, and are smaller than the case size specified by MIL-C-25. Diaclor* is a specially compounded, chemically purified chlorinated dielectric oil. This synthetic impregnant, whose characteristics can be controlled with great uniformity, possesses a high dielectric constant, high volume resistivity, low power factor, high dielectric strength, and is non-inflammable and non-explosive. Type A mounting brackets are supplied with each capacitor as standard equipment. If Type B or C brackets are required, they must be specified when ordering. Either composition rivet or stand-off porcelain terminals can be supplied, and the type desired should be specified.







600 V. D.C. Working

Catalog Number	Capacity mfd.	Dimensions — Inches A	B	C	D	E	F	List Price	Resale Net Price
7106-.5	.5	1 3/8	1 1/16	1 5/8	7/8	3/8	2 1/4	$4.70	$2.82
7106-1	1.	1 3/8	1 1/16	2	7/8	3/8	2 1/4	5.80	3.48
7106-2	2.	1 3/8	1 1/16	2 3/4	7/8	3/8	2 1/4	7.15	4.29
7106-4	4.	2 1/2	1 3/16	2 7/8	7/8	1 1/8	3	9.10	5.46
7106-6	6.	2 1/2	1 3/16	3 3/4	7/8	1 1/8	3	11.30	6.78
7106-8	8.	3 3/4	1 1/4	3 1/4	7/8	2	4 3/8	13.50	8.10
7106-10	10.	3 3/4	1 1/4	3 7/8	7/8	2	4 3/8	15.15	9.09

1000 V. D.C. Working

Catalog Number	Capacity mfd.	Dimensions — Inches A	B	C	D	E	F	List Price	Resale Net Price
7110-.1	.1	1 3/8	1 1/16	1 5/8	7/8	3/8	2 1/4	$4.15	$2.49
7110-.25	.25	1 3/8	1 1/16	1 5/8	7/8	3/8	2 1/4	4.70	2.82
7110-.5	.5	1 3/8	1 1/16	2	7/8	3/8	2 1/4	4.95	2.97
7100-1	1.	1 3/8	1 1/16	2 1/8	7/8	3/8	2 1/4	6.35	3.81
7110-2	2.	1 3/8	1 1/16	3 7/8	7/8	3/8	2 1/4	8.25	4.95
7110-4	4.	2 1/2	1 3/16	4 1/8	7/8	1 1/8	3	10.45	6.27
7110-6	6.	3 3/4	1 1/4	3 7/8	7/8	2	4 3/8	14.05	8.43
7110-8	8.	3 3/4	1 1/4	4 5/8	7/8	2	4 3/8	15.15	9.09
7110-10	10.	3 3/4	1 3/4	4 1/4	7/8	2	4 3/8	16.80	10.08
7110-12	12.	3 3/4	2 1/4	3 7/8	7/8	2	4 3/8	18.15	10.89
7110-15	15.	3 3/4	2 1/2	4 5/8	7/8	2	4 3/8	20.10	12.06

1500 V. D.C. Working

Catalog Number	Capacity mfd.	Dimensions — Inches A	B	C	D	E	F	List Price	Resale Net Price
7115-.5	.5	1 3/8	1 1/16	2 1/4	7/8	3/8	2 1/4	$6.35	$3.81
7115-1	1.	1 3/8	1 1/16	3 1/4	7/8	3/8	2 1/4	7.45	4.47
7115-2	2.	2 1/2	1 3/16	3 5/8	7/8	1 1/8	3	10.45	6.27
7115-4	4.	3 3/4	1 1/4	4 1/4	7/8	2	4 3/8	14.05	8.43
7115-6	6.	3 3/4	1 3/4	4 1/2	7/8	2	4 3/8	17.05	10.23
7115-8	8.	3 3/4	2 1/2	4 5/8	7/8	2	4 3/8	20.90	12.54
7115-10	10.	3 3/4	3 3/16	4 1/8	7/8	2	4 3/8	25.05	15.03
7115-12	12.	3 3/4	3 3/16	4 3/4	7/8	2	4 3/8	27.25	16.35
7115-15	15.	3 3/4	4 3/16	4 1/4	7/8	2	4 3/8	30.00	18.00

NOTE: Standard tolerance ±10%.
NOTE: Brackets supplied at no extra cost.

2000 V. D.C. Working

Catalog Number	Capacity mfd.	Dimensions — Inches A	B	C	D	E	F	List Price	Resale Net Price
7120-.1	.1	1 3/8	1 1/16	1 5/8	1 3/8	3/8	2 1/4	$6.60	$3.96
7120-.25	.25	1 3/8	1 1/16	2	1 3/8	3/8	2 1/4	7.15	4.29
7120-.5	.5	1 3/8	1 1/16	2 7/8	1 3/8	3/8	2 1/4	7.45	4.47
7120-1	1.	2 1/2	1 3/8	3 1/4	1 3/8	1 1/8	3	9.10	5.46
7120-2	2.	3 3/4	1 1/4	3 3/4	1 3/8	2	4 3/8	10.75	6.45
7120-4	4.	3 3/4	2 1/4	3 3/4	1 3/4	2	4 3/8	15.15	9.09
7120-6	6.	3 3/4	2 1/2	4 3/4	1 3/4	2	4 3/8	20.10	12.06
7120-8	8.	3 3/4	3 3/16	4 3/4	1 3/4	2	4 3/8	25.05	15.03
7120-10	10.	3 3/4	4 3/16	4 3/4	1 3/4	2	4 3/8	30.55	18.33
7120-12	12.	3 3/4	4 3/16	5 1/4	1 3/4	2	4 3/8	33.30	19.98

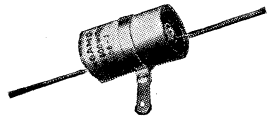
2500 V. D.C. Working

Catalog Number	Capacity mfd.	Dimensions — Inches A	B	C	D	E	F	List Price	Resale Net Price
7125-.5	.5	2 1/2	1 3/16	2 7/8	1 3/4	1 1/8	3	$11.55	$6.93
7125-1	1.	3 3/4	1 1/4	3 1/4	1 3/4	2	4 3/8	13.20	7.92
7125-2	2.	3 3/4	1 3/4	4 3/4	1 3/4	2	4 3/8	21.45	12.87
7125-4	4.	3 3/4	2 1/4	5 1/8	1 3/4	2	4 3/8	30.00	18.00
7125-10	10.	3 3/4	4 3/16	6	1 3/4	2	4 3/8	75.10	45.06

3000 V. D.C. Working

Catalog Number	Capacity mfd.	Dimensions — Inches A	B	C	D	E	F	List Price	Resale Net Price
7130-.1	.1	2 1/2	1 3/16	2	1 3/4	1 1/8	3	$14.05	$8.43
7130-.25	.25	2 1/2	1 3/16	2 1/2	1 3/4	1 1/8	3	14.85	8.91
7130-.5	.5	2 1/2	1 3/16	3 3/4	1 3/4	1 1/8	3	16.80	10.08
7130-1	1.	3 3/4	1 1/4	4 1/4	1 3/4	2	4 3/8	20.10	12.06
7130-2	2.	3 3/4	2 1/4	4 1/2	1 3/4	2	4 3/8	25.05	15.03
7130-4	4.	3 3/4	4 3/16	4 1/4	1 3/4	2	4 3/8	36.85	22.11

TYPE 21



Hermetically sealed in metal tubes, the SANGAMO Type 21 paper capacitor is primarily designed for bypass and coupling applications. They are non-inductively wound; and, impregnated and filled with mineral oil assuring greatest stability of capacity and low power factor over the wide range of temperatures from —55°C. to +85°C. These units are built to comply with the electrical requirements of Specification MIL-C-25 Style CP 25-26-27-28-29.

TYPE 21 METAL CASES MINERAL OIL PAPER CAPACITORS
600 W.V. D.C.

Catalog Number	Capacity mfd.	— Size — Dia.	Len.	List Price	Resale Net Price
2106-.003	.003	1/2	1 5/16	$0.95	$0.57
2106-.006	.006	1/2	1 5/16	.95	.57
2106-.01	.01	1/2	1 5/16	.95	.57
2106-.02	.02	1/2	1 5/16	1.05	.63
2106-.03	.03	1/2	1 1/16	1.10	.66
2106-.05	.05	3/4	1 9/16	1.10	.66
2106-.06	.06	3/4	1 1/16	1.10	.66
2106-.1	.1	3/4	1 13/16	1.25	.75
2106-.25	.25	13/16	2 5/16	1.70	1.02
2106-.5	.5	1 1/16	2 5/16	2.20	1.32

1000 W.V. D.C.

Catalog Number	Capacity mfd.	— Size — Dia.	Len.	List Price	Resale Net Price
2110-.006	.006	1/2	1 5/16	$1.10	$0.66
2110-.01	.01	1/2	1 9/16	1.10	.66
2110-.05	.05	3/4	1 13/16	1.30	.78
2110-.1	.1	13/16	2 1/16	1.50	.90
2110-.25	.25	1 1/16	2 5/16	2.30	1.38

1600 W.V. D.C.

Catalog Number	Capacity mfd.	— Size — Dia.	Len.	List Price	Resale Net Price
2116-.0005	.0005	3/4	1 5/16	$1.10	$0.66
2116-.001	.001	3/4	1 5/16	1.10	.66
2116-.002	.002	3/4	1 5/16	1.10	.66
2116-.005	.005	3/4	1 5/16	1.20	.72
2116-.01	.01	3/4	1 5/16	1.20	.72
2116-.02	.02	3/4	1 9/16	1.30	.78
2116-.05	.05	13/16	2 1/16	1.30	.78
2116-.1	.1	1 1/16	2 1/16	2.10	1.26

2000 W.V. D.C.

Catalog Number	Capacity mfd.	— Size — Dia.	Len.	List Price	Resale Net Price
2120-.0005	.0005	13/16	1 5/16	$1.25	$0.75
2120-.001	.001	13/16	1 5/16	1.25	.75
2120-.005	.005	13/16	1 9/16	1.25	.75
2120-.01	.01	13/16	1 9/16	1.25	.75
2120-.02	.02	13/16	1 13/16	1.30	.78
2120-.05	.05	13/16	2 1/16	1.45	.87

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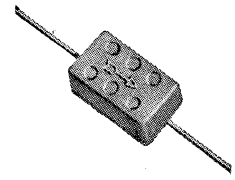
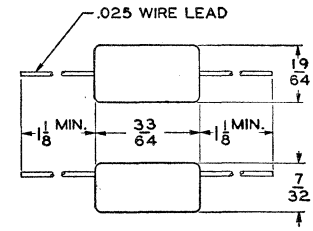
SANGAMO CAPACITORS

NEW MOLDING COMPOUND FOR SANGAMO WIRE LEAD MICAS

All SANGAMO wire-lead micas are molded in HUMIDITITE, a new molding compound developed by Sangamo, that gives them moisture resistance characteristics far superior to any others on the market. The standard moisture resistance test described in MIL-C-5A (proposed) Specification requires mica capacitors to offer at least 100 megohms of insulation resistance after ten 24-hour cycles in a humidity chamber at 90% to 95% relative humidity. The best competitive micas barely meet this requirement . . . but Sangamo HUMIDITITE Micas, *under the same conditions*, all tested in excess of 50,000 megohms! For additional information about HUMIDITITE, write for Engineering Bulletin No. TS-111.

TYPE RR SILVERED MICA CAPACITORS





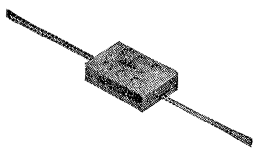
Catalog Number	Capacity Mfd.	Wkg. Volts D.C.	Catalog Number	Capacity Mfd.	Wkg. Volts D.C.
RR-1550	.000005	500	RR-1475	.000075	500
RR-1410	.00001	500	RR-1482	.000082	500
RR-1412	.000012	500	RR-1491	.000091	500
RR-1415	.000015	500	RR-1310	.0001	500
RR-1418	.000018	500	RR-1312	.00012	500
RR-1420	00002	500	RR-1315	.00015	500
RR-1422	.000022	500	RR-1318	00018	500
RR-1424	.000024	500	RR-1320	0002	500
RR-1427	.000027	500	RR-1322	.00022	500
RR-1430	.00003	500	RR-1324	.00024	500
RR-1433	.000033	500	RR-1325	.00025	500
RR-1436	.000036	500	RR-1327	00027	500
RR-1439	000039	500	RR-1330	.0003	500
RR-1443	.000043	500	RR-1333	.00033	500
RR-1447	.000047	500	RR-1336	00036	500
RR-1450	.00005	500	RR-1339	00039	500
RR-1456	.000056	500	RR-06343	.00043	300
RR-1462	.000062	500	RR-06347	.00047	300
RR-1468	.000068	500	RR-06351	.00051	300

NOTE: Standard tolerance ±5%, but in no instance less than ±1 mmf.

NOTE: Capacitors are identified by color coding. Size of case prohibits stamping of ratings.

NOTE: Packaging: 10, 25, 50 or 100 per display carton.

TYPE K Mica Capacitor

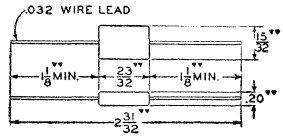


Type K Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
500 V.D.C. Working— 1000 V.D.C. Test			
K-1550	.000005	$0.25	$0.15
K-1410	.00001	.25	.15
K-1415	.000015	.25	.15
K-1420	.00002	.25	.15
K-1425	.000025	.25	.15
K-1430	.00003	.25	.15
K-1439	.000039	.25	.15
K-1443	.000043	.20	.12
K-1450	.00005	.20	.12
K-1475	.000075	.20	.12
K-1310	.0001	.20	.12
K-1315	.00015	.20	.12
K-1320	.0002	.20	.12
K-1325	.00025	.25	.15
K-1330	.0003	.25	.15
K-1340	.0004	.25	.15
K-1350	.0005	.25	.15
K-1370	.0007	.35	.21
K-1380	.0008	.35	.21
K-1210	.001	.35	.21

Standard tolerance, ±20%, B characteristic.

TYPE KR Silvered Mica



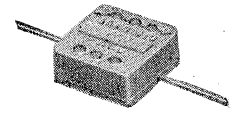
Type KR Silvered Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
500 V.D.C. Working— 1000 V.D.C. Test			
KR-1550	.000005	$0.45	$0.27
KR-1410	.00001	.40	.24
KR-1415	.000015	.40	.24
KR-1420	.00002	.40	.24
KR-1425	.000025	.40	.24
KR-1430	.00003	.40	.24
KR-1439	.000039	.40	.24
KR-1443	.000043	.40	.24
KR-1450	.00005	.40	.24
KR-1475	.000075	.40	.24
KR-1310	.0001	.40	.24
KR-1315	.00015	.45	.27
KR-1320	.0002	.45	.27
KR-1325	.00025	.45	.27
KR-1330	.0003	.55	.33
KR-1340	.0004	.65	.39
KR-1350	.0005	.70	.42
KR-1370	.0007	.75	.45
KR-1380	.0008	.80	.48
KR-1210	.001	.90	.54

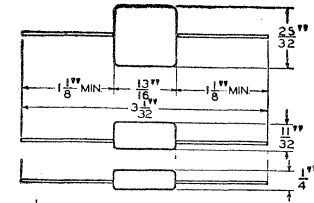
Standard tolerance, ±5%, C characteristic.

Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed.

TYPE C Mica Capacitor



TYPE CR Silvered Mica



Type C Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
500 V.D.C. Working— 1000 V.D.C. Test			
C-1350	.0005	$0.25	$0.15
C-1362	.00062	.25	.15
C-1375	.00075	.25	.15
C-1380	.0008	.25	.15
C-1390	.0009	.25	.15
C-1210	.001	.30	.18
C-1215	.0015	.30	.18
C-1220	.002	.40	.24
C-1225	.0025	.45	.27
*C-1230	.003	.50	.30
*C-1240	.004	.55	.33
*C-1250	.005	.60	.36
*C-1260	.006	.65	.39
300 V.D.C. Working— 600 V.D.C. Test			
*C-06275	.0075	.90	.54
*C-06280	.008	1.00	.60
*C-06290	.009	1.00	.60
*C-06110	.01	1.20	.72

Standard tolerance, ±20%, B characteristic. *Thickness 11/32"

Type CR Silvered Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
500 V.D.C. Working— 1000 V.D.C. Test			
CR-1350	.0005	$0.70	$0.42
CR-1362	.00062	.80	.48
CR-1375	.00075	.85	.51
CR-1380	.0008	.95	.57
CR-1390	.0009	1.00	.60
CR-1210	.001	1.10	.66
CR-1215	.0015	1.35	.81
CR-1220	.002	1.35	.81
CR-1225	.0025	1.80	1.08
*CR-1230	.003	2.05	1.23
*CR-1240	.004	2.15	1.29
*CR-1250	.005	2.25	1.35
*CR-1260	.006	2.40	1.44
300 V.D.C. Working— 600 V.D.C. Test			
*CR-06275	.0075	2.60	1.56
*CR-06280	.008	2.80	1.68
*CR-06290	.009	3.10	1.86
*CR-06110	.01	3.40	2.04

Standard tolerance, ±5%, C characteristic. *Thickness 11/32"

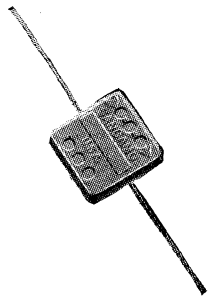
Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed.

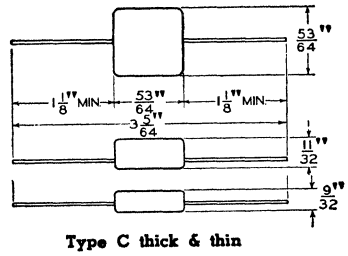
SANGAMO CAPACITORS

High Voltage "Television" Mica Capacitors

These molded mica capacitors are specially designed for the high temperatures and voltages encounterd in television applications. They may also be used in power amplifiers, low power transmitters and other industrial uses. They are fabricated with India ruby mica and are carefully tested to insure maximum performance under these difficult operating conditions.

TYPE C





Type C thick & thin

LIST PRICES

Catalog Number	Capacity Mfd.	6000 D.C. Test 3000 D.C. Working	5000 D.C. Test 2500 D.C. Working	4000 D.C. Test 2000 D.C. Working	3000 D.C. Test 1500 D.C. Working	2000 D.C. Test 1000 D.C. Working
C-312	.00012	$0.50				
C-315	.00015	.55				
C-316	.00016	.60				
C-318	.00018	.60				
C-320	.0002	.65				
C-324	.00024	.70				
C-325	.00025	.70	$0.55			
C-327	.00027	.70	.55			
C-330	.0003	.75	.60			
C-333	.00033	.80	.60			
C-336	.00036	.85	.65			
C-339	.00039	.90	.70			
C-343	.00043	1.00	.70	$0.60		
C-347	.00047	1.05	.70	.65		
C-350	.0005	1.10	.75	.65		
C-351	.00051	1.10*	.75	.65		
C-356	.00056	1.20*	.80	.65		
C-362	.00062	1.25*	.85	.70		
C-368	.00068	1.35*	.90	.70	$0.65	
C-382	.00082	1.55*	1.00*	.80	.75	
C-391	.00091	1.65*	1.10*	.85	.80	
C-210	.001	1.80*	1.20*	.95	.80	
C-211	.0011	1.80*	1.20*	1.00*	.85	$0.55
C-212	.0012	1.95*	1.30*	1.05*	.95	.60
C-213	.0013	2.10*	1.40*	1.10*	1.00	.60
C-215	.0015	2.35*	1.60*	1.25*	1.10	.65
C-216	.0016		1.70*	1.30*	1.10	.70
C-218	.0018		1.85*	1.40*	1.25	.70
C-220	.002		2.05*	1.55*	1.35	.75
C-222	.0022			1.70*	1.40*	.85
C-224	.0024			1.85*	1.55*	.90
C-227	.0027				1.65*	.90*
C-223	.003				1.75*	1.00*
C-233	.0033					1.05*

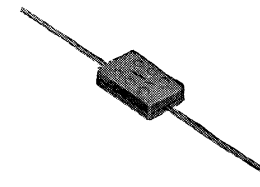
NOTE: When ordering, insert in blank space preceding catalog number, designation indicating test voltage requirements For instance, C6312 means 6000 volts test; C5312 means 5000 volts test, etc.

NOTE: *Means thick case. See diagram above.

NOTE: Standard tolerance ±20%, B characteristic. Prices will be supplied on request for closer tolerances or for silvered mica units.

NOTE: Standard trade discounts apply.

TYPE K



LIST PRICES

Catalog Number	Capacity Mfd.	6000 D.C. Test 3000 D.C. Working	5000 D.C. Test 2500 D.C. Working	4000 D.C. Test 2000 D.C. Working	3000 D.C. Test 1500 D.C. Working	2000 D.C. Test 1000 D.C. Working
K-550	.000005	$0.30				
K-410	.00001	.30				
K-412	.000012	.30				
K-415	.000015	.35	$0.30			
K-418	.000018	.35	.30			
K-420	.00002	.35	.30			
K-422	.000022	.35	.30			
K-424	.000024	.35	.30			
K-427	.000027	.35	.30			
K-430	.00003	.40	.35			
K-433	.000033	.40	.35			
K-436	.000036	.45	.35			
K-439	.000039	.45	.35			
K-443	.000043	.45	.35			
K-447	.000047	.45	.35	$0.30		
K-450	.00005	.50	.35	.35		
K-451	.000051	.50	.35	.35		
K-456	.000056	.50	.35	.35		
K-462	.000062	.50	.35	.35		
K-468	.000068	.55	.40	.35		
K-475	.000075	.60	.45	.35	$0.30	
K-482	.000082		.45	.35	.30	
K-491	.000091		.45	.35	.35	
K-310	.0001		.45	.35	.35	
K-311	.00011		.50	.40	.35	
K-312	.00012		.50	.40	.35	$0.30
K-313	.00013		.50	.40	.35	.30
K-315	.00015		.55	.40	.35	.35
K-316	.00016		.60	.45	.35	.35
K-318	.00018		.60	.45	.35	.35
K-320	.0002			.50	.40	.35
K-322	.00022			.50	.40	.35
K-324	.00024			.55	.40	.35
K-325	.00025			.55	.45	.40
K-327	.00027			.55	.45	.40
K-330	.0003			.60	.50	.40
K-333	.00033				.50	.40
K-336	.00036				.50	.40
K-339	.00039				.55	.40
K-343	.00043				.55	.45
K-347	.00047				.60	.45
K-350	.0005					.45
K-351	.00051					.45
K-356	.00056					.50
K-362	.00062					.50
K-368	.00068					.55

NOTE: When ordering, insert in blank space preceding catalog number, designation indicating test voltage requirements. For instance, K6550 means 6000 volt test; K5550 means 5000 volt test, etc.

NOTE: Standard tolerance ±20%, B characteristic. Prices will be supplied on request for closer tolerances or for silvered mica units.

NOTE: Standard trade discounts apply.

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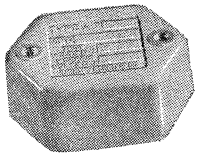
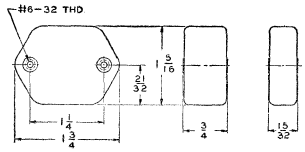
SANGAMO CAPACITORS

TYPE A MICA CAPACITORS





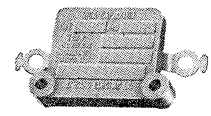
Catalog Number	Capacity Mfd.	List Price	Net Price
600 W.V.D.C.—1200 T.V.D.C.			
A-T1450	.00005	$1.45	$0.87
A-T1310	.0001	1.45	.87
A-T1315	.00015	1.45	.87
A-T1320	.0002	1.45	.87
A-T1325	.00025	1.45	.87
A-T1350	.0005	1.45	.87
A-T1210	.001	1.45	.87
A-T1220	.002	1.65	.99
A-T1225	.0025	1.70	1.02
A-T1230	.003	1.85	1.11
A-T1240	.004	2.00	1.20
A-T1250	.005	2.10	1.26
A-T1260	.006	2.20	1.32
A-T1280	.008	2.45	1.47
A-T1110	.01	2.80	1.68
A-T1115	.015	3.05	1.83
A-T1120	.02	3.55	2.13
A-T1125	.025	4.35	2.61
A-T1130	.03	4.55	2.73
A-K1140*	.04	5.85	3.51
A-K1150*	.05	7.10	4.26
A-K1160*	.06	8.05	4.83
1200 W.V.D.C.—2500 T.V.D.C.			
A-T2450	.00005	$1.60	$0.96
A-T2310	.0001	1.60	.96
A-T2315	.00015	1.60	.96
A-T2320	.0002	1.60	.96
A-T2325	.00025	1.60	.96
A-T2350	.0005	$1.60	$ .96
A-T2210	.001	1.90	1.14
A-T2220	.002	2.50	1.50
A-T2225	.0025	2.80	1.68
A-T2230	.003	2.95	1.77
A-T2240	.004	3.10	1.86
A-T2250	.005	3.30	1.98
A-T2260	.006	3.45	2.07
A-T2280	.008	4.10	2.46
A-T2110	.01	4.70	2.82
A-K2115*	.015	5.80	3.48
A-K2125*	.02	7.05	4.23
A-K2125*	.025	7.90	4.74
A-K2130*	.03	8.10	4.86
2500 W.V.D.C.—5000 T.V.D.C.			
A-T5450	.00005	$1.90	$1.14
A-T5310	.0001	1.90	1.14
A-T5325	00025	2.15	1.29
A-T5350	.0005	2.55	1.53
A-T5210	.001	2.90	1.74
A-T5220	.002	4.25	2.55
A-T5225	.0025	4.60	2.76
A-T5230	003	5.10	3.06
A-T5240	.004	5.65	3.39
A-K5250*	005	6.20	3.72
A-K5260*	.006	6.35	3.81
A-K5280*	.008	6.85	4.11
A-K5110*	.01	7.30	4.38
A-K5115*	.015	8.05	4.83

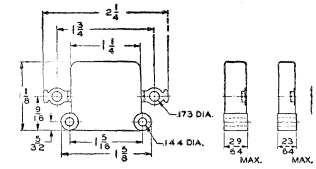
*Thickness ¾" — Standard Insulators are available if desired. If .144" clearance holes are required, designate by adding letter "A" to Type No. (AA).

Standard tolerance ±10%. B Characteristic, unless otherwise specified.

Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed above.

TYPE H MICA CAPACITORS





Catalog Number	Capacity Mfd.	List Price	Net Price
600 W.V.D.C.—1200 T.V.D.C.			
H-T1450	.00005	$1.20	$0.72
H-T1310	.0001	1.20	.72
H-T1320	.0002	1.20	.72
H-T1325	.00025	1.20	.72
H-T1330	.0003	1.20	.72
H-T1340	.0004	1.20	.72
H-T1350	.0005	1.20	.72
H-T1210	.001	1.20	.72
H-T1215	.0015	1.20	.72
H-T1220	.002	1.30	.78
H-T1225	.0025	1.30	.78
H-T1230	.003	1.45	.87
H-T1240	.004	1.50	.90
H-T1250	.005	1.55	.93
H-T1260	.006	1.80	1.08
H-T1270	.007	1.85	1.11
H-T1280	.008	1.90	1.14
H-T1110	.01	2.15	1.29
H-K1115*	.015	2.65	1.59
H-K1120*	.02	3.05	1.83
H-K1125*	.025	3.60	2.16
H-K1130*	.03	4.45	2.67
1200 W.V.D.C.—2500 T.V.D.C.			
H-T2450	.00005	$1.60	$0.96
H-T2310	.0001	1.60	.96
H-T2320	.0002	1.60	.96
H-T2325	.00025	1.60	.96
H-T2330	.0003	$1.60	$ .96
H-T2340	.0004	1.60	.96
H-T2350	.0005	1.60	.96
H-T2210	.001	1.80	1.08
H-T2215	.0015	2.30	1.38
H-T2220	.002	2.40	1.44
H-T2225	.0025	2.80	1.68
H-T2230	.003	3.05	1.83
H-K2240*	.004	3.05	1.83
H-K2250*	.005	3.30	1.98
H-K2260*	.006	3.30	1.98
H-K2280*	.008	3.85	2.31
H-K2110*	.01	5.10	3.06
2500 W.V.D.C.—5000 T.V.D.C.			
H-T5450	.00005	$1.90	$1.14
H-T5310	.0001	1.90	1.14
H-T5320	.0002	1.90	1.14
H-T5325	.00025	2.20	1.32
H-T5330	.0003	2.25	1.35
H-T5340	.0004	2.30	1.38
H-T5350	.0005	2.40	1.44
H-T5210	.001	2.80	1.68
H-T5215	.0015	3.55	2.13
H-K5220*	.002	4.15	2.49
H-K5230*	.003	4.90	2.94
H-K5240*	.004	5.65	3.39
H-K5250*	.005	6.40	3.84

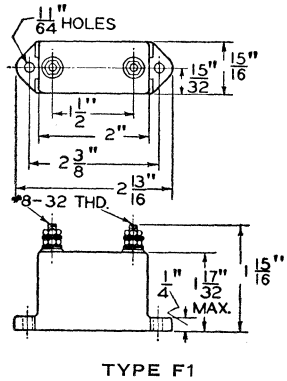
*Thickness 29/64". For meter mounting bracket add letter "E" to Type designation; if assembled add 30 cents to list price; if unassembled add 20 cents and specify case size.

Standard tolerance ±10%. B Characteristic, unless otherwise specified.

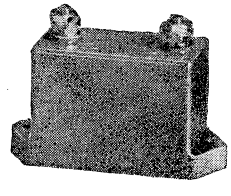
Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed above.

Prices subject to change without notice.

TYPE F1 MICA CAPACITORS



TYPE F1



Types F1 and F2 capacitors, the smallest of the Sangamo line of transmitting types, possess a range of voltage and current ratings suitable for many applications. They are housed in low loss molded bakelite cases. The mica and foil sections are permanently clamped, vacuum impregnated, and installed in the case in such a manner as to provide stable characteristics and adequate moisture proofing.

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Net Price
F1-331	.0001	3000	$12.60	$7.56
F1-332	.0002	3000	12.60	7.56
F1-3325	.00025	3000	12.60	7.56
F1-335	.0005	3000	12.60	7.56
F1-321	.001	3000	12.60	7.56
F1-322	.002	3000	12.60	7.56
F1-223	.003	2000	12.60	7.56
F1-224	.004	2000	12.60	7.56
F1-225	.005	2000	12.60	7.56
F1-226	.006	2000	12.60	7.56
F1-1528	.008	1500	12.60	7.56
F1-111	.01	1000	12.60	7.56
F1-112	.02	1000	14.30	8.58
F1-0215	.05	250	14.30	8.58
F1-0201	.1	250	15.10	9.06

Standard tolerance ±5%, B characteristic. Inquiry should be directed to the factory for availability of capacities and voltages other than those listed above. Prices subject to change without notice.

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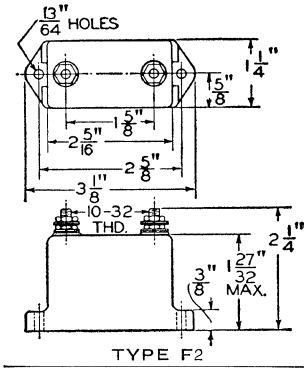
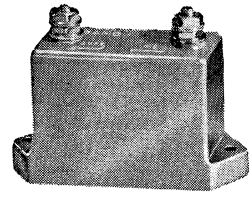
SANGAMO CAPACITORS

TYPE F2
MICA CAPACITORS



TYPE F2

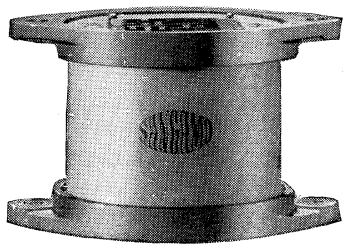


Types F1 and F2 capacitors, the smallest of the Sangamo lines of transmitting types, possess a range of voltage and current ratings suitable for many applications. They are housed in low loss molded bakelite cases. The mica and foil sections are permanently clamped, vacuum impregnated, and installed in the case in such a manner as to provide stable characteristics and adequate moisture proofing.

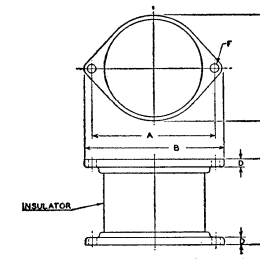
TYPE F2 MICA CAPACITORS

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Net Price
F2-531	.0001	5000	$17.30	$10.38
F2-5325	.00025	5000	17.30	10.38
F2-535	.0005	5000	17.30	10.38
F2-536	.0006	5000	17.30	10.38
F2-521	.001	5000	17.30	10.38
F2-522	.002	5000	17.30	10.38
F2-523	.003	5000	17.30	10.38
F2-325	.005	3000	17.30	10.38
F2-326	.006	3000	17.30	10.38
F2-211	.01	2000	17.30	10.38
F2-212	.02	2000	17.30	10.38
F2-1515	.05	1500	17.30	10.38
F2-0501	.1	500	19.20	11.52
F2-0202	.2	250	25.25	15.15
F2-02025	.25	250	27.90	16.74

Standard tolerance ±5%, B characteristic. Inquiry should be directed to the factory for availability of capacities and voltages other than those listed above. Prices subject to change without notice.



TYPES G1, G2, G3 AND G4 MICA CAPACITORS



TYPE G1, 2, 3 and 4

TYPE G1

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Resale Net Price
G1-641	.00001	6000	$35.45	$21.27
G1-645	.00005	6000	38.20	22.92
G1-631	.0001	6000	40.60	24.36
G1-632	.0002	6000	40.60	24.36
G1-634	.0004	6000	44.35	26.61
G1-635	.0005	6000	46.65	27.99
G1-621	.001	6000	46.65	27.99
G1-6215	.0015	6000	48.90	29.34
G1-622	.002	6000	48.90	29.34
G1-623	.003	6000	50.60	30.36
G1-624	.004	6000	50.60	30.36
G1-625	.005	6000	50.60	30.36
G1-526	.006	5000	51.45	30.87
G1-511	.01	5000	51.45	30.87
G1-4115	.015	4000	51.45	30.87
G1-312	.02	3000	51.45	30.87

TYPE G2

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Resale Net Price
G2-1031	.0001	10000	$65.55	$39.33
G2-10315	.00015	10000	65.55	39.33
G2-1032	.0002	10000	65.55	39.33
G2-10325	.00025	10000	65.55	39.33
G2-1035	.0005	10000	65.55	39.33
G2-1021	.001	10000	65.55	39.33
G2-10212	.0012	10000	65.55	39.33
G2-10215	.0015	10000	65.55	39.33
G2-1022	.002	10000	65.55	39.33
G2-823	.003	8000	65.55	39.33
G2-824	.004	8000	65.55	39.33
G2-525	.005	5000	65.55	39.33
G2-526	.006	5000	69.15	41.49
G2-511	.01	5000	69.15	41.49
G2-4115	.015	4000	69.15	41.49
G2-312	.02	3000	69.15	41.49

TYPE G3

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Resale Net Price
G3-2045	.00005	20000	$110.90	$66.54
G3-2031	.0001	20000	121.00	72.60
G3-2032	.0002	20000	131.10	78.66
G3-20325	.00025	20000	131.10	78.66
G3-2033	.0003	20000	131.10	78.66
G3-2035	.0005	20000	137.15	82.29
G3-2038	.0008	20000	137.15	82.29
G3-2021	.001	20000	141.15	84.69
G3-15215	.0015	15000	143.20	85.92
G3-1522	.002	15000	143.20	85.92
G3-1523	.003	15000	151.25	90.75
G3-1524	.004	15000	151.25	90.75
G3-1025	.005	10000	151.25	90.75
G3-1026	.006	10000	151.25	90.75
G3-1028	.008	10000	151.25	90.75
G3-1011	.01	10000	151.25	90.75
G3-512	.02	5000	151.25	90.75
G3-313	.03	3000	151.25	90.75

TYPE G4

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Resale Net Price
G4-3043	.00003	30000	$167.90	$100.74
G4-3045	.00005	30000	167.90	100.74
G4-3031	.0001	30000	210.30	126.18
G4-30315	.00015	30000	210.30	126.18
G4-30325	.00025	30000	221.16	132.69
G4-3035	.0005	30000	221.16	132.69
G4-3038	.0008	30000	221.16	132.69
G4-3021	.001	30000	229.10	137.46
G4-25215	.0015	25000	229.10	137.46
G4-2022	.002	20000	229.10	137.46
G4-2023	.003	20000	229.10	137.46
G4-2024	.004	20000	234.35	140.61
G4-1525	.005	15000	242.00	145.20
G4-1526	.006	15000	252.25	151.35
G4-1228	.008	12000	260.00	156.00
G4-1011	.01	10000	272.44	163.46
G4-612	.02	6000	272.44	163.46
G4-514	.04	5000	272.44	163.46

Standard tolerance ±5%, B characteristic.

TYPE G MICA CAPACITOR DIMENSIONS — INCHES

Type	A	B	C	D	E	F
G1	3 1/4	3 3/16	2 3/16	1/4	2 1/2	17/64
G2	4 1/4	5	3 1/2	1/4	3	.272
G3	5 3/4	6 1/2	5	3/8	4	.377
G4	5 3/4	6 1/2	5	3/8	5 3/4	.377
G5	8	9	6 3/4	1/2	10	13/32

Inquiry as to the availability of capacities and voltages other than those listed above should be directed to the factory.

Type G ceramic cased capacitors are intended for service where highest voltage and R.F. current ratings are required, such as in commercial transmitting or induction heating applications. All possible steps are taken in design and manufacturing operations to insure permanence of quality. Current ratings of these four sizes as well as detailed information on the Type G5 will be supplied upon request. Terminal plates are designed to permit any usual connecting or mounting practices.

Prices subject to change without notice.

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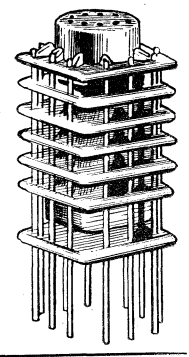
AEROVOX STANDARD CIRCUIT MODULES



Available for the first time from Aerovox. Now . . . the design engineer, prototype technician, special equipment builder and the experimenter can enjoy the advantages of basic circuit assemblies in the form of neat, compact, plug-in standard circuit modules. Aerovox has selected the most popular basic circuits and made them available in modular form through its parts distributors. As a further convenience in selecting and connecting these modules, Aerovox makes available a 12-position printed-wiring breadboard with connection jacks and bus bars. Individual standard circuit modules, breadboards and individual mounting sockets, may be purchased separately. Complete module kit, containing seven standard circuit modules, the 12 position breadboard, banana plugs and instruction manual and catalog, all packaged in handsome plastic box is available at a very special introductory price. For complete literature on Standard Circuit Modules, write Aerovox Corporation, Distributor Division, New Bedford, Mass.

CAT. NO.	TYPE	INPUT	OUTPUT	OPERATING RANGE	TUBE	POWER	PRICE *1-9
R 1001	± 300V D.C. REGULATOR	350 VDC MIN.	300 VDC ±2%	MAX. LOAD 190 MA.	6080, 5751, 5651	6.3V @ 2.8 AMPS	$21.10

PERFORMANCE

This circuit is used to supply a steady 300-volt dc source. Regulation is ±2% for line voltage variation of ±10% and load current variation of ±50%. Output impedance is greater than 0.5 ohm to 50 kc when the value of C3 is 8.0 mf (oil) and the load current varies between 100 and 200 ma. Maximum load current is 200 ma.

P 1001	VIDEO LIMITER	NEGATIVE PULSE 0.6V	POSITIVE PULSE 2.2V	4.2V LIMITING LEVEL	6AK5	+150 VDC @ 14 MA. 6.3V @ 175 MA.	$8.25

PERFORMANCE

This circuit is used to amplify and limit low level video signals. The output level is 2.2V for an input level of 0.6V. The limiting level is 4.2v. Rise time is 0.035 microsecond and droop is 3.5% for a 500-microsecond pulse.

P 1002	LOW LEVEL CATHODE FOLLOWER	POSITIVE PULSE 2.2V	POSITIVE PULSE 1.0V	MAXIMUM LEVEL 4.2V IN, 2.0V OUT	6385 2C51 OR 5670	+150 VDC @ 22 MA. —150 VDC @ 1 MA. 6.3V @ 300 MA.	$7.90

PERFORMANCE

This circuit is used for matching a low-level video source to a low impedance line. The operating levels are 1.0v output for an input of 2.2v. Maximum levels are 4.2 v input and 2.0 v output. Rise time is 0.002 micorsecond and droop is 1% for a 500-microsecond pulse.

P 1003	DUAL CATHODE FOLLOWER OR VIDEO MIXER	POSITIVE PULSE 0.4v to 14v	POSITIVE PULSE 0.35v to 11v	.4 to 14V	6385 2C51 OR 5670	+150 VDC @ 1 MA. 6.3V @ 300 MA.	$8.25

PERFORMANCE

This circuit is used to combine positive video signals or to match two high level video sources to loads greater than 10K. When used as a video mixer, the input levels are 0.4 v to 14 v and the output levels are 0.35 v to 11 v. The additive factor is 20% for 4.0 v inputs. Output impedance is 500 ohms. When used as a dual cathode follower, the input levels are 0.4 v to 14 v and the output levels are 0.3 v to 10 v. Output impedance is 1000 ohms. For either type operation, the rise time is 0.05 microsecond and droop is 2% for 500-microsecond pulses.

P 1004	INTERMEDIATE VIDEO AMPLIFIER	POSITIVE OR NEGATIVE PULSES, 0.5v	POSITIVE OR NEGATIVE PULSES, 16v	MAXIMUM SIGNAL ±.5 VOLTS FOR CASCADED STAGES —2.3 to +2.2V FOR SINGLE STAGE	6385 2C51 OR 5670	+150 VDC @ 15 MA. 6.3V @ 300 MA.	$10.60

PERFORMANCE

This circuit is used to amplify intermediate-level video signals. With the two stages operating in cascade, the output level is 16 v with a 0.5 v input. Using only a single stage, the input range is from —2.3 v to +2.2 v. With one stage, input is applied to riser 3 and output taken from riser 5. The input capacity is 11 mmf and the output capacity 19 mmf. Rise time is 0.092 microsecond and droop is 1.5% for a 500-microsecond pulse.

P 1005	VIDEO DRIVER AMPLIFIER	POSITIVE PULSES 2.v to 15v	NEGATIVE PULSES 6.5v to 83v	2 to 15 VOLTS INPUT MAXIMUM OUTPUT 83 VOLTS	6385 2C51 OR 5670	+150 VDC @ 1 MA. —150 V @ 1 MA. 6.3V @ 300 MA.	$13.15

PERFORMANCE

This circuit is used to amplify video signals to a level sufficient to intensify and modulate a CRT cathode voltage. The output level is from 6.5 v to 83 v for an input level of 2.0 v to 15 v. Rise time is 0.05 microsecond and droop is 1.5% for a 500-microsecond pulse.

G 1001	MULTIVIBRATOR	——	260 VOLTS EXCLUDING ANY NEGATIVE OVERSHOOT	AS A PRF MULTIVIBRATOR	12AU7	+150 VDC @ 8 MA. 6.3V @ 300 MA.	$5.10

PERFORMANCE

This circuit is used as a moderately stable repetition-rate generator. The repetition-rate frequency is a function of the value of capacitors C1 and C2. Fall time is 0.4 microsecond (10% to 90% value).

* Check with your local Aerovox distributor for quantity prices.

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AEROVOX

Distributor Division

ELECTROLYTICS

TYPE AFH (85°C)

Twist-Prong Base Electrolytic Capacitors

THE ONLY COMPLETE LINE
OF TWIST-PRONG ELECTROLYTICS

738 items . . . too numerous to list here . . . Aerovox line includes 81 single units, 132 dual units, 281 triple units, and 244 quadruple units. All rated for operation at 85°C. Send for your personal copy of Aerovox Catalog AFH-355 containing complete listing of all units.

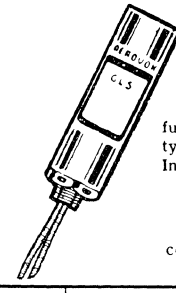
SINGLES · DUALS · TRIPLES · QUADS

TYPE G

Insulating Screw-Mounting Capacitors

Hermetically - sealed aluminum can unit, threaded cover with hex nut and washer for convenient mounting on chassis. Washer can be used to insulate can from chassis. Terminals molded in cover. Cathode connection through terminal in cover. These units are the equivalent of case style CE41 and 42 of specification JAN C62.

Cap. Mfd.	Can Size Dia. x Hght.	List Price
SINGLE ELEMENT		
TYPE G475		
475 VDCW	**525V. Surge Peak**	
4	1-3/8 x 2-1/4	$2.20
8	1-3/8 x 2-1/4	2.30
TYPE G450		
450 VDCW	**500V. Surge Peak**	
4	1-3/8 x 2-1/4	2.15
8	1-3/8 x 2-1/4	2.25
10	1-3/8 x 2-1/4	2.30
12	1-3/8 x 2-1/4	2.35
16	1-3/8 x 2-1/4	2.40
20	1-3/8 x 2-1/4	2.55
30	1-3/8 x 2-1/4	2.70
40	1-3/8 x 2-3/4	2.75
80	1-3/8 x 4-1/4	2.80
DUAL ELEMENT		
TYPE G450		
8-8	1-3/8 x 2-1/4	3.25
8-16	1-3/8 x 2-1/4	3.50
10-10	1-3/8 x 2-1/4	3.35
12-12	1-3/8 x 2-1/4	3.45
16-16	1-3/8 x 2-3/4	3.80
20-20	1-3/8 x 2-3/4	4.05



TYPE GL and GLS

These ever-popular inverted-mounting, aluminum can units, are furnished with the same high purity materials as the more expensive type E and G. Two separate color-coded leads 4" long, for each section. Inverted chassis mounting can be made, using palnut and threaded neck.

Type GL is furnished in 1-3/8" diameter.

Type GLS is similar, except furnished in 1" diameter cans for more compact assemblies.

Cap. Mfd.	Can Size Dia. x Hght.	List Price
TYPE GL		
SINGLE ELEMENT		
TYPE GL600		
600 VDCW	**750V. Surge Peak**	
4	1-3/8 x 4	$2.95
8	1-3/8 x 4-1/2	3.15
16	1-3/8 x 4-1/2	3.75
TYPE GL475		
475 VDCW	**525V. Surge Peak**	
8	1-3/8 x 3	2.75
12	1-3/8 x 3	2.95
16	1-3/8 x 3	3.15
TYPE GL450		
450 VDCW	**500V. Surge Peak**	
4	1-3/8 x 3	2.00
8	1-3/8 x 3	2.20
10	1-3/8 x 3	2.30
12	1-3/8 x 3	2.40
16	1-3/8 x 3	2.45
20	1-3/8 x 3	2.75
30	1-3/8 x 3	3.00
40	1-3/8 x 3	3.15
80	1-3/8 x 4	4.90
DUAL ELEMENT		
TYPE GL475		
8-8	1-3/8 x 4	4.10
TYPE GL450		
8-8	1-3/8 x 4	3.00
8-16	1-3/8 x 4	3.30
10-10	1-3/8 x 4	3.10
12-12	1-3/8 x 4	3.20
TYPE GL450 (cont.)		
16-16	1-3/8 x 4	3.55
20-20	1-3/8 x 4	3.80
TRIPLE ELEMENT		
TYPE GL450		
8-8-8	1-3/8 x 4	5.00
10-10-10	1-3/8 x 4	5.30
TYPE GLS		
SINGLE ELEMENT		
TYPE GLS450		
450 VDCW	**500V Surge Peak**	
4	1 x 2- 3/16	$2.00
8	1 x 2-11/16	2.20
12	1 x 3- 1/4	2.40
16	1 x 3- 1/4	2.45
TYPE GLS250		
250 VDCW	**300V Surge Peak**	
4	1 x 2- 3/16	1.40
8	1 x 2-11/16	1.65
12	1 x 2-11/16	1.75
16	1 x 3- 1/4	1.80
DUAL ELEMENT		
TYPE GLS450		
8-8	1-3/8 x 3	3.00

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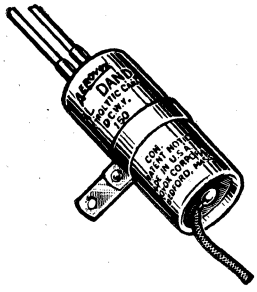
ELECTROLYTICS



TYPE PRS
"DANDEE" (85°)

Metal Tubular Electrolytic Capacitors

Compact, electrolytic tubular, furnished in aluminum can, with cardboard insulating sleeve. For use in television and radio applications where space is at a premium.

Single section capacitors are furnished with bare, tinned copper leads 3" long. Negative grounded to case. Multiple units furnished with insulated, stranded copper leads 5" long. Negative is common and grounded to can.

SINGLES · DUALS · TRIPLES · MULTIPLES

Capacity Mfd.	Size	List Price
	PRS SINGLES	
	4V	
2000	1- 1/16 x 2-3/4	2.30
	6V	
100	11/16 x 1-1/4	1.20
250	11/16 x 1-3/4	1.35
500	13/16 x 1-3/4	1.55
1000	15/16 x 2-1/4	1.90
1500	1-1/16 x 2-1/4	2.10
2000	1-1/16 x 2-3/4	2.30
	12V	
100	11/16 x 1-1/2	1.20
250	13/16 x 1-3/4	1.45
500	15/16 x 2-1/4	1.70
1000	1-1/16 x 3-1/4	2.25
	15V	
100	11/16 x 1-1/2	1.25
250	13/16 x 2-1/4	1.55
500	15/16 x 2-1/4	1.75
1000	1-1/16 x 2-1/4	2.30
	25V	
10	9/16 x 1-1/4	1.00
16	9/16 x 1-1/4	1.00
25	9/16 x 1-1/4	1.00
50	11/16 x 1-1/2	1.10
100	13/16 x 1-1/2	1.35
250	15/16 x 2-1/4	1.70
500	1-1/16 x 2-1/2	2.30
	50V	
10	9/16 x 1-1/4	1.00
20	11/16 x 1-1/4	1.00
25	11/16 x 1-1/4	1.05
50	11/16 x 1-3/4	1.20
100	13/16 x 1-3/4	1.40
150	15/16 x 1-3/4	1.55
250	15/16 x 1-3/4	1.75
	150V	
4	9/16 x 1-1/4	1.00
8	11/16 x 1-1/4	1.05
10	11/16 x 1-1/4	1.05
12	11/16 x 1-1/4	1.10
16	11/16 x 1-1/2	1.15
20	11/16 x 1-3/4	1.20
24	11/16 x 1-3/4	1.25
30	13/16 x 1-1/2	1.30
40	13/16 x 1-3/4	1.35
50	15/16 x 1-3/4	1.40
60	15/16 x 1-3/4	1.50
80	15/16 x 2-1/4	1.60
100	15/16 x 2-1/4	1.75
150	1-1/16 x 3	1.90
200	1-1/16 x 3	2.20
300	1-1/16 x 4	2.55
	250V	
4	11/16 x 1-1/4	1.00
8	11/16 x 1-1/2	1.15
12	13/16 x 1-3/4	1.25
16	13/16 x 1-1/2	1.30
20	13/16 x 1-1/2	1.35
30	13/16 x 2-1/4	1.45
40	13/16 x 2-1/4	1.55
50	15/16 x 2-1/4	1.70
60	15/16 x 2-1/4	1.80
	350V	
4	11/16 x 1-1/2	1.05
8	13/16 x 1-1/2	1.20
10	13/16 x 1-3/4	1.25
12	13/16 x 1-3/4	1.30
16	13/16 x 1-3/4	1.40
24	15/16 x 1-3/4	1.55
30	13/16 x 2-1/4	1.65
40	15/16 x 2-1/4	1.75
50	1-1/16 x 2-1/4	1.85
60	1-1/16 x 2-1/2	1.95
	450V	
1	9/16 x 1-1/4	1.10
2	9/16 x 1-1/4	1.10
4	11/16 x 1-1/2	1.15
8	13/16 x 1-1/2	1.25
10	13/16 x 1-3/4	1.30
12	15/16 x 1-1/2	1.35
16	15/16 x 1-3/4	1.40
20	1-1/16 x 1-3/4	1.55
30	1-1/16 x 2-1/4	1.70
40	1-1/16 x 2-1/2	1.80
50	1 x 3	2.10
60	1-1/16 x 3-1/4	2.35
80	1-1/16 x 3-3/4	2.80
100	1-1/16 x 3-3/4	3.20
	500V	
4	11/16 x 2	1.20
8	13/16 x 3-1/16	1.30
10	15/16 x 3-1/16	1.35
12	15/16 x 3-1/16	1.40
16	1-1/16 x 3-1/16	1.50
20	1-1/16 x 2-1/4	1.60
30	1-1/16 x 2-3/4	1.75
	600V	
8	15/16 x 3-1/16	1.40
10	15/16 x 3-1/16	1.45
12	1-1/16 x 3-1/16	1.50
16	1-1/16 x 3-9/16	1.65
20	1-1/16 x 3-1/2	1.70
	700V	
8	15/16 x 3-1/16	1.50
10	1-1/16 x 3-1/16	1.55
12	1-1/16 x 3-9/16	1.60
16	1-1/16 x 3-9/16	1.75
	PRS DUALS	
	25V	
10-10	11/16 x 1-1/4	1.40
20-20	11/16 x 1-1/4	1.40
	50V	
10-10	11/16 x 1-1/2	1.40
	150V	
8-8	11/16 x 1-3/4	1.50
8-16	11/16 x 2-1/4	1.55
20-10	13/16 x 1-1/2	1.55
20-20	13/16 x 1-3/4	1.65
20-30	13/16 x 2-1/4	1.70
20-40	15/16 x 1-3/4	1.75
30-30	15/16 x 1-3/4	1.80
40-40	15/16 x 2-1/4	1.80
40-30	15/16 x 2-1/4	1.80
30-50	15/16 x 2-1/4	1.95
40-80	15/16 x 2-3/4	2.20
50-50	15/16 x 2-1/4	2.10
100-100	1-1/16 x 3-1/4	3.20
	200V	
8-8	11/16 x 1-3/4	1.50
8-16	11/16 x 2-1/4	1.60
16-16	13/16 x 1-3/4	1.70
30-30	15/16 x 2-1/4	2.15
	250V	
8-16	13/16 x 1-3/4	1.65
10-10	13/16 x 1-3/4	1.65
16-16	13/16 x 2-1/4	1.70
20-20	15/16 x 2-1/4	1.85
30-30	15/16 x 2-1/4	2.25
	450V	
8-8	13/16 x 2-1/4	1.10
8-16	15/16 x 2-1/4	2.00
10-10	15/16 x 2-1/4	1.85
16-16	1-1/16 x 2-1/4	2.25

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

AEROVOX
Distributor Division

ELECTROLYTICS

TYPE PRS "DANDEE" (85°C) METAL TUBULAR ELECTROLYTIC CAPACITORS (cont.)

PRS DUALS

450V (cont.)

Capacity Mfd.	Size	List Price
20-20	15/16 x 1-1/16	2.50
30-30	1- 3/8 x 2-3/4	3.00
40-20	1- 3/8 x 2-3/4	2.95
40-40	1- 3/8 x 3-1/4	3.35
50-30	1- 1/16 x 4	3.40

PRS TRIPLES

150V

Capacity Mfd.	Size	List Price
20-20-20	15/16 x 1-3/4	2.20
30-20-10	15/16 x 1-3/4	2.15
30-30-20	1- 1/16 x 1-3/4	2.30
30-30-30	15/16 x 2-1/4	2.35
40-20-20	15/16 x 2-1/4	2.25
40-30-20	15/16 x 2-1/4	2.35

150V (cont.)

Capacity Mfd.	Size	List Price
40-40-20	1- 1/16 x 2-1/4	2.35
40-40-40	1- 1/16 x 2-1/4	2.45
50-30-10	1- 1/16 x 2-1/4	2.35
50-30-20	1- 1/16 x 2-1/2	2.45
80-40-20	1- 1/16 x 2-3/4	2.75

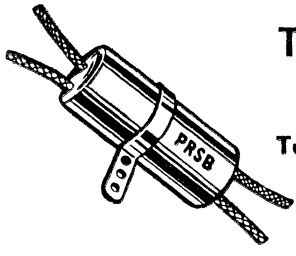
450V

Capacity Mfd.	Size	List Price
10-10-10	1- 1/16 x 2-1/4	2.45

PRS MULTIPLES

Capacity Mfd.	VDCW	Size	List Price
30-20/100	150/25	15/16 x 2-1/4	2.20
40-30/20	150/25	15/16 x 2-1/4	2.20
50-30/100	150/25	1- 1/16 x 2-1/4	2.55
50-30/250	150/25	1- 1/16 x 2-3/4	3.10
50-50/20	150/25	1- 1/16 x 2-1/4	2.50
40-40/250	150/10	1- 1/16 x 2-1/4	2.60
20-20/20	150/25	13/16 x 1-3/4	2.05
30-20/20	150/25	15/16 x 1-3/4	2.20

Capacity Mfd.	VDCW	Size	List Price
40-20/20	150/25	15/16 x 1-3/4	2.20
40-40/20	150/25	1- 1/16 x 1-3/4	2.25
40-40/100	150/25	1- 1/16 x 2-1/4	2.45
50-30/20	150/25	1- 1/16 x 1-3/4	2.35
80-20/100	150/25	1- 1/16 x 2-1/4	2.75
80-40/20	150/25	1- 1/16 x 2-1/4	2.65
20-20/20	450/25	1- 1/16 x 2-3/4	2.90



TYPE PRSB

Dual Element Tubular Electrolytic Capacitors

These units are of the separate-section construction, having two positive, insulated leads emerging from one end, and two negative, insulated leads from the other.

TYPE PRS-B 150
150 VDCW 200V Surge Peak

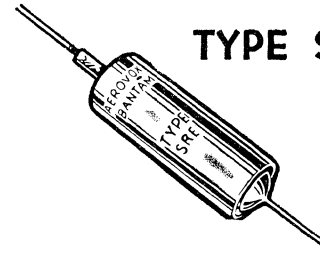
Capacity Mfd.	Can Size Dia. x Hght.	List Price
20-20	1 x 2-1/2	$2.05
20-40	1 x 3	2.20

TYPE PRS-B 250
250 VDCW 300V Surge Peak

Capacity Mfd.	Can Size Dia. x Hght.	List Price
8-16	1 x 2-1/2	$2.10
16-16	1 x 3	2.20

TYPE PRS-B 450
450 VDCW 500V Surge Peak

Capacity Mfd.	Can Size Dia. x Hght.	List Price
8-8	1 x 3	$2.15
8-16	1-1/8 x 3-1/2	2.45
16-16	1-3/8 x 3-1/2	2.80



TYPE SRE BANTAM

Metal Tubular Electrolytic Capacitors

Tiniest of the Aerovox electrolytic capacitors, handles full-sized loads. Especially suitable for cramped and limited space applications in hearing aids, miniature radios and similar applications. Hermetically sealed in aluminum can and furnished with cardboard insulating sleeve. Negative grounded to can. Especially useful in low voltage miniaturized circuits.

Cap. Mfd.	Can Size	List Price
	3V	
25	3/8 x 1	.85
50	3/8 x 1	.95
100	3/8 x 1	1.10
200	3/8 x 1-5/8	1.15
300	1/2 x 1-1/8	1.30
500	1/2 x 1-5/8	1.40
	6V	
5	3/8 x 1	.80
25	3/8 x 1	.85
50	3/8 x 1	.95
100	1/2 x 1-1/8	1.20
250	1/2 x 1-5/8	1.35
	12V	
50	3/8 x 1-1/8	1.00
100	1/2 x 1	1.20
200	1/2 x 1-5/8	1.35
	15V	
100	1/2 x 1-1/8	1.25

Cap. Mfd.	Can Size	List Price
	25V	
5	3/8 x 1	1.00
10	3/8 x 1	1.00
20	3/8 x 1	1.00
25	3/8 x 1	1.00
50	1/2 x 1	1.10
100	1/2 x 1-5/8	1.35
	50V	
1	3/8 x 1	.90
2	3/8 x 1	.90
5	3/8 x 1	1.00
10	3/8 x 1	1.00
15	3/8 x 1-1/8	1.00
25	1/2 x 1	1.05
	70V	
10	3/8 x 1	1.05
	150V	
5	3/8 x 1	1.00
10	3/8 x 1-5/8	1.05
15	1/2 x 1-1/8	1.15
20	1/2 x 1-5/8	1.20
25	1/2 x 1-5/8	1.25

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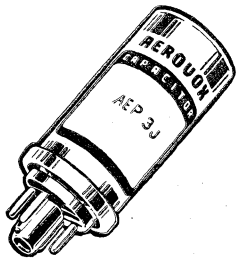
Distributor Division

ELECTROLYTICS



TYPE AEP

Plug-in Electrolytic Capacitors

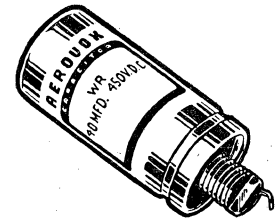
Hermetically sealed, dry electrolytic capacitor furnished in round, aluminum can and 4-pin, octal-base mounting. For quick changes, readily removed and replaced in a standard octal-base tube socket.

For use where continuous service is important. They are ideally suited for experimental testing, juke boxes and communication receiver uses. These units are the commercial equivalents of Type CE51's, 2's and 3's, as listed in JAN Specification JAN C62.

Operating temperature to +65°C. Quadruple element units furnished with ground lug for cathode connection.

Type	Capacity Mfd.	VDCW	Dia. x Hght.	List Price
SINGLE ELEMENT UNITS				
AEP5A	25	25	1-5/32 x 2-1/2	$3.75
AEP4D	20	150	1-5/32 x 2-1/2	3.95
AEP8D	40	150	1-5/32 x 2-1/2	4.10
AEP2J	10	450	1-5/32 x 2-1/2	4.05
AEP3J	15	450	1-5/32 x 2-1/2	4.20
AEP4J	20	450	1-5/32 x 2-1/2	4.30
AEP6J	30	450	1-5/32 x 2-1/2	4.45
AEP8J	40	450	1-5/32 x 2-1/2	4.55
AEP16J	80	450	1-3/8 x 3-1/2	5.55
AEP2L	10	600	1-3/8 x 4-1/4	4.20
DUAL ELEMENT UNITS				
AEP44D	20-20	150	1-5/32 x 2-1/2	$4.20
AEP88D	40-40	150	1-5/32 x 2-1/2	4.35
AEP22J	10-10	450	1-5/32 x 2-1/2	4.40
AEP44J	20-20	450	1-3/8 x 2-1/2	5.05
AEP88J	40-40	450	1-3/8 x 3	5.95
TRIPLE ELEMENT UNITS				
AEP444D	20-20-20	150	1-5/32 x 2-1/2	$4.80
AEP88D4A	40-40/20	150/25	1-5/32 x 2-1/2	4.85
AEP222J	10-10-10	450	1-5/32 x 2-1/2	5.10
AEP22J4A	10-10/20	450/25	1-5/32 x 2-1/2	4.85
AEP44J4A	20-20/20	450/25	1-3/8 x 2-1/2	5.55
AEP444J	20-20-20	450	1-3/8 x 3	6.10
AEP822J	40-10-10	450	1-3/8 x 3	5.85
QUADRUPLE ELEMENT UNITS				
AEPG444D4A	20-20-20/20	150/25	1-3/8 x 2-1/2	$5.35
AEPG2222J	10-10-10-10	450*	1-3/8 x 2-1/2	5.85
AEPG444J4A	20-20-20/20	450/25	1-3/8 x 3	6.65

*Ground lug provided for cathode connection.



TYPE WR

Replacement for Wet Electrolytic

Dry electrolytic for replacement of wet electrolytic units. Furnished in round aluminum cans, the range of capacities covers most applications in standard radio receivers and other equipment originally using wet type electrolytic capacitors. 450V. D. C.

Capacity Mfd.	Replacement for	Dia. x Hght.	List Price
10	4 to 12 mfd.	1-3/8 x 3	$2.30
20	16 to 20 mfd.	1-3/8 x 3	2.70
30	20 to 30 mfd.	1-3/8 x 3	2.95
40	30 to 40 mfd.	1-3/8 x 3	3.15

TYPE HCLV

High Capacity Low Voltage

Type HCLV Capacitors are high-capacity, low-voltage units for use in electric fence control, motion picture, sound equipment, and other low-voltage applications.

Units are furnished in round, hermetically-sealed aluminum cans and supplied with a cardboard outer insulating tube and mounting ring.

Capacity Mfd.	Dia. x Hght.	List Price
TYPE HCLV12 - 12 VDCW		
500	1-3/8 x 2-1/8	$2.70
1000	1-3/8 x 2-1/8	3.25
2000	1-3/8 x 3-1/8	3.65
3000	1-3/8 x 4-1/8	4.55
4000	1-1/2 x 4-1/8	4.75
TYPE HCLV18 - 18 VDCW		
500	1-3/8 x 2-1/8	3.00
1000	1-3/8 x 2-1/8	3.80
2000	1-3/8 x 3-1/8	4.75
4000	1-1/2 x 4-1/8	8.45
TYPE HCLV25 - 25 VDCW		
500	1-3/8 x 2-1/8	3.30
1000	1-3/8 x 3-1/8	4.30
2000	1-3/8 x 4-1/8	5.25
3000	1-3/4 x 4-1/8	8.00
4000	2 x 4-1/8	9.50
TYPE HCLV50 - 50 VDCW		
1000	1-3/8 x 4-1/8	6.50
2000	1-3/4 x 4-1/8	8.60
3000	2 x 4-1/8	11.00
4000	2-1/2 x 4-1/8	12.00

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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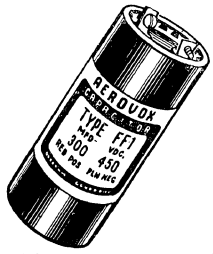
ELECTROLYTICS



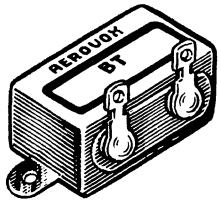
TYPE FF

Photo-Flash Capacitors

Highest purity materials make this unit possible. Due to selective choice of materials and quality-control-conscious production methods these units are furnished for the rugged photo-flash application calling for lowest leakage requirements.

Units are furnished in molded black plastic container, highly resistant to moisture and oil. With screw-lug terminals for rapid installation.

	Cap. Mfd.	Working Voltage	Maximum Surge Voltage	Watt Seconds	Size	List Price
FF-1	300	450	525	30	2-1/16 x 4-3/8	11.50
FF-2	525	450	525	53	2-1/16 x 4-3/8	22.50



TYPE BT

Drawn-Case "Bathtub" Electrolytic Capacitors

Hermetically-sealed units designed for rigid mounting in minimum space. Of sturdy construction, these high-quality units are equivalent to the case style CE63 of JAN Specification C62.

Capacity Mfd.	LxWxH	List Price
	TYPE BT500 500 VDCW	
4	2 x 2 x 1-1/8	$4.70
8	2 x 2 x 1-1/8	4.85
	TYPE BT450 450 VDCW	
8	1-3/4 x 1 x 1	4.25
12	1-3/4 x 1-1/4 x 1	4.75
16	2 x 1-3/4 x 1	5.00
	TYPE BT350 350 VDCW	
8	1-3/4 x 1 x 7/8	3.70
12	1-3/4 x 1 x 7/8	4.20
16	1-3/4 x 1 x 1	4.40
20	1-3/4 x 1-1/4 x 1-1/8	4.60
	TYPE BT150 150 VDCW	
8	1-3/4 x 1 x 7/8	2.75
12	1-3/4 x 1 x 7/8	2.80
16	1-3/4 x 1 x 7/8	2.85
24	1-3/4 x 1 x 7/8	3.00
30	1-3/4 x 1 x 1	3.10
40	1-3/4 x 1 x 1	3.20
	TYPE BT50 50 VDCW	
10	1-3/4 x 1 x 7/8	2.65
25	1-3/4 x 1 x 7/8	2.75
50	1-3/4 x 1 x 7/8	3 00
	TYPE BT25 25 VDCW	
10	1-3/4 x 1 x 7/8	2.60
25	1-3/4 x 1 x 7/8	2.70
50	1-3/4 x 1 x 7/8	2.80

TYPE E

Hermetically-Sealed, Aluminum, Round, Metal-Cased Capacitors

Can be mounted with terminals upright or inverted by use of a ring-type clamp provided with unit. Can is floating, thus having two terminals on single-section capacitors, three on duals, and four on triples.

These units are the equivalent of case style CE31, 2 and 3 of JAN Specification C62.

Capacity Mfd.	Can Size Dia. x Hght.	List Price
	SINGLE ELEMENT	
	TYPE E475	
	475 VDCW 525V. Surge Peak	
4	1-3/8 x 2-1/4	$2.20
	TYPE E450	
	450 VDCW 500V. Surge Peak	
4	1-3/8 x 2-1/4	2.15
8	1-3/8 x 2-1/4	2.25
10	1-3/8 x 2-1/4	2.30
12	1-3/8 x 2-1/4	2.35
16	1-3/8 x 2-1/4	2.40
20	1-3/8 x 2-1/4	2.55
30	1-3/8 x 2-1/4	2 70
40	1-3/8 x 2-3/4	2 75
80	1-3/8 x 4-1/4	3.80
	TYPE E50	
	50 VDCW 75V. Single Peak	
10	1 x 1-3/4	2.00
25	1 x 1-3/4	2.05
	TYPE E25	
	25 VDCW 40V. Surge Peak	
10	1 x 1-3/4	2.00
25	1 x 1-3/4	2.00
	DUAL ELEMENT	
	TYPE E450	
	450 VDCW 500V. Surge Peak	
8-8	1-3/8 x 2-1/4	3.25
8-16	1-3/8 x 2-1/4	3.50
10-10	1-3/8 x 2-1/4	3.35
12-12	1-3/8 x 2-1/4	3.45
16-16	1-3/8 x 2-3/4	3.80
20-20	1-3/8 x 2-3/4	4.05
	TRIPLE ELEMENT	
	TYPE E450	
8-8-8	1-3/8 x 2-1/4	3.90
10-10-10	1-3/8 x 2-1/4	4.10

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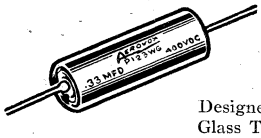
AEROVOX

Distributor Division

PAPER



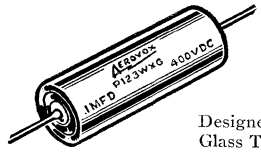
TYPE P123WG *HYVOL "W"

Wax Impregnated Capacitors

Designed for -40°C to 85°C Operation. Wax Impregnated, Hermetically Sealed, Grounded Case, Glass Terminal End Seal, Tubular Capacitors.

Capacity Mfd.	100 VDC Dia. x Lgth.	List Price	200 VDC Dia. x Lgth.	List Price	300 VDC Dia. x Lgth.	List Price	400 VDC Dia. x Lgth.	List Price
.001	.175 x 11/16	1.60	.235 x 11/16	1.70	.235 x 11/16	1.70	.235 x 11/16	1.75
.0015	.175 x 11/16	1.60	.235 x 11/16	1.70	.235 x 11/16	1.70	.235 x 11/16	1.75
.0022	.175 x 11/16	1.60	.235 x 11/16	1.70	.235 x 11/16	1.70	.235 x 11/16	1.75
.0033	.175 x 11/16	1.60	.235 x 11/16	1.70	.235 x 11/16	1.75	.235 x 11/16	1.80
.0047	.175 x 11/16	1.60	.235 x 11/16	1.70	.235 x 11/16	1.75	.235 x 11/16	1.80
.0068	.175 x 11/16	1.60	.235 x 11/16	1.70	.235 x 11/16	1.75	.235 x 11/16	1.80
.01	.175 x 11/16	1.65	.235 x 11/16	1.75	.235 x 11/16	1.80	.235 x 11/16	1.85
.015	.175 x 11/16	1.65	.235 x 11/16	1.75	.235 x 11/16	1.80	.235 x 11/16	1.85
.022	.175 x 11/16	1.65	.235 x 11/16	1.75	.235 x 11/16	1.80	.312 x 13/16	1.90
.033	.195 x 11/16	1.65	.235 x 11/16	1.80	.312 x 13/16	1.90	.312 x 13/16	1.90
.047	.235 x 11/16	1.70	.312 x 13/16	1.85	.312 x 13/16	1.90	.312 x 13/16	1.90
.068	.312 x 13/16	1.80	.312 x 13/16	1.90	.312 x 13/16	1.95	.400 x 13/16	2.05
.1	.312 x 13/16	1.85	.312 x 13/16	1.95	.400 x 13/16	2.00	.400 x 1- 1/16	2.10
.15	.312 x 13/16	1.85	.400 x 13/16	2.00	.400 x 1- 1/16	2.10	.400 x 1- 5/16	2.20
.22	.400 x 13/16	1.90	.400 x 1- 1/16	2.00	.400 x 1- 5/16	2.30	.562 x 1- 1/16	2.25
.33	.400 x 1-1/16	2.00	.400 x 1- 5/16	2.20	.562 x 1- 1/16	2.35	.562 x 1- 5/16	2.55
.47	.400 x 1-5/16	2.10	.562 x 1- 1/16	2.35	.562 x 1- 5/16	2.50	.562 x 1-13/16	2.75
.68	.562 x 1-1/16	2.35	.562 x 1- 5/16	2.50	.562 x 1-13/16	2.65	.670 x 1-13/16	3.20
1.0	.562 x 1-5/16	2.65	.562 x 1-13/16	2.75	.670 x 1-13/16	3.20	.750 x 2- 1/16	3.40

1. For insulated construction omit "G" in designation and add 1/16 inch to length.
2. For plastic insulating sleeve add "P" to designation and add .062 inch to diameter and 1/16 inch to length.
3. Standard Tolerance: ±20%,
   for ±10% add 10% to list price
   for ± 5% add 50% to list price
4. Insulated Construction: add $1.15 to list price
5. Plastic Insulating Sleeve: add $.20 to list price
6. Mounting Bracket: add $.40 to list price
7. Threaded Terminal: add $.80 to list price
8. Screw-Stud Mounting: add $.60 to list price
9. Also available in 1000 VDCW - ratings and prices upon request



TYPE P123WXG *HYVOL "W"

Wax Impregnated Capacitors

Designed for -40°C to 85°C Operation. Wax Impregnated, Hermetically Sealed, Grounded Case, Glass Terminal Seal, Tubular Capacitors with Extended-Foil Section Construction.

Capacity Mfd.	100 VDC Dia. x Lgth.	List Price	200 VDC Dia. x Lgth.	List Price	300 VDC Dia. x Lgth.	List Price	400 VDC Dia. x Lgth.	List Price
.001	.175 x 11/16	1.70	.235 x 11/16	1.80	.235 x 11/16	1.85	.235 x 11/16	1.90
.0015	.175 x 11/16	1.70	.235 x 11/16	1.80	.235 x 11/16	1.85	.235 x 11/16	1.90
.0022	.175 x 11/16	1.70	.235 x 11/16	1.80	.235 x 11/16	1.85	.235 x 11/16	1.90
.0033	.175 x 11/16	1.70	.235 x 11/16	1.85	.235 x 11/16	1.90	.235 x 11/16	1.90
.0047	.175 x 11/16	1.70	.235 x 11/16	1.85	.235 x 11/16	1.90	.235 x 11/16	1.90
.0068	.175 x 11/16	1.70	.235 x 11/16	1.85	.235 x 11/16	1.90	.312 x 13/16	2.00
.01	.195 x 11/16	1.80	.235 x 11/16	1.90	.312 x 13/16	2.00	.312 x 13/16	2.05
.015	.235 x 11/16	1.80	.312 x 13/16	1.95	.312 x 13/16	2.05	.312 x 13/16	2.05
.022	.235 x 11/16	1.85	.312 x 13/16	2.00	.312 x 13/16	2.05	.312 x 13/16	2.05
.033	.312 x 13/16	1.90	.312 x 13/16	2.00	.312 x 13/16	2.05	.400 x 13/16	2.15
.047	.312 x 13/16	1.95	.312 x 13/16	2.05	.400 x 13/16	2.10	.400 x 13/16	2.20
.068	.312 x 13/16	1.95	.400 x 13/16	2.10	.400 x 13/16	2.15	.400 x 1-1/16	2.20
.1	.400 x 13/16	2.00	.400 x 13/16	2.10	.400 x 1-1/16	2.25	.400 x 1-5/16	2.35
.15	.400 x 13/16	2.05	.400 x 1-1/16	2.15	.400 x 1-5/16	2.40	.562 x 1-1/16	2.45
.22	.400 x 1-1/16	2.15	.400 x 1-5/16	2.35	.562 x 1-1/16	2.50	.562 x 1-5/16	2.65
.33	.400 x 1-5/16	2.20	.562 x 1-1/16	2.50	.562 x 1-5/16	2.60	.562 x 1-9/16	2.90
.47	.562 x 1-1/16	2.45	.562 x 1-5/16	2.60	.562 x 1-9/16	2.75	.670 x 1-9/16	3.30
.68	.562 x 1-5/16	2.75	.562 x 1-9/16	2.90	.670 x 1-9/16	3.30	.750 x 2-1/16	3.50
1.0	.562 x 1-9/16	3.00	.670 x 1-9/16	3.20	.750 x 2-1/16	3.55	1.000 x 2-1/16	4.00

1. For insulated construction omit "G" in designation and add 1/16 inch to length.
2. For plastic insulating sleeve add "P" to designation and add .062 inch to diameter and 1/16 inch to length.
3. Standard Tolerance: ±20%
   for ±10% add 10% to list price
   for ± 5% add 50% to list price
4. Insulated Construction: add $1.15 to list price
5. Plastic Insulating Sleeve: add $.20 to list price
6. Mounting Bracket: add $.40 to list price
7. Threaded Terminal: add $.80 to list price
8. Screw-Stud Mounting: add $.60 to list price
9. Also available in 1000 VDCW - ratings and prices upon request

*Trade Mark

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AEROVOX

Distributor Division

PAPER

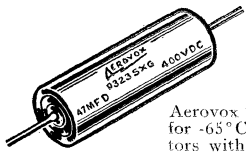
TYPES P123SG and P323SG *HYVOL "S"

Oil Impregnated Capacitors

Aerovox Type P123SG Capacitors for -65°C to +100°C Operation, and Aerovox Type 323SG Capacitors for -65°C to +125°C Operation. Hermetically Sealed, Grounded Case, Glass Terminal Seal, Tubular Capacitors.

Capacity Mfd.	100 VDC—List Price Dia. x Lgth.	P123 SG	P323 SG	200 VDC—List Price Dia. x Lgth.	P123 SG	P323 SG	300 VDC—List Price Dia. x Lgth.	P123 SG	P323 SG	400 VDC—List Price Dia. x Lgth.	P123 SG	P323 SG	600 VDC—List Price Dia. x Lgth.	P123 SG	P323 SG
.001	.175 x 11/16	1.90	2.15	.235 x 11/16	2.00	2.30	.235 x 11/16	2.05	2.35	.235 x 11/16	2.10	2.40	.235 x 11/16	2.15	2.45
.0015	.175 x 11/16	1.90	2.15	.235 x 11/16	2.00	2.30	.235 x 11/16	2.05	2.35	.235 x 11/16	2.10	2.40	.235 x 11/16	2.15	2.45
.0022	.175 x 11/16	1.90	2.15	.235 x 11/16	2.00	2.30	.235 x 11/16	2.05	2.35	.235 x 11/16	2.10	2.40	.235 x 11/16	2.15	2.45
.0033	.175 x 11/16	1.90	2.15	.235 x 11/16	2.05	2.35	.235 x 11/16	2.10	2.35	.235 x 11/16	2.15	2.45	.235 x 11/16	2.20	2.50
.0047	.175 x 11/16	1.90	2.15	.235 x 11/16	2.05	2.35	.235 x 11/16	2.10	2.35	.235 x 11/16	2.15	2.45	.235 x 11/16	2.20	2.50
.0068	.175 x 11/16	1.90	2.15	.235 x 11/16	2.05	2.35	.235 x 11/16	2.10	2.35	.235 x 11/16	2.15	2.45	.235 x 11/16	2.20	2.50
.01	.175 x 11/16	1.95	2.20	.235 x 11/16	2.10	2.35	.235 x 11/16	2.15	2.40	.235 x 11/16	2.20	2.50	.312 x 13/16	2.30	2.55
.015	.175 x 11/16	1.95	2.20	.235 x 11/16	2.10	2.35	.235 x 11/16	2.15	2.40	3.12 x 13/16	2.30	2.60	.312 x 13/16	2.35	2.65
.022	.195 x 11/16	2.00	2.25	.235 x 11/16	2.10	2.35	.312 x 13/16	2.25	2.55	3.12 x 13/16	2.35	2.60	.312 x 13/16	2.40	2.70
.033	.235 x 11/16	2.00	2.30	.312 x 13/16	2.20	2.50	.312 x 13/16	2.30	2.55	3.12 x 13/16	2.35	2.65	.400 x 13/16	2.50	2.80
.047	.312 x 13/16	2.15	2.45	.312 x 13/16	2.30	2.55	.312 x 13/16	2.35	2.60	.400 x 13/16	2.45	2.75	.400 x 1- 1/16	2.55	2.85
.068	.312 x 13/16	2.20	2.50	.312 x 13/16	2.35	2.60	.400 x 13/16	2.40	2.70	.400 x 1- 1/16	2.55	2.85	.400 x 1- 5/16	2.70	3.05
.1	.312 x 13/16	2.25	2.55	.400 x 13/16	2.35	2.65	.400 x 1- 1/16	2.45	2.75	.400 x 1- 5/16	2.65	3.00	.562 x 1- 1/16	2.95	3.30
.15	.400 x 13/16	2.25	2.55	.400 x 1- 1/16	2.40	2.70	.400 x 1- 5/16	2.55	2.90	.562 x 1- 1/16	2.85	3.20	.562 x 1- 5/16	3.10	3.50
.22	.400 x 1- 1/16	2.35	2.65	.400 x 1- 5/16	2.60	2.95	.562 x 1- 1/16	2.85	3.20	.562 x 1- 5/16	3.10	3.50	.562 x 1-13/16	3.40	3.80
.33	.400 x 1- 5/16	2.50	2.80	.562 x 1- 1/16	2.85	3.20	.562 x 1- 5/16	3.10	3.50	.562 x 1-13/16	3.30	3.70	.670 x 1-13/16	3.85	4.35
.47	.562 x 1- 1/16	2.80	3.15	.562 x 1- 5/16	3.10	3.50	.562 x 1-13/16	3.30	3.90	.670 x 1-13/16	3.75	4.20	.750 x 2- 1/16	4.15	4.65
.68	.562 x 1- 5/16	3.00	3.40	.562 x 1-13/16	3.35	3.75	.670 x 1-13/16	3.75	4.30	.750 x 2- 1/16	4.05	4.60	1.000 x 1-13/16	4.45	5.00
1.0	.562 x 1-13/16	3.30	3.70	.670 x 1-13/16	3.80	4.25	.750 x 2- 1/16	4.10	4.65	1.000 x 1-13/16	4.70	5.30	1.000 x 2- 5/16	4.80	5.50

1. For insulated construction omit "G" in designation and add 1/16 inch to length.
2. For plastic insulating sleeve add "P" to designation and add .062 inch to diameter and 1/16 inch to length.
3. Standard Tolerance: ±20%,
   for ±10% add 10% to list price
   for ± 5% add 50% to list price
4. Insulated Construction:
   Type P123S - add $1.15 to list price
   Type P323S - add $1.45 to list price
5. Plastic Insulating Sleeve: add $.20 to list price
6. Mounting Bracket: add $.40 to list price
7. Threaded Terminal: add $.80 to list price
8. Screw-Stud Mounting: add $.60 to list price
9. Also available in 1000 VDCW - ratings and prices upon request



TYPES P123SXG and P323SXG *HYVOL "S"

Oil Impregnated Capacitors

Aerovox Type P123SXG Capacitors for -65°C to +100°C Operation, and Aerovox Type P323SXG Capacitors for -65°C to +125°C Operation. Hermetically Sealed, Grounded Case, Glass Terminal Seal, Tubular Capacitors with Extended-Foil Section Construction.

Capacity Mfd.	100 VDC—List Price Dia. x Lgth.	P123 SXG	P323 SXG	200 VDC—List Price Dia. x Lgth.	P123 SXG	P323 SXG	300 VDC—List Price Dia. x Lgth.	P123 SXG	P323 SXG	400 VDC—List Price Dia. x Lgth.	P123 SXG	P323 SXG	600 VDC—List Price Dia. x Lgth.	P123 SXG	P323 SXG
.001	.175 x 11/16	2.05	2.30	.235 x 11/16	2.15	2.40	.235 x 11/16	2.20	2.45	.235 x 11/16	2.25	2.55	.235 x 11/16	2.30	2.55
.0015	.175 x 11/16	2.05	2.30	.235 x 11/16	2.15	2.40	.235 x 11/16	2.20	2.45	.235 x 11/16	2.25	2.55	.235 x 11/16	2.30	2.55
.0022	.175 x 11/16	2.05	2.30	.235 x 11/16	2.15	2.40	.235 x 11/16	2.20	2.45	.235 x 11/16	2.25	2.55	.235 x 11/16	2.30	2.55
.0033	.175 x 11/16	2.05	2.30	.235 x 11/16	2.20	2.45	.235 x 11/16	2.25	2.50	.235 x 11/16	2.30	2.55	.312 x 13/16	2.45	2.75
.0047	.175 x 11/16	2.05	2.30	.235 x 11/16	2.20	2.45	.235 x 11/16	2.25	2.50	.312 x 13/16	2.45	2.75	.312 x 13/16	2.45	2.75
.0068	.195 x 11/16	2.05	2.30	.235 x 11/16	2.20	2.45	.312 x 13/16	2.40	2.70	.312 x 13/16	2.45	2.75	.312 x 13/16	2.45	2.80
.01	.235 x 11/16	2.15	2.40	.312 x 13/16	2.35	2.65	.312 x 13/16	2.40	2.70	.312 x 13/16	2.45	2.80	.312 x 13/16	2.50	2.80
.015	.235 x 11/16	2.15	2.45	.312 x 13/16	2.35	2.65	.312 x 13/16	2.45	2.80	.312 x 13/16	2.50	2.80	.400 x 13/16	2.65	2.95
.022	.312 x 13/16	2.30	2.55	.312 x 13/16	2.40	2.70	.312 x 13/16	2.50	2.80	.400 x 13/16	2.55	2.90	.400 x 13/16	2.65	3.00
.033	.312 x 13/16	2.30	2.60	.312 x 13/16	2.40	2.70	.400 x 13/16	2.55	2.85	.400 x 13/16	2.60	2.90	.400 x 1-1/16	2.65	3.00
.047	.312 x 13/16	2.35	2.60	.400 x 13/16	2.50	2.80	.400 x 13/16	2.55	2.85	.400 x 1-1/16	2.65	3.00	.400 x 1-5/16	2.80	3.20
.068	.400 x 13/16	2.40	2.70	.400 x 13/16	2.50	2.85	.400 x 1-1/16	2.55	2.90	.400 x 1-5/16	2.75	3.10	.562 x 1-1/16	3.05	3.45
.1	.400 x 13/16	2.40	2.70	.400 x 1-1/16	2.55	2.85	.400 x 1-5/16	2.70	3.05	.562 x 1-1/16	2.95	3.35	.562 x 1-5/16	3.20	3.60
.15	.400 x 1-1/16	2.45	2.80	.400 x 1-5/16	2.75	3.10	.562 x 1-1/16	2.95	3.35	.562 x 1-5/16	3.20	3.60	.562 x 1-9/16	3.50	3.95
.22	.400 x 1-5/16	2.65	2.95	.562 x 1-1/16	2.95	3.35	.562 x 1-5/16	3.20	3.60	.562 x 1-9/16	3.40	3.85	.670 x 1-9/16	4.00	4.50
.33	.562 x 1-1/16	2.90	3.30	.562 x 1-5/16	3.20	3.60	.562 x 1-9/16	3.40	3.85	.670 x 1-9/16	3.85	4.35	.750 x 2-1/16	4.25	4.75
.47	.562 x 1-5/16	3.15	3.55	.562 x 1-9/16	3.45	3.90	.670 x 1-9/16	3.85	4.35	.750 x 2-1/16	4.15	4.65	.750 x 2-5/16	4.45	5.05
.68	.562 x 1-9/16	3.40	3.80	.670 x 1-9/16	3.85	4.35	.750 x 2-1/16	4.05	4.60	.750 x 2-5/16	4.45	5.05	1.000 x 2-1/16	4.75	5.35
1.0	.670 x 1-9/16	3.85	4.35	.750 x 2-1/16	4.10	4.65	1.000 x 2-1/16	4.50	5.10	1.000 x 2-9/16	4.95	5.55	1.000 x 2-9/16	5.40	6.00

1. For insulated construction omit "G" in designation and add 1/16 inch to length.
2. For plastic insulating sleeve add "P" to designation and add .062 inch to diameter and 1/16 inch to length.
3. Standard Tolerance: ±20%,
   for ±10% add 10% to list price
   for ± 5% add 50% to list price
4. Insulated Construction:
   Type P123SX - add $1.15 to list price
   Type P323SX - add $1.45 to list price
5. Plastic Insulating Sleeve: add $.20 to list price
6. Mounting Bracket: add $.40 to list price
7. Threaded Terminal: add $.80 to list price
8. Screw-Stud Mounting: add $.60 to list price
9. Also available in 1000 VDCW - ratings and prices upon request

*Trade Mark

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AEROVOX

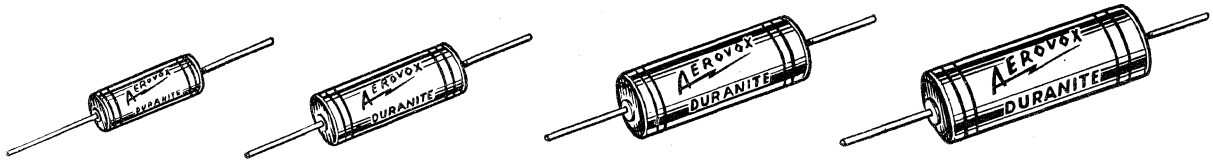
Distributor Division

PAPER

TYPE P88N *DURANITE

Duranite
Blue Moulded
Tubular
Capacitors

Toughest capacitors ever offered for radio-electronic equipment, DURANITE capacitors are entirely new - in design, impregnant, processing, and casing. New technique glove-fitting contact and seal throughout. DURANITE provides a permanent, non-varying, rock-hard casing, does not dry out, does not develop cracks or fissures. Pig-tail leads firmly imbedded, won't pull out, won't work loose. Moisture-proof; operate from sub-zero to over 212°F. Exposure to temperatures of 250°F. will not impair life or performance, no deterioration on the shelf.



Capacity Mfd.	200 V		400 V		600 V		1000 V		1600 V	
	Size	List Price	Size	List Price	Size	List Price	Size	List Price	Size	List Price
.00025					A	.25				
.0001					A	.25				
.0004					A	.25				
.0005					A	.25				
.001	A	.25	A	.25	A	.25	A	.50	B	.60
.0015	A	.25	A	.25	A	.25	A	.50	B	.60
.002	A	.25	A	.25	A	.25	A	.50	B	.60
.0022	A	.25	A	.25	A	.25	A	.50	B	.60
.003	A	.25	A	.25	A	.25	B	.50	B	.60
.0033	A	.25	A	.25	A	.25	B	.50	B	.60
.004	A	.25	A	.25	A	.25	B	.50	B	.60
.0047	A	.25	A	.25	A	.25	B	.50	D	.60
.005	A	.25	A	.25	A	.25	B	.50	D	.60
.006	A	.25	A	.25	B	.25	B	.50	D	.60
.0068	A	.25	A	.25	B	.25	B	.50	D	.65
.007	A	.25	A	.25	B	.25	B	.50	E	.65
.0075	A	.25	A	.25	B	.30	B	.50	E	.65
.008	A	.25	A	.25	B	.30	B	.50	E	.65
.01	A	.25	A	.25	B	.30	B	.50	E	.65
.015	A	.25	B	.25	B	.30	D	.50	E	.65
.02	B	.25	B	.25	D	.30	E	.50	F	.65
.022	B	.25	B	.30	D	.30	E	.50	F	.65
.025	B	.25	B	.30	D	.35	E	.50	F	.65
.03	B	.25	B	.30	D	.35	E	.50	F	.65
.033	B	.25	B	.30	E	.35	E	.60	F	.70
.04	B	.25	D	.30	E	.35	F	.60		
.047	B	.25	D	.30	E	.35	F	.60		
.05	B	.25	D	.30	E	.40	F	.60		
.06	D	.30	E	.30	F	.40	F	.60		
.068	D	.30	E	.35	F	.40	F	.70		
.075	D	.30	E	.35	F	.45				
.1	D	.35	E	.35	F	.45				
.15	E	.35	F	.40	F	.50				
.22	F	.40	F	.40	G	.55				
.25	F	.40	F	.40	G	.55				
.27	F	.45	G	.50	H	.60				
.33	F	.50	G	.50	H	.65				
.47	F	.60	G	.60	H	.75				
.5	F	.60	G	.60	H	.80				
1.0	H	.90	H	.90						

Size	Length x Dia.	Size	Length x Dia.
A	1-1/8 x 11/32	E	1-5/8 x 17/32
B	1-3/8 x 13/32	F	2 x 21/32
		G	3/4 x 2- 1/4
D	1-3/8 x 15/32	H	1 x 2- 1/2

*Trade Mark

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

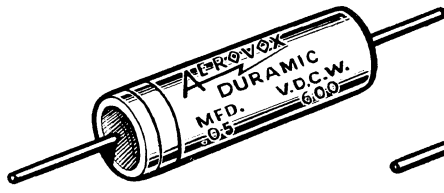
AEROVOX
Distributor Division

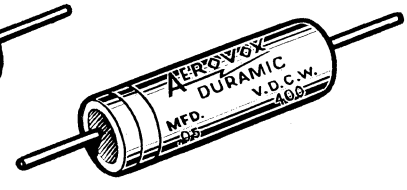
PAPER

TYPE P84CM †DURAMIC

Ceramic-Cased Tubular Capacitors

New ceramic (dense steatite) encased paper tubular for performance above that of conventional paper tubulars. New thermosetting end-seals for exceptional humidity protection - 250 hour humidity test as per REC-118. Firmly imbedded terminals will not work loose or pull out. Operating temps are -55°C to +85°C. Meets all requirements of RETMA Spec. REC-118, hi-temp range, class M.





	200 VDCW		400 VDCW		600 VDCW		1600 VDCW		2500 VDCW		6000 VDCW	
Cap. Mfd.	Size Diameter x Length	List Price	Size Diameter x Length	List Price	Size Diameter x Length	List Price	Size Diameter x Length	List Price	Size Diameter x Length	List Price	Size Diameter x Length	List Price
.0001									3/8 x 1-1/2	.95	3/8 x 1-3/4	1.10
.00025									3/8 x 1-1/2	.95	3/8 x 1-3/4	1.10
.0005					5/16 x 1	.25	5/16 x 1	.65	3/8 x 1-1/2	.95	7/16 x 1-3/4	1.10
.001					5/16 x 1	.25	3/8 x 1-1/4	.65	3/8 x 1-1/2	.95	17/32 x 1-3/4	1.10
.0015					5/16 x 1	.25	3/8 x 1-1/4	.65				
.002					5/16 x 1	.25	3/8 x 1-1/4	.65				
.0022					5/16 x 1	.25	3/8 x 1-1/4	.65				
.003					5/16 x 1	.25	7/16 x 1-1/4	.65	7/16 x 1-1/2	.95	5/8 x 2-1/8	1.15
.0033					5/16 x 1	.25	7/16 x 1-1/4	.65				
.004					5/16 x 1	.25	7/16 x 1-1/4	.65				
.0047					5/16 x 1	.25	7/16 x 1-1/4	.65				
.005					5/16 x 1	.25	7/16 x 1-1/2	.65	17/32 x 1-9/16	1.00	3/4 x 2-1/8	1.15
.006					5/16 x 1	.25	17/32 x 1-9/16	.65				
.0068			5/16 x 1	.25	3/8 x 1-1/4	.30	17/32 x 1-9/16	.65				
.01	5/16 x 1	.25	5/16 x 1	.25	3/8 x 1-1/4	.30	17/32 x 1-9/16	.70	5/8 x 1-7/8	1.05	15/16 x 2-1/8	1.40
.015	3/8 x 1-1/4	.25	3/8 x 1-1/4	.25	3/8 x 1-1/4	.30	5/8 x 1-7/8	.70				
.02	3/8 x 1-1/4	.25	3/8 x 1-1/4	.25	7/16 x 1-1/4	.30	5/8 x 1-7/8	.70				
.022	3/8 x 1-1/4	.25	3/8 x 1-1/4	.25	7/16 x 1-1/4	.30	3/4 x 2	.70				
.03	3/8 x 1-1/4	.25	7/16 x 1-1/4	.30	17/32 x 1-9/16	.35	3/4 x 2	.70	13/16 x 2	1.10	*1-3/16 x 2-5/8	1.50
.033	3/8 x 1-1/4	.25	7/16 x 1-1/4	.30	17/32 x 1-9/16	.35	3/4 x 2	.70				
.047	7/16 x 1-1/4	.25	7/16 x 1-1/2	.30	17/32 x 1-9/16	.40	13/16 x 2-1/4	.70				
.05	7/16 x 1-1/4	.25	7/16 x 1-1/2	.30	17/32 x 1-9/16	.40	13/16 x 2-1/4	.70	25/32 x 2-5/8	1.20	*1-3/16 x 3-1/8	1.60
.068	17/32 x 1-9/16	.30	17/32 x 1-9/16	.35	9/16 x 1-7/8	.40	1 x 2-1/4	.70				
.1	17/32 x 1-9/16	.35	17/32 x 1-9/16	.35	5/8 x 1-7/8	.45	1 x 2-7/8	.70	*1 x 2-5/8	1.50		
.15	17/32 x 1-3/4	.35	5/8 x 1-7/8	.35	3/4 x 2	.45			*1 x 3-1/8	1.65		
.2	5/8 x 1-7/8	.35	5/8 x 1-7/8	.35	13/16 x 2-1/4	.45						
.22	5/8 x 1-7/8	.35	5/8 x 1-7/8	.40	13/16 x 2-1/4	.50						
.25	5/8 x 1-7/8	.40	3/4 x 2	.50	1 x 2-1/4	.55						
.33	3/4 x 2	.50	3/4 x 2	.55	1 x 2-1/4	.65						
.47	13/16 x 2-1/4	.60	1-3/16 x 2-1/4	.55	1 x 2-7/8	.70						
.5	13/16 x 2-1/4	.60	1-3/16 x 2-1/4	.60	1 x 2-7/8	.80						
.68	15/16 x 2	.75	1 x 2-1/4	.80								
1.0	1 x 2-1/4	.90	1 x 2-7/8	.90								

	10,000 VDCW		12,500 VDCW		15,000 VDCW	
Cap. Mfd.	Size Diameter x Length	List Price	Size Diameter x Length	List Price	Size Diameter x Length	List Price
.0001	7/16 x 2-1/4	1.15			17/32 x 2-1/2	1.75
.00025	11/16 x 2-1/4	1.15	11/16 x 2-1/4	1.45	3/4 x 2-1/2	1.75
.0005	11/16 x 2-1/4	1.15			7/8 x 2-1/2	1.75
.001	15/16 x 2-1/4	1.15			*1 x 2-1/2	1.75
.003	1 x 2-3/4	1.20			*1-1/4 x 3	1.85
.005	*1 x 3	1.35			*1-3/8 x 3-1/4	2.00
.01	*1-3/8 x 3	1.60				

†Trade Mark

*Will be furnished in cardboard tube type P84M

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AEROVOX

Distributor Division

PAPER

TYPE P85N
Miniaturized Aerolene Capacitors

Miniaturized Aerolene (Hyvol N) impregnated tubular units. Duranite endfill excludes moisture. Designed for personal radios, hearing aids and miniature assemblies requiring maximum performance in minimum size. Operating temperature range -30°C. to +100°C.

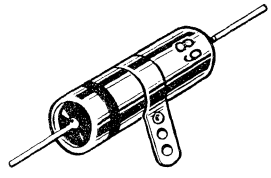
Standard Tolerance
Up to .0099 MFD ±30% - 20%
.01 MFD and up, 20%

Cap. Mfd.	TUBULAR SIZES - P85 (Inches) 200 V	List Price	400 V	List Price	600 V	List Price
.00025	13/64 x 19/32	.35	13/64 x 21/32	.35	13/64 x 21/32	.35
.0005	13/64 x 19/32	.35	13/64 x 23/32	.35	13/64 x 23/32	.35
.001	13/64 x 19/32	.35	13/64 x 23/32	.35	15/64 x 23/32	.35
.0015	13/64 x 19/32	.35	13/64 x 23/32	.35	15/64 x 23/32	.35
.002	13/64 x 19/32	.35	13/64 x 23/32	.35	17/64 x 23/32	.35
.0022	13/64 x 19/32	.35	13/64 x 23/32	.35	17/64 x 23/32	.35
.003	13/64 x 19/32	.35	15/64 x 23/32	.35	19/64 x 23/32	.35
.0033	13/64 x 19/32	.35	15/64 x 23/32	.35	19/64 x 23/32	.35
.004	13/64 x 19/32	.35	15/64 x 23/32	.35	19/64 x 25/32	.40
.0047	15/64 x 19/32	.35	15/64 x 25/32	.35	19/64 x 25/32	.40
.005	15/64 x 19/32	.35	15/64 x 25/32	.35	19/64 x 25/32	.40
.0060	15/64 x 19/32	.35	17/64 x 25/32	.35	21/64 x 25/32	.45
.0068	17/64 x 19/32	.40	17/64 x 25/32	.40	21/64 x 27/32	.45
.010	17/64 x 21/32	.40	17/64 x 27/32	.45	21/64 x 29/32	.45
.015	19/64 x 21/32	.45	19/64 x 29/32	.45	23/64 x 1-1/32	.50
.020	19/64 x 23/32	.45	21/64 x 29/32	.45	25/64 x 1-3/32	.50
.022	19/64 x 25/32	.45	21/64 x 29/32	.45	25/64 x 1-5/32	.50
.03	19/64 x 27/32	.45	23/64 x 31/32	.45	29/64 x 1-5/32	.55
.033	21/64 x 27/32	.50	23/64 x 1-1/32	.50	29/64 x 1-7/32	.55
.04	21/64 x 31/32	.50	27/64 x 1-1/32	.50	31/64 x 1-7/32	.55
.047	21/64 x 31/32	.50	27/64 x 1-1/32	.50	31/64 x 1-9/32	.55
.05	21/64 x 31/32	.50	27/64 x 1-1/32	.50	33/64 x 1-9/32	.60
.068	25/64 x 1-1/32	.55	29/64 x 1-7/32	.55	37/64 x 1-9/32	.60
.1	27/64 x 1-1/32	.60	31/64 x 1-7/32	.65	43/64 x 1-9/32	.70

Note: Other capacities and voltage ranges available on special order.

Cap. Mfd.	100VDCW	List Price
.25	.489 x 1-5/32	.70
.50	.645 x 1-5/32	.80

TYPE P89
Oil Filled Tubular Capacitors



Immersion-proof, oil-impregnated, oil-filled units in handy, space-saving tubes. Ideal for vibrator applications, coupling and by-pass functions in transmitters, high-voltage and in test equipment. Fully sealed against oil leakage or moisture penetration. Case is insulated, not connected to the capacitor section. Supplied with mounting strap and outer insulating tube.

For size over insulating tube add 1/16" to diameter and 3/16" to length. These units are similar to CP25-29 series of MILC25A; for exact CP numbers see catalog DJ-541.

All sizes shown are can sizes.

Can Size

Capacity Mfd.	400 V	List Price	600 V	List Price	1000 V	List Price	1600 V	List Price
.001	5/16 x 1- 3/16	$1.00	3/8 x 1- 3/16	$1.05	7/16 x 1- 3/16	$1.20		
.002	5/16 x 1- 3/16	1.00	3/8 x 1- 3/16	1.05	7/16 x 1- 3/16	1.20		
.003	5/16 x 1- 3/16	1.00	3/8 x 1- 3/16	1.05				
.004	5/16 x 1- 3/16	1.00	3/8 x 1- 3/16	1.05				
.005	5/16 x 1- 3/16	1.00	3/8 x 1- 3/16	1.05	7/16 x 1- 3/16	1.20	5/8 x 1-3/8	$1.40
.006	3/8 x 1- 3/16	1.00	3/8 x 1- 3/16	1.05	7/16 x 1- 3/16	1.20		
.007							5/8 x 1-3/8	1.40
.0075	3/8 x 1- 3/16	1.00	3/8 x 1- 5/16	1.05	7/16 x 1- 3/16	1.20		
.01	3/8 x 1- 3/16	1.00	3/8 x 1- 5/16	1.05	7/16 x 1- 5/16	1.20	5/8 x 1-3/8	1.40
.015	7/16 x 1- 5/16	1.10	7/16 x 1- 5/16	1.10	7/16 x 1- 7/16	1.30		
.02	1/2 x 1- 5/16	1.10	1/2 x 1- 5/16	1.15	1/2 x 1- 7/16	1.30		
.03	1/2 x 1- 5/16	1.15	1/2 x 1- 7/16	1.20	9/16 x 1- 9/16	1.30		
.04	1/2 x 1- 7/16	1.15	9/16 x 1- 9/16	1.20	9/16 x 1- 9/16	1.30		
.05	1/2 x 1- 7/16	1.15	9/16 x 1- 7/16	1.20	9/16 x 1- 9/16	1.45	11/16 x 1-7/8	1.60
.075	9/16 x 1- 9/16	1.20	9/16 x 1-11/16	1.30	5/8 x 1-15/16	1.55		
.1	5/8 x 1-11/16	1.30	5/8 x 1-15/16	1.40	11/16 x 1-15/16	1.65		
.25	13/16 x 2- 1/16	1.60	13/16 x 2- 3/16	1.85	7/8 x 2- 5/16	2.20		
.5	1 x 2- 1/16	1.90	1 x 2- 7/16	2.40				

Can Size

Capacity Mfd.	2000 V	List Price	2500 V	List Price	3000 V	List Price	3500 V	List Price	4000 V	List Price	5000 V	List Price	6000 V	List Price
.0005			3/4 x 1-5/8	$1.50	7/8 x 1-5/8	$1.65	1 x 1-5/8	$1.95	1 x 1-5/8	$2.20	1 x 1-5/8	$2.50	1 x 1-7/8	$2.75
.001	3/4 x 1-5/8	$1.40	3/4 x 1-5/8	1.50	7/8 x 1-5/8	1.65	1 x 1-5/8	1.95	1 x 1-5/8	2.20	1 x 1-5/8	2.50	1 x 2	2.75
.002	3/4 x 1-5/8	1.40											1 x 2-1/8	2.75
.003	3/4 x 1-5/8	1.40												
.004	3/4 x 1-5/8	1.40												
.005	3/4 x 1-5/8	1.40	3/4 x 1-5/8	1.50	7/8 x 1-5/8	1.65	1 x 1-3/4	1.95	1 x 1-7/8	2.20	1 x 2-1/8	2.50	1 x 2-1/2	2.75
.006	3/4 x 1-5/8	1.40												
.0075	3/4 x 1-5/8	1.40												
.01	3/4 x 1-5/8	1.40	3/4 x 1-3/4	1.50	7/8 x 1-3/4	1.65	1 x 1-3/4	1.95	1 x 2-1/4	2.20	1 x 2-5/8	2.50	1 x 3-1/4	2.75
.015	3/4 x 1-5/8	1.45												
.02	3/4 x 1-7/8	1.50	3/4 x 2	1.65	7/8 x 2	1.80	1 x 2	2.10	1 x 3	2.35	1-3/8 x 2-1/2	2.65	1-3/8 x 3	2.90
.03	3/4 x 1-7/8	1.55	3/4 x 2-1/8	1.75	1 x 2-1/4	1.95	1 x 2-1/2	2.20	1-3/8 x 2-1/2	2.50	1-3/8 x 3	2.75	1-3/8 x 3-3/4	3.05
.04	3/4 x 2-1/4	1.55												
.05	7/8 x 2-1/4	1.60	7/8 x 2-1/4	1.95	1 x 2-1/2	2.10	1 x 3-1/4	2.35	1-3/8 x 3-1/4	2.65	1-3/8 x 4	2.90	1-3/8 x 5	3.20
.075	1 x 2-1/2	1.95												
.1	1 x 2-1/2	2.20	1 x 3	2.65	1-3/8 x 2-3/4	2.90	1-3/8 x 3-1/4	3.20	1-3/8 x 4-3/4	3.45				

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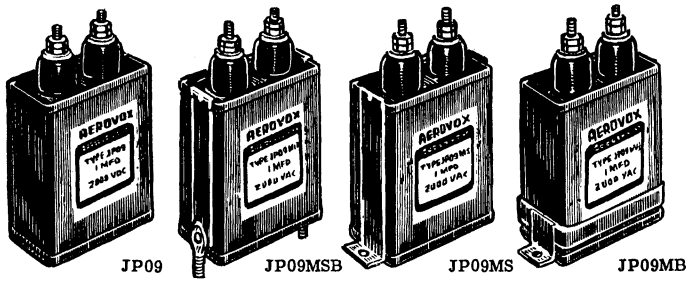

JP09 JP09MSB JP09MS JP09MB

TYPE JP09 †HYVOL

Immersion-proof in sturdy rectangular metal can. High-voltage screw type pillar terminals fitted with soldering lugs. Use of "HYVOL" allows exceptionally compact size for capacity, working voltage, and safety factor. Intended for heavy-duty continuous service in transmitters, amplifiers, etc. Type MB bracket is supplied unless otherwise specified, except on units with base sizes 3-3/4" x 3-3/16" and 3-3/4" x 4-9/16" where Type MS bracket is supplied. MSB is available for all types upon request.

Cap. Mfd.	JP09 D Base Dim. x Height	JP09 M Base Dim. x Height	List Price
600 V			
.1			
.25			
.5		1-1/16 x 1-13/16 x 2-1/4	4.70
1.0	1-1/16 x 1-13/16 x 2-1/4	*1-1/16 x 1-13/16 x 2-1/4	5.80
2.0	‡1-1/16 x 1-13/16 x 2-7/8	*1-1/16 x 1-13/16 x 3-1/4	7.15
3.0	1-1/16 x 1-13/16 x 3-7/8	1-1/16 x 1-13/16 x 4-3/4	8.25
4.0	‡1-3/16 x 2- 1/2 x 3-1/2	*1-3/16 x 2- 1/2 x 3-7/8	9.10
5.0	1-3/16 x 2- 1/2 x 4-1/8	1-3/16 x 2- 1/2 x 4-3/4	10.95
6.0	‡1-3/16 x 2- 1/2 x 4-3/4	*1-1/4 x 3- 3/4 x 3-7/8	11.30
8.0	‡ 1-1/4 x 3- 3/4 x 3-7/8	*1-1/4 x 3- 3/4 x 4-1/4	13.50
10.0	‡1-1/4 x 3- 3/4 x 4-3/4	*1-3/4 x 3- 3/4 x 4	15.15
12.0	1-1/2 x 3- 3/4 x 4-3/4		16.70
15.0	1-3/4 x 3- 3/4 x 4-3/4	2-1/2 x 3- 3/4 x 4-3/8	18.50
1500 V			
.1			
.25			
.5		*1-1/16 x 1-13/16 x 2-7/8	6.35
1.0	‡ 1-1/16 x 1-13/16 x 3-7/8	*1-1/16 x 1-13/16 x 4-3/4	7.45
2.0	‡1-3/16 x 2- 1/2 x 4-1/4	*1-3/16 x 2- 1/2 x 4-3/4	10.45
3.0	1-3/16 x 2- 1/2 x 4-3/4		12.40
4.0	‡1-1/4 x 3- 3/4 x 4-3/4	*1-3/4 x 3- 3/4 x 4-1/4	14.05
5.0	1-3/4 x 3- 3/4 x 4-3/4		15.15
6.0	‡1-3/4 x 3- 3/4 x 4-3/4	*2-1/4 x 3- 3/4 x 4-3/4	17.05
8.0	‡ 2-1/2 x 3- 3/4 x 4-3/4	*2-1/2 x 3- 3/4 x 5-3/4	20.90
10.0		*3-3/16 x 3- 3/4 x 5-1/2	25.05
12.0	‡3-3/16 x 3- 3/4 x 4-3/4		27.25
15.0	‡ 3-3/4 x 4- 9/16 x 4-3/4	*3-3/4 x 4- 9/16 x 6	30.00
2500 V			
.1			
.25			
.5		*1-3/16 x 2- 1/2 x 3-7/8	11.55
1.0		*1-3/4 x 3- 3/4 x 3-7/8	13.20
2.0	‡1-3/4 x 3- 3/4 x 4-3/4	*2-1/4 x 3- 3/4 x 4-3/4	21.45
4.0	3-3/4 x 4- 9/16 x 4-3/8	*3-3/4 x 4- 9/16 x 4-3/8	30.00
10.0	‡3-3/4 x 4- 9/16 x 7	*3-3/4 x 4- 9/16 x 8-1/2	75.10
4000 V			
.1	2-1/4 x 3- 3/4 x 2-11/16	*2-1/4 x 3- 3/4 x 2- 3/4	25.05
.25	‡2-1/4 x 3- 3/4 x 2- 3/4		26.40
.5	‡ 2-1/4 x 3- 3/4 x 3- 7/8		30.00
1.0	‡2-1/4 x 3- 3/4 x 5- 1/8	3-1/4 x 3- 3/4 x 4-13/16	36.85
2.0	‡ 3-3/4 x 4- 9/16 x 5- 1/8		46.75
4.0	‡3-3/4 x 4- 9/16 x 8- 1/2		66.85
6000 V			
.1	‡ 2-1/4 x 3- 3/4 x 3-3/8	2-1/4 x 3- 3/4 x 3-3/8	33.55
.25	‡2-1/4 x 3- 3/4 x 4-1/2	*2-1/4 x 3- 3/4 x 4-5/8	41.80
.5		*3-3/4 x 4- 9/16 x 4-3/4	47.30
1.0	‡3-3/4 x 4- 9/16 x 7-1/2		83.60

†Trade Mark

Cap. Mfd.	JP09 D Base Dim. x Height	JP09 M Base Dim. x Height	List Price
1000 V			
.1	1-1/16 x 1-13/16 x 2-1/4	*1-1/16 x 1-13/16 x 1-5/8	4.15
.25		*1-1/16 x 1-13/16 x 2-1/4	4.70
.5		*1-1/16 x 1-13/16 x 2-1/4	4.95
1.0	‡ 1-1/16 x 1-13/16 x 2-1/4	*1-1/16 x 1-13/16 x 2-7/8	6.35
2.0	‡1-1/16 x 1-13/16 x 3-7/8	*1-1/16 x 1-13/16 x 4-3/4	8.25
3.0	1-3/16 x 2- 1/2 x 3-1/2	1-3/16 x 2- 1/2 x 3-3/4	9.65
4.0	‡1-3/16 x 2- 1/2 x 4-3/4	*1-1/4 x 3- 3/4 x 3-7/8	10.45
5.0	1-1/4 x 3- 3/4 x 3-7/8	1-1/4 x 3- 3/4 x 4-3/8	12.65
6.0	‡1-1/4 x 3- 3/4 x 4-3/4	*1-3/4 x 3- 3/4 x 4	14.05
8.0	‡ 1-1/4 x 3- 3/4 x 3-7/8	*1-3/4 x 3- 3/4 x 4-3/4	15.15
10.0	‡1-3/4 x 3- 3/4 x 4-3/4	*2-1/4 x 3- 3/4 x 4-3/4	16.80
12.0	‡ 2-1/4 x 3- 3/4 x 4-1/2	*2-1/4 x 3- 3/4 x 5-1/8	18.15
15.0	‡2-1/2 x 3- 3/4 x 4-3/4	*3-3/16 x 3- 3/4 x 4-3/4	20.10
2000 V			
.1		*1-3/16 x 2- 1/2 x 2-1/2	6.60
.25		*1-3/16 x 2- 1/2 x 2-1/2	7.15
.5	1-3/16 x 2- 1/2 x 2-7/8	*1-3/16 x 2- 1/2 x 2-7/8	7.45
1.0	‡1-3/16 x 2- 1/2 x 3-1/2	*1-3/16 x 2- 1/2 x 4-3/4	9.10
2.0	‡ 1-1/4 x 3- 3/4 x 4-1/4	*1-1/4 x 3- 3/4 x 4-3/4	10.75
3.0	1-1/4 x 3- 3/4 x 4-3/4	1-3/4 x 3- 3/4 x 4-3/4	13.20
4.0	‡ 2-1/4 x 3- 3/4 x 3-7/8	*2-1/4 x 3- 3/4 x 5-1/8	15.15
5.0	2-1/4 x 3- 3/4 x 4-3/4		16.80
6.0	‡ 3-3/16 x 3- 3/4 x 4-1/2		20.10
8.0	‡3-3/16 x 3- 3/4 x 5-1/8	3-3/4 x 4- 9/16 x 4-3/4	25.05
10.0	‡ 3-3/4 x 4- 9/16 x 4-3/4		30.55
12.0	‡3-3/4 x 4- 9/16 x 5-1/2	3-3/4 x 3- 3/4 x 5-3/4	33.30
15.0	‡ 3-3/4 x 4- 9/16 x 6-1/2		40.15
3000 V			
.1		*1-3/16 x 2- 1/2 x 2-7/8	14.05
.25	‡1-3/16 x 2- 1/2 x 2-7/8	*1-3/16 x 2- 1/2 x 3-1/2	14.85
.5	‡ 1-3/16 x 2- 1/2 x 4-1/4	*1-3/16 x 2- 1/2 x 4-3/4	16.80
1.0	‡2-1/4 x 3- 3/4 x 3-7/8	*2-1/4 x 3- 3/4 x 4-1/2	20.10
2.0	‡ 3-3/16 x 3- 3/4 x 4-1/2	*3-3/16 x 3- 3/4 x 4-3/4	25.05
4.0	‡3-3/4 x 4- 9/16 x 4-3/4	*3-3/4 x 4- 9/16 x 6-1/2	36.85
5000 V			
.1	2-1/4 x 3- 3/4 x 2-3/4		26.70
.25	2-1/4 x 3- 3/4 x 3-7/8		30.25
.5	‡ 2-1/4 x 3- 3/4 x 4-1/2	*2-1/4 x 3- 3/4 x 5-1/8	33.33
1.0	‡3-3/4 x 4- 9/16 x 4-3/8		41.80
2.0	3-3/4 x 4- 9/16 x 6		53.65
7500 V			
.1	‡2-1/4 x 3- 3/4 x 3-7/8	2-1/4 x 3- 3/4 x 4-5/16	47.30
.25	‡ 3-3/4 x 4- 9/16 x 3-7/8		50.05
.5	‡3-3/4 x 4- 9/16 x 5-1/8		54.20

Units marked (‡) are same size as characteristic D and F of specification MIL-C-25A.
Units marked (*) are equivalent to characteristic E of specification MIL-C-25A.
Unmarked items are commercial sizes.
Operating temperature of all units is -55 to / 85°C.
Standard tolerance is /20% - 10%. Other tolerances on request.

HARDWARE

Brackets are furnished as noted above.
MIL or commercial brackets are available as follows.
Type MSB is equivalent to MIL type CP07S.
Type MS is equivalent to MIL type CP07F.
Type MB is commercial universal type.

MIL case number	equivalent size	List price
From A_1 to D_4	1-13/16 x 1-1/16 x 1-5/8 to 3- 3/4 x 1-3/4 x 4-1/4	.60 per pair
From D_5 to F_2	3- 3/4 x 1-3/4 x 4-3/4 to 3- 3/4 x 2-1/2 x 5-3/4	.95 per pair
From G_1 to J_{11}	3- 3/4 x 3-3/16 x 4-1/2 and up	1.25 per pair

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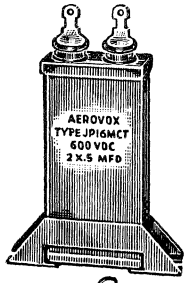
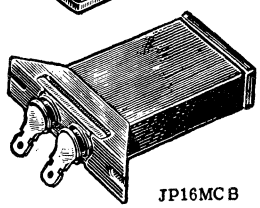


JP16MCT

JP16M



JP16MCB

TYPE JP16 *HYVOL Compact Capacitors

Compact, immersion-proof unit, of minimum size and weight. Corrosion-proof metal container. Special immersion-proof terminals for severe atmospheric and climatic conditions. Type JP16MCT is standard, but Type JP16MCB (terminals on bottom) units also available.

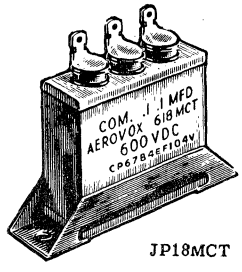
Cap. Mfd.	400 VDCW			600 VDCW			1000 VDCW		
	Height	JP16 M	JP16 MCT	Height	JP16 M	JP16 MCT	Height	JP16 M	JP16 MCT
.01							1-1/16	2.95	*3.10
.02							1-1/16	3.00	*3.15
.05				1-1/16	2.95	*3.10	1-3/8	3.00	*3.15
.1	1-1/16	3.00	*3.15	1-3/8	3.05	*3.20	1-3/8		3.25
.25	1-3/8	3.05	3.20	1-5/8	3.10	*3.25	2		3.35
.5	1-5/8	†3.10	†3.25	2	3.20	*3.35	2-1/2		‡3.65
1.0	2		‡3.65	2-3/4	3.60	*3.75			
2 x .01							1-1/16	3.80	
2 x .02							1-3/8	3.90	
2 x .05				1-3/8	4.00	*4.15	1-3/8	4.10	
2 x .1				1-5/8	4.50	*4.65			
2 x .25				2	4.65	*4.80			
2 x .5				2-3/4	5.50	*5.65			

All sizes listed are the sizes as listed in Specification MILC25A characteristic E except as noted (†‡)
Operating temperature -55 to +85°C
Standard tolerance +20-10%
Dual units have two terminals case grounded
†Commercial sizes
‡Size per characteristic D of MILC25A
*Also available in MCB
CP06S and CP06F Brackets are available for mounting JP16M - CP61 at .70 list

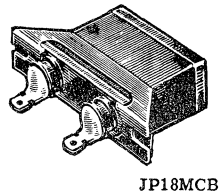
JP16M equivalent to CP61 - Char. E of MIL-C-25A
JP16MCT equivalent to CP63 - Char. E of MIL-C-25A
JP16MCB equivalent to CP65 - Char. E of MIL-C-25A

TYPE JP18 *HYVOL Compact Capacitors

Compact, immersion-proof unit. Different base sizes make units adaptable for duals and triples. Even on single sections, different base sizes make units fit in particular applications where Type JP16's do not fit. Type JP18MCB is standard, but Type JP18MCT (terminals on top) also available.



JP18MCT



JP18MCB

Cap. Mfd.	400 VDCW		600 VDCW		1000 VDCW	
	Height	JP18 DCB	Height	JP18 MCB	Height	JP18 MCB
.01					1-1/16	*3.20
.02					1-1/16	*3.25
.05	†1	3.15	1-1/16	*3.20	1-1/16	*3.35
.1	†1	3.25	1-1/16	*3.35	1-1/2	3.45
.25	†1-1/4	3.35	1-1/2	*3.45	1-1/2	3.65
.5	†1-1/2	3.45	2	*3.70	2-1/2	3.85
1.0	†2	3.85	2-3/4	*4.00		
2 x .01					1-1/16	4.15
2 x .02					1-1/16	4.25
2 x .05	†1	4.00	1-1/16	*4.20	1-1/2	4.55
2 x .1	†1-1/4	4.15	1-1/2	*4.30	2	4.90
2 x .25	†1-1/2	4.30	2	*4.55	2-3/4	5.00
2 x .5	†2	4.70	2-3/4	*4.95		
3 x .01					1-1/16	4.90
3 x .02					1-1/16	5.20
3 x .05	†1	4.95	1-1/2	*5.00	1-3/8	5.85
3 x .1	†1-5/8	5.30	1-1/2	*5.95	1-5/8	5.90
3 x .25	†2	5.70	2-3/4	*6.85		

JP18MCT equivalent to CP67 - Char. E of MIL-C-25A
JP18MCB equivalent to CP69 - Char. E of MIL-C-25A
JP18DCB is a commerical unit with Hyvol D impregnation.

All sizes listed are the sizes as listed in Specification MIL-C25A Char E except as noted (†)
Operating temperature -55 to +85°C
Standard tolerance +20-10%
*Also available in MCT
†-Commercial sizes

*Trade Mark

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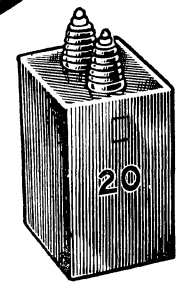
TYPE JP20

High Voltage Transmitter Capacitors



High quality oil capacitors for communications, electronic and general DC applications in industrial equipment. Single or parallel grouped from 6000 to 50,000 VDCW. Heavy duty, highest quality precision construction thruout. Aerovox Hyvol impregnated. Hermetically sealed for long life under exacting operating conditions. Single units rated at 30 KV or less normally supplied with capacitor element insulated from ground. Units built to order. Submit full application information when ordering.

Size: Height x Width x Depth

Capacity Mfd.	6000 VDCW	List Price	7500 VDCW	List Price	10,000 VDCW	List Price	12,500 VDCW	List Price
.5			*11 x 8 x 4	$ 83.00			11 x 8 x 4	$184.00
1.0			11 x 8 x 4	108.00	11 x 8 x 4	$217.00	11 x 12 x 4	233.00
1.5								
2.0	11 x 8 x 4	$150.00	11 x 8 x 4	166.00	11 x 12 x 4	275.00	13 x 12 x 6	292.00
4.0	11 x 12 x 4	184.00	13 x 12 x 4	250.00	13 x 12 x 6	336.00		
5.0	11 x 12 x 4	208.00			13 x 12 x 6	368.00	15 x 12 x 9-1/2	551.00
6.0	13 x 12 x 4	233.00	13 x 12 x 6	300.00				
10.0	13 x 12 x 6	290.00						

Capacity Mfd.	15,000 VDCW	List Price	20,000 VDCW	List Price	25,000 VDCW	List Price	37,500 VDCW	50,000 VDCW
.1							13 x 13-1/2 x 4	13 x 13-1/2 x 4
.2					11 x 12 x 4	$217.00	13 x 13-1/2 x 6	15 x 13-1/2 x 8-1/2
.25	11 x 8 x 4	$175.00	11 x 8 x 4	$ 208.00	11 x 12 x 4	292.00	15 x 13-1/2 x 8-1/2	15 x 15-1/2 x 15
.5	11 x 12 x 4	208.00	11 x 12 x 4	267.00	11 x 12 x 6	317.00	15 x 13-1/2 x 15	
1.0	13 x 12 x 4	292.00	13 x 12 x 6	359.00	15 x 12 x 9-1/2	475.00		
1.5			15 x 12 x 9-1/2	484.00				
2.0	15 x 12 x 9-1/2	384.00	15 x 12 x 9-1/2	576.00				
3.0	15 x 12 x 9-1/2	526.00						
4.0			15 x 14 x 16	1011.00				
5.0								
6.0								
10.0								
0.25-0.25								
0.5-0.5								

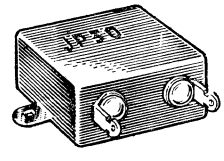
TYPE 12520 VD

25,000 Volts Output
(12,500 - 12,500 Volts)
Dual Units
(For Voltage-Doubler, Circuits)

11 x 8 x 4 11 x 12 x 4
PRICES ON REQUEST

TYPE JP30

Bathtub Case Hyvol Capacitors



High-quality bypass capacitors furnished in drawn metal bathtub cases, hermetically-sealed with neoprene bakelite terminals. These units are Hyvol M impregnated for operation at temperatures from -55°C to +85°C. They are especially recommended for applications where high reliability and superior performance is required. Typical applications for these rugged units would include marine, aircraft and tropical climates.

Capacity Mfd.	400 VDCW Size	400 VDCW JP30 M	600 VDCW Size	600 VDCW JP30 M	1000 VDCW Size	1000 VDCW JP30 M
.05	+1-3/4 x 1 x 3/4	1.95	*1-3/4 x 1 x 3/4	2.85	1-3/4 x 1 x 3/4	3.05
.1	+1-3/4 x 1 x 3/4	2.20	*1-3/4 x 1 x 3/4	2.90	1-3/4 x 1 x 3/4	3.15
.25	+1-3/4 x 1 x 3/4	2.50	*1-3/4 x 1 x 13/16	3.10	1-3/4 x 1 x 7/8	3.25
.5	+1-3/4 x 1 x 7/8	2.65	*1-3/4 x 1 x 1	3.30	2 x 1-3/4 x 7/8	3.50
.75	+2-1/6 x 1-1/4 x 3/4	2.95	+2-1/16 x 1-1/4 x 7/8	3.50	+2 x 1-3/4 x 7/8	4.20
1.0	+2 x 1-3/4 x 7/8	3.15	*2 x 1-3/4 x 1	3.75	2 x 2 x 1-1/8	4.40
2.0	+2 x 2 x 1-1/8	3.95	*2 x 2 x 1-3/16	5.00		
2 x .05	+1-3/4 x 1 x 3/4	3.05	*1-3/4 x 1 x 13/16	3.65	1-3/4 x 1 x 3/4	3.85
2 x .1	+1-3/4 x 1 x 3/4	3.30	*1-3/4 x 1 x 7/8	3.70	1-3/4 x 1 x 7/8	3.95
2 x .25	+1-3/4 x 1 x 15/16	3.60	*1-3/4 x 1 x 1	3.75	2 x 1-3/4 x 7/8	4.20
2 x .5	+2 x 1-3/4 x 7/8	4.15	*2 x 1-3/4 x 7/8	4.30	2 x 2 x 1-3/16	5.45
2 x 1.0	+2 x 2 x 1-1/8	4.95	*2 x 2 x 1-3/16	5.30		
3 x .05	+1-3/4 x 1 x 3/4	3.85	*1-3/4 x 1 x 13/16	4.05	1-3/4 x 1 x 13/16	4.25
3 x .1	+1-3/4 x 1 x 13/16	4.00	*1-3/4 x 1 x 15/16	4.20	2 x 1-3/4 x 7/8	4.55
3 x .25	+2 x 1-3/4 x 7/8	4.40	*2 x 1-3/4 x 7/8	4.75	2 x 2 x 1-1/8	5.50
3 x .5	2 x 2 x 1	5.25	*2 x 2 x 1-3/16	5.35		

Capacity Mfd.	100 VDCW Size	100 VDCW JP30 M	200 VDCW Size	200 VDCW JP30 M
1.0			2 x 1-3/4 x 7/8	3.15
2.0	2 x 1-3/4 x 7/8	3.95	2 x 2 x 1	3.95
4.0	2 x 2 x 1-3/16	6.40		

JP30M is equivalent to CP53 of MIL-C-25A
JP30MT is equivalent to CP54 of MIL-C-25A
JP30MB is equivalent to CP55 of MIL-C-25A
Standard Tolerance ±20%-10%
Other Tolerances available on request.

All sizes listed are the sizes as listed for characteristic E of Specification MIL-C-25A except as noted +
*Also available in JP30MT and JP30MB +Commercial units

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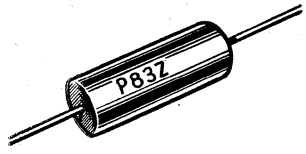
METALLIZED-PAPER

TYPE P83Z
Microminiature Capacitors



Ultra-small, new metallized-paper dielectric capacitor particularly applicable in the electronic field to replace the low capacity paper units now being used. Hyvol K impregnated in humidity resistant molded thermo-plastic cases.

Capacity Mfd.	Voltage	Case Size (Inches) Dia. x Lgth.	List Price
.004	200 VDC	3/16 x 7/16	$.45
.005	200 VDC	3/16 x 7/16	.45
.01	200 VDC	3/16 x 7/16	.45
.02	200 VDC	1/4 x 9/16	.55
.04	200 VDC	1/4 x 9/16	.55
.002	400 VDC	3/16 x 7/16	.45
.003	400 VDC	3/16 x 7/16	.45
.008	400 VDC	1/4 x 9/16	.55
.01	400 VDC	1/4 x 9/16	.55
.0005	600 VDC	3/16 x 7/16	.45
.0008	600 VDC	3/16 x 7/16	.45
.001	600 VDC	3/16 x 7/16	.45
.002	600 VDC	1/4 x 9/16	.55
.0022	600 VDC	1/4 x 9/16	.55
.0047	600 VDC	1/4 x 9/16	.55
.005	600 VDC	1/4 x 9/16	.55
.0068	600 VDC	1/4 x 9/16	.55

TYPE P89ZXY Hermetically Sealed Capacitors

Cap. Mfd.	Size 200 VDC	List Price	Size 400 VDC	List Price	Size 600 VDC	List Price
.01					3/8 x 1	$1.40
.02					3/8 x 1	1.45
.03			3/8 x 1	$1.40	7/16 x 1	1.50
.05	3/8 x 1	$1.40	7/16 x 1	1.45	1/2 x 1	1.55
.1	7/16 x 1	1.45	7/16 x 1-5/16	1.60	1/2 x 1-1/2	1.70
.25	1/2 x 1	1.60	5/8 x 1-5/16	1.80	5/8 x 1-5/8	2.00
.5	1/2 x 1-5/16	1.70	5/8 x 2	2.00	3/4 x 2	2.40
1.0	5/8 x 1-1/2	2.10	3/4 x 2-1/2	2.50	13/16 x 2-1/2	3.00
2.0	5/8 x 2	2.60	1 x 2-1/2	3.60	1- 1/4 x 2-1/2	4.00
	150 VDC					
3.0	3/4 x 2	$3.40				
4.0	13/16 x 2	4.35				
6.0	1 x 2	5.30				

Sizes shown are for floating case without insulating tube.

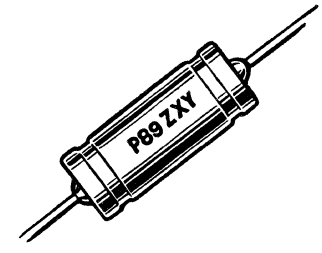
X denotes cardboard insulating sleeve, but no bracket-Add $0.15 to list

Y denotes bracket but not insulating sleeve-Add $0.20 to list

XP denotes plastic insulating sleeve, but no bracket-Add $0.15 to list

Standard tolerance ±20%

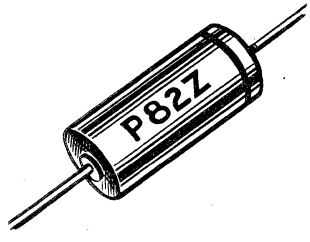
For ±10% tolerance, add 50% to list price
For ±5% tolerance, add 100% to list price



Hermetically sealed metallized paper capacitors. Sealed in metal cases with rubber bakelite end seals. Impregnated with Hyvol K or Hyvol M, these units are manufactured for operating temperature of -55°C. to +70°C. without voltage derating and operation up to 95°C. ambient with derating.

Standard units are furnished without insulating tube or bracket (XY). If cardboard insulating sleeve and radial mounting bracket are desired specify type P89Z and add $0.35 to list price.

TYPE P82Z Wax Impregnated Cardboard Sleeve Capacitors



Metallized-paper capacitor in wax impregnated cardboard sleeve. These units are manufactured with metal end caps and extended foil construction for low impedance. Operating temperature, -40°C to +70°C.

Capacity Mfd.	200 V	List Price	400 V	List Price	600 V	List Price
.01	3/8 x 5/8	$ .60	3/8 x 5/8	$ .65	3/8 x 5/8	$ .70
.02	3/8 x 5/8	.60	3/8 x 5/8	.65	3/8 x 5/8	.70
.03	3/8 x 5/8	.60	3/8 x 5/8	.65	15/32 x 5/8	.80
.05	3/8 x 5/8	.65	15/32 x 5/8	.70	15/32 x 5/8	.80
.1	3/8 x 5/8	.70	15/32 x 1-1/8	.80	15/32 x 1-1/8	.90
.25	15/32 x 5/8	.90	9/16 x 1-1/8	1.00	5/8 x 1-1/8	1.10
.5	15/32 x 1-1/8	1.05	5/8 x 1-5/8	1.15	23/32 x 1-5/8	1.45
1.0	9/16 x 1-1/8	1.30	23/32 x 2-1/8	1.60	23/32 x 2-5/8	1.80
2.0	5/8 x 1-5/8	1.80				

Standard tolerance ±20%

For ±10% tolerance, add 25% to list price.
For ±5% tolerance, add 50% to list price.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

AEROVOX
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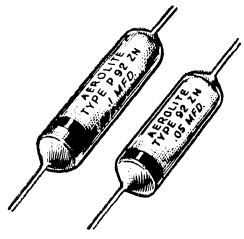
METALLIZED-PAPER

TYPE P92ZN

High Temperature Tubular Capacitors



AEROVOX type P92ZN Aerolene impregnated metallized-paper capacitors are modified plastic tubular type, Duranite end-sealed capacitors in paper cases. Operating temperature range is -30°C +100°C.

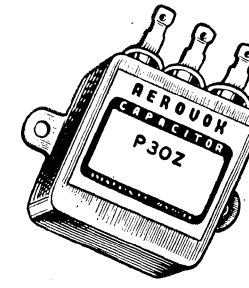
Capacity	200 V	List Price	400 V	List Price	600 V	List Price
.01	3/16 x 9/16	.60	1/4 x 11/16	.65	9/32 x 11/16	.70
.02	1/4 x 11/16	.60	5/16 x 11/16	.65	3/8 x 11/16	.70
.03	1/4 x 11/16	.60	3/8 x 11/16	.65	13/32 x 11/16	.80
.05	1/4 x 27/32	.65	3/8 x 27/32	.70	13/32 x 27/32	.80
.1	9/32 x 27/32	.70	3/8 x 1-5/32	.80	13/32 x 5/32	.90
.25	3/8 x 27/32	.90	9/16 x 1-5/32	1.00	5/8 x 1-5/32	1.10
.5	13/32 x 1-5/32	1.05	5/8 x 1-3/8	1.15	11/16 x 1-1/2	1.45
1.0	9/16 x 1-5/32	1.30	11/16 x 1-7/8	1.60	13/16 x 1-7/8	1.80
2.0	5/8 x 1-1/2	1.80	13/16 x 2-3/8	2.20	15/16 x 2-3/8	2.50

Cap. Mfd.	Volts	Size	List Price
.5	200	1-3/4 x 1 x 3/4	$ 3.30
1.0	200	1-3/4 x 1 x 3/4	3.55
2.0	200	1-3/4 x 1 x 3/4	4.45
4.0	150	1-3/4 x 1 x 7/8	5.75
6.0	150	2 x 1-3/4 x 7/8	6.10
8.0	150	2 x 2 x 1	8.40
10.0	150	2 x 2 x 1-1/8	9.70
12.0	150	2 x 2 x 1-1/8	11.00
.25	400	1-3/4 x 1 x 3/4	3.35
.5	400	1-3/4 x 1 x 3/4	3.55
1.0	400	1-3/4 x 1 x 7/8	3.95
2.0	400	2 x 1-3/4 x 7/8	4.90
4.0	400	2 x 2 x 1-1/8	7.85
.1	600	1-3/4 x 1 x 3/4	3.50
.25	600	1-3/4 x 1 x 3/4	3.55
.5	600	1-3/4 x 1 x 3/4	4.25
1.0	600	1-3/4 x 1-1/4 x 7/8	4.90
2.0	600	2 x 2 x 1	6.25

TYPE P30Z

Bathtub Capacitors

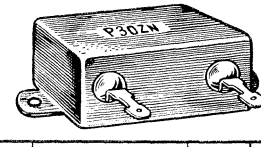
Aerolite Metallized-Paper capacitors. Hyvol K or M impregnated in bathtub, hermetically-sealed metal cases. Meets rigid JAN requirements for moisture immersion and vibration testing.



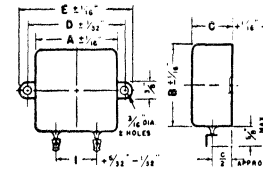
TYPE P30ZN

High Temperature Hermetically Sealed Capacitors

AEROVOX type P30ZN Aerolene impregnated metallized-paper capacitors housed in "bathtub" metal cases with vitrified ceramic or glass terminal seals. Operating temperature range -55°C to +100°C at full rating with operation to +125°C at 75 percent of voltage rating.



Glass Terminal Seal



Container Base	D	E
1-3/4 x 1	2-1/8	2-1/2
1-3/4 x 1-1/4	2-1/8	2-1/2
2 x 1-3/4	2-3/8	2-13/16
2 x 2	2-3/8	2-13/16

Capacity	150 V	List Price	200 V	List Price	400 V	List Price	600 V	List Price
.1			1-3/4 x 1 x 3/4	3.95	1-3/4 x 1 x 3/4	4.85	1-3/4 x 1 x 3/4	5.25
.25			1-3/4 x 1 x 3/4	4.25	1-3/4 x 1 x 3/4	5.05	1-3/4 x 1 x 3/4	5.35
.5			1-3/4 x 1 x 3/4	4.95	1-3/4 x 1 x 3/4	5.35	1-3/4 x 1 x 3/4	6.40
1.0			1-3/4 x 1 x 3/4	5.35	1-3/4 x 1 x 7/8	5.95	1-3/4 x 1-1/4 x 7/8	7.35
2.0			1-3/4 x 1 x 3/4	6.70	2 x 1-3/4 x 13/16	7.35	2 x 2 x 7/8	9.40
3.0	1-3/4 x 1 x 7/8	8.10			2 x 1-3/4 x 15/16	9.75	2 x 2 x 1-1/8	11.65
4.0	1-3/4 x 1 x 3/4	8.65			2 x 2 x 1	11.80	2 x 2 x 1-1/4	13.40
5.0	1-3/4 x 1 x 3/4	8.95			2 x 2 x 1-1/4	13.20		
6.0	1-3/4 x 1-1/4 x 7/8	9.15						
8.0	2 x 1-3/4 x 3/4	12.60						
10.0	2 x 1-3/4 x 3/4	14.55						
12.0	2 x 2 x 7/8	16.50						
15.0	2 x 2 x 1	19.85						

(Sizes listed are dimensions A-B-C in diagram above)

Standard Tolerance for all units on this page is ±20%

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AEROVOX
Distributor Division

METALLIZED-PAPER

TYPES P123ZG and P123ZNG

Metal-Cased Capacitors

Metallized paper tubulars hermetically sealed in metal tubes with glass end seals soldered for positive moisture seal.

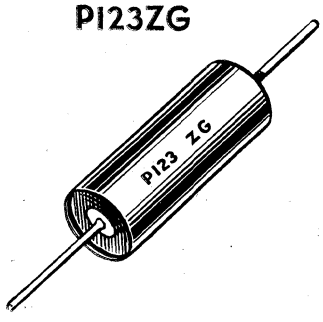
These units are designed to meet critical operating temperatures and meet the need for increased reliability in the electronic field.

The P123ZG is manufactured to meet operating temperature range of -55°C. to +70°C. without derating and up to 100°C. with derating of 75%.

The P123ZNG - Aerolene impregnated - is similar to the P123ZG, with the additional feature that it will operate up to temperatures of 100°C., at full voltage rating and 125°C. with voltage derating of 75%.

Standard units (P123ZG or P123ZNG) are of case-grounded type. For case insulated, specify P123Z or P123ZN and add $0.50 to list price (add 1/16" to length).

TYPE P123ZG



For threaded neck, add "T" to designation and $0.50 to list price.

For mounting bracket add "B" to designation and $0.15 to list price. (Not available when plastic tube used)

For plastic insulating tube, add "P" to designation and $0.15 to list price.

Cap. Mfd.	200 V	List Price	400 V	List Price	600 V	List Price
.0005	.175 x 7/16	$2.05	.235 x 7/16	$2.10	.235 x 7/16	$2.15
.001	.175 x 7/16	2.05	.235 x 7/16	2.10	.235 x 7/16	2.15
.002	.175 x 7/16	2.05	.235 x 7/16	2.10	.235 x 9/16	2.15
.003	.175 x 7/16	2.05	.235 x 9/16	2.10	.235 x 9/16	2.15
.005	.175 x 7/16	2.05	.235 x 9/16	2.10	.235 x 9/16	2.15
.01	.175 x 7/16	2.05	.235 x 9/16	2.15	.312 x 23/32	2.15
.015	.195 x 1/2	2.10	.235 x 23/32	2.15	.312 x 23/32	2.20
.02	.195 x 1/2	2.10	.235 x 23/32	2.15	.312 x 23/32	2.20
.022	.195 x 1/2	2.10	.312 x 23/32	2.15	.312 x 23/32	2.20
.033	.235 x 9/16	2.10	.312 x 23/32	2.20	.400 x 23/32	2.20
.040	.235 x 9/16	2.10	.312 x 23/32	2.20	.400 x 23/32	2.25
.047	.235 x 23/32	2.10	.400 x 23/32	2.20	.400 x 23/32	2.25
.050	.235 x 23/32	2.10	.400 x 23/32	2.25	.400 x 23/32	2.25
.068	.312 x 23/32	2.15	.400 x 1- 1/32	2.25	.400 x 1- 1/32	2.30
.10	.312 x 23/32	2.15	.400 x 1- 1/32	2.45	.500 x 1- 1/32	2.30
.15	.312 x 1- 1/32	2.35	.500 x 1- 1/32	2.45	.500 x 1- 1/32	2.70
.2	.312 x 1- 1/32	2.35	.500 x 1- 1/32	2.45	.562 x 1- 7/32	2.70
.22	.312 x 1- 1/32	2.35	.562 x 1- 1/32	2.45	.562 x 1- 7/32	2.70
.25	.312 x 1- 1/32	2.35	.562 x 1- 1/32	2.75	.562 x 1-11/32	2.70
.33	.400 x 1- 1/32	2.40	.562 x 1- 7/32	2.75	.562 x 1-23/32	3.00
.47	.400 x 1- 1/32	2.40	.562 x 1-23/32	2.75	.670 x 1-23/32	3.00
.50	.400 x 1- 1/32	2.40	.562 x 1-23/32	3.05	.670 x 1-23/32	3.00
.68	.562 x 1- 1/32	2.65	.670 x 1-23/32	3.05	.670 x 2- 7/32	3.65
1.00	.562 x 1- 7/32	2.65	.670 x 2- 7/32	3.05	.750 x 2- 7/32	3.65
1.5	.562 x 1-23/32	2.85				
2.0	.562 x 1-23/32	3.95				

Standard tolerance

.01 mfd. and lower, ±25%
.015 mfd. and up, ±20%

For ±10% tolerance, add 50% to list price.

For ±5% tolerance, add 100% to list price.

TYPE P123ZNG

Capacity Mfd.	200 V	List Price	400 V	List Price	600 V	List Price
.0005	.175 x 7/16	2.95	.235 x 7/16	3.10	.235 x 7/16	3.15
.001	.175 x 7/16	2.95	.235 x 7/16	3.10	.235 x 7/16	3.15
.002	.175 x 7/16	2.95	.235 x 7/16	3.10	.235 x 9/16	3.15
.003	.175 x 7/16	3.00	.235 x 9/16	3.15	.235 x 9/16	3.25
.005	.175 x 7/16	3.10	.235 x 9/16	3.15	.235 x 9/16	3.25
.01	.175 x 7/16	3.15	.235 x 9/16	3.15	.312 x 3/4	3.25
.015	.195 x 1/2	3.15	.235 x 9/16	3.25	.312 x 3/4	3.30
.02	.195 x 1/2	3.15	.235 x 3/4	3.25	.312 x 3/4	3.30
.022	.195 x 1/2	3.15	.235 x 3/4	3.25	.312 x 3/4	3.30
.033	.235 x 9/16	3.15	.312 x 3/4	3.25	.400 x 3/4	3.30
.040	.235 x 9/16	3.15	.312 x 3/4	3.30	.400 x 3/4	3.40
.047	.235 x 9/16	3.15	.312 x 3/4	3.30	.400 x 3/4	3.40
.050	.235 x 9/16	3.15	.312 x 3/4	3.30	.400 x 3/4	3.40
.068	.312 x 3/4	3.25	.312 x 1-1/16	3.40	.400 x 1-1/16	3.45
.10	.312 x 3/4	3.25	.400 x 1-1/16	3.40	.400 x 1-1/16	3.45
.15	.312 x 1-1/16	3.55	.500 x 1-1/16	3.70	.500 x 1-1/16	4.05
.2	.312 x 1-1/16	3.55	.500 x 1-1/16	3.70	.562 x 1-1/16	4.05
.22	.312 x 1-1/16	3.55	.500 x 1-1/16	3.70	.562 x 1-1/16	4.05
.25	.312 x 1-1/16	3.55	.500 x 1-1/16	3.70	.562 x 1-1/4	4.05
.33	.400 x 1-1/16	3.60	.562 x 1-1/4	4.15	.562 x 1-3/4	4.50
.47	.400 x 1-1/16	3.60	.562 x 1-3/4	4.15	.670 x 1-3/4	4.50
.50	.400 x 1-1/16	3.60	.562 x 1-3/4	4.15	.670 x 1-3/4	4.50
.68	.500 x 1-1/16	4.00	.670 x 1-3/4	4.60	.670 x 1-3/4	5.50
1.00	.562 x 1-1/16	4.00	.670 x 2-1/4	4.60	.750 x 2-1/4	5.50
1.5	.562 x 1-1/4	5.95				
2.0	.562 x 1-3/4	5.95				

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AEROVOX
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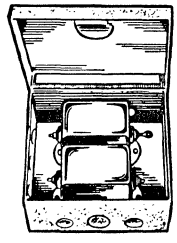
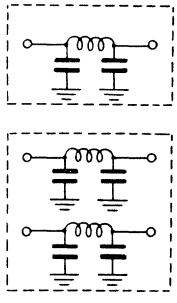
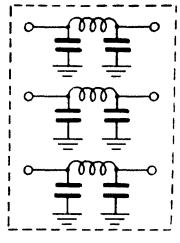
FILTERS

HEAVY DUTY INDUSTRIAL FILTERS







Current Rating	One Circuit	
Amps	Type	L x W x D
5	INB-104	4-1/2 x 5 x 3
10	INB-100	4-1/2 x 5 x 3
30	INB-101	6 x 6 x 4
60	INB-121	6 x 6 x 4
100	INB-123	9 x 9 x 4
200	INB-125	9 x 9 x 4

Current Rating	Two Circuit	
Amps	Type	L x W x D
5	INB-105	6 x 6 x 3
10	INB-102	6 x 6 x 3
30	INB-103	6 x 9 x 4
60	INB-122	6 x 9 x 4
100	INB-118	12 x 9 x 4
200	INB-126	12 x 9 x 4

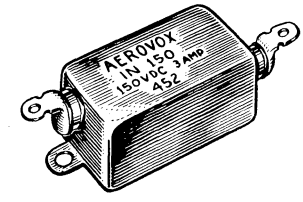
Current Rating	Three Circuit	
Amps	Type	L x W x D
5	INB-106	4-1/2 x 9 x 3
10	INB-107	4-1/2 x 9 x 3
30	INB-108	6 x 12 x 4
60	INB-119	6 x 12 x 4
100	INB-124	16 x 9 x 4
200	INB-127	16 x 9 x 4

PRICES ON REQUEST

UHF-INTERFERENCE FILTERS

These latest filter units provide maximum attenuation from 150 KC well up into the UHF range. And they are extra-rugged, extra-compact, extra-efficient, by any comparison with previous filters.

Primary applications are in r.f. noise suppression work in military or commercial aircraft and for vehicular low-voltage d.c. applications. Also, for special applications such as battery or low-voltage d.c. filters, for shield room applications, and for critical equipment.



Available in seven standard types meeting a wide variety of applications. For extraordinary requirements, special filters can be developed and built to your order.

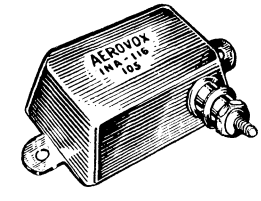
Type	Amps	VDC	L x W x H	List Price
IN 148	2.0	150	1-3/4" x 1" x 7/8"	$11.00
IN 150	3.0	150	1-13/16" x 1" x 1"	12.50
IN 151	5.0	150	1-13/16" x 1-1/4" x 1"	14.00
IN 152	10.0	150	2-1/16" x 1-1/4" x 1"	16.25
IN 153	25.0	150	2" x 2" x 1-3/16"	23.00
IN 156	40.0	150	5-1/16" x 1-13/32" x 1-1/16"	29.50
IN 154	100.0	150	3-1/16" x 2-1/8" x 2-7/8"	39.00

R-F NOISE CAPACITANCE SUPPRESSORS

TYPE INA-116 TYPE INA-117 TYPE INA-118

These radio-noise suppression capacitors have been especially designed for use in military or commercial, aircraft and vehicular applications. Primary application is as an r-f bypass capacitor from line to ground in low voltage dc supply lines. Units are especially treated to assure extremely long, noise-free life.

Operating temperature range is minus 55 degrees C to plus 95 degrees C. For full 150 volt rating the operating temperature range is minus 55 degrees C to plus 50 degrees C. Units may be used at operating voltages up to 120 vdc over a temperature range of minus 55 degrees C to plus 71 degrees C; and 60 vdc over a range of minus 55 degrees C to plus 95 degrees C.



Type	Maximum Voltage	Max. Imped. at 150 KC (Ohms)	Nom. Cap. Rating (Mfd.)	Case Size	Mounting Centers	List Price
INA-117	150 VDC	.6	2.	1-3/4 x 1 x 3/4	2-1/8	$ 6.00
INA-116	150 VDC	.3	4.	1-3/4 x 1 x 7/8	2-1/8	7.50
INA-118	150 VDC	.12	10.	2 x 2 x 7/8	2-3/8	10.00

BUILT-IN FILTERS

High attenuation type, hermetically sealed units for use where severe interference is encountered and dependability is required. For permanently mounted applications.

Aerovox special "Pi type" construction insures efficient radio noise reduction over low frequency broadcast, shortwave, and television bands. Suitable for Army-Navy or aircraft equipment where immersion and severe humidity tests must be met.

For single wire unbalanced applications. For two wire filtering use one filter in each line. Filter case must be securely bonded to the filter appliance and ground for maximum efficiency. These filters when used on high voltage AC should be used only on permanently grounded equipment.

Type	Maximum Voltage	Maximum Amperes	L x W x H	List Price
IN-110	250 VAC	5	2 x 2 x 1	$ 7.50
IN-111	250 VAC	10	2 x 2 x 1-1/4	12.50
IN-112	250 VAC	30	3-1/16 x 2-1/8 x 2-7/8	22.00

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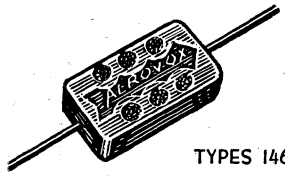
AEROVOX
Distributor Division

MICAS

TYPES 1468 and 1469

(Similar to CM20)



TYPES 1468 and 1469

Compact, precision made mica dielectric capacitors made in accordance with MIL specification C-5. All capacitors are molded in low-loss bakelite, impregnated and color-coded. They are tested to meet MIL requirements for dielectric strength, insulation resistance, temperature coefficient, capacitance drift, humidity and life test.

ASESA approvals have been obtained and certificates of compliance can be furnished upon request.

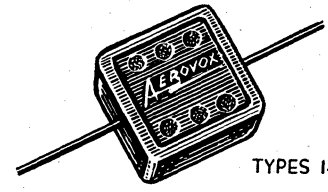
Type 1468 units are of the stacked mica and foil types and are made to meet the requirements of MIL characteristics A and B. Type 1469 units are silvered-mica and are available in characteristics C, D, and E of the MIL specification.

	TYPE 1468		TYPE 1469	
Capacity	Characteristic A and B	List Price	Characteristic C, D and E	List Price
5	*CM20-050	$ .30	*CM20-200	$ .40
10	*CM20-100	.30	*CM20-220	.40
12	*CM20-120	.30	*CM20-240	.40
15	*CM20-150	.30	*CM20-270	.40
18	*CM20-180	.30	*CM20-300	.40
20	CM20-200	.30	*CM20-330	.40
22	*CM20-220	.30	*CM20-360	.40
24	CM20-240	.30	*CM20-390	.40
27	*CM20-270	.30	*CM20-430	.40
30	CM20-300	.30	*CM20-470	.40
33	*CM20-330	.30	*CM20-500	.40
36	CM20-360	.20	*CM20-510	.40
39	*CM20-390	.20	*CM20-560	.40
43	CM20-430	.20	*CM20-620	.40
47	*CM20-470	.20	*CM20-680	.40
50	CM20-500	.20	*CM20-750	.40
51	CM20-510	.20	*CM20-820	.40
56	*CM20-560	.20	*CM20-910	.40
62	CM20-620	.20	*CM20-101	.40
68	*CM20-680	.20	*CM20-111	.45
75	CM20-750	.20	*CM20-121	.45
82	*CM20-820	.20	*CM20-131	.45
91	CM20-910	.20	*CM20-151	.45
100	*CM20-101	.20	*CM20-161	.45
110	CM20-111	.20	*CM20-181	.45
120	*CM20-121	.20	*CM20-201	.45
130	CM20-131	.25	*CM20-221	.45
150	*CM20-151	.25	*CM20-241	.55
160	CM20-161	.25	*CM20-251	.55
180	*CM20-181	.25	*CM20-271	.55
200	CM20-201	.25	*CM20-301	.55
220	*CM20-221	.25	*CM20-331	.55
240	CM20-241	.30	*CM20-361	.55
250	CM20-251	.30	*CM20-391	.65
270	*CM20-271	.30	*CM20-431	.65
300	CM20-301	.30	*CM20-471	.70
330	*CM20-331	.30	*CM20-501	.70
360	CM20-361	.30	*CM20-511	.70
390	*CM20-391	.30		
430	CM20-431	.30		
470	*CM20-471	.30		
500	CM20-501	.30		
510	*CM20-511	.30		

Standard Tolerances
1467 & 1468 - ±20% (A & B Characteristics)
For ±10% tolerance add 10% to list price
For ±5% tolerance add 25% to list price

TYPES 1464 and 1467

(Similar to CM30 and CM35)



TYPES 1464 and 1467

These capacitors are the third smallest case size available in the MIL C-5 specification, and are molded in low-loss bakelite. Characteristics A and B refer to the mica and foil type construction. Characteristics C, D and E refer to silvered-mica construction. These units are color-coded according to MIL specifications and are tested to meet all requirements of MIL C-5. ASESA approval has been obtained and certificates of compliance will be furnished upon request.

	TYPE 1467		TYPE 1464	
Capacity	Characteristic A and B	List Price	Characteristic C, D and E	List Price
470	*CM30-471	$ .30	*CM30-471	$ .70
510	CM30-511	.30	*CM30-511	.70
560	*CM30-561	.30	*CM30-561	.75
620	CM30-621	.30	*CM30-621	.80
680	*CM30-681	.30	*CM30-681	.85
750	CM30-751	.30	*CM30-751	.90
820	*CM30-821	.30	*CM30-821	.95
910	CM30-911	.30	*CM30-911	1.00
1000	*CM30-102	.35	*CM30-102	1.10
1100	CM30-112	.35	*CM30-112	1.10
1200	*CM30-122	.35	*CM30-122	1.25
1300	CM30-132	.35	*CM30-132	1.25
1500	*CM30-152	.40	*CM30-152	1.35
1600	CM30-162	.40	*CM30-162	1.35
1800	*CM30-182	.45	*CM30-182	1.35
2000	*CM30-202	.45	*CM30-202	1.50
2200	*CM30-222	.45	*CM30-222	1.50
2400	CM30-242	.50	*CM30-242	1.80
2500	CM30-252	.50	*CM30-252	1.80
2700	*CM30-272	.50	*CM30-272	1.90
3000	*CM30-302	.60	*CM30-302	2.05
3300	*CM30-332	.60	*CM30-332	2.05
3600	CM35-362	.60	*CM35-362	2.10
3900	*CM35-392	.65	*CM35-392	2.15
4300	CM35-432	.65	*CM35-432	2.15
4700	*CM35-472	.65	*CM35-472	2.15
5000	CM35-502	.70	*CM35-502	2.25
5100	CM35-512	.70	*CM35-512	2.25
5600	*CM35-562	.70	*CM35-562	2.50
6200	CM35-622	.90	*CM35-622	2.90
6800	*CM35-682	.95	*CM35-682	3.00
7500	CM35-752	1.00	*CM35-752	3.25
8200	*CM35-822	1.15	*CM35-822	3.50
9100	CM35-912	1.15	*CM35-912	4.00
10000	*CM35-103	1.40	*CM35-103	4.00

*Denotes those units as specifically listed in Specification MIL-C-5A

Working Voltage for 1467 & 1464
500 VDCW up to and including 6200 mmf
300 VDCW - above 6200 mmf

Nominal Size - 45/64 x 29/64 x 3/16 for 1468 and 1469
Nominal Size All CM30 Units - 53/64 x 53/64 x 9/32
Nominal Size All CM35 Units - 53/64 x 53/64 x 21/64

Standard Tolerances
1464 & 1469 - ±5% (C, D & E Characteristics)
For ±2% tolerance add 15% to list price
For ±1% tolerance add 25% to list price

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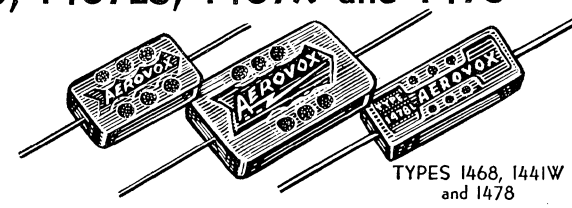
AEROVOX
Distributor Division

MICAS

TYPES 1441W, 1441WX, 1468LS, 1467LS, 1467X and 1478

Wide choice of designs, sizes, mountings, terminals offer the correct Aerovox unit for every application, as listed. Units built of selected mica and foil; molded bakelite casing impervious to moisture, heat, mechanical damage. Micrometer test for mica thickness maintains capacity values for long life. Capacity values indicated on units.



TYPES 1468, 1441W and 1478

TYPE 1441W (Similar to CM-40)

500 VDCW 1000 VDCT

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.0005	$ .25	.003	$ .50
.00075	.25	.004*	.55
.001	.30	.005*	.60
.0015	.30	.006*	.75
.002	.40	.007*	.90
.0025	.45	.008*	1.00

Size: 1" x 5/8" x 3/16" Compact with wire leads.
*Thickness 5/16"

TYPE 1467LS (Similar to CM30 and CM35)

500 VDCW 1000 VDCT

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.00047	$ .25	.0027	$ .50
.0005	.25	.003	.50
.00051	.25	.0033	.50
.00056	.25	.0036	.55
.00062	.25	.0039	.55
.00068	.25	.004	.55
.00075	.25	.0043	.60
.00082	.25	.0047	.60
.00091	.25	.005	.60
.001	.30	.0051	.60
.0011	.30	.0056	.75
.0012	.30	.006	.75
.0013	.30	.0062	.75
.0015	.30	.0068	.90
.0016	.30	*.007	.90
.0018	.40	*.0075	1.00
.002	.40	*.008	1.00
.0022	.45	*.0082	1.00
.0024	.45	*.009	1.10
.0025	.45	*.0091	1.10
		*.01	1.20

Std. Size: 53/64" x 53/64" x 9/32" Compact with wire leads.
*Thickness 21/64"

TYPE 1467XLS (Similar to CM35)

300 VDCW 600 VDCT

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.007	$ .80	*.013	$ 1.35
.008	.90	*.014	1.45
.01	1.10	*.015	1.55
*.012	1.25		

Std. Size: 53/64" x 53/64" x 9/32" Compact with wire leads.
*Thickness 21/64"

TYPE 1441WX (Similar to CM-40)

300 VDCW 600 VDCT

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.004	$ .50	.008*	$ .90
.005	.55	.009*	1.00
.006	.70	.01*	1.10
.007*	.80		

Size: 1" x 5/8" x 3/16" Compact with wire leads.
*Thickness 5/16"

TYPE 1468LS (Similar to CM20)

500 VDCW 1000 VDCT

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.000001	$ .25	.0001	$ .20
.000005	.25	.00011	.20
.00001	.25	.00012	.20
.000012	.25	.00013	.20
.000015	.25	.00015	.20
.000018	.25	.00016	.20
.00002	.25	.00018	.20
.000022	.25	.00020	.20
.000024	.25	.00022	.25
.000025	.25	.00024	.25
.000027	.25	.00025	.25
.00003	.25	.00027	.25
.000033	.25	.0003	.25
.000036	.25	.00033	.25
.000039	.25	.00035	.25
.00004	.20	.00036	.25
.000043	.20	.00039	.25
.000047	.20	.0004	.25
.00005	.20	.00043	.25
.000051	.20	.00047	.25
.000056	.20	.0005	.25
.000068	.20	.00051	.25
.000075	.20	.00075	.25
.000082	.20	.001	.30
.000091	.20		

Size: 45/64" x 29/64" x 3/16" Midget size with wire leads

TYPE 1478LS (Similar to CM-25)

500 VDCW 1000 VDCT

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.0005	$ .30	.0015	$ .45
.00075	.30	.002	.50
.001	.40		

Size: 1-1/16" x 7/16" x 3/16" Midget size with wire leads

Std. Tolerance ±20%
For ±10% Tolerance add 10% to List Price For ±5% Tolerance add 25% to List Price

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AEROVOX
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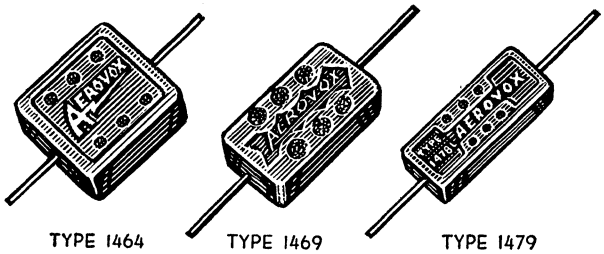
MICAS

TYPES 1464, 1464X, 1469 and 1479

Silvered Mica Capacitors



TYPE 1464 TYPE 1469 TYPE 1479

AEROVOX silvered mica units for most critical applications where precise capacity values are required. Encased in red low-loss bakelite. Similar in external appearance to standard bakelite molded mica units.

Available with temperature coefficient and retrace characteristics as defined by characteristics **A** to **F** inclusive of **REC-115** and **MIL-C-5** specifications for molded capacitors. Exceptionally high "Q". Mechanically protected against physical damage and changes in electrical characteristics due to varying atmospheric conditions. Wax impregnated externally. Ideal for circuits where inductance and capacity product must remain constant under all operating conditions.

TYPE 1469 (Similar to CM20)

500 VDCW 1000 VDCT			
Cap. Mfd.	List Price	Cap. Mfd.	List Price
.000005	$.45	.000091	$.40
.00001	.40	.0001	.40
.00002	.40	.00011	.45
.000022	.40	.00012	.45
.000024	.40	.00013	.45
.000025	.40	.00015	.45
.000027	.40	.00016	.45
.00003	.40	.00018	.45
.000033	.40	.0002	.45
.000036	.40	.00022	.45
.000039	.40	.00024	.45
.000040	.40	.00025	.45
.000043	.40	.00027	.55
.000047	.40	.0003	.55
.00005	.40	.00033	.55
.000051	.40	.00035	.60
.000056	.40	.00036	.60
.000062	.40	.00039	.65
.000068	.40	.0004	.65
.00007	.40	.00043	.65
.000075	.40	.00047	.70
.000082	.40	.0005	.70

Size: 45/64" x 29/64" x 3/16" provided with wire leads.

TYPE 1464X

300 VDCW 600 VDCT			
Cap. Mfd.	List Price	Cap. Mfd.	List Price
.004	$2.15	.007*	$2.50
.005	2.25	.008*	2.50
.006	2.25	.01*	2.50

Size: 53/64" x 53/64" x 9/32" provided with wire leads.
*Thickness 21/64"

TYPE 1464 (Similar to CM30 and CM35)

500 VDCW 1000 VDCT			
Cap. Mfd.	List Price	Cap. Mfd.	List Price
.00047	$.70	.002	$ 1.35
.00051	.70	.0022	1.50
.00056	.75	.0024	1.80
.00062	.80	.0025	1.80
.00068	.85	.0027	1.90
.00075	.90	.003	2.05
.0008	.95	.0033	2.05
.00082	.95	.0036	2.10
.0009	1.00	.0039	2.15
.00091	1.00	.004 *	2.15
.001	1.10	.0043 *	2.15
.0011	1.10	.0047 *	2.15
.0012	1.25	.005 *	2.25
.0013	1.25	.0051 *	2.25
.0015	1.35	.0056 *	2.25
.0016	1.35	.006 *	2.25
.0018	1.35		

Size: 53/64" x 53/64" x 9/32" provided with wire leads.
*Thickness 21/64"

TYPE 1479 (Similar to CM25)

500 VDCW 1000 VDCT			
Cap. Mfd.	List Price	Cap. Mfd.	List Price
.0001	$ .40	.0005	$ .70
.00015	.45	.0007	.85
.0002	.45	.00075	.90
.00025	.45	.0008	.95
.0003	.55	.0009	1.00
.00035	.60	.001	1.10
.0004	.65		

Size: 1-1/16" x 7/16" x 3/16" provided with wire leads.
Maximum characteristic available F.

For ±2% Tolerance add 15% to List Price
For ±1% Tolerance add 25% to List Price
Standard Tolerance ±5%.

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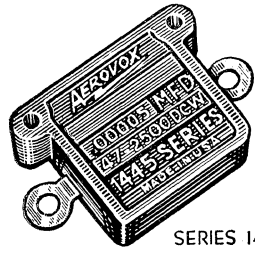
MICAS



SERIES 1445-1447

TYPES 1445, 1446 and 1447

High Voltage

Designed with insulated mounting holes 1-5/16" apart independent of soldering lugs. Used to shunt meter windings, large or small meter-mounting brackets available. Specify by suffix (A) for large or (E) for small brackets.

Size: 1-1/8" x 1-5/8" x 11/32"
*Thickness 7/16"
Standard Tolerance ±10%
For ±5% Tolerance add 15¢ to List Price
For ±2% Tolerance add 40¢ to List Price

For Meter Mounting Bracket:
A - add 35¢ to List Price
E - add 20¢ to List Price
These units are equivalent to case styles CM45 and CM50 of specification MIL-C5A

TYPE 1445		TYPE 1446		TYPE 1447	
600 VDCW 1000 VDCT		1200 VDCW 2500 VDCT		2500 VDCW 5000 VDCT	
Cap. Mfd.	List Price	Cap. Mfd.	List Price	Cap. Mfd.	List Price
.00005	$1.20	.00005	$1.60	.00005	$1.90
.0001	1.20	.0001	1.60	.000075	1.90
.00015	1.20	.00015	1.60	.0001	1.90
.0002	1.20	.0002	1.60	.00015	1.90
.00025	1.20	.00025	1.60	.0002	1.90
.0003	1.20	.0003	1.60	.00025	2.20
.00035	1.20	.00035	1.60	.0003	2.25
.0004	1.20	.0004	1.60	.00035	2.25
.0005	1.20	.0005	1.60	.0004	2.30
.001	1.20	.001	1.80	.0005	2.40
.0015	1.20	.0015	2.30	.001	2.80
.002	1.30	.002	2.40	.0015	3.55
.0025	1.30	.0025	2.80	.002*	4.15
.003	1.45	.003	3.05	.0025*	4.60
.004	1.50	.004*	3.05	.003*	4.90
.005	1.55	.005*	3.30	.004*	5.65
.006	1.80	.006*	3.30	.005*	6.40
.008	1.90	.008*	3.85		
.01	2.15	.01*	5.10		
.015*	2.65	.015*	6.00		
.02*	3.05				
.025*	3.60				
.03*	4.45				
.04*	5.65				

TYPES 1650, 1651, 1652, 1653L and 1654L

Heaviest-duty molded in bakelite mica capacitors of the AEROVOX line. Threaded mounting holes for roundhead screw terminals or plain holes available. Add suffix "A" for plain holes.

TYPE 1650		TYPE 1651		TYPE 1652		TYPE 1653L		TYPE 1654L	
600 VDCW – 1000 VDCT 350 VACW – 700 VACT		1200 VDCW – 2500 VDCT 875 VACW – 1750 VACT		2500 VDCW – 5000 VDCT 1750 VACW – 3500 VACT		3750 VDCW – 7500 VDCT 2625 VACW – 5250 VACT		5000 VDCW – 10,000 VDCT 3500 VACW – 7000 VACT	
.00005	$1.45	.00005	$1.60	.00005	$1.90	.00005	$ 3.30	.00005	$ 3.75
.0001	1.45	.0001	1.60	.000075	1.90	.000075	3.65	.000075	4.15
.00025	1.45	.00025	1.60	.0001	1.90	.0001	3.80	.0001	4.65
.0003	1.45	.0003	1.60	.00015	2.00	.00015	4.15	.00015	5.05
.00035	1.45	.00035	1.60	.0002	2.10	.0002	4.30	.0002	6.25
.0004	1.45	.0004	1.60	.00025	2.15	.00025	4.75	.00025	6.80
.0005	1.45	.0005	1.60	.0003	2.20	.0003	4.90	.0003	7.15
.001	1.45	.001	1.90	.00035	2.25	.00035	5.75	.00035	7.50
.0015	1.45	.0015	2.25	.0004	2.50	.0004	5.90	.0004	7.70
.002	1.65	.002	2.50	.0005	2.55	.0005	6.50	.0005	9.90
.0025	1.70	.0025	2.80	.001	2.90	.001	7.70	.001*	12.50
.003	1.85	.003	2.95	.0015	3.90	.0015	10.10		
.004	2.00	.004	3.10	.002	4.25	.002	11.50		
.005	2.10	.005	3.30	.0025	4.60	.0025	12.90		
.006	2.20	.006	3.45	.003	5.10	.003*	14.25		
.008	2.45	.008	4.10	.004	5.65				
.01	2.80	.01	4.70	.005	6.20				
.015	3.05	.015	5.80	.006	6.35				
.02	3.55	.02*	7.05	.008*	6.85				
.025	4.35	.025*	7.90	.01*	7.30				
.03	4.55	.03*	8.10						
.04*	5.85								
.05*	7.10								
.06*	8.05								

Std. Tolerance ±10%
For ±5% Tolerance add 15¢ to List Price
For ±2% Tolerance add 40¢ to List Price
Nominal Size - 1-3/4" x 1-5/16" x 7/16"
*Thickness 3/4"

These units are equivalent to case styles CM55, CM56, CM60, and CM61 of specification MIL-C-5A.

Ceramic mounting insulators (specify "M") add 50¢ to List Price 1650-54 series furnished with 6-32 tapped holes for screw mounting - if plain hole desired specify "A" - no extra charge.

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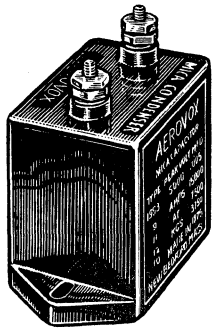
AEROVOX

Distributor Division

MICAS

TYPES 1991 and 1996

Porcelain-Cased Capacitors



Ideal for high-frequency application. Glazed porcelain case, high temperature wax sealed. Heavy duty power terminals. Minimum power loss due to dielectric absorption. No heating at full load.

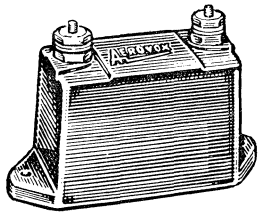
SIZE: 4" overall by 3" high; 3-1/2" between mounting holes.

Cap. Mfd.	DC Voltage Rating	Type	Maximum Current Capacity-Amperes 15 mc	75 mc	3750 kc	1875 kc	List Price
.00005	12,500	1996	3	2.5	1.5	1	$18.00
.0001	12,500	1996	5	4	3	2	18.00
.00025	12,500	1996	7	8	6	4	18.00
.0005	12,500	1996	8	9	8	7	18.00
	7,000	1994	7	8	6	4	14.85
.001	12,500	1996	9	10	11	12	18.00
	7,000	1994	8	9	10	8	16.10
	3,500	1992	8	9	8	5	15.85
.0015	12,500	1996	9	10	11	12	21.10
	7,000	1994	9	9	10	8	17.65
	5,000	1993	8	9	9	7	17.65
	3,500	1992	8	9	8	5	15.85
	2,000	1991	7	8	8	5	15.85
.002	12,500	1996	9	12	13	15	25.00
	7,000	1994	9	9	10	10	21.10
	5,000	1993	8	9	9	8	19.80
	3,500	1992	8	8	9	7	18.60
	2,000	1991	7	8	8	6	18.60
.003	12,500	1996	9	12	13	15	31.00
	7,000	1994	9	10	10	10	23.00
	5,000	1993	8	9	9	9	21.30
	3,500	1992	8	9	9	8	19.80
	2,000	1991	7	8	8	7	19.80
.005	10,000	1995	10	13	14	15	32.45
	7,000	1994	9	11	12	11	30.65
	5,000	1993	9	11	12	10	21.55
	3,500	1992	9	10	11	9	21.30
	2,000	1991	8	9	10	8	21.30
.01	7,000	1994	10	13	15	15	33.95
	5,000	1993	10	13	15	15	33.15
	3,500	1992	10	13	14	14	32.45
	2,000	1991	10	13	14	14	32.45
.02	3,500	1992	10	14	16	17	32.45
	2,000	1991	10	13	15	15	30.20
.05	3,500	1992	10	14	17	18	37.60
	2,000	1991	10	14	16	17	32.45
.1	2,000	1991	10	14	17	18	37.60

TYPES 1550L, 1570L and 1590L

Potted Transmitting Capacitors

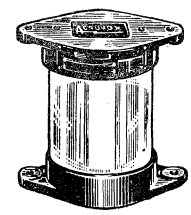
These potted transmitting capacitors in thermo-setting case materials have greater load-carrying capacity than molded-in-thermo-setting case material capacitors. Types 1550 to 1590, inclusive, not only have high voltage rating but afford higher current ratings than equivalent capacitances in thermo-setting case material units. Because of their construction they are made with higher capacitance stability. Furnished only in low-loss thermo-setting case material as standard. Bakelite cased mica stack capacitors. These units have highest quality mica sections stacked for greater load carrying capacity. The sections are potted in low-loss bakelite cases and permanently clamped with non-magnetic material.

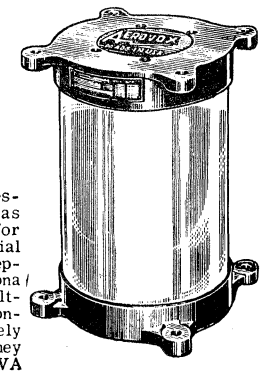


TYPE 1550L

TYPES 1940, 1950, 1960, 1970 and 1980

Stack-mounting Transmitting Capacitors





These stack-mounting transmitting mica capacitors are especially intended for various transmitting applications such as grid, plate blocking, coupling, tank, and by-passing functions for higher-powered installation. They are made with a special cylindrical low-loss, glazed ceramic case providing a long creepage path between terminals. They are designed to eliminate corona losses, inside and outside alike, and also provide uniform voltage gradient. The cast-aluminum terminal ends provide low contact resistance between units. These units are conservatively rated to withstand surge voltages above their rated values. They have extremely low power factor so that they can handle large KVA loads without overheating.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

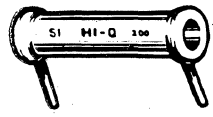
AEROVOX

Distributor Division

General Purpose

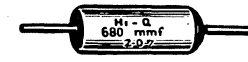
CERAMICS

Hi-Q TUBULAR CAPACITORS



Stock Items **500 VDCW**

Tolerance ±20%



Cap. Mfd.	Size	List Price
5	SI-1	.20
10	SI-1	.20
12	SI-1	.20
15	SI-1	.20
18	SI-1	.20
20	SI-1	.20
22	SI-1	.20
24	SI-1	.20
25	SI-1	.20
27	SI-1	.20
30	SI-1	.20
33	SI-1	.20
39	SI-1	.20
47	SI-1	.20
50	SI-1	.20
51	SI-1	.20
56	SI-1	.20
68	SI-1	.20
75	SI-1	.20
82	SI-1	.20
91	SI-1	.20
100	SI-1	.20
110	SI-1	.20
120	SI-1	.20
150	SI-1	.20
180	SI-1	.20
200	SI-1	.20
220	SI-1	.20
240	SI-1	.20
250	SI-1	.20
270	SI-1	.20
300	SI-1	.20

Cap. Mfd.	Size	List Price
5	CI-1	.20
10	CI-1	.20
12	CI-1	.20
15	CI-1	.20
18	CI-1	.20
20	CI-1	.20
22	CI-1	.20
24	CI-1	.20
25	CI-1	.20
27	CI-1	.20
30	CI-1	.20
33	CI-1	.20
39	CI-1	.20
47	CI-1	.20
50	CI-1	.20
51	CI-1	.20
56	CI-1	.20
68	CI-1	.20
75	CI-1	.20
82	CI-1	.20
91	CI-1	.20
100	CI-1	.20
110	CI-1	.20
120	CI-1	.20
150	CI-1	.20
180	CI-1	.20
200	CI-1	.20
220	CI-1	.20
240	CI-1	.20
250	CI-1	.20
270	CI-1	.20
300	CI-1	.20

Cap. Mfd.	Size	List Price
330	SI-1	.20
360	SI-1	.20
390	SI-1	.20
470	SI-1	.20
500	SI-1	.20
510	SI-1	.20
560	SI-1	.20
680	SI-1	.20
750	SI-1	.20
820	SI-1	.20
910	SI-1	.20
1000	SI-1	.20
1200	SI-2	.20
1500	SI-2	.20
1800	SI-2	.20
2000	SI-2	.20
2200	SI-7	.20
2400	SI-7	.20
2500	SI-7	.20
2700	SI-7	.20
3000	SI-19	.20
3300	SI-19	.20
4000	SI-19	.20
4700	SI-3	.20
5000	SI-3	.20
5100	SI-3	.20
5600	SI-3	.20
6000	SI-3	.20
6800	SI-4	.20
7500	SI-4	.20
10,000	SI-5	.20
15,000	SI-6	.30
17,500	SI-6	.30

Cap. Mfd.	Size	List Price
20,000	SI-5 GMV	.30
25,000	SI-5 GMV	.50
30,000	SI-6 GMV	.50
33,000	SI-6 GMV	.50
330	CI-1	.20
360	CI-1	.20
390	CI-1	.20
470	CI-1	.20
500	CI-1	.20
510	CI-1	.20
560	CI-1	.20
680	CI-1	.20
750	CI-1	.20
820	CI-2	.20
910	CI-2	.20
1000	CI-2	.20
1200	CI-2	.20
1500	CI-2	.20
1800	CI-2	.20
2000	CI-2	.20
2200	CI-3	.20
2400	CI-3	.20
2500	CI-3	.20
2700	CI-3	.20
3000	CI-3	.20
3300	CI-3	.20
4000	CI-3	.20
4700	CI-3	.20
5000	CI-3	.20
5100	CI-3	.20
5600	CI-3	.20
6000	CI-3	.20

Hi-Q DISK CAPACITORS

BPD-GMV CAPACITOR

Stock Items 600 VDCW SINGLES

Type	Cap. Mfd.	Dia.	List Price
BPD	.00001	5/16	.25
BPD	.000015	5/16	.25
BPD	.000022	5/16	.25
BPD	.000025	5/16	.25
BPD	.000033	5/16	.25
BPD	.000047	5/16	.25
BPD	.00005	5/16	.25
BPD	.000068	5/16	.25
BPD	.0001	5/16	.25
BPD	.00012	5/16	.25
BPD	.00015	5/16	.25
BPD	.0002	5/16	.25
BPD	.00027	5/16	.25
BPD	.00033	5/16	.25
BPD	.00047	5/16	.25
BPD	.0005	5/16	.25
BPD	.00068	5/16	.25
BPD	.0008	5/16	.25
BPD	.001	5/16	.25
BPD	.0015	5/16	.25
BPD	.002	3/8	.25
BPD	.0022	3/8	.25
BPD	.0025*	7/16	.25

Type	Cap. Mfd.	Dia.	List Price
BPD	.0033	7/16	.25
BPD	.004	19/32	.25
BPD	.0047	19/32	.25
BPD	.005	19/32	.25
BPD	.0068	11/16	.25
BPD	.01	3/4	.30
BPD	.015	29/32	.40
BPD	.02	29/32	.60
BPD	.05	29/32	.85

DUALS and TRIPLES

Type			List Price
BPD2-2	x .001	19/32	.40
BPD2-2	x .0015	19/32	.40
BPD2-2	x .002	19/32	.40
BPD2-2	x .0022	19/32	.40
BPD2-2	x .003	3/4	.45
BPD2-2	x .004	3/4	.45
BPD2-2	x .0047	3/4	.45
BPD2-2	x .01	3/4	.50
BPD2-2	x .02	29/32	.70
BPD3-3	x .0015	3/4	.50
BPD3-3	x .002	3/4	.50

Standard Tolerance ±20%

Stock Items 600 VDCW

Type	Cap. Mfd.	Dia.	List Price
DI-1	5	5/16	.25
DI-1	10	5/16	.25
DI-1	12	5/16	.25
DI-1	15	5/16	.25
DI-1	18	5/16	.25
DI-1	20	5/16	.25
DI-1	22	5/16	.25
DI-1	25	5/16	.25
DI-1	27	5/16	.25
DI-1	30	5/16	.25
DI-1	33	5/16	.25
DI-1	39	5/16	.25
DI-1	47	5/16	.25
DI-1	50	5/16	.25
DI-1	56	5/16	.25
DI-2	68	3/8	.25
DI-2	82	3/8	.25
DI-2	100	3/8	.25
DI-2	120	3/8	.25
DI-2	150	3/8	.25
DI-2	180	3/8	.25
DI-2	200	3/8	.25
DI-2	220	3/8	.25
DI-2	250	3/8	.25

Type	Cap. Mfd.	Dia.	List Price
DI-2	270	3/8	.25
DI-2	300	3/8	.25
DI-2	330	3/8	.25
DI-2	390	3/8	.25
DI-2	470	3/8	.25
DI-2	500	3/8	.25
DI-2	560	3/8	.25
DI-2	680	3/8	.25
DI-2	750	3/8	.25
DI-4	1000	19/32	.25
DI-4	1200	19/32	.25
DI-4	1500	19/32	.25
DI-4	1800	19/32	.25
DI-4	2000	19/32	.25
DI-4	2200	19/32	.25
DI-5	2500	11/16	.25
DI-5	2700	11/16	.25
DI-5	3000	11/16	.25
DI-5	3300	11/16	.25
DI-7	4700	29/32	.25
DI-7	5000	29/32	.25
DI-7	5600	29/32	.30
DI-5	6800	11/16	.30
DI-5	7500	11/16	.30
DI-6	10000	3/4	.30

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AEROVOX
Distributor Division

CERAMICS

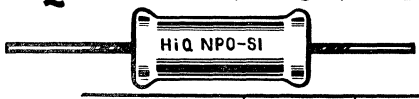
Hi-Q TEMPERATURE COMPENSATING DISK CAPACITORS

Stock Items – 500 VDCW

Type	Cap. Mfd.	Dia.	List Price	Type	Cap. Mfd.	Dia.	List Price	Type	Cap. Mfd.	Dia.	List Price	Type	Cap. Mfd.	Dia.	List Price
NPO-DI	3.0*	5/16	.50	NPO-DI	25*	7/16	.50	N750-DI	10*	5/16	.50	N750-DI	75*	7/16	.50
NPO-DI	3.3*	5/16	.50	NPO-DI	33*	19/32	.50	N750-DI	15*	5/16	.50	N750-DI	100*	19/32	.50
NPO-DI	4.7*	5/16	.50	NPO-DI	39*	19/32	.55	N750-DI	20*	5/16	.50	N750-DI	150*	19/32	.50
NPO-DI	5.0*	5/16	.50	NPO-DI	47*	19/32	.55	N750-DI	22*	5/16	.50	N750-DI	200*	11/16	.50
NPO-DI	6.8*	5/16	.50	NPO-DI	50*	19/32	.55	N750-DI	25*	5/16	.50	N750-DI	220*	11/16	.50
NPO-DI	8.2*	5/16	.50	NPO-DI	68*	11/16	.55	N750-DI	33*	5/16	.50	N750-DI	330*	29/32	.50
NPO-DI	10*	5/16	.50	NPO-DI	75*	11/16	.55	N750-DI	47*	3/8	.50	N750-DI	360*	29/32	.50
NPO-DI	15*	3/8	.50	NPO-DI	100*	3/4	.55	N750-DI	68*	7/16	.50	N750-DI	390*	29/32	.50
NPO-DI	20*	3/8	.50	NPO-DI	120*	29/32	.60					N750-DI	430*	29/32	.50
NPO-DI	22*	7/16	.50	NPO-DI	150*	29/32	.60								

* - New Standard Tolerance - up to 10 mmf. ±.5 mmf. above 10 mmf. ±10%

Hi-Q TEMPERATURE COMPENSATING TUBULAR CAPACITORS



Stock Items – N750-500 VDCW

Type	Capacity Mfd.	Size	List Price	Type	Capacity Mfd.	Size	List Price
N750-SI	5	SI-1	.50	N750-SI	150*	SI-7	.50
N750-SI	10	SI-1	.50	N750-SI	200*	SI-7	.50
N750-SI	15*	SI-1	.50	N750-SI	220*	SI-7	.50
N750-SI	20*	SI-1	.50	N750-SI	270*	SI-7	.50
N750-SI	22*	SI-1	.50	N750-SI	330*	SI-3	.50
N750-SI	25*	SI-1	.50	N750-SI	360*	SI-3	.50
N750-SI	33*	SI-1	.50	N750-SI	390*	SI-3	.50
N750-SI	39*	SI-1	.50	N750-SI	430*	SI-4	.50
N750-SI	47	SI-1	.50	N750-SI	470*	SI-4	.50
N750-SI	56*	SI-1	.50	N750-SI	510*	SI-4	.50
N750-SI	68*	SI-1	.50	N750-SI	560*	SI-5	.50
N750-SI	75*	SI-13	.50	N750-SI	620*	SI-5	.50
N750-SI	100*	SI-2	.50	N750-SI	680*	SI-5	.50
N750-SI	120*	SI-7	.50	N750-SI	750*	SI-5	.50

* - New Standard Tolerance - up to 10 mmf. ±.5 mmf. above 10 mmf. ±10%

N080 **Stock Items – 500 VDCW** **N330 + 500 ppm**

Type	Cap. Mfd.	Size	List Price
N080-SI	10	SI-1	.60
N080-SI	22	SI-1	.60
N080-SI	33	SI-13	.60
N080-SI	47	SI-27	.60
N080-SI	62	SI-27	.60

Type	Cap. Mfd.	Type	Size	List Price
N330-SI	47±10%	1500 VDCW	SI-2	.50
N330-SI	56±10%	1500 VDCW	SI-2	.50

N330 - Deflection Yoke Capacitor for silvered mica capacitor replacement.

Stock Items - NPO-SI-500 VDCW

Type	Cap. Mfd.	Size	List Price	Type	Cap. Mfd.	Size	List Price
NPO-SI	1.0*	SI-1	.50	NPO-SI	39*	SI-2	.50
NPO-SI	1.5*	SI-1	.50	NPO-SI	47*	SI-2	.50
NPO-SI	2.2*	SI-1	.50	NPO-SI	50	SI-2	.50
NPO-SI	3.0	SI-1	.50	NPO-SI	56*	SI-7	.50
NPO-SI	3.3	SI-1	.50	NPO-SI	68*	SI-7	.50
NPO-SI	4.7	SI-1	.50	NPO-SI	75	SI-7	.50
NPO-SI	5.0	SI-1	.50	NPO-SI	100	SI-7	.50
NPO-SI	6.8	SI-1	.50	NPO-SI	120*	SI-19	.50
NPO-SI	8.2	SI-1	.50	NPO-SI	150	SI-3	.50
NPO-SI	10	SI-1	.50	NPO-SI	175	SI-4	.50
NPO-SI	15*	SI-1	.50	NPO-SI	180*	SI-4	.50
NPO-SI	20	SI-1	.50	NPO-SI	220*	SI-5	.50
NPO-SI	22*	SI-1	.50	NPO-SI	270*	SI-5	.50
NPO-SI	25	SI-13	.50				
NPO-SI	33	SI-13	.50				

* - New Standard Tolerance - up to 10 mmf. ±.5 mmf. above 10 mmf. ±10%

When ordering the above units, designate type and MMFD fully. For example: NPO - SI-1.5 MMFD.
The zero temperature coefficient capacitor is the most stable ceramic commercial capacitor available.

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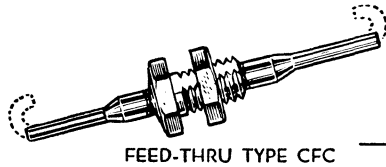
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

AEROVOX
Distributor Division

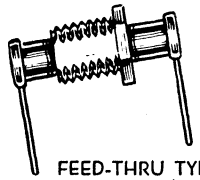
CERAMICS

Hi-Q TUBULAR FEED-THRU CAPACITORS

EYELET FEED-THRU
TYPE EF



FEED-THRU TYPE CFC



FEED-THRU TYPE CF

Hi-Q Feed-Thru Capacitors provide means to transmit thru shields or ground potentials and simultaneously by-pass unwanted frequencies. A good mechanical connection is provided by the silver-plated bushing. These are excellent dependable units even under severe mechanical vibrations as in aircraft, missiles and automotive requirements. All units are flash tested at 1250 volts D.C.

Hi-Q Eyelet Feed-Thru Ceramic Capacitors provide the ultimate in miniaturization. They can be soldered directly to the chassis and provide excellent by-pass performance where space is critical. Especially recommended for use in UHF.

Stock Items Feed-Thru 500 VDCW

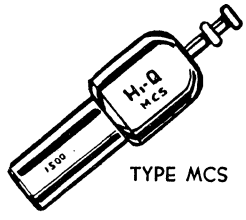
Type	Capacity Mfd.	Thread	List Price
CFC-1	500 mmf.*	12-28	1.00
	1000 mmf.*	12-28	1.00
	1500 mmf.*	12-28	1.00
CF-1	1500 mmf.	1/4 - 28	1.00
CF-2	1800 mmf.*	5/16 - 24	1.00
	2300 mmf.*	5/16 - 24	1.00
	3000 mmf.	5/16 - 24	1.00
CF-3	4000 mmf.	5/16 - 24	1.00
CF-4	7000 mmf.	5/16 - 24	1.00

Stock Items Feed-Thru Eyelet Type-Miniature

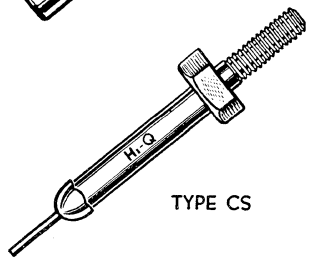
Capacity Mfd.	Size	Type	Tolerance	List Price
50*	CN-1**	EF	±10%	.50
100*	CN-1**	EF	±10%	.50
500*	CN-1**	EF	±20%	.50
1000*	CN-1**	EF	GMV	.50

* - New
** - Center conductor
Tolerance ±20%

Hi-Q TUBULAR STAND-OFF CAPACITORS



TYPE MCS



TYPE CS

Hi-Q stand-off capacitors are basically tubular, having as an integral part of their construction, a screw fixture for mounting to the chassis or common ground. Close coupling and their unique construction make them an excellent choice for by-passing high frequencies.

All units are coated with a high temperature enamel, stamped for capacity and supplied with mounting nut, if desired.

The MCS is a quick mounting type which permits high speed mechanical installation. The ceramic tube is enclosed in a cadmium-plated metal case with a specially developed end seal for protection against humidity and temperature changes.

All units are flash tested at 1250 volts D.C. The power factor is under 3% and the installation resistance is above 7500 megohms.

Stock Items 500 VDCW

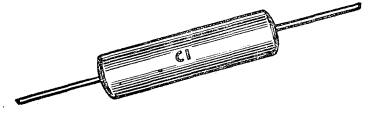
Type	Capacity Mfd.	List Price
CS-1A	50	.60
CS-1A	100	.60
CS-1B	500	.60
CS-1B	1000	.60
CS-1B	1500	.60
CS-2	3000	.60
CS-3	4000	.60
CS-4	7500	.60
CIS-1	50	.60
CIS-1	100	.60
CIS-1	500	.60
CIS-1	1000	.60
CIS-2	1500	.60
MCS	1500*	.70

* - New
Radial leads only
Tolerance ±10% up to and including 500 mmf.
±20% above 500 mmf.

TUBULAR and DISK CAPACITORS - PHYSICAL SIZES

SI TUBULAR

Designation	Size
SI-1	.234 x .437
SI-2	.234 x .687
SI-3	.312 x 1.250
SI-4	.375 x 1.093
SI-5	.375 x 1.600
SI-6	.375 x 1.968
SI-7	.275 x .875
SI-13	.234 x .468
SI-19	.312 x .937
SI-22	.280 x .750
SI-27	.275 x .500

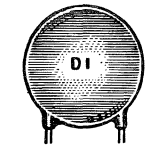


CI TUBULAR

Designation	Size
CI-1	.250 x .562
CI-2	.250 x .812
CI-3	.340 x 1.320

DI DISK

Designation	Diameter
DI-1	5/16
DI-2	3/8
DI-3	7/16
DI-4	19/32
DI-5	11/16
DI-6	3/4
DI-7	29/32



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AEROVOX

Distributor Division

A. C. MOTOR CAPACITORS

REPLACEMENT CAPACITORS

Aerovox AC Capacitors are replacements for use in oilburners, refrigerators, room air conditioners and any motor driven equipment. Units listed below are only a sample of the most complete motor capacitor line in the industry. Request Catalogue MS 55-10 for complete listing.

A complete line of hardware is available for all units.

TYPE MSRT

AC-Motor Start Electrolytic Capacitor in Carboard Insulating Tube, over round aluminum can.

110 VAC 50-60 Cycles

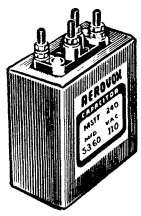
Cat. No.	Cap. Mfd.	Size	List Price
MSRT-180	86-96	1-3/8 x 3-1/8	2.65
MSRT-194	97-107	1-3/8 x 3-1/8	2.80
MSRT-162	108-120	1-3/8 x 3-1/8	2.85
MSRT-160	124-138	1-3/8 x 3-1/8	2.95
MSRT-171	145-162	1-3/8 x 3-1/8	3.20
MSRT-198	161-180	1-3/8 x 3-1/8	3.25
MSRT-257	189-210	1-3/8 x 3-1/8	3.75
MSRT-192	216-240	1-3/8 x 3-1/8	4.05
MSRT-213	243-270	1-3/4 x 3-1/8	4.70
MSRT-207	270-300	1-3/4 x 3-1/8	4.75
MSRT-210	324-360	1-3/4 x 3-1/8	5.40
MSRT-206	378-420	1-3/4 x 3-1/8	6.00

TYPE MSRP

Bakelite Cased AC Motor Start Electrolytic Capacitors.

110 VAC 50-60 Cycles

MSRP-800	88-108	1- 7/16 x 3-3/8	2.60
MSRP-801	108-130	1- 7/16 x 3-3/8	2.85
MSRP-802	124-149	1- 7/16 x 3-3/8	2.95
MSRP-803	161-193	1- 7/16 x 3-3/8	3.25
MSRP-804	200-220	1- 7/16 x 3-3/8	3.90
MSRP-805	216-259	1- 7/16 x 3-3/8	4.05
MSRP-806	243-270	1-13/16 x 3-3/8	4.70
MSRP-807	270-324	1-13/16 x 3-3/8	4.75
MSRP-808	320-360	1-13/16 x 3-3/8	5.40
MSRP-809	400-450	1-13/16 x 3-3/8	6.05
MSRP-810	485-540	1-13/16 x 4-3/8	7.60



TYPE MSTT

Special Rectangular AC Electrolytic Motor Start Capacitors.

110 MSTT - 110 VAC 50-60 Cycles

MSTT-241	64-72	3-1/2 x 3-1/2 x 2	3.30
MSTT-242	86-96	3-1/2 x 3-1/2 x 2	3.70
MSTT-243	97-107	3-1/2 x 3-1/2 x 2	3.85
MSTT-116	108-120	3-1/2 x 3-1/2 x 2	3.90
MSTT-101	124-138	3-1/2 x 3-1/2 x 2	4.00

TYPE MSFT

Special Rectangular AC Electrolytic Motor Start Capacitors.

110 MSFT - 110 VAC 50-60 Cycles 330 VACW

Cat. No.	Cap. Mfd.	Size	List Price
MSFT-312	97-107	3-1/8 x 4-7/8 x 11/16	3.50
MSFT-293	108-120	3-1/8 x 4-7/8 x 11/16	3.25
MSFT-294	124-138	3-1/8 x 4-7/8 x 11/16	3.60
MSFT-295	145-162	3-1/8 x 4-7/8 x 11/16	3.90

TYPE RR

AC Motor-Run Capacitor in Round Steel Container with Rivet Terminal.

330 VACW

RR-641	3	2 x 2	6.80
RR-642	4	2 x 2-1/4	7.60
RR-643	5	2 x 2-3/4	8.00
RR-644	6	2 x 3-3/4	9.10
RR-767A	8	2 x 4-1/2	11.00

TYPE RY

AC Motor-Run Capacitor in Rectangular Steel or Terneplate Container with Rivet Terminals.

330 VAC

RY-665	3	1-13/16 x 1-1/16 x 3-7/8	6.80
RY-666	4	2- 1/2 x 1-3/16 x 3-1/4	7.60
RY-667	5	2- 1/2 x 1-3/16 x 3-7/8	8.00
RY-668A	6	2- 1/2 x 1-3/16 x 4-1/8	9.10
RY-669	8	3- 3/4 x 1-1/4 x 3-7/8	11.00

TYPE RGO

Continuous Duty AC-Oil Impregnated Motor-Run Capacitors.

		236 VAC	
RGO-902	20	2-27/32 x 2-5/32 x 4-5/32	17.80
		250 VAC	
RGO-999	17.5	2-27/32 x 2-5/32 x 4-5/32	15.80
		330 VAC	
RGO-900	10	2-27/32 x 2-5/32 x 3-1/32	9.50
RGO-901	14.5	2-27/32 x 2-5/32 x 4-5/32	13.60
		440 VAC	
RGO-950	10	2-27/32 x 2-5/32 x 4-5/32	10.50

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

ARCO — ELMENCO
ELMENCO CAPACITORS

ARCO ELECTRONICS INC. CHICAGO 5, ILLINOIS
ARCO ELECTRONICS INC. NEW YORK 13, N. Y.
ARCO CAPACITORS INC. LOS ANGELES 19, CALIF.

MINIATURE MICA CAPACITORS

"Smaller than your fingernail but *SKY HIGH IN PERFORMANCE!"*

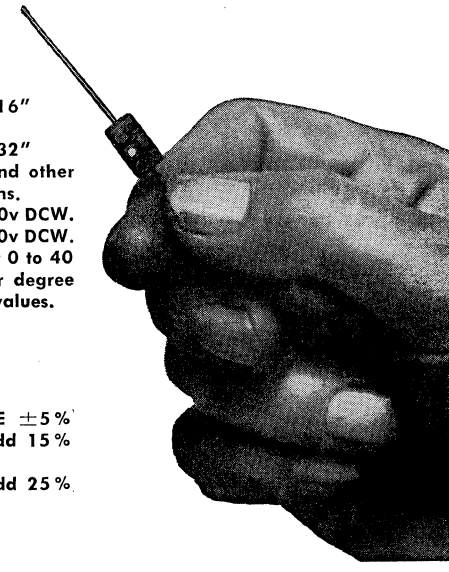
TYPE CM-15

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE
CM-15-C-010-M	1	500	$0.40
CM-15-C-020-M	2	500	.40
CM-15-C-030-M	3	500	.40
CM-15-C-050-K	5	500	.40
CM-15-C-100-J	10	500	.40
CM-15-C-120-J	12	500	.40
CM-15-C-150-J	15	500	.40
CM-15-C-180-J	18	500	.40
CM-15-C-200-J	20	500	.40
CM-15-C-220-J	22	500	.40
CM-15-E-240-J	24	500	.40
CM-15-E-270-J	27	500	.40
CM-15-E-300-J	30	500	.40
CM-15-E-330-J	33	500	.40
CM-15-E-360-J	36	500	.40
CM-15-E-390-J	39	500	.40
CM-15-E-430-J	43	500	.40
CM-15-E-470-J	47	500	.40
CM-15-E-500-J	50	500	.40
CM-15-E-510-J	51	500	.40
CM-15-E-560-J	56	500	.40
CM-15-E-620-J	62	500	.40
CM-15-E-680-J	68	500	.40
CM-15-E-750-J	75	500	.40
CM-15-E-820-J	82	500	.45
CM-15-E-910-J	91	500	.45
CM-15-E-101-J	100	500	.45
CM-15-E-111-J	110	500	.45
CM-15-E-121-J	120	500	.45
CM-15-E-131-J	130	500	.45
CM-15-E-151-J	150	500	.45
CM-15-E-161-J	160	500	.50
CM-15-E-181-J	180	500	.50
CM-15-E-201-J	200	500	.50
CM-15-E-221-J	220	500	.55
CM-15-E-241-J	240	500	.55
CM-15-E-251-J	250	500	.55
CM-15-E-271-J	270	500	.60
CM-15-E-301-J	300	500	.60
CM-15-E-331-J	330	500	.65
CM-15-E-361-J	360	500	.70
CM-15-E-391-J	390	500	.70
CM-15-E-431-J	430	300	.75
CM-15-E-471-J	470	300	.80
CM-15-E-501-J	500	300	.80
CM-15-E-511-J	510	300	.80

Actual Size
1-300 mmf.
9/32" x ½" x 3/16"
301-510 mmf.
9/32" x ½" x 7/32"

For Television, Radio and other Electronic Applications.
1 - 420 mmf. cap. at 500v DCW.
1 - 510 mmf. cap. at 300v DCW.
Temperature Co-efficient 0 to 40 parts per million per degree C for most capacity values.
6-dot color coded.

STANDARD TOLERANCE ±5%
For ±2% tolerance add 15% to list price
For ±1% tolerance add 25% to list price



Known the world over for their reliability under all operating conditions, EL-MENCO CAPACITORS are chosen by manufacturers who want successful performance and long life from their products.

EL-MENCO fixed mica dielectric capacitors are compact, precision made. Manufactured in accordance with American military standards to meet Army and Navy MIL-C-5A Specifications. All impregnated and MIL or RMA color coded. Standard specifications limits are shown.

Moulded in low loss bakelite, tested at double the working voltage. Tests for dielectric strength, insulation resistance, temperature co-efficient and capacitance drift, humidity and life tests according to MIL and RMA STANDARDS. All units are wax dipped for salt water immersion seal.

For low voltage circuitry, higher capacities are available at 100 VDCW rating.

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ARCO — ELMENCO

ELMENCO CAPACITORS

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

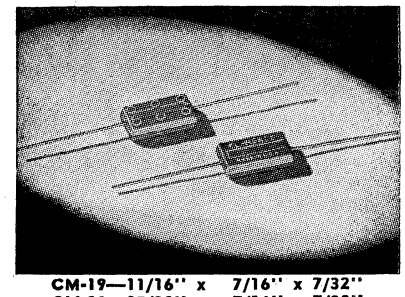
ARCO CAPACITORS INC.
LOS ANGELES 19, CALIF.

MICA CAPACITORS

CM-19 & CM-20

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE REGULAR MICA	LIST PRICE SILVERED MICA
CM-20-050	5	500	$0.30	$0.40
CM-20-100	10	500	.30	.40
CM-20-120	12	500	.30	.40
CM-20-150	15	500	.30	.40
CM-20-180	18	500	.30	.40
CM-20-200	20	500	.30	.40
CM-20-220	22	500	.30	.40
CM-20-240	24	500	.30	.40
CM-20-270	27	500	.30	.40
CM-20-300	30	500	.30	.40
CM-20-330	33	500	.20	.40
CM-20-360	36	500	.20	.40
CM-20-390	39	500	.20	.40
CM-20-430	43	500	.20	.40
CM-20-470	47	500	.20	.40
CM-20-500	50	500	.20	.40
CM-20-510	51	500	.20	.40
CM-20-560	56	500	.20	.40
CM-20-620	62	500	.20	.40
CM-20-680	68	500	.20	.40
CM-20-750	75	500	.20	.40
CM-20-820	82	500	.20	.40
CM-20-910	91	500	.20	.40
CM-20-101	100	500	.20	.40
CM-20-111	110	500	.20	.45
CM-20-121	120	500	.20	.45
CM-20-131	130	500	.25	.45
CM-20-151	150	500	.25	.45
CM-20-161	160	500	.25	.45
CM-20-181	180	500	.25	.45
CM-20-201	200	500	.25	.45
CM-20-221	220	500	.25	.45
CM-20-241	240	500	.30	.55
CM-20-251	250	500	.30	.55
CM-20-271	270	500	.30	.55
CM-20-301	300	500	.30	.55
CM-20-331	330	500	.30	.55
CM-20-361	360	500	.30	.55
CM-20-391	390	500	.30	.65
CM-20-431	430	500	.30	.65
CM-20-471	470	500	.30	.70
CM-20-501	500	500	.30	.70
CM-20-511	510	500	.30	.70
CM-20-561	560	500	.35	.75
CM-20-621	620	500	.35	.75
CM-20-681	680	500	.35	.80
CM-20-751	750	500	.35	.80
CM-20-821	820	500	.40	.85
CM-20-911	910	500	.45	.85
CM-20-102	1000	500	.45	.90
CM-20-112	1100	500	.50	.90
CM-20-122	1200	500	.50	1.00
CM-20-132	1300	500	.50	1.00
CM-20-152	1500	500	.60	1.10
CM-20-162	1600	500	.60	1.10
CM-20-182	1800	500	.70	1.20
CM-20-202	2000	500	.75	1.30

For low voltage circuitry, higher capacities are available at 100 VDCW rating.



CM-19—11/16" x 7/16" x 7/32"
CM-20—25/32" x 7/16" x 7/32"
CM-25— 7/16" x 1-7/64" x 7/32"

CM-25

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE REGULAR MICA	LIST PRICE SILVERED MICA
CM-25-510	51	500	$0.25	$0.40
CM-25-560	56	500	.25	.40
CM-25-620	62	500	.25	.40
CM-25-680	68	500	.25	.40
CM-25-750	75	500	.25	.40
CM-25-820	82	500	.25	.40
CM-25-910	91	500	.25	.40
CM-25-101	100	500	.25	.40
CM-25-111	110	500	.25	.45
CM-25-121	120	500	.25	.45
CM-25-131	130	500	.25	.45
CM-25-151	150	500	.25	.45
CM-25-161	160	500	.25	.45
CM-25-181	180	500	.25	.45
CM-25-201	200	500	.25	.45
CM-25-221	220	500	.25	.45
CM-25-241	240	500	.30	.55
CM-25-251	250	500	.30	.55
CM-25-271	270	500	.30	.55
CM-25-301	300	500	.30	.55
CM-25-331	330	500	.30	.55
CM-25-361	360	500	.30	.55
CM-25-391	390	500	.30	.65
CM-25-431	430	500	.30	.65
CM-25-471	470	500	.30	.70
CM-25-501	500	500	.30	.70
CM-25-511	510	500	.30	.70
CM-25-561	560	500	.35	.75
CM-25-621	620	500	.35	.80
CM-25-681	680	500	.35	.85
CM-25-751	750	500	.35	.90
CM-25-821	820	500	.40	.95
CM-25-911	910	500	.45	1.00
CM-25-102	1000	500	.45	1.10
CM-25-112	1100	500	.50	1.20
CM-25-122	1200	500	.50	1.30
CM-25-132	1300	500	.50	1.40
CM-25-152	1500	500	.60	1.50
CM-25-162	1600	500	.60	1.60
CM-25-182	1800	500	.70	1.70
CM-25-202	2000	500	.75	1.80

STANDARD TOLERANCES:

Regular mica ±20% (A and B Characteristics)
For ±10% tolerance add 10% to list price.
For ±5% tolerance add 25% to list price.
Silvered Mica ±5% (C, D and E Characteristics)
For ±2% tolerance add 15% to list price.
For ±1% tolerance add 25% to list price.

NOTE:
CM19 capacitors available only up to 1500 mmf.
CM20 and CM25 available to 2000 mmf.

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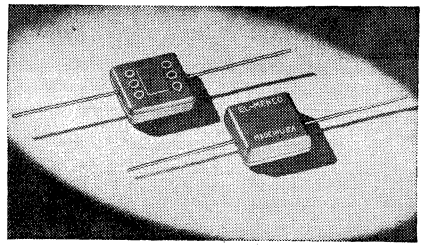
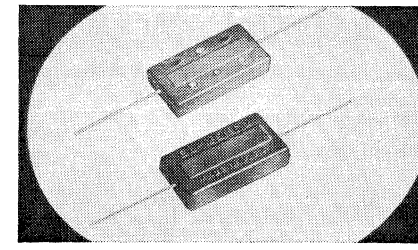
ARCO ELECTRONICS INC. NEW YORK 13, N. Y.
ARCO CAPACITORS INC. LOS ANGELES 19, CALIF.

MICA CAPACITORS



CM-30—13/16" x 13/16" x 9/32"
CM-35—13/16" x 13/16" x 11/32"



CM-40—1" x 5/8" x 11/32"
CM-42—1½" x 13/16" x 11/32"

CM-30

Type Designation	Cap. MMF.	DC Wkg. Voltage	List Price Regular Mica	List Price Silvered Mica
CM-30-511	510	500	$0.30	$0.70
CM-30-561	560	500	.30	.75
CM-30-621	620	500	.30	.75
CM-30-681	680	500	.30	.80
CM-30-751	750	500	.30	.80
CM-30-821	820	500	.30	.85
CM-30-911	910	500	.30	.90
CM-30-102	1000	500	.35	1.00
CM-30-112	1100	500	.35	1.00
CM-30-122	1200	500	.35	1.15
CM-30-132	1300	500	.35	1.15
CM-30-152	1500	500	.40	1.25
CM-30-162	1600	500	.40	1.25
CM-30-182	1800	500	.45	1.25
CM-30-202	2000	500	.45	1.35
CM-30-222	2200	500	.45	1.35
CM-30-242	2400	500	.50	1.60
CM-30-252	2500	500	.50	1.60
CM-30-272	2700	500	.50	1.80
CM-30-302	3000	500	.60	1.90
CM-30-332	3300	500	.60	1.90
CM-30-362	3600	500	.60	2.00
CM-30-392	3900	500	.65	2.00
CM-30-432	4300	500	.65	2.10
CM-30-472	4700	500	.65	2.10
CM-30-502	5000	500	.70	2.15
CM-30-512	5100	500	.70	2.15
CM-30-562	5600	500	.70	2.25
CM-30-622	6200	500	.90	2.40

CM-35

CM-35-682	6800	300	$0.95	$2.65
CM-35-752	7500	300	1.00	2.80
CM-35-822	8200	300	1.15	3.00
CM-35-912	9100	300	1.15	3.20
CM-35-103	10000	300	1.40	3.50
CM-35-123	12000	300	1.60	4.25
CM-35-153	15000	300	2.00	5.00
CM-35-682	6800	500	1.05	2.90
CM-35-752	7500	500	1.15	3.05
CM-35-822	8200	500	1.30	3.30
CM-35-912	9100	500	1.30	3.50
CM-35-103	10000	500	1.55	3.85

CM-40

Type Designation	Cap. MMF.	DC Wkg. Voltage	List Price Regular Mica	List Price Silvered Mica
CM-40-272	2700	500	$0.55	$1.90
CM-40-302	3000	500	.60	2.05
CM-40-332	3300	500	.60	2.05
CM-40-362	3600	500	.65	2.10
CM-40-392	3900	500	.70	2.15
CM-40-432	4300	500	.70	2.15
CM-40-472	4700	500	.70	2.15
CM-40-502	5000	500	.75	2.25
CM-40-512	5100	500	.75	2.25
CM-40-562	5600	500	.75	2.50
CM-40-622	6200	500	1.05	2.90
CM-40-682	6800	500	1.15	3.30
CM-40-752	7500	500	1.40	3.65
CM-40-822	8200	500	1.40	3.85
CM-40-912	9100	500	1.40	4.40
CM-40-103	10000	500	1.70	4.40
CM-40-912	9100	300	1.30	4.00
CM-40-103	10000	300	1.50	4.00

ANNOUNCING A NEW MOLDED MICA EL-MENCO CAPACITOR

CM-42

A higher capacity molded mica which can be wired in directly without need of additional mounting facilities.

Type Designation	Cap. MMF.	DC Wkg. Voltage	List Price Regular Mica	List Price Silvered Mica
CM-42-123	12000	500	$1.80	$3.90
CM-42-133	13000	500	1.95	4.20
CM-42-153	15000	500	2.20	4.80
CM-42-163	16000	500	2.30	5.10
CM-42-183	18000	500	2.60	5.70
CM-42-203	20000	500	2.80	6.30
CM-42-223	22000	500	3.00	6.90
CM-42-243	24000	500	3.30	7.50
CM-42-253	25000	500	3.40	7.80
CM-42-273	27000	300	3.10	7.50
CM-42-303	30000	300	3.40	7.80

STANDARD TOLERANCES

Regular mica ±20% (A and B Characteristics)
For ±10% tolerance add 10% to list price.
For ±5% tolerance add 25% to list price.
Silvered mica ±5% (C, D and E Characteristics)
For ±2% tolerance add 15% to list price.
For ±1% tolerance add 25% to list price.

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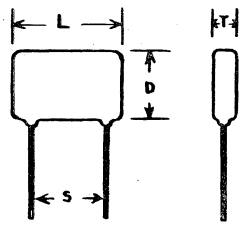
ARCO ELECTRONICS INC. NEW YORK 13, N. Y.
ARCO CAPACITORS INC. LOS ANGELES 19, CALIF.

DUR-MICA CAPACITORS SPECIFICATIONS
(D M S E R I E S)

The Dur-Mica Capacitor is a silvered mica capacitor coated with specially developed material which provides maximum protection at environmental extremes of moisture and temperature. This combination provides a reliability and life expectancy which far surpasses anything heretofore obtained.

DIMENSIONS:

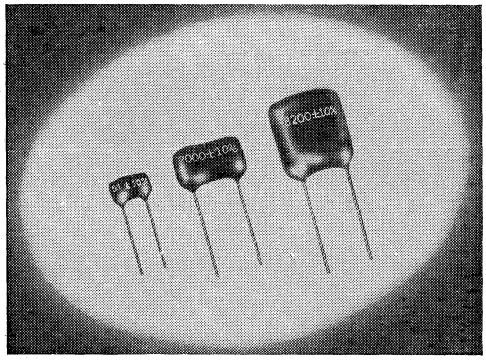


	DM15	DM19	DM20	DM30
L	7/16	5/8	23/32	25/32
D	11/32	15/32	15/32	27/32
T	5/32 min. to 7/32 max.			5/16
S	15/64	11/32	7/16	7/16

Leads are No. 22 tin-coated copper, 1¼" minimum. Dimensions shown are maximum except "S", the tolerance of which is ±1/64".

CAPACITY RANGES: (mmf.)	DM15	DM19	DM20	DM30
MAX. CAP. 500VDCW	400	3000	3900	10000
MAX. CAP. 300VDCW	820	3900	5100	15000
MAX. CAP. 100VDCW	820	5100	7500	20000

Minimum tolerance available is ±½% or ±0.5 mmf., whichever is greater.



OPERATING TEMPERATURE RANGE:
—55°C. to + 125°C.

•

MINIMUM INSULATION RESISTANCE:
25000 megohms at 25°C.
1000 megohms at 125°C.

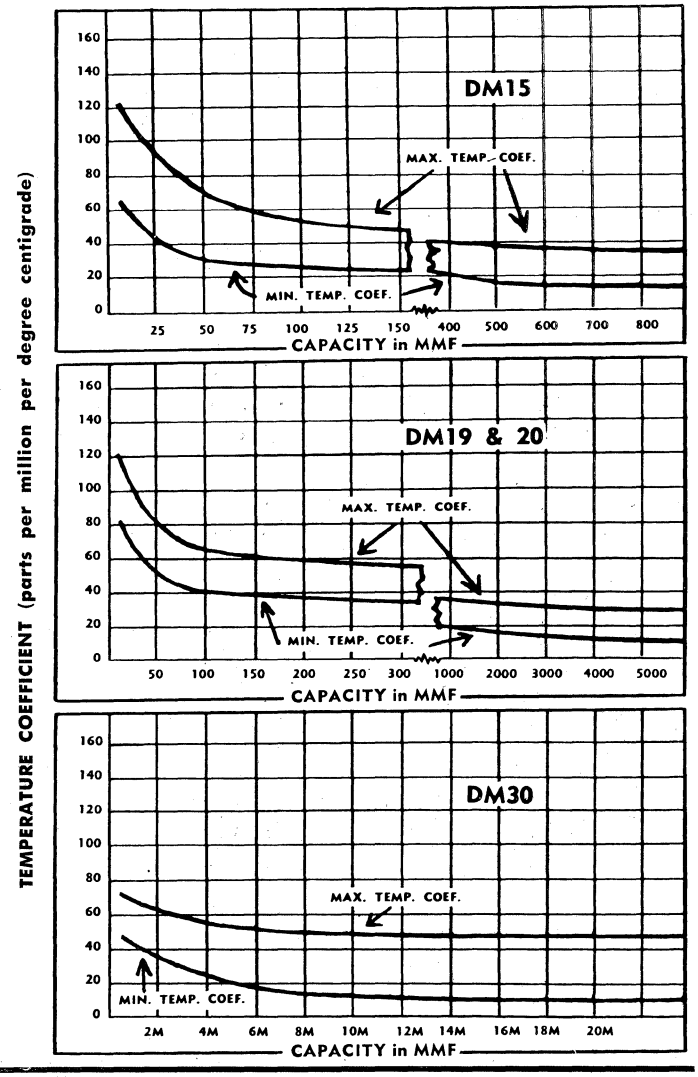
•

STABILITY (CAPACITY DRIFT):
=0.05% +0.1 mmf. MAX.

All other specifications meet or exceed applicable MIL-C-5A and RETMA standards for similar sized molded mica capacitors.

COMPONENT RELIABILITY:

Life tests presently being performed at 125°C. and 150% rated voltage have passed 10,000 hours without a single failure. This is roughly equivalent to more than 20 years of operation under normal operating conditions.



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ELMENCO CAPACITORS

ARCO ELECTRONICS INC. CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC. NEW YORK 13, N. Y.

ARCO CAPACITORS INC. LOS ANGELES 19, CALIF.

TYPE DM-15

500VDCW

Cap. Mmf.	Type Designation	List Price Tolerance ±10% "K"	±5% "J"	±2% "G"	±1% "F"
1	DM-15-010†	$0.25			
2	DM-15-020†	.25			
3	DM-15-030†	.25			
5	DM-15-050†	.25			
10	DM-15-100	.25	$0.28		
12	DM-15-120	.25	.28		
15	DM-15-150	.25	.28		
18	DM-15-180	.25	.28		
20	DM-15-200	.25	.28		
22	DM-15-220	.25	.28		
24	DM-15-240	.25	.28		
27	DM-15-270	.25	.28	$0.33	
30	DM-15-300	.25	.28	.33	
33	DM-15-330	.25	.28	.33	
36	DM-15-360	.25	.28	.33	
39	DM-15-390	.25	.28	.33	
43	DM-15-430	.25	.28	.33	
47	DM-15-470	.25	.28	.33	
50	DM-15-500	.25	.28	.33	$0.40
51	DM-15-510	.25	.28	.33	.40
56	DM-15-560	.25	.28	.33	.40
62	DM-15-620	.25	.28	.33	.40
68	DM-15-680	.25	.28	.33	.40
75	DM-15-750	.25	.28	.33	.40
82	DM-15-820	.25	.28	.33	.40
91	DM-15-910	.25	.28	.33	.40
100	DM-15-101	.25	.28	.33	.40
110	DM-15-111	.30	.33	.39	.48
120	DM-15-121	.30	.33	.39	.48
130	DM-15-131	.30	.33	.39	.48
150	DM-15-151	.30	.33	.39	.48
160	DM-15-161	.35	.39	.46	.56
180	DM-15-181	.35	.39	.46	.56
200	DM-15-201	.35	.39	.46	.56
220	DM-15-221	.40	.44	.52	.64
240	DM-15-241	.40	.44	.52	.64
250	DM-15-251	.40	.44	.52	.64
270	DM-15-271	.45	.50	.59	.72
300	DM-15-301	.45	.50	.59	.72
330	DM-15-331	.50	.55	.65	.80
360	DM-15-361	.50	.55	.65	.80
390	DM-15-391	.55	.61	.72	.88
430*	DM-15-431	.55	.61	.72	.88
470*	DM-15-471	.60	.66	.78	.96
500*	DM-15-501	.60	.66	.78	.96
510*	DM-15-511	.60	.66	.78	.96
560*	DM-15-561	.65	.72	.85	1.04
620*	DM-15-621	.70	.77	.91	1.12
680*	DM-15-681	.75	.83	.98	1.20
750*	DM-15-751	.80	.88	1.04	1.28
820*	DM-15-821	.85	.94	1.11	1.36

TYPE DM-20

500VDCW

680	DM-20-681	$0.50	$0.55	$0.60	$0.75
750	DM-20-751	.50	.55	.60	.75
820	DM-20-821	.50	.55	.60	.75
910	DM-20-911	.55	.61	.66	.83
1000	DM-20-102	.60	.66	.72	.90
1100	DM-20-112	.60	.66	.72	.90
1200	DM-20-122	.65	.72	.78	.98
1300	DM-20-132	.70	.77	.84	1.05
1500	DM-20-152	.75	.83	.90	1.13
1600	DM-20-162	.80	.88	.96	1.20
1800	DM-20-182	.90	.99	1.08	1.35
2000	DM-20-202	.95	1.05	1.14	1.43
2200	DM-20-222	1.05	1.16	1.26	1.58
2400	DM-20-242	1.10	1.21	1.32	1.65
2500	DM-20-252	1.10	1.21	1.32	1.65
2700	DM-20-272	1.20	1.32	1.44	1.80
3000	DM-20-302	1.30	1.43	1.56	1.95
3300	DM-20-332	1.40	1.54	1.68	2.10
3600	DM-20-362	1.50	1.65	1.80	2.25
3900	DM-20-392	1.60	1.76	1.92	2.40
4300*	DM-20-432	1.60	1.76	1.92	2.40
4700*	DM-20-472	1.70	1.87	2.04	2.55
5000*	DM-20-502	1.75	1.93	2.10	2.63
5100*	DM-20-512	1.80	1.98	2.16	2.70

All capacities marked with * are 300WV.

TYPE DM-19

500VDCW

Cap. Mmf.	Type Designation	List Price Tolerance ±10% "K"	±5% "J"	±2% "G"	±1% "F"
100	DM-19-101	$0.25	$0.28	$0.30	$0.38
110	DM-19-111	.30	.33	.36	.45
120	DM-19-121	.30	.33	.36	.45
130	DM-19-131	.30	.33	.36	.45
150	DM-19-151	.30	.33	.36	.45
160	DM-19-161	.30	.33	.36	.45
180	DM-19-181	.30	.33	.36	.45
200	DM-19-201	.30	.33	.36	.45
220	DM-19-221	.30	.33	.36	.45
240	DM-19-241	.35	.39	.42	.53
250	DM-19-251	.35	.39	.42	.53
270	DM-19-271	.40	.44	.48	.60
300	DM-19-300	.40	.44	.48	.60
330	DM-19-331	.40	.44	.48	.60
360	DM-19-361	.45	.50	.54	.68
390	DM-19-391	.45	.50	.54	.68
430	DM-19-431	.45	.50	.54	.68
470	DM-19-471	.50	.55	.60	.75
500	DM-19-501	.50	.55	.60	.75
510	DM-19-511	.50	.55	.60	.75
560	DM-19-561	.55	.61	.66	.83
620	DM-19-621	.55	.61	.66	.83
680	DM-19-681	.60	.66	.72	.90
750	DM-19-751	.60	.66	.72	.90
820	DM-19-821	.60	.66	.72	.90
910	DM-19-911	.65	.72	.78	.98
1000	DM-19-102	.70	.77	.84	1.05
1100	DM-19-112	.70	.77	.84	1.05
1200	DM-19-122	.75	.83	.90	1.13
1300	DM-19-132	.80	.88	.96	1.20
1500	DM-19-152	.85	.94	1.02	1.28
1600	DM-19-162	.90	.99	1.08	1.35
1800	DM-19-182	1.00	1.10	1.20	1.50
2000	DM-19-202	1.10	1.21	1.32	1.65
2200	DM-19-222	1.20	1.32	1.44	1.80
2400	DM-19-242	1.30	1.43	1.56	1.95
2500	DM-19-252	1.35	1.49	1.62	2.03
2700	DM-19-272	1.40	1.54	1.68	2.10
3000	DM-19-302	1.50	1.65	1.80	2.25

TYPE DM-30

500VDCW

Cap. Mmf.	Type Designation	List Price Tolerance ±10% "K"	±5% "J"	±2% "G"	±1% "F"
4300	DM-30-432	$1.60	$1.76	$1.92	$2.08
4700	DM-30-472	1.70	1.87	2.04	2.21
5000	DM-30-502	1.75	1.93	2.10	2.28
5100	DM-30-512	1.75	1.93	2.10	2.28
5600	DM-30-562	1.80	1.98	2.16	2.34
6200	DM-30-622	1.90	2.09	2.28	2.47
6800	DM-30-682	2.10	2.31	2.52	2.73
7500	DM-30-752	2.30	2.53	2.76	2.99
8200	DM-30-822	2.50	2.75	3.00	3.25
9100	DM-30-912	2.70	2.97	3.24	3.51
10000	DM-30-103	3.00	3.30	3.60	3.90
12000*	DM-30-123	3.20	3.52	3.84	4.16
13000*	DM-30-133	3.50	3.85	4.20	4.55
15000*	DM-30-153	3.90	4.29	4.68	5.07
18000**	DM-30-183	4.20	4.62	5.04	5.46
20000**	DM-30-203	4.40	4.84	5.28	5.72

All capacities marked with * are 300WV.
All capacities marked with ** are 100WV.

NOTE

Characteristics on above units are as follows:-
DM-15 "C" Characteristic from 1 to 20 Mmf.
DM-15 "E" Characteristic from 22 to 51 Mmf.
DM-15 "F" Characteristic from 56 and up.
All capacities listed above in DM-19, DM-20 and DM-30 are "F" Characteristic.
For ±½% from 100 Mmf. up double the list price of the 5% units.
† Minimum Tolerance ±0.5 Mmf.

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ELMENCO CAPACITORS

ARCO ELECTRONICS INC. CHICAGO 5, ILLINOIS | ARCO ELECTRONICS INC. NEW YORK 13, N. Y. | ARCO CAPACITORS INC. LOS ANGELES 19, CALIF.

TELEVISION · TRANSMITTING · INDUSTRIAL HIGH VOLTAGE MICA CAPACITORS

DC WORKING VOLTAGES: FROM 1000 TO 2500 VOLTS

Molded in CM-20, CM-35 and CM-40 Cases

Demand for smaller units in higher voltages designed to meet the requirements for TELEVISION, POWER AMPLIFIERS, LOW POWER TRANSMITTERS, and various INDUSTRIAL USES has increased. EL-MENCO designed and produced units listed below are especially adaptable to compact circuits where space is an important factor. Their acceptance has been overwhelming by the various manufacturers of TELEVISION RECEIVERS.

In many cases, these units will do the work of capacitors molded in CM-45, CM-50, and CM-55 cases without breaking down. NO SPECIAL MOUNTINGS ARE NECESSARY; just wire right into the circuit.

The capacitors are molded in low-loss bakelite and tested at double the branded voltage. They are tested for dielectric strength, insulation resistance, temperature coefficient, capacitance drift, susceptibility to humidity, and length fo life, according to RCM Standards. All units are wax-dipped for protection against salt water immersion.

VCM-20

Type Designation	Cap. Mmf.	5000vdc Test 2500vdc Wkg. List Price	4000vdc Test 2000vdc Wkg. List Price	3000vdc Test 1500vdc Wkg. List Price	2000vdc Test 1000vdc Wkg. List Price
VCM-20-B-050	5	$0.35	$0.35	$0.35	$0.30
VCM-20-B-100	10	.35	.35	.35	.30
VCM-20-B-120	12	.35	.35	.35	.30
VCM-20-B-150	15	.35	.35	.35	.30
VCM-20-B-180	18	.35	.35	.35	.30
VCM-20-B-200	20	.35	.35	.35	.30
VCM-20-B-220	22	.35	.35	.35	.30
VCM-20-B-240	24	.35	.35	.35	.30
VCM-20-B-270	27	.35	.35	.35	.30
VCM-20-B-300	30	.40	.35	.35	.30
VCM-20-B-330	33	.40	.35	.35	.30
VCM-20-B-360	36	.40	.35	.35	.30
VCM-20-B-390	39	.40	.35	.35	.30
VCM-20-B-430	43	.40	.35	.35	.30
VCM-20-B-470	47	.40	.35	.35	.30
VCM-20-B-500	50	.40	.40	.35	.30
VCM-20-B-510	51	.40	.40	.35	.30
VCM-20-B-560	56	.40	.40	.35	.30
VCM-20-B-620	62	.40	.40	.35	.30
VCM-20-B-680	68	.45	.40	.35	.30
VCM-20-B-750	75	.50	.40	.35	.30
VCM-20-B-820	82	.50	.40	.35	.30
VCM-20-B-910	91	.50	.40	.40	.35
VCM-20-B-101	100	.55	.40	.40	.35
VCM-20-B-111	110	.60	.45	.40	.35
VCM-20-B-121	120	.60	.45	.40	.35
VCM-20-B-131	130	.60	.45	.40	.35
VCM-20-B-151	150	.65	.45	.40	.35
VCM-20-B-161	160	.70	.50	.40	.35
VCM-20-B-181	180	.70	.50	.40	.35
VCM-20-B-201	200	.80	.60	.45	.40
VCM-20-B-221	220	.85	.60	.45	.40
VCM-20-B-241	240	.85	.65	.45	.40
VCM-20-B-251	250		.65	.55	.40
VCM-20-B-271	270		.65	.55	.40
VCM-20-B-301	300		.70	.60	.45
VCM-20-B-331	330		.80	.60	.45
VCM-20-B-361	360		.80	.60	.45
VCM-20-B-391	390		.85	.65	.45
VCM-20-B-431	430			.65	.50
VCM-20-B-471	470			.70	.50
VCM-20-B-501	500			.70	.50
VCM-20-B-511	510			.70	.50
VCM-20-B-561	560			.80	.55
VCM-20-B-621	620			.85	.55
VCM-20-B-681	680				.60
VCM-20-B-751	750				.60
VCM-20-B-821	820				.65
VCM-20-B-911	910				.70
VCM-20-B-102	1000				.75

VCM-35 & VCM-40

Type Designation	Cap. Mmf.	5000vdc Test 2500vdc Wkg. List Price	4000vdc Test 2000vdc Wkg. List Price	3000vdc Test 1500vdc Wkg. List Price	2000vdc Test 1000vdc Wkg. List Price
VCM-35-B-241	240	$0.60			
VCM-35-B-251	250	.60			
VCM-35-B-271	270	.60			
VCM-35-B-301	300	.65			
VCM-35-B-331	330	.65			
VCM-35-B-361	360	.75			
VCM-35-B-391	390	.80			
VCM-35-B-431	430	.80	$0.65		
VCM-35-B-471	470	.80	.75		
VCM-35-B-501	500	.85	.75		
VCM-35-B-511	510	.85	.75		
VCM-35-B-561	560	.90	.75		
VCM-35-B-621	620	.95	.80		
VCM-35-B-681	680	1.05	.80	$0.75	
VCM-35-B-821	820	1.15	.90	.85	
VCM-35-B-911	910	1.35	.95	.90	
VCM-35-B-102	1000	1.40	1.10	.90	
VCM-35-B-112	1100	1.40	1.15	.95	$0.60
VCM-35-B-122	1200	1.50	1.20	1.10	.65
VCM-35-B-132	1300	1.65	1.30	1.15	.65
VCM-35-B-152	1500	1.85	1.45	1.30	.75
VCM-35-B-162	1600	2.00	1.50	1.30	.80
VCM-35-B-182	1800		1.70	1.45	.80
VCM-35-B-202	2000		1.80	1.60	.85
VCM-35-B-222	2200			1.70	.95
VCM-35-B-242	2400			1.80	1.05
VCM-35-B-272	2700				1.05
VCM-35-B-302	3000				1.15
VCM-35-B-332	3300				1.20
VCM-35-B-362	3600				1.35
VCM-35-B-392	3900				1.40
VCM-35-B-432	4300				1.50
VCM-35-B-472	4700				1.65
VCM-35-B-502	5000				1.70
VCM-35-B-512	5100				1.70

All units supplied in "A" or "B" Characteristic at list price.

Case Size Dimensions (See preceeding pages for illus.):
VCM-20—$2\frac{5}{32}$" x $\frac{7}{16}$" x $\frac{1}{32}$" VCM-35—$1\frac{3}{16}$" x $1\frac{3}{16}$" x $1\frac{1}{32}$"
Standard Tolerance: ±20%. VCM-40—1" x $\frac{5}{8}$" x $1\frac{1}{32}$"
Prices will be quoted for closer tolerances in "Silvered" mica upon request. TURN TO P-138 FOR INFORMATION ON OUR SPECIAL HI-VOLTAGE KIT.
Items listed also available in Silvered Mica. Prices quoted on request.

PLEASE SPECIFY VOLTAGE RATING WHEN ORDERING

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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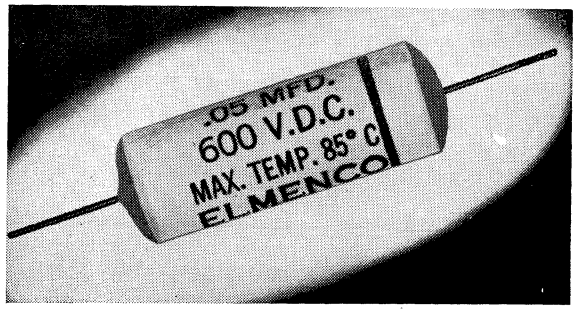
PAPER DIELECTRIC CAPACITORS CP TYPE



El-Menco CP type paper tubular capacitors are sealed into Steatite Tubes which serve to insulate the capacitor electrically as well as against moisture and heat. The capacitor insert is impregnated with Mineral Oil, thereby assuring long life at 85° C operating conditions. This feature insures successful operation at the high ambient temperatures existing in small, compact enclosures.

The Non-Inductively wound paper and foil units are sealed in the Ceramic Tubes by means of baked Synthetic Resin End Fills which cannot melt at any conceivable operating temperature. The end fills will not dissolve in wax, permitting the capacitors to be potted without damage to the insert. Leads are of tinned copper 2¼" long.

MINERAL OIL IMPREGNATION NON INDUCTIVE WINDING SYNTHETIC RESIN END SEALS — STEATITE CASE

The Steatite tube and baked synthetic resin end-fill provide a seal which rivals that of hermetically sealed construction, resulting in a dependability and longevity previously unequalled. Whether in operation or on the shelf, this paper tubular capacitor will maintain its excellent characteristics for years.

DIMENSIONS FOR CP TYPE CAPACITORS

	Max. Diameter	Max. Length
CP-1	23/64"	1-1/8"
CP-2	27/64"	1-3/8"
CP-3	31/64"	1-3/8"
CP-4	9/16"	1-5/8"
CP-5	3/4"	2"
CP-6	51/64"	2"

Part numbers can be read as follows: First one or two numbers indicate voltage rating in hundreds of volts. CP indicates type of capacitor. Next number between the dashes indicates case size. Last three digits indicate capacity, the first two being significant figures and the last the decimal multiplier.

Cap. Mfd.	1600 VDCW Part No.	1600 VDCW List Price	1000 VDCW Part No.	1000 VDCW List Price	600 VDCW Part No.	600 VDCW List Price	400 VDCW Part No.	400 VDCW List Price	200 VDCW Part No.	200 VDCW List Price
.001	16CP-2-102	$0.50	10CP-1-102	$0.35	6CP-1-102	$0.25				
.0015	16CP-2-152	.50	10CP-1-152	.35	6CP-1-152	.25				
.002	16CP-2-202	.50	10CP-1-202	.35	6CP-1-202	.25				
.0022	16CP-2-222	.50	10CP-1-222	.35	6CP-1-222	.25				
.0025			10CP-2-252	.35	6CP-1-252	.25				
.003	16CP-3-302	.50	10CP-2-302	.35	6CP-1-302	.25				
.0033	16CP-3-332	.50	10CP-2-332	.35	6CP-1-332	.25				
.004	16CP-3-402	.50	10CP-2-402	.35	6CP-1-402	.25				
.0047	16CP-3-472	.50	10CP-2-472	.40	6CP-1-472	.25				
.005	16CP-3-502	.50	10CP-2-502	.40	6CP-1-502	.25				
.006	16CP-4-602	.55	10CP-2-602	.40	6CP-2-602	.25				
.0068	16CP-4-682	.55	10CP-2-682	.40	6CP-2-682	.30				
.007	16CP-4-702	.55								
.0075	16CP-4-752	.55	10CP-2-752	.40	6CP-2-752	.30				
.008	16CP-4-802	.55								
.01	16CP-4-103	.55	10CP-2-103	.45	6CP-2-103	.30	4CP-1-103	$0.25		
.015	16CP-5-153	.60	10CP-3-153	.45	6CP-2-153	.30	4CP-2-153	.25		
.02	16CP-5-203	.65	10CP-4-203	.45	6CP-3-203	.30	4CP-2-203	.25		
.022	16CP-5-223	.65	10CP-4-223	.45	6CP-3-223	.30	4CP-2-223	.30		
.025			10CP-4-253	.45	6CP-4-253	.35	4CP-3-253	.30		
.03	16CP-5-303	.65	10CP-4-303	.45	6CP-4-303	.35	4CP-3-303	.30		
.033			10CP-4-333	.55	6CP-4-333	.35	4CP-3-333	.30		
.04	16CP-6-403	.70	10CP-4-403	.55	6CP-4-403	.35	4CP-4-403	.30		
.047			10CP-4-473	.55	6CP-4-473	.40	4CP-4-473	.30		
.05	16CP-6-503	.75	10CP-4-503	.55	6CP-4-503	.40	4CP-4-503	.30		
.056			10CP-4-563	.60	6CP-4-563	.40	4CP-4-563	.30		
.068			10CP-5-683	.65	6CP-5-683	.45	4CP-4-683	.35		
.075			10CP-5-753	.65	6CP-5-753	.45	4CP-4-753	.35		
.1					6CP-5-104	.45	4CP-4-104	.35	2CP-4-104	$0.35
.15					6CP-5-154	.55	4CP-5-154	.45	2CP-4-154	.40
.2					6CP-6-204	.65	4CP-6-204	.55	2CP-5-204	.45
.22					6CP-6-224	.70	4CP-6-224	.55	2CP-5-224	.45
.25					6CP-6-254	.70	4CP-6-254	.55	2CP-5-254	.45
.33									2CP-6-334	.55
.47									2CP-6-474	.70
.5									2CP-6-504	.70

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TRIMMERS

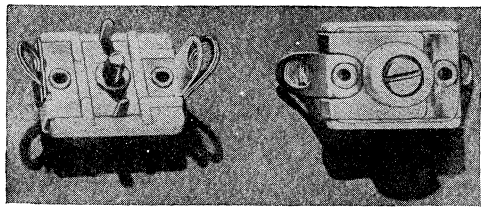
The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby.

The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates.

EL-MENCO TRIMMING CONDENSERS are treated for resistance to humidity and for permanence of capacity setting.

Trimmers shown here are standard sizes and capacities.

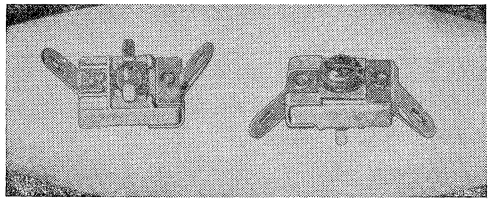
Voltage 350 VDCT — 175 VDCW.



TYPE 46 STANDARD TRIMMER 3/4" x 5/8"

TYPE 46—STANDARD TRIMMER

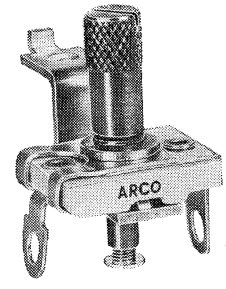
TYPE 46W NUMBER PART	PLATES NUMBER OF	GUARANTEED RANGE At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
460	1 1/4 Pl.	15	1.5	$0.35
461	1 3/4 Pl.	30	2.7	.35
462	2 Pl.	80	5	.40
463	3 Pl.	180	9	.45
464	4 Pl.	280	25	.50
465	5 Pl.	380	50	.55
466	6 Pl.	480	80	.60
467	7 Pl.	580	110	.70
468	8 Pl.	680	140	.75
469	9 Pl.	780	170	.80



TYPE 40 MINIATURE TRIMMER 3/8" x 9/16"

TYPE 40—MINIATURE TRIMMER

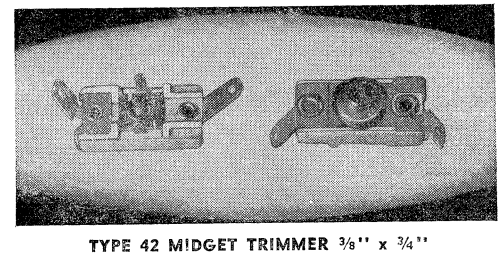
TYPE 40 NUMBER PART	PLATES NUMBER OF	GUARANTEED RANGE At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
400	1 1/8 Pl.	7	0.9	$0.40
402	2 Pl.	20	1.5	.45
403	3 Pl.	35	3	.50
404	4 Pl.	60	8	.55



NOW AVAILABLE:

A complete Type 46 trimmer assembly with mounting bracket and adjusting shaft for ease of tuning. Can be supplied as pictured from stock or with construction variations to order.

LIST PRICE: ADD 45c TO LIST PRICE OF TRIMMER ALONE



TYPE 42 MIDGET TRIMMER 3/8" x 3/4"

TYPE 42—MIDGET TRIMMER

TYPE 42 NUMBER PART	PLATES NUMBER OF	GUARANTEED RANGE At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
420	1 1/8 Pl.	12	1	$0.40
421	1 3/4 Pl.	25	2	.40
422	2 Pl.	40	4	.40
423	3 Pl.	100	7	.45
424	4 Pl.	150	14	.50
425	5 Pl.	200	24	.60
426	6 Pl.	250	37	.65
427	7 Pl.	300	55	.70
428	8 Pl.	350	70	.80
429	9 Pl.	400	90	.85

Metal Mounting Brackets For These Trimmers Can Be Supplied From Stock

	LIST PRICE
Bracket for mounting 2 Trimmers	$0.10
Bracket for mounting 3 Trimmers	.12
Bracket for mounting 4 Trimmers	.14
Bracket for mounting 5 Trimmers	.16
Bracket for mounting 6 Trimmers	.18

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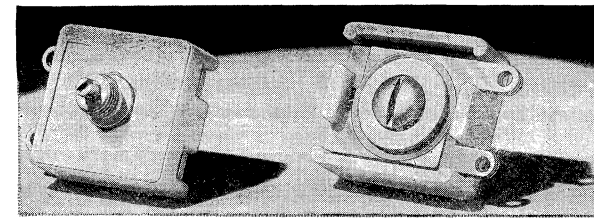
Single and Dual
PADDERS

EL-MENCO PADDING CONDENSERS have been acclaimed by engineers as the finest development in adjustable mica condensers.

The construction is such as to completely enclose and protect the delicate edges of the mica films, made of the finest quality clear India ruby mica.

The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion.

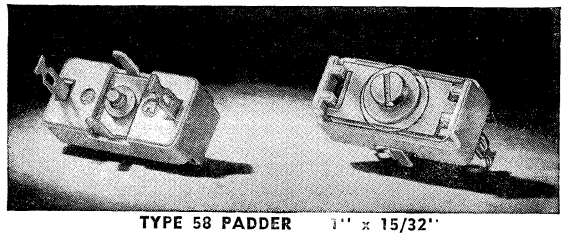


TYPE 30 AND TYPE 30-M PADDER 7/8" x 15/16"

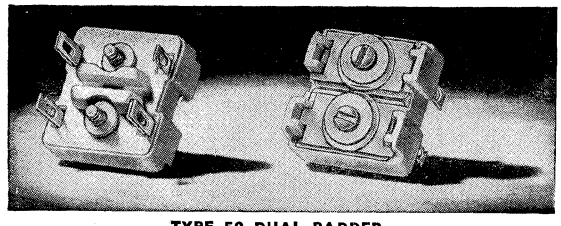
TYPE 30
500 Volts DC Flash-Test — 250 WVDC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At 1½ Inch Pounds Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 2½ Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
302	2 Pl.	130	15	$0.60
303	3 Pl.	340	65	.65
304	4 Pl.	550	100	.75
305	5 Pl.	760	190	.85
306	6 Pl.	970	275	.90
307	7 Pl.	1180	350	1.00
308	8 Pl.	1390	450	1.05
309	9 Pl.	1600	550	1.15
310	10 Pl.	1890	650	1.25
311	11 Pl.	2110	780	1.35
312	12 Pl.	2330	880	1.40
313	13 Pl.	2605	1150	1.50
314	14 Pl.	2880	1300	1.60
315	15 Pl.	3055	1400	1.65

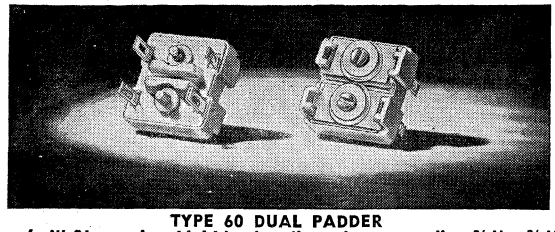
Screw is insulated from top plate my mica washer. Above maximum capacity values are based on using 1½ to 1¾ Mil Mica films.



TYPE 58 PADDER 1" x 15/32"



TYPE 50 DUAL PADDER
(will fit any size shield having dimensions exceeding 1-1/16" x 1-1/16")



TYPE 60 DUAL PADDER
(will fit any size shield having dimensions exceeding ¾" x ¾")

TYPE 30-M
1000 Volts DC Flash-Test — 500 Working Volts DC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At 1½ Inch Pounds Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 2½ Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
302-M	2 Pl.	120	15	$0.60
303-M	3 Pl.	320	65	.65
304-M	4 Pl.	500	100	.80
305-M	5 Pl.	690	180	.85
306-M	6 Pl.	880	265	.90
307-M	7 Pl.	1070	340	1.05
308-M	8 Pl.	1260	425	1.10
309-M	9 Pl.	1415	525	1.15
310-M	10 Pl.	1600	615	1.25
311-M	11 Pl.	1785	730	1.35
312-M	12 Pl.	1970	800	1.45
313-M	13 Pl	2155	1000	1.50
314-M	14 Pl.	2340	1100	1.60
315-M	15 Pl.	2525	1200	1.70

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 2 to 2¼ Mil Mica.

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
582	2 Pl.	80	7.5	$0.40
583	3 Pl.	160	19	.45
584	4 Pl.	240	50	.50

◀TYPE 58 Padder is a single variable trimmer section provided with a two-pronged staple mounting for attachment to bracket or chassis. Base is made of lowest loss steatite and the mica is India Ruby.

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
502	2 Pl.	80	7.5	$0.60
503	3 Pl.	160	19	.70
504	4 Pl.	240	50	.80

◀TYPE 50 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding $1\frac{1}{16}$" x $1\frac{1}{16}$".

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
602	2 Pl.	55	7	$0.50
603	3 Pl.	100	15	.60
604	4 Pl.	160	35	.70

◀TYPE 60 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding ¾" x ¾".

See Page P-134 for Mica Trimmer Capacitors

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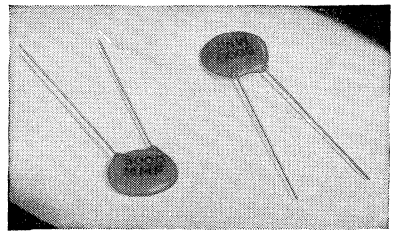
CERAMIC CAPACITORS



SILVER HIGH "K" DISC

Reduced self-inductance due to flat design makes these units particularly adaptable to V.H.F. applications.

Cap. Mmf.	Type Designation	List Price (Min. Guar. Cap.)	List Price (±20% Tol.)
100	CCD-101	.25	.25
120	CCD-121	.25	.25
180	CCD-181	.25	.25
220	CCD-221	.25	.25
270	CCD-271	.25	.25
300	CCD-301	.25	.25
330	CCD-331	.25	.25
390	CCD-391	.25	.25
470	CCD-471	.25	.25
500	CCD-501	.25	.25
560	CCD-561	.25	.25
680	CCD-681	.25	.25
750	CCD-751	.25	.25
820	CCD-821	.25	.25
1000	CCD-102	.25	.25
1200	CCD-122	.25	.25
1500	CCD-152	.25	.25
2000	CCD-202	.25	.30
2200	CCD-222	.25	.30
2700	CCD-272	.25	.30
3000	CCD-302	.30	.30
3300	CCD-332	.30	.30
3900	CCD-392	.30	.30
4700	CCD-472	.30	.30
5000	CCD-502	.30	.30
5600	CCD-562	.30	.35
6800	CCD-682	* .30	.40
8200	CCD-822	* .35	.45
10000	CCD-103	* .35	.45
12000	CCD-123	* .40	
15000	CCD-153	* .50	

* Tolerance +80% —20%

CASE SIZES:

100-1500 MMF — .29 in. max. diam.
2000-5000 MMF — .55 in. max. diam.
5600-15000 MMF — .66 in. max. diam.

NOTE: Add letter "M" to part number to specify ±20% tolerance: i.e. — 1000 MMF ±20% would be CCD-102M

Use primarily for coupling and by-pass in RF and higher frequency circuits, ELMENCO ceramic capacitors are wax impregnated with low-loss phenolic coating. Insulation resistance far exceeds the 10,000 megohm minimum requirements. Voltage rating is 1500VDCT, 500VDCW. 90% relative humidity test for 100 hours. Radial leads are 1¼" minimum No. 22 tinned copper wire.

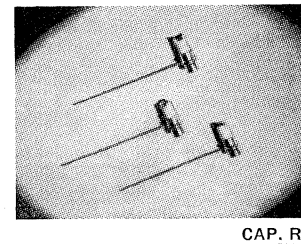
N-750 DISC

Negative temperature coefficient ceramics for compensation and reduction of temperature drift.

TYPE DESIGNATION	CAP. MMF.	LIST PRICE (±20% TOL.)	LIST PRICE (±10% TOL.)
CCDN-470	47	$0.40	$0.50
CCDN-560	56	.40	.50
CCDN-620	62	.40	.50
CCDN-680	68	.40	.50
CCDN-750	75	.40	.50
CCDN-820	82	.40	.50
CCDN-101	100	.40	.50
CCDN-121	120	.40	.50
CCDN-151	150	.40	.50

Capacity and tolerance stamped on capacitor. Maximum Dimensions: .550" diam. — .150" thickness.

VARIABLE CERAMIC TRIMMER

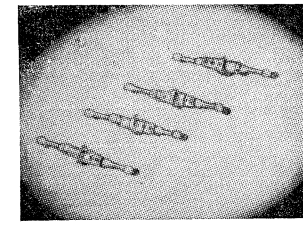


Adjustable ceramic trimmer capacitor for high frequency applications. Silvered Steatite tubes ⅝" in length provide capacity ranges listed below upon insertion of 6-32 screw.

PART No.	CAP. RANGE MMF.	LIST PRICE
CV-1	0.5 - 3	$0.35
CV-2	1 - 4	.35
CV-3	2 - 6	.35

FEED THRU CAPACITORS

Compact rugged ceramic feed through capacitors are designed for high frequency coupling with a minimum of inductive reactance through elimination of wire leads. These units are three dot RMA coded and rated at 500VDCW.



PART No.	CAP. (MMF.) (Guar. Min. Val.)	LIST PRICE
CCF-501	500	$0.40
CCF-102	1000	.40
CCF-152	1500	.40
CCF-202	2000	.40

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ELMENCO CAPACITORS

ARCO ELECTRONICS INC. CHICAGO 5, ILLINOIS
ARCO ELECTRONICS INC. NEW YORK 13, N. Y.
ARCO CAPACITORS INC. LOS ANGELES 19, CALIF.

ARCO CM-15 MINIATURE MICA CAPACITOR KIT #1

FOR EXPERIMENTAL WORK

THESE MINIATURES FIT INTO THE SMALLEST AREA CAPACITOR SIZE (9/32" x ½" x 3/16")

SPECIAL KIT LIST PRICE

ONLY $90.00

DON'T GET CAUGHT SHORT!

ALWAYS HAVE THE CORRECT CAPACITY ON HAND!

This Handy Kit consists of 46 most commonly used Capacitors . . . five of each capacity as listed on page P-66 packed in individual tuck boxes, properly identified for permanent use.

•

The complete set of capacitors amounts to $111.50 at list prices. You get the entire set *for only* $90.00.

COMPARE THE COST!

THESE KITS CONTAIN FIVE EACH OF THE FOLLOWING ELMENCO MICA CAPACITORS (500 V D C W)

CM20 Cap. mmf.	CM20 Cap. mmf.	CM20 Cap. mmf.	CM20 Cap. mmf.	CM30 Cap. mmf.	CM35 Cap. mmf.
5	39	120	390	1100	3600
10	43	130	430	1200	3900
12	47	150	470	1300	4300
15	51	160	510	1500	4700
18	56	180	560	1600	5100
20	62	200	620	1800	5600
22	68	220	680	2000	6200
24	75	240	750	2200	6800*
27	82	270	820	2400	7500*
30	91	300	910	2700	8200*
33	100	330	1000	3000	9100*
36	110	360		3300	10000*

*300VDCW *PER JAN-C-5 SPECIFICATIONS*

JAN-C-5

ARCO SILVERED MICA KIT #3

SPECIAL KIT LIST PRICE

$325

Purchased individually the total list price value of the capacitors contained in this kit would be . . . $385

This kit contains the complete range of ELMENCO silvered molded mica capacitors from 5 mmf. to 10,000 mmf. manufactured in accordance with JAN-C-5 specications. All units are of letters "C", "D" or "E" characteristics as specified and letter "J" (5%) tolerance and are JAN color coded.

JAN-C-5

ARCO REG. FOIL MICA KIT #2

SPECIAL KIT LIST PRICE

$140

Purchased individually the total list price value of the capacitors contained in this kit would be . . . $158.40

This kit contains the complete range of EL-MENCO regular foil molded mica capacitors from 5 mmf. to 10,000 mmf. manufactured in accordance with JAN-C-5 specifications. All units are of the letter "B" characteristics and letter "K" (10%) tolerance and are JAN color coded.

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ARCO CAPACITORS INC.
LOS ANGELES 19, CALIF.

ARCO CM20 HI-VOLTAGE CAPACITOR KIT #4

This Kit contains 10 EACH of the following HIGH VOLTAGE CAPACITORS, Tolerance ±20%

CAP. MMF.	WKG. VOLT.	CAP. MMF.	WKG. VOLT.	CAP. MMF.	WKG. VOLT.
5	2500	56	2500	270	1500
10	2500	62	2500	300	1000
12	2500	68	2500	330	1000
15	2500	75	1500	360	1000
18	2500	82	1500	390	1000
20	2500	91	1500	430	1000
22	2500	100	1500	470	1000
24	2500	110	1500	500	1000
27	2500	120	1500	510	1000
30	2500	130	1500	560	1000
33	2500	150	1500	620	1000
36	2500	160	1500	680	1000
39	2500	180	1500	750	1000
43	2500	200	1500	820	1000
47	2500	220	1500	910	1000
50	2500	240	1500	1000	1000
51	2500	250	1500		

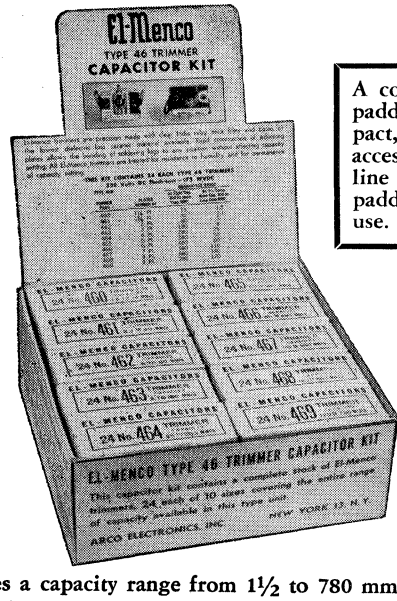
SPECIAL KIT LIST PRICE

$189.50

If purchased individually actual list price $221.50

El-Menco High Voltage Capacitors are manufactured in accordance with MIL and RMA specifications for molded mica capacitors and are additionally designed to operate at higher voltages than normally expected of units of this size. They are ideally suited for use in high voltage, low power circuits, particularly where space requirements are an important factor. Axial wire leads provide simplicity of wiring through elimination of added mounting devices. All units are molded in low-loss phenolic cases and are wax-dipped for protection against salt-water immersion.

ARCO TYPE 46 TRIMMER KIT #5



Provides a capacity range from 1½ to 780 mmfd.
Twenty-four units of each size available in type 46 trimmers (see P-134).
The total list price for all units included in the kit is $130.80.
Yet you may have this complete kit for only

Special Kit List Price $100.00

A complete stock of trimmers and padders is provided in these compact, easily handled, and readily accessible kits. Always have a full line of El-Menco trimmers and padders available for immediate use.

ARCO TYPE 30 PADDER KIT #6

Provides a capacity range from 15 to 3055 mmfd (30M: 15 to 2525 mmfd.)
Twelve units of each size available in type 30 or type 30M (see P-135).
The total list price for all units included in the kit is $191.40.
Yet you may have this complete kit for only

Special Kit List Price $145.00

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ARCO BY-PASS CAPACITOR KIT #9

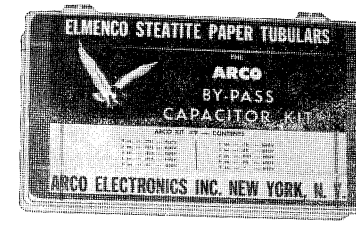
EL-MENCO STEATITE PAPER TUBULAR CAPACITORS

At low cost, a practical assortment of fast moving sizes for service replacement

CONTENTS

4 ea.	—	.001	— 600V	3 ea.	—	.02	— 600V
3 ea.	—	.002	— 600V	3 ea.	—	.03	— 600V
3 ea.	—	.003	— 600V	3 ea.	—	.047	— 600V
4 ea.	—	.005	— 600V	6 ea.	—	.05	— 600V
6 ea.	—	.01	— 600V	4 ea.	—	.1	— 600V

List Price
$11.95



Total list value of capacitors $12.50 plus a handy plastic container FREE.

ARCO 1000 VOLT PAPER TUBULAR CAPACITOR KIT #8

SPECIAL KIT LIST PRICE **$27.50**

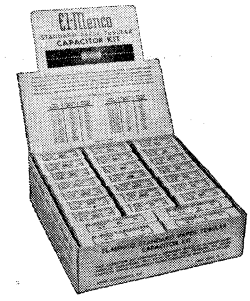
Purchased individually the total list price value of the capacitors contained in this kit would be — **$34.75**

This Kit contains 5 EACH of the following PAPER TUBULAR CAPACITOR SIZES

PART NUMBER	CAPACITY MFD.	WORKING VOLTAGE
10CP-1-102	.001	1000
10CP-1-152	.0015	1000
10CP-1-202	.002	1000
10CP-1-252	.0025	1000
10CP-2-302	.003	1000
10CP-2-332	.0033	1000
10CP-2-402	.004	1000
10CP-2-472	.0047	1000
10CP-2-502	.005	1000
10CP-2-602	.006	1000
10CP-2-752	.0075	1000
10CP-3-103	.01	1000
10CP-3-153	.015	1000
10CP-4-203	.02	1000
10CP-4-253	.025	1000
10CP-5-333	.033	1000
10CP-5-503	.05	1000

El-Menco CP type paper tubular capacitors are sealed in impervious steatite ceramic tubes through use of synthetic resin end fills which are waterproof and will not melt at any conceivable operating temperature. The non-inductively wound paper and foil inserts are mineral oil impregnated. This combination of fine quality material and construction insures long life at high ambient temperatures, indefinite shelf-life and trouble-free operation under the most adverse conditions.

ARCO STANDARD PAPER TUBULAR CAPACITOR KIT #7



SPECIAL KIT LIST PRICE
$37.50

Purchased individually the total list price value of the capacitors would be — **$40.50**

This Kit contains 5 EACH of the following PAPER TUBULAR CAPACITOR SIZES

PART NUMBER	CAPACITY MFD.	WORKING VOLTAGE
6CP-1-102	.001	600
6CP-1-152	.0015	600
6CP-1-202	.002	600
6CP-1-222	.0022	600
6CP-1-252	.0025	600
6CP-1-302	.003	600
6CP-1-332	.0033	600
6CP-1-402	.004	600
6CP-1-472	.0047	600
6CP-1-502	.005	600
6CP-2-602	.006	600
6CP-2-682	.0068	600
6CP-2-752	.0075	600
6CP-2-103	.01	600
6CP-2-153	.015	600
6CP-3-203	.02	600
6CP-3-223	.022	600
6CP-4-303	.03	600
6CP-4-333	.033	600
6CP-4-403	.04	600
6CP-4-473	.047	600
6CP-4-503	.05	600
6CP-5-104	.1	600
4CP-6-254	.25	400
2CP-6-504	.5	200

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LOS ANGELES 19, CALIF.

ARCO
DM-15 KIT #10

This handy kit consists of five of each DM-15 capacity as listed on Page P-131 packed in individual transparent plastic snap boxes, properly identified for ease of handling.

SPECIAL KIT LIST PRICE

$95.00

Purchased individually the total list price value of the capacitors contained in this kit would be — **$103.31**

ARCO
DUR-MICA KIT #11

This Kit contains five each of the following listed DUR-MICA capacitors, all 500VDWC and ±5% tolerance; or ±0.5 mmf., whichever is greater.

SPECIAL KIT LIST PRICE

$250.00

Purchased individually the total list price value of the capacitors contained in this kit would be . . . **$286.35**

Packed in individual transparent plastic snap boxes, properly identified for ease of handling.

Cap. mmf.	Type Desig.	Cap. mmf.	Type Desig.	Cap. mmf.	Type Desig.	Cap. mmf.	Type Desig.
2	DM15-020M	62	DM15-620J	360	DM19-361J	2000	DM20-202J
5	DM15-050K	68	DM15-680J	390	DM19-391J	2200	DM20-222J
10	DM15-100J	75	DM15-750J	430	DM19-431J	2400	DM20-242J
12	DM15-120J	82	DM15-820J	470	DM19-471J	2700	DM20-272J
15	DM15-150J	91	DM15-910J	510	DM19-511J	3000	DM20-302J
18	DM15-180J	100	DM15-101J	560	DM19-561J	3300	DM20-332J
20	DM15-200J	110	DM15-111J	620	DM19-621J	3600	DM20-362J
22	DM15-220J	120	DM15-121J	680	DM20-681J	3900	DM20-392J
24	DM15-240J	130	DM15-131J	750	DM20-751J	4300	DM20-432J
27	DM15-270J	150	DM15-151J	820	DM20-821J	4700	DM30-472J
30	DM15-300J	160	DM19-161J	910	DM20-911J	5100	DM30-512J
33	DM15-330J	180	DM19-181J	1000	DM20-102J	5600	DM30-562J
36	DM15-360J	200	DM19-201J	1100	DM20-112J	6200	DM30-622J
39	DM15-390J	220	DM19-221J	1200	DM20-122J	6800	DM30-682J
43	DM15-430J	240	DM19-241J	1300	DM20-132J	7500	DM30-752J
47	DM15-470J	270	DM19-271J	1500	DM20-152J	8200	DM30-822J
51	DM15-510J	300	DM19-301J	1600	DM20-162J	9100	DM30-912J
56	DM15-560J	330	DM19-331J	1800	DM20-182J	10000	DM30-103J

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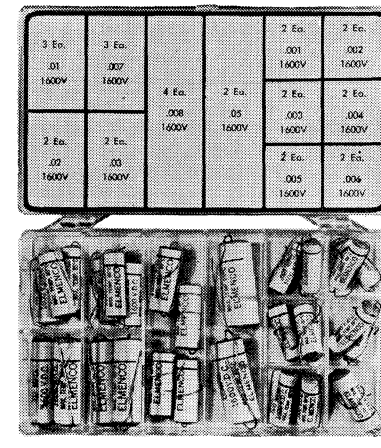
ANNOUNCING
The New ARCO 1600 V-BUFFER CAPACITOR KIT #12

ELMENCO Steatite Paper Tubular Capacitors

A Low Cost, Practical Assortment Of Fast Moving Sizes For Service Replacement



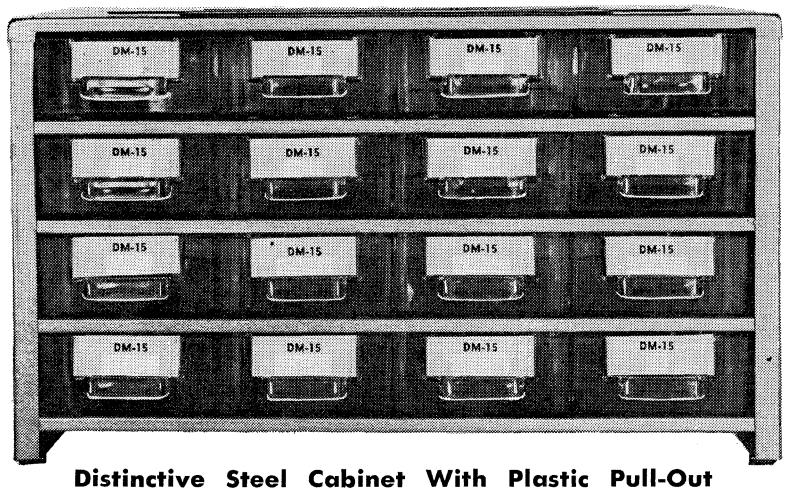
CONTENTS

	Capacity	List Price
2 ea.	.001 mfd.	$0.50
2 ea.	.002 mfd.	.50
2 ea.	.003 mfd.	.50
2 ea.	.004 mfd.	.50
2 ea.	.005 mfd.	.50
2 ea.	.006 mfd.	.55
3 ea.	.007 mfd.	.55
4 ea.	.008 mfd.	.55
3 ea.	.01 mfd.	.55
2 ea.	.02 mfd.	.65
2 ea.	.03 mfd.	.65
2 ea.	.05 mfd.	.70

SPECIAL LIST PRICE
$14.75

ACTUAL LIST VALUE OF CAPACITORS IF PURCHASED INDIVIDUALLY
$15.60

PLUS A HANDY PLASTIC CONTAINER FREE!



Distinctive Steel Cabinet With Plastic Pull-Out Drawers Supplied FREE With DM-15 Package

ARCO Miniature DM 15 Capacitor STOCK PACKAGE

SPECIAL LIST PRICE $596.00

Purchased individually the total list price value of the capacitors contained in this stock package would be . . . **$715.00**

A complete stock of DM15 capacitors (fifty-one items) totalling 2100 capacitors; fifty each of the most used values and 25 each of the others. Capacity range is 1-820 mmf., tolerance ±5% or ±0.5 mmf., whichever is greater.

ATTENTION — Jobbers, Engineers

We have expanded our facilities to make up any special stock or kit requirements of any size for your special individual needs.

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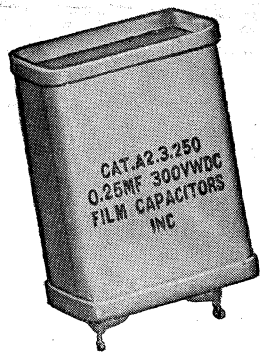

FILM CAPACITORS, INC.

F-C-I POLYSTYRENE CAPACITORS

F-C-I Polystyrene capacitors are characterized by a unique combination of low power factor, high insulation resistance and low dielectric absorption ("soakage") which cannot be duplicated by any other type of capacitor except Teflon units. Furthermore, the capacitance stability is excellent, and the temperature coefficient of capacitance is very small. Values of electrical characteristics are given in Table I. F-C-I Polystyrene capacitors are furnished as standard units in hermetically sealed glass tubes with metal end caps; in bathtub cases with low loss glass terminals; and in style CP70 metal cans with low loss glass terminals. Special units, including multi-section blocks are also available to order, and made to your specifications.

GLASS CASED POLYSTYRENE CAPACITORS

Part Number	Volts DC	Cap. MFD.	Case Size—Ins. L	D	List Price
A1-1-10	100	.01	1⅜	½	$5.00
A1-1-20	100	.02	1⅜	½	5.00
A1-1-50	100	.05	1⅜	½	5.25
A1-1-100	100	.10	1⅜	11/16	5.35
A1-1-250	100	.25	2⅜	11/16	5.45
A1-1-500	100	.50	2⅜	⅞	6.00
A1-2-10	200	.01	1⅜	½	5.00
A1-2-20	200	.02	1⅜	½	5.00
A1-2-50	200	.05	1⅜	½	5.25
A1-2-100	200	.10	1⅜	11/16	5.35
A1-2-250	200	.25	2⅜	¾	5.45
A1-4-5	400	.005	1⅜	½	5.00
A1-4-10	400	.01	1⅜	½	5.15
A1-4-20	400	.02	1⅜	½	5.15
A1-4-50	400	.05	1⅜	11/16	5.25
A1-4-100	400	.10	2⅜	11/16	5.35
A1-4-250	400	.25	2⅜	¾	5.45
A1-6-1	600	.001	1⅜	½	5.00
A1-6-2	600	.002	1⅜	½	5.00
A1-6-5	600	.005	1⅜	½	5.00
A1-6-10	600	.01	1⅜	½	5.15
A1-6-20	600	.02	1⅜	11/16	5.15
A1-6-50	600	.05	2⅜	11/16	5.25
A1-6-100	600	.10	2⅜	¾	5.35
A1-10-1	1000	.001	1⅜	½	7.10
A1-10-2	1000	.002	1⅜	½	7.50
A1-10-5	1000	.005	1⅜	½	7.90
A1-10-10	1000	.01	1⅜	11/16	8.35
A1-10-20	1000	.02	2⅜	11/16	8.75
A1-10-50	1000	.05	2⅜	⅞	9.15
A1-10-100	1000	.10	2⅜	1⅛	9.60

BATHTUB CASED POLYSTYRENE CAPACITORS

Part Number	Volts DC	Cap. MFD.	Case Size—Ins. L	W	H	List Price
A3-1-50	100	.05	1¾	1	¾	$5.25
A3-1-100	100	.10	1¾	1	¾	5.35
A3-1-250	100	.25	1¾	1	¾	5.45
A3-1-500	100	.50	2	1¾	⅞	6.00
A3-1-1000	100	1.0	2	1¾	⅞	9.50
A3-2-50	200	.05	1¾	1	¾	5.25
A3-2-100	200	.10	1¾	1	¾	5.35
A3-2-250	200	.25	2	1¾	⅞	5.45
A3-2-500	200	.50	2	1¾	⅞	6.10
A3-2-1000	200	1.0	2	2	1¼	9.60
A3-4-10	400	.01	1¾	1	¾	5.15
A3-4-20	400	.02	1¾	1	¾	5.15
A3-4-50	400	.05	1¾	1	¾	5.25
A3-4-100	400	.10	1¾	1	¾	5.35
A3-4-250	400	.25	2	1¾	⅞	5.45
A3-4-500	400	.50	2	1¾	⅞	7.20
A3-4-1000	400	1.0	2	2	1¼	14.50
A3-6-10	600	.01	1¾	1	¾	5.15
A3-6-20	600	.02	1¾	1	¾	5.15
A3-6-50	600	.05	1¾	1	¾	5.25
A3-6-100	600	.10	1¾	1	1	5.35
A3-6-250	600	.25	2	1¾	⅞	5.45
A3-6-500	600	.50	2	2	1¼	7.20
A3-10-10	1000	.01	1¾	1	¾	8.35
A3-10-20	1000	.02	1¾	1	¾	8.75
A3-10-50	1000	.05	1¾	1	1	9.15
A3-10-100	1000	.10	2	1¾	⅞	9.60
A3-10-250	1000	.25	2	2	1¼	11.25

STYLE CP70 CASED POLYSTYRENE CAPACITORS

Part Number	Volts DC	Cap. MFD.	Case Size—Ins. L	W	H	List Price
A2-1-500	100	0.5	1¾	1	2¼	$6.00
A2-1-1000	100	1.0	1¾	1	2⅞	9.50
A2-1-2000	100	2.0	2½	1¼	3½	13.65
A2-1-4000	100	4.0	3¾	1¼	3½	17.55
A2-1-6000	100	6.0	3¾	2¼	3½	23.50
A2-1-8000	100	8.0	3¾	3⅜	3½	27.70
A2-1-10M	100	10.0	4 9/16	3¾	3½	32.30
A2-2-250	200	0.25	1¾	1	2¼	5.40
A2-2-500	200	0.5	1¾	1	3¼	6.10
A2-2-1000	200	1.0	2½	1¼	3½	9.60
A2-2-2000	200	2.0	3¾	1¼	3½	13.75
A2-2-4000	200	4.0	3¾	2¼	3½	17.90
A2-2-6000	200	6.0	3¾	3⅜	3½	23.80
A2-2-8000	200	8.0	3¾	3⅜	5⅛	28.00
A2-2-10M	200	10.0	4 9/16	3¾	5⅛	32.60
A2-4-250	400	0.25	1¾	1	2¼	5.45
A2-4-500	400	0.5	1¾	1	3¼	7.20
A2-4-1000	400	1.0	2½	1¼	3½	14.50
A2-4-2000	400	2.0	3¾	1¼	3½	21.70
A2-4-4000	400	4.0	3¾	2¼	3½	34.10
A2-4-6000	400	6.0	3¾	3⅜	3½	47.50
A2-4-8000	400	8.0	3¾	3⅜	5⅛	58.50
A2-4-10M	400	10.0	4 9/16	3¾	5⅛	72.00
A2-6-250	600	0.25	1¾	1	2¼	5.45
A2-6-500	600	0.5	2½	1¼	3½	7.20
A2-6-1000	600	1.0	3¾	1¼	3½	14.50
A2-6-2000	600	2.0	3¾	2¼	3½	22.10
A2-6-4000	600	4.0	4 9/16	3¾	3½	34.60
A2-6-5000	600	5.0	4 9/16	3¾	3½	41.65
A2-10-100	1000	0.1	1¾	1	3¼	9.60
A2-10-250	1000	0.25	1¾	1	3¼	11.25
A2-10-500	1000	0.5	2½	1¼	3½	15.00
A2-10-1000	1000	1.0	3¾	1¾	3½	21.70
A2-10-2000	1000	2.0	3¾	3⅜	3½	34.10
A2-10-4000	1000	4.0	3¾	3⅜	7¼	57.50
A2-10-5000	1000	5.0	4 9/16	3¾	7¼	70.00

F-C-I TEFLON CAPACITORS

F-C-I Teflon capacitors are essentially identical to polystyrene capacitors in their electrical characteristics, with one important difference—Teflon capacitors may be operated at temperatures up to 200° C, whereas polystyrene capacitors have a maximum operating temperature of 85° C. Furthermore, the insulation resistance of Teflon capacitors is many times that of polystyrene at elevated temperatures.

Table I
ELECTRICAL CHARACTERISTICS OF F-C-I PLASTIC DIELECTRIC CAPACITORS

	POLYSTYRENE	TEFLON
OPERATING TEMP. RANGE	−55° C to +85° C	−55° C to 200° C
Voltage Range, D.C.	100 to 30,000	100 to 30,000
Capacitance Range	.001 to 20 MF	.001 to 20 MF
Power Factor	.02% @ 1 KC	.02% @ 1 KC
Dielectric Absorption	.01%	.01%
Voltage Derating at 85° C	none	none
Voltage Derating at 125° C	not operable	none
Voltage Derating at 150° C	not operable	none
Voltage Derating at 200° C	not operable	33%
Temperature Coefficient	−100 PPM/° C	−50 PPM/° C
I.R. at Room Temperature	10^7 megohms/MF	10^7 megohms/MF
Capacitance Stability	0.1%	0.1%

GLASS CASED TEFLON CAPACITORS

Part Number	Volts DC	Capacity MFD.	Case Size — Inches L	D	List Price
C1-3-5	300	.005	1⅜	½	$ 4.45
C1-3-10	300	.01	1⅜	½	4.45
C1-3-20	300	.02	1⅜	½	4.45
C1-3-50	300	.05	1⅜	11/16	5.15
C1-3-100	300	.10	2⅜	11/16	6.15
C1-6-1	600	.001	1⅜	½	5.15
C1-6-2	600	.002	1⅜	½	5.15
C1-6-5	600	.005	1⅜	½	5.15
C1-6-10	600	.01	1⅜	½	6.70
C1-6-20	600	.02	1⅜	11/16	7.20
C1-6-50	600	.05	2⅜	11/16	8.20
C1-6-100	600	.10	2⅜	⅞	10.30

BATHTUB CASED TEFLON CAPACITORS

Part Number	Volts DC	Capacity MFD.	Case Sizes — Inches L	W	H	List Price
C3-3-5	300	.005	1¾	1	¾	$ 4.45
C3-3-10	300	.01	1¾	1	¾	4.45
C3-3-20	300	.02	1¾	1	¾	4.45
C3-3-50	300	.05	1¾	1	1	5.15
C3-3-100	300	.10	2	1¾	⅞	6.15
C3-6-1	600	.001	1¾	1	¾	5.15
C3-6-2	600	.002	1¾	1	¾	5.15
C3-6-5	600	.005	1¾	1	¾	5.15
C3-6-10	600	.01	1¾	1	¾	6.70
C3-6-20	600	.02	1¾	1	1	7.20
C3-6-50	600	.05	2	1¾	⅞	8.20
C3-6-100	600	.10	2	2	1⅛	10.30

STYLE CP70 CASED TEFLON CAPACITORS

Part Number	Volts DC	Capacity MFD.	Case Sizes — Inches L	W	H	List Price
C2-3-250	300	0.25	1¾	1	2¼	$ 11.50
C2-3-500	300	0.50	1¾	1	3¼	22.00
C2-3-1000	300	1.0	2½	1¼	3½	44.00
C2-3-2000	300	2.0	3¾	1¼	3½	82.30
C2-6-250	600	0.25	1¾	1	3¼	22.00
C2-6-500	600	0.50	2½	1¼	3½	44.00
C2-6-1000	600	1.0	3¾	2¼	3½	83.30
C2-6-2000	600	2.0	4 9/16	3¾	3½	155.00

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

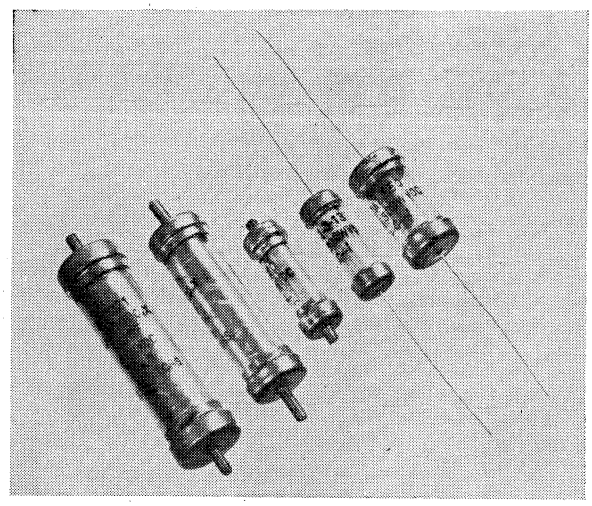
FILM CAPACITORS, INC.

F-C-I HIGH VOLTAGE CAPACITORS

F-C-I Type D capacitors employ a newly developed plastic film dielectric which, with suitable processing, produces capacitors which are better, smaller and cheaper than could ever be produced before. The table below shows the electrical properties of these capacitors. In view of these excellent characteristics, it is evident that F-C-I Type D capacitors are suitable for practically every type of high voltage D.C. application. With these capacitors available, it is no longer necessary to stock groups of units each outstanding in only one property. F-C-I Type D capacitors are furnished in glass tubes with hermetically sealed metal end caps and either threaded studs or wire leads. Sizes not listed here can be furnished upon request. Ask for our quotation.

LISTING

Cat. No.	Capacity MFD.	Working Volts DC	Dimensions Dia.	Dimensions L	List Price
D6-6-10	.01	600	½	1⅜	$ 1.50
D6-6-20	.02	600	½	1⅜	1.60
D6-6-50	.05	600	½	1⅜	1.75
D6-6-100	.10	600	11/16	1⅜	1.95
D6-6-250	.25	600	11/16	2⅜	2.30
D6-6-500	.50	600	1	2⅜	2.60
D6-6-1000	1.00	600	1¼	2⅜	3.90
D6-10-10	.01	1000	½	1⅜	1.60
D6-10-20	.02	1000	½	1⅜	1.70
D6-10-50	.05	1000	11/16	1⅜	1.85
D6-10-100	.10	1000	11/16	2⅜	2.15
D6-10-250	.25	1000	⅞	2⅜	2.50
D6-10-500	.50	1000	1	2⅜	2.90
D6-20-2	.002	2000	½	1⅜	1.90
D6-20-5	.005	2000	½	1⅜	2.05
D6-20-10	.01	2000	½	1⅜	2.25
D6-20-20	.02	2000	½	1⅜	2.40
D6-20-50	.05	2000	11/16	1⅜	2.70
D6-20-100	.10	2000	11/16	2⅜	3.05
D6-20-250	.25	2000	1	2⅜	3.50
D6-20-500	.50	2000	1¼	2⅜	4.10
D6-30-2	.002	3000	½	1⅜	4.95
D6-30-5	.005	3000	½	1⅜	5.10
D6-30-10	.01	3000	½	1⅜	5.30
D6-30-20	.02	3000	11/16	1⅜	5.50
D6-30-50	.05	3000	11/16	2⅜	5.70
D6-30-100	.10	3000	⅞	2⅜	6.00
D6-30-250	.25	3000	1¼	2⅜	6.60
D6-50-5	.005	5 KV	⅝	1 1/16	6.50
D6-50-10	.01	5 KV	¾	1 1/16	6.80
D6-50-20	.02	5 KV	¾	2 9/16	7.20
D6-50-50	.05	5 KV	⅞	2 9/16	7.60
D6-50-100	.10	5 KV	1¼	2 9/16	8.50
D6-75-1	.001	7½ KV	⅝	1 1/16	6.50
D6-75-2	.002	7½ KV	⅝	1 1/16	6.80
D6-75-5	.005	7½ KV	¾	1 1/16	7.00
D6-75-10	.01	7½ KV	¾	2 9/16	7.50
D6-75-20	.02	7½ KV	⅞	2 9/16	8.60
D6-75-50	.05	7½ KV	1¼	2 9/16	11.10
D6-75-100	.10	7½ KV	1½	2 9/16	12.50



Cat. No.	Capacity MFD.	Working Volts DC	Dimensions Dia.	Dimensions L	List Price
D6-100-1	.001	10 KV	⅝	1 1/16	$ 7.20
D6-100-2	.002	10 KV	⅝	1 1/16	7.40
D6-100-5	.005	10 KV	⅝	2 9/16	8.50
D6-100-10	.01	10 KV	⅞	2 9/16	9.20
D6-100-20	.02	10 KV	1	2 9/16	11.40
D6-100-50	.05	10 KV	1½	2 9/16	14.60
D6-150-1	.001	15 KV	⅝	1 1/16	13.80
D6-150-2	.002	15 KV	⅞	1 1/16	14.60
D6-150-5	.005	15 KV	⅞	2 9/16	17.00
D6-150-10	.01	15 KV	1¼	2 9/16	20.00
D6-150-20	.02	15 KV	1¼	4¾	22.00
D6-150-50	.05	15 KV	1½	4¾	26.00
D6-200-05	.0005	20 KV	⅝	1 1/16	18.00
D6-200-1	.001	20 KV	¾	1 1/16	19.00
D6-200-2	.002	20 KV	¾	2 9/16	21.00
D6-200-5	.005	20 KV	1	2 9/16	22.50
D6-200-10	.01	20 KV	1½	2 9/16	24.00
D6-200-20	.02	20 KV	1½	4¾	27.00
D6-300-02	.0002	30 KV	⅝	3	20.00
D6-300-05	.0005	30 KV	⅝	3	21.00
D6-300-1	.001	30 KV	⅞	3	23.50
D6-300-2	.002	30 KV	¾	4¾	26.00
D6-300-5	.005	30 KV	1¼	4¾	28.00
D6-300-10	.01	30 KV	1¼	6⅞	35.00
D6-400-01	.0001	40 KV	⅝	3	20.50
D6-400-02	.0002	40 KV	⅝	3	21.50
D6-400-05	.0005	40 KV	¾	3	22.50
D6-400-1	.001	40 KV	¾	4¾	26.00
D6-400-2	.002	40 KV	1	4¾	28.00
D6-400-5	.005	40 KV	1½	4¾	33.00
D6-500-01	.0001	50 KV	⅝	4¼	22.50
D6-500-02	.0002	50 KV	⅝	4¼	23.50
D6-500-05	.0005	50 KV	¾	4¼	24.50
D6-500-1	.001	50 KV	¾	6⅞	28.00
D6-500-2	.002	50 KV	⅞	6⅞	31.50
D6-500-5	.005	50 KV	1¼	6⅞	36.00
D6-600-01	.0001	60 KV	⅝	4¼	23.50
D6-600-02	.0002	60 KV	⅝	4¼	24.50
D6-600-05	.0005	60 KV	⅞	4¼	28.00
D6-600-1	.001	60 KV	⅞	6⅞	34.00
D6-600-2	.002	60 KV	1¼	6⅞	36.50
D6-600-5	.005	60 KV	1¼	13	41.50

ELECTRICAL PROPERTIES OF F-C-I TYPE D CAPACITORS

Operating Range	−55° C to +125° C
Voltage Range, D.C.	600 Volts to 60KV; higher on order
Capacitance Range	.0001 MF to 0.1 MF
Power Factor	0.5% at 1 KC
I.R. at Room Temperature	10^6 Megohm-Microfarads
Dielectric Absorption	0.1%
Temperature Coefficient	+500 PPM/° C
Capacitance Stability	0.5%
Voltage Derating at 65° C	None
Voltage Derating at 85° C	30%
Voltage Derating at 105° C	50%
Voltage Derating at 125° C	66%

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PYRAMID

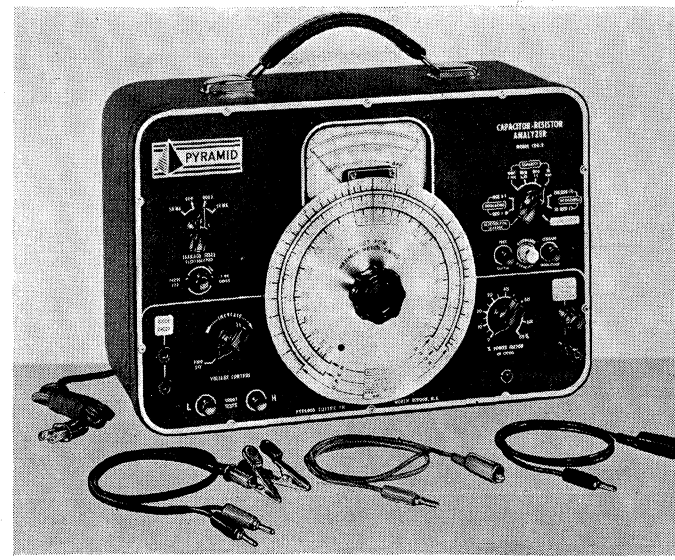
PYRAMID ELECTRIC COMPANY • NORTH BERGEN, NEW JERSEY
THE BIG NAME IN CAPACITORS AND SELENIUM RECTIFIERS TODAY

The NEW PYRAMID *Model* CRA-2

CAPACITOR-RESISTOR-ANALYZER

FEATURES

1. "Quick Check" in circuit test for the following: Open Circuits, Short Circuits, Intermittents, High RF Impedance, High Power Factor.
2. Check the following speedily and accurately: Capacitance, Power Factor, Resistance, Insulation-Resistance, Leakage Current, Continuity.
3. Precision meter for accurate readings of leakage current, applied voltage and insulation resistance.
4. Combination Wien and Wheatstone bridge.
5. Accurate vacuum-tube ohmmeter circuit.
6. Parts of the highest quality are used. Wire and wiring meet military specifications.



$92.50
DEALER NET

GENERAL DATA

Pyramid Electric Company introduces the CRA-2, Capacitor-Resistor Analyzer, a versatile, up to date, moderately priced test instrument. The CRA-2 is the perfect multi-purpose analyzer for the technician, serviceman and engineer, in industrial and military electronics, black and white, and color television, and all related fields.

The guesswork has been removed from circuit trouble shooting. When making leakage-current measurements, the values are read directly from the meter while the rated operating voltage is applied to the capacitor. A vacuum-tube ohmmeter circuit displays accurate insulation-resistance values on the meter for many types of capacitors. The extended range calibrated power factor control permits power factor measurements of electrolytic capacitors rated as low as 6 volts DC working and as high as 600 volts DC working. The special "QUICK CHECK" circuits perform rapid "IN CIRCUIT" test for short, open, intermittent high RF impedance and high power factor without removing or disconnecting the component from its operating circuit.

Write to the Pyramid Electric Company, North Bergen, N. J., for further technical and distributor information.

LIST PRICE
$9.50

SUPERIOR LINE FILTER — Model F-22

Ideal for use with all factory, office, and home appliances which generate severe radio interference. Utilizes two L-C Pi-type filter sections, one in each side of the power line. Effective both on standard-broadcast or short-wave frequencies.

Assembled in a steel case, 3½" x 3¼" x 4⅛". Attractive durable brown wrinkle finish. Mounts with two holes on 4 11/16" centers. Equipped with binding post for connection to ground. Rated 5 amperes at 125 volts AC/DC.

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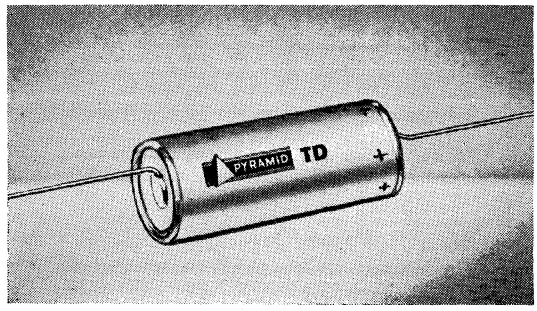


TYNEE-DRY ELECTROLYTIC CAPACITORS

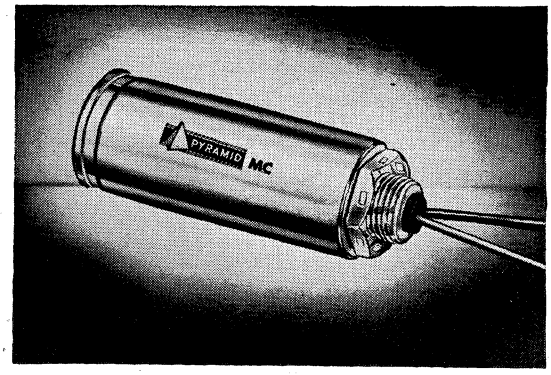
TYPE **T D**

Tynee-Dry single-capacitor units, with 3-inch bare-wire leads. Designed for 85° C. operation. Each unit sealed in metal tubular case. Supplied with insulating cardboard sleeve. Low leakage. Long shelf life. Top quality in minimum space.

TD SINGLE-CAPACITOR UNITS

Catalog Number	Cap. in UF	Size in Inches* Diam.	Lgth.	List Price
6 VOLTS DC WORKING				
TD-50-6	**50.**	½	1⅛	.95
TD-100-6	**100.**	½	1⅝	1.20
TD-250-6	**250.**	⅝	1⅝	1.35
TD-500-6	**500.**	⅝	1⅝	1.55
TD-1000-6	**1,000.**	¾	2	1.90
TD-1500-6	**1,500.**	¾	2	2.10
TD-2000-6	**2,000.**	1	2	2.30
15 VOLTS DC WORKING				
TD-100-15	**100.**	⅝	1¼	1.25
TD-250-15	**250.**	⅝	1⅝	1.55
TD-500-15	**500.**	¾	2	1.75
TD-1000-15	**1,000.**	⅞	2	2.30
25 VOLTS DC WORKING				
TD-2-25	**2.**	7/16	1⅛	.90
TD-4-25	**4.**	7/16	1⅛	1.00
TD-5-25	**5.**	7/16	1⅛	1.00
TD-10-25	**10.**	7/16	1⅛	1.00
TD-25-25	**25.**	½	1⅛	1.00
TD-50-25	**50.**	⅝	1¼	1.10
TD-100-25	**100.**	⅝	1⅝	1.35
TD-250-25	**250.**	⅞	2	1.70
TD-500-25	**500.**	⅞	2	2.30
50 VOLTS DC WORKING				
TD-1-50	**1.**	7/16	1⅛	.90
TD-2-50	**2.**	7/16	1⅛	.90
TD-4-50	**4.**	7/16	1⅛	1.00
TD-5-50	**5.**	7/16	1⅛	1.00
TD-10-50	**10.**	7/16	1⅛	1.00
TD-25-50	**25.**	⅝	1¼	1.05
TD-50-50	**50.**	⅝	1¼	1.20
TD-100-50	**100.**	¾	1⅝	1.40
TD-150-50	**150.**	¾	1⅝	1.55
TD-250-50	**250.**	⅞	1⅝	1.75
150 VOLTS DC WORKING				
TD-4-150	**4.**	7/16	1⅛	1.00
TD-8-150	**8.**	⅝	1¼	1.05
TD-10-150	**10.**	⅝	1¼	1.05
TD-12-150	**12.**	⅝	1¼	1.10
TD-16-150	**16.**	⅝	1¼	1.15
TD-20-150	**20.**	⅝	1¼	1.20
TD-30-150	**30.**	⅝	1⅝	1.30
TD-40-150	**40.**	¾	1⅝	1.35
TD-50-150	**50.**	¾	1⅝	1.40
TD-80-150	**80.**	⅞	1⅝	1.60
TD-100-150	**100.**	⅞	2	1.75
TD-150-150	**150.**	1	2½	1.90
TD-200-150	**200.**	1	3	2.20
TD-250-150	**250.**	1	3	2.45
TD-300-150	**300.**	1	3¾	2.55
200 VOLTS DC WORKING				
TD-100-200	**100.**	1	3	2.20
TD-200-200	**200.**	1	4	2.55
250 VOLTS DC WORKING				
TD-4-250	**4.**	½	1⅛	1.00
TD-8-250	**8.**	⅝	1¼	1.15
TD-10-250	**10.**	⅝	1¼	1.20
TD-12-250	**12.**	⅝	1¼	1.25
TD-16-250	**16.**	⅝	1⅝	1.30
TD-20-250	**20.**	⅝	1⅝	1.35
TD-30-250	**30.**	¾	1⅝	1.45
TD-40-250	**40.**	⅞	1⅝	1.55
TD-60-250	**60.**	⅞	2	1.80
300 VOLTS DC WORKING				
TD-150-300	**150.**	1	4¼	3.25
350 VOLTS DC WORKING				
TD-8-350	**8.**	⅝	1⅝	1.20
TD-12-350	**12.**	⅝	1⅝	1.30
TD-16-350	**16.**	¾	1⅝	1.40
TD-20-350	**20.**	¾	1⅝	1.45
TD-30-350	**30.**	⅞	2	1.65
TD-40-350	**40.**	1	2	1.75
TD-60-350	**60.**	1	2½	1.95
TD-80-350	**80.**	1	2½	2.15
450 VOLTS DC WORKING				
TD-2-450	**2.**	⅝	1¼	1.10
TD-8-450	**8.**	⅝	1⅝	1.25
TD-4-450	**4.**	⅝	1¼	1.15
TD-12-450	**12.**	¾	1⅝	1.35
TD-10-450	**10.**	¾	1⅝	1.30
TD-16-450	**16.**	¾	2	1.40
TD-20-450	**20.**	⅞	2	1.55
TD-30-450	**30.**	1	2	1.70
TD-40-450	**40.**	1	2½	1.80
TD-50-450	**50.**	1	3	2.10
TD-80-450	**80.**	1	4	2.80
TD-100-450	**100.**	1	3¾	3.10
500 VOLTS DC WORKING				
TD-8-500	**8.**	⅞	1⅝	1.30
TD-10-500	**10.**	⅞	1⅝	1.40
TD-12-500	**12.**	⅞	1⅝	1.40
TD-20-500	**20.**	1	2	1.60
TD-30-500	**30.**	1	2½	1.75
600 VOLTS DC WORKING				
TD-8-60	**8.**	⅞	2¾	1.40
TD-10-600	**10.**	⅞	2¾	1.45
TD-12-600	**12.**	⅞	2¾	1.50
TD-16-600	**16.**	1	3 3/16	1.65
TD-20-600	**20.**	1	3 3/16	1.70
700 VOLTS DC WORKING				
TD-8-700	**8.**	⅞	2¾	1.50
TD-10-700	**10.**	⅞	2¾	1.55
TD-12-700	**12.**	1	3 3/16	1.60
TD-16-700	**16.**	1	3 3/16	1.75

* For overall size add 1/16" to diameter and 3/16" to length.



METL-CAN ELECTROLYTIC CAPACITORS

TYPE **M C**

DC dry electrolytic capacitors. Assembled in screw-base metal containers for maximum protection against humidity. 8-inch flexible-wire insulated leads at one end. Supplied with pal-nut for mounting.

MC SINGLE-CAPACITOR UNITS

Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
450 VOLTS DC WORKING				
MC-8-450	**8.**	1⅜	3⅛	2.20
MC-16-450	**16.**	1⅜	3⅛	2.45
MC-30-450	**30.**	1⅜	3⅛	3.00
600 VOLTS DC WORKING				
MC-8-600	**8.**	1⅜	3⅛	3.15
MC-16-600	**16.**	1⅜	3⅛	3.75
MC-20-600	**20.**	1⅜	3⅛	3.95

MC DUAL-CAPACITOR UNITS

COMMON NEGATIVE				
MC-D8-450CN	**8-8**	1⅜	3⅛	3.00
MC-D16-450CN	**16-16**	1⅜	3⅛	3.55
MC-D20-450CN	**20-20**	1⅜	3⅛	4.10

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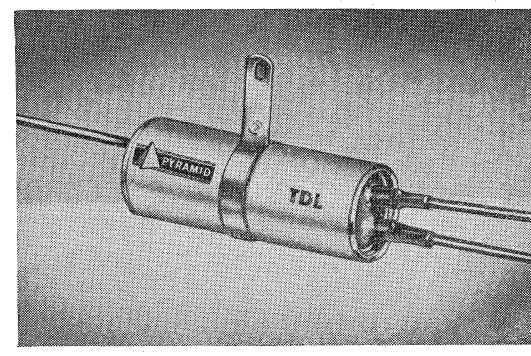
TYPE **TDL**

TYNEE-DRY ELECTROLYTIC CAPACITORS

Tynee-Dry dual -and triple-capacitor units with 8-inch flexible-wire insulated leads. Designed for 85° C. operation. Each unit sealed in metal tubular case. Supplied with riveted radial mounting bracket over insulating cardboard sleeve. Low leakage. Long shelf life. Top quality in minimum space.



TDL DUAL-CAPACITOR UNITS

Stock Number	Catalog Number	Cap. in UF	Size in Inches* Diameter	Length	List Price
25 VOLTS DC WORKING					
TDLD-1	TDL-D-25	10-10	¾	1⅝	1.40
50 VOLTS DC WORKING					
TDLD-2	TDL-D10-50	10-10	¾	1⅝	1.40
150 VOLTS DC WORKING					
TDLD-3	TDL-D20-150	20-20	¾	1⅝	1.65
TDLD-4	TDL-D30-150	30-30	¾	2	1.80
TDLD-5	TDL-4020-150	40-20	¾	2	1.75
TDLD-6	TDL-4030-150	40-30	¾	2	1.80
TDLD-7	TDL-D40-150	40-40	¾	2	1.85
TDLD-8	TDL-5030-150	50-30	¾	2	1.95
TDLD-9	TDL-D50-150	50-50	⅞	2	2.10
TDLD-10	TDL-8030-150	80-30	⅞	2	2.20
TDLD-11	TDL-8040-150	80-40	1	2	2.25
TDLD-12	TDL-8050-150	80-50	1	2	2.30
TDLD-13	TDL-D80-150	80-80	1	2½	2.60
TDLD-14	TDL-10050-150	100-50	1	3	2.35
TDLD-15	TDL-D100-150	100-100	1	3	3.20
TDLD-16	TDL-2005-150	200-5	1	3½	2.70
250 VOLTS DC WORKING					
TDLD-17	TDL-D8-250	8-8	¾	1⅝	1.60
TDLD-18	TDL-D16-250	16-16	¾	1⅝	1.60
TDLD-19	TDL-D20-250	20-20	¾	2	1.85
TDLD-20	TDL-D30-250	30-30	⅞	2	2.00
TDLD-21	TDL-4020-250	40-20	⅞	2	2.15
TDLD-22	TDL-D40-250	40-40	1	2	2.15
TDLD-23	TDL-8010-250	80-10	1	2	2.55
450 VOLTS DC WORKING					
TDLD-24	TDL-D8-450	8-8	⅞	1⅝	1.70
TDLD-25	TDL-816-450	8-16	⅞	2	2.00
TDLD-26	TDL-D10-450	10-10	⅞	2	1.85
TDLD-27	TDL-D16-450	16-16	1	2	2.20
TDLD-28	TDL-D20-450	20-20	1	2½	2.50
TDLD-29	TDL-D30-450	30-30	1	3	3.00
TDLD-30	TDL-4020-450	40-20	1	3½	2.95
TDLD-31	TDL-D40-450	40-40	1	3¾	3.40
TDLD-32	TDL-5030-450	50-30	1	4	3.40

* For overall size add 1/16" to diameter and 3/16" to length.

TDL TRIPLE-CAPACITOR UNITS

Stock Number	Catalog Number	Cap. in UF	Size in Inches* Diameter	Length	List Price
150 VOLTS DC WORKING					
TDLT-1	TDL-T20-150	20-20-20	1	2	2.15
TDLT-2	TDL-T30-150	30-30-30	1	2	2.30
TDLT-3	TDL-403020-150	40-30-20	1	2	2.35
TDLT-4	TDL-404020-150	40-40-20	1	2	2.35
TDLT-5	TDL-T40-150	40-40-40	1	2	2.45
TDLT-6	TDL-503020-150	50-30-20	1	2	2.35
TDLT-7	TDL-804020-150	80-40-20	1	2	2.75
250 VOLTS DC WORKING					
TDLT-8	TDL-754010-250	75-40-10	1	3	3.45
450 VOLTS DC WORKING					
TDLT-9	TDL-T16-450	16-16-16	1	3	3.10

TDL TRIPLE-CAPACITOR UNITS, MIXED SECTIONS

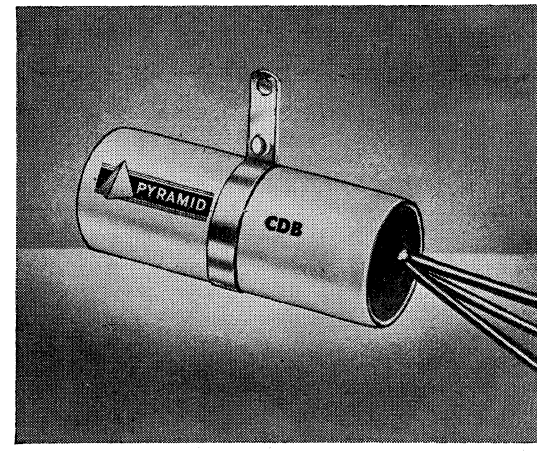
Stock Number	Catalog Number	Cap. in UF	Volts DC Working	Length* in Inches	List Price
DIAMETER: 1"					
TDLT-10	TDL-8332	80-30-300	150-150-10	3	3.05
TDLT-11	TDL-222	20-20-20	150-150-20	2	2.05
TDLT-12	TDL-432	40-30-20	150-150-25	2	2.20
TDLT-13	TDL-442	40-40-20	150-150-25	2	2.25
TDLT-14	TDL-4412	40-40-100	150-150-25	2½	2.45
TDLT-15	TDL-532	50-30-20	150-150-25	2	2.25
TDLT-16	TDL-5312	50-30-100	150-150-25	2½	2.55
TDLT-17	TDL-5322	50-30-200	150-150-25	2½	2.75
TDLT-18	TDL-552	50-50-20	150-150-25	2½	2.50
TDLT-19	TDL-8212	80-20-100	150-150-25	2½	2.75
TDLT-20	TDL-44225	40-40-20	250-250-25	2½	2.90
TDLT-21	TDL-22245	20-20-20	450-450-25	2½	2.90

TYPE **CDB**

CARTRIJ-DRY ELECTROLYTIC CAPACITORS

DC dry electrolytic capacitors assembled in wax-filled, impregnated cardboard tubes. 8-inch flexible leads at one end. Assembled mounting strap. Low leakage. Long shelf life.

Catalog Number	Cap. in UF	Volts DC Working	Size in Inches Diam.	Lgth.	List Price
DUAL-CAPACITOR UNITS (Common Negative)					
CDB-D-1014	150-100	300-300	1⅜	4¾	5.55
TRIPLE CAPACITOR UNITS (Common Negative)					
CDB-T-1015	200-250-10	150-150-150	1⅜	4⅛	3.95
TRIPLE UNITS, MIXED SECTIONS (Common Negative)					
CDB-T-1002	80-30-20	150-150-25	1	2¾	2.75
CDB-T-1009	100-200-40	300-200-200	1⅜	4½	4.75
CDB-T-1011	120-40-100	300-250-50	1⅜	4⅛	4.50
QUADRUPLE-CAPACITOR UNITS (Common Negative)					
CDB-Q-1003	20-20-10-10	350-350-350-350	1⅛	3½	4.10
CDB-Q-4422	40-40-20-20	450-450-450-450	1½	4¾	5.45
QUADRUPLE UNITS, MIXED SECTIONS (Com. Negative)					
CDB-Q-1013	70-30-30-20	150-150-150-15	1	3½	3.65
CDB-Q-1001	40-40-20-20	150-150-150-25	1	3	3.10
CDB-Q-1008	140-5-200-30	350-350-200-200	1½	5	5.45
CDB-Q-1005	20-120-40-100	450-300-350-50	1½	4½	5.50



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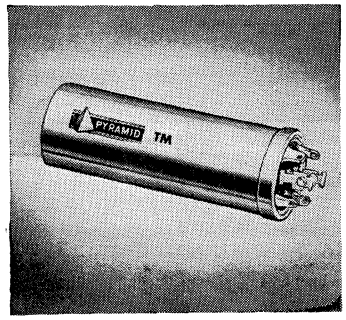

TWIST-MOUNT ELECTROLYTIC CAPACITORS

TYPE **T M**

Designed for 85° C. operation. Type TM available in single-, dual-, triple-, and quadruple-capacitor units. Assembled in aluminum containers providing maximum protection against moisture. Easy to mount: supplied complete with metal and Bakelite mounting plates. Low leakage. Long shelf life. Extremely compact. Highly dependable. For use in applications where high temperatures, voltage surges, and ripple currents are encountered; as in radio and television receivers, amplifiers, and similar equipment. For mounting hardware, see page 8 on layout or equivalent in masters.

TM SINGLE-CAPACITOR UNITS

Stock Number	Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
6 VOLTS DC WORKING					
TMS-1	TM-1000-6	1,000.	1⅜	2	1.90
TMS-2	TM-2000-6	2,000.	1⅜	2	2.55
10 VOLTS DC WORKING					
TMS-3	TM-3000-10	3,000.	1⅜	2½	2.90
15 VOLTS DC WORKING					
TMS-4	TM-1000-15	1,000.	1	2½	2.55
TMS-5	TM-2000-15	2,000.	1⅜	2½	3.45
TMS-6	TM-3000-15	3,000.	1⅜	3	3.50
TMS-7	TM-4000-15	4,000.	1⅜	3½	3.75
25 VOLTS DC WORKING					
TMS-8	TM-50-25	50.	1	2	1.40
TMS-9	TM-100-25	100.	1	2	1.60
TMS-73	TM-250-25	250.	1	2	1.90
TMS-10	TM-500-25	500.	1	2½	2.55
TMS-11	TM-1000-25	1,000.	1⅜	2	3.55
50 VOLTS DC WORKING					
TMS-12	TM-100-50	100.	1	2	1.65
TMS-13	TM-150-50	150.	1	2	1.80
TMS-14	TM-250-50	250.	1	2½	2.00
TMS-15	TM-500-50	500.	1⅜	2	2.65
TMS-16	TM-1000-50	1,000.	1⅜	3½	3.75
150 VOLTS DC WORKING					
TMS-17	TM-20-150	20.	1	2	1.45
TMS-18	TM-30-150	30.	1	2	1.55
TMS-19	TM-40-150	40.	1	2	1.60
TMS-20	TM-50-150	50.	1	2	1.65
TMS-21	TM-80-150	80.	1	2	1.85
TMS-22	TM-100-150	100.	1	2	2.00
TMS-23	TM-120-150	120.	1	2½	2.10
TMS-24	TM-140-150	140.	1	3	2.15
TMS-25	TM-150-150	150.	1	3	2.15
TMS-26	TM-200-150	200.	1⅜	2½	2.45
TMS-27	TM-300-150	300.	1⅜	3	2.80
250 VOLTS DC WORKING					
TMS-74	TM-5-250	5.	1	2	1.35
TMS-28	TM-15-250	15.	1	2	1.55
TMS-29	TM-20-250	20.	1	2	1.60
TMS-30	TM-30-250	30.	1	2	1.70
TMS-31	TM-40-250	40.	1	2	1.80
TMS-32	TM-60-250	60.	1	2½	2.05
TMS-33	TM-80-250	80.	1	3	2.15
TMS-34	TM-150-250	150.	1⅜	2½	3.10
TMS-75	TM-200-250	200.	1⅜	3½	3.50
300 VOLTS DC WORKING					
TMS-35	TM-15-300	15.	1	2	1.60
TMS-36	TM-30-300	30.	1	2	1.75
TMS-37	TM-40-300	40.	1	2½	1.90
TMS-38	TM-50-300	50.	1	2½	2.05
TMS-39	TM-80-300	80.	1	3	2.55
TMS-40	TM-100-300	100.	1	3	2.90
TMS-41	TM-125-300	125.	1⅜	3	3.50
TMS-42	TM-150-300	150.	1⅜	3	3.50
350 VOLTS DC WORKING					
TMS-43	TM-15-350	15.	1	2	1.65
TMS-44	TM-30-350	30.	1	2½	1.90
TMS-45	TM-40-350	40.	1	2½	2.00
TMS-46	TM-50-350	50.	1	3	2.10
TMS-47	TM-80-350	80.	1⅜	3½	2.85
TMS-48	TM-125-350	125.	1⅜	3	3.95
400 VOLTS DC WORKING					
TMS-49	TM-10-400	10.	1	2	1.50
TMS-50	TM-20-400	20.	1	2	1.75
TMS-51	TM-40-400	40.	1	3	2.00
TMS-52	TM-80-400	80.	1⅜	2½	2.95
450 VOLTS DC WORKING					
TMS-53	TM-10-450	10.	1	2	1.55
TMS-54	TM-15-450	15.	1	2	1.70
TMS-55	TM-20-450	20.	1	2	1.80
TMS-56	TM-30-450	30.	1	2½	1.95
TMS-57	TM-40-450	40.	1	3	2.05
TMS-58	TM-50-450	50.	1	3	2.35
TMS-59	TM-60-450	60.	1⅜	2½	2.60
TMS-60	TM-80-450	80.	1⅜	3	3.05
TMS-61	TM-100-450	100.	1⅜	3	3.50
TMS-62	TM-150-450	150.	1⅜	4	4.20
500 VOLTS DC WORKING					
TMS-66	TM-10-500	10.	1	2	1.60
TMS-67	TM-20-500	20.	1	2½	1.85
TMS-68	TM-30-500	30.	1	3	2.00
TMS-69	TM-40-500	40.	1	3½	2.50
TMS-70	TM-80-500	80.	1⅜	3½	3.20
TMS-71	TM-90-500	90.	1⅜	3½	3.50
525 VOLTS DC WORKING					
TMS-72	TM-10-525	10.	1	2	1.70

TM DUAL-CAPACITOR UNITS

Stock Number	Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
10 VOLTS DC WORKING					
TMD-1	TM-200	1,000-500	1⅜	2	4.00
15 VOLTS DC WORKING					
TMD-2	TM-D1000-15	1,000-1,000	1	3	4.40
25 VOLTS DC WORKING					
TMD-3	TM-D40-25	40-40	1	2	1.60
TMD-4	TM-15050-25	150-50	1	2	1.90
50 VOLTS DC WORKING					
TMD-5	TM-D50-50	50-50	1	2	1.70
150 VOLTS DC WORKING					
TMD-6	TM-D20-150	20-20	1	2	1.70
TMD-7	TM-3015-150	30-15	1	2	1.75
TMD-8	TM-D30-150	30-30	1	2	1.85
TMD-9	TM-4020-150	40-20	1	2	1.80
TMD-10	TM-4030-150	40-30	1	2	1.85
TMD-11	TM-D40-150	40-40	1	2	1.90
TMD-12	TM-5030-150	50-30	1	2	2.00
TMD-13	TM-D50-150	50-50	1	2	2.15
TMD-14	TM-6020-150	60-20	1	2	2.00
TMD-15	TM-D60-150	60-60	1	2½	2.35
TMD-16	TM-8040-150	80-40	1	2½	2.30
TMD-18	TM-D80-150	80-80	1	3	2.65
TMD-17	TM-8050-150	80-50	1	2½	2.40
TMD-87	TM-2028	100-30	1⅜	2½	2.25
TMD-19	TM-D100-150	100-100	1⅜	2½	3.00
TMD-20	TM-201	200-125	1⅜	3	3.75
TMD-21	TM-D200-150	200-200	1⅜	3	4.00
200 VOLTS DC WORKING					
TMD-22	TM-D60-200	60-60	1⅜	2	2.55
250 VOLTS DC WORKING					
TMD-23	TM-D10-250	10-10	1	2	1.70
TMD-24	TM-D20-250	20-20	1	2	1.90

(Continued on next page)

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TM DUAL-CAPACITOR UNITS (Continued)

Stock Number	Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
TMD-25	TM-D30-250	**30-30**	1	2	2.30
TMD-26	TM-4020-250	**40-20**	1	2½	2.30
TMD-27	TM-D40-250	**40-40**	1	3	2.55
TMD-28	TM-D150-250	**150-150**	1⅜	4	5.15
TMD-88	TM-2025	**200-200**	1⅜	4	6.40
300 VOLTS DC WORKING					
TMD-29	TM-D20-300	**20-20**	1	2	2.05
TMD-30	TM-D30-300	**30-30**	1⅜	2½	2.50
TMD-31	TM-D40-300	**40-40**	1⅜	2½	3.00
TMD-32	TM-D60-300	**60-60**	1⅜	2½	3.40
TMD-104	TM-2042	**80-40**	1⅜	3	3.55
TMD-33	TM-D80-300	**80-80**	1⅜	3	4.05
TMD-34	TM-12020-300	**120-20**	1⅜	3	4.00
350 VOLTS DC WORKING					
TMD-35	TM-D20-350	**20-20**	1	2½	2.30
TMD-36	TM-3020-350	**30-20**	1	3	2.60
TMD-37	TM-D30-350	**30-30**	1	3	2.90
TMD-38	TM-D40-350	**40-40**	1⅜	2½	2.95
TMD-39	TM-5030-350	**50-30**	1⅜	2½	3.15
TMD-40	TM-D80-350	**80-80**	1⅜	3	4.70
TMD-89	TM-2030	**100-80**	1⅜	3½	4.90
TMD-90	TM-2032	**160-10**	1⅜	3½	4.25
400 VOLTS DC WORKING					
TMD-41	TM-D15-400	**15-15**	1	2	2.25
TMD-42	TM-3010-400	**30-10**	1	2	2.35
TMD-43	TM-D40-400	**40-40**	1⅜	3	3.40
TMD-44	TM-D60-400	**60-60**	1⅜	3	4.40
TMD-45	TM-8010-400	**80-10**	1⅜	3	3.40
TMD-91	TM-2035	**120-40**	1⅜	4	5.25
450 VOLTS DC WORKING					
TMD-46	TM-D4-450	**4-4**	1	2	1.55
TMD-47	TM-D10-450	**10-10**	1	2	1.90
TMD-48	TM-D15-450	**15-15**	1	2½	2.25
TMD-49	TM-2010-450	**20-10**	1	2½	2.25
TMD-50	TM-D20-450	**20-20**	1	3	2.55
TMD-51	TM-3010-450	**30-10**	1	3	2.50
TMD-52	TM-D30-450	**30-30**	1⅜	2½	3.05
TMD-53	TM-4020-450	**40-20**	1⅜	2½	3.00
TMD-54	TM-D40-450	**40-40**	1⅜	3	3.45
TMD-55	TM-6020-450	**60-20**	1⅜	3	3.55
TMD-56	TM-6040-450	**60-40**	1⅜	3	3.95
TMD-57	TM-8010-450	**80-10**	1⅜	3	3.60
TMD-58	TM-8040-450	**80-40**	1⅜	3½	4.35
TMD-59	TM-D80-450	**80-80**	1⅜	4	4.75
500 VOLTS DC WORKING					
TMD-60	TM-D10-500	**10-10**	1	2½	1.95
TMD-61	TM-D20-500	**20-20**	1⅜	2½	2.85
TMD-92	TM-2036	**40-10**	1⅜	3	3.15
TMD-62	TM-D40-500	**40-40**	1⅜	3½	4.40
TMD-63	TM-6040-500	**60-40**	1⅜	3½	4.60
TMD-93	TM-2037	**80-50**	1⅜	3½	5.10

TM DUAL MIXED SECTIONS

Stock Number	Catalog Number	Cap. in UF	Volts DC Working	Size in Inches Diam.	Lgth.	List Price
TMD-64	TM-2001	**250-1,000**	10-6	1⅜	2	2.85
TMD-94	TM-2038	**50-500**	150-5	1	3	2.45
TMD-65	TM-2002	**50-150**	150-25	1	2	2.05
TMD-66	TM-2003	**40-20**	150-50	1	2	1.70
TMD-67	TM-2021	**40-20**	250-25	1	2	2.00
TMD-68	TM-2004	**40-25**	250-50	1	2	2.05
TMD-69	TM-2005	**100-150**	250-50	1⅜	3	3.65
TMD-96	TM-2034	**200-5**	300-150	1⅜	3	3.55
TMD-97	TM-2024	**60-10**	300-200	1	3	2.65
TMD-98	TM-2040	**20-60**	300-250	1	3	2.75
TMD-70	TM-2006	**20-20**	350-25	1	2	1.90
TMD-71	TM-2007	**40-20**	350-25	1	2½	2.35
TMD-99	TM-2031	**40-100**	400-50	1	3½	2.70
TMD-100	TM-2041	**60-80**	400-250	1⅜	3½	3.45
TMD-72	TM-2008	**10-20**	450-25	1	2	1.70
TMD-73	TM-2009	**20-20**	450-25	1	2	2.00
TMD-74	TM-2010	**40-20**	450-25	1	3	2.45
TMD-75	TM-2011	**80-20**	450-25	1⅜	3	3.40
TMD-101	TM-2026	**20-25**	450-50	1	2½	2.80
TMD-76	TM-2012	**80-50**	450-50	1⅜	3	3.75
TMD-102	TM-2027	**100-50**	450-50	1⅜	3	3.75
TMD-77	TM-2013	**20-100**	450-100	1⅜	2½	2.90
TMD-78	TM-2041	**30-40**	450-150	1⅜	2	2.50
TMD-103	8M-2033	**20-200**	450-250	1⅜	3	4.50
TMD-79	TM-2015	**20-80**	450-350	1⅜	3	3.60
TMD-80	TM-2016	**40-10**	450-350	1⅜	2	2.60
TMD-81	TM-2022	**80-50**	500-50	1⅜	3½	3.80
TMD-82	TM-2017	**60-80**	500-150	1⅜	3½	3.75
TMD-83	TM-2018	**40-50**	500-200	1⅜	2½	3.30
TMD-84	TM-2023	**15-20**	500-300	1	2½	2.30
TMD-85	TM-2019	**20-100**	500-300	1⅜	3	3.90

TM TRIPLE-CAPACITOR UNITS

Stock Number	Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
25 VOLTS DC WORKING					
TMT-1	TM-T20-25	**20-20-20**	1	2	1.95
TMT-2	TM-T40-25	**40-40-40**	1	2	2.15
50 VOLTS DC WORKING					
TMT-3	TM-T30-50	**30-30-30**	1	2	2.15
150 VOLTS DC WORKING					
TMT-4	TM-T20-150	**20-20-20**	1	2	2.30
TMT-5	TM-303010-150	**30-30-10**	1	2	2.30
TMT-6	TM-402010-150	**40-20-10**	1	2	2.35
TMT-7	TM-402020-150	**40-20-20**	1	2	2.40
TMT-8	TM-403020-150	**40-30-20**	1	2	2.50
TMT-9	TM-T40-150	**40-40-40**	1	2½	2.60
TMT-162	TM-3126	**50-40-10**	1	2⅛	2.55
TMT-10	TM-T50-150	**50-50-50**	1	3	3.00
TMT-11	TM-604020-150	**60-40-20**	1	2½	2.75
TMT-12	TM-704040-150	**70-40-40**	1	3	2.95
TMT-13	TM-804020-150	**80-40-20**	1	2½	2.90
TMT-14	TM-T80-150	**80-80-80**	1⅜	3	3.75
TMT-15	TM-1208040-150	**120-80-40**	1⅜	3	3.80
TMT-163	TM-3145	**120-120-40**	1⅜	3½	4.05
250 VOLTS DC WORKING					
TMT-16	TM-151510-250	**15-15-10**	1	2	2.45
TMT-17	TM-202010-250	**20-20-10**	1	2	2.50
TMT-18	TM-302010-250	**30-20-10**	1	2½	2.70
TMT-19	TM-402010-250	**40-20-10**	1⅜	2	2.85
TMT-20	TM-402020-250	**40-20-20**	1	3	2.90
TMT-21	TM-808060-250	**80-80-60**	1⅜	3½	4.90
300 VOLTS DC WORKING					
TMT-22	TM-T10-300	**10-10-10**	1	2	2.40
TMT-23	TM-T40-300	**40-40-40**	1⅜	3	3.90
TMT-24	TM-602010-300	**60-20-10**	1⅜	2½	3.45
TMT-25	TM-802010-300	**80-20-10**	1⅜	2½	3.80
TMT-26	TM-1206040-300	**120-60-40**	1⅜	4	5.75
350 VOLTS DC WORKING					
TMT-27	TM-T10-350	**10-10-10**	1	2	2.40
TMT-28	TM-202010-350	**20-20-10**	1	3	2.95
TMT-29	TM-604020-350	**60-40-20**	1⅜	3	4.25
TMT-30	TM-806060-350	**80-60-60**	1⅜	4	5.55
TMT-164	TM-3146	**90-40-20**	1⅜	4	5.25
TMT-165	TM-3128	**100-100-10**	1⅜	4	5.70
400 VOLTS DC WORKING					
TMT-31	TM-T10-400	**10-10-10**	1	2½	2.40
450 VOLTS DC WORKING					
TMT-32	TM-T10-450	**10-10-10**	1	2½	2.60
TMT-33	TM-151510-450	**15-15-10**	1	3	2.95
TMT-34	TM-T20-450	**20-20-20**	1⅜	2½	3.60
TMT-35	TM-T30-450	**30-30-30**	1⅜	3½	4.35
TMT-36	TM-401010-450	**40-10-10**	1⅜	3	3.35
TMT-37	TM-403020-450	**40-30-20**	1⅜	3	4.30
TMT-38	TM-404010-450	**40-40-10**	1⅜	3	4.20
TMT-39	TM-404020-450	**40-40-20**	1⅜	3	4.45
TMT-40	TM-T40-450	**40-40-40**	1⅜	3½	4.90
TMT-41	TM-602020-450	**60-20-20**	1⅜	3½	4.60
TMT-42	TM-603010-450	**60-30-10**	1⅜	3	4.50
TMT-43	TM-804020-450	**80-40-20**	1⅜	4	5.40
500 VOLTS DC WORKING					
TMT-45	TM-T10-500	**10-10-10**	1	3	2.70
TMT-46	TM-303020-500	**30-30-30**	1⅜	3	4.45
TMT-47	TM-401010-500	**40-10-10**	1⅜	3	3.90
TMT-48	TM-404010-500	**40-40-10**	1⅜	4	5.05

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TM TRIPLE MIXED SECTIONS

Stock Number	Catalog Number	Cap. in UF	Volts DC Working	Size in Inches Diam.	Lgth.	List Price
TMT-49	TM-3069	**100-50-25**	100-25-25	1	3	2.65
TMT-50	TM-3001	**20-250-100**	150-15-15	1⅜	2	2.90
TMT-51	TM-3097	**40-25-130**	150-25-15	1	3	2.35
TMT-166	TM-3147	**15-15-1200**	150-150-2	1	2	3.00
TMT-52	TM-3067	**30-20-100**	150-150-10	1	2	2.40
TMT-53	TM-3003	**30-30-200**	150-150-10	1	2	2.50
TMT-54	TM-3070	**40-20-250**	150-150-10	1	2	2.70
TMT-168	TM-3139	**90-40-400**	150-150-10	1	3	3.60
TMT-55	TM-3004	**20-20-20**	150-150-25	1	2	2.20
TMT-56	TM-3005	**30-30-20**	150-150-25	1	2	2.30
TMT-57	TM-3006	**40-20-20**	150-150-25	1	2	2.30
TMT-58	TM-3007	**40-20-100**	150-150-25	1	2	2.50
TMT-59	TM-3008	**40-200-200**	150-150-25	1	2½	2.70
TMT-60	TM-3009	**40-30-20**	150-150-25	1	2	2.35
TMT-61	TM-3010	**40-40-20**	150-150-25	1	2	2.40
TMT-169	TM-3149	**40-40-200**	150-150-25	1	3	2.85
TMT-62	TM-3011	**50-30-20**	150-150-25	1	2	2.50
TMT-63	TM-3012	**50-30-100**	150-150-25	1	2½	2.70
TMT-64	TM-3013	**50-50-20**	150-150-25	1	2½	2.65
TMT-65	TM-3014	**60-20-20**	150-150-25	1	2	2.55
TMT-66	TM-3015	**60-40-20**	150-150-25	1	2½	2.65
TMT-67	TM-3016	**80-40-20**	150-150-25	1	2½	2.80
TMT-170	TM-3134	**100-40-300**	150-150-25	1⅜	2½	3.80
TMT-68	TM-3017	**120-60-20**	150-150-25	1⅜	2½	3.35
TMT-171	TM-3125	**60-140-200**	200-150-150	1⅜	4	5.30
TMT-69	**TM-3071**	30-20-20	200-200-25	1	2	2.55
TMT-172	TM-2123	**60-5-20**	200-200-50	1	3	2.50
TMT-70	TM-3018	**100-10-40**	200-200-50	1⅜	2	3.15
TMT-71	TM-3098	**80-40-50**	250-150-50	1⅜	2½	3.30
TMT-72	TM-3019	**15-15-20**	250-250-25	1	2	2.35
TMT-73	TM-3072	**20-15-20**	250-250-25	1	2	2.35
TMT-74	TM-3020	**30-30-20**	250-250-25	1	3	2.80
TMT-75	TM-3021	**70-70-20**	250-250-50	1⅜	3	3.90
TMT-173	TM-3150	**90-90-20**	250-250-50	1⅜	3	4.60
TMT-76	TM-3073	**40-20-10**	250-250-150	1⅜	2	2.70
TMT-77	TM-3099	**100-60-20**	300-150-25	1⅜	3	4.20
TMT-174	TM-3136	**100-200-60**	300-150-150	1⅜	4	5.35
TMT-78	TM-3066	**30-30-20**	300-250-25	1	3	3.15
TMT-175	TM-3151	**200-60-20**	300-250-250	1⅜	4	5.80
TMT-79	TM-3023	**20-20-20**	300-300-25	1	2½	2.75
TMT-80	TM-3075	**40-15-20**	300-300-25	1	2½	2.95
TMT-81	TM-3076	**30-30-25**	300-300-50	1	3	2.90
TMT-176	TM-3137	**100-10-60**	300-300-50	1⅜	2½	4.05
TMT-177	TM-3141	**140-10-200**	300-300-150	1⅜	4½	4.90
TMT-82	TM-3024	**10-10-15**	300-300-250	1	2	2.45
TMT-178	TM-3152	**4-100-40**	350-25-25	1	2	2.25
TMT-83	TM-3100	**20-50-100**	350-100-75	1	3	3.10
TMT-179	TM-1353	**125-5-100**	350-200-75	1⅜	3½	5.30
TMT-84	TM-3101	**10-50-100**	350-150-50	1	3	2.85
TMT-85	TM-3102	**50-10-500**	350-250-5	1⅜	2½	3.60
TMT-86	TM-3079	**30-20-10**	350-350-250	1	3	3.00
TMT-180	TM-3124	**10-80-25**	350-300-25	1	3½	3.65
TMT-87	TM-3103	**30-30-20**	350-300-25	1	3	3.15
TMT-181	TM-3131	**40-40-30**	350-300-250	1⅜	2½	4.30
TMT-88	TM-3025	**10-10-20**	350-350-25	1	2	3.25
TMT-89	TM-3026	**15-10-20**	350-350-25	1	2	2.50
TMT-90	TM-3027	**15-15-20**	350-350-25	1	2	2.70
TMT-91	TM-3028	**20-10-20**	350-350-25	1	2	2.55
TMT-92	TM-3029	**20-20-20**	350-350-25	1	2½	2.80
TMT-93	TM-3030	**30-10-20**	350-350-25	1	2½	3.05
TMT-94	TM-3077	**30-20-20**	350-350-25	1	3	3.10
TMT-95	TM-3031	**30-30-20**	350-350-25	1⅜	2	3.40
TMT-96	TM-3032	**40-40-25**	350-350-25	1⅜	2½	3.60
TMT-97	TM-3078	**40-40-50**	350-350-25	1⅜	2½	3.75
TMT-182	TM-3135	**90-40-50**	350-350-25	1⅜	3½	4.55
TMT-98	TM-3033	**10-5-150**	350-350-50	1	3	2.70
TMT-183	TM-3154	**20-5-30**	350-350-50	1	2	2.45
TMT-184	TM-3138	**150-4-30**	350-350-50	1⅜	3½	4.25
TMT-99	TM-3034	**40-20-10**	350-350-150	1	3	3.20
TMT-100	TM-3035	**30-10-20**	350-350-250	1	3	3.05
TMT-101	TM-3104	**60-40-20**	400-300-25	1⅜	3½	4.20
TMT-102	TM-3105	**10-40-10**	400-300-150	1⅜	2	2.90
TMT-103	TM-3082	**80-20-10**	400-300-300	1⅜	3½	4.25
TMT-104	TM-3106	**10-50-30**	400-350-25	1	3	3.10
TMT-104	TM-3106	108$F419				

Stock Number	Catalog Number	Cap. in UF	Volts DC Working	Size in Inches Diam.	Lgth.	List Price
TMT-105	TM-3080	**15-15-40**	400-400-25	1	2½	2.80
TMT-106	TM-3036	**20-20-20**	400-400-25	1	3	2.85
TMT-107	TM-3037	**20-10-40**	400-400-50	1	3	2.65
TMT-108	TM-3081	**30-10-150**	400-400-50	1⅜	2½	3.40
TMT-185	TM-3142	**40-10-200**	400-400-50	1⅜	3½	3.85
TMT-109	TM-3038	**80-40-150**	400-400-50	1⅜	4	5.25
TMT-186	TM-3155	**100-10-20**	400-400-50	1⅜	3½	4.50
TMT-187	TM-3144	**100-10-80**	400-400-350	1⅜	4½	5.20
TMT-188	TM-3132	**20-500-500**	450-25-25	1⅜	3½	5.25
TMT-110	TM-3083	**30-100-25**	450-25-25	1⅜	2	3.00
TMT-189	TM-3156	**80-100-20**	450-50-50	1⅜	3	4.25
TMT-111	TM-3107	**10-50-100**	450-150-25	1	3	2.75
TMT-112	TM-3108	**40-40-130**	450-150-50	1⅜	3	3.75
TMT-113	TM-3109	**40-100-50**	450-150-50	1⅜	2½	3.95
TMT-114	TM-3089	**40-90-50**	450-150-150	1⅜	3	4.00
TMT-115	TM-3110	**20-60-100**	450-250-25	1⅜	2½	3.65
TMT-116	TM-3090	**20-40-10**	450-250-250	1⅜	2	3.15
TMT-117	TM-3111	**10-40-20**	450-300-150	1⅜	2	3.10
TMT-118	TM-3039	**20-15-10**	450-300-300	1	3½	2.85
TMT-119	TM-3112	**10-10-20**	450-350-25	1	2	2.30
TMT-190	TM-3129	**10-100-25**	450-350-25	1⅜	3	4.05
TMT-120	TM-3113	**30-40-50**	450-350-25	1	4⅛	3.70
TMT-121	TM-3040	**20-80-100**	450-?350-50	1⅜	3½	4.50
TMT-191	TM-3157	**20-80-50**	450-350-300	1⅜	3	3.40
TMT-122	TM-3065	**40-50-50**	450-350-300	1⅜	3½	4.85
TMT-192	TM-3127	**50-80-10**	450-350-350	1⅜	3½	4.75
TMT-123	TM-3116	**30-50-40**	450-400-25	1⅜	3	3.95
TMT-124	TM-3044	**10-30-30**	450-400-300	1⅜	2½	3.35
TMT-125	TM-3045	**10-10-20**	450-450-25	1	2	2.40
TMT-126	TM-3046	**15-15-20**	450-450-25	1	2½	2.70
TMT-127	TM-3047	**20-10-20**	450-450-25	1	2½	2.70
TMT-128	TM-3048	**20-15-20**	450-450-25	1	3	2.90
TMT-129	TM-3049	**20-20-20**	450-450-25	1	3	3.05
TMT-130	TM-3050	**30-30-20**	450-450-25	1⅜	2½	3.55
TMT-131	TM-3051	**30-30-150**	450-450-25	1⅜	3	4.05
TMT-132	TM-3052	**40-20-20**	450-450-25	1⅜	2½	3.50
TMT-133	TM-3053	**40-40-20**	450-450-25	1⅜	3	3.95
TMT-134	TM-3084	**40-40-40**	450-450-25	1⅜	3	2.45
TMT-135	TM-3054	**80-10-125**	450-450-25	1⅜	2½	4.45
TMT-136	TM-3055	**80-40-100**	450-450-25	1⅜	4	5.05
TMT-137	TM-3086	**10-10-40**	450-450-50	1	2½	2.50
TMT-138	TM-3085	**20-10-50**	450-450-50	1	3	2.85
TMT-139	TM-3087	**30-30-40**	450-450-50	1⅜	3	3.65
TMT-140	TM-3056	**40-10-100**	450-450-50	1⅜	3	4.30
TMT-141	TM-3057	**40-40-100**	450-450-50	1⅜	3½	4.30
TMT-142	TM-3088	**10-10-50**	450-450-100	1⅜	2	2.65
TMT-143	TM-3058	**30-20-30**	450-450-150	1⅜	2½	3.50
TMT-144	TM-3059	**40-40-40**	450-450-150	1⅜	3½	4.10
TMT-145	TM-3060	**40-10-80**	450-450-200	1⅜	3	3.90
TMT-146	TM-3117	**15-10-120**	450-450-300	1⅜	3½	4.50
TMT-147	TM-3091	**15-15-10**	450-450-300	1	3	2.90
TMT-148	TM-3092	**15-5-15**	450-450-350	1	3	2.85
TMT-149	TM-3093	**20-20-60**	450-450-350	1⅜	3	4.05
TMT-150	TM-3094	**40-40-10**	450-450-350	1⅜	2	3.30
TMT-193	TM-3130	**60-40-20**	450-450-400	1⅜	3½	5.05
TMT-194	TM-3158	**20-50-20**	475-50-25	1	3	2.75
TMT-195	TM-3159	**10-100-40**	475-200-50	1⅜	2½	3.30
TMT-196	TM-3160	**40-40-100**	475-250-100	1⅜	3	4.10
TMT-197	TM-3143	**10-100-25**	475-350-25	1⅜	3	3.35
TMT-198	TM-3140	**20-10-5**	475-350-150	1	2½	3.15
TMT-199	TM-3161	**10-4-40**	475-350-250	1⅜	2	2.75
TMT-200	TM-3162	**10-45-100**	475-450-200	1⅜	3	4.20
TMT-151	TM-3114	**10-100-40**	500-200-50	1⅜	2½	3.35
TMT-152	TM-3118	**40-40-100**	500-250-50	1⅜	3	4.30
TMT-153	TM-3119	**20-20-40**	500-300-25	1⅜	2	3.10
TMT-201	TM-3163	**20-40-100**	500-300-25	1⅜	2½	3.60
TMT-202	TM-3133	**10-80-10**	500-350-350	1⅜	3	4.85
TMT-154	TM-3115	**40-40-25**	500-400-50	1⅜	3	4.30
TMT-155	TM-3061	**10-10-100**	500-500-50	1	3	2.85
TMT-156	TM-3095	**20-10-100**	500-500-50	1⅜	3	3.30
TMT-157	TM-3062	**30-10-200**	500-500-50	1⅜	2½	3.10
TMT-158	TM-3063	**40-40-100**	500-500-200	1⅜	4	5.85
TMT-159	TM-3096	**10-10-5**	500-500-350	1	2½	2.50
TMT-160	TM-3064	**20-20-60**	500-500-400	1⅜	3½	4.80

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TM QUADRUPLE-CAPACITOR UNITS

Stock Number	Catalog Number	Cap. in Uf	Size in Inches Diam.	Lgth.	List Price
150 VOLTS DC WORKING					
TMQ-1	TM-4040	**40-40-40-30**	1⅜	2	3.35
TMQ-115	TM-4127	**100-80-60-40**	1⅜	3	4.65
250 VOLTS DC WORKING					
TMQ-116	TM-Q40-250	**40-40-40-40**	1⅜	2½	4.60
300 VOLTS DC WORKING					
TMQ-2	TM-4041	**40-20-10-10**	1⅜	2	3.95
TMQ-3	TM-4042	**40-40-20-10**	1⅜	2½	4.55
TMQ-4	TM-4043	**60-40-10-10**	1⅜	3½	4.55
TMQ-117	TM-4117	**120-40-40-10**	1⅜	4	5.50
TMQ-118	TM-4121	**200-20-20-20**	1⅜	4	6.25
350 VOLTS DC WORKING					
TMQ-5	TM-Q10-350	**10-10-10-10**	1⅜	2	3.10
TMQ-6	TM-4044	**80-10-10-10**	1⅜	3	4.55
400 VOLTS DC WORKING					
TMQ-7	TM-4045	**30-30-20-20**	1⅜	3	4.85
TMQ-119	TM-4125	**40-40-30-30**	1⅜	4	5.65
TMQ-8	TM-4046	**80-25-10-10**	1⅜	3½	5.05
450 VOLTS DC WORKING					
TMQ-9	TM-Q5-450	**5-5-5-5**	1⅜	2	3.00
TMQ-10	TM-Q10-450	**10-10-10-10**	1⅜	2	3.35
TMQ-11	TM-4049	**20-10-10-10**	1⅜	2½	3.70
TMQ-12	TM-Q20-450	**20-20-20-20**	1⅜	2½	4.70
TMQ-13	TM-4050	**30-15-15-15**	1⅜	3	4.45
TMQ-14	TM-4047	**30-30-15-10**	1⅜	3	4.70
TMQ-15	TM-4048	**30-30-30-15**	1⅜	3½	5.30
TMQ-16	TM-4051	**35-35-10-5**	1⅜	3½	4.65
TMQ-17	TM-4052	**40-10-10-10**	1⅜	3	4.15
TMQ-18	TM-4053	**40-20-10-10**	1⅜	3	4.45
TMQ-120	TM-Q40-450	**40-40-40-40**	1⅜	4	6.45
TMQ-121	TM-4132	**60-20-20-20**	1⅜	3½	5.65
TMQ-122	TM-4143	**80-10-10-10**	1⅜	3½	5.00
500 VOLTS DC WORKING					
TMQ-19	TM-Q10-500	**10-10-10-10**	1⅜	2	3.50
TMQ-123	TM-4144	**40-20-20-20**	1⅜	4	5.85

TM QUADRUPLE MIXED SECTIONS

Stock Number	Catalog Number	Cap. in UF	Volts DC Working	Size in Inches Diam.	Lgth.	List Price
TMQ-20	TM-4054	**40-40-40-40**	150-150-25-25	1⅜	2	3.05
TMQ-21	TM-4055	**40-40-100-100**	150-150-25-25	1⅜	2	3.35
TMQ-22	TM-4056	**30-20-20-200**	150-150-150-10	1⅜	2	3.10
TMQ-23	TM-4057	**40-40-20-200**	150-150-150-10	1⅜	2	3.25
TMQ-24	TM-4058	**60-40-20-200**	150-150-150-10	1⅜	2	3.50
TMQ-25	TM-4059	**20-20-20-20**	150-150-150-25	1⅜	2	2.90
TMQ-26	TM-4001	**30-30-30-50**	150-150-150-25	1⅜	2	3.20
TMQ-27	TM-4061	**40-20-20-20**	150-150-150-25	1⅜	2	2.95
TMQ-28	TM-4002	**40-40-30-20**	150-150-150-25	1⅜	2	3.10
TMQ-29	TM-4062	**40-40-40-20**	150-150-150-25	1⅜	2	3.15
TMQ-30	TM-4063	**40-40-40-100**	150-150-150-25	1⅜	2	3.35
TMQ-31	TM-4064	**40-40-40-160**	150-150-150-25	1⅜	2	3.55
TMQ-32	TM-4065	**50-30-30-100**	150-150-150-25	1⅜	2	3.45
TMQ-124	TM-4114	**50-10-40-50**	150-150-150-25	1⅜	2	3.20
TMQ-33	TM-4003	**50-50-50-20**	150-150-150-25	1⅜	2	3.55
TMQ-125	TM-4119	**60-60-10-60**	150-150-150-25	1⅜	2	3.50
TMQ-34	TM-4066	**75-75-75-30**	150-150-150-25	1⅜	3	4.30
TMQ-35	TM-4004	**80-40-30-100**	150-150-150-25	1⅜	2½	3.70
TMQ-36	TM-4039	**80-40-40-40**	150-150-150-25	1⅜	2	3.55
TMQ-37	TM-4067	**80-40-40-100**	150-150-150-25	1⅜	2½	3.75
TMQ-126	TM-4120	**200-250-10-25**	150-150-150-25	1⅜	3½	5.30
TMQ-38	TM-4068	**40-20-10-20**	250-250-250-25	1⅜	2	3.40
TMQ-39	TM-4005	**100-40-10-100**	250-250-250-50	1⅜	3½	5.15
TMQ-40	TM-4006	**80-60-40-20**	250-250-250-150	1⅜	3½	5.10
TMQ-41	TM-4069	**100-40-80-20**	300-50-25-25	1⅜	2½	4.55
TMQ-42	TM-4070	**20-150-150-100**	300-150-150-30	1⅜	4	5.30
TMQ-43	TM-4071	**10-200-140-30**	300-150-150-150	1⅜	4	5.10
TMQ-127	TM-4124	**100-60-10-20**	300-200-150-50	1⅜	3	5.25
TMQ-44	TM-4072	**120-20-100-20**	300-250-50-25	1⅜	4	5.05
TMQ-45	TM-4073	**200-20-100-20**	300-250-50-25	1⅜	5	5.45
TMQ-46	TM-4007	**100-10-200-30**	300-300-150-150	1⅜	4	5.95
TMQ-47	TM-4008	**60-40-20-50**	300-300-300-25	1⅜	3½	4.65
TMQ-129	TM-4118	**150-20-10-250**	300-300-300-50	1⅜	4	6.25
TMQ-48	TM-4009	**40-40-40-20**	300-300-300-150	1⅜	3	4.90
TMQ-49	TM-4010	**20-150-80-20**	350-150-150-25	1⅜	3	4.55
TMQ-50	TM-4074	**40-50-20-80**	350-150-150-50	1⅜	3	4.05
TMQ-51	TM-4075	**15-80-40-200**	350-200-200-25	1⅜	3	4.50
TMQ-130	TM-4149	**20-100-100-10**	350-200-200-100	1⅜	4	5.00
TMQ-52	TM-4076	**20-40-10-250**	350-300-150-150	1⅜	3	4.60
TMQ-131	TM-4147	**40-10-100-25**	350-350-25-25	1⅜	2½	3.75
TMQ-133	TM-4113	**140-40-50-30**	350-350-50-50	1⅜	4	6.35
TMQ-134	TM-4123	**40-10-100-100**	350-350-200-50	1⅜	3½	5.25
TMQ-135	TM-4139	**100-60-60-40**	350-350-200-75	1⅜	4⅛	6.50
TMQ-136	TM-4150	**60-40-60-20**	350-350-200-150	1⅜	3½	5.05
TMQ-137	TM-4151	**60-25-25-100**	350-350-350-50	1⅜	3½	5.15
TMQ-53	TM-4077	**20-10-10-20**	350-350-350-25	1⅜	2	2.95
TMQ-54	TM-4078	**20-10-5-20**	350-350-350-25	1⅜	2	3.10
TMQ-55	TM-4079	**30-20-20-20**	350-350-350-25	1⅜	2½	4.10
TMQ-56	TM-4080	**40-20-20-25**	350-350-350-25	1⅜	2½	4.25
TMQ-57	TM-4081	**40-40-20-20**	350-350-350-25	1⅜	3	4.70
TMQ-58	TM-4082	**40-40-40-40**	350-350-350-25	1⅜	3	5.20
TMQ-59	TM-4083	**15-15-15-50**	350-350-350-50	1⅜	2	3.80
TMQ-60	TM-4084	**40-30-10-50**	350-350-350-50	1⅜	3	4.40
TMQ-61	TM-4011	**40-40-40-150**	350-350-350-50	1⅜	3½	5.70
TMQ-132	TM-4148	**60-4-100-40**	350-350-25-25	1⅜	2½	3.80
TMQ-138	TM-4152	**100-40-30-50**	350-350-350-50	1⅜	4	5.90
TMQ-139	TM-4131	**60-30-30-150**	350-350-350-75	1⅜	4	5.55
TMQ-140	TM-4153	**90-30-5-100**	350-350-350-75	1⅜	3½	5.70
TMQ-141	TM-4154	**10-100-10-100**	400-300-75-25	1⅜	3	4.45
TMQ-142	TM-4155	**30-40-50-200**	400-300-250-150	1⅜	4	6.00
TMQ-143	TM-4156	**80-40-20-10**	400-300-300-300	1⅜	4	5.55
TMQ-144	TM-4157	**20-10-10-20**	400-350-200-25	1⅜	2	3.20
TMQ-145	TM-4116	**40-80-100-20**	400-350-200-50	1⅜	4	6.35
TMQ-146	TM-4158	**40-10-80-10**	400-350-250-250	1⅜	3	4.65
TMQ-62	TM-4085	**10-50-30-30**	400-350-350-25	1⅜	3	4.40
TMQ-147	TM-4159	**50-25-100-20**	400-400-50-25	1⅜	3	4.65
TMQ-148	TM-4160	**10-10-40-10**	400-400-200-50	1⅜	2	5.90
TMQ-63	TM-4086	**40-10-80-10**	400-400-250-250	1⅜	3½	4.70
TMQ-64	TM-4087	**5-5-50-80**	400-400-300-250	1⅜	3	4.65
TMQ-65	TM-4088	**60-40-40-10**	400-400-350-50	1⅜	3½	5.75
TMQ-149	TM-4137	**80-40-30-40**	400-400-400-25	1⅜	4	5.95
TMQ-150	TM-4111	**80-40-30-4**	400-400-400-350	1⅜	4	5.95
TMQ-151	TM-4161	**10-80-40-100**	450-200-200-50	1⅛	3	4.25
TMQ-66	TM-4012	**20-80-20-50**	450-200-200-50	1⅜	3	4.15
TMQ-152	TM-4136	**40-40-40-20**	450-250-250-25	1⅜	3	4.55
TMQ-153	TM-4129	**60-30-100-25**	450-300-50-50	1⅜	3½	5.10
TMQ-154	TM-4130	**10-100-10-100**	450-300-150-25	1⅜	3	4.80
TMQ-158	TM-4164	**10-40-60-100**	450-300-250-50	1⅜	3½	4.50
TMQ-67	TM-4090	**10-100-20-20**	450-300-300-25	1⅜	3½	4.90
TMQ-155	TM-4128	**30-100-10-60**	450-300-300-50	1⅜	3½	5.25
TMQ-156	TM-4162	**40-40-40-20**	450-300-300-150	1⅜	3	4.90
TMQ-157	TM-4163	**10-100-20-20**	450-300-300-300	1⅜	3	5.25
TMQ-68	TM-4013	**10-60-40-25**	450-350-350-25	1⅜	3½	4.60
TMQ-69	TM-4014	**10-100-10-20**	450-350-350-25	1⅜	3	5.25
TMQ-159	TM-4165	**20-80-50-100**	450-350-350-50	1⅜	4	6.00
TMQ-70	TM-4091	**30-40-40-10**	450-350-350-200	1⅜	3½	5.15
TMQ-160	TM-4110	**40-30-10-10**	450-350-350-300	1⅜	3	4.65
TMQ-71	TM-4015	**80-10-30-40**	450-400-300-150	1⅜	4	5.25
TMQ-161	TM-4166	**5-60-50-20**	450-400-350-25	1⅜	3½	5.05
TMQ-72	TM-4092	**10-10-20-20**	450-450-25-25	1⅜	2	2.95
TMQ-73	TM-4093	**20-20-20-20**	450-450-25-25	1⅜	2	3.60
TMQ-74	TM-4089	**30-30-125-125**	450-450-25-25	1⅜	3	4.90
TMQ-75	TM-4016	**10-10-60-100**	450-450-200-50	1⅜	3	3.85
TMQ-76	TM-4017	**35-25-20-100**	450-450-200-50	1⅜	3	4.65
TMQ-77	TM-4028	**20-20-30-30**	450-450-350-350	1⅜	3½	4.50
TMQ-78	TM-4029	**40-10-35-10**	450-450-350-350	1⅜	3½	4.60
TMQ-79	TM-4030	**40-40-30-30**	450-450-350-350	1⅜	4	5.90
TMQ-80	TM-4018	**10-10-10-20**	450-450-450-25	1⅜	2	3.10
TMQ-81	TM-4094	**10-10-10-100**	450-450-450-25	1⅜	2	3.35
TMQ-82	TM-4060	**20-10-10-100**	450-450-450-25	1⅜	2	3.70
TMQ-83	TM-4019	**20-20-20-20**	450-450-450-25	1⅜	3	3.85
TMQ-84	TM-4095	**30-15-15-40**	450-450-450-25	1⅜	2½	4.15
TMQ-85	TM-4096	**30-20-20-20**	450-450-450-25	1⅜	3	4.40
TMQ-86	TM-4097	**30-30-10-20**	450-450-450-25	1⅜	3	4.35
TMQ-163	TM-4168	**30-30-10-125**	450-450-450-25	1⅜	3	4.30
TMQ-87	TM-4098	**30-30-20-20**	450-450-450-25	1⅜	3	4.65
TMQ-88	TM-4020	**40-10-10-250**	450-450-450-25	1⅜	3	4.65
TMQ-89	TM-4099	**40-20-10-20**	450-450-450-25	1⅜	3	4.25
TMQ-90	TM-4100	**40-20-20-20**	450-450-450-25	1⅜	3	4.60
TMQ-91	TM-4021	**40-20-20-40**	450-450-450-25	1⅜	3	4.65
TMQ-92	TM-4022	**40-30-10-20**	450-450-450-25	1⅜	3½	4.50
TMQ-93	TM-4023	**60-40-10-25**	450-450-450-25	1⅜	3½	4.70
TMQ-164	TM-4138	**40-40-40-40**	450-450-450-25	1⅜	3½	5.50
TMQ-94	TM-4101	**10-10-10-150**	450-450-450-50	1⅜	2½	3.70
TMQ-95	TM-4102	**20-20-20-100**	450-450-450-50	1⅜	3	4.55
TMQ-96	TM-4024	**30-30-15-30**	450-450-450-50	1⅜	3	4.55
TMQ-97	TM-4103	**30-30-15-100**	450-450-450-50	1⅜	3½	4.90
TMQ-98	TM-4104	**40-20-10-100**	450-450-450-50	1⅜	3½	4.65
TMQ-99	TM-4105	**40-40-10-25**	450-450-450-50	1⅜	3½	4.70
TMQ-100	TM-4025	**40-40-10-100**	450-450-450-100	1⅜	3½	5.35
TMQ-101	TM-4026	**60-10-10-20**	450-450-450-150	1⅜	3	4.60
TMQ-102	TM-4027	**35-35-10-10**	450-450-450-200	1⅜	3	4.60
TMQ-165	TM-4135	**40-40-50-80**	475-250-150-50	1⅜	3½	5.00
TMQ-103	TM-4031	**20-40-100-80**	475-300-50-25	1⅜	3	4.45

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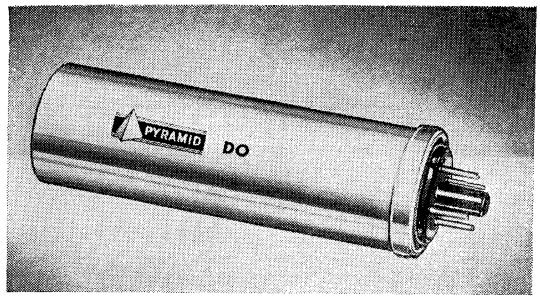
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TM QUADRUPLE MIXED SECTIONS (Continued)

Stock Number	Catalog Number	Cap. in UF	Volts DC Working	Size in Inches Diam.	Lgth.	List Price
TMQ-166	TM-4169	10-100-10-100	475-300-300-25	1⅜	3½	4.90
TMQ-167	TM-4170	20-80-20-10	475-300-300-300	1⅜	3½	5.00
TMQ-104	TM-4106	10-40-80-100	475-350-200-50	1⅜	3½	4.80
TMQ-168	TM-4171	20-40-80-100	475-350-300-100	1⅜	4	5.60
TMQ-169	TM-4172	10-30-5-80	475-350-350-50	1⅜	2½	3.70
TMQ-170	TM-4122	30-130-10-20	475-350-350-350	1⅜	5	6.10
TMQ-171	TM-4112	10-40-100-10	475-400-50-30	1⅜	2½	4.00
TMQ-172	TM-4142	10-40-4-100	475-400-350-50	1⅜	2½	3.70
TMQ-173	TM-4173	10-40-100-10	475-400-350-50	1⅜	2½	4.00
TMQ-105	TM-4032	10-10-80-50	474-450-200-60	1⅜	3	3.85
TMQ-174	TM-4174	25-20-20-100	475-450-300-50	1½	3	4.60
TMQ-106	TM-4107	25-20-40-100	475-450-300-50	1⅜	3	4.95
TMQ-107	TM-4033	10-60-30-125	475-450-400-50	1⅜	4	5.55
TMQ-108	TM-4034	15-15-80-40	475-475-300-50	1⅜	3	4.80
TMQ-109	TM-4035	40-10-4-40	475-475-350-300	1⅜	3	4.95
TMQ-175	TM-4175	50-10-30-30	475-475-450-25	1⅜	3	4.75
TMQ-110	TM-4036	10-5-80-40	475-475-450-50	1⅜	3	4.90
TMQ-111	TM-4037	40-20-10-10	475-475-475-25	1⅜	3	4.85
TMQ-176	TM-4141	5-100-10-200	500-300-300-150	1⅜	4	5.80
TMQ-177	TM-4115	30-10-150-30	500-450-50-50	1⅜	3	5.00
TMQ-112	TM-4038	30-30-10-20	500-500-450-25	1⅜	3½	4.90
TMQ-113	TM-4108	20-20-10-10	500-500-500-300	1⅜	2½	4.30
TMQ-114	TM-4109	50-30-10-20	500-500-500-300	1⅜	4	5.60

PLUG-IN ELECTROLYTIC CAPACITORS



Designed for 85° operation. Hermetically sealed in round aluminum containers. Provided with four pins (Nos. 1, 3, 5, 7) on standard octal base. Plugs into standard 8-pin octal socket. Ideally suited for any application where quick capacitor changes are required. Grounding lug supplied for grounding case to chassis. (In accordance with military standards, a low variable resistance exists between pin 1 (negative) and the case; to ground pin 1, a direct ground connection must be made from the corresponding lug on the socket.) For mounting rings, see page.

TYPE D O

Catalog Number	Cap. in UF	Volts DC Working	Size in Inches Diameter	Length	List Price
SINGLE-CAPACITOR UNITS					
DO-100-350	100.	350	1⅜	3	5.85
DO-10-450	10.	450	1 5/32	2½	4.05
DO-20-450	20.	450	1 5/32	2½	4.30
DO-40-450	40.	450	1⅜	2½	4.55
DO-80-450	80.	450	1⅜	3½	5.55
DO-40-500	40.	500	1⅜	2½	5.00
DUAL-CAPACITOR UNITS					
DO-D20-150	20-20	150	1 5/32	2½	4.20
DO-D40-150	40-40	150	1 5/32	2½	4.40
DO-D50-150	50-50	150	1 5/32	2½	4.65
DO-D80-150	80-80	150	1⅜	2½	5.15
DO-D10-450	10-10	450	1 5/32	2½	4.40
DO-D20-450	20-20	450	1⅜	2½	5.05
DO-D30-450	30-30	450	1⅜	3	5.55
DO-D40-450	40-40	450	1⅜	3½	5.90
DO-D20-500	20-20	500	1⅜	2½	5.30
TRIPLE-CAPACITOR UNITS					
DO-T20-150	20-20-20	150	1 5/32	2½	4.85
DO-T40-150	40-40-40	150	1 5/32	2½	5.10
DO-T10-450	10-10-10	450	1 5/32	2½	5.10
DO-T20-450	20-20-20	450	1⅜	3	6.10
DO-3001	40-20-20	450-25	1⅜	3	6.00
DO-T10-500	10-10-10	500	1⅜	2½	5.30
QUADRUPLE-CAPACITOR UNITS					
DO-4001	10-10-10-20	450-25	1⅜	2½	5.65
DO-4002	30-30-10-20	450-50	1⅜	4¼	6.85

HARDWARE FOR TYPE TM CAPACITORS

Catalog Number	List Price	Purpose
"TWIST-MOUNTER" WRENCH		
TMW1	1.25	For mounting Type TM and TMH capacitors.
BAKELITE WASHERS		
823-1	.07	For 1"-diameter cans.
824-1	.07	For 1—⅜"-diameter cans.
METAL WASHERS		
823-8	.07	For 1"-diameter cans.
824-8	.07	For 1—⅜"-diameter cans.
MOUNTING CLIPS (FUSE TYPE)		
372-2	.15	For 1"-diameter cans.
372-3	.15	For 1—⅜"-diameter cans.
INSULATING TUBES		
A-266	.07	For 1"-diameter, 2"-length cans.
A-267	.07	For 1"-diameter, 2—½"-length cans.
A-283	.07	For 1"-diameter, 3"-length cans.
A-269	.07	For 1—⅜"-diameter, 2"-length cans.
A-270	.07	For 1—⅜"-diameter, 2—½"-length cans.
A-186	.07	For 1—⅜"-diameter, 3"-length cans.
A-258	.07	For 1—⅜"-diameter, 3—½"-length cans.
A-468	.07	For 1—⅜"-diameter, 4"-length cans.

HARDWARE FOR GENERAL ELECTROLYTIC CAPACITOR MOUNTING

Catalog Number	List Price	Purpose
MOUNTING RINGS*		
361-1	.10	For 1"-diameter cans.
358-2	.10	For 1—⅜"-diameter cans.
358-4	.15	For 1—½"-diameter cans.
362-1	.19	For 1—¾"-diameter cans.
362-2	.23	For 2"-diameter cans.
362-3	.23	For 2—½"-diameter cans.
RADIAL BRACKETS (CENTER MOUNTING)**		
371-2	.07	For 7/16"-diameter tubulars.
371-4	.07	For ½"-diameter tubulars.
371-6	.07	For 9/16"-diameter tubulars.
371-7	.07	For ⅝"-diameter tubulars.
371-10	.07	For 11/16"-diameter tubulars.
371-12	.07	For ¾"-diameter tubulars.
371-15	.07	For 13/16"-diameter tubulars.
371-16	.10	For ⅞"-diameter tubulars.
371-18	.10	For 1"-diameter tubulars.
371-20	.10	For 1—1/16"-diameter tubulars.
371-21	.10	For 1—⅛"-diameter tubulars.
371-23	.10	For 1—¼"-diameter tubulars.
371-24	.10	For 1—⅜"-diameter tubulars.

*For additional Electrolytic hardware, see page 10.
**Where capacitor has sleeve, use overall diameter.

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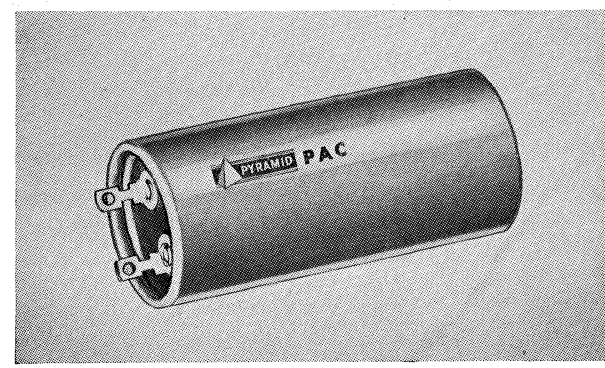
TYPE

PAC

METAL - ENCASED MOTOR - STARTING ELECTROLYTIC CAPACITORS

An excellent Universal Motor - Starting Capacitor, assembled in a hermetically-sealed aluminum can, for greater protection, with an insulating outer cardboard sleeve. Easily mounted with PAC Mounting Hardware.



Catalog Number	Cap. in UF Min.	Cap. in UF Max.	Size in Inches Diam.	Size in Inches Length	List Price
110-125 VOLTS AC 60 CYCLES					
PAC-1001	21	25	1	2⅛	$2.05
PAC-1002	25	30	1	2⅛	2.10
PAC-1003	30	36	1	2⅛	2.10
PAC-1004	36	43	1	2⅛	2.10
PAC-1005	43	53	1	2⅛	2.10
PAC-1006	47	56	1	2⅛	2.10
PAC-1007	53	64	1	2⅛	2.15
PAC-1008	64	77	1	2⅛	2.25
PAC-1009	72	88	1	2⅝	2.30
PAC-1010	88	108	1	2⅝	2.60
PAC-1011	108	130	1⅜	2⅝	2.85
PAC-1012	124	149	1⅜	2⅝	2.95
PAC-1013	130	156	1⅜	2⅝	2.95
PAC-1014	145	175	1⅜	2⅝	3.20
PAC-1015	161	193	1⅜	2⅝	3.25
PAC-1016	189	227	1⅜	2⅝	3.75
PAC-1017	200	240	1⅜	3⅛	3.90
PAC-1018	216	259	1⅜	3⅛	4.05
PAC-1019	233	280	1⅜	3⅛	4.50
PAC-1020	243	292	1⅜	4⅛	4.70
PAC-1021	270	324	1⅜	4⅛	4.75
PAC-1022	324	388	1⅜	4⅛	5.40
PAC-1023	340	408	1⅜	4⅛	5.55
PAC-1024	378	440	1⅜	4⅛	6.00
PAC-1025	400	480	1¾	4⅛	6.05
PAC-1026	430	516	1¾	4⅛	6.95
PAC-1027	460	552	1¾	4⅛	7.60
PAC-1028	540	648	1¾	4⅛	8.15
PAC-1029	590	708	1¾	4⅛	8.85

Catalog Number	Cap. in UF Min.	Cap. in UF Max.	Size in Inches Diam.	Size in Inches Length	List Price
125 VOLTS AC 60 CYCLES					
PAC-1301	540	648	2	4⅛	$9.65
PAC-1302	590	708	2	4⅛	10.40
220 VOLTS AC 60 CYCLES					
PAC-2201	21	25	1⅜	2⅝	$4.40
PAC-2202	25	30	1⅜	2⅝	4.60
PAC-2203	30	36	1⅜	2⅝	4.90
PAC-2204	36	43	1⅜	3⅛	5.30
PAC-2205	43	53	1⅜	3⅛	5.55
PAC-2206	47	56	1⅜	4⅛	5.65
PAC-2207	53	64	1⅜	4⅛	5.75
PAC-2208	64	77	1¾	4⅛	6.75
PAC-2209	72	88	1¾	4⅛	7.00
PAC-2210	88	108	1¾	4⅛	7.65
PAC-2211	108	130	1¾	4⅛	8.60
PAC-2212	124	149	2	4⅛	11.00
PAC-2213	130	156	2	4⅛	11.30
PAC-2214	145	175	2	4⅛	11.85
330 VOLTS AC 60 CYCLES					
PAC-3201	21	25	1⅜	3⅛	$4.90
PAC-3202	25	30	1⅜	4⅛	5.10
PAC-3203	30	36	1⅜	4⅛	5.35
PAC-3204	36	43	1¾	4⅛	5.65
PAC-3205	43	53	1¾	4⅛	5.95
PAC-3206	47	56	1¾	4⅛	6.50
PAC-3207	53	64	1¾	4⅛	6.75
PAC-3208	64	77	2	4⅛	7.85
PAC-3209	72	88	2	4⅛	8.15

HARDWARE FOR TYPE PBC CAPACITORS

END CAP, PLAIN

Catalog Number	Capacitor Diameter*	List Price
PACP-2	1⅜"	$.35
PACP-3	1¾"	.35
PACP-4	2"	.40

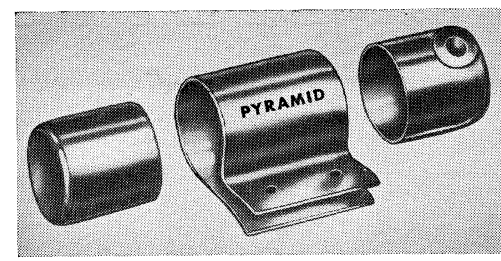
END CAP W/GROMMET

Catalog Number	Capacitor Diameter*	List Price
PACG-2	1⅜"	$.35
PACG-3	1¾"	.40
PACG-4	2"	.45

MOUNTING BRACKET

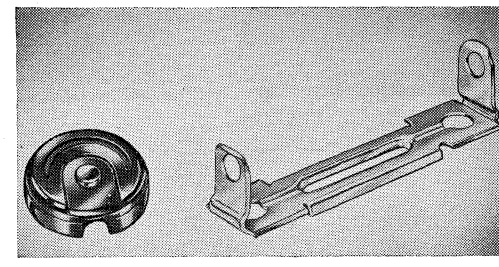
Catalog Number	Size of Capacitor* Diam.	Size of Capacitor* Length	List Price
PACB-3	1⅜"	2⅝"	$.60
PACB-4	1⅜"	3⅛"	.60
PACB-5	1⅜"	4⅛"	.60
PACB-6	1¾"	4⅛"	.60
PACB-7	2"	4⅛"	.60

* Add 1/16" to diameter, and 3/8" to length for insulating sleeve.



HARDWARE FOR TYPE PAC CAPACITORS

END CAP Catalog Number	Capacitor Diameter	List Price	MOUNTING BRACKETS Catalog Number	Size of Capacitor Diam.	Size of Capacitor Length	List Price
PCB-1 (lead hole on top)	1 7/16"	$.25	PB-2	1 7/16"	3⅜"	$.35
PCB-2 (lead hole on bot.)	1 7/16"	.25	PB-3	1 13/16"	3⅜"	.35
PBC-3 (lead hole on top)	1 13/16"	.30	PB-4	1 13/16"	4⅜"	.40
PCB-4 (lead hole on bot.)	1 13/16"	.30				



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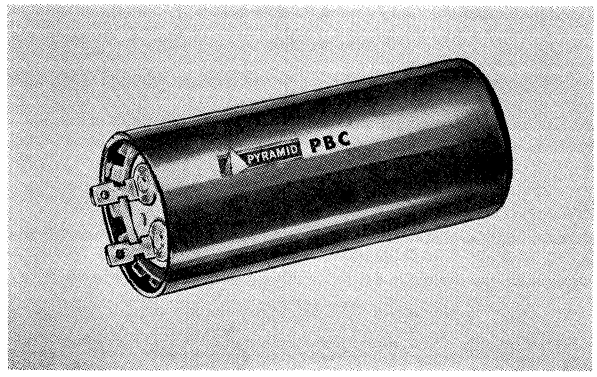
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



PLASTIC-ENCASED MOTOR-STARTING ELECTROLYTIC CAPACITORS

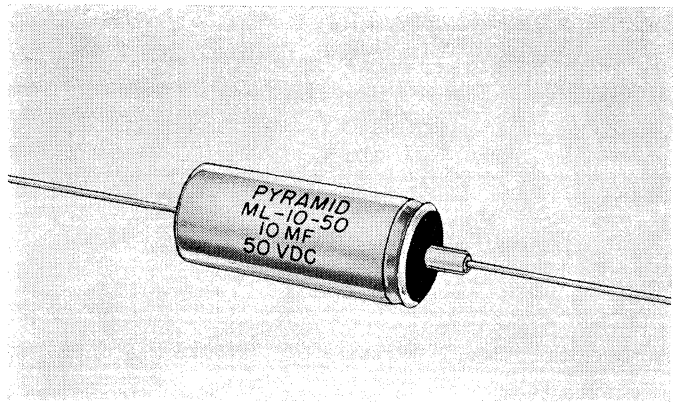
TYPE **PBC**

A better replacement for the original motor-starting capacitors of the same type. Assembled in a moulded plastic case for protection against moisture, grease, dirt, etc. Mounted simply and easily on any motor, with PBC Mounting Hardware.

Catalog Number	Cap. in UF Min.	Cap. in UF Max.	Size in Inches Diam.	Size in Inches Lgth.	List Price
110-125 VOLTS AC 60 CYCLES					
PBC-1101	43	53	1 7/16	2 3/4	$2.10
PBC-1102	53	64	1 7/16	2 3/4	2.15
PBC-1103	64	77	1 7/16	2 3/4	2.25
PBC-1104	72	88	1 7/16	2 3/4	2.30
PBC-1105	88	108	1 7/16	2 3/4	2.60
PBC-1106	108	130	1 7/16	2 3/4	2.85
PBC-1107	124	149	1 7/16	2 3/4	2.95
PBC-1108	130	156	1 7/16	2 3/4	2.95
PBC-1109	145	175	1 7/16	2 3/4	3.20
PBC-1110	161	193	1 7/16	3 3/8	3.25
PBC-1111	189	227	1 7/16	3 3/8	3.75
PBC-1112	216	259	1 13/16	3 3/8	4.05
PBC-1113	233	280	1 13/16	3 3/8	4.50
PBC-1114	243	292	1 13/16	3 3/8	4.70
PBC-1115	270	324	1 13/16	3 3/8	4.75
PBC-1116	340	408	1 13/16	3 3/8	$5.55
PBC-1117	378	440	1 13/16	3 3/8	6.00
PBC-1118*	400	480	1 13/16	3 3/8	6.05

Catalog Number	Cap. in UF Min.	Cap. in UF Max.	Size in Inches Diam.	Size in Inches Lgth.	List Price
125 VOLTS AC 60 CYCLES					
PBC-1201	340	408	1 13/16	4 3/8	6.50
PBC-1202	378	440	1 13/16	4 3/8	6.75
220 VOLTS AC 60 CYCLES					
PBC-2201	25	30	1 7/16	2 3/4	4.60
PBC-2202	30	36	1 7/16	3 3/8	4.90
PBC-2203	36	43	1 7/16	3 3/8	5.30
PBC-2204	43	53	1 13/16	3 3/8	5.55
PBC-2205	53	64	1 13/16	3 3/8	5.75
PBC-2206	64	77	1 13/16	3 3/8	6.75
PBC-2207	72	88	1 13/16	3 3/8	7.00
PBC-2208	88	108	1 13/16	4 3/8	7.65

*** 110 Volts AC 60 Cycles Only**



MINIATURE ELECTROLYTIC CAPACITORS

TYPE **ML**

Designed for 65° C. operation. Hermetically sealed in aluminum cases. Low leakage and long shelf life. Ideally suited for transistorized radio receivers, hearing aids, portable TV sets, and miniaturized circuit requirements.

Catalog Number	Cap. in UF	Size in Inches Diam.	Size in Inches Lgth.	List Price
3 VOLTS DC WORKING				
ML20-3	20.	1/4	5/8	1.00
ML50-3	50.	3/8	3/4	1.05
ML75-3	75.	3/8	3/4	1.10
ML100-3	100.	3/8	3/4	1.20
6 VOLTS DC WORKING				
ML1-6	1.	3/16	5/8	1.00
ML2-6	2.	3/16	5/8	1.00
ML4-6	4.	3/16	5/8	1.00
ML5-6	5.	3/16	5/8	1.00
ML6-6	6.	1/4	5/8	1.00
ML8-6	8.	1/4	5/8	1.05
ML10-6	10.	1/4	5/8	1.05
ML20-6	20.	1/4	3/4	1.05
ML30-6	30.	1/4	3/4	1.10
ML40-6	40.	3/8	5/8	1.10
ML50-6	50.	3/8	5/8	1.10
ML75-6	75.	3/8	3/4	1.20
15 VOLTS DC WORKING				
ML1-15	1.	3/16	5/8	1.00
ML2-15	2.	3/16	5/8	1.00
ML4-15	4.	1/4	5/8	1.00
ML5-15	5.	1/4	5/8	1.05
ML6-15	6.	1/4	5/8	1.05
ML8-15	8.	1/4	3/4	1.10
ML10-15	10.	1/4	3/4	1.10
ML20-15	20.	3/8	5/8	1.15
ML30-15	30.	3/8	3/4	1.20
ML40-15	40.	3/8	3/4	1.25
25 VOLTS DC WORKING				
ML1-25	1.	3/16	5/8	1.05
ML2-25	2.	1/4	5/8	1.05
ML4-25	4.	1/4	5/8	1.10
ML5-25	5.	1/4	5/8	1.10
ML6-25	6.	1/4	3/4	1.10
ML8-25	8.	1/4	3/4	1.15
ML10-25	10.	3/8	5/8	1.15
ML20-25	20.	3/8	3/4	1.20
ML30-25	30.	3/8	3/4	1.25
50 VOLTS DC WORKING				
ML1-50	1.	1/4	5/8	1.05
ML2-50	2.	1/4	5/8	1.10
ML4-50	4.	3/8	5/8	1.15
ML5-50	5.	3/8	5/8	1.20
ML6-50	6.	3/8	5/8	1.25
ML8-50	8.	3/8	3/4	1.30
ML10-50	10.	3/8	3/4	1.40
ML20-50	20.	3/8	3/4	1.50

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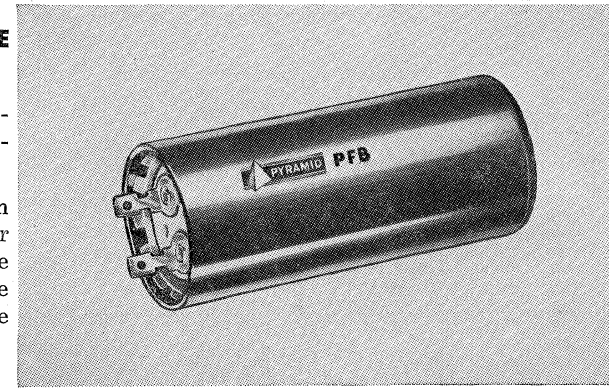
TYPE PFB — HIGH CAPACITANCE LOW-VOLTAGE ELECTROLYTIC CAPACITORS

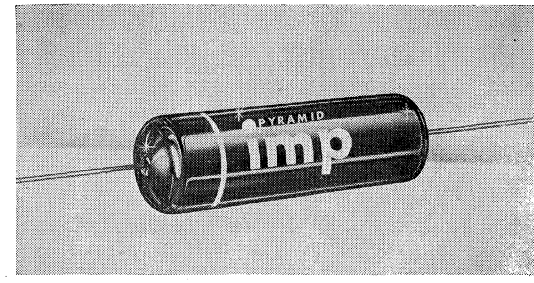


Pyramid's PFB is the ideal electrolytic capacitor for use in applications where high-capacitance at low-voltage is required.

Designed for 85° C. operation. Assembled in hermetically sealed round plastic cases. For use in applications requiring high capacitance at low working voltages, as in motion-picture sound equipment. For mounting rings, see page 8. Mounting Ring No. 371-24 $.10.

Catalog Number	Cap. in UF	Can Size in Inches* Diam.	Length	List Price
10 VOLTS DC WORKING				
PFB-500-10	500	1 7/16	2 3/8	$3.10
PFB-1000-10	1000	1 7/16	2 3/8	3.55
PFB-1500-10	1500	1 7/16	2 3/8	3.75
PFB-2000-10	2000	1 7/16	2 5/8	3.95
PFB-3000-10	3000	1 7/16	3 1/8	4.35
PFB-4000-10	4000	1 7/16	4 1/8	4.75
PFB-5000-10	5000	1 9/16	4 1/8	5.15
PFB-6000-10	6000	1 13/16	4 1/8	7.50
12 VOLTS DC WORKING				
PFB-500-12	500	1 7/16	2 3/8	3.20
PFB-1000-12	1000	1 7/16	2 3/8	3.75
PFB-1500-12	1500	1 7/16	2 5/8	3.95
PFB-2000-12	2000	1 7/16	3 1/8	4.15
PFB-2500-12	2500	1 7/16	3 1/8	4.85
PFB-3000-12	3000	1 7/16	4 1/8	5.05
PFB-4000-12	4000	1 9/16	4 1/8	5.25
PFB-6000-12	6000	2 1/16	4 1/8	9.35
15 VOLTS DC WORKING				
PFB-500-15	500	1 7/16	2 3/8	3.25
PFB-1000-15	1000	1 7/16	2 3/8	3.80
PFB-1500-15	1500	1 7/16	2 5/8	4.00
PFB-2000-15	2000	1 7/16	3 1/8	4.70
PFB-3000-15	3000	1 7/16	4 1/8	5.15
PFB-4000-15	4000	1 9/16	4 1/8	8.10
PFB-6000-15	6000	2 1/16	4 1/8	10.00
18 VOLTS DC WORKING				
PFB-500-18	500	1 7/16	2 3/8	3.35
PFB-1000-18	1000	1 7/16	2 3/8	3.90
PFB-2000-18	2000	1 7/16	3 1/8	4.90
PFB-4000-18	4000	1 9/16	4 1/8	8.45
20 VOLTS DC WORKING				
PFB-500-20	500	1 7/16	2 3/8	3.40
PFB-1000-20	1000	1 7/16	3 1/8	4.10
PFB-2000-20	2000	1 7/16	4 1/8	5.20
PFB-4000-20	4000	2 1/16	4 1/8	8.75
25 VOLTS DC WORKING				
PFB-500-25	500	1 7/16	2 3/8	3.55
PFB-1000-25	1000	1 7/16	3 1/8	4.80
PFB-2000-25	2000	1 7/16	4 1/8	5.75
PFB-3000-25	3000	1 13/16	4 1/8	8.00
PFB-4000-25	4000	2 1/16	4 1/8	9.50
PFB-5000-25	5000	2 9/16	4 1/8	11.50
30 VOLTS DC WORKING				
PFB-500-30	500	1 7/16	3 1/8	3.60
PFB-1000-30	1000	1 7/16	4 1/8	4.90
PFB-2000-30	2000	1 13/16	4 1/8	7.40
PFB-3000-30	3000	2 1/16	4 1/8	8.95
PFB-4000-30	4000	2 1/2	4 1/8	10.50
35 VOLTS DC WORKING				
PFB-500-35	500	1 7/16	3 1/8	3.70
PFB-1000-35	1000	1 7/16	4 1/8	5.00
PFB-2000-35	2000	1 13/16	4 1/8	8.00
PFB-3000-35	3000	2 1/16	4 1/8	9.50
PFB-4000-35	4000	2 9/16	4 1/8	11.00
40 VOLTS DC WORKING				
PFB-500-40	500	1 7/16	3 1/8	3.80
PFB-1000-40	1000	1 7/16	4 1/8	6.50
PFB-2000-40	2000	1 13/16	4 1/8	9.00
PFB-3000-40	3000	2 1/16	4 1/8	10.50
PFB-4000-40	4000	2 9/16	4 1/8	11.50
50 VOLTS DC WORKING				
PFB-500-50	500	1 7/16	3 1/8	3.90
PFB-1000-50	1000	1 7/16	4 1/8	7.00
PFB-2000-50	2000	1 13/16	4 1/8	10.00
PFB-3000-50	3000	2 1/16	4 1/8	11.50
PFB-4000-50	4000	2 9/16	4 1/8	12.50

TYPE IMP — MOLDED TUBULAR PAPER CAPACITORS



Noninductive extended-foil section molded in noninflammable thermosetting plastic. High insulation resistance. Excellent power factor. Withstands standard RETMA Humidity-resistance Test. Extremely rugged. Very long life.

Temperature Rating:
—40°C. to +100°C.

Standard Tolerance:
.0001- .001 UF: —25% to +60%
.0011- .009 UF: —20% to +40%
.01 -1.0 UF: —20% to +20%

Catalog Number	Cap in UF	Size in Inches Diameter	Length	List Price
200 VOLTS DC WORKING				
IMP2-S2	.02	3/8	1 1/4	.25
IMP2-S47	.047	3/8	1 1/4	.30
IMP2-S5	.05	3/8	1 1/4	.30
IMP2-P1	.1	7/16	1 1/4	.35
IMP2-P15	.15	1/2	1 1/2	.35
IMP2-P25	.25	5/8	1 7/8	.45
IMP2-P47	.47	5/8	1 7/8	.60
IMP2-P5	.5	5/8	1 7/8	.60
IMP2-1	1.	3/4	2 1/4	.85
400 VOLTS DC WORKING				
IMP4-S1	.01	5/16	1	.25
IMP4-S2	.02	3/8	1 1/4	.25
IMP4-S22	.022	3/8	1 1/4	.25
IMP4-S25	.025	3/8	1 1/4	.25
IMP4-S3	.03	3/8	1 1/4	.25
IMP4-S4	.04	7/16	1 1/4	.30
IMP4-S47	.047	7/16	1 1/4	.30
IMP4-S5	.05	7/16	1 1/4	.30
IMP4-S68	.068	1/2	1 1/2	.35
IMP4-P1	.1	1/2	1 1/2	.35
IMP4-P15	.15	5/8	1 7/8	.40
IMP4-P22	.22	5/8	1 7/8	.40
IMP4-P25	.25	5/8	1 7/8	.45
IMP4-P47	.47	3/4	2 1/4	.60
IMP4-P5	.5	3/4	2 1/4	.60
600 VOLTS DC WORKING				
IMP6-T1	.0001	5/16	1	.25
IMP6-T25	.00025	5/16	1	.25
IMP6-T4	.0004	5/16	1	.25
IMP6-T5	.0005	5/16	1	.25
IMP6-D1	.001	5/16	1	.25
IMP6-D15	.0015	5/16	1	.25
IMP6-D2	.002	5/16	1	.25
IMP6-D22	.0022	5/16	1	.25
IMP6-D3	.003	5/16	1	.25
IMP6-D33	.0033	5/16	1	.25
IMP6-D4	.004	5/16	1	.25
IMP6-D47	.0047	5/16	1	.25
IMP6-D5	.005	5/16	1	.25
IMP6-D6	.006	3/8	1 1/4	.30
IMP6-D68	.0068	3/8	1 1/4	.30
IMP6-D8	.008	3/8	1 1/4	.30
IMP6-S1	.01	3/8	1 1/4	.30
IMP6-S15	.015	3/8	1 1/4	.30
IMP6-S2	.02	7/16	1 1/4	.30
IMP6-S22	.022	7/16	1 1/4	.30
IMP6-S3	.03	7/16	1 1/4	.35
IMP6-S33	.033	1/2	1 1/2	.35
IMP6-S4	.04	1/2	1 1/2	.40
IMP6-S47	.047	1/2	1 1/2	.40
IMP6-S5	.05	1/2	1 1/2	.40
IMP6-S6	.06	5/8	1 7/8	.45
IMP6-S68	.068	5/8	1 7/8	.45
IMP6-P1	.1	5/8	1 7/8	.45
IMP6-P2	.2	3/4	2 1/4	.55
IMP6-P22	.22	3/4	2 1/4	.55
IMP6-P25	.25	3/4	2 1/4	.55
CT6-P5*	.5	15/16	2 3/4	.80

*Supplied in mineral-oil impregnated ceramic-case units.

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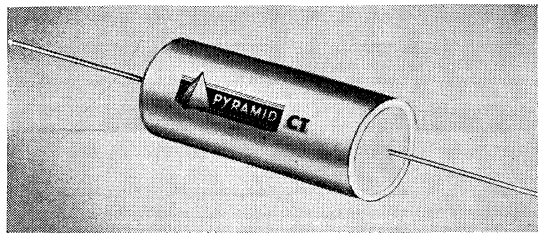
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



CERAMIC-CASED TUBULAR PAPER CAPACITORS

TYPE **C T**

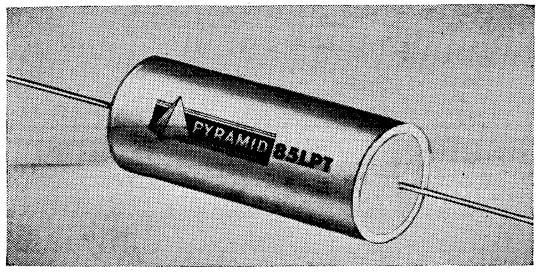
Noninductive extended-foil section assembled in finest grade ceramic (steatite) tube. Tinned leads firmly imbedded. Permanently sealed against mosture and humidity. End-seals cannot soften or melt even at more than 85° C. temperatures.

Temperature Rating: —40°C. to +85°C.

Standard Tolerance:
.0001- .001 UF: —25% to +60%
.0011- .009 UF: —20% to +40%
.01 -1.0 UF: —20% to +20%

CT CAPACITORS AND BUFFER CAPACITORS

Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
200 VOLTS DC WORKING				
CT2-S5	.05	7/16	1 3/8	.25
CT2-P15	.15	5/8	2 1/8	.30
CT2-P2	.2	5/8	2 1/8	.35
CT2-P22	.22	5/8	2 1/8	.40
CT2-P25	.25	3/4	2 1/8	.40
CT2-P5	.5	13/16	2 1/4	.60
CT2-1	1.0	15/16	2 7/8	.90
400 VOLTS DC WORKING				
CT4-S1	.01	3/8	1 3/8	.25
CT4-S15	.015	3/8	1 3/8	.25
CT4-S2	.02	3/8	1 3/8	.25
CT4-S22	.022	3/8	1 3/8	.25
CT4-S25	.025	7/16	1 3/8	.30
CT4-S3	.03	7/16	1 3/8	.30
CT4-S33	.033	7/16	1 3/8	.30
CT4-S4	.04	9/16	1 5/8	.30
CT4-S47	.047	9/16	1 5/8	.30
CT4-S5	.05	9/16	1 5/8	.30
CT4-S68	.068	9/16	1 5/8	.35
CT4-P1	.1	9/16	1 5/8	.35
CT4-P15	.15	3/4	2 1/8	.35
CT4-P2	.2	13/16	2 1/8	.40
CT4-P22	.22	13/16	2 1/8	.40
CT4-P25	.25	13/16	2 1/8	.40
CT4-P5	.5	15/16	2 7/8	.60
600 VOLTS DC WORKING				
CT6-T5	.0005	5/16	1 1/8	.25
CT6-D1	.001	5/16	1 1/8	.25
CT6-D15	.0015	5/16	1 1/8	.25
CT6-D2	.002	5/16	1 1/8	.25
CT6-D22	.0022	5/16	1 1/8	.25
CT6-D3	.003	5/16	1 1/8	.25
CT6-D33	.0033	5/16	1 1/8	.25
CT6-D4	.004	5/16	1 1/8	.25
CT6-D47	.0047	5/16	1 1/8	.25
CT6-D5	.005	5/16	1 1/8	.25
CT6-D6	.006	3/8	1 3/8	.30
CT6-D68	.0068	3/8	1 3/8	.30
CT6-S1	.01	3/8	1 3/8	.30
CT6-S15	.015	3/8	1 3/8	.30
CT6-S2	.02	7/16	1 3/8	.30
CT6-S22	.022	7/16	1 3/8	.30
CT6-S25	.025	9/16	1 5/8	.35
CT6-S3	.03	9/16	1 5/8	.35
CT6-S33	.033	9/16	1 5/8	.35
CT6-S4	.04	9/16	1 5/8	.35
CT6-S47	.047	9/16	1 5/8	.40
CT6-S5	.05	9/16	1 5/8	.40
CT6-S68	.068	5/8	2 1/8	.45
CT6-P1	.1	5/8	2 1/8	.45
CT6-P15	.15	3/4	2 1/8	.50
CT6-P2	.2	3/4	2 1/8	.55
CT6-P22	.22	3/4	2 1/8	.55
CT6-P25	.25	13/16	2 1/4	.55
CT6-P5	.5	15/16	2 7/8	.80
1,000 VOLTS DC WORKING				
CT10-D1	.001	5/16	1 1/8	.30
CT10-D15	.0015	5/16	1 1/8	.30
CT10-D2	.002	5/16	1 1/8	.30
CT10-D22	.0022	5/16	1 1/8	.30
CT10-D3	.003	5/8	1 3/8	.30
CT10-D33	.0033	3/8	1 3/8	.30
CT10-D4	.004	3/8	1 3/8	.30
CT10-D47	.0047	3/8	1 3/8	.35
CT10-D5	.005	3/8	1 3/8	.35
CT10-D56	.0056	3/8	1 3/8	.35
CT10-D6	.006	3/8	1 3/8	.35
CT10-D68	.0068	3/8	1 3/8	.35
CT10-D7	.007	3/8	1 3/8	.35
CT10-D75	.0075	3/8	1 3/8	.35
CT10-D8	.008	3/8	1 3/8	.40
CT10-D82	.0082	3/8	1 3/8	.40
CT10-S1	.01	3/8	1 3/8	.40
CT10-S15	.015	7/16	1 3/8	.40
CT10-S2	.02	9/16	1 5/8	.40
CT10-22	.022	9/16	1 5/8	.40
CT10-S25	.025	9/16	1 5/8	.40
CT10-S3	.03	9/16	1 5/8	.50
CT10-S33	.033	5/8	2 1/8	.50
CT10-S4	.04	5/8	2 1/8	.50
CT10-S47	.047	5/8	2 1/8	.50
CT10-S5	.05	5/8	2 1/8	.50
CT10-S68	.068	3/4	2 1/8	.55
CT10-P1	.1	3/4	2 1/8	.65
CT10-P15	.15	13/16	2 1/4	.80
CT10-P2	.2	15/16	2 7/8	.90
1,600 VOLTS DC WORKING (Buffer Capacitors)				
CT16-D1	.001	3/8	1 3/8	.65
CT16-D15	.0015	3/8	1 3/8	.65
CT16-D2	.002	3/8	1 3/8	.65
CT16-D22	.0022	3/8	1 3/8	.65
CT16-D3	.003	7/16	1 3/8	.65
CT16-D33	.0033	7/16	1 3/8	.65
CT16-D4	.004	7/16	1 3/8	.65
CT16-D47	.0047	7/16	1 3/8	.65
CT16-D5	.005	7/16	1 3/8	.65
CT16-D56	.0056	17/32	1 5/8	.65
CT16-D6	.006	17/32	1 5/8	.65
CT16-D68	.0068	17/32	1 5/8	.65
CT16-D7	.007	17/32	1 5/8	.65
CT16-D75	.0075	17/32	1 5/8	.65
CT16-D8	.008	17/32	1 5/8	.65
CT16-D82	.0082	17/32	1 5/8	.65
CT16-S1	.01	17/32	1 5/8	.70
CT16-S15	.015	5/8	2	.70
CT16-S2	.02	5/8	2	.70
CT16-S22	.022	3/4	2 1/8	.70
CT16-S25	.025	3/4	2 1/8	.70
CT16-S3	.03	3/4	2 1/8	.70
CT16-S33	.033	3/4	2 1/8	.70
CT16-S4	.04	13/16	2 1/4	.70
CT16-S47	.047	13/16	2 1/4	.75
CT16-S5	.05	13/16	2 1/4	.75
CT16-S68	.068	15/16	2 7/8	.80
CT16-P1	.1	15/16	2 7/8	.85
6,000 VOLTS DC WORKING				
CT60-T5	.0005	5/8	2 1/8	1.30
CT60-D1	.001	5/8	2 1/8	1.30
CT60-D5	.005	13/16	2 1/4	1.30
10,000 VOLTS DC WORKING				
CT100-T5	.0005	5/8	2 1/8	1.50
CT100-D1	.001	3/4	2 5/8	1.50
12,500 VOLTS DC WORKING				
CT125-T25	.00025	3/4	2 5/8	1.70
CT125-T5	.0005	3/4	2 5/8	1.70



MINIATURE TUBULAR PAPER CAPACITORS

TYPE **85 L P T**

Noninductive extended-foil section assembled in phenolic-impregnated tube. Plastic end-seals. Withstands standard RETMA Humidity-resistance Test. Sturdy construction permits continuous operation at rated DC voltage, yet retains all the advantages of extremely small size.

Temperature Rating: —40°C. to +85°C.

Standard Tolerance:
.0001- .001 UF: —25% to +60%
.0011- .009 UF: —20% to +40%
.01 -1.0 UF: —20% to +20%

Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
200 VOLTS DC WORKING				
85LPT2-D5	.005	1/4	5/8	.35
85LPT2-D6	.006	1/4	5/8	.35
85LPT2-S1	.01	1/4	5/8	.40
85LPT2-S2	.02	9/32	13/16	.45
85LPT2-S5	.05	5/16	1	.50
85LPT2-P1	.1	15/32	1	.60
85LPT2-P15	.15	15/32	1 1/8	.60
85LPT2-P2	.2	15/32	1 1/8	.65
85LPT2-P25	.25	17/32	1 1/8	.70
85LPT2-P5	.5	5/8	1 1/2	.80
400 VOLTS DC WORKING				
85LPT4-D3	.003	1/4	5/8	.35
85LPT4-D4	.004	1/4	5/8	.35
85LPT4-D5	.005	1/4	13/16	.35
85LPT4-D6	.006	1/4	13/16	.35
85LPT4-S1	.01	5/16	13/16	.40
85LPT4-S2	.02	5/16	1	.45
85LPT4-S5	.05	15/32	1	.50
85LPT4-P1	.1	15/32	1 1/8	.65
85LPT4-P15	.15	5/8	1 1/8	.65
85LPT4-P2	.2	5/8	1 1/8	.70
85LPT4-P25	.25	5/8	1 1/2	.75
85LPT4-P5	.5	5/8	2 5/16	.85
600 VOLTS DC WORKING				
85LPT6-T1	.0001	1/4	5/8	.35
85LPT6-T5	.0005	1/4	5/8	.35
85LPT6-D1	.001	1/4	5/8	.35
85LPT6-D2	.002	1/4	5/8	.35
85LPT6-D3	.003	9/32	13/16	.35
85LPT6-D4	.004	9/32	13/16	.35
85LPT6-D5	.005	9/32	13/16	.40
85LPT6-D6	.006	5/16	13/16	.40
85LPT6-S1	.01	5/16	1	.45
85LPT6-S2	.02	11/32	1	.50
85LPT6-S5	.05	15/32	1 1/8	.55
85LPT6-P1	.1	5/8	1 1/8	.70
85LPT6-P15	.15	5/8	1 3/4	.75
85LPT6-P2	.2	5/8	1 3/4	.80
85LPT6-P25	.25	5/8	2	.80

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BATHTUB-TYPE OIL-PAPER CAPACITORS

TYPE PDM

Section assembled in hermetically sealed tin-coated drawn-shell container. Mineral-oil impregnated and filled. Lug-type terminal seals. Meets electrical requirements of MIL-C-25A.

Temperature Rating: —55°C. to +85°C.
Standard Tolerance: —10% to +20%

PDM VARIATIONS

PDM Similar to MIL Type CP53, with terminals on side. To order: see Catalog Listing. Example: PDM4-S5 — $1.85.

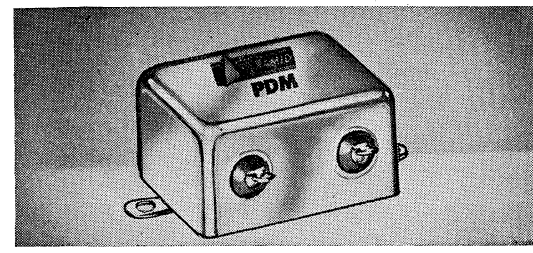
PDMT (CP54) With terminals on top. To order: add T after PDM. Example: PDMT4-S5 — $1.85.

PDMB (CP55) With terminals on the bottom. To order: add B after PDM. Example: PDMB4-S5 — $1.85.

Distance between Mounting Hole Centers	
Length x Width	Distance
1 13/16 x 1	2 1/8
2 x 1 3/4	2 3/8
2 x 2	2 3/8

PDM SINGLE-CAPACITOR UNITS

Catalog Number	Cap. in UF	Size in Inches Length	Width	Height	List Price
400 VOLTS DC WORKING					
PDM4-S5	.05	1 13/16	1	3/4	1.85
PDM4-P1	.1	1 13/16	1	3/4	1.95
PDM4-P25	.25	1 13/16	1	3/4	2.20
PDM4-P5	.5	1 13/16	1	15/16	2.35
PDM4-1	1.0	2	1 3/4	7/8	3.35
PDM4-2	2.0	2	2	1 3/16*	4.30
600 VOLTS DC WORKING					
PDM6-S5	.05	1 13/16	1	3/4	2.85
PDM6-P1	.1	1 13/16	1	3/4	2.95
PDM6-P25	.25	1 13/16	1	3/4	3.10
PDM6-1	1.0	1 13/16	1	1	3.30
PDM6-P5	.5	2	1 3/4	7/8	3.75
PDM6-2	2.0	2	2	1 3/16*	4.90
1,000 VOLTS DC WORKING					
PDM10-S5	.05	1 13/16	1	3/4	3.00
PDM10-P1	.1	1 13/16	1	3/4	3.15
PDM10-P25	.25	1 13/16	1	15/16	3.20
PDM10-P5	.5	2	1 3/4	7/8	3.55
PDM10-1	1.0	2	2	1 1/8*	4.40



PDM DUAL-CAPACITOR UNITS

Catalog Number	Cap. in UF	Size in Inches Length	Width	Height	List Price
400 VOLTS DC WORKING					
2PDM4-S5	.05- .05	1 13/16	1	3/4	2.95
2PDM4-P1	.1 - .1	1 13/16	1	3/4	3.05
2PDM4-P25	.25- .25	1 13/16	1	15/16	3.30
2PDM4-P5	.5 - .5	2	1 3/4	7/8	3.85
2PDM4-1	1.0 -1.0	2	2	1 3/16*	4.80
600 VOLTS DC WORKING					
2PDM6-S5	.05- .05	1 13/16	1	3/4	3.65
2PDM6-P1	.1 - .1	1 13/16	1	3/4	3.70
2PDM6-P25	.25- .25	1 13/16	1	1	3.75
2PDM6-P5	.5 - .5	2	1 3/4	7/8	4.30
2PDM6-P1	1.0 -1.0	2	2	1 3/16*	5.30
1,000 VOLTS DC WORKING					
2PDM10-S5	.05- .05	1 13/16	1	3/4	3.85
2PDM10-P1	.1 - .1	1 13/16	1	15/16	4.00
2PDM10-P25	.25- .25	2	1 3/4	7/8	4.20
2PDM10-P5	.5 - .5	2	2	1 1/8	5.50

PDM TRIPLE-CAPACITOR UNITS

400 VOLTS DC WORKING					
SPDM4-P1	.1 -.1 -.1	1 13/16	1	3/4	3.75
3PDM4-P25	.25-.25-.25	2	1 3/4	7/8	4.40
3PDM4-P5	.5 -.5 -.5	2	2	1	5.10
600 VOLTS DC WORKING					
3PDM6-P1	.1 -.1 -.1	1 13/16	1	3/4	4.20
3PDM6-P25	.25-.25-.25	2	1 3/4	7/8	4.75
3PDM6-P5	.5 -.5 -.5	2	2	1	5.75
1,000 VOLTS DC WORKING					
3PDM10-P1	.1 -.1 -.1	2	1 3/4	7/8	4.60
3PDM10-P25	.25-.25-.25	2	2	1 1/8	5.50

* Add 1/16" to Height when ordering these units with top or bottom terminals.

METAL TUBULAR OIL-PAPER CAPACITORS

TYPE PTIM

Noninductively wound section assembled in hermetically sealed metal tubular case. Mineral-oil impregnated and filled. Neoprene-Bakelite end-discs. Meets electrical requirements of MIL-C-25A.

Temperature Rating: —55°C. to +85°C.
Standard Tolerance: —10% to +20%

PTIM VARIATIONS

PTIM Basic type similar to MIL Type CP25. To order: see Catalog Listing. Example: PTIM6-D3 — $.80.

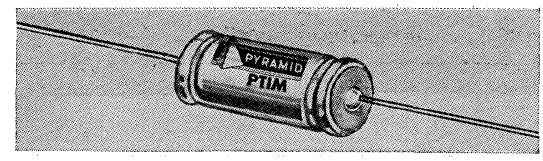
PTIMV (CP26) With insulating plastic sleeve. To order: add V after PTIM — 1/16" to Diameter — 1/8" to Length — $.20 to List Price. Example: PTIMV6-D3 — $1.00.

4PTIM (CP27) With riveted radial bracket. To order: add 4 before PTIM — $.10 to List Price: Example: 4PTIM6-D3 — $.90.

4PTIMV (CP28) With insulating plastic sleeve and riveted radial bracket. To order: add 4 before and V after PTIM — $.30 to List Price. Example: 4PTIMV6-D3 — $1.10.

7PTIM (CP29) With soldered tangential bracket. To order: add 7 before PTIM — $.40 to List Price. Example: 7PTIM6-D3 — $1.20.

Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
600 VOLTS DC WORKING				
PTIM6-D3	.003	5/16	1 1/8	.90
PTIM6-D5	.005	5/16	1 1/8	.80
PTIM6-D6	.006	5/16	1 1/8	.80
PTIM6-S1	.01	5/16	1 1/8	.80
PTIM6-S2	.02	5/16	1 1/8	.80



Catalog Number	Cap. in UF	Size in Inches Diameter	Length	List Price
PTIM6-S5	.05	5/8	1 1/8	.95
PTIM6-P1	.1	5/8	1 5/8	1.10
PTIM6-P25	.25	3/4	2 1/16	1.50
PTIM6-P5	.5	1	2 1/16	2.00
1,000 VOLTS DC WORKING				
PTIM10-D3	.003	5/16	1 1/8	.95
PTIM10-D5	.005	5/16	1 1/8	.95
PTIM10-D6	.006	5/16	1 1/8	.95
PTIM10-S1	.01	5/16	1 1/8	.95
PTIM10-S2	.02	5/8	1 1/8	1.05
PTIM10-S5	.05	5/8	1 5/8	1.10
PTIM10-P1	.1	3/4	1 7/8	1.35
PTIM10-P25	.25	1	2 1/16	1.85
PTIM10-P5	.5	1	3 1/8	2.65
1,600 VOLTS DC WORKING				
PTIM16-D3	.003	43/64	1 1/8	1.00
PTIM16-D5	.005	43/64	1 1/8	1.00
PTIM16-D6	.006	43/64	1 1/8	1.00
PTIM16-S1	.01	43/64	1 7/16	1.05
PTIM16-S2	.02	43/64	1 7/16	1.15
PTIM16-S5	.05	43/64	2 1/16	1.20
PTIM16-P1	.1	1	2 1/16	2.00

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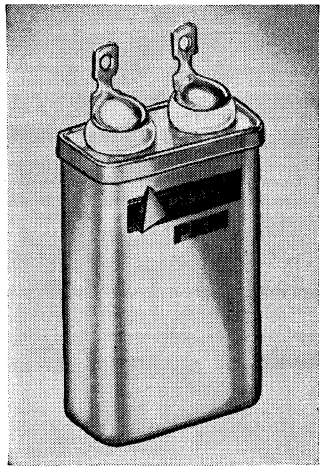
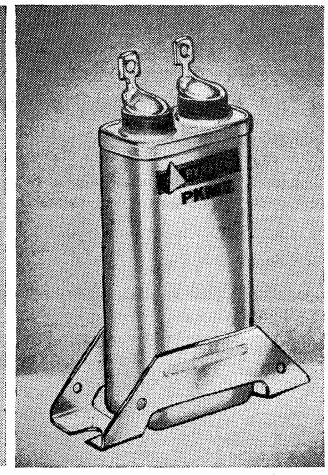
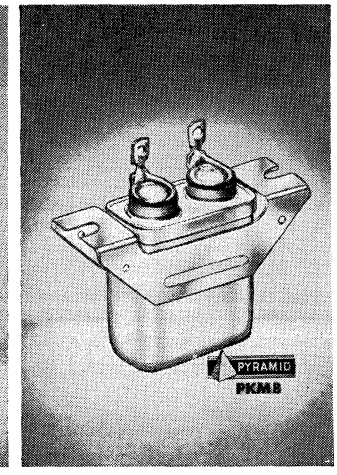
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*







PKM

SMALL-BASE OIL-PAPER CAPACITORS

Section assembled in hermetically sealed tin-coated container. Mineral-oil impregnated and filled. Lug-type terminal seals. Suitable for use in compact equipment. Meets electrical requirements of MIL-C-25A.

Temperature Rating: —55° C. to +85° C.
Standard Tolerance: —10% to +20%

PKM VARIATIONS

PKM Basic type similar to MIL Type CP61. To order: see Catalog Listing. Example: PKM4-S5 — $2.90.

PKMF Similar to CP61 with CP06F footed bracket. To order: add F after PKM. Example: PKMF4-S5 — $2.90.

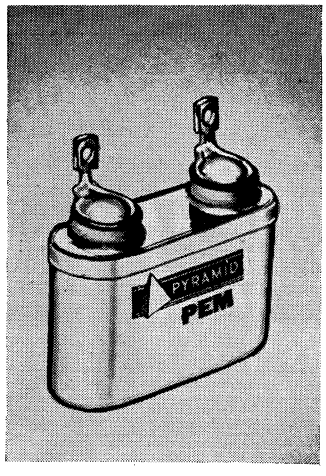
PKMS Similar to CP61 with CP06S spade bracket. To order: add S after PKM. Example: PKMF4-S5 — $2.90.

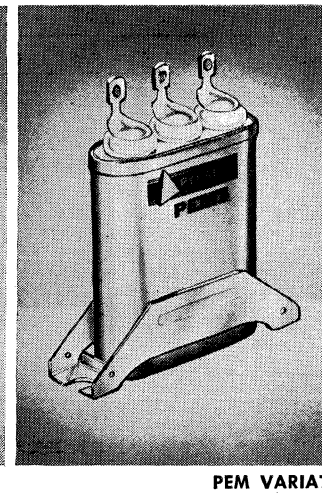
PKMT Similar to CP63 with channel bracket on end opposite terminals. To order: add T after PKM. Example: PKTM 4-S5 — $2.90.

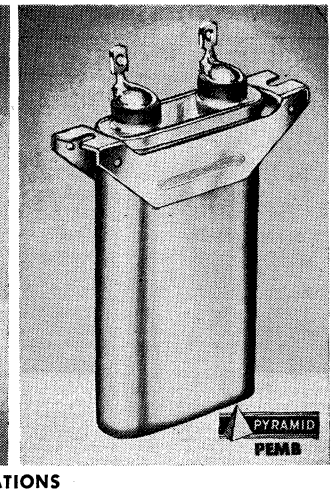
PKMB Similar to CP65 with channel bracket on same end as terminals. To order: add B after PKM. Example: PKMB4-S5 — $2.90.

PKMT, PKMB Channel Bracket Dimensions:
Overall Length: 2 5/16".
Overall Width: 4 9/64".
Length bet. Mounting Slot Centers: 1—1 5/16".
Mounting Slot Width: 5/32".

Catalog Number	Cap. in UF	Size in Inches Lgth.	Width	Hght.	List Price
400 VOLTS DC WORKING					
PKM4-S5	.05	1 5/16	47/64	1 1/16	2.90
PKM4-P1	.1	1 5/16	47/64	1 1/16	3.15
PKM-P25	.25	1 5/16	47/64	1 3/8	3.20
PKM4-P5	.5	1 5/16	47/64	1 5/8	3.25
PKM4-1	1.0	1 5/16	47/64	2 1/2	3.65
600 VOLTS DC WORKING					
PKM6-S5	.05	1 5/16	47/64	1 1/16	3.10
PKM6-P1	.1	1 5/16	47/64	1 1/16	3.20
PKM6-P25	.25	1 5/16	47/64	1 5/8	3.25
PKM6-P5	.5	1 5/16	47/64	2	3.35
PKM6-1	1.0	1 5/16	47/64	2 1/2	3.75
1,000 VOLTS DC WORKING					
PKM10-S5	.05	1 5/16	47/64	1 1/16	3.15
PKM10-P1	.1	1 5/16	47/64	1 3/8	3.25
PKM10-P25	.25	1 5/16	47/64	2	3.35
PKM10-P5	.5	1 5/16	47/64	2 1/2	3.65







PEM

SMALL-BASE OIL-PAPER CAPACITORS

Section assembled in hermetically sealed tin-coated container. Mineral-oil impregnated and filled. Lug-type terminal seals. Suitable for use in compact equipment. Meets electrical requirements of MIL-C-25A.

Temperature Rating: —55° C. to +85° C.
Standard Tolerance: —10% to +20%

PEM VARIATIONS

PEM Basic type. To order: see Catalog Listing. Example: PEM6-S5 — $3.10.

PEMT Similar to MIL Type CP67, with channel bracket on end opposite terminals. To order: add T after PEM. Example: PEMT6-S5 — $3.10.

PEMB Similar to CP69, with channel bracket on same end as terminals. To order: add B after PEM. Example: PEMB6-S5 — $3.10.

PEMT, PEMB Channel Bracket Dimensions:
Overall Length: 2 7/16".
Overall Width: 4 1/64" (max.).
Length between Mounting Slot Centers: 2 1/8".
Mounting Slot Width: 5/32".

Catalog Number	Cap. in UF	Size in Inches L.	W.	H.	List Price
Pem Single-Capacitor Units					
600 VOLTS DC WORKING					
PEM6-S5	.05	1 13/16	5/8	1 1/16	3.10
PEM6-P1	.1	1 13/16	5/8	1 1/16	3.20
PEM6-P25	.25	1 13/16	5/8	1 1/2	3.25
PEM6-P5	.5	1 13/16	5/8	2	3.35
PEM6-1	1.0	1 13/16	5/8	2 1/2	3.75
1,000 VOLTS DC WORKING					
PEM10-S5	.05	1 13/16	5/8	1 1/16	3.15
PEM10-P1	.1	1 13/16	5/8	1 1/16	3.25
PEM10-P5	.5	1 13/16	5/8	2 1/2	3.65
Pem Dual-Capacitor Units					
600 VOLTS DC WORKING					
2PEM6-S5	.05—.05	1 13/16	5/8	1 1/16	4.20
2PEM6-P1	.1 —.1	1 13/16	5/8	1 1/2	4.30
2PEM6-P25	.25—.25	1 13/16	5/8	2	4.55
8PEM6-P5	.5 —.5	1 13/16	5/8	2 1/2	4.95
1,000 VOLTS DC WORKING					
2PEM10-S5	.05—.05	1 13/16	5/8	1 1/16	4.55
2PEM10-P1	.1 —.1	1 13/16	5/8	1 1/2	4.90
2PEM10-P25	.25—.25	1 13/16	5/8	2 1/2	5.00
Pem Triple-Capacitor Units					
600 VOLTS DC WORKING					
3PEM6-S5	.05-.05-.05	1 13/16	5/8	1 1/16	5.00
3PEM6-P1	.1 -.1 -.1	1 13/16	5/8	1 1/2	5.60
3PEM6-P25	.25-.25-.25	1 13/16	5/8	2 1/2	5.95
1,000 VOLTS DC WORKING					
3PEM10-S5	.05-.05-.05	1 13/16	5/8	1 1/2	5.90
3PEM10-P1	.1 -.1 -.1	1 13/16	5/8	2	6.10

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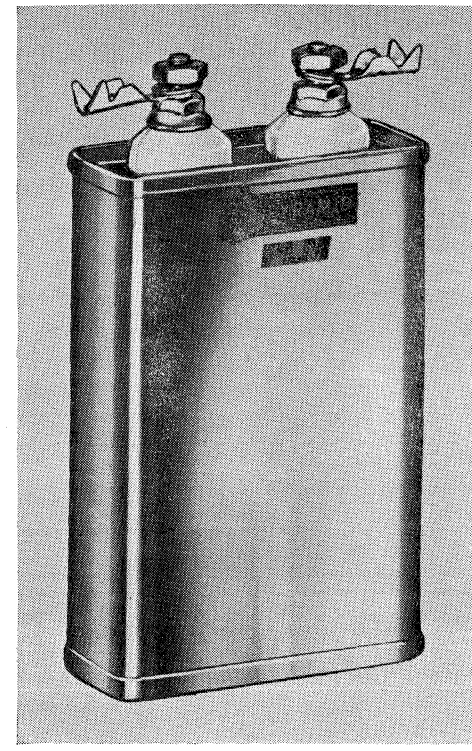
HIGH-VOLTAGE OIL-PAPER CAPACITORS

TYPE PLM

Section assembled in lacquer-finished terneplate case. Mineral-oil impregnated and filled. Ceramic terminal insulators with screw studs. Designed for heavy-duty continuous service. Fulfills the exacting requirements of power-supply and filter applications. Meets electrical requirements of characteristic "E" under MIL-C-25A. For higher voltage ratings and other information, write to Pyramid Sales Engineering Dept.

Temperature Rating: —55° C. to +85° C.
Standard Tolerance: +10%.



PLM VARIATIONS

PLM Basic type similar to MIL Type CP70. To order: see Catalog Listing. Example: PLM6-P5 — $4.70.

PLMF Similar to CP 70 with CP075 footed bracket. To order: add F after PLM. Example: PLMF6-P5 — $4.70.

PLMS Similar to CP70 with CP07S spade bracket. To order: add S after PLM. Example: PLMS6-P5 — $4.70.

PLMU With universal mounting bracket. To order: add U after PLM. Example: PLMU6-P5 — $4.70.

PLMR With riveted solder-lub MIL Type B terminals (furnished only through 2,000 VDCW rating). To order: add R after PLM. Example: PLMR6-P5 — $4.70.

Catalog Number	Cap. in UF	Case Size in Inches Length	Width	Height	List Price
600 VOLTS DC WORKING					
PLM6-P5	.5	1 13/16	1 1/16	1 5/8	4.70
PLM6-1	1.0	1 13/16	1 1/16	2 1/4	5.80
PLM6-2	2.0	1 13/16	1 1/16	3 1/4	7.15
PLM6-3	3.0	1 13/16	1 1/16	4 3/4	8.25
PLM6-4	4.0	2 1/2	1 13/16	3 1/2	9.00
PLM6-5	5.0	2 1/2	1 13/16	4 1/4	10.50
PLM6-6	6.0	2 1/2	1 13/16	4 3/4	11.30
PLM6-8	8.0	3 3/4	1 1/4	4 1/4	13.50
PLM6-10	10.0	3 3/4	1 3/4	4	15.00
1,000 VOLTS DC WORKING					
PLM10-P1	.1	1 13/16	1 1/16	1 5/8	4.15
PLM10-P25	.25	1 13/16	1 1/16	1 5/8	4.70
PLM10-P5	.5	1 13/16	1 1/16	2 1/4	5.00
PLM10-1	1.0	1 13/16	1 1/16	2 7/8	6.35
PLM10-2	2.0	1 13/16	1 1/16	4 3/4	8.25
PLM10-3	3.0	2 1/2	1 13/16	4 1/4	9.50
PLM10-4	4.0	2 1/2	1 13/16	4 3/4	10.50
PLM10-5	5.0	3 3/4	1 1/4	4 3/4	12.50
PLM10-6	6.0	3 3/4	1 3/4	4	14.00
PLM10-8	8.0	3 3/4	1 3/4	4 3/4	15.00
PLM10-10	10.0	3 3/4	2 1/4	4 3/4	16.75
PLM10-12	12.0	3 3/4	2 1/4	5 1/8	18.15
PLM10-15	15.0	3 3/4	3 3/16	4 3/4	20.00
1,500 VOLTS DC WORKING					
PLM15-P5	.5	1 13/16	1 1/16	2 7/8	6.25
PLM15-1	1.0	1 13/16	1 1/16	4 3/4	7.50
PLM15-2	2.0	2 1/2	1 13/16	4 3/4	10.50
PLM15-3	3.0	3 3/4	1 1/4	4 3/4	12.50
PLM15-4	4.0	3 3/4	1 1/2	4 3/4	14.00
PLM15-5	5.0	3 3/4	2 1/4	4 1/2	15.00
PLM15-6	6.0	3 3/4	2 1/4	4 3/4	17.00
PLM15-8	8.0	3 3/4	2 1/2	4 3/4	21.00
PLM15-10	10.0	3 3/4	3 3/16	5 1/8	25.00
PLM15-12	12.0	3 3/4	3 3/16	5 1/2	27.25
PLM15-15	15.0	4 5/16	3 3/4	5 1/8	30.00
2,000 VOLTS DC WORKING					
PLM20-P1	.1	1 13/16	1 1/16	2 1/4	6.50
PLM20-P25	.25	1 13/16	1 1/16	2 7/8	7.00
PLM20-P5	.5	1 13/16	1 1/16	3 7/8	7.50
PLM20-1	1.0	2 1/2	1 13/16	4 1/4	9.00
PLM20-2	2.0	3 3/4	1 1/4	4 3/4	10.75
PLM20-3	3.0	3 3/4	1 3/4	4 3/4	13.25
PLM20-4	4.0	3 3/4	2 1/4	5 1/8	15.00
PLM20-5	5.0	3 3/4	3 3/16	4 3/4	16.75
PLM20-6	6.0	3 3/4	3 3/16	5 1/2	20.00
PLM20-8	8.0	4 5/16	3 3/4	5 1/8	25.00
PLM20-10	10.0	4 5/16	3 3/4	6	30.50
PLM20-12	12.0	4 5/16	3 3/4	7 1/2	33.00
2,500 VOLTS DC WORKING					
PLM25-P5	.5	2 1/2	1 13/16	3 7/8	11.50
PLM25-1	1.0	3 3/4	1 3/4	3 1/4	13.00
PLM25-2	2.0	3 3/4	2 1/4	4 3/4	21.50
PLM25-4	4.0	4 5/16	3 3/4	4 3/8	30.00
PLM25-10	10.0	4 5/16	3 3/4	8 1/2	75.00
3,000 VOLTS DC WORKING					
PLM30-P1	.1	1 13/16	1 1/16	2 7/8	14.00
PLM30-P25	.25	2 1/2	1 13/16	3 1/2	15.00
PLM30-P5	.5	2 1/2	1 13/16	4 3/4	17.00
PLM30-1	1.0	3 3/4	2 1/4	4 1/2	20.00
PLM30-2	2.0	3 3/4	3 3/16	4 3/4	25.00
PLM30-4	4.0	4 5/16	3 3/4	5 1/2	36.50
4,000 VOLTS DC WORKING					
PLM40-P1	.1	3 3/4	2 1/4	2 3/4	25.00
PLM40-P25	.25	3 3/4	2 1/4	2 3/4	26.50
PLM40-P5	.5	3 3/4	2 1/4	4 3/4	30.00
PLM40-1	1.0	3 3/4	3 3/16	4 3/4	36.50
PLM40-2	2.0	4 5/16	3 3/4	6	46.50
PLM40-4	4.0	4 5/16	3 3/4	9 5/8	67.00
5,000 VOLTS DC WORKING					
PLM50-P5	.5	3 3/4	2 1/4	5 1/8	33.00
PLM50-1	1.0	4 5/16	3 3/4	5 1/8	42.00
PLM50-2	2.0	4 5/16	3 3/4	8 1/2	53.50

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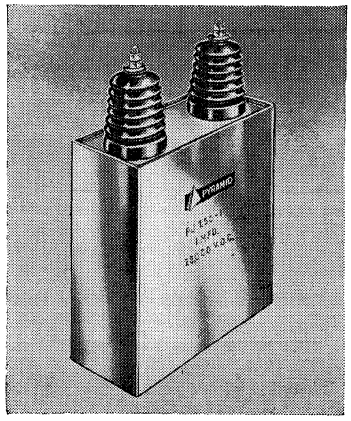
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

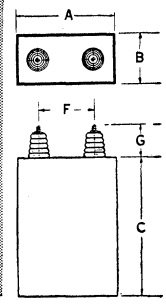
TYPE PJ HIGH-VOLTAGE OIL-PAPER CAPACITORS

TYPE **P J**



Section assembled in container of heavy gage steel, welded oil tight and hot tinned. Mineral oil impregnated and mineral oil filled. Case and terminals are bonded together. Low leakage current and negligible capacity change over wide range of operating temperature. For higher voltage and other information write to Pyramid Sales Engineering Department.

Temperature Range: —55° C. to +85° C.
Capacity Tolerance: —5% to +15%.

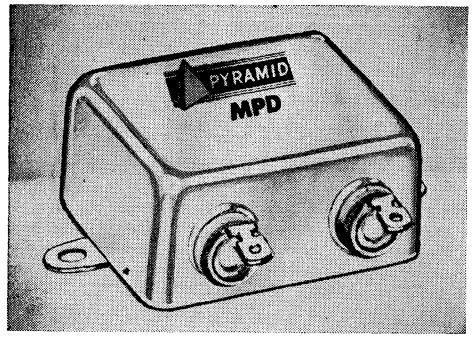


Catalog Number	Cap. in UF	Size in In. A	B	(See Dimens'l Drawing) C	F	G	List Price
6,000 VOLTS DC WORKING							
PJ60-2	2	8	4	11	4½	2⅝	150.00
PJ60-4	4	12	4	11	6	2⅝	184.00
PJ60-5	5	12	6	11	6	2⅝	208.00
PJ60-6	6	12	6	11	6	2⅝	233.00
PJ60-10	10	12	6	16	6	2⅝	290.00
7,500 VOLTS DC WORKING							
PJ75-P5	.5	8	4	11	4½	2⅝	83.00
PJ75-1	1	8	4	11	4½	2⅝	108.00
PJ75-2	2	12	4	11	6	2⅝	166.00
PJ75-4	4	12	6	13	6	2⅝	250.00
PJ75-6	6	12	7½	15	6	2⅝	300.00

Catalog Number	Cap. in UF	Size in In. A	B	(See Dimens'l Drawing) C	F	G	List Price
10,000 VOLTS DC WORKING							
PJ100-P5	.5	8	4	11	4½	2⅝	175.00
PJ100-1	1	12	4	11	6	2⅝	217.00
PJ100-2	2	12	6	11	6	2⅝	275.00
PJ100-4	4	12	7½	16	6	2⅝	336.00
PJ100-5	5	12	8	18	6	2⅝	368.00
12,500 VOLTS DC WORKING							
PJ125-P5	.5	12	4	11	6	2⅝	184.00
PJ125-1	1	12	6	11	6	2⅝	233.00
PJ125-2	2	12	6	16	6	2⅝	292.00
PJ125-5	5	12	12	18	6	2⅝	551.00
15,000 VOLTS DC WORKING							
PJ150-P25	.25	8	4	11	4½	4¾	175.00
PJ150-P5	.5	12	4	11	6	4¾	208.00
PJ150-1	1	12	6	13	6	4¾	292.00
PJ150-2	2	12	8	18	6	4¾	384.00
PJ150-3	3	12	11	18	6	4¾	526.00
20,000 VOLTS DC WORKING							
PJ200-P25	.25	12	4	11	4½	4¾	208.00
PJ200-P5	.5	12	6	13	6	4¾	267.00
PJ200-1	1	12	8	18	6	4¾	359.00
PJ200-1.5	1.5	12	12	18	6	4¾	484.00
25,000 VOLTS DC WORKING							
PJ250-P25	.25	12	6	11	6	4¾	292.00
PJ250-P5	.5	12	7½	16	6	4¾	317.00
PJ250-P75	.75	12	11	16	6	4¾	400.00
PJ250-1	1	12	12	18	6	4¾	475.00

BATHTUB-TYPE METALLIZED PAPER CAPACITORS

TYPE **M P D K • M P D M**



Extended-foil section assembled in hermetically sealed tinned bath-type case. Lug-type terminal seals. Basic Type MPDK impregnated in microcrystalline mineral wax. Basic Type MPDM impregnated in mineral oil. Self-healing. Low r-f impedance. Excellent power factor over a wide temperature range. (For High-temperature Type MPDR, see page 18.)

Temperature Rating: —55° C. to +85° C.
Derating: 0% at +55° C. 30% at +85° C.
Standard Tolerance: ±20%.

MPDK, MPDM VARIATIONS

MPDK-MPDM Basic types with terminals on side. To order: see Catalog Listing. Example: MPDK1.5-3 — $5.10.
MPDKT-MPDMT With terminals on top. To order: add T after MPDK or MPDM. Example: MPDKT1.5-3 — $5.10.
MPDKB-MPDMB With terminals on bottom. To order: add T after MPDK or MPDM. Example: MPDKB1.5-3 — $5.10.

Distance between Mounting Hole Centers:

Length x Width	Distance
1 13/16 x 1	2⅛
1 13/16 x 1¼	2⅛
2 x 1¾	2⅜
2 x 2	2⅜

MPDK-MPDM SINGLE-CAPACITOR UNITS

Catalog Number	Cap. in UF	Size in Inches Length	Width	Height	List Price
150 VOLTS DC WORKING					
MPDK1.5-3	3.0	1 13/16	1	¾	5.10
MPDK1.5-4	4.0	1 13/16	1	⅞	5.75
MPDK1.5-6	6.0	1 13/16	1¼	⅞	6.10
MPDK1.5-8	8.0	2	1¾	⅞	8.40
MPDK1.5-10	10.0	2	1¾	⅞	9.70
MPDK1.5-12	12.0	2	2	1	11.00
200 VOLTS DC WORKING					
MPDK2-P5	.5	1 13/16	1	¾	3.30
MPDK2-1	1.0	1 13/16	1	¾	3.55
MPDK2-2	2.0	1 13/16	1	¾	4.45
400 VOLTS DC WORKING					
MPDM4-P25	.25	1 13/16	1	¾	3.35
MPDM4-P5	.5	1 13/16	1	¾	3.55
MPDM4-1	1.0	1 13/16	1	⅞	3.95
MPDM4-2	2.0	2	1¾	⅞	4.90
MPDM4-4	4.0	2	2	1⅛	7.85
600 VOLTS DC WORKING					
MPDM6-P1	.1	1 13/16	1	¾	3.50
MPDM6-P25	.25	1 13/16	1	¾	3.55
MPDM6-P5	.5	1 13/16	1	¾	4.25
MPDM6-1	1.0	1 13/16	1¼	⅞	4.90
MPDM6-2	2.0	2	2	1	6.25

MPDK-MPDM DUAL-CAPACITOR UNITS

Catalog Number	Cap. in UF	Size in Inches Length	Width	Height	List Price
150 VOLTS DC WORKING					
2MPDK1.5-4	4.0 -4.0	2	2	⅞	9.00
2MPDK1.5-6	6.0 -6.0	2	2	1	11.50
200 VOLTS DC WORKING					
2MPDK2-1	1.0 -1.0	1 13/16	1	¾	5.00
2MPDK2-2	2.0 -2.0	1 13/16	1	⅞	6.30
400 VOLTS DC WORKING					
2MPDM4-P25	.25- .25	1 13/16	1	¾	3.80
2MPDM4-P5	.5 - .5	1 13/16	1	⅞	4.35
2MPDM4-1	1.0 -1.0	2	1¾	⅞	5.50
2MPDM4-2	2.0 -2.0	2	2	1⅛	8.10
600 VOLTS DC WORKING					
2MPDM6-P1	.1 - .1	1 13/16	1	¾	4.10
2MPDM6-P25	.25- .25	1 13/16	1	¾	4.95
2MPDM6-P5	.5 - .5	1 13/16	1¼	⅞	5.70
2MPDM6-1	1.0 -1.0	2	2	1	6.60

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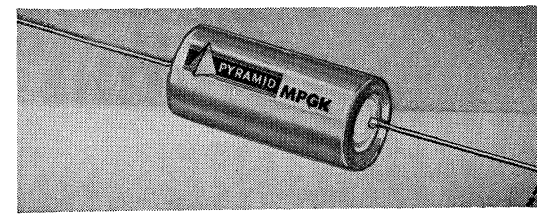
METAL-CAN METALLIZED PAPER CAPACITORS

TYPE M P G K M P G M

Extended-foil section assembled in hermetically sealed metal tubular case. Glass-to-metal end-seals. Basic Type MPGK impregnated in microcrystalline mineral wax. Basic Type MPGM impregnated in mineral oil. 1⅝ inch minimum lead length. Self-healing. Low r-f impedance. Excellent power factor over a wide temperature range. (For High-temperature Type MPGR, see page 17

Temperature Rating: —55° C. to +85° C.
Derating: 0% at +55° C. 30% at +85° C.
Standard Tolerance: ±20%.



MPGK, MPGM VARIATIONS

MPGK-MPGM Basic types with grounded case. To order: see Catalog Listing: Example: MPGK1.5-3 — $5.95.

MPGIK-MPGIM With floating case. To order: add 1 after MPG — 1/16" to Length — $.75 to List Price. Example: MPGIK1.5-3 — $6.70.

MPGKV-MPGMV With insulating plastic sleeve. To order: add V after MPGK or MPGM — 1/16" to Diameter — 1/8" to Length — $.20 to List Price. Example: PGKV1.5-3 — $6.15.

3MPGK-3MPGM With threaded end bushing. To order: add 3 before MPGK or MPGM — $.80 to List Price. Example: 3MPGK1.5-3 — $6.75.

6MPGK-6MPGM With soldered transverse bracket. To order: add 6 before MPGK or MPGM—$.40 to List Price. Example: 6MPGK-1.5-3—$6.35.

7MPGK-7MPGM With soldered tangential bracket. To order: add 7 before MPGK or MPGM—$.40 to List Price. Example: 7PGMK1.5-3—$6.35.

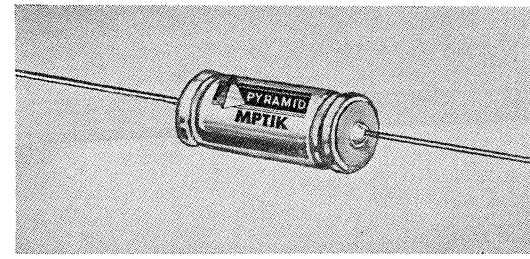
Catalog Number	Cap. in UF	Size in Inches Diam.	Lgth.	List Price
150 VOLTS DC WORKING				
MPGK1.5-3	3.0	.750	1¾	4.60
MPGK1.5-4	4.0	1.000	1¾	5.00
MPGK1.5-6	6.0	1.000	1¾	5.85
MPKG1.5-8	8.0	1.000	2¼	6.65
200 VOLTS DC WORKING				
MPGK2-S1	.01	.235	¾	2.05
MPGK2-S2	.02	.235	¾	2.10
MPGK2-S3	.03	.235	¾	2.10
MPKG2-S4	.04	.235	¾	2.10
MPGK2-S47	.047	.235	¾	2.10
MPGK2-S5	.05	.235	¾	2.10
MPGK2-S68	.068	.312	¾	2.15
MPGK2-P1	.1	.312	¾	2.15
MPGK2-P15	.15	.312	1 1/16	2.35
MPGK2-P2	.2	.312	1 1/16	2.35
MPGK2-P22	.22	.312	1 1/16	2.35
MPGK2-P25	.25	.312	1 1/16	2.35
MPGK2-P33	.33	.400	1 1/16	2.40
MPGK2-P47	.47	.400	1 1/16	2.40
MPGK2-P5	.5	.400	1 1/16	2.40
MPGK2-P68	.68	.562	1 1/16	2.65
MPGK2-1	1.0	.562	1¼	2.65
MPGK2-1.5	1.5	.562	1¾	2.85
MPGK2-2	2.0	.562	1¾	3.95
400 VOLTS DC WORKING				
MPGM4-S1	.01	.235	¾	2.15
MPGM4-S2	.02	.235	¾	2.15
MPGM4-S22	.022	.235	¾	2.15
MPGM4-S3	.03	.312	¾	2.20
MPGM4-S33	.033	.312	¾	2.20
MPGM4-S4	.04	.312	¾	2.20
MPGM4-S47	.047	.400	¾	2.20
MPGM4-S5	.05	.400	¾	2.25
MPGM4-S68	.068	.400	1 1/16	2.25
MPGM4-P1	.1	.400	1 1/16	2.45
MPGM4-P15	.15	.500	1 1/16	2.45
MPGM4-P2	.2	.500	1 1/16	2.45
MPGM4-P22	.22	.562	1 1/16	2.45
MPGM4-P25	.25	.562	1 1/16	2.75
MPGM4-P33	.33	.562	1¼	2.75
MPGM4-P47	.47	.562	1¾	2.75
MPGM4-P5	.5	.562	1¾	3.05
MPGM4-P68	.68	.670	1¾	3.05
MPGM4-1	1.0	.670	2¼	3.05
MPGM4-2	2.0	1.000	2¼	4.65
600 VOLTS DC WORKING				
MPGM6-S1	.01	.235	¾	2.15
MPGM6-S15	.015	.312	¾	2.20
MPGM6-S2	.02	.312	¾	2.20
MPGM6-S22	.022	.312	¾	2.20
MPGM6-S3	.03	.312	¾	2.20
MPGM6-S33	.033	.400	¾	2.20
MPGM6-S4	.04	.400	¾	2.25
MPGM6-S47	.047	.400	¾	2.25
MPGM6-S5	.05	.400	¾	2.25
MPGM6-S68	.068	.400	1 1/16	2.30
MPGM6-P1	.1	.500	1 1/16	2.30
MPGM6-P15	.15	.500	1 1/16	2.70
MPGM6-P2	.2	.562	1¼	2.70
MPGM6-P22	.22	.562	1¼	2.70
MPGM6-P25	.25	.562	1¼	2.70
MPGM6-P33	.33	.562	1¾	3.00
MPGM6-P47	.47	.670	1¾	3.00
MPGM6-P5	.5	.670	1¾	3.00
MPGM6-P68	.68	.670	2¼	3.65
MPGM6-1	1.0	.750	2¼	3.65
MPGM6-1.5	1.5	1.000	2¼	4.30

METAL-TUBE METALLIZED PAPER CAPACITORS

TYPE M P T I K M P T I M

Extended-foil section assembled in hermetically sealed metal tubular case. Spun-over synthetic rubber end-discs. Basic Type MPTIK impregnated in microcrystalline mineral wax. Basic Type MPTIM impregnated in mineral oil. 1⅝ inch minimum lead length. Self-healing. Low r-f impedance. Excellent power factor over a wide temperature range.

Temperature Rating: —55° C. to +85° C.
Derating: 0% at +55° C. 30% at +85° C.
Standard Tolerance: —20% to +30%.



MPTIK-MPTIM VARIATIONS

MPTIK-MPTIM Basic types with floating case. To order: see Catalog Listing. Example: MPTIK1.5-3 — $3.35.

MPTK-MPTM With grounded case. To order: delete 1 after MPT — subtract 1/8" from Length. Example: MPTK1.5-3.

MPTIKV-MPTIMV With insulating plastic sleeve. To order: add V after MPTIK or MPTIM — 1/16" to Diameter — 1/8" to Length — $.20 to List Price. Example: PTIKV1.5-3 — $3.55.

4MPTIK-4MPTIM With riveted radial bracket. To order: add 4 before MPTIK or MPTIM—$.10 to List Price. Example: 4MPTIK1.5-3—$3.45.

4MPTIKV-4MPTIMV With insulating plastic sleeve and riveted radial bracket. To order: add 4 before and V after MPTIK or MPTIM — $.30 to List Price: Example: 4MPTIKV1.5-3 — $3.65.

7MPTIK-7MPTIM With soldered tangential bracket. To order: add 7 before MPTIK or MPTIM — $.40 to List Price: Example: 7MPTIK1.5-3 — $3.75

Catalog Number	Cap. in UF	Size in Inches Diam.	Lgth.	List Price
150 VOLTS DC WORKING				
MPTIK1.5-3	3.0	¾	1 15/16	3.35
MPTIK1.5-4	4.0	⅞	1 15/16	4.35
MPTIK1.5-6	6.0	1	1 15/16	5.30
200 VOLTS DC WORKING				
MPTIK2-S1	.05	⅜	15/16	1.40
MPTIK2-P1	.1	7/16	15/16	1.45
MPTIK2-P25	.25	½	15/16	1.60
MPTIK2-P5	.5	½	1¼	1.70
MPTIK2-1	1.0	5/8	1 7/16	2.10
MPTIK2-2	2.0	5/8	1 15/16	2.60
400 VOLTS DC WORKING				
MPTIM4-S3	.03	⅜	15/16	1.35
MPTIM4-S5	.05	7/16	15/16	1.45
MPTIM4-P1	.1	7/16	1¼	1.60
MPTIM4-P25	.25	5/8	1¼	1.80
MPTIM4-P5	.5	5/8	1 15/16	2.00
MPTIM4-1	1.0	¾	2 7/16	3.50
MPTIM4-2	2.0	1	2 7/16	3.60
600 VOLTS DC WORKING				
MPTIM6-S1	.01	⅜	15/16	1.35
MPTIM6-S2	.02	7/16	15/16	1.45
MPTIM6-S3	.03	7/16	15/16	1.50
MPTIM6-S5	.5	½	15/16	1.55
MPTIM6-P1	.1	½	1 7/16	1.70
MPTIM6-P25	.25	5/8	1 7/16	2.00
MPTIM6-P5	.5	½	15/16	1.55
MPTIM6-1	1.0	13/16	2 7/16	3.00
MPTIM6-2	2.0	1⅛	2 7/16	4.00

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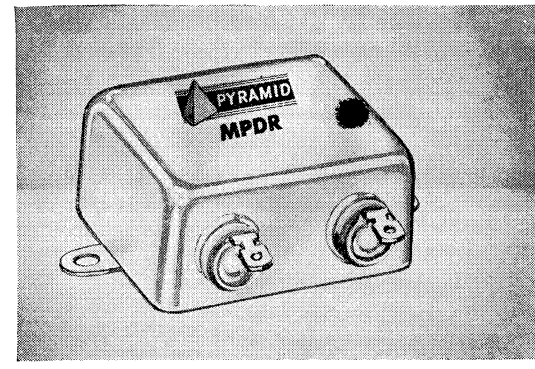
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TYPE **MPDR**

BATH-TUB HI-TEMP METALLIZED PAPER CAPACITORS

Extended-foil section assembled in hermetically sealed tinned bathtub type case. Impregnated in solid thermosetting resin. Vitrified ceramic (or glass) lug-type terminal seals. Self-healing, low r-f impedance. Excellent power factor over a very wide temperature range.

Temperature Rating: —55° C. to +125° C.
Derating: 0% at +100° C. 25% at +125° C.
Standard Tolerance: ±20%.



MPDR VARIATIONS

MPDR With terminals on side. To order: see Catalog Listing. Example: MPDR1.5-3 — $9.00.
MPDRT With terminals on top. To order: add T after MPDR. Example: MPDRT1.5-3 — $9.00.
MPDRB With terminals on bottom. To order: add B after MPDR. Example: MPDRB1.5-3 — $9.00.

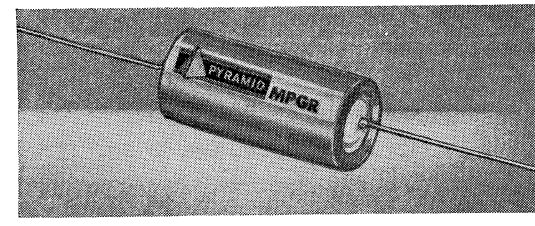
MPDR SINGLE-CAPACITORS UNITS

Catalog Number	Cap. in UF	Size in Inches L.	W.	H.	List Price
150 VOLTS DC WORKING					
MPDR1.5-3	3.0	1 13/16	1	3/4	9.00
MPDR1.5-4	4.0	1 13/16	1	7/8	9.80
MPDR1.5-5	5.0	1 13/16	1	7/8	11.20
MPRD1.5-6	6.0	1 13/16	1 1/4	7/8	12.40
MPRD1.5-8	8.0	2	1 3/4	7/8	14.70
MPDR1.5-10	10.0	2	1 3/4	7/8	17.20
MPDR1.5-12	12.0	2	1 3/4	7/8	19.60
200 VOLTS DC WORKING					
MPRD2-P5	.5	1 13/16	1	3/4	6.25
MPRD2-1	1.0	1 13/16	1	3/4	6.75
MPRD2-2	2.0	1 13/16	1	3/4	7.80
400 VOLTS DC WORKING					
MPDR4-P25	.25	1 13/16	1	3/4	7.30
MPDR4-P5	.5	1 13/16	1	3/4	7.60
MPDR4-1	1.0	1 13/16	1	7/8	8.20
MPDR4-2	2.0	2	1 3/4	7/8	9.50
MPDR4-3	3.0	2	1 3/4	1	9.75
MPDR4-4	4.0	2	2	1 1/8	12.20
600 VOLTS DC WORKING					
MPDR6-P1	.1	1 13/16	1	3/4	8.00
MPDR6-P25	.25	1 13/16	1	3/4	8.30
MPDR6-P5	.5	1 13/16	1	3/4	8.75
MPDR6-1	1.0	1 13/16	1 1/4	7/8	9.50
MPDR6-2	2.0	2	2	7/8	11.00

TYPE **MPGR**

METAL-CAN-HI-TEMP METALLIZED PAPER CAPACITORS

Extended-foil construction assembled in hermetically sealed metal tubular case. Impregnated in solid thermosetting resin. Glass-to-metal end-seals. 1—5/8 inch minimum lead length. Self-healing. Low r-f impedance. Excellent power factor over a very wide temperature range.



Temperature Rating: —55° C. to +125° C.
Derating: 0% at +100° C. 25% at +125° C.
Standard Tolerance: ±20%.

MPGR VARIATIONS

MPGR Basic type with grounded case. To order: see Catalog Listing. Example: MPGR2-S1 — $3.10.
MPGIR With floating case. To order: add I after MPG — 1/16" to Length — $.75 to List Price. Example: MPGIR2-S1 — $3.85.
MPGRV With insulating plastic sleeve. To order: add V after MPGR — 1/16" to Diameter — 1/8" to Length — $.20 to List Price. Example: MPGRV2-S1 — $3.30.
3MPGR With threaded end bushing. To order: add 3 before MPGR — $.80 to List Price. Example: 3MPGR2-S1 — $3.90.
6MPGR With soldered transverse bracket. To order: add 6 before MPGR— $.40 to List Price. Example: 6MPGR2-S1 — $3.50.
7MPGR With soldered tangential bracket. To order: add 7 to MPGR — $.40 to List Price. Example: 7MPGR2-S1 — $3.50.

Catalog Number	Cap. in UF	Size in Inches Diam.	Lgth.	List Price
200 VOLTS DC WORKING				
MPGR2-S1	.01	.235	13/16	3.15
MPGR2-S15	.015	.235	13/16	3.15
MPGR2-S2	.02	.235	13/16	3.15
MPGR2-S22	.022	.235	13/16	3.15
MPGR2-S33	.033	.235	13/16	3.15
MPGR2-S4	.04	.235	13/16	3.15
MPGR2-S47	.047	.235	13/16	3.15
MPGR2-S5	.05	.235	13/16	3.15
MPGR2-S68	.068	.312	13/16	3.25
MPGR2-P1	.1	.312	13/16	3.25
MPGR2-P15	.15	.312	1 1/8	3.55
MPGR2-P2	.2	.312	1 1/8	3.55
MPGR2-P22	.22	.312	1 1/8	3.55
MPGR2-P25	.25	.312	1 1/8	3.55
MPGR2-P33	.33	.400	1 1/8	3.60
MPGR2-P47	.47	.400	1 1/8	3.60
MPGR2-P5	.5	.400	1 1/8	3.60
MPGR2-P68	.68	.562	1 1/16	4.00
MPGR2-1	1.0	.562	1 1/16	4.00
MPGR2-2	2.0	.562	1 3/4	5.95
400 VOLTS DC WORKING				
MPGR4-S1	.01	.235	13/16	3.15
MPGR4-S15	.015	.235	13/16	3.25
MPGR4-S2	.02	.235	13/16	3.25
MPGR4-S22	.022	.312	13/16	3.25
MPGR4-S33	.033	.312	13/16	3.25
MPGR4-S4	.04	.312	13/16	3.30
MPGR4-S47	.047	.312	1 1/8	3.30
MPGR4-S5	.05	.312	1 1/8	3.30
MPGR4-S68	.068	.400	1 1/8	3.40
MPGR4-P1	.1	.400	1 1/8	3.40
MPGR4-P15	.15	.500	1 1/16	3.70
MPGR4-P2	.2	.500	1 1/16	3.70
MPGR4-P22	.22	.500	1 1/16	3.70
MPGR4-P25	.25	.500	1 1/16	3.70
MPGR4-P33	.33	.562	1 1/4	4.15
MPGR4-P47	.47	.562	1 3/4	4.15
MPGR4-P5	.5	.562	1 3/4	4.15
MPGR4-P68	.68	.670	1 3/4	4.60
MPGR4-1	1.0	.670	2 1/4	4.60
MPGR4-2	2.0	1.000	2 1/4	7.00
600 VOLTS DC WORKING				
MPGR6-S1	.01	.235	13/16	3.25
MPGR6-S15	.015	.312	13/16	3.30
MPGR6-S2	.02	.312	13/16	3.30
MPGR6-S22	.022	.312	13/16	3.30
MPGR6-S33	.033	.400	13/16	3.30
MPGR6-S4	.04	.400	13/16	3.40
MPGR6-S47	.047	.400	13/16	3.40
MPGR6-S5	.05	.400	13/16	3.40
MPGR6-S68	.068	.400	1 1/8	3.45
MPGR6-P1	.1	.400	1 1/8	3.45
MPGR6-P15	.15	.500	1 1/16	4.05
MPGR6-P2	.2	.562	1 1/4	4.05
MPGR6-P22	.22	.562	1 1/4	4.05
MPGR6-P25	.25	.562	1 1/4	4.05
MPGR6-P33	.33	.562	1 3/4	4.50
MPGR6-P47	.47	.670	1 3/4	4.50
MPGR6-P5	.5	.670	1 3/4	4.50
MPGR6-P68	.68	.670	2 1/4	5.00
MPGR6-1	1.0	.750	2 1/4	5.45
MPGR6-1.5	1.5	1.000	2 1/4	6.60

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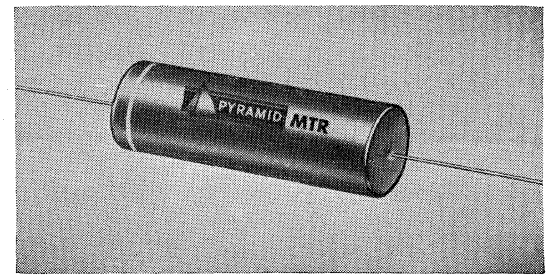
TYPE **M T R**

KRAFT-TUBE HI-TEMP METALLIZED PAPER CAPACITORS

Extended-foil section assembled in a special kraft tube. Impregnated in solid thermosetting resin. Plastic end-seals. Overall coating of highly moisture-resistant wax. 1⅝ inch minimum lead length. Self-healing. Low r-f impedance. Excellent power factor over a wide temperature range.

Temperature Rating: —40° C. to +100° C.
Standard Tolerance: —20% to +30%.

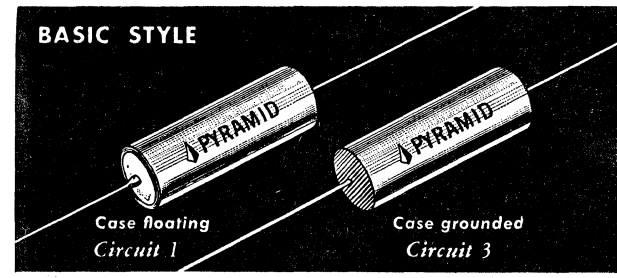


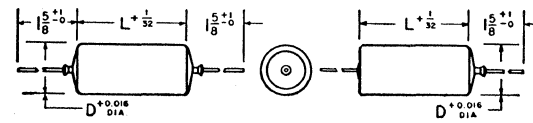
Catalog Number	Cap. in UF	Size in Inches Diam.	Lgth.	List Price
200 VOLTS DC WORKING				
MTR2-S1	.01	¼	25/32	1.00
MTR2-S2	.02	¼	25/32	1.00
MTR2-S3	.03	¼	25/32	1.00
MTR2-S5	.05	¼	25/32	1.00
MTR2-P1	.1	5/16	25/32	1.05
MTR2-P25	.25	7/16	25/32	1.35
MTR2-P5	.5	7/16	1⅛	1.60
MTR2-1	1.0	9/16	1⅛	1.95
MTR2-2	2.0	⅝	1 7/16	2.70
400 VOLTS DC WORKING				
MTR4-S1	.01	¼	25/32	1.05
MTR4-S2	.02	9/32	25/32	1.05
MTR4-S3	.03	11/32	25/32	1.05
MTR4-S5	.05	⅜	25/32	1.05
MRT4-P1	.1	13/32	1⅛	1.20
MTR4-P25	.25	9/16	1⅛	1.50
MTR4-P5	.5	⅝	1 7/16	1.75
MTR4-1	1.0	¾	1 13/16	2.40
MTR4-2	2.0	⅞	2⅜	3.35
600 VOLTS DC WORKING				
MTR6-S1	.01	¼	25/32	1.05
MTR6-S2	.02	11/32	25/32	1.05
MTR6-S3	.03	⅜	25/32	1.20
MTR6-S5	.05	7/16	25/32	1.20
MTR6-P1	.1	13/32	1⅛	1.35
MTR6-P25	.25	⅝	1⅛	1.65
MTR6-P5	.5	11/16	1 7/16	2.20
MTR6-1	1.0	27/32	1 13/16	2.70
MTR6-2	2.0	1 1/32	2⅜	3.65

GLASSEAL™

HERMETICALLY SEALED *subminiature* TUBULAR PAPER CAPACITORS

for 125° C operation at full rating





Pyramid "GLASSEAL" capacitors are subminiature metal cased tubular units which have been designed to meet severe and rigid operating requirements, especially where an important design consideration is limited space.

"GLASSEALS" have proven themselves to be unsurpassed in reliability over the entire operating temperature range from —55° C to + 125° C. Rigid inspection throughout the manufacturing processes assure their continued excellence.

Pyramid "GLASSEALS" are available in a variety of impregnants, and internal constructions hermetically sealed with glass-to-metal end seals in nonmagnetic metal tubular cases. They are available in many mounting styles. See Engineering Catalog PG-3 for full details. Pyramid "GLASSEALS" are manufactured in accordance with MIL-C-25/1B and may be secured with MIL designations CP04, 05, 08, 09, 10 and 11 whenever required.

STANDARD TOLERANCE: ±20%

The listing below indicates those types and values normally available from Pyramid's Authorized Industrial Distributors' stocks. All are BASIC STYLE—Floating case—

Type PGIX — Inserted Tab Construction

MIL-C-25-1B DESIGNATION	Catalog Number	Capacity in μf	VWDC	Size Diam.	Lgth.	List Price
CP04A1KB104	PGIX1-P1	.1	100	.312	⅞	$3.70
CP04A1KB474	PGIX1-P47	.47	100	.562	1⅛	4.35
CP04A1KC104	PGIX2-P1	.1	200	.400	⅞	3.85
CP04A1KC474	PGIX2-P47	.47	200	.562	1⅜	4.65
CP04A1KE104	PGIX4-P1	.1	400	.400	1⅜	4.15
CP04A1KE224	PGIX4-P22	.22	400	.562	1⅜	4.65
CP04A1KE474	PGIX4-P47	.47	400	.670	1⅞	5.40
CP04A1KF102	PGIX6-D1	.001	600	.235	¾	3.60
CP04A1KF222	PGIX6-D22	.0022	600	.235	¾	3.60
CP04A1KF472	PGIX6-D47	.0047	600	.235	¾	3.70
CP04A1KF682	PGIX6-D68	.0068	600	.235	¾	3.70
CP04A1KF103	PGIX6-S1	.01	600	.312	⅞	3.80
CP04A1KF223	PGIX6-S22	.022	600	.312	⅞	3.85
CP04A1KF473	PGIX6-S47	.047	600	.400	1⅛	4.05
CP04A1KF683	PGIX6-S68	.068	600	.400	1⅜	4.25
CP04A1KF104	PGIX6-P1	.1	600	.562	1⅛	4.50
CP04A1KF224	PGIX6-P22	.22	600	.562	1⅞	5.00
CP04A1KF474	PGIX6-P47	.47	600	.750	2⅛	5.85

Type EPGIX — Extended Foil Construction

MIL-C-25-1B DESIGNATION	Catalog Number	Capacity in μf	VWDC	Size Diam.	Lgth.	List Price
CP08A1KB103	EPGIX1-S1	.01	100	.235	¾	$3.60
CP08A1KB473	EPGIX1-S47	.047	100	.312	⅞	3.80
CP08A1KB104	EPGIX1-P1	.1	100	.400	⅞	3.90
CP08A1KB334	EPGIX1-P33	.33	100	.562	1⅛	4.45
CP08A1KB474	EPGIX1-P47	.47	100	.562	1⅜	4.70
CP08A1KE333	EPGIX4-S33	.033	400	.400	⅞	4.10
CP08A1KE473	EPGIX4-S47	.047	400	.400	1⅛	4.15
CP08A1KE224	EPGIX4-P22	.22	400	.562	1⅝	5.05
CP08A1KF102	EPGIX6-D1	.001	600	.235	¾	3.75
CP08A1KF222	EPGIX6-D22	.0022	600	.235	¾	3.75
CP08A1KF472	EPGIX6-D47	.0047	600	.312	⅞	3.95
CP08A1KF103	EPGIX6-S1	.01	600	.312	⅞	4.00
CP08A1KF223	EPGIX6-S22	.022	600	.400	⅞	4.15
CP08A1KF473	EPGIX6-S47	.047	600	.400	1⅜	4.35
CP08A1KF104	EPGIX6-P1	.1	600	.562	1⅜	4.80
CP08A1KF224	EPGIX6-P22	.22	600	.670	1⅝	5.65
CP08A1KF474	EPGIX6-P47	.47	600	.750	2⅜	6.45

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

ASTRON® Capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

MINIMITE* TYPE MM

Miniature Metal-Cased Tubular Electrolytics

"SM" Safety Margin Construction*

- Hermetically sealed aluminum-cased tubulars. Small and light. Ideal for under-chassis mounting in compact, tight assemblies.
- Designed to withstand high surge voltages and high ripple currents. Stable capacitance characteristics. Long service life.
- Exceptionally low leakage. Terminal tab connections provide permanent low-resistance contact for life of the unit.
- Outer insulating tube. Duals have centered mounting strap, and 3 leads (common negative).
- #20 bare wire leads, 3" long.
- Widely specified for original equipment and as popular replacements with quality-minded servicemen.

SINGLE MINIMITE (2 leads)

Cat. No.	Cap. Mf.	WVDC	†Dia x L.	List Price
MM-500-6	500	6	⅜x1 5/8	$1.55
MM-1000-6	1000	6	⅞x2 1/16	1.90
MM-500-15	500	15	⅞x2 1/16	1.75
MM-1000-15	1000	15	1 x2 11/16	2.30
MM-10-25	10	25	½x1 1/16	1.00
MM-25-25	25	25	½x1 1/16	1.00
MM-50-25	50	25	⅝x1 1/16	1.10
MM-100-25	100	25	⅞x1 5/8	1.35
MM-250-25	250	25	⅞x1 5/8	1.70
MM-500-25	500	25	1 x2 5/8	2.40
MM-4-50	4	50	½x1 1/16	.95
MM-10-50	10	50	½x1 1/16	1.00
MM-25-50	25	50	⅝x1 1/16	1.00
MM-50-50	50	50	⅝x1 5/8	1.20
MM-100-50	100	50	¾x1 5/8	1.40
MM-4-150	4	150	½x1 1/16	1.00
MM-8-150	8	150	½x1 3/8	1.05
MM-16-150	16	150	⅝x1 5/8	1.15
MM-20-150	20	150	⅝x1 5/8	1.20
MM-30-150	30	150	¾x1 5/8	1.30
MM-40-150	40	150	¾x1 5/8	1.35
MM-50-150	50	150	⅞x1 5/8	1.40
MM-80-150	80	150	⅞x2 1/16	1.60
MM-100-150	100	150	⅞x2 5/8	1.75
MM-150-150	150	150	1 x2 5/8	1.90
MM-8-250	8	250	⅝x1 5/8	1.15
MM-16-250	16	250	¾x1 5/8	1.30
MM-20-250	20	250	⅞x1 5/8	1.35
MM-40-250	40	250	⅞x1 3/4	1.55
MM-8-350	8	350	⅝x1 5/8	1.20
MM-10-350	10	350	¾x1 5/8	1.25
MM-20-350	20	350	⅞x1 5/8	1.45
MM-4-450	4	450	⅝x1 5/8	1.15
MM-8-450	8	450	¾x1 5/8	1.25
MM-10-450	10	450	¾x1 5/8	1.30
MM-12-450	12	450	⅞x1 5/8	1.35
MM-16-450	16	450	⅞x1 3/4	1.40
MM-20-450	20	450	⅞x2 1/16	1.55
MM-30-450	30	450	1 x2 5/8	1.70
MM-40-450	40	450	1 x2 11/16	1.80
MM-80-450	80	450	1⅛x3 3/4	2.80
MM-8-500	8	500	⅞x2 1/16	1.30
MM-16-500	16	500	1 x2 5/8	1.50
MM-20-500	20	500	1 x2 5/8	1.60

††DUAL MINIMITE
(3 leads, Common Negative)

MM-2x20-150	20+20	150	¾x1 5/8*	$1.55
MM-2x30-150	30+30	150	⅞x1 5/8*	1.80
MM-2x40-150	40+40	150	⅞x2 1/16*	1.85
MM-5030-150	50+30	150	⅞x2 1/16*	1.95
MM-2x50-150	50+50	150	⅞x2 5/8*	2.10
MM-8040-150	80+40	150	1 x2 5/8*	2.20
MM-2x8-450	8+8	450	⅞x2 1/16*	1.70
MM-2x10-450	10+10	450	⅞x2 1/16*	1.85
MM-168-450	16+8	450	1 x2 1/16*	1.95
MM-2x16-450	16+16	450	1 x2 1/16*	2.25
MM-2x20-450	20+20	450	1 x2 11/16*	2.50
MM-2x40-450	40+40	450	1 x2 11/16*	3.40

†Dimensions are for metal tubes. Add 1/16" to diameter and 1/8" to length for dimensions over cardboard insulating tubes.

††Supplied with radial mounting strap.

*TRADE MARK

TYPE ET

Subminiature Electrolytics

"SM" Safety Margin Construction*

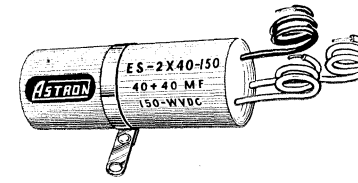
- Industry's widest range of values.
- Conservative ratings in subminiature cases.
- Hermetically sealed for reliable operation in all climates.
- Dependable 85°C. operation.
- Stable capacitance characteristics due to extremely pure foil and special high-gain etch process.
- Exceptionally low leakage current.
- Low-resistance terminal tab connection.

Cat. No.	Rating Cap.	Volts	Size	List Price Each
ET-25-3	25	3	⅜x1 1/16	$0.85
ET-50-3	50	3	⅜x1 1/16	.95
ET-100-3	100	3	⅜x1 1/16	1.10
ET-150-3	150	3	⅜x1 5/8	1.10
ET-200-3	200	3	⅜x1 5/8	1.25
ET-300-3	300	3	⅜x1 5/8	1.30
ET-5-6	5	6	⅜x1 1/16	.80
ET-25-6	25	6	⅜x1 1/16	.85
ET-50-6	50	6	⅜x1 1/16	.95
ET-75-6	75	6	⅜x1 1/16	1.00
ET-100-6	100	6	⅜x1 5/8	1.20
ET-125-6	125	6	⅜x1 5/8	1.20
ET-50-15	50	15	⅜x1 1/16	1.00
ET-100-15	100	15	⅜x1 5/8	1.25
ET-5-25	5	25	⅜x1 1/16	1.00
ET-10-25	10	25	⅜x1 1/16	1.00
ET-20-25	20	25	⅜x1 1/16	1.00
ET-25-25	25	25	⅜x1 1/16	1.00
ET-50-25	50	25	⅜x1 5/8	1.10
ET-1-50	1	50	⅜x1 1/16	.90
ET-2-50	2	50	⅜x1 1/16	.90
ET-4-50	4	50	⅜x1 1/16	1.00
ET-5-50	5	50	⅜x1 1/16	1.00
ET-10-50	10	50	⅜x1 1/16	1.00
ET-15-50	15	50	⅜x1 1/16	1.00
ET-20-50	20	50	⅜x1 1/16	1.05
ET-25-50	25	50	⅜x1 5/8	1.05
ET-10-90	10	90	⅜x1 5/8	1.10
ET-5-100	5	100	⅜x1 1/16	1.00
ET-10-100	10	100	⅜x1 5/8	1.00
ET-1-150	1	150	⅜x1 1/16	1.00
ET-2-150	2	150	⅜x1 1/16	1.00
ET-4-150	4	150	⅜x1 1/16	1.00
ET-5-150	5	150	⅜x1 1/16	1.00
ET-8-150	8	150	⅜x1 5/8	1.05
ET-10-150	10	150	⅜x1 5/8	1.05
ET-12-150	12	150	⅜x1 5/8	1.10
ET-4-250	4	250	⅜x1 5/8	1.00

*TRADE MARK

TYPE ES

Cardboard-Cased Electrolytics



- ASTRON-improved design. Long service life. Electrically and mechanically superior to similar-appearing units.
- Dual and triple-section units. Can be used in place of costlier metal-can types of equal rating in television, radio, radio-phonos and other equipment. 65°C. operation.
- Sections wrapped in plastic film. Lasting protection from moisture, humidity, severest climatic conditions. High-melting-point wax fill.
- Centered radial mounting strap. Plastic insulated wire leads, 6" long. Color coding on tubes.
- Overall wax coating for added protection against moisture and humidity.

DUAL UNITS
(Common Negative)

Cat. No.	Cap. Mf./WVDC	D. x L.	List Price
ESD-155	20+20/150	¾x2½	$1.65
ESD-160	30+30/150	⅞x2½	1.80
ESD-165	40+40/150	1 x2½	1.85
ESD-170	50+30/150	1 x2½	1.95
ESD-175	50+50/150	1 x3	2.10
ESD-190	80+40/150	1⅛x3	2.25
ESD-255	20+20/250	⅞x2½	1.85
ESD-455	20+20/450	1⅛x3¼	2.50
ESD-475	40+40/450	1⅜x3½	3.40

TRIPLE UNITS
(Common Negative)

Cat. No.	Cap. Mf./WVDC	D. x L.	Price
EST-555	20+20+20/150	1 x2½	$2.20
EST-570	10+30+20/150	1 x2½	2.35
EST-575	40+40+20/150	1 x3	2.35
EST-585	60+40+20/150	1 x3¼	2.40
EST-595	80+40+20/150	1⅛x3¼	2.50
EST-610	40+10/150+ 20/25	1 x2½	1.95
EST-620	40+30/150+ 20/25	1 x2½	2.30
EST-625	40+40/150+ 40/25	1 x3¼	2.40
EST-640	50+30/150+100/25	1 x3¼	2.50
EST-655	50+30/150+200/10	1 x3¼	2.55

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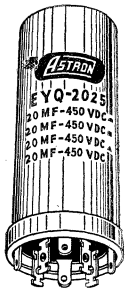
ASTRON® Capacitors

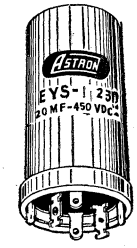
ASTRON CORPORATION
EAST NEWARK, N. J.



TYPE EY

Twist-Prong Electrolytics

"SM" Safety Margin Construction*



- Widest choice of singles, and dual, triple and quadruple capacitance-voltage combinations in smallest practical aluminum can sizes.
- Ideal for replacement in television, radio and other high quality electronic equipment where high ripple and high surge voltages are encountered.
- Hermetically sealed. Designed for 85°C. operation.
- Quick, easy, firm mounting through chassis slots or slotted plates for insulated or grounded connection. Mounting prong ring serves as common negative terminal.
- Terminal coding clearly stamped on container.
- Individually packaged for the service trade, including metal and phenolic mounting plates.

SINGLE UNITS

Cat. No.	Cap. Mf./WVDC	Dia x Length	Price
EYS-100	1000/15	1 x3	$2.55
EYS-105	2000/15	1⅜x3	3.45
EYS-115	100/25	1 x2	1.60
EYS-120	500/25	1 x3	2.55
EYS-125	1000/25	1⅜x3	3.55
EYS-130	500/50	1⅜x2½	2.65
EYS-135	50/150	1 x2	1.65
EYS-140	80/150	1 x2	1.85
EYS-145	100/150	1 x2	2.00
EYS-150	120/150	1 x2½	2.10
EYS-151	120/150	1⅜x3	2.10
EYS-155	140/150	1 x3	2.15
EYS-160	150/150	1 x3	2.15
EYS-162	300/150	1⅜x3½	2.80
EYS-165	15/250	1 x2	1.55
EYS-170	30/250	1 x2	1.70
EYS-175	40/250	1 x2	1.80
EYS-180	60/250	1 x2½	2.05
EYS-185	80/250	1 x3	2.15
EYS-190	150/250	1⅜x2½	3.10
EYS-193	150/300	1⅜x3	3.50
EYS-195	30/350	1 x2	1.90
EYS-200	40/350	1 x2½	2.00
EYS-205	50/350	1 x3	2.10
EYS-215	80/350	1⅜x2½	2.85
EYS-220	125/350	1⅜x3	3.65
EYS-225	80/400	1⅜x2½	2.95
EYS-230	10/450	1 x2	1.55
EYS-235	20/450	1 x2	1.75
EYS-240	30/450	1 x2½	1.95
EYS-245	40/450	1 x3	2.05
EYS-250	80/450	1⅜x3	3.05
EYS-255	30/475	1 x3	2.00
EYS-260	40/475	1⅜x2	2.50
EYS-265	90/475	1⅜x3½	3.50

DUAL UNITS

Cat. No.	Cap. Mf./WVDC	Dia x Length	Price
EYD-500	1000-1000/15	1⅜x3	$4.40
EYD-505	150-50/25	1 x2	1.75
EYD-507	100-25/50	1 x2	1.85
EYD-510	30-30/150	1 x2	1.75
EYD-515	50-50/150	1 x2½	1.95
EYD-520	200-200/150	1⅜x3½	4.00
EYD-525	20-20/250	1 x2	1.90
EYD-530	40-40/250	1 x2½	2.50
EYD-540	80-80/300	1⅜x3½	4.05
EYD-545	120-20/300	1⅜x3	3.80
EYD-547	120-40/300	1⅜x3½	4.35
EYD-550	15-15/350	1 x2	2.25
EYD-555	20-20/350	1 x2½	2.35
EYD-560	80-80/350	1⅜x3½	4.70
EYD-563	40-10/400	1⅜x2½	2.50
EYD-565	10-10/450	1 x2	1.90
EYD-575	20-20/450	1 x3	2.55
EYD-580	30-30/450	1⅜x2½	3.05
EYD-585	40-40/450	1⅜x3	3.45
EYD-590	80-10/450	1⅜x3	3.60
EYD-600	80-40/450	1⅜x4	4.35
EYD-605	40-40/475	1⅜x3½	4.30
EYD-610	20-20/500	1⅜x2½	2.85
EYD-615	40-40/500	1⅜x4	4.40
EYD-620	250/10 +1000/6	1⅜x2	2.85
EYD-625	20/350+ 30/250	1 x2½	2.30
EYD-630	60/350+ 80/250	1⅜x3	3.45
EYD-633	80/350+ 100/50	1⅜x3	3.95
EYD-635	20/450+ 20/25	1 x2½	2.00
EYD-640	20/450+ 100/100	1⅜x2½	2.65
EYD-645	20/450+ 80/350	1⅜x3	3.65
EYD-650	30/450+ 40/150	1⅜x2	2.50
EYD-655	40/450+ 20/25	1 x3½	2.40
EYD-660	40/450+ 10/350	1⅜x2½	2.60
EYD-665	80/450+ 50/50	1⅜x3	3.50
EYD-670	20/475+ 100/300	1⅜x3½	3.95
EYD-675	40/500+ 50/200	1⅜x3½	3.35

*TRADE MARK

TRIPLE UNITS

Cat. No.	Cap. Mf./WVDC	Dia x Length	Price
EYT-1000	40-40-40/25	1 x2	$2.15
EYT-1005	40-20-20/150	1 x2	2.40
EYT-1010	40-40-40/150	1 x2½	2.60
EYT-1015	50-50-50/150	1 x3	3.00
EYT-1020	40-20-10/250	1 x2½	2.85
EYT-1025	60-40-20/350	1⅜x3	4.25
EYT-1027	40-40-20/400	1⅜x3	3.75
EYT-1028	30-50-4/400	1⅜x2½	3.85
EYT-1030	10-10-10/450	1 x3	2.60
EYT-1035	20-10-10/450	1 x3	2.95
EYT-1040	20-20-20/450	1⅜x3	3.60
EYT-1045	30-30-30/450	1⅜x3½	4.35
EYT-1046	40-10-10/450	1⅜x2½	3.60
EYT-1050	40-40-10/450	1⅜x3½	4.15
EYT-1055	40-40-40/450	1⅜x4	4.90
EYT-1060	60-30-10/450	1⅜x3½	4.50
EYT-1065	80-40-20/450	1⅜x4½	5.40
EYT-1070	10-10-10/475	1 x3	2.70
EYT-1075	30-30-20/475	1⅜x3½	4.40
EYT-1078	40-10-10/475	1⅜x3½	3.90
EYT-1080	10-10-10/500	1 x3½	2.70
EYT-1085	40-20/150+ 20/25	1 x2	2.30
EYT-1087	40-20/150+100/25	1 x2½	2.50
EYT-1089	50-30/150+ 30/25	1 x2	2.60
EYT-1090	50-50/150+ 20/25	1 x2½	2.70
EYT-1095	120-60/150+ 20/25	1⅜x2½	3.30
EYT-1097	30-20/200+ 40/25	1 x2	2.80
EYT-1100	100-10/200+ 40/50	1⅜x2	3.10
EYT-1105	40-20/250+ 10/150	1 x2½	2.75
EYT-1110	70-70/250+ 20/50	1⅜x2½	3.90
EYT-1113	10-10/300+ 10/15	1 x2	2.35
EYT-1115	10-10/300+ 15/250	1 x2	2.45
EYT-1117	100-10/300+ 60/50	1⅜x2½	4.05
EYT-1120	10-5/350+150/50	1 x3	2.70
EYT-1125	15-15/350+ 20/25	1 x2½	2.50
EYT-1130	30-20/350+ 20/25	1 x3	3.10
EYT-1135	30-30/350+ 20/25	1⅜x2	3.40
EYT-1140	30-30/350+ 50/50	1⅜x2½	3.50
EYT-1145	40-20/350+ 10/100	1⅜x2	2.80
EYT-1150	40-40/350+ 50/25	1⅜x2½	3.70
EYT-1153	40-10/400+200/50	1⅜x3½	3.70
EYT-1155	10-10/450+ 20/25	1 x2½	2.40
EYT-1160	10-10/450+ 40/50	1 x2½	2.75
EYT-1165	20-10/450+ 50/50	1 x3	2.85
EYT-1170	20-20/450+ 20/25	1 x3½	3.10
EYT-1175	20-20/450+ 60/350	1⅜x3½	4.00
EYT-1177	30-10/450+150/50	1⅜x2½	2.50
EYT-1180	30-30/450+ 20/25	1⅜x2½	3.50
EYT-1185	30-30/450+ 40/50	1⅜x3	3.65
EYT-1190	40-10/450+ 80/200	1⅜x3	3.90
EYT-1195	40-10/450+100/200	1⅜x3½	4.10
EYT-1200	40-10/450+ 10/350	1⅜x2½	3.30
EYT-1205	40-20/450+ 25/50	1⅜x3	3.40
EYT-1210	40-40/450+ 20/25	1⅜x3½	3.95
EYT-1215	40-40/450+ 40/25	1⅜x3½	4.00
EYT-1217	40-40/450+100/50	1⅜x3½	4.30
EYT-1220	40-40/450+ 40/150	1⅜x3½	4.15
EYT-1225	40-40/450+100/200	1⅜x4	4.95
EYT-1240	80-40/450+100/25	1⅜x4½	5.10
EYT-1245	20-20/475+ 60/400	1⅜x4	4.80
EYT-1250	10-10/500+ 4/350	1 x3	2.50
EYT-1255	10-10/500+100/50	1 x3½	2.85
EYT-1260	30-10/500+ 20/50	1⅜x2½	3.10
EYT-1265	40/300+ 80-40/250	1⅜x3	4.35
EYT-1267	60/400+ 20-20/350	1⅜x3	4.25
EYT-1270	80/400+ 20-10/300	1⅜x3½	4.25
EYT-1273	10/450+ 20-10/25	1 x2	2.15
EYT-1275	20/450+ 40-10/250	1⅜x2	3.15
EYT-1280	30/450+100-25/25	1⅜x2	3.00
EYT-1290	40/450+ 90-50/150	1⅜x3½	4.00
EYT-1295	20-350+ 30/250+ 20/25	1 x2½	2.80
EYT-1300	100/300+ 60/150+ 20/25	1⅜x2½	2.85
EYT-1310	10/350+ 50/150+100/50	1 x3	2.85
EYT-1313	20/350+ 10/300+ 20/25	1 x2½	2.50
EYT-1315	20/350+ 40/300+ 10/150	1 x3	3.15
EYT-1320	30/350+ 30/300+ 20/25	1 x3	3.15
EYT-1325	40/350+ 20/300+ 10/200	1⅜x2	3.30
EYT-1327	60/400+ 40/300+ 20/25	1⅜x3	4.20
EYT-1330	10/450+ 30/400+ 30/300	1⅜x2½	3.35
EYT-1335	20/450+ 60/250+100/25	1⅜x2½	3.65
EYT-1340	20/450+ 80/350+100/50	1⅜x3½	4.50
EYT-1345	40/450+ 40/150+130/50	1⅜x3	3.65
EYT-1350	10/475+100/200+ 40/50	1⅜x2½	3.35
EYT-1360	20/500+ 20/300+ 40/25	1⅜x2½	3.10
EYT-1365	40/500+ 40/250+100/50	1⅜x3½	3.75

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

(continued)

TYPE EY

Twist-Prong Electrolytics

"SM"* Safety Margin Construction

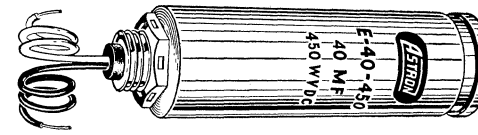
QUADRUPLE UNITS

Cat. No.	Cap. Mf./WVDC	Dia x Length	Price
EYQ-2000	40-40-20-10/300	1⅜x2½	$4.55
EYQ-2003	80-40-20-10/350	1⅜x3½	5.20
EYQ-2005	30-30-20-20/400	1⅜x3½	4.85
EYQ-2007	50-40-30-20/400	1⅜x4	5.65
EYQ-2010	80-10-10-10/400	1⅜x3½	4.70
EYQ-2015	10-10-10-10/450	1⅜x2	3.35
EYQ-2020	20-10-10-10/450	1⅜x2½	3.70
EYQ-2025	20-20-20-20/450	1⅜x3	4.70
EYQ-2027	20-60-20-20/450	1⅜x3½	5.65
EYQ-2030	30-15-15-15/450	1⅜x3	4.45
EYQ-2035	30-30-15-10/450	1⅜x3½	4.70
EYQ-2040	40-20-10-10/450	1⅜x3	4.45
EYQ-2042	40-40- 4- 4/450	1⅜x3½	4.65
EYQ-2045	10-10-10-10/475	1⅜x2	3.50
EYQ-2050	40-20-10-10/475	1⅜x3½	5.10
EYQ-2055	40-40-40/150+ 20/25	1⅜x2	3.15
EYQ-2060	80-60-40/250+ 20/150	1⅜x3	5.10
EYQ-2065	100-40-10/250+100/50	1⅜x3	5.15
EYQ-2070	60-40-20/300+ 50/25	1⅜x2½	4.70
EYQ-2075	40-40-40/300+ 20/150	1⅜x2½	4.90
EYQ-2077	150-40-10/300+100/50	1⅜x4	5.90
EYQ-2080	40-20-20/350+ 25/25	1⅜x2½	4.25
EYQ-2085	40-40-40/350+ 40/25	1⅜x3	5.20
EYQ-2090	40-40-40/350+150/50	1⅜x3½	5.70
EYQ-2095	20-20-20/400+ 20/25	1⅜x2½	3.85
EYQ-2097	80-60-15/400+ 60/50	1⅜x4	6.25
EYQ-2105	10-10-10/450+ 20/25	1⅜x2	3.15
EYQ-2110	10-10-10/450+ 10/150	1⅜x2	3.15
EYQ-2115	20-10-10/450+100/25	1⅜x2½	3.70
EYQ-2120	20-20-20/450+ 20/25	1⅜x2½	4.15
EYQ-2125	20-20-20/450+100/50	1⅜x3	4.55
EYQ-2130	30-30-15/450+ 30/50	1⅜x3	4.15
EYQ-2135	30-30-20/450+ 20/25	1⅜x3½	4.65
EYQ-2140	40-10-10/450+250/25	1⅜x3½	4.25
EYQ-2145	40-10-10/450+ 10/350	1⅜x3	3.90
EYQ-2150	40-15-10/450+ 20/25	1⅜x3	4.10
EYQ-2153	40-20-20/450+ 20/25	1⅜x3½	4.60
EYQ-2155	40-20-20/450+ 40/25	1⅜x3½	4.65
EYQ-2160	40-30-10/450+ 20/25	1⅜x3	4.60
EYQ-2163	40-40-10/450+100/100	1⅜x4	5.35
EYQ-2165	40-40-40/450+ 25/50	1⅜x4	4.70
EYQ-2170	60-10-10/450+ 20/150	1⅜x3½	4.60
EYQ-2175	20-20-10/475+ 10/300	1⅜x3	4.30
EYQ-2180	40-20-10/475+ 10/25	1⅜x3½	4.85
EYQ-2185	40-10/400+ 80-10/250	1⅜x3½	4.70
EYQ-2190	10-10/450+ 20-20/25	1⅜x2	2.95
EYQ-2195	20-20/450+ 20-20/25	1⅜x2	3.60
EYQ-2197	40-10/450+ 35-10/350	1⅜x4	5.50
EYQ-2200	40-40/450+ 30-30/350	1⅜x4½	5.90
EYQ-2202	60-10/300+ 10/ 75+ 10/25	1⅜x2	3.60
EYQ-2203	60-40/350+ 60/200+ 20/150	1⅜x3½	5.00
EYQ-2205	10-5/475+ 80/450+ 40/50	1⅜x4	4.95
EYQ-2210	15-15/475+ 80/300+ 40/50	1⅜x3½	4.80
EYQ-2215	10/450+120-40/300+ 25/25	1⅜x4	5.25
EYQ-2220	10/450+ 60-40/350+ 25/25	1⅜x3½	4.60
EYQ-2222	10/450+100-10/350+ 20/25	1⅜x3½	5.25
EYQ-2225	20/450+ 80-20/200+ 50/50	1⅜x3	4.15
EYQ-2227	25/450+100-10/300+ 50/50	1⅜x3	5.25
EYQ-2230	25/500+ 80-10/350+ 10/50	1⅜x4½	4.50
EYQ-2235	100/300+ 40/50 +80-20/25	1⅜x3	4.50
EYQ-2237	30/500+ 10/450+150-30/50	1⅜x3	4.20
EYQ-2240	120/300+20/250+100/50 + 20/25	1⅜x3½	5.05
EYQ-2245	200/300+20/250+100/50 + 20/25	1⅜x4½	5.45
EYQ-2250	10/450+10/300+ 60/200+100/50	1⅜x2½	3.80
EYQ-2255	20/450+20/400+ 20/350+ 20/25	1⅜x3	3.80
EYQ-2260	80/450+10/400+ 30/300+ 40/150	1⅜x4½	5.25
EYQ-2265	10/475+10/450+ 80/200+ 50/60	1⅜x3	3.85
EYQ-2270	10/475+60/450+ 30/400+125/50	1⅜x4	5.45
EYQ-2275	20/475+40/300+100/50 + 80/25	1⅜x3	4.50
EYQ-2280	25/475+20/450+ 40/300+100/50	1⅜x3½	4.95

ACCESSORIES FOR TYPE EY

Part Number	Item	Description	List Price
EYP-1	Metal Mtg. Plate	for 1" can	$0.07
EYP-2	Phenolic Mtg. Plate	for 1" can	.07
EYP-3	Metal Mtg. Plate	for 1⅜" can	.07
EYP-4	Phenolic Mtg. Plate	for 1⅜" can	.07
EYP-101	Insulating Tube	1" x2"	.15
EYP-102	Insulating Tube	1" x2½"	.15
EYP-103	Insulating Tube	1" x3"	.15
EYP-104	Insulating Tube	1" x3½"	.15
EYP-201	Insulating Tube	1⅜"x2"	.15
EYP-202	Insulating Tube	1⅜"x2½"	.15
EYP-203	Insulating Tube	1⅜"x3"	.15
EYP-204	Insulating Tube	1⅜"x3½"	.15
EYP-205	Insulating Tube	1⅜"x4"	.15
EYP-206	Insulating Tube	1⅜"x4½"	.15

*TRADE MARK



TYPE E

Metal Screw-Base Electrolytics

"SM"* Safety Margin Construction

- Popular aluminum can type with threaded neck and palnut for easy, convenient mounting.
- Recommended as original units or replacement for other can-type wet or dry electrolytics using chassis hole mounting.
- Capacitor sections insulated from can. Separate positive and negative color-coded lead for each section. Section in high-voltage units (600 wvdc) are series-connected to assure long service life.
- Plastic insulated leads, 6" long. Stripped and tinned ends.
- ASTRON-Improved terminal construction. Excellent protection against moisture. Suitable for use in tropical, hot, humid and other severe climates.

SINGLE UNITS (2 leads)

Cat. No.	Mf.	WVDC	D. x L.	Price
E-8-450	8	450	1⅜x3½	$2.20
E-12-450	12	450	1⅜x3½	2.40
E-16-450	16	450	1⅜x3½	2.45
E-20-450	20	450	1⅜x3½	2.75
E-30-450	30	450	1⅜x3½	3.00
E-40-450	40	450	1⅜x3½	3.15

High Voltage Series Wound Units

Cat. No.	Mf.	WVDC	D. x L.	Price
E-4-600	4	600	1⅜x3½	$2.95
E-8-600	8	600	1⅜x3½	3.15
E-16-600	16	600	1⅜x3½	3.75

DUAL UNITS (4 leads) and TRIPLE UNITS (6 leads)

Cat. No.	Mf.	WVDC	D. x L.	Price
E-2x8-450	8+8	450	1⅜x3½	$3.00
E-2x16-450	16+16	450	1⅜x3½	3.55
E-3x8-450	8+8+8	450	1⅜x3½	5.00

*TRADE MARK

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ASTRON® Capacitors

ASTRON CORPORATION

BLUE POINT® TYPE BP

Molded Plastic Tubulars

- A MAJOR ACHIEVEMENT in molded capacitor construction and performance. Engineered and produced exclusively by ASTRON (Pat. Pend.). Greatest protection against heat, moisture and humidity.
- Designed for continuous operation at 85°C. WITHOUT DERATING.
- Toughest shell bonded with tightest immersion-proof seal . . . unaffected by soldering iron heat. Leads cannot pull or melt out.
- Solid thermosetting impregnant. Vacuum impregnated sections—as in hermetically sealed metal case capacitors—insure uniformity and dependability of every unit.

Cat. No.	Cap. Mf.	Dia. x Length	List Price
200 VOLTS DC WORKING			
BP-2-01	.01	⅜ x1	$0.25
BP-2-02	.02	⅜ x1	.25
BP-2-05	.05	⅜ x1 ¼	.25
BP-2-1	.1	7/16 x1 ¼	.35
BP-2-2	.2	⅝ x1 ⅞	.45
BP-2-022	.022	⅜ x1	.25
BP-2-25	.25	⅝ x1 ⅞	.45
BP-2-5	.5	⅝ x1 ⅞	.60
400 VOLTS DC WORKING			
BP-4-01	.01	⅜ x1	.25
BP-4-02	.02	⅜ x1 ¼	.25
BP-4-022	.022	⅜ x1 ¼	.25
BP-4-03	.03	7/16 x1 ¼	.30
BP-4-033	.033	7/16 x1 ¼	.30
BP-4-047	.047	7/16 x1 ¼	.30
BP-4-05	.05	7/16 x1 ¼	.30
BP-4-1	.1	½ x1 ⅝	.35
BP-4-2	.2	⅝ x1 ⅞	.40
BP-4-25	.25	⅝ x1 ⅞	.45
600 VOLTS DC WORKING			
BP-6-001	.001	⅜ x1	.25
BP-6-0015	.0015	⅜ x1	.25
BP-6-002	.002	⅜ x1	.25
BP-6-0022	.0022	⅜ x1	.25
BP-6-003	.003	⅜ x1	.25
BP-6-0033	.0033	⅜ x1	.25
BP-6-004	.004	⅜ x1	.25
BP-6-0047	.0047	⅜ x1	.25
BP-6-005	.005	⅜ x1	.25
BP-6-006	.006	⅜ x1	.25
BP-6-01	.01	⅜ x1 ¼	.30
BP-6-015	.015	⅜ x1 ¼	.30
BP-6-02	.02	7/16 x1 ¼	.30
BP-6-022	.022	7/16 x1 ¼	.30
BP-6-03	.03	½ x1 ⅝	.35
BP-6-033	.033	½ x1 ⅝	.35
BP-6-04	.04	½ x1 ⅝	.35
BP-6-047	.047	½ x1 ⅝	.40
BP-6-05	.05	½ x1 ⅝	.40
BP-6-06	.06	⅝ x1 ⅞	.40
BP-6-08	.08	⅝ x1 ⅞	.40
BP-6-1	.1	⅝ x1 ⅞	.45
1600 VOLTS DC WORKING			
BP-16-001	.001	⅜ x1 ¼	.55
BP-16-002	.002	⅜ x1 ¼	.55
BP-16-003	.003	⅜ x1 ¼	.55
BP-16-004	.004	⅜ x1 ¼	.55
BP-16-005	.005	7/16 x1 ¼	.55
BP-16-006	.006	7/16 x1 ¼	.55
BP-16-007	.007	7/16 x1 ¼	.60
BP-16-008	.008	½ x1 ⅝	.60
BP-16-01	.01	½ x1 ⅝	.60
BP-16-015	.015	½ x1 ⅝	.60
BP-16-02	.02	⅝ x1 ⅞	.60
BP-16-03	.03	⅝ x1 ⅞	.60
BP-16-033	.033	½ x1 ⅝	.60
BP-16-05	.05	⅝ x1 ⅞	.60

CAPACITANCE TOLERANCES

Nominal Capacitance	Capacitance Tolerance
.001 mfd — .0019 mfd	+60% —25%
.002 mfd — .009 mfd	+40% —20%
.01 mfd — .1 mfd	+20% —20%
.11 mfd — .5 mfd	+20% —10%

TYPE AP

Ceramic Cased Paper Capacitor

- Non-inductively precision wound foil elements are oil impregnated and encased in tough steatite tubing.
- Non-melting cement compound end-seals are firmly bonded to case and wire terminals.
- Low power factor and high insulation resistance over the entire temperature range of —55°C to + 85°C.
- Leads 2″ long. Individually tested and fully guaranteed. Withstands a steady pull of 5 pounds applied axially to the leads for 1 minute.

TYPE	CAP.	VOLT	SIZE	LIST PRICE
200 VOLTS DC WORKING				
AP-2-01	.01	200	⅜ x 1	$0.25
AP-2-02	.02	200	⅜ x 1	.25
AP-2-05	.05	200	7/16 x1¼	.25
AP-2-1	.1	200	½ x 1½	.35
AP-2-2	.2	200	⅝ x 1⅞	.45
AP-2-022	.022	200	⅝ x 1⅞	.25
AP-2-25	.25	200	⅝ x 1⅞	.45
AP-2-5	.5	200	13/16 x 2⅛	.60
400 VOLTS DC WORKING				
AP-4-01	.01	400	⅜ x 1	.25
AP-4-02	.02	400	⅜ x 1¼	.25
AP-4-022	.022	400	⅜ x 1¼	.30
AP-4-03	.03	400	⅜ x 1¼	.25
AP-4-033	.033	400	⅜ x 1¼	.30
AP-4-047	.047	400	½ x1½	.30
AP-4-05	.05	400	½ x1½	.30
AP-4-1	.1	400	9/16 x 1½	.35
AP-4-2	.2	400	¾ x 1⅞	.40
AP-4-25	.25	400	¾ x 1⅞	.45
600 VOLTS DC WORKING				
AP-6-001	.001	600	5/16 x 1	.25
AP-6-0015	.0015	600	5/16 x 1	.25
AP-6-002	.002	600	5/16 x 1	.25
AP-6-0022	.0022	600	5/16 x 1	.25
AP-6-003	.003	600	5/16 x 1	.25
AP-6-0033	.0033	600	5/16 x 1	.25
AP-6-004	.004	600	5/16 x 1	.25
AP-6-0047	.0047	600	5/16 x 1	.25
AP-6-005	.005	600	5/16 x 1	.25
AP-6-006	.006	600	⅜ x 1	.25
AP-6-01	.01	600	⅜ x1¼	.30
AP-6-015	.015	600	⅜ x1¼	.30
AP-6-02	.02	600	7/16 x 1¼	.30
AP-6-022	.022	600	7/16 x 1¼	.30
AP-6-03	.03	600	½ x 1½	.35
AP-6-033	.033	600	½ x 1½	.35
AP-6-04	.04	600	½ x 1½	.35
AP-6-047	.047	600	½ x 1½	.40
AP-6-05	.05	600	½ x 1½	.40
AP-6-06	.06	600	9/16 x 1½	.40
AP-6-08	.08	600	9/16 x 1½	.40
AP-6-1	.1	600	9/16 x 1½	.45
1600 VOLTS DC WORKING				
AP-16-001	.001	1600	⅜ x 1	.55
AP-16-002	.002	1600	⅜ x 1	.55
AP-16-003	.003	1600	7/16 x 1¼	.55
AP-16-004	.004	1600	7/16 x 1¼	.55
AP-16-005	.005	1600	7/16 x 1¼	.55
AP-16-006	.006	1600	½ x 1½	.55
AP-16-007	.007	1600	½ x 1½	.60
AP-16-008	.008	1600	½ x 1½	.60
AP-16-01	.01	1600	½ x 1½	.60
AP-16-015	.015	1600	⅝ x 1⅞	.60
AP-16-02	.02	1600	⅝ x 1⅞	.60
AP-16-03	.03	1600	⅝ x 1⅞	.60
AP-16-033	.033	1600	⅝ x 1⅞	.60
AP-16-05	.05	1600	¾ x 2¼	.60

CAPACITANCE TOLERANCES

Nominal Capacitance	Capacitance Tolerance
.001 mfd — .0019 mfd	+60% —25%
.002 mfd — .009 mfd	+40% —20%
.01 mfd — .1 mfd	+20% —20%
.11 mfd — .5 mfd	+20% —10%

TYPE ARMF

Oil-Filled Metal Tubulars

85°C. Operation

- Non-inductively wound. Mineral oil impregnated and filled. Hermetically sealed.
- Excellent capacitance stability and low power factor over entire temperature range —55°C. to +85°C.
- Units listed are internally insulated from case. Also available with capacitor section grounded to case (Type ARMG) and in accordance with all Specification MIL-C-25A styles CP25-26-27-28-29.
- Wire leads 1½″ long. Standard capacitance tolerance ±20%.

CAPACITOR SECTION INSULATED FROM CASE:

ARMF (MIL Style CP25): Sizes and list prices as shown.

ARMFP (MIL Style CP26): Basic ARMF with plastic outer sleeve (P) for insulated body. Add 3/16″ to length and 1/16″ to diameter. Add 15¢ to ARMF list prices.

ARMF-Y (MIL Style CP27): Basic ARMF with riveted radial mounting strap "Y" on uninsulated body. Case sizes as listed. Add 10¢ to ARMF list prices.

ARMFP-Y (MIL Style CP28): Basic ARMF with plastic outer sleeve (P) and riveted radial mounting strap "Y". Add 3/16″ to length, 1/16″ to diameter. Add 25¢ to ARMF list prices.

ARMF-A (MIL Style CP29): Basic ARMF with tangential soldered-on mounting bracket "A". Case sizes as listed. Add 40¢ to ARMF list prices.

CAPACITOR SECTION GROUNDED TO CASE:

ARMG (MIL Style CP25): Deduct 1/8″ from length of ARMF sizes listed. Uninsulated body. Same list prices as ARMF.

ARMGP (MIL Style CP26): Basic ARMG with plastic outer sleeve (P) for insulated body. Add 3/16″ to length and diameter of ARMF sizes listed. Add 15¢ to ARMF list prices.

ARMG-Y (MIL Style CP27): Basic ARMG with riveted radial mounting strap "Y" on uninsulated body. Deduct 1/8″ from length of ARMF sizes listed. Add 10¢ to ARMF list prices.

ARMGP-Y (MIL Style CP28): Basic ARMG with plastic outer sleeve (P) and riveted radial mounting strap "Y". Add 3/16″ to diameter and length of ARMF sizes listed. Add 25¢ to ARMF list prices.

ARMG-A (MIL Style CP29): Basic ARMG with tangential soldered-on mounting bracket "A". Deduct 1/8″ from length of ARMF sizes listed. Add 40¢ to ARMF list prices.

Cat. No.	Cap. Mf.	Dia x Length	List Price
200 VOLTS DC WORKING			
ARMF-2-1	.1	⅝ x1 ⅝	$1.30
ARMF-2-25	.25	¾ x2 1/8	1.60
ARMF-2-5	.5	1 x2 ⅛	1.90
600 VOLTS DC WORKING			
ARMF-6-003	.003	7/16 x1 1/8	1.00
ARMF-6-006	.006	7/16 x1 1/8	1.05
ARMF-6-01	.01	7/16 x1 1/8	1.05
ARMF-6-02	.02	7/16 x1 ⅝	1.15
ARMF-6-05	.05	⅝ x1 ½	1.25
ARMF-6-1	.1	⅝ x1 ⅞	1.40
ARMF-6-25	.25	1 x2 ⅛	1.90
ARMF-6-5	.5	1 x2 ⅝	2.45
1000 VOLTS DC WORKING			
ARMF-10-003	.003	⅝ x1 1/8	1.10
ARMF-10-006	.006	⅝ x1 1/8	1.15
ARMF-10-01	.01	⅝ x1 1/8	1.25
ARMF-10-02	.02	⅝ x1 ½	1.35
ARMF-10-05	.05	¾ x1 ⅝	1.45
ARMF-10-1	.1	1 x1 ⅞	1.65
ARMF-10-25	.25	1 x2 ⅝	1.90
1500 VOLTS DC WORKING			
ARMF-15-003	.003	1 x1 ¼	1.50
ARMF-15-006	.006	1 x1 ¼	1.50
ARMF-15-01	.01	1 x1 ¼	1.50
ARMF-15-02	.02	1 x1 ⅝	1.60
ARMF-15-05	.05	1 x1 ⅞	1.70
ARMF-15-1	.1	1 x2 1/8	2.10

CAPACITANCE TOLERANCE: ±20% (M).

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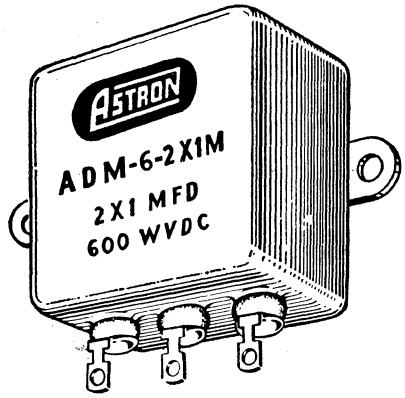
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

ASTRON® Capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.



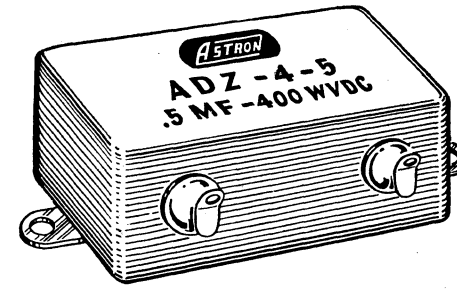
TYPE ADM

Bathtub Paper Capacitors
85°C. Operation

- Non-inductively wound. Mineral oil impregnated and filled. Hermetically sealed.
- Operating temperature range —55°C. to +85°C.
- Built to comply with strict requirements of MIL-C-25A. Silicone rubber compression-seal lug terminals. Completely immersion-proof.
- Single units have two terminals; duals have three terminals (one common); triple units have three terminals (case common).
- Standard position of Type ADM terminals is on side (MIL-C-25A Style CP53). Available also with terminals on top (ASTRON Type ADMT or MIL Style CP54) and bottom terminals (ASTRON Type ADMB or MIL Style CP55).
- Cap. Tolerance: ±20%.

Cat. No.	Cap. Mf.	L. x W. x H.	Mtg. Ctr.	List Price
	100 VOLTS DC WORKING			
ADM-1-1M	1.0	1 13/16 x1 x 7/8	2 1/8	$3.15
ADM-1-2M	2.0	2 x1 3/4 x 7/8	2 3/8	4.50
ADM-1-4M	4.0	2 x2 x1 1/8	2 3/8	6.40
	200 VOLTS DC WORKING			
ADM-2-5	.5	1 13/16 x1 x 7/8	2 1/8	2.45
ADM-2-1M	1.0	2 x1 3/4 x 7/8	2 3/8	3.00
ADM-2-2M	2.0	2 x2 x1	2 3/8	3.95
	400 VOLTS DC WORKING			
ADM-4-5	.5	1 13/16 x1 x 7/8	2 1/8	2.65
ADM-4-1M	1.0	2 x1 3/4 x 7/8	2 3/8	3.15
ADM-4-3x5	.5-.5-.5	2 x2 x1 1/8	2 3/8	4.50
	600 VOLTS DC WORKING			
ADM-6-05	.05	1 13/16 x1 x 3/4	2 1/8	2.60
ADM-6-1	.1	1 13/16 x1 x 3/4	2 1/8	2.65
ADM-6-25	.25	1 13/16 x1 x 3/4	2 1/8	2.80
ADM-6-5	.5	1 13/16 x1 x1	2 1/8	3.00
ADM-6-1M	1.0	2 x1 3/4 x1	2 3/8	3.40
ADM-6-2M	2.0	2 x2 x1 1/8 *	2 3/8	4.55
ADM-6-2x05	.05-.05	1 13/16 x1 x 3/4	2 1/8	3.30
ADM-6-2x1	.1-.1	1 13/16 x1 x 3/4	2 1/8	3.35
ADM-6-2x25	.25-.25	1 13/16 x1 x1	2 1/8	3.40
ADM-6-2x5	.5-.5	2 x1 3/4 x1	2 3/8	3.90
ADM-6-2x1M	1.0-1.0	2 x2 x1 1/8 *	2 3/8	4.80
ADM-6-3x05	.05-.05-.05	1 13/16 x1 x 3/4	2 1/8	3.45
ADM-6-3x1	.1-.1-.1	1 13/16 x1 x 7/8	2 1/8	3.80
ADM-6-3x25	.25-.25-.25	2 x1 3/4 x 7/8	2 3/8	4.30
ADM-6-3x5	.5-.5-.5	2 x2 x1 1/8 *	2 3/8	5.20
	1000 VOLTS DC WORKING			
ADM-10-05	.05	1 13/16 x1 x 3/4	2 1/8	2.75
ADM-10-1	.1	1 13/16 x1 x 3/4	2 1/8	2.85
ADM-10-25	.25	1 13/16 x1 x 7/8	2 1/8	2.95
ADM-10-5	.5	2 x1 3/4 x 7/8	2 3/8	3.20
ADM-10-1M	1.0	2 x2 x1 1/8 *	2 3/8	4.00
ADM-10-2x05	.05-.05	1 13/16 x1 x 3/4	2 1/8	3.50
ADM-10-2x1	.1-.1	1 13/16 x1 x 7/8	2 1/8	3.60
ADM-10-2x25	.25-.25	2 x1 3/4 x 7/8	2 3/8	3.80
ADM-10-2x5	.5-.5	2 x2 x1 1/8 *	2 3/8	4.95
ADM-10-3x05	.05-.05-.05	1 13/16 x1 x 3/4	2 1/8	4.00
ADM-10-3x1	.1-.1-.1	2 x1 3/4 x 7/8	2 3/8	4.15
ADM-10-3x25	.25-.25-.25	2 x2 x1 1/8 *	2 3/8	5.00

* For top or bottom terminals, case height is 1 1/4".



METEOR* TYPE ADZ

Bathtub Capacitors
125°C. Operation

- Designed for operation at temperatures up to 125°C. **without voltage derating.**
- Excellent capacitance stability, less than 5% change over entire range —65°C. to +125°C. achieved by use of ASTRON - developed X-250* impregnant.
- Temperature characteristics exceed MIL specifications for Characteristic K.
- Compact sizes in handy, easy-mounting bathtub cases. Glass-to-metal sealed lug-type terminals. Positive immersion proof seal.
- Standard position of terminals is on side (ASTRON Type ADZ or MIL Style CP53). Available also with terminals on top (ASTRON Type ADZT or MIL Style CP54); bottom terminals (ASTRON Type ADZB or MIL Style CP55).
- Standard Capacitance Tolerance: ±20%.

Cat. No.	Cap. Mf.	L. x W. x H.	Mtg. Ctr.	List Price
	200 VOLTS DC WORKING			
ADZ-2-5	.5	1 13/16 x1 x 7/8	2 1/8	$5.45
ADZ-2-1M	1.0	2 x1 3/4 x 7/8	2 3/8	5.85
ADZ-2-2M	2.0	2 x2 x1	2 3/8	7.40
	400 VOLTS DC WORKING			
ADZ-4-05	.05	1 13/16 x1 x 3/4	2 1/8	4.50
ADZ-4-1	.1	1 13/16 x1 x 3/4	2 1/8	4.80
ADZ-4-25	.25	1 13/16 x1 x 3/4	2 1/8	5.20
ADZ-4-5	.5	1 13/16 x1 x 7/8	2 1/8	5.90
ADZ-4-1M	1.0	2 x1 3/4 x 7/8	2 3/8	6.80
	600 VOLTS DC WORKING			
ADZ-6-05	.05	1 13/16 x1 x 3/4	2 1/8	5.10
ADZ-6-1	.1	1 13/16 x1 x 3/4	2 1/8	5.80
ADZ-6-25	.25	1 13/16 x1 x 3/4	2 1/8	5.90
ADZ-6-5	.5	1 13/16 x1 x1	2 1/8	7.05
ADZ-6-1M	1.0	2 x1 3/4 x1	2 3/8	7.95
ADZ-6-2M	2.0	2 x2 x1 1/8 ‡	2 3/8	9.50

CAPACITANCE TOLERANCE: ±20% (M). Other tolerances are available.

‡Case height (C dimension) is 1 1/4" for top terminals (ADZT) or bottom terminals (ADZB).

*TRADE MARK

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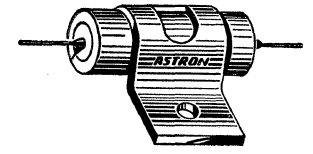
ASTRON® Capacitors

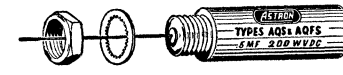
ASTRON CORPORATION
EAST NEWARK, N. J.

METEOR* SUBMINIATURE PAPER CAPACITORS

For 125°C. Operation without voltage derating

- **Amazingly small sizes, compact and light-weight units.**
- **Highly dependable operation at temperatures up to 125°C. *without voltage derating.***
- **Exceptional capacitance stability, less than 5% change, over entire temperature range of −65°C. to +125°C. due to use of ASTRON-developed high-temperature impregnant X-250*.**
- **High insulation resistance, low power factor, unusually low resonance loss. High test voltage indicates extra margin of safety in operation.**
- **Built to exceed stringent requirements of Specification MIL-C-25A for styles CP04-05-08-09-10-11 (ASTRON Types AQ, TQF, and variations); and styles CP53-54-55, Characteristic K (ASTRON Type ADZ, bathtub).**
- **Positive hermetic closure of the metal cases is assured by glass-to-metal solder seal terminals.**
- **Tubulars supplied in a variety of construction and mounting styles to meet your specific needs: extended foil or inserted tab; capacitor section grounded to case or insulated from case; plastic outer sleeve; with soldered-on tangential or L-type bracket; screw neck mounting style; or stud-base mounting style.**





METEOR* TYPE AQ

Glass-to-Metal Sealed SUBMINIATURE TUBULARS

- No voltage derating necessary over entire operating temperature range —65°C. to +125°C.
- Extended foil, non-inductively wound construction offers extremely small size and lowest possible resonant losses in low and high voltage applications.
- Excellent capacitance-temperature stability, long life.
- Available in a variety of construction styles to meet your specific needs, as follows:

CAPACITOR SECTION GROUNDED TO CASE (Glass-to-Metal terminal at one end):

AQ (MIL Style CP08): Basic unit. Sizes and list prices as shown. Uninsulated body.

AQP (MIL Style CP09): Basic AQ unit with plastic outer sleeve (P) for insulated body. Add $\frac{1}{16}$" to diameter and length of AQ sizes listed. Add 15¢ to AQ list prices.

AQ-A: Basic AQ unit with soldered-on tangential mounting bracket "A" on uninsulated body. Case sizes as listed for AQ. Add 40¢ to AQ list prices.

AQ-B: Basic AQ unit with soldered on L-type bracket "B" on uninsulated body. Case sizes as listed for AQ. Add 40¢ to AQ list prices.

AQS: Screw neck mounting type. Uninsulated body. Available in same ratings as AQ. Minimum case diameter .400". Add 80¢ to AQ list prices.

AQV: Stud base mounting type. Uninsulated body. Available in same ratings and case sizes as AQ. Add 60¢ to AQ list prices.

CAPACITOR SECTION INSULATED FROM CASE (Glass-to-Metal terminal both ends):

AQF (MIL Style CP08): Basic unit in "floating" construction. Add $\frac{1}{16}$" to length of AQ sizes listed. Uninsulated body. Add $1.00 to AQ list prices.

AQFP (MIL Style CP09): Basic AQF unit with plastic outer sleeve (P) for insulated body. Add $\frac{1}{16}$" to diameter and $\frac{1}{8}$" to length of AQ sizes listed. Add $1.15 to AQ list prices.

AQF-A: Basic AQF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Add $\frac{1}{16}$" to length of AQ sizes listed. Add $1.40 to AQ list prices.

AQF-B: Basic AQF unit with soldered-on L-type bracket "B" on uninsulated body. Add $\frac{1}{16}$" to AQ sizes listed. Add $1.40 to AQ list prices.

AQFS: Screw neck mounting type. Uninsulated body. Available in same ratings as AQ. Minimum case diameter is .400". Add $\frac{1}{16}$" to case length of AQ sizes listed. Add $1.80 to AQ list prices.

*TRADE MARK

Cat. No.	Cap. Mf.	Dia. x Length	List Price
100 VOLTS DC WORKING			
AQ-1-0033	.0033	.235x $\frac{11}{16}$	$2.70
AQ-1-0047	.0047	.235x $\frac{11}{16}$	2.80
AQ-1-01	.01	.235x $\frac{11}{16}$	2.95
AQ-1-015	.015	.235x $\frac{11}{16}$	2.95
AQ-1-022	.022	.312x $\frac{13}{16}$	3.00
AQ-1-033	.033	.312x $\frac{13}{16}$	3.05
AQ-1-047	.047	.312x $\frac{13}{16}$	3.15
AQ-1-068	.068	.400x $\frac{13}{16}$	3.20
AQ-1-1	.1	.400x $\frac{13}{16}$	3.20
AQ-1-15	.15	.400x1 $\frac{1}{16}$	3.40
AQ-1-22	.22	.400x1 $\frac{5}{16}$	3.50
AQ-1-27	.27	.562x1 $\frac{1}{16}$	3.60
AQ-1-33	.33	.562x1 $\frac{1}{16}$	4.00
AQ-1-47	.47	.562x1 $\frac{5}{16}$	4.15
AQ-1-56	.56	.562x1 $\frac{9}{16}$	4.30
AQ-1-68	.68	.562x1 $\frac{9}{16}$	4.60
AQ-1-1M	1.0	.670x1 $\frac{9}{16}$	4.85
200 VOLTS DC WORKING			
AQ-2-0022	.0022	.235x $\frac{11}{16}$	2.70
AQ-2-0033	.0033	.235x $\frac{11}{16}$	2.80
AQ-2-0047	.0047	.235x $\frac{11}{16}$	2.95
AQ-2-0068	.0068	.235x $\frac{11}{16}$	3.00
AQ-2-01	.01	.312x $\frac{13}{16}$	3.10
AQ-2-015	.015	.312x $\frac{13}{16}$	3.10
AQ-2-022	.022	.312x $\frac{13}{16}$	3.15
AQ-2-033	.033	.312x $\frac{13}{16}$	3.20
AQ-2-047	.047	.400x $\frac{13}{16}$	3.25
AQ-2-056	.056	.400x $\frac{13}{16}$	3.30
AQ-2-068	.068	.400x $\frac{13}{16}$	3.30
AQ-2-1	.1	.400x1 $\frac{1}{16}$	3.35
AQ-2-15	.15	.400x1 $\frac{5}{16}$	3.50
AQ-2-22	.22	.562x1 $\frac{1}{16}$	3.65
AQ-2-27	.27	.562x1 $\frac{5}{16}$	3.75
AQ-2-33	.33	.562x1 $\frac{5}{16}$	3.95
AQ-2-47	.47	.562x1 $\frac{9}{16}$	4.25
AQ-2-56	.56	.670x1 $\frac{9}{16}$	4.50
AQ-2-68	.68	.670x1 $\frac{9}{16}$	4.90
AQ-2-1M	1.0	.750x2 $\frac{1}{16}$	5.25
300 VOLTS DC WORKING			
AQ-3-0022	.0022	.235x $\frac{11}{16}$	2.80
AQ-3-0033	.0033	.235x $\frac{11}{16}$	2.90
AQ-3-0047	.0047	.235x $\frac{11}{16}$	3.05
AQ-3-01	.01	.312x $\frac{13}{16}$	3.20
AQ-3-015	.015	.312x $\frac{13}{16}$	3.20
AQ-3-022	.022	.312x $\frac{13}{16}$	3.25
AQ-3-033	.033	.400x $\frac{13}{16}$	3.30
AQ-3-047	.047	.400x $\frac{13}{16}$	3.35
AQ-3-068	.068	.400x1 $\frac{1}{16}$	3.40
AQ-3-1	.1	.400x1 $\frac{5}{16}$	3.45
AQ-3-15	.15	.562x1 $\frac{1}{16}$	3.60
AQ-3-22	.22	.562x1 $\frac{5}{16}$	3.75
AQ-3-27	.27	.562x1 $\frac{9}{16}$	4.25
AQ-3-33	.33	.562x1 $\frac{9}{16}$	4.35
AQ-3-47	.47	.670x1 $\frac{9}{16}$	4.50
AQ-3-56	.56	.750x2 $\frac{1}{16}$	4.60
AQ-3-68	.68	.750x2 $\frac{1}{16}$	5.10
400 VOLTS DC WORKING			
AQ-4-0022	.0022	.235x $\frac{11}{16}$	2.95
AQ-4-0033	.0033	.235x $\frac{11}{16}$	3.05
AQ-4-0047	.0047	.312x $\frac{13}{16}$	3.15
AQ-4-0068	.0068	.312x $\frac{13}{16}$	3.25
AQ-4-01	.01	.312x $\frac{13}{16}$	3.30
AQ-4-015	.015	.312x $\frac{13}{16}$	3.30
AQ-4-022	.022	.400x $\frac{13}{16}$	3.35
AQ-4-033	.033	.400x $\frac{13}{16}$	3.40
AQ-4-047	.047	.400x1 $\frac{1}{16}$	3.45
AQ-4-068	.068	.400x1 $\frac{5}{16}$	3.50
AQ-4-1	.1	.562x1 $\frac{1}{16}$	3.55
AQ-4-15	.15	.562x1 $\frac{5}{16}$	3.75
AQ-4-22	.22	.562x1 $\frac{9}{16}$	3.85
AQ-4-27	.27	.670x1 $\frac{9}{16}$	4.55
AQ-4-33	.33	.670x1 $\frac{9}{16}$	4.65
AQ-4-47	.47	.750x2 $\frac{1}{16}$	4.75
600 VOLTS DC WORKING			
AQ-6-0022	.0022	.235x $\frac{11}{16}$	3.00
AQ-6-0033	.0033	.312x $\frac{13}{16}$	3.10
AQ-6-0047	.0047	.312x $\frac{13}{16}$	3.20
AQ-6-0068	.0068	.312x $\frac{13}{16}$	3.30
AQ-6-01	.01	.312x $\frac{13}{16}$	3.35
AQ-6-015	.015	.400x $\frac{13}{16}$	3.35
AQ-6-022	.022	.400x $\frac{13}{16}$	3.40
AQ-6-033	.033	.400x1 $\frac{1}{16}$	3.45
AQ-6-047	.047	.400x1 $\frac{5}{16}$	3.50
AQ-6-068	.068	.562x1 $\frac{1}{16}$	3.65
AQ-6-1	.1	.562x1 $\frac{5}{16}$	3.75
AQ-6-15	.15	.562x1 $\frac{5}{16}$	3.85
AQ-6-22	.22	.670x1 $\frac{9}{16}$	4.35
AQ-6-27	.27	.750x2 $\frac{1}{16}$	4.50
AQ-6-33	.33	.750x2 $\frac{1}{16}$	4.90
AQ-6-47	.47	.750x2 $\frac{1}{16}$	5.25

Standard Tolerance ±20%.

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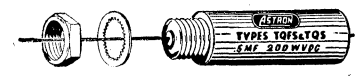
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

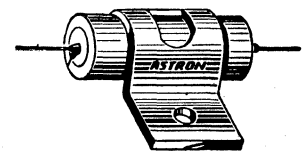
ASTRON® Capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

METEOR* TYPE TQF
Glass-to-Metal Sealed
SUBMINIATURE TUBULARS

125°C. Operation





- Inserted tab construction provides smallest paper-foil capacitors available. Ideal where resonant losses are secondary to small size.
- No voltage derating necessary over entire operating temperature range —65°C. to +125°C.
- Excellent capacitance stability over entire temperature range.
- Available in a variety of construction styles to meet your specific needs, as follows:

CAPACITOR SECTION INSULATED FROM CASE (Glass-to-Metal terminal both ends):

TQF (MIL Style CP04): Basic unit in "floating" construction. Sizes and list prices as shown. Uninsulated body.

TQFP (MIL Style CP05): Basic TQF unit with plastic outer sleeve (P) for insulated body. Add $\frac{1}{16}$" to diameter and length of TQF sizes listed. Add 15¢ to list price.

TQF-A (MIL Style CP10): Basic TQF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Case sizes as listed for TQF. Add 40¢ to TQF list prices.

TQF-B: Basic TQF unit with soldered-on L-type mounting bracket "B" on uninsulated body. Case sizes as listed for TQF. Add 40¢ to TQF list prices.

TQFS (MIL Style CP11): Screw neck mounting type. Uninsulated body. Available in same ratings as TQF. Minimum case diameter is .400". Add 80¢ to TQF list prices.

CAPACITOR SECTION GROUNDED TO CASE (Glass-to-Metal terminal at one end):

TQ (MIL Style CP04): Basic grounded unit. Deduct $\frac{1}{16}$" from length of TQF sizes listed. Uninsulated body. Deduct $1.00 from TQF list prices.

TQP (MIL Style CP05): Basic TQ unit with plastic outer sleeve (P) for insulated body. Add $\frac{1}{16}$" to diameter of TQF sizes listed. Deduct 85¢ from TQF list prices.

TQ-A (MIL Style CP10): Basic TQ unit with soldered-on tangential mounting bracket "A" on uninsulated body. Deduct $\frac{1}{16}$" from length of TQF sizes listed. Deduct 60¢ from TQF list prices.

TQ-B: Basic TQ unit with soldered-on L-type bracket "B" on uninsulated body. Deduct $\frac{1}{16}$" from length of TQF sizes listed. Deduct 60¢ from TQF list prices.

TQS (MIL Style CP11): Screw neck mounting type. Uninsulated body. Available in same ratings as TQF listed. Minimum case diameter .400". Deduct $\frac{1}{16}$" from length of TQF sizes listed. Deduct 20¢ from TQF list prices.

TQV: Stud base mounting type. Uninsulated body. Available in same ratings as TQF listed. Deduct $\frac{1}{16}$" from TQF sizes. Deduct 40¢ from TQF list prices.

*TRADE MARK

Cat. No.	Cap. Mf.	Dia. x Length	List Price
100 VOLTS DC WORKING			
TQF-1-027	.027	.235x ¾	$3.60
TQF-1-033	.033	.235x ¾	3.60
TQF-1-047	.047	.312x ⅞	3.70
TQF-1-068	.068	.312x ⅞	3.75
TQF-1-1	.1	.312x ⅞	3.75
TQF-1-15	.15	.400x ⅞	3.90
TQF-1-22	.22	.400x1⅛	4.00
TQF-1-27	.27	.400x1⅜	4.10
TQF-1-33	.33	.400x1⅜	4.40
TQF-1-47	.47	.562x1⅛	4.55
TQF-1-68	.68	.562x1⅜	4.95
TQF-1-1M	1.0	.562x1⅞	5.15
200 VOLTS DC WORKING			
TQF-2-01	.01	.235x ¾	3.65
TQF-2-015	.015	.235x ¾	3.65
TQF-2-022	.022	.235x ¾	3.70
TQF-2-027	.027	.312x ⅞	3.70
TQF-2-033	.033	.312x ⅞	3.75
TQF-2-047	.047	.312x ⅞	3.80
TQF-2-068	.068	.312x ⅞	3.85
TQF-2-1	.1	.400x ⅞	3.85
TQF-2-15	.15	.400x1⅛	4.00
TQF-2-22	.22	.400x1⅜	4.10
TQF-2-27	.27	.562x1⅛	4.20
TQF-2-33	.33	.562x1⅛	4.40
TQF-2-47	.47	.562x1⅜	4.65
TQF-2-68	.68	.562x1⅞	5.20
TQF-2-1M	1.0	.670x1⅞	5.50
300 VOLTS DC WORKING			
TQF-3-0068	.0068	.235x ¾	3.75
TQF-3-01	.01	.235x ¾	3.75
TQF-3-015	.015	.235x ¾	3.75
TQF-3-022	.022	.312x ⅞	3.80
TQF-3-027	.027	.312x ⅞	3.80
TQF-3-033	.033	.312x ⅞	3.85
TQF-3-047	.047	.312x ⅞	3.85
TQF-3-068	.068	.400x ⅞	3.90
EQF-3-1	.1	.400x1⅛	3.95
TQF-3-15	.15	.400x1⅜	4.10
EQF-3-22	.22	.562x1⅛	4.20
TQF-3-27	.27	.562x1⅜	4.65
TQF-3-33	.33	.562x1⅜	4.70
TQF-3-47	.47	.562x1⅞	4.85
TQF-3-68	.68	.670x1⅞	5.35
TQF-3-1M	1.0	.750x2⅛	5.90
400 VOLTS DC WORKING			
TQF-4-001	.001	.235x ¾	3.30
TQF-4-0015	.0015	.235x ¾	3.40
TQF-4-0022	.0022	.235x ¾	3.50
TQF-4-0033	.0033	.235x ¾	3.60
TQF-4-0047	.0047	.235x ¾	3.70
TQF-4-0068	.0068	.235x ¾	3.80
TQF-4-01	.01	.235x ¾	3.85
TQF-4-015	.015	.235x ⅞	3.85
TQF-4-022	.022	.312x ⅞	3.85
TQF-4-027	.027	.312x ⅞	3.85
TQF-4-033	.033	.312x ⅞	3.90
TQF-4-047	.047	.400x ⅞	3.95
TQF-4-068	.068	.400x1⅛	4.00
TQF-4-1	.1	.400x1⅜	4.05
TQF-4-15	.15	.562x1⅛	4.20
TQF-4-22	.22	.562x1⅜	4.30
TQF-4-27	.27	.562x1⅞	4.90
TQF-4-33	.33	.562x1⅞	4.95
TQF-4-47	.47	.670x1⅞	5.05
TQF-4-56	.56	.750x2⅛	5.20
TQF-4-68	.68	.750x2⅛	5.50
TQF-4-1M	1.0	1 x1⅞	6.10
600 VOLTS DC WORKING			
TQF-6-0047	.0047	.235x ¾	3.75
TQF-6-0068	.0068	.235x ¾	3.85
TQF-6-01	.01	.312x ⅞	3.85
TQF-6-015	.015	.312x ⅞	3.85
TQF-6-022	.022	.312x ⅞	3.90
TQF-6-027	.027	.400x ⅞	3.90
TQF-6-033	.033	.400x ⅞	3.95
TQF-6-047	.047	.400x1⅛	4.00
TQF-6-068	.068	.400x1⅜	4.10
TQF-6-1	.1	.562x1⅛	4.20
TQF-6-15	.15	.562x1⅜	4.30
TQF-6-22	.22	.562x1⅞	4.70
TQF-6-27	.27	.670x1⅞	4.85
TQF-6-33	.33	.670x1⅞	5.20
TQF-6-47	.47	.750x2⅛	5.50

Standard Tolerance ±20%.

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ASTRON® Capacitors

ASTRON CORPORATION
EAST NEWARK, N J

METALITE®

Metallized Paper Capacitors for 65°C. and 85°C. Operation

METALITE CAPACITORS

Feature:

- **Ultra-compact sizes. Light weight. Ideal for miniaturization applications, and portable, mobile and airborne equipment.**
- **As much as 75% reduction in size over conventional paper-foil capacitors.**
- **Self-healing — the ability to withstand high dielectric stresses. METALITE capacitors can be subjected to momentary overvoltages and surges over and over again without danger of permanent failure.**
- **Temperature Range (Metal cased units) −65°C. to +85°C.; (cardboard cased Type ML) −55°C. to +65°C.**
- **Excellent RF characteristics. Low RF impedance due to small sizes and short current path. Low power factor.**
- **Wide variety of applications: RF and audio bypass circuits, noise suppression filters and systems, instruments, and various types of communication equipment where small size, light weight and the self-healing feature are especially desirable characteristics to meet specific circuit requirements.**
- **Interchangeability with standard paper-foil capacitor designs when operated within published ratings and circuit requirements.**

METALITE® TYPE MQC

85°C. Operation

Glass-to-Metal Sealed SUBMINIATURE TUBULARS

- Smallest paper capacitor type available.
- Temperature Range —65°C. to +85°C.
- Non-inductively wound. Mineral wax impregnated and filled. Tinned, non-ferrous metal cases.
- Capacitor section grounded to case (Type MQC) with glass-to-metal terminal at one end. Available also with capacitor section insulated from case (Type MQCF) with glass-to-metal terminal at each end.
- Lead length 1¾" minimum. Standard capacitance tolerance: ±20%.

CAPACITOR SECTION GROUNDED TO CASE (Glass-to-metal terminal at one end):

MQC: Basic unit. Uninsulated body. Sizes and list prices as shown.

MQCP: Basic MQC unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter and length of MQC sizes listed. Add 15¢ to MQC list prices.

MQC-A: Basic MQC unit with soldered-on tangential mounting bracket "A" on uninsulated body. Case sizes as listed for MQC. Add 40¢ to MQC list prices.

MQC-B: Basic MQC unit with soldered-on L-type bracket "B" on uninsulated body. Case sizes as listed for MQC. Add 40¢ to MQC list prices.

MQCS: Screw neck mounting type. Uninsulated body. Available in same ratings as MQC. Minimum case diameter .400". Add 50¢ to MQC list prices.

MQV: Stud base mounting type. Uninsulated body. Available in same ratings and case sizes as MQC. Add 60¢ to MQC list prices.

CAPACITOR SECTION INSULATED FROM CASE (Glass-to-metal terminal each end):

MQCF: Basic unit in "floating" construction. Add 1/16" to length of MQC sizes listed. Uninsulated body. Add 50¢ to MQC list prices.

MQCFP: Basic MQCF unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter and 1/8" to length of MQC sizes listed. Add 65¢ to MQC list prices.

MQCF-A: Basic MQCF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Add 1/16" to length of MQC sizes listed. Add 90¢ to MQC list prices.

MQCF-B: Basic MQCF unit with soldered-on L-type bracket "B" on uninsulated body. Add 1/16" to length of MQC sizes listed. Add 90¢ to MQC list prices.

MQCFS: Screw neck mounting type. Uninsulated body. Available in same ratings as MQC. Minimum case diameter .400". Add 1/16" to case length of MQC sizes listed. Add $1.00 to MQC list prices.

Cat. No.	Cap. Mf.	Dia. x Length	List Price
150 VOLTS DC WORKING			
MQC-1.5-4M	4.0	1 x1 3/4	5.00
MQC-1.5-6M	6.0	1 x1 3/4	5.85
MQC-1.5-8M	8.0	1 x2 1/4	6.65
200 VOLTS DC WORKING			
MQC-2-01	.01	.235x 3/4	$2.05
MQC-2-02	.02	.235x 3/4	2.10
MQC-2-033	.033	.235x 3/4	2.10
MQC-2-04	.04	.235x 3/4	2.10
MQC-2-05	.05	.235x 3/4	2.10
MQC-2-1	.1	.312x 3/4	2.15
MQC-2-15	.15	.400x 3/4	2.20
MQC-2-2	.2	.400x 3/4	2.30
MQC-2-25	.25	.400x 3/4	2.35
MQC-2-33	.33	.400x1 1/16	2.40
MQC-2-5	.5	.400x1 1/16	2.40
MQC-2-68	.68	.562x1 1/4	2.55
MQC-2-1M	1.0	.562x1 1/4	2.65
MQC-2-1.5M	1.5	.562x1 3/4	2.85
MQC-2-2M	2.0	.562x1 3/4	3.95
400 VOLTS DC WORKING			
MQC-4-01	.01	.235x 3/4	2.10
MQC-4-02	.02	.235x 3/4	2.15
MQC-4-03	.03	.312x 3/4	2.15
MYC-4-04	.04	.312x1 1/16	2.20
MQC-4-05	.05	.312x1 1/16	2.20
MQC-4-1	.1	.400x1 1/16	2.25
MQC-4-15	.15	.562x1 1/16	2.35
MQC-4-2	.2	.562x1 1/16	2.40
MQC-4-25	.25	.562x1 1/16	2.45
MQC-4-33	.33	.562x1 1/4	2.55
MQC-4-5	.5	.562x1 3/4	2.75
MQC-4-68	.68	.670x1 3/4	2.95
MQC-4-1M	1.0	.670x2 1/4	3.05
MQC-4-1.5M	1.5	1 x2 1/4	4.10
MQC-4-2M	2.0	1 x2 1/4	4.65
MQC-4-4M	4.0	1 1/8 x2 1/4	6.85
600 VOLTS DC WORKING			
MQC-6-01	.01	.235x 3/4	2.15
MQC-6-015	.015	.312x 3/4	2.15
MQC-6-02	.02	.312x 3/4	2.15
MQC-6-03	.03	.312x 3/4	2.20
MQC-6-04	.04	.312x1 1/16	2.25
MQC-6-05	.05	.312x1 1/16	2.25
MQC-6-1	.1	.400x1 1/16	2.30
MQC-6-15	.15	.562x1 1/16	2.45
MQC-6-22	.22	.562x1 1/4	2.65
MQC-6-25	.25	.562x1 1/4	2.70
MQC-6-33	.33	.670x1 1/4	2.85
MQC-6-5	.5	.670x1 3/4	3.00
MQC-6-68	.68	.670x2 1/4	3.45
MQC-6-1M	1.0	.750x2 1/4	3.65
MQC-6-2M	2.0	1 x2 1/4	5.15

STANDARD CAPACITANCE TOLERANCE: ±20%.

METALITE® TYPE ML

Cardboard Tubulars

65°C. Operation

- Temperature Range —55°C. to +65°C.
- Microcrystalline hydrocarbon wax impregnated.
- Sturdy, wax-impregnated cardboard tubes. Strong terminal connections, metal end caps. Units can be point-to-point connected and supported by own leads.
- Wire leads 1½" long.
- Overall mineral wax coating for added protection against moisture and humidity.
- Standard capacitance tolerance: —20% +30%.

Cat. No.	Cap. Mf.	Dia. x Length	List Price
200 VOLTS DC WORKING			
ML-2-01	.01	3/8 x 5/8	$0.65
ML-2-02	.02	3/8 x 5/8	.65
ML-2-03	.03	3/8 x 5/8	.65
ML-2-05	.05	3/8 x 5/8	.65
ML-2-1	.1	3/8 x 5/8	.70
ML-2-25	.25	15/32 x 5/8	.90
ML-2-5	.5	15/32 x1 1/8	1.05
ML-2-1M	1.0	9/16 x1 1/8	1.30
ML-2-2M	2.0	5/8 x1 5/8	1.80
400 VOLTS DC WORKING			
ML-4-01	.01	3/8 x 5/8	.70
ML-4-02	.02	3/8 x 5/8	.70
ML-4-03	.03	3/8 x 5/8	.70
ML-4-05	.05	15/32 x 5/8	.70
ML-4-1	.1	15/32 x1 1/8	.80
ML-4-25	.25	9/16 x1 1/8	1.00
ML-4-5	.5	5/8 x1 5/8	1.15
ML-4-1M	1.0	23/32 x2 1/8	1.60
600 VOLTS DC WORKING			
ML-6-01	.01	3/8 x 5/8	.70
ML-6-02	.02	3/8 x 5/8	.70
ML-6-03	.03	15/32 x 5/8	.80
ML-6-05	.05	15/32 x 5/8	.80
ML-6-1	.1	15/32 x1 1/8	.90
ML-6-25	.25	9/16 x1 1/8	1.10
ML-6-5	.5	23/32 x1 5/8	1.45
ML-6-1M	1.0	23/32 x2 1/8	1.80

STANDARD CAPACITANCE TOLERANCE: —20% +30%.

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

ASTRON® Capacitors

ASTRON CORPORATION
EAST NEWARK, N. J

METALITE® TYPE MRF

Metal Cased Tubulars

85°C. Operation

- Temperature Range −65°C. to +85°C.
- Mineral wax impregnated and filled.
- Hermetically sealed. Neoprene-phenolic end discs.
- Type MRF supplied with capacitor section insulated from case. Also available with section grounded to case (Type MRG).
- Lead length 1¾" minimum.
- Standard capacitance tolerance: ±20%.

CAPACITOR SECTION INSULATED FROM CASE:

MRF: Basic unit. Sizes and list prices as shown.
MRFP: Basic MRF unit with plastic outer sleeve (P). Add 3/16" to length and 1/16" to diameter of MRF listed. Add 15¢ to MRF list prices.
MRF-Y: Basic MRF unit with riveted radial mounting strap "Y." Case sizes as listed for MRF. Add 10¢ to MRF list prices.
MRFP-Y: Basic MRF unit with riveted radial mounting strap "Y" over plastic insulating sleeve (P). Add 3/16" to length and 1/16" to diameter of MRF listed. Add 25¢ to MRF list prices.
MRF-A: Basic MRF unit with tangential soldered-on mounting bracket "A." Case sizes as listed for MRF. Add 40¢ to MRF list prices.

CAPACITOR SECTION GROUNDED TO CASE:

MRG: Basic style in grounded construction. Deduct 3/32" from MRF sizes listed. Same list prices as MRF.
MRGP: Basic MRG unit with plastic outer sleeve (P). Add 3/32" to length and 1/16" to diameter of MRF units listed. Add 15¢ to MRF list prices.
MRG-Y: Basic MRG unit with riveted radial mounting strap "Y." Deduct 3/32" from MRF sizes listed. Add 10¢ to MRF list prices.
MRGP-Y: Basic MRG unit with riveted radial mounting strap "Y" over plastic insulating sleeve (P). Add 3/32" to length and 1/16" to diameter of MRF listed. Add 25¢ to MRF list prices.
MRG-A: Basic MRG unit with tangential soldered-on mounting bracket "A." Deduct 3/32" from length of MRF sizes listed. Add 40¢ to MRF list prices.

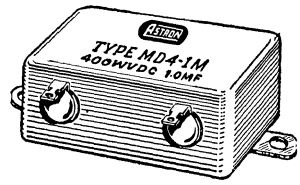
Cat. No.	Cap. Mf.	Dia. x Length	List Price
150 VOLTS DC WORKING			
MRF-1.5-4M	4.0	1 x1 15/16	$4.35
MRF-1.5-6M	6.0	1 x1 15/16	5.30
MRF-1.5-8M	8.0	1 1/8 x1 15/16	6.10
MRF-1.5-10M	10.0	1 1/4 x1 15/16	7.20
200 VOLTS DC WORKING			
MRF-2-05	.05	3/8 x 7/8	1.40
MRF-2-1	.1	7/16 x 7/8	1.45
MRF-2-25	.25	7/8 x 7/8	1.60
MRF-2-5	.5	1/2 x1 3/8	1.70
MRF-2-1M	1.0	.670x1 3/8	2.10
MRF-2-2M	2.0	.670x1 7/8	2.60
400 VOLTS DC WORKING			
MRF-4-03	.03	3/8 x 7/8	1.35
MRF-4-05	.05	1/2 x 7/8	1.45
MRF-4-1	.1	1/2 x1 3/8	1.60
MRF-4-25	.25	.670x1 3/8	1.80
MRF-4-5	.5	.670x1 7/8	2.00
MRF-4-1M	1.0	3/4 x2 3/8	2.50
MRF-4-2M	2.0	1 x2 7/16	3.60
MRF-4-3M	3.0	1 1/8 x2 7/16	4.80
MRF-4-4M	4.0	1 1/4 x2 7/16	5.90
600 VOLTS DC WORKING			
MRF-6-01	.01	3/8 x 7/8	1.35
MRF-6-02	.02	7/16 x 7/8	1.45
MRF-6-03	.03	7/16 x 7/8	1.50
MRF-6-05	.05	1/2 x 7/8	1.55
MRF-6-1	.1	1/2 x1 3/8	1.70
MRF-6-2	.2	.670x1 3/8	1.90
MRF-6-25	.25	.670x1 3/8	2.00
MRF-6-5	.5	.670x1 7/8	2.40
MRF-6-1M	1.0	3/4 x2 3/8	3.00
MRF-6-2M	2.0	1 1/8 x2 7/16	4.00
MRF-6-3M	3.0	1 1/4 x2 7/16	5.30

Standard capacitance tolerance: ±20%
Other tolerances are available.

METALITE® TYPE MD

Bathtub Capacitors

85°C. Operation



- Units meet MIL tests for moisture resistance, thermal cycle immersion and vibration.
- Single units have two terminals; dual units have three terminals, one terminal common negative.
- Standard position of terminals on side. Also available with terminals on top (Type MDT) or bottom (Type MDB).
- Standard capacitance tolerance: ±20%.
- Compact sizes. Light weight. Up to 75% reduction in sizes over conventional paper-foil capacitors.
- Temperature Range —65°C. to +85°C.
- Space-saving metallized paper dielectric makes possible wider choice of high capacitance ratings than ever before obtainable in bathtub cases.
- Hermetically sealed. Silicone rubber compression seal lug terminals.

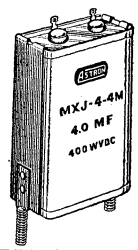
Cat. No.	Cap. Mf.	L. x W. x H.	Mtg. Ctr.	List Price
150 VOLTS DC WORKING				
MD-1.5-4M	4.0	1 3/4 x1 x 7/8	2 1/8	5.75
MD-1.5-6M	6.0	2 x1 3/4 x 7/8	2 3/8	6.10
MD-1.5-8M	8.0	2 x2 x 7/8	2 3/8	8.40
MD-1.5-10M	10.0	2 x2 x 7/8	2 3/8	9.70
MD-1.5-12M	12.0	2 x2 x1	2 3/8	11.00
MD-1.5-16M	16.0	2 x2 x1 3/8	2 3/8	13.50
MD-1.5-16M	18.0	2 x2 x1 1/2	2 3/8	15.00
MD-1.5-2x4M	4.0-4.0	2 x2 x 7/8	2 3/8	9.00
MD-1.5-2x6M	6.0-6.0	2 x2 x1	2 3/8	11.50
200 VOLTS DC WORKING				
MD-2-5	.5	1 3/4 x1 x 3/4	2 1/8	$3.30
MD-2-1M	1.0	1 3/4 x1 x 3/4	2 1/8	3.55
MD-2-2M	2.0	1 3/4 x1 x 3/4	2 1/8	4.45
MD-2-2x1M	1.0-1.0	1 3/4 x1 x 3/4	2 1/8	5.00
MD-2-2x2M	2.0-2.0	1 3/4 x1 x 7/8	2 1/8	6.30
400 VOLTS DC WORKING				
MD-4-25	.25	1 3/4 x1 x 3/4	2 1/8	3.35
MD-4-5	.5	1 3/4 x1 x 3/4	2 1/8	3.55
MD-4-1M	1.0	1 3/4 x1 x 7/8	2 1/8	3.95
MD-4-2M	2.0	2 x1 3/4 x 7/8	2 3/8	4.90
MD-4-4M	4.0	2 x2 x1 1/8	2 3/8	7.85
MD-4-6M	6.0	2 x2 x1 1/2	2 3/8	9.50
MD-4-2x5	.5-.5	1 3/4 x1 x 7/8	2 1/8	4.35
MD-4-2x1M	1.0-1.0	2 x1 3/4 x 7/8	2 3/8	5.50
MD-4-2x2M	2.0-2.0	2 x2 x1 1/8	2 3/8	8.10
600 VOLTS DC WORKING				
MD-6-1	.1	1 3/4 x1 x 3/4	2 1/8	3.50
MD-6-25	.25	1 3/4 x1 x 3/4	2 1/8	3.55
MD-6-5	.5	1 3/4 x1 x 3/4	2 1/8	4.25
MD-6-1M	1.0	1 3/4 x1 1/4 x 7/8	2 1/8	4.90
MD-6-2M	2.0	2 x2 x1	2 3/8	6.25
MD-6-3M	3.0	2 x2 x1 3/8	2 3/8	7.75
MD-6-4M	4.0	2 x2 x1 1/2	2 3/8	9.75
MD-6-2x25	.25-.25	1 3/4 x1 x 3/4	2 1/8	4.95
MD-6-2x5	.5-.5	1 3/4 x1 1/4 x 7/8	2 1/8	5.70
MD-6-2x1M	1.0-1.0	2 x2 x1	2 3/8	6.60

STANDARD CAPACITANCE TOLERANCE: ±20%.

METALITE® TYPE MXJ

in Terneplate Cases

85°C. Operation



- Most extensive range of capacitance ratings ever offered in Style CP70 cases.
- Temperature range —65°C. to +85°C. Mineral wax impregnated and filled.
- Hermetically sealed. Silicone rubber compression seal lug terminals. Units meet MIL tests for moisture resistance, thermal cycle immersion and vibration.
- Spade bolt "J" brackets supplied with each unit for convenient, rigid mounting.
- Standard capacitance tolerance: ±20%.

Cat. No.	Cap. Mf.	L. x W. x H.	Mtg. Ctr.	List Price
600 VOLTS DC WORKING				
MXJ-6-1M	1.0	1 3/4 x1 x1 5/8	2	13.75
MXJ-6-2M	2.0	1 3/4 x1 x2 3/8	2	16.75
MXJ-6-4M	4.0	1 3/4 x1 x3 7/8	2	22.90
MXJ-6-6M	6.0	1 3/4 x1 x4 3/4	2	26.25
MXJ-6-8M	8.0	2 1/2 x1 3/16 x3 7/8	2 3/4	30.45
MXJ-6-10M	10.0	2 1/2 x1 3/16 x4 3/4	2 3/4	34.35
MXJ-6-15M	15.0	3 3/4 x1 1/4 x4 3/4	4	41.50
MXJ-6-20M	20.0	3 3/4 x1 3/4 x4 1/4	4	56.20

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.

Cat. No.	Cap. Mf.	L. x W. x H.	Mtg. Ctr.	List Price
100 VOLTS DC WORKING				
MXJ-1-100M	100.0	3 3/4 x1 3/4 x4 13/16	4	$98.50
150 VOLTS DC WORKING				
MXJ-1.5-4M	4.0	1 3/4 x1 x1 5/8	2	14.00
MXJ-1.5-10M	10.0	1 3/4 x1 x2 5/8	2	20.75
MXJ-1.5-12M	12.0	1 3/4 x1 x2 7/8	2	22.00
MXJ-1.5-15M	15.0	1 3/4 x1 x3 3/8	2	26.75
MXJ-1.5-20M	20.0	1 3/4 x1 x4 3/8	2	31.50
MXJ-1.5-25M	25.0	2 1/2 x1 3/16 x3	2 3/4	37.00
MXJ-1.5-30M	30.0	2 1/2 x1 3/16 x3 7/8	2 3/4	42.00
MXJ-1.5-50M	50.0	2 1/2 x1 3/16 x4 3/4	2 3/4	59.00
400 VOLTS DC WORKING				
MXJ-4-2M	2.0	1 3/4 x1 x2 1/8	2	14.00
MXJ-4-4M	4.0	1 3/4 x1 x2 7/8	2	19.00
MXJ-4-6M	6.0	1 3/4 x1 x3 7/8	2	23.25
MXJ-4-8M	8.0	1 3/4 x1 x4 3/4	2	27.25
MXJ-4-10M	10.0	2 1/2 x1 3/16 x3 7/8	2 3/4	30.50
MXJ-4-20M	20.0	2 1/2 x1 3/16 x4 3/4	2 3/4	50.50
MXJ-4-30M	30.0	3 3/4 x1 1/4 x4 3/4	4	63.50

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ASTRON® Capacitors

ASTRON CORPORATION
EAST NEWARK N J.

NEW COMET* TYPE MBP

Molded Plastic Metallized Paper Tubulars

125°C. Operation

- First, molded plastic metallized paper tubular capacitor . . . ever!
- Tough, metallized paper capacitor sections for miniature size, self-healing characteristics, light weight and dependable operation.
- Impervious immersion-proof shell is uneffected by any heat and/or moisture condition.
- Exclusive bonded seal locks out environmental effects . . . locks in performance.
- Solid thermosetting impregnant for reliable operation over temperature range of −65°C. to ±125°C. . . . vacuum impregnation guarantees uniformity of units.
- Firmly implanted leads won't pull or melt out . . . makes soldering in tight places easy!

Cat. No.	Cap. Mf.	Dia. x Length	List Price
MBP-2-01	.01	3/8 x 1	$ .65
MBP-2-02	.02	3/8 x 1	.65
MBP-2-03	.03	3/8 x 1	.65
MBP-2-047	.047	3/8 x 1	.65
MBP-2-05	.05	3/8 x 1	.65
MBP-2-1	.1	3/8 x 1	.70
MBP-2-2	.2	3/8 x 1 1/4	.80
MBP-2-25	.25	3/8 x 1 1/4	.90
MBP-2-33	.33	7/16 x 1 1/4	.95
MBP-2-47	.47	1/2 x 1 5/8	1.05
MBP-2-5	.5	1/2 x 1 5/8	1.05
MBP-2-68	.68	1/2 x 1 5/8	1.20
MBP-2-1M	1.0	5/8 x 1 7/8	1.30
MBP-2-2M	2.0	5/8 x 1 7/8	1.80
MBP-4-01	.01	3/8 x 1	.70
MBP-4-02	.02	3/8 x 1	.70
MBP-4-03	.03	3/8 x 1	.70
MBP-4-047	.047	3/8 x 1 1/4	.70
MBP-4-05	.05	3/8 x 1 1/4	.70
MBP-4-1	.1	7/16 x 1 1/4	.80
MBP-4-2	.2	1/2 x 1 5/8	.90
MBP-4-25	.25	1/2 x 1 5/8	1.00
MBP-4-33	.33	5/8 x 1 7/8	1.10
MBP-4-47	.47	5/8 x 1 7/8	1.15
MBP-4-5	.5	5/8 x 1 7/8	1.15
MBP-6-01	.01	3/8 x 1	.70
MBP-6-02	.02	3/8 x 1	.70
MBP-6-03	.03	3/8 x 1 1/4	.80
MBP-6-047	.047	3/8 x 1 1/4	.80
MBP-6-05	.05	3/8 x 1 1/4	.80
MBP-6-068	.068	7/16 x 1 1/4	.85
MBP-6-1	.1	1/2 x 1 5/8	.90
MBP-6-2	.2	5/8 x 1 7/8	1.00
MBP-6-25	.25	5/8 x 1 7/8	1.10

*TRADE MARK

METALITE® HY-MET* TYPE MLL

Cardboard Tubulars

85°C. Operation

- Sturdy cardboard cased units. Temperature Range −55° to +100°C. Solid thermosetting impregnant.
- Exceptional strength. Metal end caps. Units can be point-to-point connected and supported by own leads. Leads 1½" minimum length.
- Overall mineral wax coat provides added protection against moisture and humidity.
- Standard capacitance tolerance: −20% +30%.

200 VOLTS DC WORKING

Cat. No.	Cap. Mf.	Dia. x Length	List Price
MLL-2-01	.01	3/8 x 5/8	$1.00
MLL-2-02	.02	3/8 x 5/8	1.00
MLL-2-03	.03	3/8 x 5/8	1.00
MLL-2-05	.05	3/8 x 5/8	1.00
MLL-2-1	.1	3/8 x 5/8	1.05
MLL-2-25	.25	15/32 x 5/8	1.35
MLL-2-5	.5	15/32 x 1 1/8	1.60
MLL-2-1M	1.0	9/16 x 1 1/8	1.95
MLL-2-2M	2.0	5/8 x 1 5/8	2.70

400 VOLTS DC WORKING

MLL-4-01	.01	3/8 x 5/8	1.05
MLL-4-02	.02	3/8 x 5/8	1.05
MLL-4-03	.03	3/8 x 5/8	1.05
MLL-4-05	.05	15/32 x 5/8	1.05
MLL-4-1	.1	15/32 x 1 1/8	1.20
MLL-4-25	.25	9/16 x 1 1/8	1.50
MLL-4-5	.5	5/8 x 1 5/8	1.75
MLL-4-1M	1.0	23/32 x 2 1/8	2.40

600 VOLTS DC WORKING

MLL-6-01	.01	3/8 x 5/8	1.05
MLL-6-02	.02	3/8 x 5/8	1.05
MLL-6-03	.03	15/32 x 5/8	1.20
MLL-6-05	.05	15/32 x 5/8	1.20
MLL-6-1	.1	15/32 x 1 1/8	1.35
MLL-6-25	.25	5/8 x 1 1/8	1.65
MLL-6-5	.5	23/32 x 1 5/8	2.20
MLL-6-1M	1.0	23/32 x 2 1/8	2.70

CAPACITANCE TOLERANCE: −20% +30%.

*TRADE MARK

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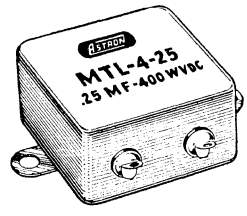
ASTRON® Capacitors

ASTRON CORPORATION
EAST NEWARK, N. J

METALITE® HY-MET* TYPE MTL

Subminiature Bathtub Capacitors
125°C. Operation



*TRADE MARK

- Popular, handy bathtub case in tiny 1⅛" x 1" base size and minimum case heights.
- Solid thermosetting impregnant enables operation up to 125°C. Temperature Range —65°C. to +125°C.
- Excellent RF characteristics due to non-inductive extended foil construction and extremely small capacitor sections.
- Ideal for all types of miniaturized equipment and tight assemblies to meet extreme minimum weight and size, long life, and high temperature operation requirements.
- Hermetically sealed. Glass-to-metal sealed lug terminals.
- Capacitance tolerance: ±20%.

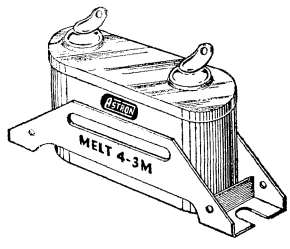
Cat. No.	Cap. Mf.	L. x W. x H.	List Price
200 VOLTS DC WORKING			
MTL-2-1	.1	1⅛ x1 x ½	$4.35
MTL-2-25	.25	1⅛ x1 x ½	4.65
MTL-2-5	.5	1⅛ x1 x ½	5.45
MTL-2-1M	1.0	1⅛ x1 x ½	5.85
MTL-2-2M	2.0	1⅛ x1 x 11/16	7.40
400 VOLTS DC WORKING			
MTL-4-1	.1	1⅛ x1 x ½	5.35
MTL-4-25	.25	1⅛ x1 x ½	5.55
MTL-4-5	.5	1⅛ x1 x 11/16	5.90
600 VOLTS DC WORKING			
MTL-6-1	.1	1⅛ x1 x ½	5.80
MTL-6-25	.25	1⅛ x1 x ½	5.90
MTL-6-5	.5	1⅛ x1 x 11/16	7.05

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.

METALITE® HY-MET* TYPE MEL

Compact Seamless Cases

125°C. Operation



*TRADE MARK

- High-temperature, high-capacitance, single and dual units designed to fit tight, narrow chassis space.
- Higher capacitance than ever before achieved in MIL Style CP67-69 containers due to use of space saving metallized paper sections.
- Temperature Range —65°C. to +125°C. due to use of solid thermosetting impregnant.
- Hermetically sealed. Glass-to-metal sealed lug terminals. Convenient bracket mounting.
- Single units have two terminals; dual units have three terminals (one common negative).
- Standard style is Type MELT (with top terminals) for mounting on chassis surface. for through-the-chassis terminal connections, with terminals on bottom, specify Type MELB.
- Capacitance tolerance: ±20%.

SINGLE UNITS — 2 terminals

Cat. No.	Cap. Mf.	L. x W. x H.*	Price
150 VOLTS DC WORKING			
MELT-1.5-3M	3.0	1.788x.619x1½	$ 8.75
MELT-1.5-4M	4.0	1.788x.619x2	9.65
MELT-1.5-6M	6.0	1.788x.619x2½	11.85
200 VOLTS DC WORKING			
MELT-2-2M	2.0	1.788x.619x1	7.45
400 VOLTS DC WORKING			
MELT-4-5	.5	1.788x.619x1	6.60
MELT-4-1M	1.0	1.788x.619x1½	8.00
MELT-4-2M	2.0	1.788x.619x2½	10.20
MELT-4-3M	3.0	1.788x.619x2¾	12.40
600 VOLTS DC WORKING			
MELT-6-5	.5	1.788x.619x1	7.15
MELT-6-1M	1.0	1.788x.619x1¾	8.80
MELT-6-2M	2.0	1.788x.619x2¾	12.10

DUAL UNITS — 3 terminals

200 VOLTS DC WORKING			
MELT-2-2x1M	1.0-1.0	1.788x.619x1	8.25
MELT-2-2x2M	2.0-2.0	1.788x.619x2	10.75
400 VOLTS DC WORKING			
MELT-4-2x1M	1.0-1.0	1.788x.619x2½	11.10
600 VOLTS DC WORKING			
MELT-6-2x1M	1.0-1.0	1.788x.619x2¾	13.75

CAPACITANCE TOLERANCE: ±20%.
*Add 1/32" to height for bracket.

METALITE® HY-MET* TYPE MQL

Glass-to-Metal Sealed
SUBMINIATURE TUBULARS

125°C. Operation

- Smallest paper capacitors available for the given ratings.
- Solid thermosetting impregnant. Temperature Range: −65°C. to +125°C.
- Tinned, non-ferrous metal cases. Hermetically sealed.
- Non-inductively wound. Capacitor section grounded to case, glass-to-metal seal terminal at one end. Available also with section insulated from case with glass-to-metal terminal at each end (Type MQLF).

CAPACITOR SECTION GROUNDED TO CASE (Glass-to-metal terminal at one end):

MQL: Basic unit. Uninsulated body. Sizes and list prices as shown.

MQLP: Basic MQL unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter and length of MQL sizes listed. Add 15¢ to MQL list prices.

MQL-A: Basic MQL unit with soldered-on tangential mounting bracket "A" on uninsulated body. Case sizes as listed for MQL. Add 40¢ to MQL list prices.

MQL-B: Basic MQL unit with soldered-on L-type bracket "B" on uninsulated body. Case sizes as listed for MQL. Add 40¢ to MQL list prices.

MQLS: Screw neck mounting type. Uninsulated body. Available in same ratings as MQL. Minimum case diameter .400". Add 50¢ to MQL list prices.

MQLV: Stud base mounting type. Uninsulated body. Same ratings and case sizes as MQL. Add 60¢ to MQL list prices.

*TRADE MARK

CAPACITOR SECTION INSULATED FROM CASE (Glass-to-metal terminal each end):

MQLF: Basic unit in "floating" construction. Add 1/16" to length of MQL sizes listed. Uninsulated body. Add 50¢ to MQL list prices.

MQLFP: Basic MQLF unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter and 1/8" to length of MQL sizes listed. Add 65¢ to MQL list prices.

MQLF-A: Basic MQLF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Add 1/16" to length of MQL sizes listed. Add 90¢ to MQL list prices.

MQLF-B: Basic MQLF unit with soldered-on L-type bracket "B" on uninsulated body. Add 1/16" to length of MQL sizes listed. Add 90¢ to MQL list prices.

MQLFS: Screw neck mounting type. Uninsulated body. Same ratings as MQL. Minimum case diameter .400". Add 1/16" to case length of MQL sizes listed. Add $1.00 to MQL list prices.

150 VOLTS DC WORKING

Cat. No.	Cap. Mf.	Dia. x Length	List Price
MQL-1.5-4M	4.0	1 x1¾	$ 7.00
MQL-1.5-6M	6.0	1 x1¾	8.20
MQL-1.5-8M	8.0	1 x2¼	9.35
200 VOLTS DC WORKING			
MQL-2-01	.01	.235x ¾	3.10
MQL-2-022	.022	.235x ¾	3.15
MQL-2-033	.033	.235x ¾	3.15
MQL-2-047	.047	.235x ¾	3.15
MQL-2-05	.05	.235x ¾	3.15
MQL-2-068	.068	.312x ¾	3.25
MQL-2-1	.1	.312x ¾	3.25
MQL-2-15	.15	.312x1 1/16	3.30
MQL-2-22	.22	.312x1 1/16	3.40
MQL-2-25	.25	.312x1 1/16	3.55
MQL-2-33	.33	.400x1 1/16	3.55
MQL-2-47	.47	.400x1 1/16	3.60
MQL-2-5	.5	.400x1 1/16	3.60
MQL-2-68	.68	.500x1 1/16	3.75
MQL-2-1M	1.0	.562x1 1/16	4.00
MQL-2-2M	2.0	.562x1¾	5.95
400 VOLTS DC WORKING			
MQL-4-01	.01	.235x ¾	3.15
MQL-4-022	.022	.235x ¾	3.25
MQL-4-033	.033	.312x ¾	3.25
MQL-4-047	.047	.312x1 1/16	3.30
MQL-4-05	.05	.312x1 1/16	3.30
MQL-4-068	.068	.400x1 1/16	3.35
MQL-4-1	.1	.400x1 1/16	3.40
MQL-4-22	.22	.500x1 1/16	3.60
MQL-4-25	.25	.500x1 1/16	3.70
MQL-4-33	.33	.562x1¼	3.85
MQL-4-47	.47	.562x1¾	4.10
MQL-4-5	.5	.562x1¾	4.10
MQL-4-68	.68	.670x1¾	4.45
MQL-4-1M	1.0	.670x2¼	4.60
MQL-4-2M	2.0	1 x2¼	7.00
600 VOLTS DC WORKING			
MQL-6-01	.01	.235x ¾	3.25
MQL-6-022	.022	.312x ¾	3.30
MQL-6-033	.033	.400x ¾	3.35
MQL-6-047	.047	.400x ¾	3.40
MQL-6-05	.05	.400x ¾	3.40
MQL-6-068	.068	.400x1 1/16	3.40
MQL-6-1	.1	.400x1 1/16	3.45
MQL-6-15	.15	.500x1 1/16	3.65
MQL-6-22	.22	.562x1¼	3.80
MQL-6-25	.25	.562x1¼	4.05
MQL-6-33	.33	.562x1¾	4.35
MQL-6-47	.47	.670x1¾	4.50
MQL-6-5	.5	.670x1¾	4.50
MQL-6-68	.68	.670x2¼	5.00
MQL-6-1M	1.0	.750x2¼	5.45
MQL-6-2M	2.0	1 x2¼	7.75

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.

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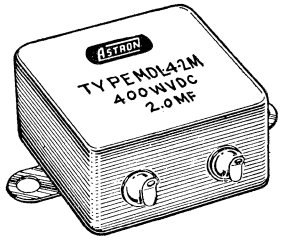
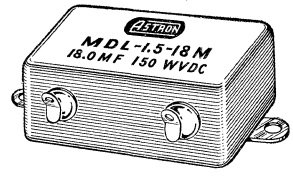
ASTRON® Capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

METALITE® HY-MET* TYPE MDL
Bathtub Capacitors

125°C. Operation





- Higher capacitance ratings than ever before offered in same size MIL Style CP53-55 cases in conventional paper-foil types.
- Solid thermosetting plastic impregnant enables operation to 125°C. Temperature Range: –65°C. to +125°C.
- Hermetically sealed. Lug type glass-to-metal sealed terminals.
- Standard position of terminals is on side. Can be supplied with top terminals (Type MDLT) or bottom terminals (Type MDLB).
- Standard capacitance tolerance: ±20%.

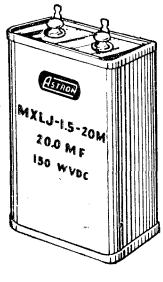
*TRADE MARK

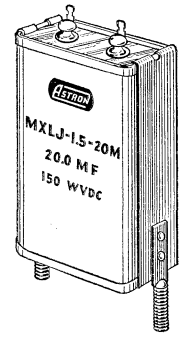
Cat. No.	Cap. Mf.	L. x W. x H.	List Price
150 VOLTS DC WORKING			
MDL-1.5-3M	3.0	1 ¾ x 1 x ⅞	$ 8.10
MDL-1.5-4M	4.0	1 ¾ x 1 x ⅞	8.65
MDL-1.5-5M	5.0	1 ¾ x 1 x ⅞	8.95
MDL-1.5-6M	6.0	1 ¾ x 1 ¼ x ⅞	9.15
MDL-1.5-8M	8.0	2 x 1 ¾ x ¾	12.60
MDL-1.5-10M	10.0	2 x 1 ¾ x ¾	14.55
MDL-1.5-12M	12.0	2 x 2 x ⅞	16.50
MDL-1.5-15M	15.0	2 x 2 x 1	19.85
MDL-1.5-18M	18.0	2 x 2 x 1 ¼	22.50
MDL-1.5-20M	20.0	2 x 2 x 1 ½	25.10
200 VOLTS DC WORKING			
MDL-2-1	.1	1 ¾ x 1 x ¾	3.95
MDL-2-25	.25	1 ¾ x 1 x ¾	4.25
MDL-2-5	.5	1 ¾ x 1 x ¾	4.95
MDL-2-1M	1.0	1 ¾ x 1 x ¾	5.35
MDL-2-2M	2.0	1 ¾ x 1 x ¾	6.70
400 VOLTS DC WORKING			
MDL-4-1	.1	1 ¾ x 1 x ¾	4.85
MDL-4-25	.25	1 ¾ x 1 x ¾	5.05
MDL-4-5	.5	1 ¾ x 1 x ¾	5.35
MDL-4-1M	1.0	1 ¾ x 1 x ⅞	5.95
MDL-4-2M	2.0	2 x 1 ¾ x 13/16	7.35
MDL-4-3M	3.0	2 x 1 ¾ x 15/16	9.75
MDL-4-4M	4.0	2 x 2 x 1	11.80
MDL-4-5M	5.0	2 x 2 x 1 ¼	13.20
MDL-4-6M	6.0	2 x 2 x 1 ½	14.00
600 VOLTS DC WORKING			
MDL-6-1	.1	1 ¾ x 1 x ¾	5.25
MDL-6-25	.25	1 ¾ x 1 x ¾	5.35
MDL-6-5	.5	1 ¾ x 1 x ¾	6.40
MDL-6-1M	1.0	1 ¾ x 1 ¼ x ⅞	7.35
MDL-6-2M	2.0	2 x 2 x ⅞	9.40
MDL-6-3M	3.0	2 x 2 x 1 ⅛	11.65
MDL-6-4M	4.0	2 x 2 x 1 ⅜	14.65

STANDARD CAPACITANCE TOLERANCE: ±20%. OTHER TOLERANCES ARE AVAILABLE

METALITE® HY-MET* TYPE MXLJ
In Terneplate Cases

125°C. Operation





*TRADE MARK

- Higher capacitance than ever before achieved in MIL Style CP70 cases, due to use of metallized paper sections.
- Temperature range –65°C. to +125°C. due to use of solid thermosetting impregnant.
- Hermetically sealed. Glass-to-metal sealed lug terminals.
- Exceptionally small sizes for the given ratings. Size reductions of 50% to 75% over equal ratings in conventional paper-foil units.
- Spade bolt "J" brackets supplied with each unit for convenient, rigid mounting.
- Standard capacitance tolerance: ±20%.

Cat. No.	Cap. Mf.	L. x W. x H.	List Price
150 VOLTS DC WORKING			
MXLJ-1.5-4M	4.0	1 ¾ x 1 x 1 ⅝	$15.30
MXLJ-1.5-10M	10.0	1 ¾ x 1 x 2 ⅝	22.75
MXLJ-1.5-12M	12.0	1 ¾ x 1 x 2 ⅞	24.10
MXLJ-1.5-15M	15.0	1 ¾ x 1 x 3 ⅜	29.35
MXLJ-1.5-20M	20.0	1 ¾ x 1 x 4 ⅜	34.55
MXLJ-1.5-25M	25.0	2 ½ x 1 3/16 x 3	40.60
MXLJ-1.5-30M	30.0	2 ½ x 1 3/16 x 3 ⅞	46.10
MXLJ-1.5-50M	50.0	2 ½ x 1 3/16 x 4 ¾	64.80
400 VOLTS DC WORKING			
MXLJ-4-2M	2.0	1 ¾ x 1 x 2 ⅛	15.30
MXLJ-4-4M	4.0	1 ¾ x 1 x 2 ⅞	20.80
MXLJ-4-6M	6.0	1 ¾ x 1 x 3 ⅞	25.50
MXLJ-4-8M	8.0	1 ¾ x 1 x 4 ¾	29.90
MXLJ-4-10M	10.0	2 ½ x 1 3/16 x 3 ⅞	33.45
MXLJ-4-20M	20.0	2 ½ x 1 3/16 x 4 ¾	55.45
MXLJ-4-30M	30.0	3 ¾ x 1 ¼ x 4 ¾	69.75
600 VOLTS DC WORKING			
MXLJ-6-1M	1.0	1 ¾ x 1 x 1 ⅝	15.05
MXLJ-6-2M	2.0	1 ¾ x 1 x 2 ⅜	18.35
MXLJ-6-4M	4.0	1 ¾ x 1 x 3 ⅞	25.10
MXLJ-6-6M	6.0	1 ¾ x 1 x 4 ¾	28.80
MXLJ-6-8M	8.0	2 ½ x 1 3/16 x 3 ⅞	33.40
MXLJ-6-10M	10.0	2 ½ x 1 3/16 x 4 ¾	37.70
MXLJ-6-15M	15.0	3 ¾ x 1 ¼ x 4 ¾	45.55
MXLJ-6-20M	20.0	3 ¾ x 1 ¾ x 4 ¼	61.70

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

ELECTRONIC FABRICATORS, INC.

New York 12, New York

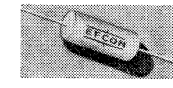
Capacitor Section Insulated From Case
(Glass-to-Metal Terminal at each end)

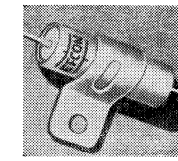
	STYLE AND DESCRIPTION	Add to List Price
Uninsulated Body sizes shown in listings.	**Z**—internally insulated (floating construction) as listed.	——
	V—with tangential soldered-on bracket.	$ .40
	W—screw neck mounting type. Available in all ratings as for Z. Min. case dia. is .400".	1.00
Insulated Body Add 1/16" to dia. and length of Z sizes listed.	**Y**—internally insulated (floating construction) with plastic outer sleeve.	.15

Capacitor Section Grounded to Case
(Glass-to-Metal Terminal at one end)

	STYLE AND DESCRIPTION	Add to List Price
Uninsulated Body Deduct 1/16" from length of units listed.	**A**—grounded construction.	——
	D—with tangential soldered-on bracket.	$ .40
	C—screw neck mounting type. Available in all ratings as for Type Z. Min. case dia. is .400".	1.00
Insulated Body Add 1/16" to dia. of sizes listed.	**B**—grounded construction, with plastic outer sleeve.	.15

NOTE: All above styles are available in solder-lug terminals instead of axial leads, and should be designated by the letter "L" after the basic style designating letter. (See prints and nomenclature.)
Add to List Price..... $ .20


STYLE A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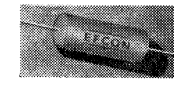
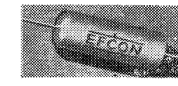
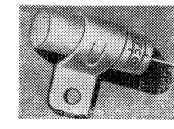
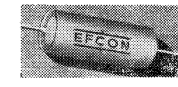

STYLE B

STYLE W

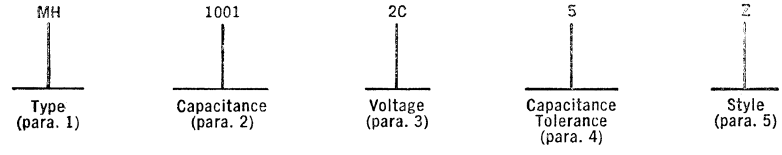
STYLE C


STYLE Y


STYLE D


STYLE Z

NOMENCLATURE



1. TYPE The type is identified by a two or three letter symbol in accordance with Table I. The general shape of the case and additional specific details other than case size are specified in style prints. Each type designation includes a family of case sizes.

2. CAPACITANCE The nominal capacitance value expressed in micro-micro-farads is identified by a four-digit number; the first two digits represent significant figures and the last digit specifies the number of zeros to follow.

3. VOLTAGE The d.c. working voltage for continuous operation at the maximum high temperature for each type as indicated in Table I, is identified by a combination of a single numeral and a single letter in accordance with Table II.

4. CAPACITANCE TOLERANCE The capacitance tolerance in percentage is identified by a single numeral in accordance with Table III.

5. STYLE The style is identified by a single letter which is an identification as to the terminal, the circuit, and the general shape of the case in accordance with detailed drawing (see style prints).

NOMENCLATURE TABLES — TYPE

Symbol	Dielectric Material	Case Description	Temperature Range
MC	Mylar*	Impregnated Cardboard Tube	−60°C to +85°C
MH	Mylar*	Hermetically Sealed	−60°C to +85°C
MHM	Mylar*	Hermetically Sealed	−60°C to +100°C
MHH	Mylar*	Hermetically Sealed	−60°C to +125°C
MHX	Mylar*	Hermetically Sealed	−60°C to +150°C
PC	Polystyrene	Impregnated Cardboard Tube	−65°C to +85°C
PH	Polystyrene	Hermetically Sealed	−65°C to +85°C
TH	Teflon*	Hermetically Sealed	−60°C to +200°C

*DuPont Trademark

VOLTAGE RATING

Symbol	D.C. Voltage Rating at Maximum High Temperature	Symbol	D.C. Voltage Rating at Max. High Temperature
5X	50	5C	500
1C	100	6C	600
3L	150	7C	700
2C	200	8C	800
5L	250	9C	900
3C	300	1M	1000
4C	400	2S	1200

CAPACITANCE TOLERANCE

Symbol	Capacitance Tolerance
1	± 1%
2	± 2%
5	± 5%
9	± 10%
0	± 20%

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CLOSE TOLERANCE POLYSTYRENE

For economy . . . for quality . . . wherever close tolerances are important . . . it pays to specify EFCON Plastic Film Miniature Capacitors. They have earned an enviable reputation for DEPENDABILITY and HIGH LEVEL PERFORMANCE in filters, timing circuits, analog and digital computers . . . plus many other applications.

Thanks to advanced engineering and special production techniques . . . EFCON Capacitors are consistently made to tolerances closer than ±1%. They are available in a range of capacitance values from .001 to 2 Mfd. Non-standard values are made to customers' specifications.

TYPE PC CARDBOARD TUBE
Temperature Range —65°C to +85°C

Catalog Number	Cap. MFD	Size D	Size L	Price
100 D.C. Working Volts				
PC-1002-1C	.010	3/16	1	$1.86
PC-2702-1C	.027	1/4	1	1.90
PC-3902-1C	.039	5/16	1	1.92
PC-6802-1C	.068	3/8	1	2.02
PC-8202-1C	.082	7/16	1-1/8	2.08
PC-1003-1C	.10	1/2	1-1/8	2.14
PC-1503-1C	.15	9/16	1-1/8	2.28
PC-2203-1C	.22	9/16	1-3/8	2.50
PC-2703-1C	.27	5/8	1-3/8	2.68
PC-3303-1C	.33	11/16	1-3/8	2.86
PC-3903-1C	.39	9/16	1-13/16	3.06
PC-4703-1C	.47	5/8	1-13/16	3.30
PC-5603-1C	.56	11/16	1-13/16	3.58
PC-6803-1C	.68	3/4	1-13/16	3.98
PC-1004-1C	1.0	7/8	1-13/16	4.96
PC-1204-1C	1.2	1	1-13/16	5.58
200 D.C. Working Volts				
PC-1002-2C	.010	1/4	1	1.86
PC-1502-2C	.015	1/4	1	1.88
PC-2202-2C	.022	5/16	1	1.90
PC-3902-2C	.039	3/8	1	1.98
PC-5602-2C	.056	7/16	1-1/8	2.06
PC-6802-2C	.068	1/2	1-1/8	2.10
PC-8202-2C	.082	9/16	1-1/8	2.16
PC-1003-2C	.10	1/2	1-3/8	2.22
PC-1203-2C	.12	9/16	1-3/8	2.30
PC-1503-2C	.15	5/8	1-3/8	2.42
PC-1803-2C	.18	11/16	1-3/8	2.56
PC-2703-2C	.27	11/16	1-13/16	2.96
PC-3303-2C	.33	3/4	1-13/16	3.20
PC-3903-2C	.39	7/8	1-13/16	3.46
PC-5603-2C	.56	1	1-13/16	4.18
400 D.C. Working Volts				
PC-1002-4C	.010	5/16	1	1.88
PC-1202-4C	.012	5/16	1	1.88
PC-2202-4C	.022	3/8	1	1.96
PC-3302-4C	.033	7/16	1-1/8	2.02
PC-4702-4C	.047	1/2	1-1/8	2.10
PC-5602-4C	.056	9/16	1-1/8	2.16
PC-8202-4C	.082	9/16	1-3/8	2.34
PC-1003-4C	.10	5/8	1-3/8	2.42
PC-1203-4C	.12	9/16	1-13/16	2.56
PC-1503-4C	.15	5/8	1-13/16	2.78
PC-1803-4C	.18	11/16	1-13/16	2.96
PC-2703-4C	.27	3/4	1-13/16	3.50
PC-3303-4C	.33	7/8	1-13/16	3.90
PC-4703-4C	.47	1	1-13/16	4.70
600 D.C. Working Volts				
PC-1002-6C	.010	3/8	1	1.90
PC-1202-6C	.012	3/8	1	1.90
PC-1502-6C	.015	7/16	1-1/8	1.92
PC-2202-6C	.022	1/2	1-1/8	1.98
PC-2702-6C	.027	9/16	1-1/8	2.02
PC-3902-6C	.039	9/16	1-3/8	2.14
PC-5602-6C	.056	5/8	1-3/8	2.28
PC-6802-6C	.068	9/16	1-13/16	2.38
PC-8202-6C	.082	5/8	1-13/16	2.50
PC-1003-6C	.10	11/16	1-13/16	2.66
PC-1203-6C	.12	3/4	1-13/16	2.84
PC-1803-6C	.18	7/8	1-13/16	3.34
PC-2203-6C	.22	1	1-13/16	3.66

TYPE PH HERMETICALLY SEALED
Temperature Range —65°C to +85°C

Catalog Number	Cap. MFD	Size D	Size L	Price
100 D.C. Working Volts				
PH-1002-1C	.010	.235	1	$4.54
PH-1502-1C	.015	.235	1	4.54
PH-3902-1C	.039	.312	1	4.66
PH-6802-1C	.068	.400	1	4.78
PH-1503-1C	.15	.562	1-1/16	5.24
PH-2203-1C	.22	.562	1-7/16	5.46
PH-3303-1C	.33	.670	1-7/16	5.96
PH-3903-1C	.39	.562	1-13/16	6.18
PH-5603-1C	.56	.670	1-13/16	6.72
PH-6803-1C	.68	.750	1-13/16	7.40
PH-1204-1C	1.2	1.000	1-13/16	9.18
200 D.C. Working Volts				
PH-1002-2C	.010	.312	1	4.58
PH-2202-2C	.012	.312	1	4.58
PH-3902-2C	.039	.400	1	4.74
PH-8202-2C	.082	.562	1-1/16	5.08
PH-1203-2C	.12	.562	1-7/16	5.26
PH-1803-2C	.18	.670	1-7/16	5.70
PH-2703-2C	.27	.670	1-13/16	6.08
PH-3303-2C	.33	.750	1-13/16	6.66
PH-5603-2C	.56	1.000	1-13/16	7.76
400 D.C. Working Volts				
PH-1002-4C	.010	.312	1	4.60
PH-1202-4C	.012	.312	1	4.60
PH-2202-4C	.022	.400	1	4.70
PH-5602-4C	.056	.562	1-1/16	5.08
PH-6802-4C	.068	.562	1-7/16	5.18
PH-1003-4C	.10	.670	1-7/16	5.60
PH-1203-4C	.12	.562	1-13/16	5.70
PH-1803-4C	.18	.670	1-13/16	6.08
PH-2703-4C	.27	.750	1-13/16	6.96
PH-4703-4C	.47	1.000	1-13/16	8.36
600 D.C. Working Volts				
PH-1002-6C	.010	.400	1	4.66
PH-1202-6C	.012	.400	1	4.68
PH-2702-6C	.027	.562	1-1/16	4.96
PH-3902-6C	.039	.562	1-7/16	5.06
PH-5602-6C	.056	.670	1-7/16	5.42
PH-6802-6C	.068	.562	1-13/16	5.54
PH-1003-6C	.10	.670	1-13/16	5.80
PH-1203-6C	.12	7.50	1-13/16	6.26
PH-2203-6C	.22	1.000	1-13/16	7.24

Larger values and/or voltages than those listed are available in bath tub or CP70 type cans.
All above listings are for ±5% tolerances. For ±2% tolerance — add 20%. For ±1% tolerance — add 50%.
Tolerances closer than ±1% are available; Inquire for prices.

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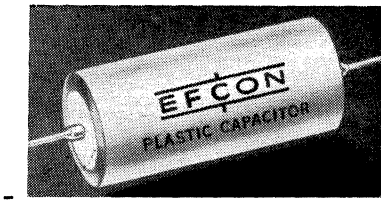
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Miniature Capacitors and "MYLAR"*



EFCON Close Tolerance Capacitors . . . both Polystyrene and "Mylar" . . . provide excellent stability over an extended temperature range. . . . Polystyrene has extremely high insulation resistance (10^{12} ohms at 25°C). They have a low negative temperature coefficient. In addition to a very low dielectric absorption . . . EFCON Capacitors feature the lowest dissipation factor of any film capacitors. They are tested at a DC voltage of at least 200% of rated voltage at 25°C.

Both EFCON Polystyrene and "Mylar" Capacitors are mass produced in two types: Polystyrene Type PC and "Mylar" Type MC feature a rigid, wax impregnated, tubular construction. Polystyrene Type PH and "Mylar" Type MHH and Type MH are hermetically sealed in a metal case with glass-to-metal, solder-sealed terminals. Both types feature non-inductive extended foil construction with leads soldered directly to the foil . . . assuring minimum contact resistance.

TYPE MHH HERMETICALLY SEALED
Temperature Range
—60°C to +125°C

Catalog Number	Cap. MFD	Size D	Size L	Price
100 D.C. Working Volts				
MHH-1002-1C	.010	.235	1	$3.60
MHH-3302-1C	.033	.235	1	3.62
MHH-1003-1C	.10	.312	1	3.70
MHH-1503-1C	.15	.400	1	3.78
MHH-3303-1C	.33	.562	1-1/16	4.06
MHH-5603-1C	.56	.562	1-7/16	4.28
MHH-8203-1C	.82	.670	1-7/16	4.66
MHH-1004-1C	1.0	.670	1-13/16	4.80
MHH-1504-1C	1.5	.750	1-13/16	5.62
MHH-2004-1C	2.0	1.000	1-13/16	6.00
200 D.C. Working Volts				
MHH-1002-2C	.010	.235	1	3.60
MHH-1202-2C	.012	.235	1	3.60
MHH-3302-2C	.033	.312	1	3.68
MHH-5602-2C	.056	.400	1	3.74
MHH-8202-2C	.082	.400	1-7/16	3.80
MHH-1203-2C	.12	.562	1-1/16	3.98
MHH-2203-2C	.22	.562	1-7/16	4.18
MHH-2703-2C	.27	.670	1-7/16	4.26
MHH-4703-2C	.47	.670	1-13/16	4.76
MHH-5603-2C	.56	.750	1-13/16	5.16
MHH-1004-2C	1.0	1.000	1-13/16	5.98
400 D.C. Working Volts				
MHH-1002-4C	.010	.312	1	3.64
MHH-1502-4C	.015	.312	1	3.66
MHH-3302-4C	.033	.400	1	3.74
MHH-6802-4C	.068	.562	1-1/16	3.96
MHH-1003-4C	.10	.562	1-7/16	4.04
MHH-1503-4C	.15	.562	1-13/16	4.18
MHH-1803-4C	.18	.670	1-7/16	4.42
MHH-2203-4C	.22	.670	1-13/16	4.52
MHH-2703-4C	.27	.750	1-7/16	4.88
MHH-3303-4C	.33	.750	1-13/16	5.02
MHH-5603-4C	.56	1.000	1-13/16	5.72
600 D.C. Working Volts				
MHH-1002-6C	.010	.400	1	3.68
MHH-1802-6C	.018	.400	1	3.72
MHH-3902-6C	.039	.562	1-1/16	3.92
MHH-5602-6C	.056	.562	1-7/16	3.98
MHH-8202-6C	.082	.670	1-7/16	4.24
MHH-1203-6C	.12	.670	1-13/16	4.38
MHH-1503-6C	.15	.750	1-13/16	4.70
MHH-2703-6C	.27	1.000	1-13/16	5.22

TYPE MH HERMETICALLY SEALED
Temperature Range
—60°C to +85°C

Catalog Number	Cap. MFD	Size D	Size L	Price
200 D.C. Working Volts				
MH-1002-2C	.010	.235	1	$3.60
MH-3302-2C	.033	.235	1	3.62
MH-1003-2C	.10	.312	1	3.70
MH-1503-2C	.15	.400	1	3.78
MH-3303-2C	.33	.562	1-1/16	4.06
MH-5603-2C	.56	.562	1-7/16	4.28
MH-8203-2C	.82	.670	1-7/16	4.66
MH-1004-2C	1.0	.670	1-13/16	4.80
MH-1504-2C	1.5	.750	1-13/16	5.62
MH-2004-2C	2.0	1.000	1-13/16	6.00
400 D.C. Working Volts				
MH-1002-4C	.010	.235	1	3.60
MH-1202-4C	.012	.235	1	3.60
MH-3302-4C	.033	.312	1	3.68
MH-5602-4C	.056	.400	1	3.74
MH-8202-4C	.082	.400	1-7/16	3.80
MH-1203-4C	.12	.562	1-1/16	3.98
MH-2203-4C	.22	.562	1-7/16	4.18
MH-2703-4C	.27	.670	1-7/16	4.26
MH-4703-4C	.47	.670	1-13/16	4.76
MH-5603-4C	.56	.750	1-13/16	5.16
MH-1004-4C	1.0	1.000	1-13/16	5.98
600 D.C. Working Volts				
MH-1002-6C	.010	.312	1	3.64
MH-1502-6C	.015	.312	1	3.66
MH-3302-6C	.033	.400	1	3.74
MH-6802-6C	.068	.562	1-1/16	3.96
MH-1003-6C	.10	.562	1-7/16	4.04
MH-1503-6C	.15	.562	1-13/16	4.18
MH-1803-6C	.18	.670	1-7/16	4.42
MH-2203-6C	.22	.670	1-13/16	4.52
MH-2703-6C	.27	.750	1-7/16	4.88
MH-3303-6C	.33	.750	1-13/16	5.02
MH-5603-6C	.56	1.000	1-13/16	5.72

TYPE MC CARDBOARD TUBE
Temperature Range
—60°C to +85°C

Catalog Number	Cap. MFD	Size D	Size L	Price
200 D.C. Working Volts				
MC-1002-2C	.010	3/16	1	$1.46
MC-1502-2C	.015	3/16	1	1.46
MC-5602-2C	.056	1/4	1	1.50
MC-1003-2C	.10	5/16	1	1.54
MC-1503-2C	.15	3/8	1	1.58
MC-2203-2C	.22	7/16	1-1/8	1.64
MC-2703-2C	.27	1/2	1-1/8	1.68
MC-3303-2C	.33	9/16	1-1/8	1.72
MC-3903-2C	.39	7/16	1-3/8	1.78
MC-5603-2C	.56	1/2	1-3/8	1.92
MC-6803-2C	.68	9/16	1-3/8	2.02
MC-8203-2C	.82	11/16	1-3/8	2.14
MC-1004-2C	1.0	5/8	1-13/16	2.30
MC-1504-2C	1.5	3/4	1-13/16	2.76
MC-2004-2C	2.0	7/8	1-13/16	3.14
400 D.C. Working Volts				
MC-1002-4C	.010	3/16	1	1.46
MC-1502-4C	.015	1/4	1	1.48
MC-3302-4C	.033	5/16	1	1.50
MC-5602-4C	.056	3/8	1	1.54
MC-8202-4C	.082	3/8	1-3/8	1.58
MC-1003-4C	.10	1/2	1-1/8	1.62
MC-1503-4C	.15	9/16	1-1/8	1.70
MC-1803-4C	.18	1/2	1-3/8	1.74
MC-2203-4C	.22	9/16	1-3/8	1.82
MC-2703-4C	.27	5/8	1-3/8	1.90
MC-3903-4C	.39	5/8	1-13/16	2.12
MC-4703-4C	.47	11/16	1-13/16	2.24
MC-6803-4C	.68	3/4	1-13/16	2.60
MC-8203-4C	.82	7/8	1-13/16	2.82
MC-1004-4C	1.0	1	1-13/16	3.14
600 D.C. Working Volts				
MC-1002-6C	.010	1/4	1	1.48
MC-1502-6C	.015	5/16	1	1.48
MC-3302-6C	.033	3/8	1	1.52
MC-3902-6C	.039	7/16	1-1/8	1.54
MC-5602-6C	.056	1/2	1-1/8	1.58
MC-6802-6C	.068	9/16	1-1/8	1.62
MC-1003-6C	.10	1/2	1-3/8	1.70
MC-1503-6C	.15	1/2	1-13/16	1.82
MC-1803-6C	.18	5/8	1-3/8	1.90
MC-2203-6C	.22	5/8	1-13/16	2.00
MC-2703-6C	.27	3/4	1-3/8	2.14
MC-3303-6C	.33	3/4	1-13/16	2.44
MC-4703-6C	.47	7/8	1-13/16	2.64
MC-5603-6C	.56	1	1-13/16	2.86

NOTE: Due to space limitations only the largest values in a specific tube are listed.

WRITE for brochure which gives temperature characteristic curves for capacitance change, power factor and insulation resistance over an extended temperature range . . . plus detailed test data and general characteristics. Also available is information about EFCON "Teflon" High Temperature Capacitors and Type S, molded Silvered Mica.

Larger values and/or voltages than those listed are available in bath tub or CP70 type cans.
All above listings are for ±5% tolerances. For ±2% tolerance — add 20%. For ±1% tolerance — add 50%.
Tolerances closer than ±1% are available; Inquire for prices.

ELECTRONIC FABRICATORS, INC.

New York 12, New York

*Dupont trademark

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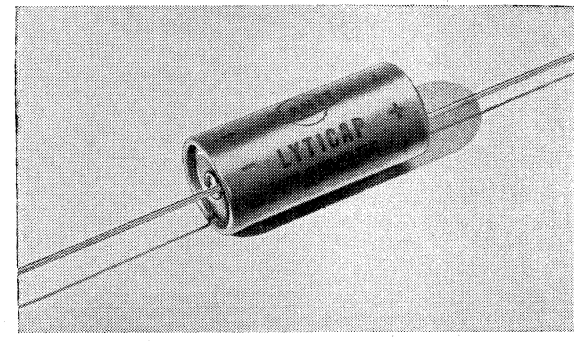
PLANET SALES CORPORATION
BLOOMFIELD, NEW JERSEY

Universal Replacement Type Capacitors
"LYTICAP"
Single Section Electrolytics — Type "L"

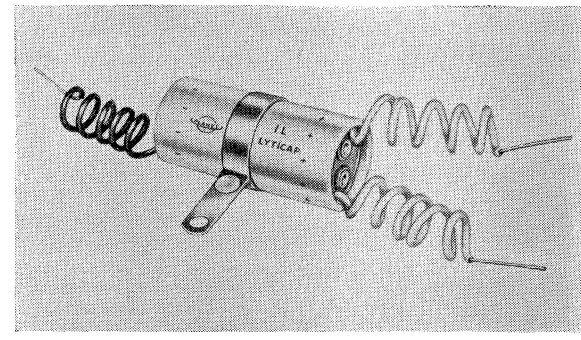
Hermetically sealed in aluminum tubes, covered with red Kraftboard insulating jackets — tinned brass leads, guaranteed for one year.



CAT. NO.	MFD.	SIZE*	LIST PRICE
	500 WVDC		
L-5-500	5	3/4 x 1 5/8	$1.25
L-10-500	10	7/8 x 2 1/16	1.35
L-20-500	20	1 x 2 3/8	1.60
L-30-500	30	1 x 2 1/16	1.75
	450 WVDC		
L-4-450	4	5/8 x 1 5/8	1.15
L-8-450	8	3/4 x 1 5/8	1.25
L-10-450	10	3/4 x 1 5/8	1.30
L-12-450	12	7/8 x 1 5/8	1.35
L-16-450	16	7/8 x 2 1/16	1.40
L-20-450	20	1 x 2 1/16	1.55
L-30-450	30	1 x 2 3/8	1.70
L-40-450	40	1 x 2 1/16	1.80
L-50-450	50	1 1/4 x 2 1/16	2.10
L-60-450	60	1 1/4 x 2 1/16	2.40
L-80-450	80	1 3/8 x 2 1/16	2.80
	350 WVDC		
L-8-350	8	5/8 x 1 5/8	1.20
L-16-350	16	7/8 x 1 5/8	1.40
L-20-350	20	7/8 x 1 5/8	1.45
L-30-350	30	7/8 x 2 1/16	1.65
L-40-350	40	1 x 2 1/16	1.75
	250 WVDC		
L-5-250	5	5/8 x 1 5/8	1.00
L-10-250	10	5/8 x 1 5/8	1.20
L-20-250	20	3/4 x 1 5/8	1.35
L-24-250	24	3/4 x 1 5/8	1.35
L-30-250	30	3/4 x 1 5/8	1.45
L-40-250	40	7/8 x 1 3/4	1.55
	150 WVDC		
L-5-150	5	5/8 x 1 1/8	$1.00
L-8-150	8	1/2 x 1 5/8	1.05
L-10-150	10	1/2 x 1 5/8	1.05
L-16-150	16	5/8 x 1 5/8	1.15
L-20-150	20	5/8 x 1 5/8	1.20
L-30-150	30	3/4 x 1 5/8	1.30
L-40-150	40	3/4 x 1 5/8	1.35
L-50-150	50	3/4 x 2 1/16	1.40
L-80-150	80	7/8 x 2 1/16	1.60
L-100-150	100	7/8 x 2 3/8	1.75
L-150-150	150	1 x 2 1/16	1.90
	50 WVDC		
L-1-50	1	1/2 x 1 1/8	.90
L-3-50	3	1/2 x 1 1/8	.90
L-5-50	5	1/2 x 1 1/8	1.00
L-10-50	10	1/2 x 1 1/8	1.00
L-25-50	25	1/2 x 1 5/8	1.05
L-50-50	50	5/8 x 1 5/8	1.20
L-100-50	100	3/4 x 1 5/8	1.40
L-150-50	150	7/8 x 1 5/8	1.55
L-250-50	250	1 x 2 1/16	1.75
	25 WVDC		
L-10-25	10	1/2 x 1 1/8	1.00
L-25-25	25	1/2 x 1 5/8	1.00
L-50-25	50	5/8 x 1 5/8	1.10
L-100-25	100	5/8 x 1 5/8	1.35
L-250-25	250	7/8 x 2 1/16	1.70
L-500-25	500	1 x 2 3/8	2.30
	12 WVDC		
L-100-12	100	5/8 x 1 7/16	1.20
L-250-12	250	3/4 x 2 1/16	1.45
L-500-12	500	7/8 x 2 3/8	1.70
	6 WVDC		
L-500-6	500	3/4 x 1 5/8	1.55
L-1000-6	1000	7/8 x 2 1/16	1.90
L-1500-6	1500	7/8 x 2 3/8	2.10
L-2000-6	2000	1 x 2 3/8	2.30
	3 WVDC		
L-1000-3	1000	7/8 x 2 1/16	1.80
L-1500-3	1500	7/8 x 2 1/16	2.10
L-2000-3	2000	1 x 2 3/8	2.30

Dual Section Electrolytics — Type "IL"

Hermetically sealed in aluminum tubes with completely flexible leads. U/L Approved, plastic coated leads are rivetted directly to the condenser end disc, eliminating the use of rigid terminal risers, allowing capacitor to fit into smaller space and eliminating lead breakage. IL capacitors have wrap around mounting strap and are common negative, guaranteed for one year.



CAT. NO.	MFD.	SIZE*	LIST PRICE
	450 WVDC		
IL-2x8-450	8+ 8	7/8 x 2 1/16	$1.70
IL-2x20-450	20+20	1 x 2 1/16	2.50
IL-2x30-450	30+30	1 1/4 x 2 1/16	3.00
IL-2x40-450	40+40	1 3/8 x 2 1/16	3.40
	150 WVDC		
IL-2x20x150	20+20	3/4 x 1 5/8	1.65
IL-2x30-150	30+30	7/8 x 1 5/8	1.80
IL-4020-150	40+20	7/8 x 1 5/8	1.75
IL-2x40-150	40+40	7/8 x 2 1/16	1.85
IL-5030-150	50+30	7/8 x 2 1/16	1.95
IL-2x50-150	50+50	1 x 2 1/16	2.10
IL-8040-150	80+40	1 x 2 3/8	2.25

* Dimensions are for metal tubes. Add 1/8" to diameter and 1/8" to length for over-all dimensions over cardboard insulating tube.

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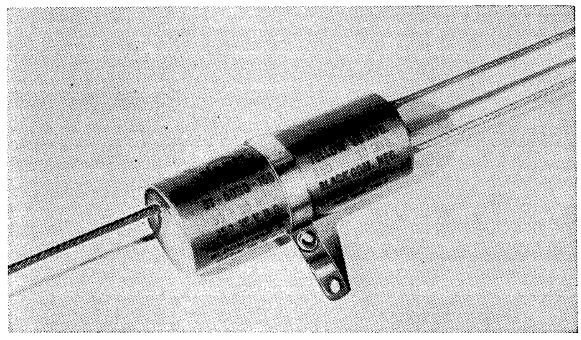
PLANET SALES CORPORATION
BLOOMFIELD, NEW JERSEY



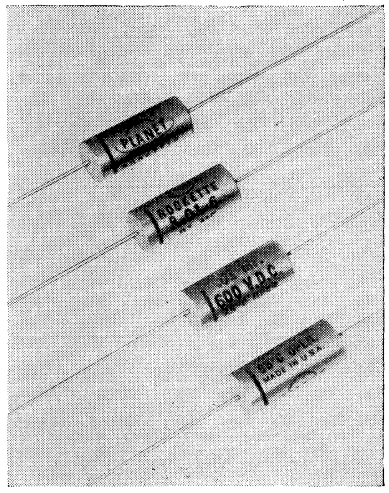
Universal Replacement Type Capacitors

Cardboard Tube Electrolytics — Type "CT"

Constructed in strong red cardboard tubes, wax impregnated — long insulated stranded leads of U/L approved wire — high temperature wax end-fill — wrap around mounting strap. Guaranteed for one year.

CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
DUAL UNITS — COMMON NEGATIVE				
CT-2x20-150	20+20	150	3/4 x 2 1/2	$1.65
CT-2x30-150	30+30	150	7/8 x 2 1/2	1.80
CT-4020-150	40+20	150	7/8 x 2 1/2	1.75
CT-2x40-150	40+40	150	1 x 2 1/2	1.85
CT-5030-150	50+30	150	1 x 2 1/2	1.95
CT-2x50-150	50+50	150	1 x 3	2.10
CT-8040-150	80+40	150	1 x 3 1/4	2.25
DUAL UNITS — SEPARATE NEGATIVE				
CT-2x20-150-SS	20+20	150	1 x 2 3/8	2.05

CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
TRIPLE UNITS — COMMON NEGATIVE				
CT-3x20-150	20+20+20	150	1 x 2 1/2	$2.20
CT-302520-150	30+25+20	150	1 x 2 1/2	2.25
CT-402020-150	40+20+20	150	1 x 3	2.25
CT-403020-150	40+30+20	150	1 x 3	2.35
CT-404020-150	40+40+20	150	1 x 3	2.40
CT-3x40-150	40+40+40	150	1 x 3 1/4	2.45
CT-503020-150	50+30+20	150	1 x 3	2.45
CT-302	30+20/20	150/25	1 x 2 1/2	2.10
CT-303	40+30/20	150/25	1 x 3	2.20
CT-304	50+50/20	150/25	1 x 3 1/4	2.50
CT-305	50+30/20	150/25	1 x 3	2.35



All Purpose Paper Capacitors

"ROCKETTES"

Planet ROCKETTES are impregnated and jacketed with a HARD-as-ROCK plastic which will not dry out, shrink away from the leads nor develop fissures nor cracks, thus guaranteeing against the entrance of moisture and guaranteeing good shelf life and long service life. The coiled heads of the leads are securely soldered to the foil, which is imbedded in the same plastic used as an impregnant, making it impossible for them to work loose or pull out. ROCKETTES have exceptionally high insulation resistance which is maintained proportionately over the entire temperature range of —30° to +85° C.

CAT. NO.	MFD.	SIZE	LIST PRICE
600 WVDC			
R-001-6	.001	1 1/32 x 1	$ .25
R-002-6	.002	1 1/32 x 1	.25
R-003-6	.003	3/8 x 1	.25
R-004-6	.004	3/8 x 1	.25
R-0047-6	.0047	3/8 x 1	.25
R-005-6	.005	3/8 x 1	.25
R-006-6	.006	3/8 x 1	.25
R-01-6	.01	7/16 x 1	.30
R-02-6	.02	7/16 x 1 1/4	.30
R-03-6	.03	7/16 x 1 1/2	.35
R-04-6	.04	1 5/32 x 1 1/2	.35
R-047-6	.047	1/2 x 1 5/8	.40
R-05-6	.05	1 7/32 x 1 5/8	.40
R-1-6	.1	1 1/16 x 1 5/8	.45

CAT. NO.	MFD.	SIZE	LIST PRICE
600 WVDC (Cont'd)			
R-2-6	.2	1 3/16 x 2	.55
R-25-6	.25	1 3/16 x 2	.55
R-5-6	.5	1 5/16 x 2 1/8	.80
1600 WVDC			
R-001-16	.001	5/16 x 1 1/8	.55
R-002-16	.002	3/8 x 1 1/8	.55
R-003-16	.003	7/16 x 1 1/4	.55
R-005-16	.005	1/2 x 1 1/4	.55
R-0075-16	.0075	9/16 x 1 1/4	.60
R-008-16	.008	9/16 x 1 1/4	.60
R-01-16	.01	9/16 x 1 1/2	.60
R-02-16	.02	9/16 x 1 3/4	.60
R-05-16	.05	1 3/16 x 2	.70

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All Prices Subject to Change Without Notice

TRADE DISCOUNT APPLIES *TO LIST PRICES ONLY*

PLASTICON

THE PLASTIC FILM CAPACITOR

5 plastic dielectrics developed into *5 complete lines of capacitors* offering the designer and engineer *standard units* to fit any application!

MYLAR* Available in 4 Types: Miniature Metal Tubular; Molded; Uncased; Bakelite Encased. Voltage Ranges — 100 to 600 vdc.	**Applications require small size, and high insulation resistance to 125°C.**
POLYSTYRENE Available in 8 Types: Miniature Metal Tubular; Molded; Uncased; Bakelite Encased; Glass Encapsulated; Bathtub can types (fixed and variable capacitance) and CP-70 type cans. Voltage Ranges — 100 to 1000 vdc.	**High stability, imperviousness to moisture, low dielectric absorption and high insulation resistance are requisites.**
TEFLON Available in 3 Types: Glass Encapsulated; Metal Tubular and CP-70 type cans. Voltage Ranges — 200, 400 and 600 vdc with 1,000 vdc upon request.	**Applications at 170°C and 200°C. Where size is a problem.**
POLYETHYLENE Available in 2 Types: Glass Encapsulated and CP-70 cans. Voltage Ranges — 500 to 30,000 vdc.	**Pulse and RF applications at low temperatures.**
CELLULOSE ACETATE Available in 2 Types: Glass Encapsulated; CP-70 Style Cans. Voltage Ranges — 600 to 40,000 vdc, with up to 100,000 vdc upon request.	**High voltage applications where small size is demanded.**

***MYLAR,** Dupont Trade Name for Polyethylene Terephthalate.

CONDENSER PRODUCTS

Division of New Haven Clock and Watch Company
New Haven 4, Connecticut

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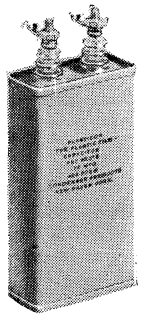
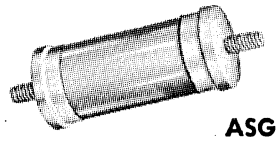
PLASTICON

CELLULOSE ACETATE CAPACITORS
HIGH VOLTAGE — SMALL SIZE

CP-70 TYPE CANS



AOC (mineral oil impregnant)
ASC (Silicone oil impregnant)



ASG
(mineral oil impregnant)
GLASS ENCAPSULATED

CHARACTERISTICS

DISSIPATION FACTOR	1.3 max @ 25°C @ 60 cycles.
INSULATION RESISTANCE	Megohms x mfd equals 10,000
TEMPERATURE RANGE (Silicone)	—55°C to 85°C. Extended —55°C to 125°C.
(Mineral Oil)	—40°C to 85°C. Extended —40°C to 105°C.
TEMPERATURE COEFFICIENT	Approx. 1,000 ppm/°C positive. from —60°C to 125°C.
CAPACITANCE TOLERANCE	±10%. Others upon request.
VOLTAGE RANGES	600 to 40,000 vdc. To 100,000 vdc on request.

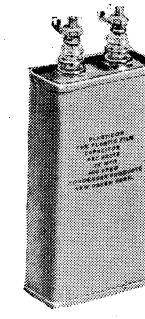
PLASTICON

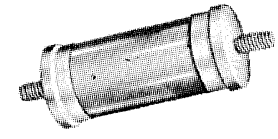
POLYETHYLENE CAPACITORS
HIGH "Q", LOW POWER FACTOR

CHARACTERISTICS

DISSIPATION FACTOR	.0005 max. @ 25°C @ 1,000 cycles.
INSULATION RESISTANCE — LAC & LAG @ 25°C	Megohms x mfd equals 10^{12}
LSG @ 25°C	Megohms x mfd equals 10,000
DIELECTRIC ABSORPTION	.01 to .02% (LAC & LAG)
TEMPERATURE RANGE	—60°C to 60°C (LAC & LAG) —60°C to 65°C (LSG)
TEMPERATURE COEFFICIENT	Negative 850 ppm/°C (LAC & LAG) Negative 650 ppm/°C (LSG)
CAPACITANCE TOLERANCE	±1,2,5,10% (LAC & LAG) ±10 (LSG). Others on request.

CP-70 TYPE CANS
LAG (no impregnant)





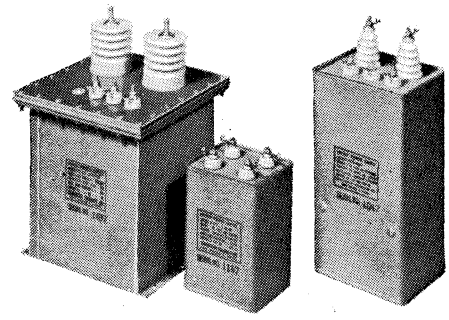
GLASS ENCAPSULATED
LAG (no impregnant)
LSG (Silicone oil impregnant)

HIGH VOLTAGE POWER SUPPLIES

60 & 400 CYCLE
REGULATED
UNREGULATED
VACUUM TUBE
OR SELENIUM
RECTIFIERS

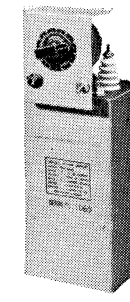
SMALL SIZE, LIGHT WEIGHT, RELIABLE, FLEXIBLE AND SAFE.

Operate on 118 volt AC input — with output voltage ranges from 2,000 vdc to 50,000 vdc, others available upon request.



OPTIONAL FEATURES

Input and Output Plugs for simplification of cabling.



Variable Controls for simplification of controlling output voltages.

Tube Wells available

Model #	Output Voltage	Rated Output Current	Max. Output Current	% Ripple at Rated Current	Circuit	Case Size	Weight
PS 2-2M60	2 KV DC	2.0 ma	5.0 ma	1.5	Half Wave	3¾ x 3 3/16 x 5½	4.5 pounds
PS 5-5M60	5 KV DC	5.0 ma	5.0	1.5	Half Wave	3¾ x 4 5/16 x 6	9 pounds
PS10-1M60V	0-12 KV DC	1.0 ma	1.75ma	3.0	Full Wave Doubler	3¾ x 4 5/16 x 8	11.5 pounds
PS15-1M60V	0-15 KV DC	1.0 ma	1.75ma	3.0	Full Wave Doubler	3¾ x 4 5/16 x 9	12 pounds
PS30-1M60V	0-30 KV DC	1.0 ma	1.5 ma	3.0	Full Wave Doubler	7 x 7 x 8¼	25 pounds
PS50-2M60VT	0-50 KV DC	2.0 ma	4.0 ma	1.5	Full Wave Tripler	12½ x 12½ x 12½	80 pounds

ALSO PULSE FORMING NETWORKS

CONDENSER PRODUCTS
Division of New Haven Clock and Watch Company

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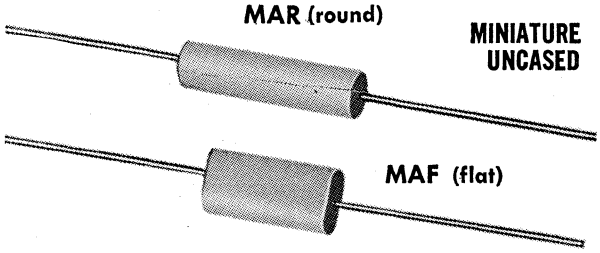
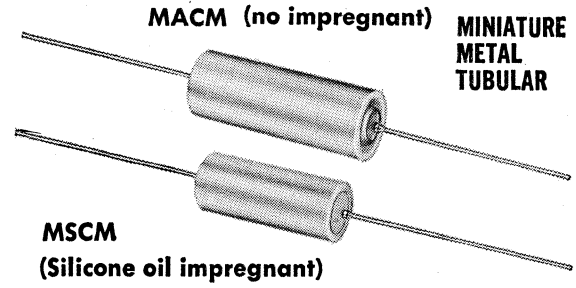
PLASTICON

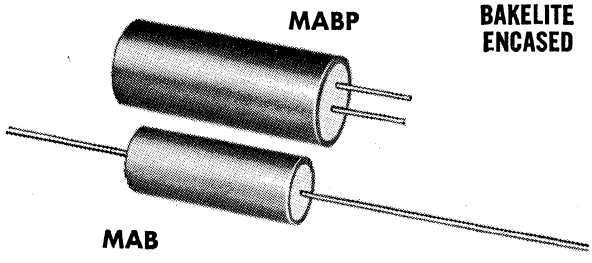
MYLAR* CAPACITORS
LOW COST — HIGH QUALITY



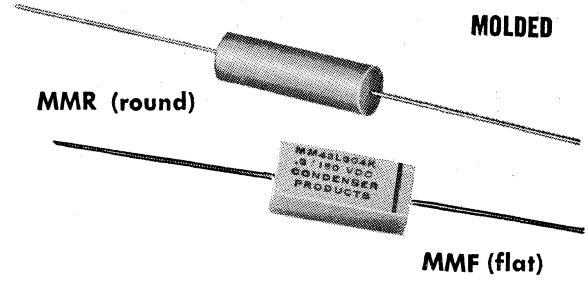
CAPACITANCE RANGE ..... .0001 mfd to 1.0 mfd.
VOLTAGE RANGE ..... 100 to 600 vdc.



CAPACITANCE RANGE ..... .0001 mfd to 1.0 mfd.
VOLTAGE RANGE ..... 100 to 600 vdc.



CAPACITANCE RANGE ..... .0001 mfd to 1.0 mfd.
VOLTAGE RANGE ..... 100 to 600 vdc.



CAPACITANCE RANGE ..... .0001 mfd to 1.0 mfd.
VOLTAGE RANGE ..... 100 to 600 vdc.

CHARACTERISTICS

*MYLAR, Dupont Trade Name for Polyethylene Terephthalate.

Temperature range	—55°C. to 85°C.*
Insulation resistance @ 25°C.	100,000 meg./mfd.
Except, need not exceed	125,000 megohms
Insulation resistance at high ambient temperatures	5,000 meg./mfd.
Except, need not exceed	10,000 megohms
Capacitance change 25°C. to — 55°C.	6%
Life test — percent of rated voltage at high ambient temperatures	140
Power factor — 1,000 c.p.s.	0.5%

PRICES AND SAMPLES UPON REQUEST

PLASTICON

TEFLON CAPACITORS
FOR 200° C. APPLICATIONS

POWER FACTOR ..... @ 25°C ..... .05%
@ 165°C ..... .07%

TEMPERATURE COEFFICIENT .... —70°C to 200°C .... —200 ppm/°C.

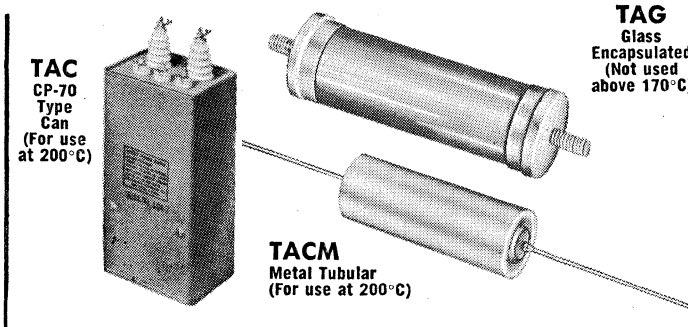
INSULATION RESISTANCE ..... @25°C ..... 500,000 meg x mfd.
But need not exceed ..... 10,000,000 megohms

@ 165°C ..... 7,000 meg. x mfd.
But need not exceed ..... 50,000 megohms

@ 170°C ..... 4,000 meg. x mfd.
But need not exceed ..... 25,000 megohms

@ 200°C ..... 1,000 meg. x mfd.
But need not exceed ..... 5,000 megohms

DIELECTRIC ABSORPTION ..... @25°C ..... .02%



VOLTAGE RANGE ..... 200 to 1,000 vdc.
CAPACITANCE RANGE ..... TAG, TACM — .001 to 1.0 mfd
TAC — 1 mfd and above.

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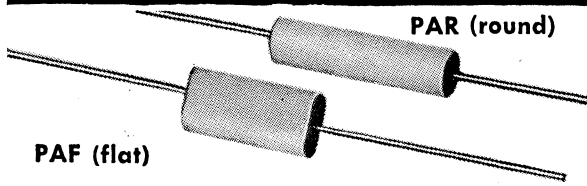
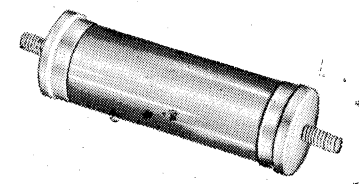
PLASTICON POLYSTYRENE CAPACITORS LOW COST—HIGH QUALITY



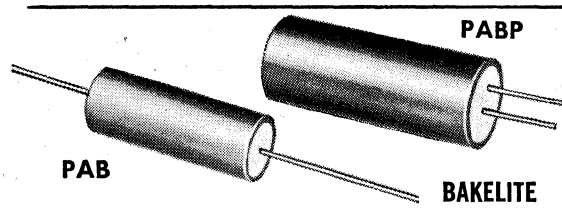
MINIATURE UNCASED

CAPACITANCE RANGE	.0001 mfd to 1.0 mfd.
VOLTAGE RANGE	100 to 600 vdc.
INSULATION RESISTANCE	1 x 10^{14} ohms.



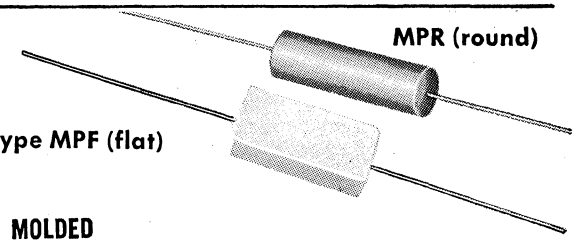
GLASS ENCAPSULATED

CAPACITANCE RANGE	.001 to 1.0 mfd.
VOLTAGE RANGE	100 to 1,000 vdc.



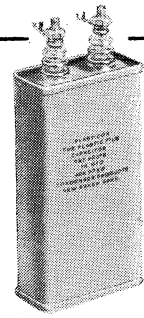
BAKELITE ENCASED

CAPACITANCE RANGE	.0001 mfd to 1.0 mfd.
VOLTAGE RANGE	100 to 600 vdc.



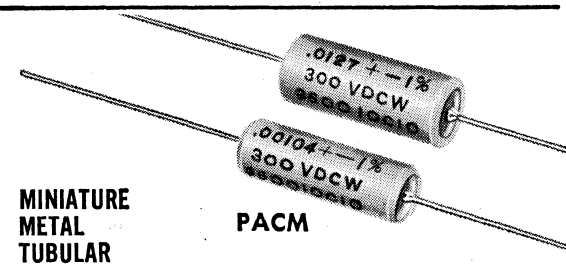
MOLDED

CAPACITANCE RANGE	.0001 mfd to 1.0 mfd.
VOLTAGE RANGE	100 to 600 vdc.



CP-70 TYPE CANS

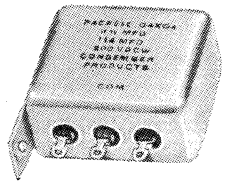
CAPACITANCE RANGE	0.5 mfd to 25 mfd.
VOLTAGE RANGE	100 to 1,000 vdc.



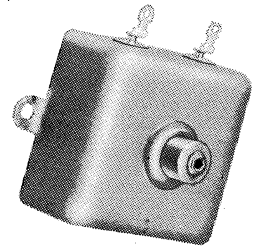
MINIATURE METAL TUBULAR

CAPACITANCE RANGE	.0001 mfd to 1.0 mfd.
VOLTAGE RANGE	100 to 1,600 vdc.

BATH TUB TYPE CANS



PACBA (adjustable)
Adjustable ±1½%.



PACB (fixed)

CAPACITANCE RANGE	0.5 mfd to 10.0 mfd.
VOLTAGE RANGE	100 to 600 vdc.

CHARACTERISTICS

Dielectric absorption	.05%
Insulation resistance @ 25°C.	1 x 10^{12} ohms
Power factor @ 1 KC	.05% maximum
Stability	to 0.1% per cycle
Temperature coefficient	—100 p.p.m./degree C.
Temperature range	—55°C. to 85°C.
Tolerance available	±1%, 2%, 5%. Others on request.

PRICES AND SAMPLES UPON REQUEST.

CONDENSER PRODUCTS

Division of New Haven Clock and Watch Company
New Haven 4, Connecticut

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Plastic Capacitors, Inc.

CHICAGO 47, ILL

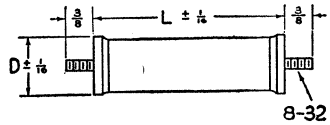
Mfrs. of
- Plastic Film Capacitors
- Pulse Forming Networks
- High Voltage Power Supplies
- Paper Dielectric

GLASSCAPS DC FILTER TYPES

ORLITE TYPE OF

Derated to 70% Nameplate Voltage for 85° C. Operation

Voltage Rated for Operation at 65° C.



ORLITE TYPE OG

Voltage Rated for Operation at 85° C.

Part Number	Capacity MFD	Volts DC	Dimensions Lgth.	Dia.	List Price
OF20-502	.005	2000	1 3/16	19/32	$ 2.05
OF20-103	.01	2000	1 3/16	19/32	2.25
OF20-203	.02	2000	1 3/16	19/32	2.40
OF20-503	.05	2000	1 3/4	3/4	2.70
OF20-104	0.1	2000	2 1/4	3/4	3.05
OF20-254	0.25	2000	2 3/4	29/32	3.50
OF30-502	.005	3000	1 3/16	19/32	5.10
OF30-103	.01	3000	1 3/16	19/32	5.30
OF30-203	.02	3000	1 3/4	3/4	5.50
OF30-503	.05	3000	2 1/4	3/4	5.70
OF30-104	0.1	3000	1 3/4	1 1/8	6.00
OF30-254	0.25	3000	2	1 3/8	6.60
OF40-502	.005	4000	1 3/16	19/32	5.90
OF40-103	.01	4000	1 3/16	3/4	6.10
OF40-203	.02	4000	1 3/4	3/4	6.40
OF40-503	.05	4000	2	13/16	6.50
OF40-104	0.1	4000	2	1 1/8	7.40
OF40-254	0.25	4000	2 1/4	1 5/8	8.10
OF50-502	.005	5000	1 5/8	19/32	6.50
OF50-103	.01	5000	1 3/4	3/4	6.80
OF50-203	.02	5000	2 1/4	3/4	7.20
OF50-503	.05	5000	2 1/4	29/32	7.60
OF50-104	0.1	5000	2 1/4	1 3/8	8.50
OF50-254	0.25	5000	3	1 5/8	9.40
OF80-202	.002	8000	1 3/4	19/32	6.80
OF80-502	.005	8000	1 3/4	3/4	7.00
OF80-103	.01	8000	2 1/4	3/4	7.50
OF80-203	.02	8000	2 3/4	29/32	8.60
OF80-503	.05	8000	2 3/4	1 3/8	11.00
OF80-104	0.1	8000	3 5/8	1 5/8	12.50
OF100-102	.001	10 KV	1 5/8	19/32	7.20
OF100-202	.002	10 KV	1 5/8	3/4	7.40
OF100-502	.005	10 KV	1 3/4	13/16	8.50
OF100-103	.01	10 KV	2 1/4	29/32	9.20
OF100-203	.02	10 KV	2 3/4	1 1/8	11.40
OF100-503	.05	10 KV	2 3/4	1 5/8	14.60
OF100-603	.06	10 KV	3	1 5/8	15.50
OF150-102	.001	15 KV	2 1/4	3/4	13.80
OF150-202	.002	15 KV	2 1/4	3/4	14.60
OF150-502	.005	15 KV	2 3/4	1 1/8	17.00
OF150-103	.01	15 KV	3 3/4	1 1/8	20.00
OF150-203	.02	15 KV	4 1/4	1 3/8	22.00
OF150-503	.05	15 KV	7	1 5/8	26.00
OF200-501	.0005	20 KV	3 1/2	19/32	18.00
OF200-102	.001	20 KV	3 1/2	3/4	19.00
OF200-202	.002	20 KV	3 1/2	13/16	21.00
OF200-502	.005	20 KV	3 1/2	1 1/8	22.50
OF200-103	.01	20 KV	4 1/2	1 1/8	24.00
OF200-203	.02	20 KV	4 1/2	1 5/8	27.00
OF300-201	.0002	30 KV	4 9/16	19/32	21.00
OF300-501	.0005	30 KV	4 9/16	29/32	21.00
OF300-102	.001	30 KV	5	3/4	23.50
OF300-202	.002	30 KV	5	29/32	26.00
OF300-502	.005	30 KV	5	1 3/8	28.00
OF300-103	.01	30 KV	6 1/2	1 5/8	35.00
OF400-101	.0001	40 KV	5 3/4	3/4	22.50
OF400-201	.0002	40 KV	5 3/4	3/4	22.50
OF400-501	.0005	40 KV	5 3/4	3/4	22.50
OF400-102	.001	40 KV	6 1/2	13/16	26.00
OF400-202	.002	40 KV	6 1/2	1 1/8	28.00
OF400-502	.005	40 KV	6 1/2	1 5/8	33.00
OF500-101	.0001	50 KV	8 1/4	3/4	23.50
OF500-201	.0002	50 KV	8 1/4	3/4	23.50
OF500-501	.0005	50 KV	8 1/4	3/4	24.50
OF500-102	.001	50 KV	8 1/4	13/16	28.00
OF500-202	.002	50 KV	8 1/4	1 1/8	31.50
OF500-502	.005	50 KV	10 3/4	1 3/8	36.00
OF600-101	.0001	60 KV	10	3/4	24.50
OF600-201	.0002	60 KV	10	3/4	24.50
OF600-501	.0005	60 KV	10	3/4	28.00
OF600-102	.001	60 KV	10	29/32	34.00
OF600-202	.002	60 KV	10	1 3/8	36.50
OF600-502	.005	60 KV	11 1/2	1 5/8	41.50

Part Number	Capacity MFD	Volts DC	Dimensions Lgth.	Dia.	List Price
OG6-103	.01	600	1 3/16	19/32	$ 1.50
OG6-203	.02	600	1 3/16	19/32	1.60
OG6-503	.05	600	1 3/16	19/32	1.75
OG6-104	0.1	600	1 3/4	3/4	1.95
OG6-254	0.25	600	1 3/4	29/32	2.30
OG6-504	0.5	600	2 3/4	29/32	2.60
OG10-103	.01	1000	1 3/16	19/32	1.60
OG10-203	.02	1000	1 3/16	19/32	1.70
OG10-503	.05	1000	1 3/4	3/4	1.85
OG10-104	0.1	1000	1 3/4	3/4	2.15
OG10-254	0.25	1000	2	29/32	2.50
OG15-103	.01	1500	1 3/16	19/32	2.25
OG15-203	.02	1500	1 3/4	19/32	2.50
OG15-503	.05	1500	1 3/4	3/4	2.70
OG15-104	0.1	1500	1 3/4	29/32	3.20
OG15-254	0.25	1500	2 1/4	1 1/8	3.60
OG20-103	.01	2000	1 3/16	19/32	5.20
OG20-203	.02	2000	1 3/4	3/4	5.40
OG20-503	.05	2000	1 3/4	29/32	5.60
OG20-104	0.1	2000	1 3/4	1 1/8	6.00
OG20-254	0.25	2000	2	1 3/8	6.50
OG25-502	.005	2500	1 3/16	19/32	5.30
OG25-103	.01	2500	1 3/16	19/32	5.60
OG25-203	.02	2500	1 3/4	3/4	5.80
OG25-503	.05	2500	2	13/16	6.00
OG25-104	0.1	2500	2	1 1/8	6.50
OG25-254	0.25	2500	2 1/4	1 5/8	7.00
OG30-502	.005	3000	1 5/8	19/32	5.70
OG30-103	.01	3000	1 3/4	3/4	6.00
OG30-203	.02	3000	2 1/4	3/4	6.20
OG30-503	.05	3000	2 1/4	29/32	6.30
OG30-104	0.1	3000	2 1/4	1 3/8	7.00
OG30-254	0.25	3000	3	1 5/8	7.60

POLYSTYRENE TYPE PG

The Finest Capacitor for Computers and Standards

Part Number	Capacity MFD	Volts DC	Dimensions Lgth.	Dia.	List Price
PG1-103	.01	100	1	19/32	$ 4.60
PG1-203	.02	100	1	19/32	4.60
PG1-503	.05	100	1 3/4	19/32	6.30
PG1-104	0.1	100	1 3/4	3/4	8.30
PG1-254	0.25	100	1 3/4	29/32	10.50
PG1-504	0.5	100	2 1/2	1 1/8	12.60
PG1-105	1.0	100	3 1/2	1 3/8	15.30
PG2-502	.005	200	1	3/4	5.30
PG2-103	.01	200	1	3/4	5.30
PG2-203	.02	200	1	3/4	5.30
PG2-503	.05	200	1	29/32	7.50
PG2-104	0.1	200	1 3/4	29/32	9.20
PG2-254	0.25	200	1 3/4	1 3/8	11.50
PG2-504	0.5	200	2 1/2	1 3/8	13.20
PG4-502	.005	400	1	3/4	6.30
PG4-103	.01	400	1	3/4	6.30
PG4-203	.02	400	1	13/16	7.60
PG4-503	.05	400	1 3/4	29/32	9.60
PG4-104	0.1	400	2 1/2	1 1/8	12.00
PG4-254	0.25	400	3 1/2	1 3/8	14.50
PG6-102	.001	600	1	3/4	6.30
PG6-202	.002	600	1	3/4	6.30
PG6-502	.005	600	1	3/4	6.30
PG6-103	.01	600	1	3/4	6.80
PG6-203	.02	600	1	29/32	8.00
PG6-503	.05	600	1 1/2	1 1/8	10.60
PG6-104	0.1	600	1 1/2	1 3/8	13.20
PG10-102	.001	1000	1	19/32	7.60
PG10-202	.002	1000	1	3/4	8.60
PG10-502	.005	1000	1 3/4	3/4	9.80
PG10-103	.01	1000	1 3/4	13/16	10.60
PG10-203	.02	1000	1 3/4	29/32	11.60
PG10-503	.05	1000	3 1/2	29/32	12.40
PG10-104	0.1	1000	3 1/2	1 1/8	13.30
PG10-204	0.2	1000	3 1/2	1 3/8	14.40

THE ABOVE ARE PARTIAL LISTINGS. OTHER VOLTAGES AND CAPACITANCES ARE AVAILABLE.

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

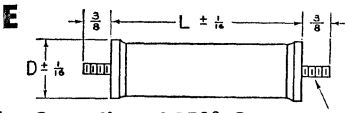
Plastic Capacitors, Inc.

CHICAGO 47, ILL

Mfrs. of
- Plastic Film Capacitors
- Pulse Forming Networks
- High Voltage Power Supplies
- Paper Dielectric

RF AND PULSE GLASSCAPS

TRYLAR TYPE TF



8-32

Voltage Rated for Operation at 150° C.

Part Number	Capacity MFD	Volts DC	Peak Pulse Volts	Dimensions Lgth.	Dia.	List Price
TF40-501	.0005	4000	3500	1 5/8	19/32	$13.10
TF40-102	.001	4000	3500	1 5/8	3/4	13.10
TF40-202	.002	4000	3500	1 5/8	13/16	14.20
TF40-502	.005	4000	3500	1 5/8	1 1/8	15.40
TF40-103	.01	4000	3500	2 1/8	1 1/8	21.10
TF40-203	.02	4000	3500	2 1/8	1 5/8	24.20
TF60-101	.0001	6000	5000	2 1/8	3/4	15.20
TF60-201	.0002	6000	5000	2 1/8	3/4	15.20
TF60-501	.0005	6000	5000	2 1/8	3/4	15.20
TF60-102	.001	6000	5000	2 1/8	3/4	15.20
TF60-202	.002	6000	5000	2 1/8	13/16	16.80
TF60-502	.005	6000	5000	2 1/8	1 3/8	18.60
TF60-103	.01	6000	5000	2 5/8	1 3/8	24.10
TF80-101	.0001	8000	7000	2 7/8	3/4	16.10
TF80-201	.0002	8000	7000	2 7/8	3/4	16.10
TF80-501	.0005	8000	7000	2 7/8	3/4	16.10
TF80-102	.001	8000	7000	2 7/8	13/16	21.20
TF80-202	.002	8000	7000	2 7/8	1 1/8	22.40
TF80-502	.005	8000	7000	2 7/8	1 5/8	29.00
TF80-103	.01	8000	7000	3 7/8	1 1/8	36.90
TF120-101	.0001	12 KV	10 KV	3 1/8	3/4	16.90
TF120-201	.0002	12 KV	10 KV	3 1/8	3/4	16.90
TF120-501	.0005	12 KV	10 KV	3 1/8	13/16	16.90
TF120-102	.001	12 KV	10 KV	3 1/8	29/32	22.50
TF120-202	.002	12 KV	10 KV	3 7/8	1 1/8	29.70
TF120-502	.005	12 KV	10 KV	4 7/8	1 3/8	40.20
TF180-101	.0001	18 KV	15 KV	4 1/4	3/4	18.00
TF180-201	.0002	18 KV	15 KV	4 1/4	3/4	18.00
TF180-501	.0005	18 KV	15 KV	4 1/4	1 1/8	25.20
TF180-102	.001	18 KV	15 KV	5 3/4	1 1/8	35.20
TF180-202	.002	18 KV	15 KV	5 3/4	1 3/8	44.10

HYLON TYPE HG - Voltage Rated for Operation at 65° C.

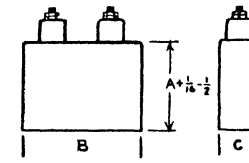
Part Number	Capacity MFD	Volts DC	Peak Pulse Volts	Dimensions Lgth.	Dia.	List Price
HG25-103	.01	2500	1500	1	1 1/8	$ 6.50
HG25-203	.02	2500	1500	1 1/2	1 1/8	7.10
HG25-503	.05	2500	1500	2	1 5/8	8.60
HG25-104	0.1	2500	1500	2 1/2	1 5/8	11.40
HG35-502	.005	3500	2500	1	1 1/8	7.50
HG35-103	.01	3500	2500	1	1 5/8	8.10
HG35-203	.02	3500	2500	1 1/2	1 5/8	8.50
HG35-503	.05	3500	2500	2 1/2	1 5/8	11.60
HG50-502	.005	5000	3000	2	1 1/8	10.50
HG50-103	.01	5000	3000	2	1 3/8	11.50
HG50-203	.02	5000	3000	3	1 3/8	12.50
HG50-503	.05	5000	3000	6	1 3/8	18.50
HG70-202	.002	7000	5000	2	29/32	11.00
HG70-502	.005	7000	5000	2	1 5/8	14.20
HG70-103	.01	7000	5000	4	1 1/8	17.00
HG70-203	.02	7000	5000	4	1 5/8	18.60
HG100-102	.001	10 KV	7000	3	29/32	12.00
HG100-202	.002	10 KV	7000	3	1 1/8	13.50
HG100-502	.005	10 KV	7000	6	1 1/8	21.00
HG100-103	.01	10 KV	7000	6	1 3/8	24.00
HG140-102	.001	14 KV	10 KV	4	29/32	15.30
HG140-202	.002	14 KV	10 KV	4	1 3/8	20.00
HG140-502	.005	14 KV	10 KV	8	1 1/8	24.00
HG140-103	.01	14 KV	10 KV	8	1 5/8	27.00
HG200-201	.0002	20 KV	15 KV	5 3/4	3/4	17.00
HG200-501	.0005	20 KV	15 KV	5 3/4	29/32	20.00
HG200-102	.001	20 KV	15 KV	5 3/4	1 1/8	22.50
HG200-202	.002	20 KV	15 KV	5 3/4	1 5/8	24.50
HG250-201	.0002	25 KV	20 KV	7 1/4	3/4	20.00
HG250-501	.0005	25 KV	20 KV	7 1/4	29/32	25.00
HG250-102	.001	25 KV	20 KV	7 1/4	1 3/8	31.00
HG250-202	.002	25 KV	20 KV	7 1/4	1 5/8	35.00

OTHER VOLTAGES AND CAPACITANCES ARE AVAILABLE

STANDARD POWER PACKS

Model	Output KV	Output ma	Case Size Wdth.	Lgth.	Ht.	Net Price
HV50-502	0 to 5.0	5.0	4 3/8	6 5/8	6	$ 89.00
HV100-102	0 to 10	1.0	5	7 1/2	5 1/2	100.00
HV100-502	0 to 10	5.0	6	8 1/4	6 1/2	109.00
HV150-102	0 to 15	1.0	5	7 1/2	5 1/2	108.00
HV150-502	0 to 15	5.0	6	8 1/4	5 1/2	118.00
HV200-102	0 to 20	1.0	5	7 1/2	5 1/2	126.00
HV200-502	0 to 20	5.0	7	10 1/4	7 3/4	171.00
HV300-102	0 to 30	1.0	6 3/4	8 3/4	6	180.00
HV300-502	0 to 30	5.0	7	10 1/4	7 3/4	210.00
HV500-502	0 to 50	5.0	11	12 1/2	12 1/2	425.00
HV600-202	0 to 60	2.0	11	12 1/2	12 1/2	475.00
HV750-202	0 to 75	2.0	11 1/2	19	13 1/2	750.00

CP 70 STYLE CONTAINER



ORLITE TYPE OE

Voltage Rated for Operation at 65° C.

Part Number	Volts DC	Capacity MFD	Case Size A	B	C	List Price
OE20-105	2000	1.0	2 5/8	2 1/2	1 3/16	$ 7.00
OE20-205	2000	2	3 7/8	2 1/2	1 3/16	8.10
OE20-405	2000	4	3 1/2	3 3/4	1 3/4	11.00
OE20-605	2000	6	4 3/4	3 3/4	1 3/4	15.50
OE30-105	3000	1.0	3 3/4	2 1/2	1 3/16	14.50
OE30-205	3000	2	4 3/8	3 3/4	1 1/4	18.40
OE30-405	3000	4	4 5/8	3 3/4	2 1/4	25.50
OE30-605	3000	6	3 3/8	4 9/16	3 3/4	45.00
OE40-105	4000	1.0	3 3/4	3 3/4	1 1/4	31.00
OE40-205	4000	2	4 3/8	3 3/4	1 3/4	38.50
OE40-405	4000	4	3 3/4	4 9/16	3 3/4	54.20
OE40-605	4000	6	4 7/8	4 9/16	3 3/4	69.80
OE50-105	5000	1.0	3 5/8	3 3/4	1 3/4	35.00
OE50-205	5000	2	4 3/4	3 3/4	2 1/4	44.30
OE50-405	5000	4	4 5/8	4 9/16	3 3/4	67.00
OE50-605	5000	6	6 3/4	4 9/16	3 3/4	94.00
OE60-105	6000	1.0	5	3 3/4	2 1/4	49.00
OE60-205	6000	2	5	4 9/16	3 3/4	65.00
OE60-405	6000	4	8 1/2	4 9/16	3 3/4	94.00
OE60-605	6000	6	9 1/4	8	4	130.00
OE75-105	7500	1.0	5	3 3/4	3 3/16	58.00
OE75-205	7500	2	7	4 9/16	3 3/4	78.00
OE75-405	7500	4	9 1/4	8	4	118.00
OE75-605	7500	6	7	13 1/2	4 1/4	157.00
OE100-105	10 KV	1.0	5 1/8	4 9/16	3 3/4	82.00
OE100-205	10 KV	2	9	4 9/16	3 3/4	105.00
OE100-405	10 KV	4	11	8	4	140.00
OE100-605	10 KV	6	9 1/4	13 1/2	4 1/4	178.00
OE150-254	15 KV	0.25	4 3/4	3 3/4	3 3/16	72.00
OE100-504	15 KV	0.5	7 5/8	4 9/16	3 3/4	116.00
OE150-105	15 KV	1.0	7	8	4	158.00
OE150-205	15 KV	2	13 1/8	13 1/2	4 1/4	189.00

POLYSTYRENE TYPE PC

The Finest Capacitor for Computers and Standards

Part Number	Volts DC	Capacity MFD	Case Size A	B	C	List Price
PC1-504	100	0.5	2 1/8	1 3/4	1	$ 8.10
PC1-105	100	1.0	3	1 3/4	1	10.00
PC1-205	100	2	3	2 1/2	1 3/16	14.40
PC1-405	100	4	4	3 3/4	1 3/4	18.50
PC1-505	100	5	5 1/4	3 3/4	1 1/4	21.70
PC1-605	100	6	4	3 3/4	1 3/4	24.80
PC2-504	200	0.5	2 1/8	1 3/4	1	8.30
PC2-105	200	1.0	4	1 3/4	1	10.20
PC2-205	200	2	3	3 3/4	1 1/4	14.70
PC2-405	200	4	4	3 3/4	1 3/4	18.50
PC2-505	200	5	4	3 3/4	1 3/4	21.50
PC2-605	200	6	4	3 3/4	2 1/4	24.50
PC2-805	200	8	4	3 3/4	3 3/16	29.00
PC2-106	200	10	4	4 9/16	3 3/4	33.00
PC4-254	400	0.25	3	1 3/4	1	11.00
PC4-504	400	0.5	3	2 1/2	1 3/16	11.50
PC4-105	400	1.0	4	3 3/4	1 1/4	15.00
PC4-205	400	2	4	3 3/4	1 3/4	23.00
PC4-405	400	4	4	3 3/4	3 3/16	35.80
PC4-505	400	5	5 1/4	3 3/4	3 3/16	42.50
PC4-605	400	6	7 1/4	3 3/4	3 3/16	49.30
PC6-254	600	0.25	4	1 3/4	1	11.00
PC6-504	600	0.5	4	2 1/2	1 3/16	11.50
PC6-105	600	1.0	4 1/4	3 3/4	1 1/4	15.00
PC6-205	600	2	4 1/4	3 3/4	2 1/4	22.50
PC6-405	600	4	4 1/4	4 9/16	3 3/4	35.00
PS6-505	600	5	7 3/4	3 3/4	3 3/16	42.00
PC10-104	1000	0.1	2 1/8	1 3/4	1	9.70
PC10-254	1000	0.25	4	1 3/4	1	11.40
PC10-504	1000	0.5	4	2 1/2	1 3/16	15.30
PC10-105	1000	1.0	4	3 3/4	1 3/4	22.10
PC10-205	1000	2	4	3 3/4	3 3/16	34.70
PC10-405	1000	4	7 1/4	3 3/4	3 3/16	58.50

THE ABOVE ARE PARTIAL LISTINGS. OTHER VOLTAGES AND CAPACITIES ARE AVAILABLE.

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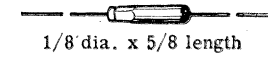
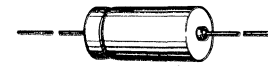
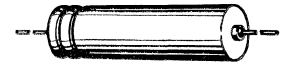
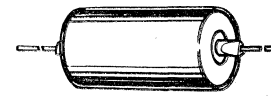
Barco, Inc. MILWAUKEE 1, WISCONSIN

	CATALOG NO.	CAPACITY -20% + 60%	WORKING VOLTAGE	LIST PRICE	BODY SIZE (actual) Tolerances: Dia. ± 1/64, length ± 1/32 Leads: 1-1/8 in. minimum.
TYPE 0	*P3-1.25 *P6-1 *P12-1 P25-.4 P70-.15	1-1/4 mfd. 1 mfd. 1 mfd. 4/10 mfd. 15/100 mfd.	**3** v dc **6** v dc **12** v dc **25** v dc **70** v dc	$1.00	 1/8 dia. x 15/32 length
TYPE 1/2	PT1.5-6 *PT4-4 *PT8-2 PT12-1 PT25-.25	6 mfd. 4 mfd. 2 mfd. 1 mfd. 1/4 mfd.	**1½** v dc **4** v dc **8** v dc **12** v dc **25** v dc	$1.00	 1/8 dia. x 5/8 length
TYPE 3/4	*PX3-10I *PX6-8I *P12-5I *PX25-2.5I	10 mfd. 8 mfd. 5 mfd. 2.5 mfd.	**3** v dc **6** v dc **12** v dc **25** v dc	85¢	 11/64 dia. x 15/32 length
TYPE I	*PS3-10*I* P6-8 PS8-5*I* *PS12-3*I* PS20-2*I* *P25-2.5I P70-1	10 mfd. 8 mfd. 5 mfd. 3 mfd. 2 mfd. 2-1/2 mfd. 1 mfd.	**3** v dc **6** v dc **8** v dc **12** v dc **20** v dc **25** v dc **70** v dc	70¢	① 11/64 dia. x 9/16 length ① ① ① Body size is 11/64 x 3/4 in.
TYPE IA	*PT6-2 PT6-4 PT6-8 PT12-2	2 mfd. 4 mfd. 8 mfd. 2 mfd.	**6** v dc **6** v dc **6** v dc **12** v dc	70¢	 ② 11/64 dia. x 9/16 length ② Body size is 13/64 x 11/16 in.
TYPE II	PT3-32*I* *P3-40I *P6-25 P9-20*I* *P12-16 *P25-8I *P40-5 *P70-3	32 mfd. 40 mfd. 25 mfd. 20 mfd. 16 mfd. 8 mfd. 5 mfd. 3 mfd.	**3** v dc **3** v dc **6** v dc **9** v dc **12** v dc **25** v dc **40** v dc **70** v dc	75¢	③ 1/4 dia. x 3/4 length ③ Body size is 1/4 x 11/16 in.
TYPE III	*P3-100 *P6-80I *P12-50 *P25-25 P40-16 *P70-10I	100 mfd. 80 mfd. 50 mfd. 25 mfd. 16 mfd. 10 mfd.	**3** v dc **6** v dc **12** v dc **25** v dc **40** v dc **70** v dc	$1.00	 23/64 dia. x 3/4 length
TYPE IV	P6-160 *P25-50 P40-30 P70-20	160 mfd. 50 mfd. 30 mfd. 20 mfd.	**6** v dc **25** v dc **40** v dc **70** v dc	$1.25	 23/64 dia. x 1-9/32 length
TYPE V	P150-8*I*	8 mfd.	**150** v dc	$1.25	 1/2 dia. x 1 length

* Indicates fastest selling items which should be stocked heavily.
I Designates insulated covering available; add I to catalog number if desired (*I* insulated only).

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

ALL METAL RESIST-O-CABINETS

RESIST-O-CABINETS and RESIST-O-KITS

In 4 popular resistor assortments including ranges most widely used in TV (shown by asterisk*).

4 "non-spill" drawers with 28 identified compartments. Attractive blue, yellow and silver finish. Designed for stacking. Cabinets measure 5⅜" x 5$\frac{15}{16}$" x 10⅞".

½ WATT ASSORTMENT #4

100 BW-½ and BTS ½ Watt Resistors. **List Price $17.00.**

QUANTITY	RANGE
2	47 ohms
3	100 ohms
2	220 ohms
2	270 ohms
3	470 ohms*
6	1,000 ohms*
2	1,500 ohms
2	2,200 ohms*
2	2,700 ohms*
3	3,300 ohms*
5	4,700 ohms*
5	10K ohms*
3	22K ohms*
3	27K ohms*
3	33K ohms*
6	47K ohms*
2	56K ohms*
2	68K ohms*
6	100K ohms*
5	220K ohms*
6	270K ohms*
3	330K ohms*
6	470K ohms*
6	1.0 meg*
5	2.2 meg*
2	3.3 meg
3	4.7 meg*
2	10.0 meg

1 WATT ASSORTMENT #5

83 BW-1 and BTA 1 Watt Resistors. **List Price $20.75.**

QUANTITY	RANGE
2	47 ohms
2	100 ohms
2	150 ohms
2	220 ohms
2	270 ohms
2	470 ohms
5	1,000 ohms*
2	1,500 ohms
3	2,200 ohms
2	2,700 ohms
2	3,300 ohms*
3	4,700 ohms*
5	10K ohms*
2	15K ohms*
3	22K ohms*
5	27K ohms*
2	33K ohms*
2	39K ohms*
5	47K ohms*
2	68K ohms*
5	100K ohms*
2	150K ohms
2	220K ohms
5	270K ohms
5	470K ohms
5	1.0 meg*
2	2.2 meg
2	4.7 meg

2 WATT ASSORTMENT #3

80 BW-2 and BTB 2 Watt Resistors. **List Price $26.40**

QUANTITY	RANGE
2	4.7
2	10
1	15
2	22
1	27
1	39
1	33
3	47
2	68
3	82
4	100
3	150
3	220
3	270
4	330
2	470*
3	1000*
2	1500*
2	2200*
2	3300*
1	3900*
2	4700
3	6800*
4	8200*
4	10K*
3	15K*
4	22K*
2	27K*
4	47K*
3	100K*
1	220K
1	470K
2	1.0 Meg*

COMBINATION ASSORTMENT #6

91 Insulated Resistors and Type DCF Tolerance Precistors. **List Price $23.54.**

RANGE	½ WATT	1 WATT	2 WATT	DCF
47 ohms	1	1	1	—
100 ohms	1	1	1	—
150 ohms	1	1	—	—
220 ohms	1	1	—	—
270 ohms	1	1	—	—
470 ohms	1*	1	1	—
1,000 ohms	3*	2*	—	1
1,500 ohms	1	1	—	—
2,200 ohms	1*	1	—	—
2,700 ohms	1*	1	—	—
3,300 ohms	1*	1*	—	—
4,700 ohms	2*	1*	1	—
10K ohms	2*	2*	1*	1
15K ohms	1	1*	—	—
22K ohms	1*	1*	1*	—
27K ohms	1*	2*	—	—
33K ohms	1*	1*	—	—
39K ohms	1	1*	—	—
47K ohms	3*	2*	1*	—
68K ohms	1*	1*	—	—
100K ohms	3*	2*	—	1
150K ohms	1	1	—	—
220K ohms	2*	1	—	—
270K ohms	3*	1	—	—
470K ohms	3*	2	—	—
1.0 meg	3*	2*	—	1
2.2 meg	2*	1	—	—
4.7 meg	1*	1	—	—
5.0 meg	—	—	—	1

RESIST-O-KITS

ALL METAL

Handy pocket-size metal kit of ½ or 1 watt BT Resistors. 10 compartments; lid snaps securely shut. Ranges marked on each resistor in Kit. Ideal for service calls. **List Price $7.50**

½ WATT ASSORTMENT #7

45 BTS ½ Watt Resistors

*indicates popular TV ranges.

QUANTITY	RANGE
4	1,000 ohms*
3	4,700 ohms*
4	10K ohms*
5	47K ohms*
6	100K ohms*
3	220K ohms*
5	270K ohms*
6	470K ohms*
5	1.0 meg*
4	2.2 meg*

1 WATT ASSORTMENT #8

30 BTA 1 Watt Resistors

*indicates popular TV ranges.

QUANTITY	RANGE
4	1,000 ohms*
2	2,200 ohms
2	4,700 ohms*
3	10K ohms*
2	27K ohms*
4	47K ohms*
4	100K ohms
2	270K ohms
4	470K ohms
3	1.0 meg*

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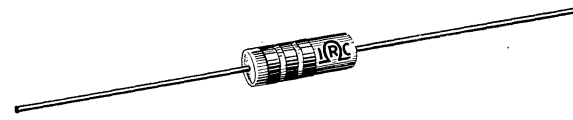
INSULATED RESISTORS

TYPE BT FIXED COMPOSITION CARBON RESISTORS



More IRC Filament Type BT Resistors are used in the electronic industry than any other brand of fixed composition resistors. For original equipment, IRC BT's are by far the leading choice of Electronic Engineers. For replacement, Service Technicians favor IRC BT's over all other brands combined.

IRC's exclusive filament-type resistance element is combined with superior construction features to provide a stable resistor of extremely low operating temperature and excellent power dissipation in a compact, light weight, fully insulated unit.

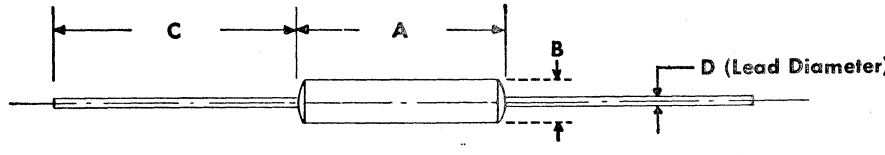
COLOR CODING AND STAMPING

Resistance values are clearly indicated by standard RETMA Color Code. All resistors in Distributor Packages, except BTR, are individually stamped with value and wattage.

IRC TYPE NUMBER	BTR	BTS	BTA	BTB	BW-½	BW-1	BW-2
Element Style	Carbon Filament	Carbon Filament	Carbon Filament	Carbon Filament	Wire Wound	Wire Wound	Wire Wound
Equivalent MIL TYPE	RC09	RC20	RC30	RC41	RU3 Max. 470 ohms	RU4 Max. 2200 ohms	RU6 Max. 3300 ohms
MIL CHARACTERISTICS	BF, GF	BF, GF GF	BF, GF	BF, GF	B	B	
Rating in Watts 70° Ambient—BT 40° Ambient—BW	¼	½	1	2	½	1	2
Minimum Resistance	10 Ohms	10 Ohms	10 Ohms	100 Ohms	0.24 Ohm	0.47 Ohm	1.0 Ohm
Maximum Resistance	22 Meg.	22 Meg.	22 Meg.	22 Meg.	820 Ohms	5100 Ohms	8200 Ohms
Rated Voltage	250V	350V	500V	500V			
Dimensions (Fig. 1)							
A—Body Length	13/32"	13/32"	33/32"	1¼"	5/8"	1¼"	1¾"
B—Body Diameter	3/32"	⅛"	¼"	¼"	3/16"	¼"	21/64"
C—Lead Length	1½±⅛"	1½±⅛"	1½±⅛"	1½±⅛"	1½±⅛"	1½±⅛"	1½±⅛"
D—Lead Diameter	.028"	.032"	.040"	.043"	.032"	.036"	.036"
List Price							
10% Tolerance	$0.20	$0.20	$0.30	$0.38	$0.20	$0.30	$0.38
5% Tolerance	$0.38	$0.38	$0.58	$0.75	$0.38	$0.58	$0.75

NOTE: Consult your IRC Distributor for prices in lots of 100 and over per item.

Figure 1
Dimensions



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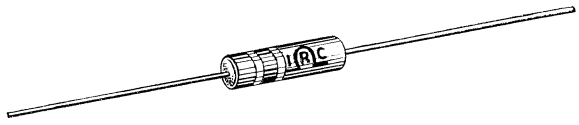
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TYPE BW INSULATED WIRE WOUND RESISTORS



Type BW's are exceptionally stable, inexpensive wire wound resistors for low range requirements. These small, completely insulated units are similar in appearance to insulated composition resistors but are readily identified by the double width of the first color code band.

The wire element is uniformly and tightly wound on an insulated core. Tinned, solid wire leads are keyed to the element by a specially designed terminal. Leads are anchored inside the insulation and cannot turn or pull loose.

IRC INSULATED RESISTORS

STANDARD STOCK VALUES

BT and BW Insulated Resistors are available in RETMA Ranges within the maximum and minimum values for each type. Stock values are listed below.

STANDARD VALUES AT ±10% TOLERANCE

OHM	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	MEGS	MEGS
—	1.0	10	100	1,000	10K	100K	1.0	10
—	1.2	12	120	1,200	12K	120K	1.2	12
—	1.5	15	150	1,500	15K	150K	1.5	15
—	1.8	18	180	1,800	18K	180K	1.8	18
—	2.2	22	220	2,200	22K	220K	2.2	22
0.27	2.7	27	270	2,700	27K	270K	2.7	—
0.33	3.3	33	330	3,300	33K	330K	3.3	—
0.39	3.9	39	390	3,900	39K	390K	3.9	—
0.47	4.7	47	470	4,700	47K	470K	4.7	—
0.56	5.6	56	560	5,600	56K	560K	5.6	—
0.68	6.8	68	680	6,800	68K	680K	6.8	—
0.82	8.2	82	820	8,200	82K	820K	8.2	—

STANDARD VALUES AT ±5% TOLERANCE

OHM	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	MEGS	MEGS
—	1.0	10	100	1,000	10K	100K	1.0	10
—	1.1	11	110	1,100	11K	110K	1.1	11
—	1.2	12	120	1,200	12K	120K	1.2	12
—	1.3	13	130	1,300	13K	130K	1.3	13
—	1.5	15	150	1,500	15K	150K	1.5	15
—	1.6	16	160	1,600	16K	160K	1.6	16
—	1.8	18	180	1,800	18K	180K	1.8	18
—	2.0	20	200	2,000	20K	200K	2.0	20
—	2.2	22	220	2,200	22K	220K	2.2	22
0.24	2.4	24	240	2,400	24K	240K	2.4	—
0.27	2.7	27	270	2,700	27K	270K	2.7	—
0.30	3.0	30	300	3,000	30K	300K	3.0	—
0.33	3.3	33	330	3,300	33K	330K	3.3	—
0.36	3.6	36	360	3,600	36K	360K	3.6	—
0.39	3.9	39	390	3,900	39K	390K	3.9	—
0.43	4.3	43	430	4,300	43K	430K	4.3	—
0.47	4.7	47	470	4,700	47K	470K	4.7	—
0.51	5.1	51	510	5,100	51K	510K	5.1	—
0.56	5.6	56	560	5,600	56K	560K	5.6	—
0.62	6.2	62	620	6,200	62K	620K	6.2	—
0.68	6.8	68	680	6,800	68K	680K	6.8	—
0.75	7.5	75	750	7,500	75K	750K	7.5	—
0.82	8.2	82	820	8,200	82K	820K	8.2	—
0.91	9.1	91	910	9,100	91K	910K	9.1	—

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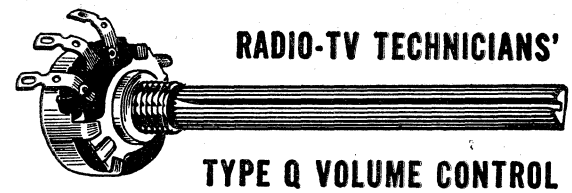
IRC TYPE Q VOLUME CONTROLS



RADIO-TV TECHNICIANS' TYPE Q VOLUME CONTROL

IRC's Type Q Control is the basic control for servicing all sets. It is carefully engineered to meetmostreplacement requirements with a minimum stock. The quality appearance and "cushioned turn" of the Q Control assure customer satisfaction. Easier installation and dependble performance provide more profitable servicing.

¼" LONG BUSHING

Shorter bushing and compact 15/16" design suit Q Controls to all small sets, yet handle large set needs as well.

KNOB MASTER STANDARD FIXED SHAFT

Standard shaft is knurled, flatted and slotted and fits most knobs without alteration. For knurled or spring type push-on knobs, cut to length. For over-size, worn or web type knobs, split shaft slot lengthwise and spread ends. For positioned knobs, bend down control locating pins and rotate control base for correct knob position.

"Q" CONTROLS IN ORDER OF RESISTANCE

Ohms	Tap	Stock No.	T	Ohms	Tap	Stock No.	T
250		Q11-201	A	300K		Q11-131	A
500		Q11-103	A	350K		Q11-132	A
750		Q11-105	A	350K		Q13-132	C
750		Q17-105	P	350K	35K	Q17-132X	S
750	250	Q17-105X	S	350K	75K	Q18-132X	H
1000		Q11-108	A	500K		Q11-133	A
1000		Q17-108	P	500K		Q13-133	C
1500		Q11-109	A	500K		Q14-133	D
1500		Q17-109	Q	500K		Q17-133	Q
2000		Q11-110	A	500K	25K	Q17-133X	S
2000		Q17-110	Q	500K	50K	Q18-133X	S
2000	250-500	Q17-110XX	S	500K	125K	Q13-133X	H
				500K	250K	Q19-133X	S
2500		Q13-111	C	500K	100K-200K	Q18-133XX	S
2500		Q17-111	Q				
3000		Q11-112	A	600K		Q11-134	A
3000		Q17-112	Q	750K		Q11-136	A
5000		Q11-114	A	1.0M		Q11-137	A
5000		Q13-114	C	1.0M		Q13-137	C
5000		Q17-114	Q	1.0M		Q14-137	D
7500		Q11-115	A	1.0M		Q17-137	Q
10K		Q11-116	A	1.0M	35K	Q17-137X	S
10K		Q13-116	C	1.0M	100K	Q18-137X	S
10K		Q14-116	D	1.0M	250K	Q13-137X	H
10K		Q17-116	Q	1.0M	500K	Q19-137X	S
15K	10K	Q13-118X	S	1.0M	500K	QVC-539X	S
15K	5K-10K	Q13-118XX	S	1.0M	50K-100K	Q17-137XX	S
15K	5K	Q17-118X	S	1.0M	250K-500K	Q18-137XX	S
15K	5K-10K	Q17-118XX	S				
20K		Q11-119	A	1.5M		Q11-138	A
20K		Q16-119	S	1.5M	250K	Q13-138X	S
25K		Q11-120	A	2.0M		Q11-139	A
25K		Q13-120	C	2.0M		Q13-139	C
25K		Q14-120	D	2.0M		Q17-139	Q
30K		Q11-121	A	2.0M	50K	Q19-139X	S
35K		Q11-122	A	2.0M	150K	Q17-139X	S
50K		Q11-123	A	2.0M	500K	Q13-139X	H
50K		Q13-123	C	2.0M	1.0M	Q18-139X	S
50K		Q14-123	D	2.0M	250K-500K	Q18-139XX	S
75K		Q11-125	A	2.0M	500K-1M	Q13-139XX	S
100K		Q11-128	A	2.5M		Q11-239	A
100K		Q13-128	C	3.0M		Q11-140	A
125K		Q11-228	A	3.0M		Q13-140	C
150K		Q11-328	A	3.0M		Q17-140	Q
150K		Q13-328	C	3.0M	900K	Q13-140X	S
150K	19K-38K	Q17-328XX	S	3.0M	1.5M	Q18-140X	S
200K		Q11-129	A	5.0M		Q11-141	A
250K		Q11-130	A	5.0M		Q12-141	S
250K		Q13-130	C	5.0M		Q13-141	C
250K	60K	Q18-130X	H	5.0M		Q17-141	Q
250K	125K	Q13-130X	S	7.5M		Q11-142	A
250K	60K-120K	Q18-130XX	S	10.0M		Q11-143	A

"Q" CONTROLS IN ORDER OF STOCK NUMBER

Stock No.	Ohms	Tap	T	Stock No.	Ohms	Tap	T
Q11-103	500		A	Q11-133	500K		A
Q11-105	750		A	Q13-133	500K		C
Q17-105	750		P	Q13-133X	500K	125K	H
Q17-105X	750	250	S	Q14-133	500K		D
Q11-108	1000		A	Q17-133	500K		Q
Q17-108	1000		P	Q17-133X	500K	25K	S
Q11-109	1500		A	Q18-133X	500K	50K	S
Q17-109	1500		Q	Q18-133XX	500K	100K-200K	S
Q11-110	2000		A				
Q17-110	2000		Q	Q19-133X	500K	250K	S
Q17-110XX	2000	250-500	S	Q11-134	600K		A
Q13-111	2500		A	Q11-136	750K		A
Q17-111	2500		Q	Q11-137	1.0M		A
Q11-112	3000		A	Q13-137	1.0M		C
Q17-112	3000		Q	Q13-137X	1.0M		H
Q11-114	5000		A	Q14-137	1.0M		D
Q13-114	5000		C	Q17-137	1.0M		Q
Q17-114	5000		Q	Q17-137X	1.0M	35K	S
Q11-115	7500		A	Q17-137XX	1.0M	50K-100K	S
Q11-116	10K		A	Q18-137X	1.0M	100K	S
Q13-116	10K		C	Q18-137XX	1.0M	250K-500K	S
Q14-116	10K		D				
Q17-116	10K		Q	Q19-137X	1.0M	500K	S
Q13-118X	15K	10K	S	Q11-138	1.5M		A
Q13-118XX	15K	5K-10K	S	Q13-138X	1.5M	250K	S
Q17-118X	15K	5K	S	Q11-139	2.0M		A
Q17-118XX	15K	5K-10K	S	Q13-139	2.0M		C
Q11-119	20K		A	Q13-139X	2.0M	500K	H
Q16-119	20K		S	Q13-139XX	2.0M	500K-1M	S
Q11-120	25K		A	Q17-139	2.0M		Q
Q13-120	25K		C	Q17-139X	2.0M	150K	S
Q14-120	25K		D	Q18-139X	2.0M	1.0M	S
Q11-121	30K		A	Q18-139XX	2.0M	250K-500K	S
Q11-122	35K		A	Q19-139X	2.0M	50K	S
Q11-123	50K		A	Q11-140	3.0M		A
Q13-123	50K		C	Q13-140	3.0M		C
Q14-123	50K		D	Q13-140X	3.0M	900K	S
Q11-125	75K		A	Q17-140	3.0M		Q
Q11-128	100K		A	Q18-140X	3.0M	1.5M	S
Q13-128	100K		C	Q11-141	5.0M		A
Q11-129	200K		A	Q12-141	5.0M		S
Q11-130	250K		A	Q13-141	5.0M		C
Q13-130	250K		C	Q17-141	5.0M		Q
Q13-130X	250K	125K	S	Q11-142	7.5M		A
Q18-130X	250K	60K	H	Q11-143	10.0M		A
Q18-130XX	250K	60K-120K	S	Q11-201	250		A
				Q11-228	125K		A
Q11-131	300K		A	Q11-239	2.5M		A
Q11-132	350K		A	Q11-328	150K		A
Q13-132	350K		C	Q13-328	150K		C
Q17-132X	350K	35K	S	Q17-328XX	150K	19K-38K	S
Q18-132X	350K	75K	H	QVC-539X	1.0M	500K	S

Tapped Controls—List $2.05

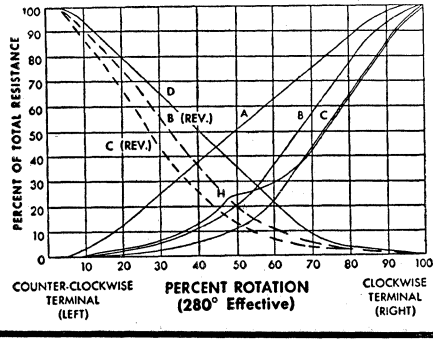
T—Taper M—Megohms

Plain Controls—List $1.40

SWITCHES FOR ABOVE

76-1	SPST	List $.65
76-2	DPST	List .65

STANDARD TAPERS FOR Q CONTROLS



A — For Pots or Rheostats where resistance change is Uniform.

B — Semi-log curve for tone or audio circuit control.

C — Log curve-reverse taper for contrast and picture control circuits in television.

D — Tapered at both ends for grid bias and antenna circuit control; where grid bias control is important to volume control.

H — Tapped log curve for audio level control for automatic bass compensation.

P — Semi-log curve-reverse taper for use in contrast and picture control circuits in television.

Q — Log curve-reverse taper for use in contrast and picture control circuits in television.

S — Special Taper—based on specific specifications.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

ASSEMBLE YOUR OWN STANDARD OR SPECIAL IRC Q CONTROLS

For those who would like to use their IRC Base-Element stock for assembly of standard controls, the component parts are available. Plain Q Control assemblies with 1-Base-Element, 1-Interchangeable Fixed Shaft, 1-QCB Bushing and 1-QCC Cover. Switch type Q control assembles with 1-Base-Element, 1-Interchangeable Fixed Shaft, 1-QCB Bushing and 1 of either 76-1 or 76-2 Switch.

QCB-BUSHING—⅜-32 thread, ¼" long. Pkg. of 5.
List Price $0.55

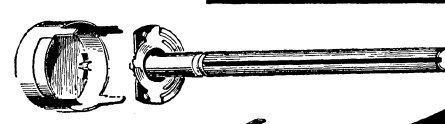
QCC-COVER—For plain or tapped controls. Pkg. of 5.
List Price $0.85

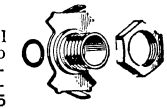
IRC VOLUME CONTROL GROUNDING LUG—Same as supplied with IRC Type Q Controls. Fits ⅜" bushing. Lug length from hole center—1 5/16". Type QCL Grounding Lugs. Pkg. of 5. **List Price $0.20**

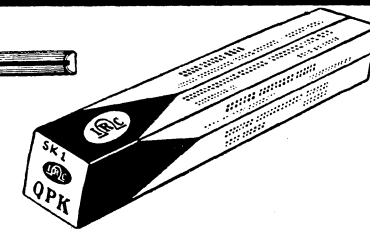
STANDARD Q CONTROL LOCKNUT—Hex nut for ⅜-32 thread, 5/16" across flats. Type QCN. Pkg. of 10.
List Price $0.30

New SK1 (QPK) Kit assembles above standard Q control parts with IRC base elements. Contents: AQ Knob Master Shaft, QCB Ground Plate/Bushing, QCC Universal Cover, R-1 Resilient Retainer Ring, QCN Mounting Nut. **List Price $0.85**

IRC Q CONTROL ACCESSORIES







Q CONTROL PARTS KITS

Package of parts for assembly of specific Q Control types. Includes shaft, bushing and cover. Add desired Base-Element.
SK1—Formerly QPK, Includes AQ shaft for Q Control assembly.
SK2—Includes RQ shaft for RQ Control assembly.
SK3—Includes SQ shaft for SQ Control assembly.
Any SK Kit ..... List $ .85

16 INTERCHANGEABLE FIXED SHAFTS FOR Q CONTROLS

AQ

Knob Master Shaft. Same as supplied in Type Q Controls. Flatted, grooved and knurled. 3" long. **List Price $0.55**

BQ

Slotted or tongued. For remote control cables. Includes 7/16" and 1 5/8" guide funnels and tongue. Approximately 3½" long from mounting face. ¼" diameter.
List Price $1.25

GQ

Specially slotted with hole in bottom. For Philco sets. Slot ⅛" x 3/8" deep. Approximately 1 1/16" long from mounting face when installed in control. ¼" diameter.
List Price $0.75

HQ

Flatted, with groove for dial plate. For Delco, RCA, Sears-Roebuck and Westinghouse sets. 3/32" deep flat. 6/64" deep groove. Approximately 1 1/16" long from mounting face. ¼" diameter. **List Price $1.00**

JQ

⅛" diameter with .105" flat. For Zenith models where shaft must operate inside another shaft. Approximately 4⅛" long from mounting face. **List Price $1.00**

KQ

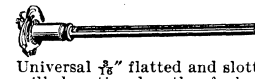
Special ¼" round with two concentric holes in end. For Motorola sets. Approximately 1⅜" long from mounting face.
List Price $0.85

LQ

Short flat with groove and threaded hole in end. For Belmont and Montgomery-Ward sets. 3/32" deep flat. 3/32" deep groove. Approximately 1" long from mounting face. ¼" diameter. **List Price $1.25**

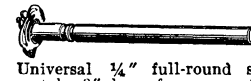
MQ

Special double-flat, threaded for ⅜" on end. For Belmont, Montgomery-Ward and Wells-Gardner sets. Has two concentric holes in end, the smaller being threaded. Approximately 1½" long from mounting face. **List Price $1.25**



NQ

Universal 3/16" flatted and slotted shaft. Slot milled entire length of shaft except for thin web. Approximately 4" long from mounting face. **List Price $0.50**



PQ

Universal ¼" full-round shaft approximately 3" long from mounting face. For ¼" or ⅜" bushings. ⅜" bushing included.
List Price $0.40

RQ

Very short screw-driver slot shaft. Slot, 3/64" x 1/16". Approximately ½" long from mounting face. ¼" diameter. For ⅜" bushing only. Bushing included.
List Price $0.50

SQ

Combination finger knurl and screw-driver slot. Shaft knurled at end for ⅛". Screw-driver slot in end, 3/64" x 1/16". ¼" diameter. Approximately ¾" long from mounting face. **List Price $0.50**

TQ

Insulated shaft for use in television. Drive arm and shaft of insulating material. Used without retainer ring. 3" long from mounting face. Easily cut to required length. ¼" diameter. CANNOT BE USED WITH SWITCH. **List Price $0.65**

UQ

Identical with BQ Shaft except for addition of friction clutch-drive arm. Used for remote control as in auto radios.
List Price $1.25

VQ

Special tongued shaft—1 1/8" long from mounting face, tongue 3/16" wide, 5/16" long, .050" thick. For Magnavox TV Receivers.
List Price $1.00

WQ

Special tongued shaft—1" long from mounting face, tongue ¼" wide, ½" long, .062" thick. For Zenith TV Receivers.
List Price $1.00

FOR QUICK, EASY CONVERSION TO "SPECIALS" WITH FIXED SHAFT SECURITY

This feature adapts the Q Control to a "special" in 6 easy steps. (1) Remove control cover by bending up tabs. (2) Remove Resilient Retainer Ring with knife or pointed tool. (3) Remove standard shaft from control base. (4) Insert special shaft in base. (5) Roll new Ring into shaft groove. (6) Replace cover (or add switch).

IRC INTERCHANGEABLE FIXED SHAFTS ARE INDIVIDUALLY PACKAGED with complete instructions and extra Resilient Retainer Ring.

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Q CONTROL ACCESSORIES

TAB MOUNT CONTROLS

Many recent TV sets use Tab Mount Controls. These are single controls without switch. They differ from standard controls in that bushing is omitted and mounting to chassis is made with two heavy twist-type mounting tabs.

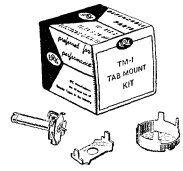
IRC TAB-MOUNT KITS

Since assembly of Tab-Mount Controls is so simple, IRC supplies three 3-Part Tab-Mount Kits which will assemble with any standard plain or tapped IRC Base-Element to provide satisfactory Tab-Mount Controls. Each TM Kit includes a Tab-type Ground Plate, a control cover and a finger-knurled and screw-driver slotted shaft of appropriate length for universal replacement. Packaged with instruction sheet but without necessary Base-Element.

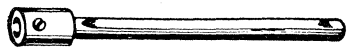
TM-1—IRC Tab-Mount Kit—Shaft ¼" long. **List Price $0.65**

TM-2—IRC Tab-Mount Kit—Shaft ⅝" long. **List Price $0.65**

TM-3—IRC Tab-Mount Kit—Shaft 1" long. **List Price $0.65**



EXTENSION SHAFTS



These attach to regular shafts, thus extending length to any needed size. They frequently make it possible to use standard controls for "special" jobs.

Type	Dimensions
Shaft 441	4" x ¼" dia. x $\frac{1}{32}$" flat
Shaft 442	4" x ¼" dia. x $\frac{3}{32}$" flat
Shaft 443	4" x $\frac{3}{16}$" dia. x $\frac{1}{64}$" flat
Shaft 444	8" x ¼" dia. x $\frac{3}{32}$" flat for 4" lengths

List Price $0.45

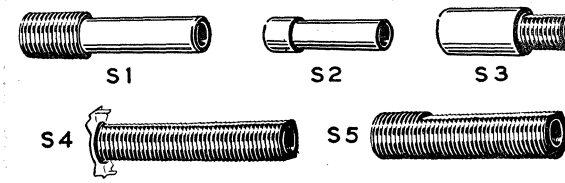
SHAFT COUPLER

For use with standard controls to meet special shaft requirements. Two set screws give rigid connection.

TYPE C3—Plain coupler to couple ¼" shafts; insert allows coupling of ¼" shaft to $\frac{3}{16}$" shaft.

List Price $0.35

SLEEVE BUSHINGS



TYPE S1—For use with standard controls. **List Price $0.50**

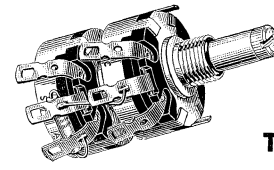
TYPE S2—To provide bearing for switching mechanism. **List Price $0.35**

TYPE S3—For use with standard controls to set control back from chassis or mounting bracket. 1½"—½" dia. for 1" unthd. —⅜" dia. for ½", ⅜"—32 thd.—.344 flat. **List Price $0.65**

TYPE S4—For use with concentric duals to provide $\frac{7}{16}$" dia. bushing. 1½"—$\frac{7}{16}$"—28 thd. full length—.375 dbl. flat. **List Price $0.65**

TYPE S5—For use with standard controls to provide ½" dia. bushing, 2¼"—½"—28 thd. full length—.437 flat. **List Price $0.65**

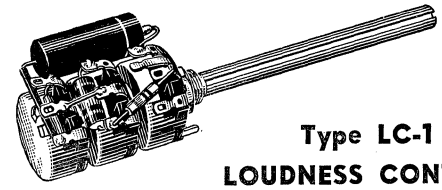
SPECIAL PURPOSE CONTROLS



Type QJ-3 TV ATTENUATOR

- Reduces overloading effects on TV sets in strong signal areas.
- Diminishes interstation interference caused by nearby or powerful stations.
- Minimizes buzz due to high signal level in intercarrier systems.
- Permits easy adjustment of signal RIGHT AT SET.
- Frequently prevents mismatch of antenna load to set.

IRC's QJ-3 TV Attenuator permits ready adjustment of signal input to TV sets. In most cases, it corrects or substantially reduces such conditions as:—Adjacent channel interference, background picture on weaker stations, poor definition, picture and sound breakover. Also useful in service work—duplicating fringe area signals when shop is near strong local station. **List Price $3.65**



Type LC-1 LOUDNESS CONTROL

A continuously compensated control that boosts lows and highs as volume is decreased—maintains depth and brilliance even at whisper level. Type LC-1 replaces makeshift compensating units—tapped volume controls, stepped-type loudness controls, bass and treble boost circuits. Automatically maintains proper balance of all frequencies in the audio spectrum at any listening level. Simplicity itself—as easy to wire into an audio circuit as any standard three-terminal volume control. Complete instructions included, showing applications. Type 76-1 or 76-2 switch can be added to this control. **List Price $10.95**

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

2 and 4 WATT WIRE WOUNDS

International Resistance Company's new Universal Wire Wound Control, engineered to handle all 2-watt and 4-watt requirements, may be used as a replacement for former types W, WK, 4WK, and 4WS.

Dimensions: 1¼" in diameter, 45/64" deep behind mounting face without switch; 1-7/32" with switch.

Available in the following types:

Type WP (Distributors' Industrial Control) Constructed with ⅜-32 x ⅜" bushing and ¼" diameter, full round 3" long shaft from mounting face.

Type WPK (Technician's Replacement) Type Knob Moster Shaft 3" long from mounting ⅜-32 x ¼" long bushing with popular Q ing face.

Type WPS (Technicians' Replacement) ⅜-32 x ¼" long bushing with combination finger knurl and screwdriver slot shaft ¾" long from mounting face.

HIGH VOLTAGE CONTROLS

TYPE HV—A two-watt carbon element high voltage control for use in television receivers using picture tubes requiring electrostatic focus. Equipped with Knob Master Shaft. Diameter 2-11/64", depth behind panel 25/32", bushing ¼", shaft length 3".

UNIVERSAL WIRE WOUND CONTROLS

TYPE WM

Type WM Universal Wire Wound Multisections. Adds to WPK or WPS to make dual or triple section controls. Supplied assembled but may be assembled in field by use of WM Kit and desired WP Base-Element. Switches cannot be used. **List Price $1.65**

TYPE WP MULTISECTIONS

Ohms	Taper	Stock No.	Ohms	Taper	Stock No.
50	U	WM50	2000	U	WM2000
100	U	WM100	2500	U	WM2500
200	U	WM200	3000	U	WM3000
250	U	WM250	5000	U	WM5000
500	U	WM500	7500	L	WM7500L
1000	U	WM1000	10000	U	WM10000
1500	U	WM1500			

TYPE WP

Stock No.	Resistance In Ohms	Tap	Taper	Max. Current In Amps.
WP2	2	—	U	1.414
WP3	3	—	U	1.152
WP5	5	—	U	.895
WP6	6	—	U	.817
WP8	8	—	U	.707
WP10	10	—	U	.633
WP15	15	—	U	.517
WP20	20	—	U	.447
WP25	25	—	U	.400
WP30	30	—	U	.365
WP40	40	—	U	.316
WP50	50	—	U	.283
WP60	60	—	U	.258
WP75	75	—	U	.231
WP100	100	—	U	.200
WP200	200	—	U	.141
WP250	250	—	U	.126
WP300	300	—	U	.115
WP400	400	—	U	.100
WP500	500	—	U	.090
WP750	750	—	U	.073
WP1000	1,000	—	U	.063
WP1500	1,500	—	U	.052
WP2000	2,000	—	U	.045
WP2500	2,500	—	U	.040
WP3000	3,000	—	U	.036
WP4000	4,000	—	U	.031
WP5000	5,000	—	U	.028
WP7500	7,500	—	U	.023
WP10000	10,000	—	U	.020

TYPE WPK

Stock No.	Resistance In Ohms	Tap	Taper	Max. Current In Amps.
WPK10	10	—	U	.633
WPK20	20	—	U	.447
WPK30	30	—	U	.365
WPK50	50	—	U	.283
WPK100	100	—	U	.200
WPK200	200	—	U	.141
WPK250	250	—	U	.126
WPK300	300	—	U	.115
WPK400	400	—	U	.100
WPK500	500	—	U	.090
WPK600	600	—	U	.082
WPK650	650	—	U	.079
WPK750	750	—	U	.073
WPK750L	750	—	L	.051
WPK750R	750	—	R	.051
WPK1000	1,000	—	U	.063
WPK1350	1,350	—	U	.055
WPK1350R	1,350	—	R	.038
WPK1500	1,500	—	U	.052
WPK1500L	1,500	—	L	.036
WPK2000	2,000	—	U	.045
WPK2000L	2,000	—	L	.032
WPK2250L	2,250	—	L	.030
WPK2500	2,500	—	U	.040
WPK3000	2,500	—	R	.028
WPK3000	3,000	—	U	.036
WPK4000L	4,000	—	L	.022
WPK5000	5,000	—	U	.028
WPK5000L	5,000	—	L	.020
WPK6000	6,000	—	U	.026
WPK6000L	6,000	—	L	.018
WPK7500	7,500	—	U	.023
WPK7500L	7,500	—	L	.016
WPK10000	10,000	—	U	.020
WPK12500	12,500	—	U	.018
WPK15000	15,000	—	U	.0163
WPK20000	20,000	—	U	.014
WPK25000	25,000	—	U	.0126

TYPE WPS

WPS10X5	10	5	U	.633
WPS15X7.5	15	7.5	U	.517
WPS20X10	20	10	U	.447
WPS25	25	—	U	.400
WPS25X12.5	25	12.5	U	.400
WPS30X15	30	15	U	.365
WPS40	40	—	U	.316
WPS40X20	40	20	U	.316
WPS50X25	50	25	U	.283
WPS60	60	—	U	.258
WPS80X40	80	40	U	.224
WPS100X50	100	50	U	.200
WPS140X70	140	70	U	.170
WPS150X75	150	75	U	.163
WPS200X100	200	100	U	.141
WPS250	250	—	U	.126
WPS500	500	—	U	.090
WPS500L	500	—	L	.063
WPS1000	1,000	—	U	.063
WPS1500	1,500	—	U	.052
WPS2000	2,000	—	U	.045
WPS2250	2,250	—	U	.042
WPS2250L	2,250	—	L	.030
WPS2500	2,500	—	U	.040
WPS3000	3,000	—	U	.036
WPS4000	4,000	—	U	.031
WPS4000L	4,000	—	L	.022
WPS5000	5,000	—	U	.028

TYPE HV

HV-15	15 Meg.	Linear	$3.00
HV-25	25 Meg.	Linear	3.00

Plain Control—2 to 10,000 ohms..... $1.65
above 10,000 ohms 2.05
Tapped Control—10 to 200 ohms 2.20

Switches are available for use with all of the above types. Windings are not compensated and approximately the resistance in 15% rotation will be lost.

Switch type 76-11 SPST .....List Price $0.65
Switch type 76-12 DPST .....List Price $0.65

STANDARD TAPERS

L Taper—Left Hand Taper with approximately 15% of total resistance at 50% rotation when measured from Left Terminal to Center Terminal facing shaft end of control with terminals down.

R Taper—Right Hand Taper with approximately 15% of total resistance at 50% rotation when measured from Right Terminal to Center Terminal facing shaft end of control with terminals down.

U Taper—Standard Linear Taper.

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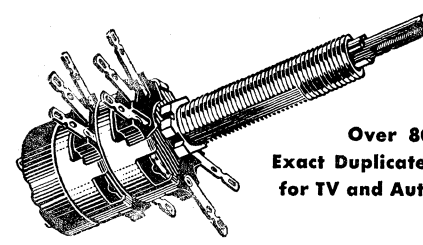
TELEVISION and AUTO SET CONTROLS



Over 800 Exact Duplicate Controls for TV and Auto Radios

For those who prefer factory-assembled special controls, IRC provides an exceptionally broad line of over 800 Exact Duplicate Controls. Each control is specified closely to manufacturers' original control specifications —required. Carbon and wirewound elements are used for panel and rear sections as required.

The IRC Exact Duplicate Line now includes over 100 concentric dual controls for auto radios. Modern in design, these new controls bring many unique and desirable features to provide convenience, economy and long life. The new IRC Printed-Silver Tone Switch eliminates contact fatigue—assures positive, no bump contact. Simple detent assures positive positioning independent of switch action. Control position feature of $\frac{7}{16}$" and ½" bushings permits exact duplication of original. Short control depth fits most crowded locations. Power switches amply rated for both TV and Auto Radios. Consult S-012 Part Number Replacement Manual for needed controls.

IRC CONCENTRIKIT ASSEMBLES EXACT DUPLICATE CONTROLS features quick assembly—no modification of parts.

14 Basic CONCENTRIKITS

IRC Concentrikits are the common parts to various types of Exact Duplicate Controls. When assembled with parts shown in IRC Parts Number Manual (Form S-012) or Auto Radio Replacement (Form S-031), they will produce any IRC Exact Duplicate TV or Auto Radio Controls. No cutting or filing of shafts or bushings—one minute assembly.

Concentrikit	Control Depth	Panel Section	Rear Section	Bushing	Use	List Price
K-2	*	C	C	⅜" x ⅜"	TV & Auto	$0.00
K-3	*	W	C	⅜" x ⅜"	TV	.90
K-4	*	C	C	⅜" x ¾"	TV (Motorola)	1.00
K-5	*	C	C	⅜" x ¼"	TV (Hallicrafters)	.90
K-6	**	C	C	⅜" x ⅜"	TV & Auto	.90
K-7	**	C	C	⅜" x ¾"	TV	.90
K-8	**	C	C	none	Auto	.50
K-9	**	TS	C	none	Auto	.30
K-10	**	W	W	⅜" x ⅜"	TV	.90
K-11	**	W	C	⅜" x ¼"	TV	.90
K-12	**	C	W	⅜" x ⅜"	TV	.90
K-13	**	W	W	⅜" x ¼"	TV	.90
K-14	**	W	W	⅜" x ¾"	TV	1.00
K-15	**	C	C	¾" x ¼"	TV	.90

*—Standard **—Short C—Carbon W—Wire
TS—Tone Switch

IRC Printed-Silver Tone Switch Elements

Sensational new development in concentric tone switch permits assembly of special Exact Duplicate Auto Radio Controls in field. Assembles like standard IRC Base Elements—no loose parts. Packed with detent-type panel cover. Consult Auto Radio Replacement (Form S-031) for other parts.

Stock No.	Description	List Price
BS1	4 Position Tone Switch Element for Ford	$1.20
BS2	4 Position Tone Switch Element for Delco	1.20
BS3	3 Position Tone Switch Element for Philco	1.20
BS4	4 Position Tone Switch Element for Delco	1.20
BS5	4 Position Tone Switch Element for Lincoln and Mercury	1.20

IRC EXACT DUPLICATE BUSHINGS

featuring Adjustable Positioning

A wide assortment of Exact Duplicate Bushings provide easy, quick assembly of Auto Radio Controls without cutting, filing or modification. New adjustable ground plate permits positioning of flats or notched mounting face to duplicate original control positioning. Individually packaged.

Stock No.	Dimensions	Type	List Price
S6	$\frac{7}{16}$" x $\frac{15}{32}$"	Double-flat	$0.85
S7	$\frac{7}{16}$" x $1\frac{1}{32}$"	Double-flat	.85
S8	$\frac{7}{16}$" x $1\frac{5}{32}$"	Double-flat	.85
S9	$\frac{7}{16}$" x 1⅞"	Double-flat	.85
S10	½" x 0.2"	Single-flat	.85
S11	½" x $\frac{9}{16}$"	Single-flat	.85
S12	½" x $\frac{11}{16}$"	Single-flat	.85
S13	½" x 1"	Single-flat	.85
S14	½" x 1¼"	Single-flat	.85
S15	½" x 1½"	Single-flat	.85
S16	½" x $1\frac{5}{8}$"	Single-flat	.85
S17	½" x 1⅞"	Single-flat	.85
S18	½" x 2"	Single-flat	.85
S19	½" x 2⅛"	Single-flat	.85
S20	½" x 2¼"	Single-flat	.85
S21	½" x 1⅛"	Notched	85
S22	½" x $1\frac{5}{16}$"	Notched	.85
S23	½" x $1\frac{9}{32}$"	Notched	.85
S24	½" x 1⅜"	Notched	.85
S25	½" x $1\frac{7}{16}$"	Notched	.85
S26	½" x 1-17/32"	Notched	.85
S27	½" x $1\frac{11}{32}$"	Notched	.85
S28	½" x 1¾"	Notched	.85
S29	½" x $1\frac{13}{16}$"	Notched	.85
S30	½" x 1⅞"	Notched	.85
S31	½" x 2"	Notched	.85
S32	½" x 2⅛"	Notched	.85
S33	⅜" x ¼"	—	.25
S34	⅜" x ⅜"	—	.25
S35	½" x 13/32"	Single-flat	.85
S36	½" x ⅝"	Single-flat	.85
S37	½" x ½"	Single-flat	.85
S38	½" x 27/32"	Single-flat	.85
S39	½" x ¾"	Single-flat	.85
N1	Mounting Net for $\frac{7}{16}$" Bushings—Pkg. of 10		.55
N2	Mounting Nut for ½" Bushings—Pkg. of 10		.55

Base-Elements and Exact Duplicate Shafts for CONCENTRIKIT assembly are listed on 3 pages following ➔

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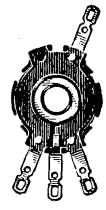
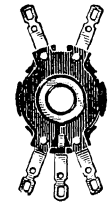
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

IRC Base-Elements are a revolutionary advance in concentric dual replacement. A relatively small stock at low investment provides wide coverage of electrical requirements of many concentric duals. Each unit is a complete molded control base with element, terminals and collector ring installed. There are no loose parts.

Two types of Base-Elements are available: Type B for panel or rear carbon sections and Type W for wire-wound panel or rear sections.

Two Base-Elements are required for each concentric dual.

IRC CONCENTRIKIT BASE ELEMENTS

BASE ELEMENT STOCK VALUES

CARBON AND WIREWOUND BASE-ELEMENTS BY RESISTANCE VALUE

Ohms	Tap	T	Stock No.	Ohms	Tap	T	Stock No.	Ohms	Tap	T	Stock No.	Ohms	Tap	T	Stock No.
10	—	U	W11-010	1350	—	U	W11-308	11.5K	—	Q	B17-117	500K	25K	S	B17-133X
10	5	U	W11-010X	1350	—	R	W17-308	12.5K	—	U	W11-217	500K	50K	S	B18-133X
15	7.5	U	W11-015X	1500	—	A	B11-109					500K	75K	S	B15-133X
20	—	U	W11-020	1500	—	U	W11-109	15K	—	A	B11-118	500K	125K	H	B13-133X
20	10	U	W11-020X	1500	—	L	W13-109	15K	—	U	W11-118	500K	180K	S	B20-133X
25	—	U	W11-025	1500	185 &	Q	B17-109	15K	10K	S	B13-118X	500K	250K	S	B19-133X
25	12.5	U	W11-025X		375	S	B17-109XX	15K	5000 & 10K	S	B13-118XX	500K	100K & 200K	S	B18-133XX
30	—	U	W11-030	1500	500	S	W17-109X	15K	5000	S	B17-118X	600K	—	A	B11-134
30	15	U	W11-030X	2000	—	A	B11-110	15K	5000 & 10K	S	B17-118XX	750K	—	A	B11-136
40	—	U	W11-040	2000	—	U	W11-110					1.0M	—	A	B11-137
40	20	U	W11-040X	2000	—	L	W13-110	20K	—	A	B11-119	1.0M	—	C	B13-137
50	—	U	W11-050	2000	550	Q	B17-110	20K	—	U	W11-119	1.0M	—	D	B14-137
50	25	U	W11-050X	2000	250 & 500	S	B17-110X	20K	—	S	B16-119	1.0M	—	Q	B17-137
60	—	U	W11-060			S	B17-110XX	25K	—	A	B11-120	1.0M	35K	S	B17-137X
				2250	—	U	W11-210	25K	—	U	W11-120	1.0M	100K	S	B18-137X
80	40	U	W11-080X	2250	—	L	W13-210	25K	—	C	B13-120	1.0M	250K	H	B13-137X
100	—	U	W11-084	2500	—	A	B11-111	25K	—	D	B14-120	1.0M	500K	S	B19-137X
100	50	U	W11-084X	2500	—	U	W11-111	30K	—	A	B11-121	1.0M	500K	S	BVC539X
140	70	U	W11-092X	2500	—	C	B13-111	35K	—	A	B11-122	1.0M	50K & 100K	S	B17-137XX
150	75	U	W11-094X	2500	—	Q	B17-111	50K	—	A	B11-123		250K &		
200	—	U	W11-100	2500	500	R	W17-111	50K	—	C	B13-123	1.0M	500K	S	B18-137XX
200	100	U	W11-100X	2500	625	S	B17-111X	50K	—	D	B14-123				
250	—	A	B11-201	3000	—	S	B27-111X	75K	—	A	B11-125	1.5M	—	A	B11-138
250	—	U	W11-201	3000	—	A	B11-112	100K	—	A	B11-128	1.5M	—	C	B13-138
300	—	A	B11-102	3000	—	U	W11-112	100K	—	C	B13-128	1.5M	250K	S	B13-138X
300	—	U	W11-102	3000	150	Q	B17-112	100K	—	Q	B17-128	2.0M	—	A	B11-139
400	—	U	W11-202	3300	—	R	W17-112	125K	—	A	B11-228	2.0M	—	C	B13-139
500	—	A	B11-103	4000	—	S	B17-112X	150K	—	A	B11-328	2.0M	—	Q	B17-139
500	—	U	W11-103	4000	—	L	W13-212	150K	—	C	B13-328	2.0M	50K	S	B19-139X
500	—	L	W13-103	5000	—	U	W11-113	150K	19K & 38K	S	B17-328XX	2.0M	150K	S	B17-139X
600	—	U	W11-104	5000	—	L	W13-113	200K	—	A	B11-129	2.0M	500K	H	Q13-139X
650	—	U	W11-204	5000	—	A	B11-114	250K	—	A	B11-130	2.0M	1.0M	S	B18-139X
750	—	A	B11-105	5000	—	U	W11-114	250K	—	C	B13-130	2.0M	250K & 500K	S	B18-139XX
750	—	U	W11-105	5000	1000	C	B13-114	250K	60K	H	B18-130X	2.0M	500K & 1.0M	S	B13-139XX
750	—	L	W13-105	6000	—	L	W13-114	250K	125K	S	B13-130X	2.5M	—	A	B11-239
750	—	P	B17-105	6000	—	Q	B17-114	250K	60K & 120K	S	B18-130XX	3.0M	—	A	B11-140
750	—	R	W17-105			R	W17-114	300K	—	A	B11-131	3.0M	—	C	B13-140
750	250	S	B17-105X	7500	—	S	B17-114X	350K	—	A	B11-132	3.0M	—	Q	B17-140
750	250	S	W17-105X	7500	—	U	W11-214	350K	—	C	B13-132	3.0M	900K	S	B13-140X
1000	—	A	B11-108	7500	—	L	W13-214	350K	35K	S	B17-132X	3.0M	1.5M	S	B18-140X
1000	—	U	W11-108	10K	—	A	B11-115	350K	75K	H	B18-132X	5.0M	—	A	B11-141
1000	—	P	B17-108	10K	—	U	W11-115	500K	—	A	B11-133	5.0M	—	S	B12-141
1000	150	S	B17-108X	10K	—	L	W13-115	500K	—	C	B13-133	5.0M	—	S	B12-241
1200	—	Q	B17-208	10K	—	A	B11-116	500K	—	D	B14-133	5.0M	—	C	B13-141
				10K	—	U	W11-116	500K	—	Q	B17-133	5.0M	—	Q	B17-141
				10K	—	C	B13-116					7.5M	—	A	B11-142
				10K	—	D	B14-116					10.0M	—	A	B11-143
				10K	—	Q	B17-116								

T—Taper M—Megohms

BASE ELEMENTS

TYPE	List Price
Plain Carbon Base Elements	$0.55
Tapped Carbon Base Elements	1.20
Plain Wire Wound Base Elements 10k ohms and less	0.80
Plain Wire Wound Base Elements above 10k ohms	1.20
Tapped Wire Wound Base Elements	1.35

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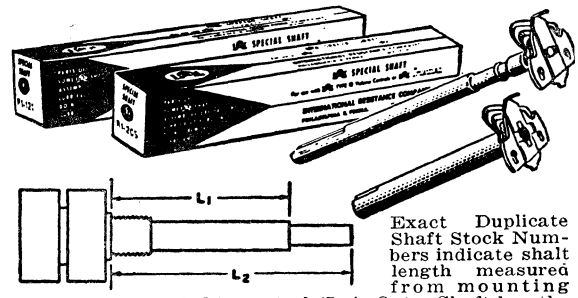
IRC CONCENTRIKIT
EXACT DUPLICATE SHAFTS

Sav time—be assured of accurae fit! IRC now provides a complete line of Exact Duplicate Shafts for CONCENTRIKIT—factory-tailored for dependable mechanical fit. No filing, slotting, soldering or cutting required! Many shafts are flatted as well as slotted to provide wider replacement coverage. Each shaft is a complete assembly, including contactor. Each shaft is a complete assembly, including contactor. Factory-lubricated, packaged in cellophase and in individual carton.

DEPENDABLE MECHANICAL FIT FOR YOUR TV REPLACEMENTS



Exact Duplicate Shaft Stock Numbers indicate shalt length measured from mounting face when installed in control (L_1 is Outer Shaft length; L_2 is Inner Shaft length). First digit is number of whole inches in shaft length; remaining two digits indicate number of additional 32nds of an inch. Thus, P1-210 has shaft lengths of 2-10/32″ or 2-5/16″. Exception is Inner Shafts when used with K-3 CONCENTRIKIT where 3/32″ should be subtracted to determine shaft length.

EXACT DUPLICATE OUTER SHAFTS

Shaft Type	Slot Width-Depth	Flat Length	Round Knurled Band	Type Base Element	Concentrikit
P1	1/8″ x 3/8″	17/32″	—	Q	K-2, -4, -5
P2	1/16″ x 1/2″	17/32″	—	Q	K-2, -4, -5
P3	1/8″ x 3/8″	17/32″	—	W	K-3, -10, -11, -13, -14
P4	1/8″ x 3/8″	3/4″	—	W	K-3, -10, -11, -13, -14
P5	1/16″ x 3/8″	17/32″	—	W	K-3, -10, -11, -13, -14
P6	1/8″ x 3/8″	11/16″	—	Q	K-2, -4, -5
P7	.120″ x 3/8″	17/32″	—	Q	K-2, -4, -5
P8	—	—	1/8″ wide	W	K-3, -10, -11, -13, -14
P9	—	—	1/8″ wide	Q	K-2, -4, -5
P10	1/8″ x 7/16″	17/32″	—	Q	K-2, -4, -5
P11	3/64″ x 1/16″	—	—	Q	K-2, -4, -5
P12	1/8″ x 3/16″	—	—	Q	K-2, -4, -5
P13	1/8″ x 1/4″	—	—	Q	K-6, -7, -8, -12, -15
P14	1/8″ x 3/16″	—	—	Q	K-6, -7, -8, -12, -15
P15	1/8″ x 1/4″	—	—	Tone SW	K-9
P16	.132″ x 3/16″	—	—	Q	K-6, -7, -8, -12, -15
P17	1/8″ x 3/8″	5/8″	—	Q	K-6, -7, -8, -12, -15
P18	3/64″ x 1/16″	—	—	W	K-3, -10, -11, -13, -14
P19	3/64″ x 1/16″	—	—	Q	K-6, -7, -8, -12, -15
P20	—	—	1/8″ wide	Q	K-6, -7, -8, -12, -15

EXACT DUPLICATE INNER SHAFTS

Shaft Type	Diam.	Slot Width - Depth	Flat Length	Round Knurled Band	Type Base Element	Concentrikit
R1	.187″	1/16″ x 1/2″	1/2″	—	Q	All but K-10, -12, -13, -14
R2	.202″	1/16″ x 1/2″	1/2″	—	Q	All but K-10, -12, -13, -14
R3	.190″	20 Tooth Split Knurl (Zenith)			Q	All but K-10, -12, -13, -14
R4	.180″	Round and Slotted (Motorola)			Q	All but K-10, -12, -13, -14
R5	.187″	Rear Extension Type (RCA)			Q	All but K-10, -12, -13, -14
R6	.202″	Rear Extension Type (Dumont)			Q	All but K-10, -12, -13, -14
R7	.189″	18 Tooth Split Knurl (Zenith)			Q	All but K-10, -12, -13, -14
R8	.187″	1/16″ x 1/2″	1/2″	—	W	K-10, -12, -13, -14 only
R9	.187″	1/16″ x 1/2″	5/8″	—	Q	All but K-10, -12, -13, -14
R10	.187″	—	—	1/8″ wide	W	K-10, -12, -13, -14 only
R11	.187″	—	—	1/8″ wide	Q	All but K-10, -12, -13, -14
R12	.202″	—	—	7/32″ wide	Q	All but K-10, -12, -13, -14
R13	.180″	Round with 5/8″ deep Slot (Motorola)			Q	All but K-10, -12, -13, -14
R14	.202″	1/16″ x 1/2″	5/8″	—	Q	All but K-10, -12, -13, -14
R15	.202″	3/64″ x 1/16″	—	—	Q	All but K-10, -12, -13, -14
R16	.187″	1/16″ x 1/2″	25/32″	—	Q	All but K-10, -12, -13, -14
R17	.202″	1/16″ x 1/2″	11/16″	—	Q	All but K-10, -12, -13, -14
R18	.202″	1/16″ x 1/2″	1/2″	—	W	K-10, -12, -13, -14 only
R19	.202″	3/64″ x 1/16″	—	—	W	K-10, -12, -13, -14 only
R20	.187″	3/64″ x 1/16″	—	—	Q	All but K-10, -12, -13, -14

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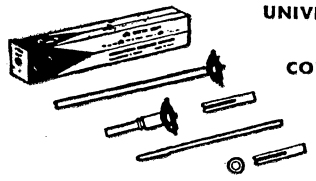

UNIVERSAL SHAFTS FOR CONCENTRIKIT

IRC CONCENTRIKIT EXACT DUPLICATE SHAFTS

For use with CONCENTRIKITS in place of Exact Duplicate Shafts. Requires shaft modification to desired specification. KS-2 Shaft Kit is for controls in which both sections are carbon. Use with K-2, K-4 or K-5 CONCENTRIKIT.

KS-2

LIST PRICE $1.30

EXACT DUPLICATE SHAFTS

Stock No.	Shaft Length	Stock No.	Shaft Length	Stock No.	Shaft Length	Stock No.	Shaft Length	Stock No.	Shaft Length	Stock No.	Shaft Length
R15-005	5/32"	P1-102	1 1/16"	P1-118	1 3/16"	P13-200	2"	R8-213	2 13/32"	P1-302	3 1/16"
R15-009	9/32"	P6-102	1 1/16"	P2-118	1 3/16"	P15-200	2"	R20-213	2 13/32"	P6-302	3 1/16"
R19-011	11/32"	P11-102	1 1/16"	P3-118	1 3/16"	R1-200	2"			R14-302	3 1/16"
		P14-102	1 1/16"	P13-118	1 3/16"	R2-200	2"	P2-214	2 1/16"		
P19-012	3/8"	P15-102	1 1/16"	P14-118	1 3/16"	R11-200	2"	P3-214	2 1/16"	P1-304	3 1/8"
		P17-102	1 1/16"	P17-118	1 3/16"	R18-200	2"	P13-214	2 1/16"	R1-304	3 1/8"
P14-014	7/16"	R1-103	1 3/32"	R1-118	1 3/16"			R1-214	2 1/16"	P1-306	3 3/16"
R15-014	7/16"	R2-103	1 3/32"	R11-118	1 3/16"	P6-202	2 1/16"	R9-214	2 1/16"	R2-306	3 3/16"
R19-014	7/16"			R16-118	1 3/16"	P14-202	2 1/16"	R14-214	2 1/16"	R4-306	3 3/16"
		P3-104	1 1/8"			R1-202	2 1/16"			P1-308	3 1/4"
P18-015	15/32"	P9-104	1 1/8"	R2-119	1 19/32"	R9-202	2 1/16"	R5-215	2 15/32"	P10-308	3 1/4"
		P13-104	1 1/8"	R12-119	1 19/32"					R1-308	3 1/4"
P8-016	1/2"	P20-104	1 1/8"	P15-120	1 5/8"	P3-203	2 3/32"	P1-216	2 1/2"	R2-308	3 1/4"
P19-016	1/2"					R17-203	2 3/32"	R1-216	2 1/2"	R14-308	3 1/4"
		P17-105	1 5/32"	P1-121	1 21/32"			R2-216	2 1/2"		
P1-017	17/32"	R1-105	1 5/32"	P3-121	1 21/32"	P1-204	2 1/8"	R11-216	2 1/2"	P1-310	3 5/16"
R15-017	17/32"	R2-105	1 5/32"	P4-121	1 21/32"	P12-204	2 1/8"			R2-310	3 5/16"
				P14-121	1 21/32"	P14-204	2 1/8"	P3-217	2 17/32"		
P9-018	9/16"	P1-106	1 3/16"			P15-204	2 1/8"			R1-312	3 3/8"
P11-018	9/16"	P3-106	1 3/16"	P6-122	1 11/16"	R2-204	2 1/8"	P2-218	2 9/16"	R2-312	3 3/8"
P18-018	9/16"	P8-106	1 3/16"	P12-122	1 11/16"	R3-204	2 1/8"	P6-218	2 9/16"		
		R4-106	1 3/16"	P13-122	1 11/16"	R14-204	2 1/8"	P15-218	2 9/16"	R16-313	3 13/32"
P14-019	19/32"	R16-106	1 3/16"	P15-122	1 11/16"			R2-218	2 9/16"		
				R1-122	1 11/16"	R1-205	2 5/32"			P1-314	3 7/16"
P1-020	5/8"	R1-108	1 1/4"	R12-122	1 11/16"	R9-205	2 5/32"	R11-219	2 19/32"	R2-314	3 7/16"
P8-020	5/8"	R11-108	1 1/4"			R16-205	2 5/32"			R9-314	3 7/16"
		R12-108	1 1/4"	P1-123	1 23/32"			P1-220	2 5/8"		
P9-021	21/32"			P3-123	1 23/32"	P1-206	2 3/16"	R1-220	2 5/8"	R1-316	3 1/2"
		P1-109	1 9/32"			P5-206	2 3/16"	R2-220	2 5/8"	R13-316	3 1/2"
P16-023	23/32"	P7-109	1 9/32"	P4-124	1 3/4"	P7-206	2 3/16"	R4-221	2 21/32"	P1-317	3 17/32"
				P9-124	1 3/4"	P14-206	2 3/16"			R2-318	3 9/16"
P1-024	3/4"	R2-110	1 5/16"	R2-124	1 3/4"	P15-206	2 3/16"	P1-222	2 11/16"		
P14-024	3/4"	R9-110	1 5/16"	R11-124	1 3/4"	R2-206	2 3/16"	P2-222	2 11/16"	P1-320	3 5/8"
P17-024	3/4"					R12-206	2 3/16"	P7-222	2 11/16"	R2-322	3 11/16"
R1-024	3/4"	P3-111	1 11/16"	P6-125	1 25/32"	R17-206	2 3/16"	R2-222	2 11/16"	R4-322	3 11/16"
		R1-111	1 11/16"	P14-125	1 25/32"			R9-222	2 11/16"		
P14-026	13/16"					R1-207	2 7/32"			R1-323	3 23/32"
P15-026	13/16"	P1-112	1 3/8"	P1-126	1 13/16"			P3-223	2 23/32"	R9-324	3 3/4"
R12-026	13/16"	P6-112	1 3/8"	P17-126	1 13/16"	P3-208	2 1/4"	R1-223	2 23/32"		
		P9-112	1 3/8"	R1-126	1 13/16"	P14-208	2 1/4"	R3-223	2 23/32"	P1-325	3 25/32"
P16-027	27/32"	P14-112	1 3/8"			R6-208	2 1/4"				
		P15-112	1 3/8"	P3-127	1 27/32"	R7-208	2 1/4"	P1-224	2 3/4"	R1-326	3 13/16"
P1-028	7/8"	R9-112	1 3/8"	R2-127	1 27/32"	R9-208	2 1/4"	P6-224	2 3/4"	R2-329	3 29/32"
P3-028	7/8"	R11-112	1 3/8"	R16-127	1 27/32"						
P6-028	7/8"	R16-112	1 3/8"			P2-209	2 9/32"	P10-225	2 25/32"	R13-331	3 31/32"
R1-028	7/8"			P1-128	1 7/8"	P9-209	2 9/32"				
R10-028	7/8"	P13-113	1 13/32"	P2-128	1 7/8"	R1-209	2 9/32"	P1-226	2 13/16"	P1-400	4"
R11-028	7/8"	R1-113	1 13/32"	P9-128	1 7/8"	R2-209	2 9/32"	P2-226	2 13/16"	P3-400	4"
R15-028	7/8"			P13-128	1 7/8"			P3-226	2 13/16"		
		P1-114	1 7/16"	R14-128	1 7/8"	P1-210	2 5/16"	R1-226	2 13/16"	R2-401	4 1/32"
P14-029	29/32"	P3-114	1 7/16"			P3-210	2 5/16"	R2-226	2 13/16"		
R12-029	29/32"			P3-129	1 29/32"	P13-210	2 5/16"	R4-226	2 13/16"	P1-405	4 5/32"
		P4-115	1 15/32"	P17-129	1 29/32"	R1-210	2 5/16"			P3-405	4 5/32"
P1-030	15/16"	P17-115	1 15/32"	R12-129	1 29/32"	R4-210	2 5/16"	P10-227	2 27/32"		
		R1-115	1 15/32"							R14-409	4 9/32"
P2-031	31/32"	R2-115	1 15/32"	P6-130	1 15/16"	P14-211	2 11/32"	R1-228	2 7/8"	R14-414	4 7/16"
P17-031	31/32"	R9-115	1 15/32"	P14-130	1 15/16"	R9-211	2 11/32"	R4-228	2 7/8"		
R11-031	31/32"			P15-130	1 15/16"	R14-211	2 11/32"			R1-417	4 17/32"
		P1-116	1 1/2"	R1-130	1 15/16"			P1-229	2 29/32"	R1-420	4 5/8"
P3-100	1"	P2-116	1 1/2"			P1-212	2 3/8"	R14-229	2 29/32"	R2-420	4 5/8"
P8-100	1"	P3-116	1 1/2"	P3-131	1 31/32"	P3-212	2 3/8"				
R1-100	1"	P9-116	1 1/2"	R2-131	1 31/32"	P9-212	2 3/8"	R2-230	2 15/16"	P8-424	4 3/4"
		P13-116	1 1/2"	R12-131	1 31/32"	R1-212	2 3/8"			R2-426	4 13/16"
P9-101	1 1/32"	R14-116	1 1/2"			R2-212	2 3/8"	P1-300	3"	R14-426	4 13/16"
P20-101	1 1/32"			P1-200	2"	R4-212	2 3/8"	R1-300	3"	R2-429	4 29/32"
		R2-117	1 17/32"	P2-200	2"	R7-212	2 3/8"	R2-300	3"	R10-431	4 31/32"

LIST PRICE $0.65

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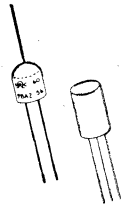
IRC SELENIUM DIODES & FUSE RESISTORS

DUAL DIODES



New IRC Selenium Dual Diodes for horizontal phase detectors in TV Receivers. Three popular types are exact duplicates to those used by prominent manufacturers. Two basic types: (1) Series diodes, (2) common cathode. Three styles for easy replacement. Molded in plastic. Attractively packaged.

D1 — Common cathode dual diode used in General Electric, Hallicrafter and Muntz TV receivers. Dome-shaped blue unit with three leads.

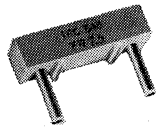
Dealer Net $ .99

D2 — Common cathode dual diode used in General Electric TV receivers. Cylindrical-shaped, fibre-covered unit with three leads.

Dealer Net $ .99

D3 — Series connected dual diode used in Admiral and Magnavox TV receivers. Dome-shaped green unit with three leads. Red dot at cathode lead.

Dealer Net $ .99



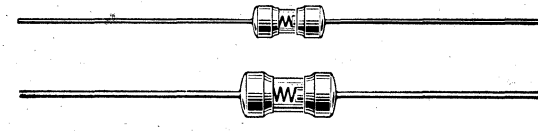
NEW IRC TYPE FR FUSE RESISTOR

New IRC Fuse-Resistor. Modern design in rectangular ceramic shell. Equipped with plug-in terminals. Available in two popular resistance values. Attractively packaged.

FR5.6—Fuse-Resistors 5.6 ohms.....**List $ .75**

FR7.5—Fuse-Resistor 7.5 ohms.....**List $ .75**

MICROSTAK SELENIUM DIODES



Type GA Microstak Diodes for use in low current circuits where very high back resistance and low forward resistance are required. Miniature selenium cells with outstanding performance characteristics, they are ideal for such applications as A. V. C., switching, blocking and bias supplies. Design and small size give high frequency performance not found in conventional cells — tests prove their successful performance in circuit applications up to 1 megacycle. Hermetically sealed to assure stable operation under high humidity, dust, fumes and changing pressures.

Dimensions: (Type 6GA1) Length of leads — 1½". Body length — .450". Diameter — .145". (Type 9GA1) Length of leads — 1½". Body length — .500". Diameter — .210".

TYPE 6GA1

Stock No. 6GA1-2B. Minimum forward current (at 2 V.D.C.) is 0.5 M.A. and corresponding resistance, 4000 ohms. Maximum inverse current (at 20 V.D.C.) is 20 microamperes and corresponding resistance, 1 megohm. Peak inverse volts —36. Continuous inverse volts —22. Maximum A.C. input (RMS volts with resistive load only) —26. Temperature range is —55°C to +90°C. Shunt capacitance — approximately 25 mmf (measured with two plates back-to-back on 1000 cycle bridge).

List $1.67

Stock No. 6GA1-3C. Minimum forward current (at 2 V.D.C.) is 1 M.A. and corresponding resistance, 2000 ohms. Maximum inverse current (at 20 V.D.C.) is 10 microamperes and corresponding resistance, 2 megohms.

List $2.25

TYPE 9GA1

Stock No. 9GA1-2B. Characteristics are the same as the 6GA1-2B.

List $1.50

Stock No. 9GA1-3C. Characteristics are the same as the 6GA1-3C.

List $2.04

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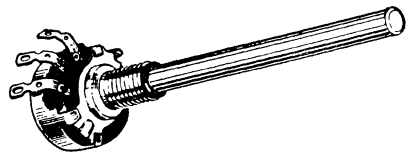
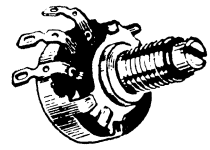
SINGLE CONTROLS



TYPE PQ



TYPE RQ

IRC Distributor Controls for Industry offer commercial users a wide selection of resistance values and two industrial shaft types. Shafts are fixed. This combination of wide selection of values and speedy Distributor delivery holds many advantages for industrial purchasers. These Industrial Controls are adaptations of the new, compact $\frac{15}{16}$" Q Control. Power rating is ½ watt, 500 volts maximum. Electrical rotation is the same with or without switch. ⅜" bushing is brass and held to close tolerance for snug shaft fit.

Terminals are heavily tinned for easy soldering, and may be bent without becoming noisy. Two locating lugs are provided, either or both of which may be bent down if not needed. Molded base. Both Types PQ and RQ are supplied in standard tapers.

TYPE PQ. Full round ¼" shaft, approximately 3" from mounting face, with ⅜" long bushing. Available in 33 stock values as shown. Regular IRC stock numbers are used with prefix PQ.

LIST $1.40

TYPE RQ. Very short screw-driver slot shaft, ¼" diameter and approximately ½" long from mounting face with ⅜" long bushing. Available in 33 values as shown. Regular IRC stock numbers are used with prefix RQ.

LIST $1.40

STANDARD VALUES

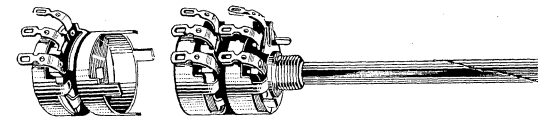
TYPE PQ	TYPE RQ	RESISTANCE IN OHMS	TAPER
PQ11-103	RQ11-103	500	A
PQ11-108	RQ11-108	1000	A
PQ11-110	RQ11-110	2000	A
PQ11-112	RQ11-112	3000	A
PQ11-114	RQ11-114	5000	A
PQ11-115	RQ11-115	7500	A
PQ11-116	RQ11-116	10K	A
PQ13-116	RQ13-116	10K	C
PQ14-116	RQ14-116	10K	D
PQ11-119	RQ11-119	20K	A
PQ11-120	RQ11-120	25K	A
PQ14-120	RQ14-120	25K	D
PQ11-121	RQ11-121	30K	A
PQ11-123	RQ11-123	50K	A
PQ13-123	RQ13-123	50K	C
PQ14-123	RQ14-123	50K	D
PQ11-128	RQ11-128	100K	A
PQ13-128	RQ13-128	100K	C
PQ11-129	RQ11-129	200K	A
PQ11-130	RQ11-130	250K	A
PQ13-130	RQ13-130	250K	C
PQ11-133	RQ11-133	500K	A
PQ13-133	RQ13-133	500K	C
PQ11-137	RQ11-137	1.0 meg	A
PQ13-137	RQ13-137	1.0 meg	C
PQ11-138	RQ11-138	1.5 meg	A
PQ11-139	RQ11-139	2.0 meg	A
PQ13-139	RQ11-139	2.0 meg	C
PQ11-239	RQ11-239	2.5 meg	A
PQ11-140	RQ11-140	3.0 meg	A
PQ13-140	RQ13-140	3.0 meg	C
PQ11-141	RQ11-141	5.0 meg	A
PQ11-143	RQ11-143	10.0 meg	A

Taper A is linear. Taper C is logarithmic.
Taper D is reverse curve for control of bias.

IRC DISTRIBUTOR CONTROLS FOR INDUSTRY

DUALS AND TRIPLES

IRC Type PQ and RQ Industrial Controls are supplied as single controls. Dual Control and Triple Control combinations are available by adding IRC MULTISECTIONS.



MULTISECTIONS

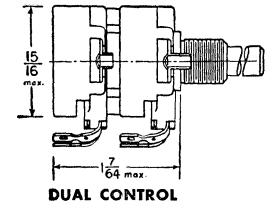
IRC MULTISECTIONS are complete control sections that can be added like a switch to any Q, PQ or RQ Control. With these units, the Radio Technician or Engineer is provided with an endless variety of dual, triple or even quadruple controls. Duals assembled from IRC MULTISECTIONS will accommodate Type 76 switches. Available in a selection of 22 values, as shown in following table. Each MULTISECTION adds $\frac{13}{32}$" to basic control.

LIST $1.40

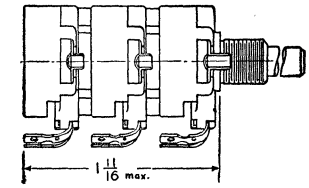
STOCK VALUES

RESISTANCE IN OHMS	TAPER	IRC STOCK NO.
500	A	M11-103
1000	A	M11-108
2000	A	M11-110
5000	A	M11-114
10K	A	M11-116
25K	A	M11-120
30K	A	M11-121
50K	A	M11-123
100K	A	M11-128
100K	C	M13-128
250K	A	M11-130
250K	C	M13-130
500K	A	M11-133
500K	C	M13-133
1.0 Meg	A	M11-137
1.0 Meg	C	M13-137
2.0 Meg	A	M11-139
2.0 Meg	C	M13-139
3.0 Meg	C	M13-140
3.0 Meg	C (Rev.)	M17-140
5.0 Meg	A	M11-141
10.0 Meg	A	M11-143

MULTISECTION DIMENSIONS



DUAL CONTROL



TRIPLE CONTROL

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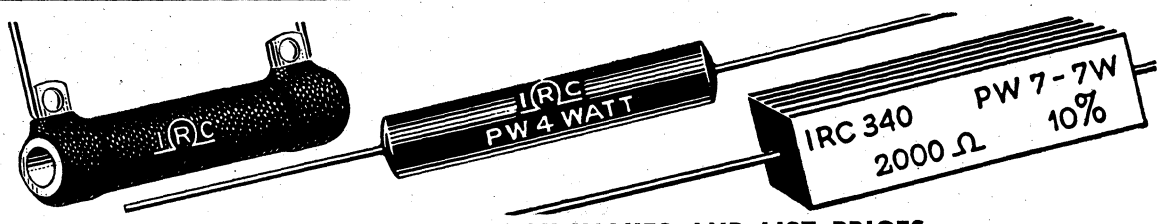
FIXED POWER WIRE WOUND RESISTORS

IRC Power Wire Wounds are rugged resistors specially engineered for dependable heavy-duty performance. They are supplied in a variety of power ratings, resistance values, sizes and terminal types. In addition to the conventional tubular types, IRC also supplies: 4 watt completely insulated Type PW-4 with axial leads, and two new high temperature resistors rated at 7 and 10 watts. Type PW-7 and PW-10 are fully insulated in rectangular ceramic cases and have axial leads.



STOCK VALUES AND LIST PRICES

TYPE PW-4
4 WATTS
21/64" dia. by 1¾" long. Axial leads.

TYPE PW-7
7 WATTS
⅜" by 11/32" by 1-25/64" long. Axial leads.

TYPE PW-10
10 WATTS
⅜" by 11/32" by 1⅞" long. Axial leads.

TYPE 1¾"
10 WATTS
5/16" dia. by 1¾" long. Accommodate Z0 brackets (not included, 12c list).

TYPE 2D
20 WATTS
7/16" dia. by 2" long. Accommodate Z1 brackets (not included, 12c list).

TYPE 4 ½E
50 WATTS
¾" dia. by 4½" long. Supplied with Z2 brackets.

TYPE 6 ½E
80 WATTS
¾" dia. by 6½" long. Supplied with Z3 brackets.

TYPE 6 ½H
100 WATTS
1⅛" dia. by 6½" long. Supplied with Z3 brackets.

TYPE 10 ½H
200 WATTS
1⅛" dia. by 10½' long. Supplied with Z3 brackets.

Ohms	PW4 4 watts	PW7 7 watts	PW10 10 watts	1¾A 10 watts	2D 20 watts	4½E 50 watts	6½E 80 watts	6½H 100 watts	10½H 200 watts
1	$0.50	$0.55	$0.60	$0.80	$1.05	$2.50	—	$3.70	$5.00
2	.50	.55	.60	.80	—	2.50	—	3.70	5.00
3	.50	.55	.60	.80	—	2.50	—	3.70	5.00
4	.50	.55	.60	.80	—	2.50	—	3.70	5.00
5	.50	.55	.60	.80	1.05	1.80	$2.20	2.65	5.00
7.5	—	—	.60	.80	—	—	—	—	—
10	.50	.55	.60	.80	1.05	1.80	2.20	2.65	3.55
15	.50	.55	.60	.80	—	—	—	—	—
20	.50	.55	.60	.80	—	—	—	—	—
25	.50	.55	.60	.80	1.05	1.80	2.20	2.65	3.55
30	—	—	—	.80	—	—	—	—	—
35	—	—	—	.80	—	—	—	—	—
40	—	—	—	.80	—	—	—	—	—
50	.50	.55	.60	.80	1.05	1.80	2.20	2.65	3.55
75	.50	.55	.60	.80	1.05	1.80	—	2.65	3.55
100	.50	.55	.60	.80	1.05	1.80	2.20	2.65	3.55
125	—	—	—	.80	—	—	—	2.65	—
150	.50	.55	.60	.80	1.05	1.80	—	2.65	3.55
200	.50	.55	.60	.80	1.05	1.80	2.20	—	—
225	—	—	—	.80	—	—	—	—	—
250	.50	.55	.60	.80	1.05	1.80	2.20	2.65	3.55
300	.50	.55	.60	.80	1.05	—	—	—	—
350	—	—	—	.80	1.05	—	—	—	—
400	—	—	—	.80	1.05	—	—	—	—
450	—	—	—	.80	—	—	—	—	—
500	.50	.55	.60	.80	1.05	1.80	2.20	2.65	3.55
600	—	—	—	.80	—	—	—	—	—
700	—	—	—	.80	1.05	—	—	—	—
750	.50	.55	.60	.80	1.05	1.80	2.20	2.65	3.55
800	—	—	—	.80	1.05	1.80	—	—	—
900	—	—	—	.80	—	—	—	—	—
1,000	.50	.55	.60	.80	1.05	1.80	2.20	2.65	3.55
1,100	—	—	—	.90	—	—	—	—	—
1,200	—	—	—	.90	1.10	—	—	—	—
1,250	.50	.55	.60	.90	1.10	—	—	2.80	—
1,500	.50	.55	.60	.90	1.10	1.90	2.30	2.80	3.60
1,750	—	—	—	.90	1.10	—	—	—	—
2,000	.50	.55	.60	.90	1.10	1.90	2.30	2.80	3.60
2,250	—	—	—	.90	1.10	—	—	—	—
2,500	.50	.55	.60	.90	1.10	1.90	2.30	2.80	3.60
3,000	.50	.55	.60	.90	1.10	1.90	2.30	2.80	3.60
3,300	—	.55	.60	—	—	—	—	—	—
3,500	—	—	—	.90	1.10	—	—	—	—
3,900	—	.55	.60	—	—	—	—	—	—
4,000	.50	.55	.60	.90	1.10	1.90	2.30	—	—
4,500	—	—	—	.90	1.10	—	—	—	—
5,000	.50	.55	.60	.90	1.10	1.90	2.30	2.80	3.60
6,000	—	.55	.60	1.00	1.20	2.10	2.50	—	—
7,000	—	—	—	1.00	1.20	2.10	—	—	—
7,500	.50	.55	.60	1.00	1.20	2.10	2.50	3.00	3.90
8,000	—	—	—	1.00	1.20	2.10	2.50	—	—
8,200	.50	.55	.60	—	—	—	—	—	—
8,500	—	—	—	1.00	1.20	—	—	—	—
9,000	—	—	—	1.00	1.20	—	—	—	—
10K	—	—	.60	1.00	1.20	2.10	2.50	3.00	3.90
11K	—	—	—	1.10	1.30	—	—	—	—
12K	—	—	—	1.10	1.30	2.30	—	—	—
12.5K	—	—	—	1.10	1.30	2.30	—	—	—
15K	—	—	.60	1.10	1.30	2.30	2.70	3.30	4.15
20K	—	—	—	1.10	1.30	2.30	2.70	3.30	4.15
25K	—	—	—	1.20	1.50	2.55	3.05	3.50	4.30
30K	—	—	—	—	1.50	2.55	3.05	3.50	4.30
35K	—	—	—	—	1.50	2.55	—	—	—
40K	—	—	—	—	1.50	2.55	3.05	3.50	4.30
50K	—	—	—	—	1.75	2.85	3.15	3.70	4.40
60K	—	—	—	—	—	2.85	3.15	3.70	4.40
75K	—	—	—	—	—	3.20	3.55	3.95	4.70
100K	—	—	—	—	—	3.50	3.95	4.20	5.00

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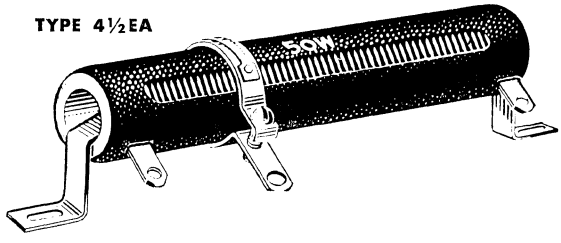
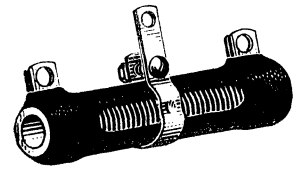
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

IRC Power Wire Wounds are designed for continuous operation at full rated power. Derating is unnecessary even for the highest stock values. IRC Power Wire Wounds are full size, thus capable of efficiently handling greater wattage. Cooler performance assures longer resistor life, and safeguards critical components mounted adjacently. Clear, permanent markings show type, size, wattage, and resistance value; markings improve in legibility with temperature rise. Terminals are tin plated for easy soldering.

ADJUSTABLE POWER WIRE WOUND RESISTORS

TYPE 4½EA





TYPE 1¾AA

STOCK VALUES AND LIST PRICES

Ohms	1¾AA 10 watts	2½DA 25 watts	4½EA 50 watts	6½EA 80 watts	6½HA 100 watts	10½HA 200 watts
1	$1.60	$2.05	$3.30	$3.90	$5.00	$6.25
2	1.60	2.05	3.30	3.90	5.00	6.25
3	1.60	2.05	3.30	3.90	5.00	6.25
4	—	—	3.30	3.90	5.00	6.25
5	1.60	2.05	2.60	3.00	3.95	6.25
7.5	1.60	2.05	—	—	—	—
10	1.60	2.05	2.60	3.00	3.95	4.80
15	1.60	2.05	—	3.00	—	—
20	1.60	2.05	—	—	—	—
25	1.60	2.05	2.60	3.00	3.95	4.80
50	1.60	2.05	2.60	3.00	3.95	4.80
75	1.60	2.05	2.50	—	—	—
100	1.60	2.05	2.60	3.00	3.95	4.80
150	1.60	2.05	2.60	—	—	—
200	1.60	2.05	2.60	3.00	3.95	—
250	1.60	2.05	2.60	3.00	3.95	4.80
300	1.60	2.05	2.60	3.00	—	—
400	1.60	2.05	2.60	3.00	3.95	—
500	1.60	2.05	2.60	3.00	3.95	4.80
750	1.60	2.05	2.60	3.00	3.95	—
800	1.60	2.05	2.60	3.00	—	—
1,000	1.60	2.05	2.60	3.00	3.95	4.80
1,250	1.70	2.10	2.70	3.10	—	—
1,500	1.70	2.10	2.70	3.10	4.05	4.90
2,000	1.70	2.10	2.70	3.10	4.05	4.90
2,250	1.70	2.10	2.70	3.10	—	—
2,500	1.70	2.10	2.70	3.10	4.05	4.90
3,000	1.70	2.10	2.70	3.10	4.05	4.90
3,500	1.70	2.10	2.70	3.10	—	—
4,000	1.70	2.10	2.70	3.10	4.05	—
4,500	1.70	2.10	2.70	3.10	—	—
5,000	1.70	2.10	2.70	3.10	4.05	4.90
6,000	1.80	2.20	2.90	3.30	4.25	—
7,000	1.80	2.20	2.90	3.30	—	—
7,500	1.80	2.20	2.90	3.30	4.25	—
8,000	1.80	2.20	2.90	3.30	4.25	—
9,000	1.80	2.20	2.90	3.30	—	—
10K	1.80	2.20	2.90	3.30	4.25	5.30
12K	—	2.30	3.10	3.50	—	—
15K	—	2.30	3.10	3.50	4.50	5.40
20K	—	2.30	3.10	3.50	4.50	5.40
25K	—	2.50	3.40	3.90	4.80	5.50
30K	—	—	3.40	3.90	4.80	5.50
35K	—	—	—	3.90	—	—
40K	—	—	3.40	3.90	4.80	5.50
45K	—	—	—	4.00	—	—
50K	—	—	3.60	4.00	5.00	5.70
60K	—	—	3.60	4.00	5.00	5.70
75K	—	—	4.05	—	5.20	5.95
80K	—	—	4.05	4.40	—	—
100K	—	—	4.30	4.75	5.45	6.25

TYPE 1¾AA 10 WATTS

$\frac{5}{16}$" dia. by 1¾" long. Accommodate ZO brackets (not included, 12c list).

TYPE 2½DA 25 WATTS

$\frac{9}{16}$" dia. by 2½" long. Supplied with Z1 brackets.

TYPE 4½EA 50 WATTS

¾" dia. by 4½" long. Supplied with Z2 brackets.

TYPE 6½EA 80 WATTS

¾" dia. by 6½" long. Supplied with Z2 brackets.

TYPE 6½HA 100 WATTS

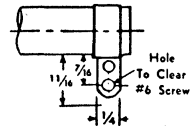
1⅛" dia. by 6½" long. Supplied with Z3 brackets.

TYPE 10½HA 200 WATTS

1⅛" dia. by 10½" long. Supplied with Z3 brackets.

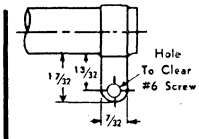
STANDARD TERMINALS

Type 3 Mounting Lugs



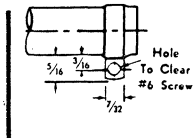
For 6½H, 6½HA, 10½H, 10½HA

Type 12 Mounting Lugs



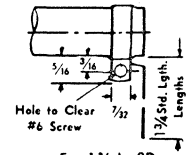
For 4½E, 4½EA, 6½E, 6½EA

Type 12 Soldering Lugs



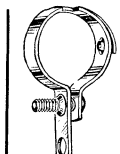
For 1¾AA, 2½DA

Type 13 Wire Leads



For 1¾A, 2D

BRACKETS: Bracket holes are for 8-32 screws.



TYPE X BANDS

Type "X" bands are furnished for 2½DA, 4½EA, 6½EA, 6½HA and 10½HA. Type 1¾AA, because of its small size, is furnished with special adjustable band.

Resistor	Band	List
2½DA	X2	$ .25
4½EA, 6½EA	X3	.25
6½HA, 10½HA	X4	.42
SPECIAL BAND		
1¾AA	A	.25

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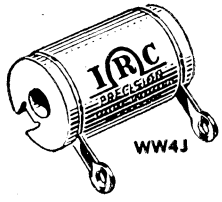
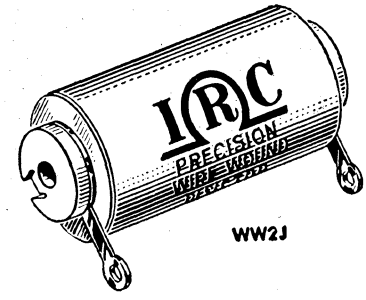
PRECISION
WIRE WOUND RESISTORS

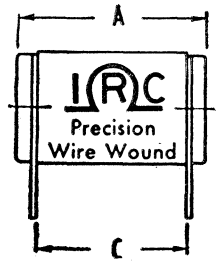
Improved ceramic winding forms have high insulating qualities, high mechanical strength and low coefficient of expansion. Special winding technique, developed by IRC, eliminates shorted turns or strains in the winding.

Improved insulation provides greater humidity protection and contributes to longer trouble-free service. Improved lug and lead terminals assure perfect electrical connections without strain on the windings, and are easily soldered.





IRC TYPE No.	WW2J	WW3J	WW4J	WW5J	WW8J	WW10J	WW11J
MIL-R-93A Style	RB19	RB16	RB17	RB18	RB15	——	RB16
Old JAN Style	RB14	RB11	RB12	RB13	RB10	——	RB11
Rating in Watts 65°C. Ambient 85°C. Ambient	 2.00 1.00	 .50 .35	 1.00 .50	 1.00 .50	 .50 .25	 .25 .15	 .50 .35
Maximum Volts	2,000	400	700	1,000	250	150	500
No. of Sections	8	2	4	4	1	1	2
Minimum Resistance	0.1 Ohm	0.1 Ohm	0.1 Ohm	0.1 Ohm	0.1 Ohm	10 Ohms	0.1 Ohm
Max. Resistance (MIL) E Characteristic	4.0 Meg	0.3 Meg.	0.75 Meg.	1.7 Meg.	0.290 Meg.	40 K	0.4 Meg.
Maximum Resistance (Commercial)	20.0 Meg.	1.6 Meg.	4.0 Meg	7.5 Meg.	1.5 Meg.	.215 Meg.	2.0 Meg.
Dimensions (See Figs. 1 & 2)	Figure 1	Figure 1	Figure 1	Figure 1	Figure 1	Figure 2	Figure 1
A Dimension	2 1/8"	9/16"	1"	1 1/4"	15/32"	13/32"	21/32"
B Dimension	29/32"	19/32"	19/32"	25/32"	19/32"	9/32"	19/32"
C Dimension	1 25/32"	3/8"	25/32"	31/32"	5/16"	9/32"	7/16"
D Dimension	25/32"	5/8"	5/8"	23/32"	5/8"	—	5/8"
E Dimension	—	—	—	—	—	2"	—
F Dimension	5/16"	5/16"	5/16"	5/16"	5/16"	—	5/16"
G Dimension	3/16"	3/16"	3/16"	3/16"	3/16"	—	3/16"



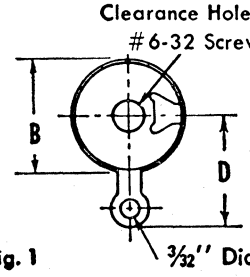
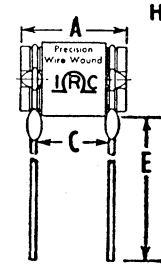


Fig. 1



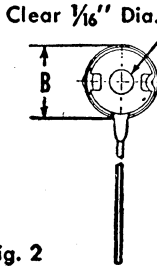


Fig. 2

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

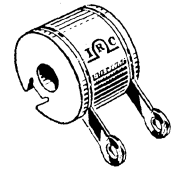
IRC offers a complete line of redesigned Precision Wire Wound Resistors. These improved units are fully interchangeable with earlier types, while providing higher standards of performance plus new sizes and terminals.

All IRC Precisions, except Type WW10J, are furnished with rugged lug terminals for soldered connections. Type WW10J has wire lead terminals 2″ long.

All Types except WW8J and WW10J are wound with adjacent sections in opposite directions. This provides windings of low residual inductance, and windings that have little coupling effect from other parts of the circuit. Type WW8J, with single section, is wound non-inductively. Type WW10J has a single section winding, but inductance is minimized by the comparatively small size of this unit.

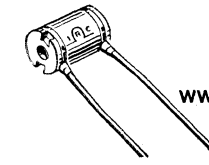
PRECISION WIRE WOUND RESISTORS

WW3J



WW8J

WW11J


WW10J

TYPE WW2J

Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price
600K Ohms	$12.00	900K Ohms	$16.56	1.5 Megohms	$25.25	2.5 Megohms	$37.10
750K Ohms	12.00	1.0 Megohm	16.56	2.0 Megohms	30.49		

TYPE WW3J

Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price
0.1 Ohm	$ 3.56	300 Ohms	$ 2.10	7,500 Ohms	$ 2.46	60K Ohms	$ 2.46
0.2 Ohm	3.56	500 Ohms	2.10	10 K Ohms	2.46	75K Ohms	3.10
0.5 Ohm	2.94	1,000 Ohms	2.10	12.5K Ohms	2.46	100K Ohms	3.10
1.0 Ohm	2.94	1,500 Ohms	2.10	15 K Ohms	2.46	125K Ohms	3.66
5 Ohms	2.74	2,000 Ohms	2.10	20 K Ohms	2.46	150K Ohms	4.26
10 Ohms	2.74	2,500 Ohms	2.10	22.5K Ohms	2.46	175K Ohms	4.26
25 Ohms	2.74	3,000 Ohms	2.10	25 K Ohms	2.46	200K Ohms	3.56
50 Ohms	2.74	3,500 Ohms	2.10	30 K Ohms	2.46	225K Ohms	3.56
100 Ohms	2.10	4,000 Ohms	2.10	40 K Ohms	2.46		
200 Ohms	2.10	5,000 Ohms	2.10	50 K Ohms	2.46		
250 Ohms	2.10						

TYPE WW4J

Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price
0.1 Ohm	$ 3.79	500 Ohms	$ 2.34	12.5K Ohms	$ 2.66	100K Ohms	$ 3.44
0.2 Ohm	3.29	1,000 Ohms	2.34	15 K Ohms	2.66	125K Ohms	3.96
0.5 Ohm	3.29	1,500 Ohms	2.34	20 K Ohms	2.66	150K Ohms	4.32
1.0 Ohm	2.86	2,000 Ohms	2.34	22.5K Ohms	2.66	175K Ohms	4.40
5 Ohms	2.86	2,500 Ohms	2.34	25 K Ohms	2.66	200K Ohms	4.40
10 Ohms	2.86	3,000 Ohms	2.66	30 K Ohms	3.44	225K Ohms	5.34
25 Ohms	2.86	3,500 Ohms	2.66	40 K Ohms	3.44	250K Ohms	5.34
50 Ohms	2.86	4,000 Ohms	2.66	50 K Ohms	3.44	300K Ohms	5.34
100 Ohms	2.34	5,000 Ohms	2.66	60 K Ohms	3.44	400K Ohms	5.43
200 Ohms	2.34	7,500 Ohms	2.66	75 K Ohms	3.44	500K Ohms	6.30
250 Ohms	2.34	10K Ohms	2.66				
300 Ohms	2.34						

TYPE WW5J

Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price
600K Ohms	$10.20	750K Ohms	$12.00	900K Ohms	$10.70	1.0 Megohm	$10.70

TYPE WW10J

Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price	Stock Resistance Values	List Price
10 Ohms	$ 2.44	1,000 Ohms	$ 1.96	7,500 Ohms	$ 2.14	40K Ohms	$ 2.60
25 Ohms	1.96	1,500 Ohms	1.96	10K Ohms	2.14	50K Ohms	2.60
50 Ohms	1.96	2,000 Ohms	2.14	12.5K Ohms	2.14	60K Ohms	2.84
100 Ohms	1.96	2,500 Ohms	2.14	15K Ohms	2.34	75K Ohms	3.04
200 Ohms	1.96	3,000 Ohms	2.14	20K Ohms	2.34	100K Ohms	3.04
250 Ohms	1.96	3,500 Ohms	2.14	25K Ohms	2.34		
300 Ohms	1.96	4,000 Ohms	2.14	30K Ohms	2.34		
500 Ohms	1.96	5,000 Ohms	2.14				

SPECIAL VALUES: For non-stock values, use price of next higher listed value. Request prices on WW8J and WW11J from Distributor.

MINIMUM RESISTANCE VALUES FOR SPECIAL RESISTANCE TOLERANCES

	SPECIAL TOLERANCE	WW2J—WW3J—WW4J WW5J—WW8J—WW11J	WW10J	PRICING
±1.0% TOLERANCE IS STANDARD	±0.5%	1 Ohm & Over	50 Ohms & Over	Add 5% to above prices
	±0.25%	5 Ohms & Over	100 Ohms & Over	Add 10% to above prices
	±0.1%	10 Ohms & Over	100 Ohms & Over	Add 25% to above prices

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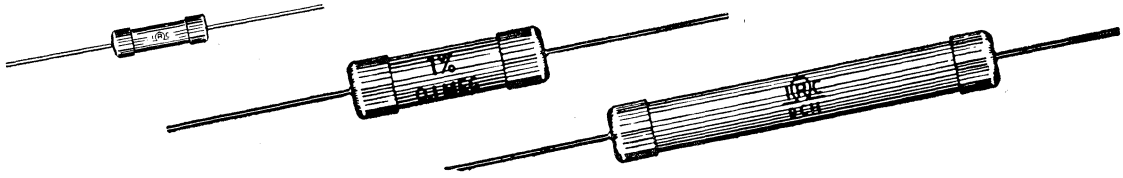
CLOSE TOLERANCE PRECISTORS

TYPE DC
DEPOSITED CARBON RESISTORS
1% ACCURACY
PRECISION PACKAGED
½, 1 and 2 WATTS



IRC Deposited Carbon Precision Resistors offer a unique combination of close tolerance, stability and economy. Pure crystalline carbon is bonded to selected ceramic cores to produce a resistor ideally suited to the requirements of instrumentation, advanced electronics and critical television circuits.

Deposited Carbon Precistors provide a combination of characteristics not found in any other resistor type. The wide range of values, accuracy, high stability, low voltage coefficient, excellent frequency characteristics, predictable temperature characteristics, high voltage rating, low noise level and small size of PRECISTORS make them superior for many popular applications.

IRC Type DC Deposited Carbon Precistors are available in three sizes: ½ watt (body size $\frac{9}{16}$" x $\frac{5}{32}$"), 1 watt (body size $\frac{13}{16}$" x $\frac{9}{32}$"), and 2 watts (body size $2\frac{1}{16}$" x $\frac{9}{32}$"). Accuracy ±1% (25°C).

For complete protection against scratches, jars and surface injury IRC PRECISTORS are factory packed in capped plastic tubes. This special precision packaging also safeguards these close tolerance resistors against excessive handling.

STOCK VALUES—TYPES DCC (½ WATT)—DCF (1 WATT)—DCH (2 WATTS)

OHMS	OHMS	OHMS	OHMS	OHMS	MEG	MEG
—	100	1000	10K	100K	1.0	10[FH]
—	110	1100	11K	110K	1.1	11[H]
—	120	1200	12K	120K	1.2	12[H]
—	130	1300	13K	130K	1.3	13[H]
—	150	1500	15K	150K	1.5	15[H]
—	160	1600	16K	160K	1.6	16[H]
—	180	1800	18K	180K	1.8	18[H]
—	200	2000	20K	200K	2.0	20[H]
—	220	2200	22K	220K	2.2[FH]	22[H]
—	240	2400	24K	240K	2.4[FH]	24[H]
—	250[F]	2500[F]	25K[F]	250K[F]	2.5[FH]	—
—	270	2700	27K	270K	2.7[FH]	27[H]
—	300	3000	30K	300K	3.0[FH]	30[H]
—	330	3300	33K	330K	3.3[FH]	—
—	360	3600	36K	360K	3.6[FH]	—
—	390	3900	39K	390K	3.9[FH]	—
—	400[F]	4000[F]	40K[F]	400K[F]	4.0[F]	—
—	430	4300	43K	430K	4.3[FH]	—
—	470	4700	47K	470K	4.7[FH]	—
—	500[F]	5000[F]	50K[F]	500K	5.0[FH]	—
51[C]	510	5100	51K	510K[FH]	5.1[FH]	—
56[C]	560	5600	56K	560K	5.6[FH]	—
62[C]	620	6200	62K	620K	6.2[FH]	—
68[C]	680	6800	68K	680K	6.8[FH]	—
75[C]	750	7500	75K	750K	7.5[FH]	—
82[C]	820	8200	82K	820K	8.2[FH]	—
91[C]	910	9100	91K	910K	9.1[FH]	—

C=DCC only F=DCF only H=DCH only FH=DCF & DCH only

	List Price	Dealer Net		List Price	Dealer Net
DCC—51 ohms thru 2.0 meg	$ .67	$ .40	DCH—200 ohms thru 10 meg	$1.20	$ .72
DCF—100 ohms thru 5.0 meg	1.00	.60	DCH—10.1 meg thru 30 meg	1.30	.78
DCF—5.1 meg thru 10 meg	1.10	.66			

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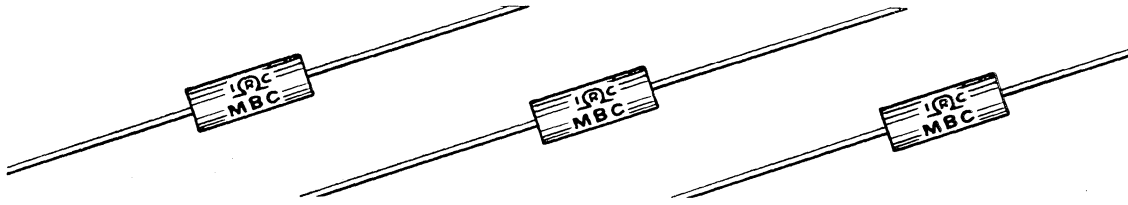
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

MOLDED BORON - CARBON PRECISTORS 1% ACCURACY ½ WATT

IRC CLOSE TOLERANCE PRECISTORS



TYPE MBC

IRC's Molded Boron-Carbon Precistor is a precision film type resistor that incorporates the added advantages of a fully insulated unit. The molded plastic housing provides complete mechanical protection, and minimizes the effect of moisture. Because of its greater heat dissipating capacity, load life characteristics for the Type MBC are improved over those of either boron or deposited carbon unmolded units.

APPLICATIONS

Type MBC Molded Boron-Carbons are particularly suited for applications where unmolded boron or deposited carbon units cannot be used due to the risk of mechanical damage to their coating, insulation breakdown, or high moisture change.

SPECIFICATIONS

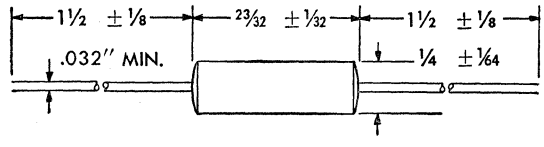
WATTAGE RATING: ½ watt at 40°C. ambient (per MIL-R-10509A), derated to 0 at 120°C.

RESISTANCE VALUES: 10 ohms to 510K ohms.

TOLERANCE: Standard tolerance is 1%.

IDENTIFICATION: Housing is distinctive green plastic. Type designation, resistance value and tolerance are stamped on each unit.

DIMENSIONS:



STANDARD STOCK VALUES

Ohms	Ohms	Ohms	Ohms	Ohms
10	100	1,000	10K	100K
11	110	1,100	11K	110K
12	120	1,200	12K	120K
13	130	1,300	13K	130K
15	150	1,500	15K	150K
16	160	1,600	16K	160K
18	180	1,800	18K	180K
20	200	2,000	20K	200K
22	220	2,200	22K	220K
24	240	2,400	24K	240K
27	270	2,700	27K	270K
30	300	3,000	30K	300K
33	330	3,300	33K	330K
36	360	3,600	36K	360K
39	390	3,900	39K	390K
43	430	4,300	43K	430K
47	470	4,700	47K	470K
51	510	5,100	51K	510K
56	560	5,600	56K	—
62	620	6,200	62K	—
68	680	6,800	68K	—
75	750	7,500	75K	—
82	820	8,200	82K	—
91	910	9,100	91K	—

	List Price
Standard Values and Tolerance	$1.00
Special Values and Tolerances	2.00

TYPE BOC. ½ watt unmolded Boron-Carbon Precistors, designated Type BOC are available on special order.

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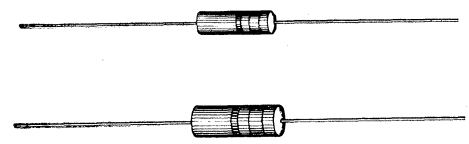
INSULATED CHOKES



Type	Inductance (Microhenrys)	List Price
CL½	.22 to 1	$0.35
CLA	.22 to 7.5	.35

IRC Insulated Chokes are available in four sizes designated as types CL½, CLA, CL1, and CL2. All four are fully insulated in molded phenolic housings for full protection against high humidity. The insulated housing also guards the winding from abrasion and physical damage, and prevents any possibility of shorting to chassis. Color coded for easy identification.

The wide range of size and characteristic combinations available permits accurate replacement with respect to space and electrical requirements.

TYPE CL½ CHOKES

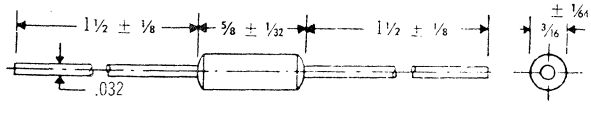
RETMA PREFERRED VALUES AND ±20% TOLERANCES

Inductance (Microhenrys)	Approximate "Q" at Frequencies (Mc)	D. C. Resistance (Ohms)	Approximate Self-Resonant Frequency (Mc)	Current Rating (Milliamperes) (1)*	(2)*
.22	20 @ 15	.24 ± 30%	505	1000	1500
.27	19 @ 14	.33 ± 30%	455	850	1200
.33	19 @ 14	.47 ± 30%	415	700	1000
.39	18 @ 13	.51 ± 30%	380	700	950
.47	17 @ 12	.70 ± 30%	345	600	800
.56	17 @ 11	.98 ± 30%	315	500	700
.68	16 @ 10	1.0 ± 30%	290	500	700
.82	16 @ 9	1.5 ± 30%	260	400	550
1.0	16 @ 9	2.0 ± 30%	235	350	500

NOTE: Distributed capacitance approximately 0.59 micro-micofarads.

*(1) Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

*(2) Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.



TYPE CLA CHOKES

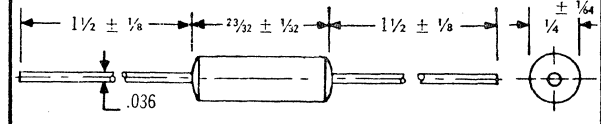
RETMA PREFERRED VALUES AND 10% TOLERANCES

Inductance (Microhenrys)	Approximate "Q" at Frequencies (Mc)	D. C. Resistance (Ohms)	Approximate Self-Resonant Frequency (Mc)	Current Rating (Milliamperes) (1)*	(2)*
.22	34 @ 15	.085 ± 30%	440	2600	3900
.24	33 @ 15	.088 ± 30%	420	2300	3400
.27	33 @ 14	.090 ± 30%	400	2200	3300
.30	33 @ 14	.12 ± 30%	380	1900	2800
.33	32 @ 14	.13 ± 30%	360	1800	2700
.36	32 @ 13	.16 ± 30%	345	1600	2500
.39	31 @ 13	.17 ± 30%	330	1600	2400
.43	31 @ 12	.18 ± 30%	315	1500	2300
.47	30 @ 12	.22 ± 30%	305	1400	2100
.51	30 @ 11	.25 ± 30%	290	1300	2000
.56	30 @ 11	.26 ± 30%	275	1300	1900
.62	29 @ 11	.34 ± 30%	265	1100	1700
.68	29 @ 10	.37 ± 30%	250	1100	1600
.75	28 @ 10	.38 ± 30%	240	1000	1600
.82	27 @ 9	.49 ± 30%	230	950	1400
.91	26 @ 9	.51 ± 30%	215	900	1400
1.0	26 @ 9	.66 ± 30%	205	800	1200
1.1	25 @ 8	.67 ± 30%	200	800	1200
1.2	24 @ 8	.68 ± 20%	190	800	1200
1.3	24 @ 8	.88 ± 20%	180	700	1050
1.5	23 @ 7	.94 ± 20%	170	650	1000
1.6	22 @ 7	1.2 ± 20%	165	600	900
1.8	22 @ 7	1.3 ± 20%	155	550	850
2.0	21 @ 6	1.4 ± 20%	145	550	850
2.2	20 @ 6	1.8 ± 20%	140	475	700
2.4	19 @ 5	1.9 ± 20%	135	475	700
2.7	19 @ 5	2.0 ± 20%	125	475	700
3.0	18 @ 5	2.6 ± 20%	120	400	600
3.3	18 @ 5	2.8 ± 20%	115	400	550
3.6	17 @ 5	3.7 ± 20%	110	350	500
3.9	17 @ 4.5	3.8 ± 20%	105	325	500
4.3	16 @ 4.5	4.5 ± 30%	100	300	450
4.7	15 @ 4.0	4.7 ± 30%	96	300	450
5.1	14 @ 4.0	4.9 ± 30%	92	300	450
5.6	13 @ 4.0	5.1 ± 30%	88	275	425
6.2	13 @ 3.5	5.4 ± 30%	84	275	425
6.8	12 @ 3.5	5.6 ± 30%	80	275	400
7.5	11 @ 3.5	5.9 ± 30%	76	275	400

NOTE: Distributed capacitance approximately 0.59 micro-micofarads.

*(1) Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

*(2) Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.



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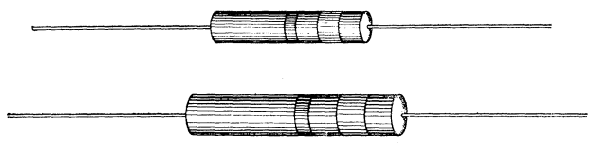
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



Type	INDUCTANCE (Microhenrys)	List Price
CL1	.47 to 10.0	$0.35
CL1	11 to 24.0	.50
CL2	1.0 to 39	.67

IRC INSULATED CHOKES

TYPE CL1 CHOKES

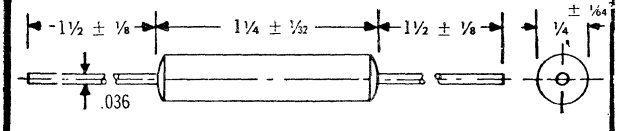
RETMA PREFERRED VALUES AND 10% TOLERANCES

Inductance (Microhenrys)	Approximate "Q" at Frequencies (Mc)	D. C. Resistance (Ohms)	Approximate Self-Resonant Frequency (Mc)	Current Rating (Milliamperes) (1)*	(2)*
.47	35 @ 12	.14 ± 30%	330	1850	2900
.51	34 @ 11	.15 ± 30%	315	1800	2800
.56	34 @ 11	.16 ± 30%	300	1750	2700
.62	33 @ 10	.16 ± 30%	285	1750	2700
.68	33 @ 10	.22 ± 30%	275	1500	2300
.75	33 @ 10	.23 ± 30%	260	1450	2300
.82	32 @ 9	.29 ± 30%	250	1300	2000
.91	32 @ 9	.31 ± 30%	235	1250	1950
1.0	32 @ 9	.33 ± 30%	225	1200	1900
1.1	31 @ 8	.40 ± 30%	215	1100	1700
1.2	31 @ 8	.40 ± 20%	205	1100	1700
1.3	30 @ 8	.42 ± 20%	195	1050	1700
1.5	29 @ 7	.56 ± 20%	185	950	1450
1.6	29 @ 7	.59 ± 20%	180	900	1400
1.8	28 @ 7	.77 ± 20%	170	800	1250
2.0	27 @ 6	.82 ± 20%	160	750	1200
2.2	26 @ 6	.87 ± 20%	150	750	1150
2.4	25 @ 6	1.1 ± 20%	145	650	1050
2.7	25 @ 5	1.2 ± 20%	135	600	1000
3.0	24 @ 5	1.6 ± 20%	130	550	850
3.3	24 @ 5	1.7 ± 20%	125	500	850
3.6	23 @ 5	1.7 ± 20%	120	500	850
3.9	23 @ 4.5	2.3 ± 20%	115	450	750
4.3	22 @ 4.5	2.4 ± 20%	110	450	700
4.7	22 @ 4.0	2.5 ± 20%	105	450	700
5.1	21 @ 4.0	3.3 ± 20%	100	375	600
5.6	21 @ 4.0	3.4 ± 20%	95	375	600
6.2	20 @ 3.5	3.6 ± 20%	80	375	600
6.8	20 @ 3.5	4.7 ± 20%	86	325	550
7.5	19 @ 3.5	5.0 ± 20%	82	300	525
8.2	18 @ 3.0	5.2 ± 20%	79	300	500
9.1	18 @ 3.0	7.2 ± 20%	75	250	425
10	17 @ 3.0	7.5 ± 20%	71	250	425
11	17 @ 2.5	9.5 ± 20%	68	225	375
12	16 @ 2.5	9.9 ± 20%	65	225	375
13	15 @ 2.5	11 ± 30%	62	200	350
15	14 @ 2.5	12 ± 30%	58	200	325
16	13 @ 2.5	13 ± 30%	56	175	325
18	13 @ 2.0	14 ± 30%	53	175	300
20	12 @ 2.0	14 ± 30%	50	175	300
22	11 @ 2.0	15 ± 30%	48	175	300
24	10 @ 2.0	15 ± 30%	46	175	300

NOTE: Distributed capacitance approximately 0.59 micro-microfarads.

*(1) Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

*(2) Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.



TYPE CL2 CHOKES

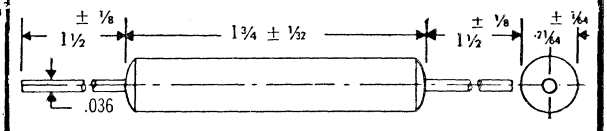
RETMA PREFERRED VALUES AND 10% TOLERANCES

Inductance (Microhenrys)	Approximate "Q" at Frequencies (Mc)	D. C. Resistance (Ohms)	Approximate Self-Resonant Frequency (Mc)	Current Rating (Milliamperes) (1)*	(2)*
1.0	31 @ 9	.26 ± 30%	230	1500	2700
1.1	30 @ 8	.35 ± 30%	215	1300	2400
1.2	30 @ 8	.37 ± 30%	210	1250	2300
1.3	30 @ 8	.38 ± 30%	200	1250	2200
1.5	29 @ 7	.52 ± 30%	185	1050	1900
1.6	28 @ 7	.53 ± 30%	180	1050	1900
1.8	28 @ 7	.65 ± 20%	170	950	1700
2.0	27 @ 6	.68 ± 20%	160	900	1700
2.2	27 @ 6	.71 ± 20%	155	900	1600
2.4	26 @ 6	.93 ± 20%	145	800	1450
2.7	25 @ 5	.97 ± 20%	140	750	1400
3.0	25 @ 5	1.3 ± 20%	130	650	1200
3.3	25 @ 5	1.3 ± 20%	125	650	1200
3.6	24 @ 5	1.4 ± 20%	120	650	1200
3.9	24 @ 4.5	1.8 ± 20%	115	550	1050
4.3	23 @ 4.5	1.9 ± 20%	110	550	1000
4.7	22 @ 4.0	2.0 ± 20%	105	550	1000
5.1	22 @ 4.0	2.6 ± 20%	100	475	850
5.6	21 @ 4.0	2.7 ± 20%	95	450	850
6.2	21 @ 3.5	3.7 ± 20%	90	400	700
6.8	20 @ 3.5	3.8 ± 20%	87	375	700
7.5	20 @ 3.5	4.0 ± 20%	83	375	700
8.2	19 @ 3.0	5.2 ± 20%	80	325	600
9.1	19 @ 3.0	5.5 ± 20%	75	325	600
10	18 @ 3.0	5.7 ± 20%	72	300	550
11	18 @ 3.0	7.6 ± 20%	69	275	500
12	17 @ 2.5	7.9 ± 20%	66	275	500
13	17 @ 2.5	8.2 ± 20%	63	250	475
15	16 @ 2.5	11 ± 20%	59	225	425
16	16 @ 2.5	11 ± 20%	57	225	425
18	15 @ 2.0	15 ± 20%	54	175	350
20	15 @ 2.0	16 ± 20%	51	175	350
22	14 @ 2.0	19 ± 30%	49	175	325
24	14 @ 2.0	20 ± 30%	46	150	300
27	13 @ 2.0	21 ± 30%	44	150	300
30	12 @ 1.5	22 ± 30%	42	150	300
33	12 @ 1.5	23 ± 30%	40	150	275
36	11 @ 1.5	24 ± 30%	38	150	225
39	11 @ 1.5	25 ± 30%	36	150	225

NOTE: Distributed capacitance approximately 0.59 micro-microfarads.

*(1) Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

*(2) Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.



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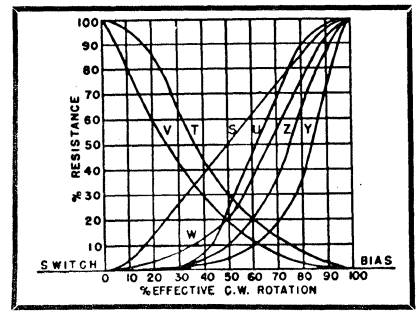
COMPOSITION-ELEMENT CONTROLS

These "Pick-A-Shaft"* and "Ad-A-Switch"* controls will take any of the shafts listed on page R-24, including High Voltage Coupler and insulated shaft. Your choice of any one of the 12 shafts listed (this does not include insulated shaft) with each control. "A47F" and "A47" controls use "SWE" switches, shown on page R-24. Tolerances of these controls are in accord with RETMA standards — overall resistance tolerance of plus/minus 20% for all values up to and including 100K ohms; plus/minus 30% above 100K. Controls are available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating type of shaft desired, when ordering. Example: 47-100K-S with FKS- ¼ shaft.



Graph Explanation:

Taper S—Straight or uniform resistance change with rotation.

Taper T—Right-hand 30% resistance at 50% of C.C.W. rotation.

Taper U—Left-hand 1% resistance at 33⅓% of C.W. rotation.

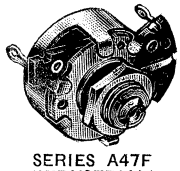
Taper V—Right-hand 20% resistance at 50% of C.C.W. rotation.

Taper W—Left-hand 20% resistance at 50% of C.W. rotation.

Taper Z—Left-hand (Log. audio) 10% resistance at 50% of C.W. rotation.

Taper Y—Left-hand 5% resistance at 50% of C.W. rotation.

SERIES "A47F" ½ WATT TAPPED CONTROLS



SERIES A47F
(INDUSTRIAL)
SERIES 47F

These are the popular $\frac{13}{16}$" dia. composition-element controls which are replacing the larger 1-⅛" dia. units, without sacrifice in rating or performance. Series "A47F" controls are field-assembled with the selected "Pick-A-Shaft"* and "Ad-A-Switch"*, as stated above. Tolerances as above-stated. "A47F" controls have taps 1, 2, 3 located at 30%, 50% and 70% of rotation, respectively. These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type of shaft desired when ordering. Example: 47F-200K with FS-3 shaft.

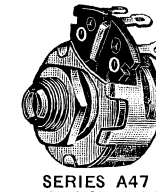
Cat. No.	Res. Ohms.	Tap No. 1 30%	Tap No. 2 50%	Tap No. 3 70%
A47F-50K	50K		25K	
A47F-200K	200K			100K
A47F-250K	250K			50K
A47F1-250K	250K		125K	
A47F-350K	350K	75K		
A47F1-350K	350K		75K	
A47F-500K	500K			100K
A47F1-500K	500K	25K		
A47F2-500K	500K			200K
A47F3-500K	500K		100K	
A47F4-500K	500K		50K	
A47F5-500K	500K		250K	
A47F-1 Meg.	1 Meg.	250K		
A47F1-1 Meg.	1 Meg.			200K
A47F2-1 Meg.	1 Meg.		50K	
A47F3-1 Meg.	1 Meg.		100K	
A47F4-1 Meg.	1 Meg.		225K	
A47F5-1 Meg.	1 Meg.		500K	
A47F-2 Meg.	2 Meg.	20K		
A47F1-2 Meg.	2 Meg.	5000		
A47F2-2 Meg.	2 Meg.	15K		
A47F3-2 Meg.	2 Meg.		1 Meg.	
A47F4-2 Meg.	2 Meg.		200K	
A47F5-2 Meg.	2 Meg.		400K	
A47F6-2 Meg.	2 Meg.		500K	
A47F-3 Meg.	3 Meg.		250K	

LIST PRICE $2.05
Standard Packing 10 per Carton.

For Power Switch, see listing on Page R-32.
*Reg. U.S. Pat. Off.

SERIES "A47" ½ WATT CONTROLS

Composition-element controls in the popular $\frac{15}{16}$" dia. size. Series "A47" controls are field-assembled with the selected "Pick-A-Shaft"* and "Ad-A-Switch"*, as stated above. Tolerances as above-stated. These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type shaft desired when ordering. Example: 47-100K-S with FKS-¼ shaft.



SERIES A47
(INDUSTRIAL)
SERIES 47

CAT No.	OHMS	TAPER	CAT No.	OHMS	TAPER
A47-500-S	500	S	A47-75K-V	75K	V
A47-750-S	750	S	A47-100K-S	100K	S
A47-1000-S	1000	S	A47-100K-Z	100K	Z
A47-1500-S	1500	S	A47-150K-S	150K	S
A47-2000-S	2000	S	A47-200K-S	200K	S
A47-2500-S	2500	S	A47-250K-S	250K	S
A47-3000-S	3000	S	A47-250K-Z	250K	Z
A47-4000-S	4000	S	A47-300K-S	300K	S
A47-5000-S	5000	S	A47-500K-S	500K	S
A47-7500-S	7500	S	A47-500K-Z	500K	Z
A47-10K-S	10K	S	A47-750K-S	750K	S
A47-10K-V	10K	V	A47-750K-Z	750K	Z
A47-10K-W	10K	W	A47-1 Meg-S	1 Meg.	S
A47-10K-Z	10K	Z	A47-1 Meg-Z	1 Meg.	Z
A47-15K-S	15K	S	A47-1.5 Meg-S	1.5 Meg.	S
A47-15K-V	15K	V	A47-2 Meg-Z	2 Meg.	Z
A47-15K-W	15K	W	A47-2 Meg-S	2 Meg.	S
A47-20K-S	20K	S	A47-2.5 Meg-S	2.5 Meg.	S
A47-25K-S	25K	S	A47-3 Meg-S	3 Meg.	S
A47-25K-W	25K	W	A47-3-Meg.-Z	3 Meg.	Z
A47-25K-V	25K	V	A47-4 Meg-S	4 Meg.	S
A47-30K-S	30K	S	A47-4 Meg-Z	4 Meg.	Z
A47-40K-S	40K	S	A47-5 Meg-Z	5 Meg.	Z
A47-50K-S	50K	S	A47-5 Meg-S	5 Meg.	S
A47-50K-W	50K	W	A47-7.5 Meg-S	7.5 Meg.	S
A47-50K-Z	50K	Z	A47-10 Meg-S	10 Meg.	S
A47-75K-S	75K	S			

LIST PRICE $1.40 Standard Packing 10 per Carton.
For Power Switch, see listing on Page R-32.

SERIES "AD47" ½-WATT DUAL CONTROLS

These composition-element controls are ganged together so that both sections are operated by a single shaft in corresponding rotation. Available with "Pick-A-Shaft"* and "Ad-A-Switch"* features, for audio, radio-TV and industrial applications. Controls take any shaft listed on page R-24, including High Voltage Coupler and Insulated Shafts. Your choice of 13 shafts listed (this does not include insulated shaft) with each control. Tolerances of plus/minus 20% up to and including 100K ohms; plus/minus 30% above 100K. Controls take Series SWE Switches. Items not listed are special; prices and information on request.

Cat. No.	Panel	Taper	Rear	Taper
AD47-50-S	50K	S	50K	S
AD47-100K-S	100K	S	100K	S
AD47-250K-S	250K	S	250K	S
AD47-250K-Z	250K	Z	250K	Z
AD47-500K-Z	500K	Z	500K	Z
AD47-1 Meg.-S	1 Meg.	S	1 Meg.	S
AD47-1 Meg.-Z	1 Meg.	Z	1 Meg.	Z
AD47-2 Meg.-S	2 Meg.	S	2 Meg.	S
AD47-2 Meg.-V	2 Meg.	V	2 Meg.	V
AD47-5 Meg.-S	5 Meg.	S	5 Meg.	S

LIST PRICE $3.40 Standard Packing — Individual Carton

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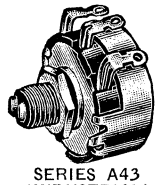
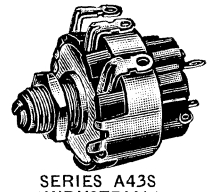
WIRE-WOUND CONTROLS

These are "Pick-A-Shaft"* controls which take any one of 12 shafts listed on page R-24 including High Voltage Coupler and insulated shaft. Your choice of any one of the 12 shafts listed (this does not include insulated shaft) with each control. Tolerances of these controls are in accordance with RETMA standards. Overall resistance tolerance of plus/minus 10% for all values. All controls are linear. Available with factory-assembled shafts at no extra charge, by omitting the prefix "A" from the catalog number and designating the type of shaft desired when ordering. Example: 43-500 with FKS-¼ shaft, or 43S-10K with FS-3 shaft and SPST switch.

SERIES "A43" and "A43S" 2-WATT CONTROLS



SERIES A43
(INDUSTRIAL)
SERIES 43



SERIES A43S
(INDUSTRIAL)
SERIES 43S

"A43" is without switch, while "A43S" has factory-attached SPST switch. When ordering "A43S" controls, specify type of switch. Controls with other than SPST switch are special. Prices and information on request.

Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms	Without Switch Cat. No	With SPST Switch Cat. No.	Res. Ohms
A43-5	A43S-5	5	A43-400	A43S-400	400
A43-10	A43S-10	10	A43-500	A43S-500	500
A43-20	A43S-20	20	A43-750	A43S-750	750
A43-25	A43S-25	25	A43-1,000	A43S-1,000	1,000
A43-30	A43S-30	30	A43-1,500	A43S-1,500	1,500
A43-40	A43S-40	40	A43-2,000	A43S-2,000	2,000
A43-50	A43S-50	50	A43-2,500	A43S-2,500	2,500
A43-75	A43S-75	75	A43-3,000	A43S-3,000	3,000
A43-100	A43S-100	100	A43-4,000	A43S-4,000	4,000
A43-150	A43S-150	150	A43-5,000	A43S-5,000	5,000
A43-200	A43S-200	200	A43-7,500	A43S-7,500	7,500
A43-300	A43S-300	300	A43-10K	A43S-10K	10K

LIST PRICE $1.40 (Without Switch) — $2.20 (With SPST Switch)
Standard Packing: 10 per Carton.

SERIES "A58" and "A58S" 3- WATT CONTROLS

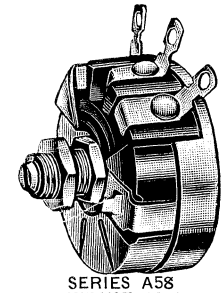
"A58" is without switch, while "A58S" has factory-attached SPST switch. Available with factory-assembled shafts, at no extra charge, by omitting prefix "A" from catalog number, and designating type of shaft desired when ordering. Example: 58-50K with KSS-3 shaft, or 58S-25K with RS-3 shaft and SPST switch. Controls with other than SPST switch are special. Prices and information on request.

Without Switch Cat. No.	Res. Ohms	List Price
A58-1	1	$1.40
A58-2	2	1.40
A58-4	4	1.40
A58-6	6	1.40
A58-10	10	1.40
A58-15	15	1.40
A58-20	20	1.40
A58-25	25	1.40
A58-30	30	1.40
A58-40	40	1.40
A58-50	50	1.40
A58-60	60	1.40
A58-75	75	1.40
A58-100	100	1.40
A58-200	200	1.40
A58-300	300	1.40
A58-400	400	1.40
A58-500	500	1.40
A58-750	750	1.40
A58-1,000	1,000	1.40
A58-1,500	1,500	1.40
A58-2,000	2,000	1.40
A58-2,500	2,500	1.40
A58-3,000	3,000	1.40

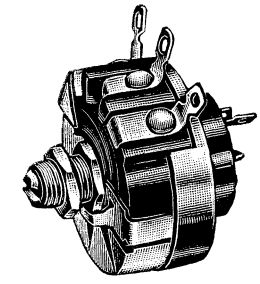
Without Switch Cat. No.	Res. Ohms	List Price
A58-4000	4,000	$1.40
A58-5,000	5,000	1.40
A58-7,500	7,500	1.40
A58-10K	10K	1.40
A58-15K	15K	1.80
A58-20K	20K	1.80
A58-25K	25K	1.80
A58-30K	30K	2.45
A58-40K	40K	2.45
A58-50K	50K	2.45

With SPST Switch Cat. No.	Res. Ohms	List Price
A58S-1	1	$2.20
A58S-2	2	2.20
A58S-4	4	2.20
A58S-6	6	2.20
A58S-10	10	2.20
A58S-15	15	2.20
A58S-20	20	2.20
A58S-25	25	2.20
A58S-30	30	2.20
A58S-40	40	2.20

Standard Packing: 10 per Carton.



SERIES A58
(INDUSTRIAL)
SERIES 58



SERIES A58S
(INDUSTRIAL)
SERIES 58S

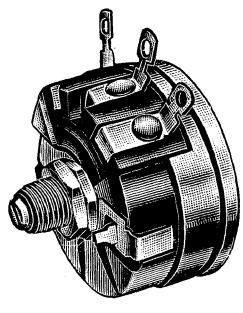
With SPST Switch Cat. No.	Res. Ohms	List Price
A58S-50	50	$2.20
A58S-60	60	2.20
A58S-75	75	2.20
A58S-100	100	2.20
A58S-200	200	2.20
A58S-300	300	2.20
A58S-400	400	2.20
A58S-500	500	2.20
A58S-750	750	2.20
A58S-1,000	1,000	2.20
A58S-1,500	1,500	2.20

A58S-2,000	2,000	$2.20
A58S-2,500	2,500	2.20
A58S-3,000	3,000	2.20
A58S-4,000	4,000	2.20
A58S-5,000	5,000	2.20
A58S-7,500	7,500	2.20
A58S-10K	10K	2.20
A58S-15K	15K	2.60
A58S-20K	20K	2.60
A58S-25K	25K	2.60
A58S-30K	30K	3.25
A58S-40K	40K	3.25
A58S-50K	50K	3.25

Standard Packing: 10 per Carton.

SERIES "A10" and "A10S" 4-WATT CONTROLS

"A10" is without switch, while "A10S" has factory-attached SPST switch. Also available with factory-assembled shaft at no extra charge, by omitting prefix "A" from catalog number. See above for examples. Controls with other than SPST switch are special. Price and information on request.



SERIES A10
(INDUSTRIAL)
SERIES 10

Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms	Without Switch List Price	With SPST Switch List Price
A10-1	A10S-1	1	$2.05	$2.85
A10-2	A10S-2	2	2.05	2.85
A10-4	A10S-4	4	2.05	2.85
A10-6	A10S-6	6	2.05	2.85
A10-10	A10S-10	10	2.05	2.85
A10-15	A10S-15	15	2.05	2.85
A10-20	A10S-20	20	2.05	2.85
A10-25	A10S-25	25	2.05	2.85
A10-30	A10S-30	30	2.05	2.85
A10-40	A10S-40	40	2.05	2.85
A10-50	A10S-50	50	2.05	2.85
A10-60	A10S-60	60	2.05	2.85
A10-75	A10S-75	75	2.05	2.85
A10-100	A10S-100	100	2.05	2.85
A10-200	A10S-200	200	2.05	2.85
A10-300	A10S-300	300	2.05	2.85
A10-400	A10S-400	400	2.05	2.85
A10-500	A10S-500	500	2.05	2.85

Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms	Without Switch List Price	With SPST Switch List Price
A10-750	A10S-750	750	$2.05	$2.85
A10-1,000	A10S-1,000	1,000	2.05	2.85
A10-1,500	A10S-1,500	1,500	2.05	2.85
A10-2,000	A10S-2,000	2,000	2.05	2.85
A10-2,500	A10S-2,500	2,500	2.05	2.85
A10-3,000	A10S-3,000	3,000	2.05	2.85
A10-4,000	A10S-4,000	4,000	2.05	2.85
A10-5,000	A10S-5,000	5,000	2.05	2.85
A10-7,500	A10S-7,500	7,000	2.05	2.85
A10-10K	A10S-10K	10K	2.05	2.85
A10-15K	A10S-15K	15K	2.40	3.20
A10-20K	A10S-20K	20K	2.40	3.20
A10-25K	A10S-25K	25K	2.40	3.20
A10-30K	A10S-30K	30K	3.05	3.85
A10-40K	A10S-40K	40K	3.05	3.85
A10-50K	A10S-50K	50K	3.05	3.85
A10-75K	A10S-75K	75K	3.70	4.50
A10-100K	A10S-100K	100K	3.70	4.50

Standard Packing: 10 per Carton.

*Reg. U. S. Pat. Off.

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PRODUCTS OF
THE HOUSE OF RESISTORS®

CLAROSTAT®

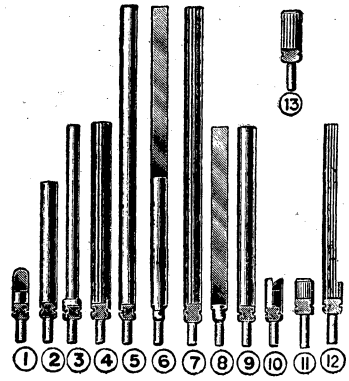
RESISTORS • CONTROLS
RESISTANCE DEVICES

SHAFTS and SWITCHES • BALLASTS • REGULATORS

SHAFTS FOR "PICK-A-SHAFT"* CONTROLS

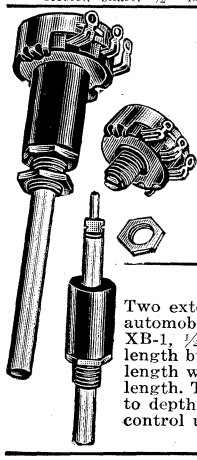
For use with all Clarostat "Pick - A - Shaft"* controls, either carbon or wire-wound. Your choice of shaft furnished with each control.

(1) SS-⅜" length—(Male) to take female fitting.
(2) RS-2—Round shaft, 2" long.
(3) RS-⅛—Round shaft ⅛" dia., 3" long.
(4) KSS-3—Knurled, split shaft, 3" long.
(5) RS-5—Round shaft, 5" long.
(6) FS-5—Flatted shaft, 5" long.
(7) KSS-5—Knurled, split shaft, 5" long.
(8) FS-3—Flatted shaft, 3" long.
(9) RS-3—Round shaft, 3" long.
(10) DFS-½—Double flatted Phileo Type, ½" long.
(11) FKS-¼—Fine knurled slotted shaft, ¼" long.
(12) KFS-3—Knurled flatted shaft, 3" long.
(13) FKS-½—Fine knurled slotted shaft, ½" long.



List Price, Each Shaft $0.30

HIGH VOLTAGE COUPLER



High-voltage shaft unit for operation up to 10K volts. Attaches to any Clarostat "Pick-A-Shaft" control, composition-element or wire-wound. Also available as a factory-attached unit on order. For example: "47-500K-S" unit with factory-attached high voltage coupler, order as a "47-500K-S-HVC." Manufacturers Series 47 - ½ meg.-S-HVC.

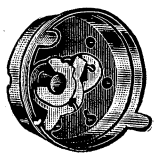
Cat. No.		List Price
59-186	Spacer and Bushing Assembly	$1.00
RN-3	Non-Metallic Shaft Round 3" long	1.00

BUSHINGS

Two extension bushings for the make-up of automobile replacement controls. Series XB-1, ½" d. x 2¼" l.; Series XB-2, same length but 7/16" d. Threaded on outside full length with 28 thread; 1/32" flat milled full length. Threaded ⅜" x 32 on inside, one end, to depth of ½". Adaptable to any Clarostat control using ⅜" x 32 bushing.

List Price $0.60

SERIES "SWE" SWITCHES FOR "AD-A-SWITCH"* CONTROLS



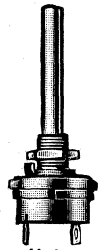
U. S. Pat. 2,642,506

For use with "A47" and "A47F" controls. Underwriters' Laboratories Inc. approved.

Cat. No.	Wiring	List Price
SWE-12	S.P.S.T. — Single Pole Single Throw, 5A.-125V. A.C.	$0.60
SWE-13	S.P.S.T. — Single Pole Single Throw, 15A.-10V. D.C.	$1.00
SWE-20	D.P.S.T. — Double Pole Single Throw, 3A.-125V. A.C.	.75
SWE-21	Mod. D.P.S.T. one pole on, one off or with Jumper S.P.D.T., 3A.-125V. A.C.-D.C.	.75

Standard Packing: 10 per Carton.

SERIES "BE" 15/16" ROTARY SWITCH



U. S. Pat. 2,642,506

Underwriters' Laboratories Inc. approved

Cat. No.	Wiring	List Price
BE-12 SPST	— Single-Pole Single-Throw, 5A-125 V. A.C.	$0.65
BE-20 DPST	— Double-Pole Single-Throw, 3A-125 V. A.C.	0.75
BE-21 (Mod.) DPST	— Double-Pole Single-Throw 3A-125 V. A.C. or D.C.	0.75

Mod. DPST has one pole "on," one pole "off"; or with Jumper it is SPDT).

Standard Packing—Individual Carton.

*Reg. U. S. Pat. Off.

UNIVERAL BALLAST

Universal replacements for most standard tube types. Replacing tube types as listed below.

Universal Tube No.	Replaces AC-DC Tubes Beg. with Letters	Having Numbers From	Ending in Letter
10-23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10-23-E	BK, BL, K, L, M	10 to 23	E
10-23-F	BK, BL, K, L, M	10 to 23	F, G, H
23-55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23-55-E	BK, BL, K, L, M	23 to 55	E
23-55-F	BK, BL, K, L, M	23 to 55	F, G, H
60-92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60-92-E	BK, BL, K, L, M	60 to 92	E
60-92-F	BK, BL, K, L, M	60 to 92	F, G, H
92-105-A	BK, BL, K, L, M	92 to 105	A, B, C, D

LIST PRICE $2.50

Standard Packing: Individual Carton.

STANDARD BALLAST

Exact replacements for resistor tube types.

Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
BK-29-B	BM-49-B	K-49-H	K-80-B	L-49-D	M-80-B
BK-29-D	BM-55-B	K-55-A	K-82-B	L-49-H	
BK-32-D		K-55-B	K-86-B	L-55-B	10-610
BK-36-B	K-36-D	K-55-C	K-90-A		100-37
BK-36-D	K-42-A		K-90₈B		
BK-36-H	K-42-AJ	K-55-D	K-92-A	L-55-C	100-76
BK-42-B		K-55-H		L-55-D	
BK-42-C	K-42-C	K-67-A	L-42-C		
BK-49-B	K-42-D	K-67-B	L-42-D	M-42-B	
BK-49-C				M-49-B	5459
BK-55-B		K-72-B	L-49-B	M-55-B	28602
BK-67-BJ	K-49-C	K-74-B	L-49-C	M-55-H	43X106
BL-42-D	K-49-D				

LIST PRICE $1.75

Standard Packing: Individual Carton.

TELEVISION BALLAST

Specific TV receiver tube-type ballasts.

Motorola 17A470303	Belmont B9M 16067	Pilot 35-37
Motorola 17A485459	Belmont B9M 16534	Emerson 397021
Teletone TBR102D	Belmont B9M 15822	Emerson 397022
Teletone TBR103D	Belmont B9M 17571	Emerson 397023
Teletone TBR104D	Belmont B9M 18941	Emerson 397036
	Stewart Warner ST-507300	

LIST PRICE $4.25 except 397036 LIST $2.25

Standard Packing: Individual Carton.
These units act as protective fuses and are therefore expendable.

RADIO AND TV LINE VOLTAGE REGULATORS

A protective unit designed to prevent line voltage surges from reaching radio or TV receivers. Will reduce surges up to 140 volts down to approximately 110 volts. Plugs in outlet and provides outlet for receiver. Available as follows:

Type No.	Rat. Watts	For Use with Sets Consuming	Dia.	Lgth.	List Price
TVA	300	200 to 300 watts	1¾"	1 13/32"	$2.75
TVB	375	300 to 375 watts	1 13/32"	3¾"	3.25

Standard Packing—10 (ten) per carton

Type No.	Rat. Watts	For Use with Receivers Consuming	No. of Tubes Used
0	50	Up to 60 watts	4
A	100	60 to 100 watts	5, 6, 7
B	150	100 to 150 watts	8, 9, 10
C	200	150 to 200 watts	11, 12
D	250	200 to 250 watts	2 Type 50
E*	100	60 to 100 watts	

*Note: For use with 220-volt receivers

LIST PRICE $2.75

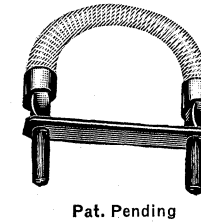
Standard Packing—10 (ten) per carton

"FUZOHM"* PLUG-IN FUSE-TYPE RESISTORS

Protect TV components. Resistors will withstand repeatedly high surge currents without damage, but will fuse when surge becomes dangerous to expensive components. These units act as protective fuses and are therefore expendable.

Cat. No. FZ1—5.6 ohms
Cat. No. FZ1—7.5 ohms

LIST PRICE $0.75



Pat. Pending

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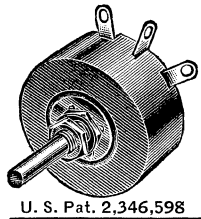
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

PRODUCTS OF
THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES



U. S. Pat. 2,346,598

POWER RHEOSTATS

Clarostat Power Rheostats maintain their full power rating at settings as low as one-third rotation without excessive temperature rise. Standard overall resistance tolerance plus/minus 10%. Closer tolerances are available upon special order.

The metal cored winding is embedded in a cold-setting, inorganic cement and is thereby bonded to the ceramic body. Unit mounts through a single hole. A locking pin is provided for rear panel mounting.

SERIES 25 — 25-WATT

Cat. No.	Total Res. Ohms	Max. Cur. at Total Res. Amps.	Max. Cur. Up to 1/3 Res. Amps.	List Price
25-1	1	5.000	7.500	$6.45
25-2	2	3.536	5.304	5.70
25-3	3	2.887	4.330	5.70
25-6	6	2.041	3.062	5.70
25-8	8	1.768	2.652	5.70
25-10	10	1.581	2.372	5.70
25-15	15	1.291	1.936	5.70
25-25	25	1.000	1.500	5.70
25-35	35	.845	1.268	5.70
25-50	50	.707	1.061	5.70
25-75	75	.577	.866	5.70
25-100	100	.500	.750	5.70
25-125	125	.447	.671	5.70
25-175	175	.378	.567	5.70
25-250	250	.316	.474	5.70
25-350	350	.267	.401	5.70
25-500	500	.224	.335	5.70
25-750	750	.183	.274	5.70
25-1,000	1,000	.158	.237	6.45
25-1,500	1,500	.129	.194	6.45
25-2,500	2,500	.100	.150	6.45
25-3,500	3,500	.085	.127	6.80
25-5,000	5,000	.071	.107	7.15

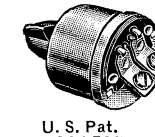
Standard Packing: Individual Carton.

SERIES 50 — 50-WATT

Cat. No.	Total Res. Ohms	Max. Cur. at Total Res. Amps.	Max. Cur. Up to 1/3 Res. Amps.	List Price
50-0.5	0.5	10.000	15.000	$7.15
50-1	1	7.071	10.607	7.15
50-2	2	5.000	7.500	7.15
50-4	4	3.536	5.304	6.45
50-6	6	2.887	4.330	6.45
50-8	8	2.500	3.750	6.45
50-12	12	2.041	3.062	6.45
50-16	16	1.768	2.652	6.45
50-22	22	1.508	2.261	6.45
50-35	35	1.195	1.793	6.45
50-50	50	1.000	1.500	6.45
50-80	80	.791	1.186	6.45
50-125	125	.632	.949	6.45
50-150	150	.577	.866	6.45
50-225	225	.471	.707	6.45
50-300	300	.408	.612	6.45
50-500	500	.316	.474	6.45
50-800	800	.250	.375	6.80
50-1,000	1,000	.224	.335	6.80
50-1,600	1,600	.177	.265	6.80
50-2,500	2,500	.141	.212	6.80
50-3,500	3,500	.120	.179	7.15
50-5,000	5,000	.100	.150	7.15
50-8,000	8,000	.079	.118	8.60
50-10K	10K	.071	.106	8.60

Standard Packing: Individual Carton.

AIRCRAFT-TYPE POWER RHEOSTATS



U. S. Pat. 2,346,598

Basically the same unit as the 25 and 50 watt Power Rheostats, mechanically and electrically. Unit is encased in metal housing rendering it explosion-proof and moisture resistant.

Terminals are screw-type lugs plated to prevent corrosion. 25- and 50-watt power rheostats when encased in metal housing, are derated 50%.

SERIES AN-3155-25 (25-WATT)

Cat. No.		List Price
AN-3155-25-10	10 ohms	$8.00
AN-3155-25-11	11 ohms	8.00
AN-3155-25-15	15 ohms	8.00
AN-3155-25-25	25 ohms	8.00
AN-3155-25-50	50 ohms	8.00
AN-3155-25-75	75 ohms	8.00
AN-3155-25-100	100 ohms	8.00
AN-3155-25-200	200 ohms	9.35

Prices include AN-3220—2 knob.
Standard Packing: Individual Carton.

SERIES AN-3155-50 (50-WATT)

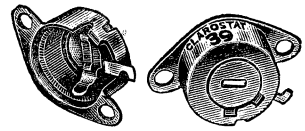
Cat. No.		List Price
AN-3155-50-5	5 ohms	$9.35
AN-3155-50-8	8 ohms	9.35
AN-3155-50-10	10 ohms	9.35
AN-3155-50-25	25 ohms	9.10
AN-3155-50-30	30 ohms	9.10
AN-3155-50-50	50 ohms	9.10
AN-3155-50-75	75 ohms	9.10
AN-3155-50-100	100 ohms	9.10
AN-3155-50-150	150 ohms	10.20
AN-3155-50-200	200 ohms	10.20

Prices include AN-3220—2 knob.
Standard Packing: Individual Carton.

RTV*-IZE!

No need to guess, experiment, cultivate trouble, when replacing TV controls. Clarostat provides the most complete data — the CLAROSTAT TV CONTROL REPLACEMENT MANUAL — and supplements.

Clarostat provides standard replacements where feasible, and exact-duplicate replacements where essential. Your Clarostat distributor can supply the Manual — and the replacements.



Compact. Inexpensive. 2-watt rating. Screwdriver adjusted by slot in drive plate. Mounting ears. For hum balance, centering, hold and locking, linearity, AGC sensitivity, etc.

LIST PRICE $0.65
Standard Packing: 10 per Carton.

SERIES 39 "HUMDINGER"* WIRE-WOUND CONTROLS

Cat. No.	Total Res. Ohms	Min. Res. Ohms	Cat. No.	Total Res. Ohms	Min. Res. Ohms	Cat. No.	Total Res. Ohms	Min. Res. Ohms
39-5	5	——	39-500	500	——	39-1000-100	1,000	100
39-8	8	——	39-500-100	500	100	39-1500	1,500	——
39-50	50	——	39-600	600	——	39-2000	2,000	——
39-75	75	——	39-650	650	——	39-2000-100	2,000	100
39-100	100	——	39-700	700	——	39-3000	3,000	——
39-125	125	——	39-700-200	700	200	39-3000-700	3,000	700
39-150	150	——	39-800	800	——	39-4000	4,000	——
39-200	200	——	39-800-50	800	50	39-4000-350	4,000	350
39-300	300	——	39-1000	1,000	——	39-4000-1000	4,000	1,000
						39-5000	5,000	——

*Reg. U. S. Pat. Off.

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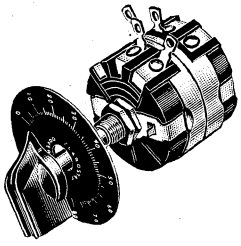
®

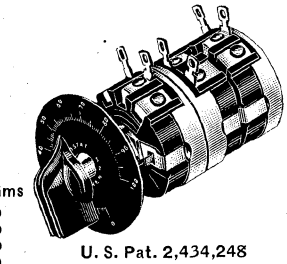
SOUND-SYSTEM CONTROLS

For proper control of volume and tone alike, Clarostat offers a choice of several controls, such as L- and T-pads, output attenuators, and individual-speaker volume controls as used for drive-in theatre installations. These are not ordinary radio controls but rather sound-system controls designed and built for critical requirements.

CONSTANT-IMPEDANCE CONTROLS



Self-compensating volume controls known as L-pads and T-pads for use in sound systems. Rated at 2½ watts DC, but will handle up to 10 watts audio. Continuous range from 0.5 to 30 decibels attenuation in 90% rotation. Last 10% affords infinite attenuation. With Clarostat constant-impedance L-pads and T-pads the input and output impedances of associated circuits can be kept within the limits of a constant required value. Knob and dial plate furnished with each control.

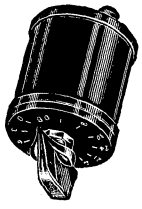


U. S. Pat. 2,434,248

CIT Cat. No.	CIL Cat. No.	Res. Ohms	CIT Cat. No.	CIL Cat. No.	Res. Ohms
CIT-4	CIL-4	4	CIT-200	CIL-200	200
CIT-6	CIL-6	6	CIT-250	CIL-250	250
CIT-8	CIL-8	8	CIT-500	CIL-500	500
CIT-15	CIL-15	15	CIT-600	CIL-600	600
CIT-50	CIL-50	50	CIT-1,000	CIL-1,000	1,000
CIT-100	CIL-100	100	CIT-2,000	CIL-2,000	2,000

CIT—LIST PRICE $4.50 CIL—LIST PRICE $4.00 Standard Packing: Individual Carton.

CONSTANT IMPEDANCE OUTPUT ATTENUATORS

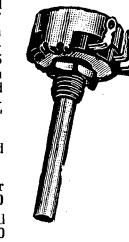


Series "CIB" rated at 10 watts, but will handle up to 30 watts in audio circuit. Linear attenuation provided in 3 decibel steps up to 24db, then 30db followed by infinity. Equipped with dial plate and bar knob. One-hole mounting, ⅜" bushing diameter. 1" shaft. This control has been developed to meet the need for a constant-impedance attenuator capable of handling considerable power without measurable insertion loss. Recommended as an output level control for power amplifiers, or as an input attenuator for individual or for a group of speakers in a public address system.

Cat. No.	Res. Ohms	Cat. No.	Res. Ohms
CIB-6	6	CIB-200	200
CIB-8	8	CIB-250	250
CIB-15	15	CIB-500	500
CIB-50	50	CIB-600	600

NET PRICE $6.75 Standard Packing: Individual Carton.

SPECIAL DRIVE-IN THEATRE L-PAD



To meet the needs of theater sound systems, more especially those of drive-in theaters, a special 8 ohm L-Pad is now available, containing two separate windings of 5 ohms and 40 ohms. Also 50 ohm linear rheostat and 35 ohm tapered rheostat, as listed. Units have ⅜-32 bushing ⅜" long, and 1½" round shaft.

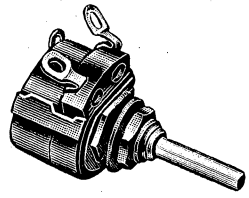
Cat. No. CM8727 8 ohm L-Pad **List Price $2.75**

Cat. No. CM17083 50 ohm linear rheostat **List Price $2.00**

Cat. No. CM17084 35 ohm tapered rheostat **List Price $2.00**

MINIATURIZED CONTROLS

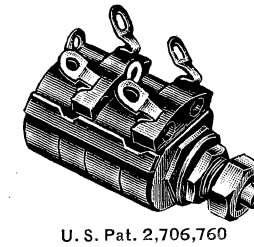
COMPOSITION ELEMENT CONTROLS—Series 48M



Composition element control rated at 0.2 watt. Diameter ⅝". Low-loss phenolic housing. ⅛" round shaft, ½" long. ¼" x 32 NEF-2 mounting bushing ¼" long. Mounting nut $\frac{1}{16}$" x $\frac{5}{16}$" across flat. Available as dual combinations.

Also available with split-locking bushing as Series 48M-9. Screwdriver slot shaft ⅛" diameter x $\frac{1}{16}$" long. Split-locking bushing holds control at predetermined setting by means of jam nut. Locking bushing ¼" x 32 NEF-2, ⅜" long.

Mechanical and electrical rotation of 300°. Linear and taper values available as listed below.



U. S. Pat. 2,706,760

RESISTANCE VALUES AND TOLERANCES

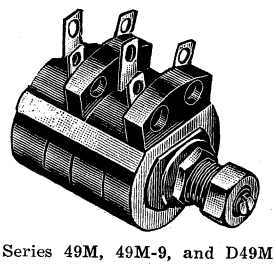
Ohmage	Plus/minus	Ohmage	Plus/minus
2.5 meg.	20%	25K	10%
1 meg.	20%	10K	10%
500K	20%	5,000	10%
250K	20%	2,500	10%
100K	10%	1,000	10%
50K	10%		

Standard 10% C.W. taper

Ohmage	Plus/minus
2.5 meg.	20%
1 meg.	20%
500K	20%
250K	20%
100K	20%
50K	20%
25K	20%
10K	20%

When ordering, request Series 48M, or 48M-9, plus the ohmage. For example: Series 48M-250K (with split-locking bushing order as Series 48M-9—250K.) Dual combinations available as Series D48M. Any combination of ohmages within range specified may be obtained on order.
PRICE: Due to the special nature of these units, prices and specific information will be sent upon request.

WIRE-WOUND — SERIES 49M

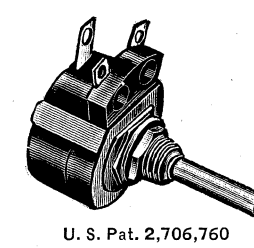


Wire-wound controls with a power rating of 1.5 watts. ¾" diameter low-loss phenolic housing. Linear taper resistance through 300° mechanical and electrical rotation. Breakdown between metal mounting surface and element or terminal, greater than 1,000 Volts AC.

Bushing ¼" x 32 NEF-2, ¼" long. ⅛" diameter round shaft, ½" long. Hexagon mounting nut $\frac{1}{16}$" thick x $\frac{5}{16}$" across flat.

Also available as Series 49M-9 incorporating screwdriver slotted shaft with split-locking bushing. Split bushing ¼" x 32 NEF-2, ⅜" long. Shaft length of $\frac{1}{16}$".

Dual combinations available as Series D49M. Any combination of ohmages within range specified below may be obtained on order.



U. S. Pat. 2,706,760

Series 49M, 49M-9, and D49M are available in any ohmage from 10 ohms to 20K. Tolerance, ±5%.
PRICE: Due to the special nature of these units, prices and specific information will be sent upon request.

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PRODUCTS OF
THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS • CONTROLS
RESISTANCE DEVICES

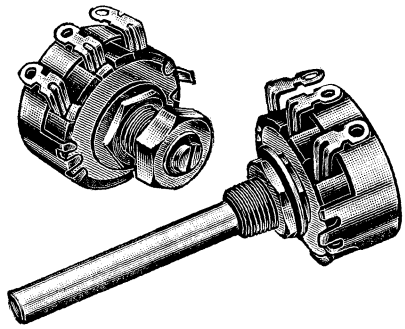
C LINE™ CONTROLS AND PRECISION POTENTIOMETERS

The Clarostat "C Line" are deluxe versions, mechanically and electrically, of the popular Series 37 composition-element, Series 43 wire-wound, Series 58 and Series 10 wire-wound.

All exposed metal parts of C Line controls have corrosion-resistant finishes. Terminals have suitable finish for soldering ease. Close-fitting covers with no cut-outs, resulting in practically dust-proof, moisture-resistant components. Units sealed in dustproof plastic bags and then packaged in standard Clarostat cartons, to retain factory-fresh appearance and performance.

C Line controls are factory-assembled fixed-shaft types. Available with either 1⅝" long round, nickel-plated shaft, or ⅛" long screwdriver slot-type shaft with split locking bushing.

Available on special order: (1) Switches for all C Line controls. (2) Other ohmages not listed as standard catalog numbers. (3) Other tapers not listed. (4) Other bushings and shaft lengths. (5) Dual combinations. Prices and delivery information on request.



SERIES "37C1" and "37C2" 1-WATT CONTROLS

Electrical tolerances are plus/minus 10% for all values up to and including 100,000 ohms, and plus/minus 20% for values above 100,000 ohms up to 10 megohms. All controls rated 1 watt.

37C1 Cat. No.	37C2 Cat. No.	Res. Ohms	Taper	37C1 Cat. No.	37C2 Cat. No.	Res. Ohms	Taper
37C1-500-S	37C2-500-S	500	S	37C1-100K-Z	37C2-100K-Z	100K	Z
37C1-1000-S	37C2-1000-S	1000	S	37C1-200K-S	37C2-200K-S	200K	S
37C1-2000-S	37C2-2000-S	2000	S	37C1-250K-S	37C2-250K-S	250K	S
37C1-3000-S	37C2-3000-S	3000	S	37C1-250K-Z	37C2-250K-Z	250K	Z
37C1-4000-S	37C2-4000-S	4000	S	37C1-300K-S	37C2-300K-S	300K	S
37C1-5000-S	37C2-5000-S	5000	S	37C1-500K-S	37C2-500K-S	500K	S
37C1-10K-S	37C2-10K-S	10K	S	37C1-500K-Z	37C2-500K-Z	500K	Z
37C1-15K-S	37C2-15K-S	15K	S	37C1-1 Meg-S	37C2-1 Meg-S	1 Meg	S
37C1-20K-S	37C2-20K-S	20K	S	37C1-1 Meg-Z	37C2-1 Meg-Z	1 Meg.	Z
37C1-25K-S	37C2-25K-S	25K	S	37C1-2 Meg-S	37C2-2 Meg-S	2 Meg	S
37C1-30K-S	37C2-30K-S	30K	S	37C1-2 Meg-Z	37C2-2 Meg-Z	2 Meg	Z
37C1-40K-S	37C2-40K-S	40K	S	37C1-2.5 Meg-S	37C2-2.5 Meg-S	2.5 Meg	S
37C1-50K-S	37C2-50K-S	50K	S	37C1-5 Meg-S	37C2-5 Meg-S	5 Meg	S
37C1-75K-S	37C2-75K-S	75K	S	37C1-10 Meg-Z	37C2-10 Meg-Z	10 Meg	Z
37C1-100K-S	37C2-100K-S	100K	S				

LIST PRICES: 37C1—$2.05 37C2—$3.40

Fabricated in accordance with MIL-R-94 specifications.

SERIES "43C1" and "43C2" 2-WATT CONTROLS

Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity is to plus/minus 2%. All controls rated 2 watts.

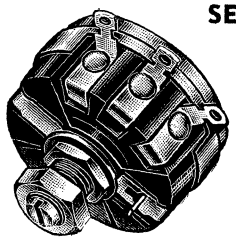
43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms
43C1-5	43C2-5	5	43C1-100	43C2-100	100	43C1-1500	43C2-1500	1500
43C1-10	43C2-10	10	43C1-150	43C2-150	150	43C1-2000	43C2-2000	2000
43C1-20	43C2-20	20	43C1-200	43C2-200	200	43C1-2500	43C2-2500	2500
43C1-25	43C2-25	25	43C1-300	43C2-300	300	43C1-3000	43C2-3000	3000
43C1-30	43C2-30	30	43C1-400	43C2-400	400	43C1-4000	43C2-4000	4000
43C1-40	43C2-40	40	43C1-500	43C2-500	500	43C1-5000	43C2-5000	5000
43C1-50	43C2-50	50	43C1-750	43C2-750	750	43C1-7500	43C2-7500	7500
43C1-75	43C2-75	75	43C1-1000	43C2-1000	1000	43C1-10K	43C2-10K	10K

43C1-15K	43C2-15K	15K
43C1-20K	43C2-20K	20K
43C1-25K	43C2-25K	25K
43C1-30K	43C2-30K	30K
43C1-40K	43C2-40K	40K
43C1-50K	43C2-50K	50K

LIST PRICES

43C1-5 to 43C1-10K $2.05
43C1-15K to 43C1-25K 2.70
43C1-30K to 43C1-50K $3.05
43C2-5 to 43C2-10K 3.40
43C2-15K to 43C2-25K $3.80
43C2-30K to 43C2-50K 4.55

Fabricated in accordance with MIL-R-19 specifications.



SERIES 58C1 AND 58C2 3-WATT CONTROLS

58C1 Cat. No.	58C2 Cat. No.	Res. Ohms	58C1 Cat. No.	58C2 Cat. No.	Res. Ohms
58C1-1	58C2-1	1	58C1-500	58C2-500	500
58C1-2	58C2-2	2	58C1-750	58C2-750	750
58C1-4	58C2-4	4	58C1-1000	58C2-1000	1000
58C1-6	58C2-6	6	58C1-1500	58C2-1500	1500
58C1-10	58C2-10	10	58C1-2000	58C2-2000	2000
58C1-15	58C2-15	15	58C1-2500	58C2-2500	2500
58C1-20	58C2-20	20	58C1-3000	58C2-3000	3000
58C1-25	58C2-25	25	58C1-5000	58C2-5000	5000
58C1-30	58C2-30	30	58C1-7500	58C2-7500	7500
58C1-40	58C2-40	40	58C1-10K	58C2-10K	10K
58C1-50	58C2-50	50	58C1-15K	58C2-15K	15K
58C1-60	58C2-60	60	58C1-20K	58C2-20K	20K
58C1-75	58C2-75	75	58C1-25K	58C2-25K	25K
58C1-100	58C2-100	100	58C1-30K	58C2-30K	30K
58C1-200	58C2-200	200	58C1-40K	58C2-40K	40K
58C1-300	58C2-300	300	58C1-50K	58C2-50K	50K
58C1-400	58C2-400	400			

Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity is to plus/minus 1%. All controls rated 3 watts.

LIST PRICES

58C1-1 to 58C1-10K $2.05
58C1-15K to 58C1-25K 2.70
58C1-30K to 58C1-50K 3.05
58C2-1 to 58C2-10K $3.40
58C2-15K to 58C2-25K 3.80
58C2-30K to 58C2-50K 4.55

Fabricated in accordance with MIL-R-19 specifications.

SERIES "10C1" and "10C2" 4-WATT CONTROLS

Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity to plus/minus 1%. All controls rated 4 watts.

1 to 50K ohms available on special order. Prices and information on request.

Fabricated in accordance with MIL-R-19 specifications.

10C1 Cat. No.	10C2 Cat. No.	Res. Ohms
10C1-75K	10C2-75K	75K
10C1-100K	10C2-100K	100K

List Prices

10C1 ..... $4.30 10C2 ..... $5.80

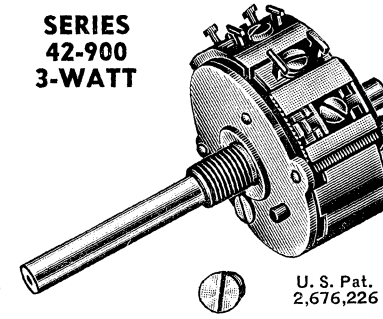
WIRE-WOUND PRECISION POTENTIOMETERS

Series 42-900 is a superlative-grade precision potentiometer with such features as selection of either limited or continuous rotation by simple manipulation; gold-plated bushings, terminals, screws; front and rear plates of green anodized aluminum; rear shaft extension for coupling to other potentiometers, switch, servoes, etc. Wiring diagram on rear plate indicates terminal connections. Especially intended to meet the needs of your prototypes, laboratory testing, instrument-grade assemblies, etc.

Exceeds MIL-R-19 specifications where applicable.

	*Net Price
42-900—100K ohms	$19.00
42-900— 50K ohms	19.00
42-900— 20K ohms	16.00
42-900— 10K ohms	16.00
42-900—5000 ohms	14.00
42-900—2500 ohms	14.00
42-900—1000 ohms	14.00
42-900— 500 ohms	14.00
42-900— 100 ohms	14.00
42-900— 50 ohms	14.00

SERIES 42-900 3-WATT



U. S. Pat. 2,676,226

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Net

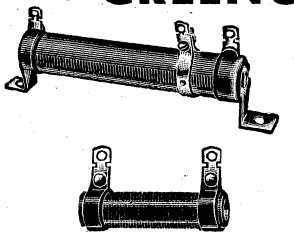
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

PRODUCTS OF
THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS • CONTROLS
RESISTANCE DEVICES

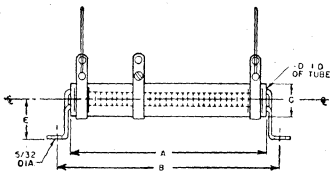
"GREENOHM"* WIRE-WOUND RESISTORS



FIXED TYPES Wire-wound resistors for most rugged applications. Will withstand tremendous overloads and temperature changes without alterating resistance values or appearance. Wire windings on high grade ceramic tubing and coated with special inorganic cement. In accordance with RETMA standards, overall tolerances are ± 5% for resistors of 50 ohms and higher. For resistors of 49.9 ohms and lower, overall tolerances are ± 10%.

ADJUSTABLE TYPES Same electrically and mechanically as Fixed types, but incorporating sliding band or bands for tapping any desired resistance values. Slider band tightened by means of screw. In accordance with RETMA standards, overall tolerances are ± 10%.

DIMENSIONS BY TYPES



SERIES	WATTS	A	B	C	D	E
PR-5-F	5	1	1-7/16	5/16	3/16	7/16
PR-10-F	10	1-3/4	2-3/16	5/16	3/16	7/16
PR-10-FA	10	1-3/4	2-3/16	5/16	3/16	7/16
PR-20-K	20	2	2-1/2	9/16	3/8	9/16
P-25-K	25	2-1/2	3	9/16	3/8	9/16
P-25-KA	25	2-1/2	3	9/16	3/8	9/16
K-40-N	40	3-1/2	4-1/8	3/4	1/2	7/8
K-50-N	50	4-1/2	5-1/8	3/4	1/2	7/8
K-50-NA	50	4-1/2	5-1/8	3/4	1/2	7/8
K-80-N	80	6-1/2	7-1/8	3/4	1/2	7/8
K-80-NA	80	6-1/2	7-1/8	3/4	1/2	7/8
K-100-W	100	6-1/2	7-1/8	1-1/8	3/4	1-1/8
K-100-WA	100	6-1/2	7-1/8	1-1/8	3/4	1-1/8
K-160-W	160	8-1/2	9-1/8	1-1/8	3/4	1-1/8
K-160-WA	160	8-1/2	9-1/8	1-1/8	3/4	1-1/8
K-200-W	200	10-1/2	11-1/8	1-1/8	3/4	1-1/8
K-200-WA	200	10-1/2	11-1/2	1-1/8	3/4	1-1/8

FIXED RESISTORS

5-WATT SERIES PR-5-F

These resistors conform to RETMA specification for type RRW-125 and 128.

Ohms	Ohms	Ohms	Ohms
1	75	800	5,000
2	100	900	6,000
3	125	1,000	7,000
4	150	1,100	7,500
5	200	1,200	8,000
7.5	225	1,250	8,500
10	250	1,500	9,000
12	300	1,750	10K
15	350	2,000	
20	400	2,250	
25	450	2,500	
30	500	3,000	
35	600	3,500	
40	700	4,000	
50	750	4,500	

LIST PRICE $0.55

Standard Packing — 10 per Carton.
Mounting brackets supplied at extra cost.

25-WATT SERIES P-25-K

Ohms	Ohms	Ohms	Ohms
1	750	10K	
2	800	12K	
3	1,000	15K	
5	1,250	20K	
7.5	1,500	25K	
10	2,000	30K	
15	2,250	35K	
20	2,500	40K	
25	3,000	45K	
50	3,500	50K	
75	4,000	60K	
100	4,500	70K	
150	5,000	75K	
200	6,000	80K	
250	7,000	85K	
300	7,500	90K	
400	8,000	100K	
500	9,000		

LIST PRICES:

1 ohm to 5,000	**$0.85**
6,000 to 15K ohms	**.95**
20K to 50K ohms	**1.10**
60K ohms	**1.25**
70K ohms	**1.40**
75K ohms	**1.45**
80K ohms	**1.50**
85K ohms	**1.65**
90K ohms	**1.75**
100K ohms	**1.95**

Mounting brackets at no extra cost.
Standard Packing — Individually Boxed.

10-WATT SERIES PR-10-F

These resistors conform to military specifications for type RW29, and RETMA type RRW-126 and 129.

Ohms	Ohms	Ohms	Ohms
1	200	2,000	14.5K
2	225	2,250	15K
3	250	2,500	16K
4	300	3,000	17.5K
5	350	3,500	18K
7.5	400	4,000	20K
10	450	4,500	22.5K
12	500	5,000	25K
15	600	6,000	30K
20	700	7,000	35K
25	750	7,500	40K
30	800	8,000	50K
35	900	8,500	
40	1,000	9,000	
50	1,100	10K	
75	1,200	11K	
100	1,250	12K	
125	1,500	12.5K	
150	1,750	13.5K	

LIST PRICE $0.60

Mounting brackets supplied at extra cost.
Standard Packing — 10 per Carton.

40-WATT SERIES K-40-N

These resistors conform to RETMA specification for type RRW-131.

Res.	Res.	Res.	Res.
5	250	5,000	40K
10	300	6,000	50K
15	400	7,500	60K
20	500	8,500	70K
25	750	10K	80K
50	1,000	12.5K	90K
75	1,500	15K	100K
100	2,000	20K	125K
125	2,500	25K	150K
150	3,000	30K	175K
200	4,000	35K	200K

LIST PRICES:

5 ohms to 5,000 ohms	**$1.00**
6,000 to 25K ohms	**1.10**
30K to 100K ohms	**1.30**
125K to 150K ohms	**1.55**
175K ohms	**1.65**
200K ohms	**1.75**

Mounting brackets at no extra cost.
Standard Packing — Individually Boxed.

20-WATT SERIES PR-20-K

These resistors conform to RETMA specifications for type RRW-127.

Ohms	Ohms	Ohms	Ohms
5	850	7,000	70K
10	1,000	7,500	75K
25	1,200	8,000	80K
50	1,250	9,000	85K
75	1,500	10K	90K
100	1,750	12.5K	95K
150	1,850	15K	100K
200	2,000	20K	
250	2,250	25K	
300	2,500	30K	
350	2,750	35K	
400	3,000	40K	
500	3,500	45K	
650	4,000	50K	
700	4,500	55K	
750	5,000	60K	
800	6,000	65K	

LIST PRICES:

5 ohms to 15K ohms	**$0.70**
20K to 50K ohms	**.95**
55K to 100K ohms	**1.20**

Mounting brackets supplied at extra cost.
Standard Packing — 5 per Carton.

50-WATT SERIES K-50-N

These resistors conform to RETMA specification for type RRW-132.

Res.	Res.	Res.	Res.
1	500	5,000	35K
5	750	6,000	40K
10	1,000	7,500	50K
25	1,250	8,000	60K
50	1,500	9,000	70K
75	2,000	10K	75K
100	2,250	12K	80K
150	2,500	12.5K	100K
200	3,000	15K	125K
250	3,500	20K	150K
300	4,000	25K	175K
400	4,500	30K	200K

LIST PRICES:

1 ohm to 5,000	**$1.20**
6,000 to 25K ohms	**1.50**
30K to 100K ohms	**1.85**
125K ohms	**2.20**
150K to 175K ohms	**2.50**
200K ohms	**3.30**

Mounting brackets supplied at no extra cost.
Standard Packing — Individually Boxed.

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ADJUSTABLE RESISTORS

80-WATT SERIES K-80-N

Res.	Res.	Res.	Res.
5	500	4,500	25K
10	750	5,000	30K
25	1,000	6,000	35K
50	1,250	7,500	40K
75	1,500	8,000	50K
100	2,000	9,000	60K
150	2,250	10K	70K
200	2,500	12K	75K
250	3,000	12.5K	80K
300	3,500	15K	100K
400	4,000	20K	

LIST PRICES:

5 ohms to 5,000 ohms	$1.40
6,000 to 25K ohms	1.65
30K to 50K ohms	1.95
60K to 75K ohms	2.20
80K ohms	2.30
100K ohms	2.50

100-WATT SERIES K-100-W

Res.	Res.	Res.	Res.
1	750	7,500	60K
5	1,000	8,000	70K
10	1,250	9,000	75K
25	1,500	10K	80K
50	2,000	12K	100K
75	2,250	12.5K	125K
100	2,500	15K	150K
150	3,000	20K	175K
200	3,500	25K	200K
250	4,000	30K	
300	4,500	35K	
400	5,000	40K	
500	6,000	50K	

LIST PRICES:

1 ohm to 2,500 ohms	$1.95
3,000 to 4,000 ohms	2.05
4,500 to 25K ohms	2.15
30K to 50K ohms	2.75
60K to 75K ohms	3.05
80K ohms	3.15
100K ohms	3.30
125K ohms	3.40
150K ohms	3.60
175K ohms	3.70
200K ohms	4.15

160-WATT SERIES K-160-W

Res.	Res.	Res.	Res.
5	500	4,500	25K
10	750	5,000	30K
25	1,000	6,000	35K
50	1,250	7,500	40K
75	1,500	8,000	50K
100	2,000	9,000	60K
150	2,250	10K	70K
200	2,500	12K	75K
250	3,000	12.5K	80K
300	3,500	15K	100K
400	4,000	20K	125K
			150K

LIST PRICES:

5 ohms to 10K ohms	$2.50
12K ohms	2.55
12.5K ohms	2.60
15K to 50K ohms	2.90
60K to 100K ohms	3.30
125K ohms	3.50
150K ohms	3.85

200-WATT SERIES K-200-W

Res.	Res.	Res.	Res.
5	500	4,500	25K
10	750	5,000	30K
25	1,000	6,000	35K
50	1,250	7,500	40K
75	1,500	8,000	50K
100	2,000	9,000	60K
150	2,250	10K	70K
200	2,500	12K	75K
250	3,000	12.5K	80K
300	3,500	15K	100K
400	4,000	20K	125K
			150K

LIST PRICES:

5 ohms to 10K ohms	$2.75
12K ohms	3.05
12.5K ohms	3.15
15K to 100K ohms	3.30
125K to 150K ohms	4.15

10-WATT SERIES PR-10-FA

These resistors conform to military specification for type RW-29 and RETMA specification for type RRW-226.

Res.	Res.	Res.	Res.
1	75	750	4,000
2	100	800	4,500
3	150	1,000	5,000
5	200	1,250	6,000
7.5	250	1,500	7,000
10	300	2,000	7,500
15	350	2,250	8,000
20	400	2,500	8,500
25	500	3,000	9,000
50	600	3,500	10K

LIST PRICE $0.95

25-WATT SERIES P-25-KA

Res.	Res.	Res.	Res.
1	75	1,000	5,000
2	100	1,250	6,000
3	150	1,500	7,000
5	200	2,000	7,500
7.5	250	2,250	8,000
10	300	2,500	9,000
15	400	3,000	10K
20	500	3,500	12K
25	750	4,000	15K
50	800	4,500	20K
			25K
			50K

LIST PRICES:

1 ohm to 5,000 ohms	$1.05
6,000 to 15K ohms	1.40
20K to 25K ohms	1.40
50K ohms	1.65

50-WATT SERIES K-50-NA

These resistors conform to RETMA specification for type RRW-232.

Res.	Res.	Res.	Res.
1	250	4,000	20K
5	300	4,500	25K
10	400	5,000	30K
15	500	6,000	35K
20	750	7,000	40K
25	1,000	7,500	45K
50	1,250	8,000	50K
75	1,500	9,000	60K
100	2,000	10K	75K
150	2,500	12K	80K
200	3,500	15K	100K

LIST PRICES:

1 ohm to 5,000 ohms	$1.65
6,000 to 25K ohms	1.95
30K to 50K ohms	2.20
60K to 100K ohms	2.75

80-WATT SERIES K-80-NA

These resistors conform to RETMA specification for type RRW-233.

Res.	Res.	Res.	Res.
5	300	4,500	20K
10	400	5,000	25K
15	500	6,000	30K
20	750	7,000	35K
25	1,000	7,500	40K
50	1,250	8,000	45K
75	1,500	9,000	50K
100	2,000	10K	60K
150	2,500	12K	75K
250	4,000		100K

LIST PRICES:

5 ohms to 5,000 ohms	$1.95
6,000 to 25K ohms	2.20
30K to 50K ohms	2.50
60K to 100K ohms	3.05

100-WATT SERIES K-100-WA

These resistors conform to RETMA specificatior for type RRW-234.

Res.	Res.	Res.	Res.
1	300	5,000	35K
5	400	6,000	40K
10	500	7,000	45K
15	750	7,500	50K
20	1,000	8,000	60K
25	1,250	9,000	75K
50	1,500	10K	80K
75	2,000	12K	100K
100	2,500	15K	125K
150	3,500	20K	150K
200	4,000	25K	
250	4,500	30K	

LIST PRICES:

1 ohm to 2,500 ohms	$2.20
3,500 to 25K ohms	2.50
30K to 50K ohms	3.05
60K to 75K ohms	3.30
80K to 125K ohms	3.85
150K ohms	4.15

160-WATT SERIES K-160-WA

These resistors conform to RETMA specification for type RRW-235.

Res.	Res.	Res.	Res.
5	300	4,500	25K
10	400	5,000	30K
15	500	6,000	35K
20	750	7,000	40K
25	1,000	7,500	45K
50	1,250	8,000	50K
75	1,500	9,000	60K
100	2,000	10K	75K
150	2,500	12K	80K
200	3,500	15K	100K
250	4,000	20K	125K
			150K

LIST PRICES:

5 ohms to 4,500	$2.75
5,000 to 10K ohms	2.90
12K ohms	3.20
15K to 60K ohms	3.60
75K to 100K ohms	4.15
125K to 150K ohms	4.70

200-WATT SERIES K-200-WA

These resistors conform to military specification for type RW-47 and RETMA specification for type RRW-236.

Res.	Res.	Res.	Res.
5	300	4,500	20K
10	400	5,000	25K
15	500	6,000	30K
20	750	7,000	35K
25	1,000	7,500	40K
50	1,250	8,000	45K
75	1,500	9,000	50K
100	2,000	10K	60K
150	2,500	12K	75K
200	3,500	15K	80K
250	4,000		100K

LIST PRICES:

5 ohms to 4,500	$3.30
5,000 ohms to 10K	3.60
12K ohms	3.85
15K ohms to 75K	4.15
80K ohms to 100K	4.70

Above adjustable resistors are supplied with mounting brackets at no extra cost.

Extra Slider Bands — **$0.30** each.

Standard Packing — Individually Boxed.

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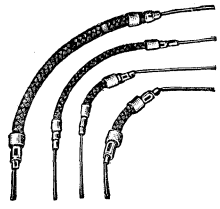
PRODUCTS OF
THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES

"GLASOHM"* FLEXIBLE RESISTORS



Fixed wire-wound resistors on glass fibre core with flexible woven glass fiber casing. Made up to any length on order. A substitute for a wide range of carbon resistors. Standard types 1" long with 2" pigtail leads, ⅛" dia. RETMA color coded. RETMA overall tolerances are plus/minus 10%.

LIST PRICE $0.35

Standard Packing: 10 per carton.

Cat. No.	Ohms	Cat. No.	Ohms	Cat. No.	Ohms	Cat. No.	Ohms
FYG5	5	FYG75	75	FYG350	350	FYG850	850
FYG10	10	FYG100	100	FYG375	375	FYG900	900
FYG15	15	FYG125	125	FYG400	400	FYG1000	1000
FYG25	25	FYG150	150	FYG500	500	FYG1250	1250
FYG35	35	FYG200	200	FYG600	600	FYG1500	1500
FYG40	40	FYG225	225	FYG700	700	FYG1600	1600
FYG50	50	FYG250	250	FYG750	750	FYG1750	1750
FYG60	60	FYG300	300	FYG800	800	FYG2000	2000

RESISTOR WALL-CARD KITS

Handy wall-card kits holding different selections of popular ohmages in "Greenohm," "Greenohm Jr." and "Glassohm" resistors. Units readily slip off card and ohmage values show up for reordering. Card size: 10½ x 12". Also serve as attention-getting silent salesmen.

Six carefully selected assortments, meeting widest range of standard service and other requirements. Considerable savings realized.

"GREENOHM"* RESISTOR KIT

GK-1—10-WATT "GREENOHM" RESISTORS. 20 popular ohmages—25 to 25K ohms. **List Price: $12.10**

GK-2—2-WATT "GLASOHM" RESISTORS. 32 of the most popular ohmages. 5 to 2000 ohms. **List Price: $10.55**

GK-3—5-WATT "GREENOHM Jr." RESISTORS. 36 popular ohmages. 1 ohm to 4000 ohms. **List Price: $21.80**

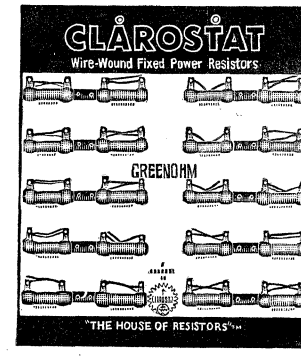
GK-4—5-WATT "GREENOHM" RESISTORS. 54 popular ohmages. 1 ohm to 10K ohms. **List Price: $29.70**

GK-5—10-WATT "GREENOHM Jr." RESISTORS. 50 popular ohmages. 1 ohm to 900 ohms. **List Price: $30.25**

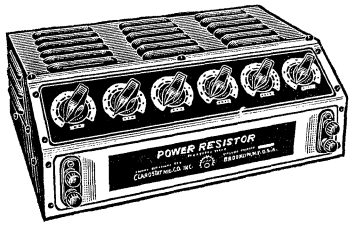
GK-6—10-WATT "GREENOHM" RESISTORS. 45 popular ohmages. 5 ohms to 50K ohms. **List Price: $27.25**

"FUZOHM" FUSE-TYPE RESISTORS also available in wall-card kits. 12 (7.5 ohm) units. GL-1. **List Price: $9.00.**

Also with 12 (5.6 ohm) units. GL-2. **List Price: $9.00.**



POWER RESISTOR DECADE BOX



The Resistance Decade Box Model No. 240C allows changing resistance at a flip of the switch in a working circuit. Any value obtainable from 1 ohm to 999,999 in steps of one ohm and at a maximum power rating of 225 watts using a maximum of 1000 volts D.C. or 660 volts A.C.

Resistance changing switches are of the type that prevents a resistance breakdown between steps, thus protecting delicate meters and measuring instruments in the circuit. Pointer knobs indicate at a glance the resistance value being used.

Clarostat "Greenohm" resistors are used throughout. These are inorganic-cement-coated wire-wound power resistors. The resistors are mounted on rigid metal supports. A baffle plate separating the resistor bank from the switch assembly protects the latter against heat.

The heavy-gauge metal case is finished in frosted gray wrinkle, with an etched black-and-aluminum front panel. 13 in. long; 8½ in. deep; 5¾ in. high. Weight, 11 lbs.

SUGGESTED USES: Resistance determination. Load Resistance. Meter Multiplier. Calibrating Meters. Providing any desired ohmage as a universal power resistor.

	Maximum Current Ratings:	Resistance Tolerance		Maximum Current Ratings:	Resistance Tolerance
Decade No. 1	5 amp.	5%	Decade No. 4	.15 amp.	2%
Decade No. 2	1.5 amp.	2%	Decade No. 5	.05 amp.	2%
Decade No. 3	.5 amp.	2%	Decade No. 6	.005 amp.	2%

NET PRICE.....$95.00

"GREENOHM JR."*

WIRE-WOUND RESISTORS

Wire-wound power resistors on glass fiber core. Sealed in a cement-filled ceramic case. 1½" axial pigtail leads. C4GJ, 1" l. x 5/16" d.; C7GJ, 1¾" l. x 5/16" d. Tolerance ±10%.

5-WATT SERIES C4GJ

Ohms	Ohms	Ohms	Ohms	Ohms
1	12	50	250	700
2	15	75	300	750
3	20	100	350	800
4	25	125	400	900
5	30	150	450	1,000
7.5	35	200	500	2,000
10	40	225	600	3,000
				4,000

10-WATT SERIES C7GJ

Ohms	Ohms	Ohms	Ohms	Ohms
1	25	225	800	2,500
2	30	250	900	3,000
3	35	300	1,000	3,500
4	40	350	1,100	4,000
5	50	400	1,200	4,500
7.5	75	450	1,250	5,000
10	100	500	1,500	6,000
12	125	600	1,750	7,000
15	150	700	2,000	8,000
20	200	750	2,250	9,000

LIST PRICE $0.60 Standard Packing—10 per Carton.

*Reg. U. S. Pat. Off

TV TUBE BEAM BENDERS

Available in either single or double magnet types. Spring collar provides mounting on tube neck. No screws to tighten. Type TV-3, doubles magnet, for all tubes requiring two bends in beam.

SINGLE MAGNET TYPE TV-2

LIST PRICE $2.00

Standard Packing: Individual Carton.

DOUBLE MAGNET TYPE TV-3

LIST PRICE $3.00

Standard Packing: Individual Carton.

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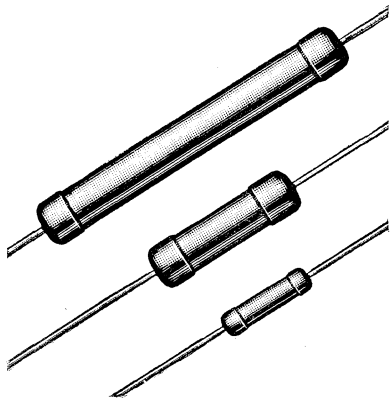
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



"FIXTOHM*"
(Deposited-Carbon) PRECISION RESISTORS

Manufactured by the Clarostat subsidiary, Campbell Industries, Inc., Chattanooga, Tenn., to MIL-R-10509A Military Specifications.

A patented, alkaline earth, ceramic insulator developed to properly receive and hold pyrolytically-deposited carbon, is the basis of all "FIXTOHM" Resistors.

A pure, crystalline carbon film is deposited by thermal decomposition of a hydrocarbon, no binder or filler being used. This form of carbon has almost diamond hardness, is extremely stable, and has a very low temperature coefficient of resistance.

Bands of silver are baked on each end of the resistor. Over these bands, tinplated brass terminal assemblies are press-fitted. This assures the excellent terminal conductivity and minimum noise of "FIXTOHM" Resistors.

For lower resistance values no "spiralling" is required. For the medium and higher resistance values, the basic resistances are "spiralled" by cutting thru the crystalline carbon film down into the insulator to create a helical current path around the resistor core. The entire active length of the resistor is always "spiralled" and used.

The resistor is carefully adjusted to final resistance value by slight and uniform abrasion over the entire surface of the crystalline carbon film to insure the final accuracy of "FIXTOHM" Resistors.

To protect this very accurate, crystalline-carbon film, multiple layers of insulating, moisture resisting varnishes are separately baked on the resistor.

SERIES CVF, ½-WATT RATING ± 1% TOLERANCE

These resistors are equivalent to Military types RN15 and RN20, and are approved for both types. However, stock values are marked as type RN20, but meet all specifications of RN15.

The following listings of resistance values are popular values which are taken from preferred values as specified by Military Standards for fixed, film (high stability) resistors and are the standard values which we stock.

Military Type	Ohms	Military Type	Ohms	Military Type	Ohms
RN20X51R1F	51.1	RN20X1781F	1.78K	RN20X6192F	61.9K
RN20X56R2F	56.2	RN20X1961F	1.96K	RN20X6812F	68.1K
RN20X61R9F	61.9	RN20X2151F	2.15K	RN20X7502F	75K
RN20X68R1F	68.1	RN20X2371F	2.37K	RN20X8252F	82.5K
RN20X75R0F	75.0	RN20X2611F	2.61K	RN20X9092F	90.9K
RN20X82R5F	82.5	RN20X2871F	2.87K	RN20X1003F	100K
RN20X90F9F	90.9	RN20X3161F	3.16K	RN20X1103F	110K
RN20X1000F	100	RN20X3481F	3.48K	RN20X1213F	121K
RN20X1100F	110	RN20X3831F	3.83K	RN20X1333F	133K
RN20X1210F	121	RN20X4221F	4.22K	RN20X1473F	147K
RN20X1330F	133	RN20X4641F	4.64K	RN20X1623F	162K
RN20X1470F	147	RN20X5111F	5.11K	RN20X1783F	178K
RN20X1620F	162	RN20X5621F	5.62K	RN20X1963F	196K
RN20X1780F	178	RN20X6191F	6.19K	RN20X2153F	215K
RN20X1960F	196	RN20X6811F	6.81K	RN20X2373F	237K
RN20X2150F	215	RN20X7501F	7.50K	RN20X2613F	261K
RN20X2370F	237	RN20X8251F	8.25K	RN20X2873F	287K
RN20X2610F	261	RN20X9091F	9.09K	RN20X3163F	316K
RN20X2870F	287	RN20X1002F	10K	RN20X3483F	348K
RN20X3160F	316	RN20X1102F	11K	RN20X3833F	383K
RN20X3480F	348	RN20X1212F	12.1K	RN20X4223F	422K
RN20X3830F	383	RN20X1332F	13.3K	RN20X4643F	464K
RN20X4220F	422	RN20X1472F	14.7K	RN20X5113F	511K
RN20X4640F	464	RN20X1622F	16.2K	RN20X5623F	562K
RN20X5110F	511	RN20X1782F	17.8K	RN20X6193F	619K
RN20X5620F	562	RN20X1962F	19.6K	RN20X6813F	681K
RN20X6190F	619	RN20X2152F	21.5K	RN20X7503F	750K
RN20X6810F	681	RN20X2372F	23.7K	RN20X8253F	825K
RN20X7500F	750	RN20X2612F	26.1K	RN20X9093F	909K
RN20X8250F	825	RN20X2872F	28.7K	RN20X1004F	1M
RN20X9090F	909	RN20X3162F	31.6K	RN20X1104F	1.1M
RN20X1001F	1K	RN20X3482F	34.8K	RN20X1214F	1.21M
RN20X1101F	1.1K	RN20X3832F	38.3K	RN20X1334F	1.33M
RN20X1211F	1.21K	RN20X4222F	42.2K	RN20X1474F	1.47M
RN20X1331F	1.33K	RN20X4642F	46.4K	RN20X1624F	1.62M
RN20X1471F	1.47K	RN20X5112F	51.1K	RN20X1784F	1.78M
RN20X1621F	1.62K	RN20X5622F	56.2K	RN20X1964F	1.96M

51.1 ohms to 1.96 megohms.....List Price $0.67
Standard Packing — 8 per Carton

NOTE: "K" denotes Kilohms (1,000 ohms)
"M" denotes Megohms (1,000,000 ohms)

*Trade Mark

SERIES CVC, 1-WATT RATING, ± 1% TOLERANCE

These resistors are equivalent to Military type RN25 and are approved under this type.

The following listings of resistance values are popular values which are taken from preferred values as specified by Military Standards for fixed, film (high stability) resistors and are the standard values which we stock.

Military Type	Ohms	Military Type	Ohms	Military Type	Ohms
RN25X1000F	100	RN25X3831F	3.83K	RN25X1963F	196K
RN25X1470F	147	RN25X5111F	5.11K	RN25X2613F	261K
RN25X1960F	196	RN25X7501F	7.50K	RN25X2873F	287K
RN25X2610F	261	RN25X1002F	10K	RN25X3833F	383K
RN25X2870F	287	RN25X1472F	14.7K	RN25X5113F	511K
RN25X3830F	383	RN25X1962F	19.6K	RN25X7503F	750K
RN25X5110F	511	RN25X2612F	26.1K	RN25X1004F	1M
RN25X7500F	750	RN25X2872F	28.7K	RN25X1474F	1.47M
RN25X1001F	1K	RN25X3832F	38.3K	RN25X1964F	1.96M
RN25X1471F	1.47K	RN25X5112F	51.1K	RN25X2614F	2.61M
RN25X1961F	1.96K	RN25X7502F	75K	RN25X2874F	2.87M
RN25X2611F	2.61K	RN25X1003F	100K	RN25X3834F	3.83M
RN25X2871F	2.87K	RN25X1473F	147K	RN25X5114F	5.11M

100 ohms to 5.11 megohms.....List Price $1.00
Standard Packing — 8 per Carton

SERIES CVD, 2-WATT RATING, ± 1% TOLERANCE

These resistors are manufactured to Military Specifications for type RN30, and can be supplied with a certificate of compliance. They are not, however, approved for type RN30.

The following listings of resistance values are popular values which are taken from preferred values as specified by Military Standards for fixed, film (high stability) resistors and are the standard values which we stock.

Military Type	Ohms	Military Type	Ohms	Military Type	Ohms
RN30X5113F	511K	RN30X2154F	2.15M	RN30X1005F	10M
RN30X7503F	750K	RN30X2614F	2.61M	RN30X1475F	14.7M
RN30X1004F	1M	RN30X2874F	2.87M	RN30X1965F	19.6M
RN30X1474F	1.47M	RN30X5114F	5.11M		
RN30X1964F	1.96M	RN30X7504F	7.5M		

	List Price
500K ohms to 10 megohms	$1.20
14.7 megohms	1.30
19.6 megohms	1.30

Standard Packing — 8 per Carton

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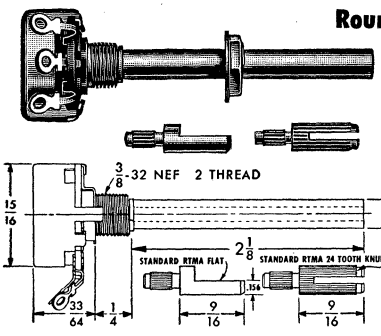
MIDGETROL® VOLUME AND TONE CONTROLS

P.R. MALLORY & CO. Inc. MALLORY

P.R. MALLORY & CO., INC. • INDIANAPOLIS



Round Shaft Midgetrols

Compact, 1 5/16" diameter carbon element control. Used in industrial electronic equipment; also, in control circuits of television sets, home radios, auto radios and audio amplifiers. AC-DC power switches are available which may be attached quickly and permanently. Has 2⅛" long, ¼" round brass shaft. 2 shaft-end knob adaptors for knurled, push-on knobs, and one hex nut furnished. List Price **$1.40** each.

Cat. No.	Ohms	Taper†	Cat. No.	Ohms	Taper†
U2	500M	4	**U39**	100M	1
U3	1M	2	**U40**	100M	2
U4	1M	4	**U41**	100M	4
U5	1500	2	**U415**	125M	4
U6	2M	4	**U42**	150M	1
U7	2500	2	**U43**	200M	4
U8	3M	4	**U44**	250M	1
U12	5M	1	**U45**	250M	2
U14	5M	4	**U46**	250M	4
U18	10M	1	**U48**	500M	1
U19	10M	2	**U50**	500M	4
U20	10M	4	**U51**	750M	1
U21	15M	1	**U53**	1 Meg.	1
U22	15M	2	**U54**	1 Meg.	4
U24	20M	1	**U155**	1.5 Meg.	4
U26	20M	4	**U55**	2 Meg.	1
U28	25M	2	**U56**	2 Meg.	4
U28A	25M	1	**U255**	2.5 Meg.	4
U29	25M	4	**U57**	3 Meg.	1
U33	50M	1	**U59**	3 Meg.	4
U34	50M	2	**U65**	5 Meg.	1
U35	50M	4	**U67**	5 Meg.	4
U36	75M	1	**U82**	10 Meg.	4

†See Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog.

Single Tapped Midgetrols—List Price **$2.05** Each

Cat. No.	Ohms	Tap At	Cat. No.	Ohms	Tap At
UT-420	250M	50M	**UT-443**	1 Meg.	450M
UT-425	350M	70M	**UT-450**	2 Meg.	125M
UT-429	500M	50M	**UT-448**	2 Meg.	250M
UT-427	500M	100M	**UT-454**	2 Meg.	400M
UT-430	500M	150M	**UT-449**	2 Meg.	600M
UT-431	500M	225M	**UT-451**	2 Meg.	900M
UT-440	1 Meg.	200M	**UT-457**	3 Meg.	900M
UT-438	1 Meg.	300M			

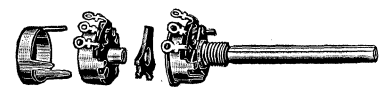
Double Tapped Midgetrols—List Price **$2.05** Each

Catalog Number	Overall Resistance	Tap Resistance	
		Tap 1	Tap 2
UDT-283	500M	100M	200M
UDT-289	1 Meg.	250M	500M
UDT-291	1.5 Meg.	225M	500M
UDT-295	2.25 Meg.	250M	500M
UDT-296	2.25 Meg.	500M	1 Meg.

Two Watt Wire-Wound Front Sections

Catalog Number	Res. Ohms	List Price	Catalog Number	Res. Ohms	List Price
WF32	300	**$2.10**	**WF152-T52**	1500‡	**$2.50**
WF751	750	**2.10**	**WF23**	2000	**2.10**
WF751-T251	750*	**2.50**	**WF252†**	2500	**2.10**
WF751-T52	750‡	**2.50**	**WF252-T23**	2500	**2.50**
WF13	1000	**2.10**	**WF33**	3000	**2.10**
WF13-T251	1000*	**2.50**	**WF53**	5000	**2.10**
WF152	1500	**2.10**	**WF73**	7000	**2.10**

* Tapped at 250 ohms. ‡ Tapped at 500 ohms.
† Tapped at 2000 ohms.



Dual Midgetrol Volume Controls and Accessories

Mallory Midgetrol Volume Control Parts and Accessories enable the serviceman to duplicate the physical and electrical characteristics of hundreds of Concentric Shaft Dual Carbon Controls, Single Shaft Dual Carbon Controls and Concentric Shaft Dual Wire-Wound Carbon control combinations for fast replacement in TV, home and auto radio sets. Supplied as separate front and rear control sections, these parts are easy to assemble, practical and economical, and eliminate delays while waiting delivery of manufacturer's original controls. UF is 1 5/16" diameter carbon front section; UR is 1 5/16" carbon rear section; WF is wire-wound front section. A kit of standard assembly parts is supplied with each front section. For accessory fittings and switches, see page 2, Mallory Resistors and Controls Section, this catalog. Average mounting depth behind panel for a carbon dual is 1⅛"; with switch, is 1⅜".

Front Section List Price—**$2.20** Catalog Number	Rear Section List Price—**$1.10** Catalog Number	Resistance Ohms	Taper†
UF13L	**UR13L**	1000	4
UF13R		1000	2
UF152L	**UR152L**	1500	4
UF152R		1500	2
UF23L	**UR23L**	2000	4
UF23R		2000	2
UF252L	**UR252L**	2500	4
UF252R		2500	2
UF33L		3000	4
UF33R		3000	2
	UR352L	3500	4
UF53R	**UR53R**	5000	2
UF53L	**UR53L**	5000	4
UF73R		7000	2
	UR14R	10M	2
UF14L	**UR14L**	10M	4
UF253R		25M	2
UF253L	**UR253L**	25M	4
UF34A		30M	1
UF54A		50M	1
UF54L	**UR54L**	50M	4
UF753L		75M	4
UF15A		100M	1
UF15R	**UR15R**	100M	2
UF15L	**UR15L**	100M	4
UF254A	**UR254A**	250M	1
UF254L	**UR254L**	250M	4
	UR354A	350M	1
UF52L		500M	4
UF55A	**UR55A**	500M	1
UF55R		500M	2
UF55L	**UR55L**	500M	4
UF16A	**UR16A**	1 Meg.	1
UF16L	**UR16L**	1 Meg.	4
UF155A		1.5 Meg.	1
UF26A	**UR26A**	2 Meg.	1
UF26L	**UR26L**	2 Meg.	4
UF255L	**UR255L**	2.5 Meg.	4
	UR36A	3 Meg.	1
	UR56L	5 Meg.	4
UF46A		4 Meg.	1
UF106L		10 Meg.	1

† See Explanation of Mallory Tapers, page 2.

Tapped Sections

Front Section List Price—**$2.50** Catalog Number	Rear Section List Price—**$1.40** Catalog Number	Resistance Ohms	Tapped at
UF751-T52		750	500
UF252-T52		2500	500
UF252-T23		2500	2000
UF254-T753	**UR254-T753**	250M	75M
	UR354-T74	350M	70M
UF55-T54	**UR55-T54**	500M	50M
	UR55-T154	500M	150M
UF55-T254	**UR55-T254**	500M	250M
	UR16-T1253	1 Meg.	125M
UF16-T25	**UR16-T25**	1 Meg.	200M
UF16-T154		1 Meg.	150M
	UR16-T254	1 Meg.	250M
UF16-T35	**UR16-T35**	1 Meg.	300M
	UR26-T25	2 Meg.	200M
UF26-T55	**UR26-T55**	2 Meg.	500M
	UR26-T95	2 Meg.	900M

For Midgetrol accessory parts, see Page 2, Mallory Resistors and Controls Section, this catalog.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Midgetrol Accessory Parts

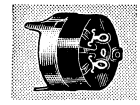
DS-35—Flatted split knurl shaft end. Special for Zenith. List Price **$0.50**

DS-36—Special 3″ extension shaft for tubular shaft Midgetrols and 2-watt, wire-wound controls. Also used for coupling a front and rear section together to make a single-shaft, dual control for oscilloscope and other push-pull amplifier service. Packaged with the DS-36 are two shaft-end knob adaptors, one knurled and slotted, one flatted. List Price **$0.50**

DS-37—3/16″ diameter shafts for use with round-shaft Midgetrols to accommodate knobs requiring 3/16″ shaft. List Price **$0.50**

EB-158—Special bushing. 7/16″-28 thread, 1 1/16″ long with 3/8″ milled double flat. List Price **$0.65**

EB-214—Special bushing: 1/2″-28 thread, 2 3/16″ long with .403 milled flat. List Price **$0.65**



Attachable Midgetrol Switches

Cat. No.	Description	List Price
US-26	Single Pole—Single Throw	**$0.65**
US-26T	Single Pole—Single Throw (with dummy terminal)	**.80**
US-27	Double Pole—Single Throw	**.65**
US-28	Single Pole—Double Throw	**.80**

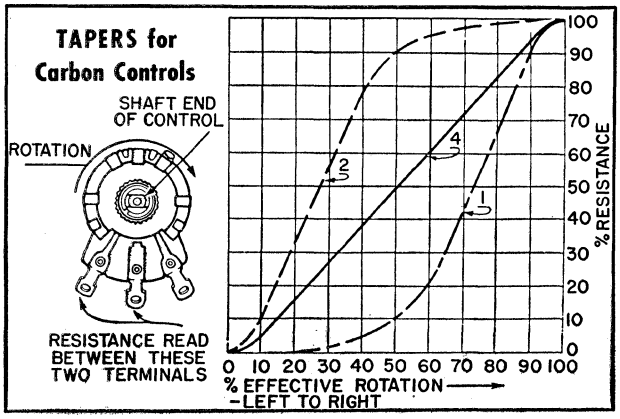
Explanation of Mallory Tapers

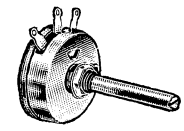
Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire-wound type. This taper should always be used in shunt circuits, as in usual antenna and audio circuits, or where only the center and left hand terminals are used.

Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire-wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.

Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage change is proportional to the degree of rotation.

Taper Number 7 is made only in the wire-wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.



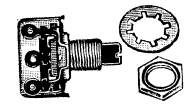


TV Focus Controls

These 1 5/8″ diameter units are designed especially for focus control replacement in TV sets. They are 4 watt, wire-wound, and have a special taper. One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance (Maximum)	Type Element	Shaft Length	List Price
TVF140	1500	WW	2″	**$2.05**
TVF143	2500	WW	2″	**2.05**

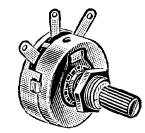
Television and Special Application Midgetrols



For use as exact replacement. Meet physical and electrical requirements for special applications. Equipped with fixed, knurled and screw driver-slotted phenolic shafts, 1/4″ in diameter and 1/4″ long. List Price **$1.40** each

Cat. No.	Ohms	Cat. No.	Ohms
SU-6	1500	**SU-46**	250M
SU-8	3M	**SU-50**	500M
SU-14	5M	**SU-54**	1 Meg.
SU-20	10M	**SU-56**	2 Meg.
SU-29	25M	**SU-565**	2.5 Meg.
SU-35	50M	**SU-59**	3 Meg.
SU-41	100M	**SU-67**	5 Meg.

All SU-No. 4—Linear Taper. (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).



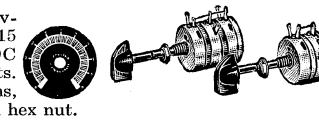
Theater Speaker Controls

Designed for use with Motiograph, Simplex, International and other outdoor theater motion picture equipment. Quality constructed with pig-tail rotor connections and corrosion-resistant finish to assure long, noise-free life. Housed in 1 1/16″ diameter metal case. Mounting nut supplied.

Cat. No.	Description	List Price
TSA-10	4-Ohm L Pad	**$2.20**
TSA-35	35-ohm Potentiometer	**1.65**
TSA-6	6-ohm Potentiometer	**1.65**

T and L Pad Attenuators

High quality attenuators having a peak audio rating of 15 watts and a continuous DC dissipation rating of 4 watts. Packaged with instructions, 366 knob, 395 dial plate and hex nut.



"T" Pad Attenuators List Price **$4.70** each Catalog Number	"L" Pad Attenuators List Price **$4.15** each Catalog Number	Ohms Impedance
T2	**L2**	2
T4	**L4**	4
T6	**L6**	6
T8	**L8**	8
T15	**L15**	15
T50	**L50**	50
T100	**L100**	100
T200	**L200**	200
T250	**L250**	250
T500	**L500**	500
T600	**L600**	600
T1000	**L1000**	1000
T2000	**L2000**	2000
T3000	**L3000**	3000
	L4000	4000

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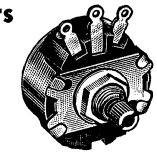
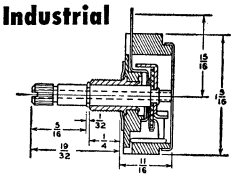
Two Watt Wire-Wound TV and Industrial Potentiometers





For replacement of positioning, hold and focus controls in TV. Also ideal for industrial circuits up to 1500 volts AC. Completely enclosed in 1 5/16" diameter phenolic case. Thumb-knurled ¼" diameter, 5/16" long, screw driver, slotted, insulated shaft. All have linear resistance change.

For special 3" extension shaft, DS-36, see page 2, Mallory Resistors and Controls Section, this catalog.

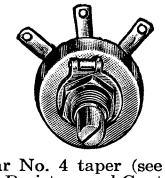
Cat. No.	Ohms Resistance	List Price	Cat. No.	Ohms Resistance	List Price
R2L	2	**$1.40**	**R50CT**	50	**$2.05**
R3L	3	**1.40**	**R100L**	100	**1.40**
R5L	5	**1.40**	**R250L**	250	**1.40**
R6L	6	**1.40**	**R500L**	500	**1.40**
R8L	8	**1.40**	**R750L**	750	**1.40**
R10L	10	**1.40**	**R1000L**	1000	**1.55**
R10CT	10	**2.05**	**R1500L**	1500	**1.55**
R15L	15	**1.40**	**R2500L**	2500	**1.55**
R20L	20	**1.40**	**R3000L**	3000	**1.55**
R20CT†	20	**2.05**	**R5000L**	5000	**1.55**
R25L	25	**1.40**	**R7500L**	7500	**1.65**
R30L	30	**1.40**	**R10ML**	10000	**1.65**
R30CT†	30	**2.05**	**R15ML**	15000	**1.65**
R50L	50	**1.40**	**R20ML**	20000	**1.65**

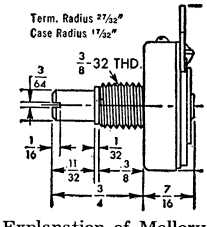
All R type are linear No. 4 taper (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).

Attachable Switches for Above Controls

Cat. No.	Description	List Price
US30	Single Pole-Single Throw.....	**$0.65**
US32	Double Pole-Single Throw.....	**.80**

Two Watt Wire-Wound Potentiometers and Rheostats



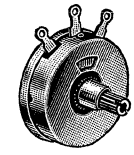


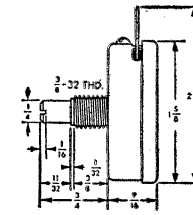
1 1/16" diameter. ¼" diameter by 3/8" long shaft with screw driver slot. For use in test and special instruments, bias control and bridge circuits. Has grounded contact arm. Rheostat has "open" or "off" position—all have linear No. 4 taper (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).

For Dial plate 393, see page 5, Mallory Resistors and Controls Section, this catalog.

Potentiometer		Rheostat			
Catalog Number	List Price	Catalog Number	List Price	Ohms	Cap. in Amperes
C6P	**$1.65**	**C6R**	**$1.40**	6	.58
C10P	**1.65**	**C10R**	**1.40**	10	.45
C15P	**1.65**	**C15R**	**1.40**	15	.37
C20P	**1.65**	**C20R**	**1.40**	20	.32
C30P	**1.65**	**C30R**	**1.40**	30	.26
C40P	**1.65**	**C40R**	**1.40**	40	.22
C50P	**1.65**	**C50R**	**1.40**	50	.2
C100P	**1.65**	**C100R**	**1.40**	100	.14
C200P	**1.65**			200	.1
C400P	**1.65**			400	.07
C1MP	**1.85**			1M	.045
C3MP	**1.85**			3M	.025
C5MP	**2.20**			5M	.02
C6MP	**2.20**			6M	.018
C10MP	**2.20**			10M	.014
C15MP	**2.20**			15M	.011

Four Watt Wire-Wound Potentiometers and Rheostats





Four-watt, wire-wound controls designed especially for low voltage TV, test equipment, industrial and electronic applications. These controls are supplied with a 3/8" long bushing and have ¼" round knurled screw driver slotted shafts 3/8" long. Overall case diameter is 1 5/8". Mounting radius, including solder lugs, is 1¼" and mounting depth is 5/8". Rheostat styles have "off" position. All have linear resistance change and insulated shaft. For Dial Plate No. 395, see page 4, Mallory Resistors and Controls Section, this catalog.

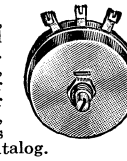
Potentiometer		Rheostat*			
Catalog Number	List Price	Catalog Number	List Price	Ohms	Cap. in Amperes
		M05RK	**$1.40**	½	2.80
M1PK	**$1.65**	**M1RK**	**1.40**	1	2.00
		M2RK	**1.40**	2	1.4
M3PK	**1.65**	**M3RK**	**1.40**	3	1.15
		M4RK	**1.40**	4	1.0
M6PK	**1.65**	**M6RK**	**1.40**	6	.82
M10PK	**1.65**	**M10RK**	**1.40**	10	.63
M15PK	**1.65**	**M15RK**	**1.40**	15	.52
M20PK	**1.65**	**M20RK**	**1.40**	20	.45
M25PK	**1.65**	**M25RK**	**1.40**	25	.40
M30PK	**1.65**	**M30RK**	**1.40**	30	.37
M40PK	**1.65**	**M40RK**	**1.40**	40	.32
M50PK	**1.65**	**M50RK**	**1.40**	50	.28
M60PK	**1.65**	**M60RK**	**1.40**	60	.26
M75PK	**1.65**	**M75RK**	**1.40**	75	.23
M100PK	**1.65**	**M100RK**	**1.40**	100	.20
M200PK	**1.65**			200	.14
M400PK	**1.65**			400	.10
M500PK	**1.65**			500	.09
M600PK	**1.65**			600	.082
M1MPK	**1.85**			1M	.063
M1.5MPK	**1.85**			1.5M	.052
M2MPK	**1.85**			2M	.045
M2.5MPK	**1.85**			2.5M	.04
M3MPK	**1.85**			3M	.037
M4MPK	**1.85**			4M	.032
M5MPK	**1.85**			5M	.028
M10MPK	**2.20**			10M	.020
M15MPK	**2.20**			15M	.016
M20MPK	**2.20**			20M	.014
M25MPK	**2.20**			25M	.013
M50MPK	**2.65**			50M	.009
M70MPK	**2.65**			70M	.0075
M75MPK	**3.85**				
M100MPK	**3.85**				

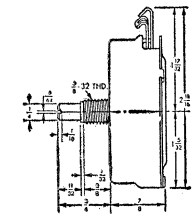
* "Open" or "Off" position counter-clockwise.

Center Tapped Potentiometer

MT10PK	**$2.20**			10	.63
MT20PK	**2.20**			20	.45
MT30PK	**2.20**			30	.37

Seven Watt Wire-Wound Potentiometers





Has 7-watt dissipation, grounded contact arm and linear resistance change. Metal case is 2 5/8" diameter, 7/8" deep. Shaft is ¼" diameter and 3/8" long with screw driver slot. For Dial plate No. 399, see page 5, Mallory Resistors and Controls Section, this catalog.

Catalog Number	Ohms	Capacity in Amperes	List Price
E5MP	5M	.042	**$4.20**
E10MP	10M	.03	**4.45**
E20MP	20M	.021	**4.60**
E25MP	25M	.019	**4.70**
E50MP	50M	.0135	**4.75**
E75MP	75M	.011	**4.90**
E100MP	100M	.0095	**5.00**
E125MP	125M	.0085	**5.00**
E150MP	150M	.0078	**5.10**

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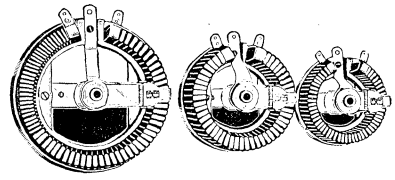
POWER RHEOSTATS

P. R. MALLORY & CO., INC. • INDIANAPOLIS

P.R. MALLORY & CO. Inc. MALLORY

Type "K" Vitreous Wire-Wound Power Rheostats and Potentiometers



Mallory Power Rheostats and Potentiometers are used with Battery Chargers, Blue Print Machines, Dental and Medical Equipment, Fans, Film Printers, Generators, Motion Picture Projectors, Motors and other applications where it is desired to vary a stable current. Mallory Power Rheostats and Potentiometers are constructed by uniformly winding resistance wire into position and applying a protective coating of vitreous enamel. The element contact arm is hinged and under constant pressure to insure proper contact with the element at all times. Wattage ratings of 75, 225 and 500 are available, in addition to those below. A knob and dial plate are supplied with each rheostat.

Type 25K—25 Watts

Outside Diameter—1 9/16"
Angle of Rotation—295°

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
25K1P	1	5.000	28	$7.70
25K2P	2	3.540	28	6.80
25K3P	3	2.880	53	6.80
25K6P	6	2.040	51	6.80
25K8P	8	1.770	56	6.80
25K10P	10	1.580	54	6.80
25K15P	15	1.290	88	6.80
25K25P	25	1.000	117	6.80
25K35P	35	.845	129	6.80
25K50P	50	.707	149	6.80
25K75P	75	.575	174	6.80
25K100P	100	.500	184	6.80
25K125P	125	.447	187	6.80
25K175P	175	.378	178	6.80
25K250P	250	.316	200	6.80
25K350P	350	.267	227	6.80
25K500P	500	.222	256	6.80
25K750P	750	.182	303	6.80
25K1000P	1000	.155	318	7.70
25K1500P	1500	.129	310	7.70
25K2500P	2500	.100	405	7.70
25K3500P	3500	.084	432	8.15
25K5000P	5000	.070	471	8.15

Type 50K—50 Watts

Outside Diameter—2 13/32"
Angle of Rotation—300°

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
50K.5P	.5	10.00	25	$8.60
50K1P	1	7.07	37	8.60
50K2P	2	5.00	42	8.60
50K4P	4	3.54	66	7.70
50K6P	6	2.89	79	7.70
50K8P	8	2.50	84	7.70
50K12P	12	2.04	100	7.70
50K16P	16	1.76	106	7.70
50K22P	22	1.50	145	7.70
50K35P	35	1.19	145	7.70
50K50P	50	1.00	163	7.70
50K80P	80	.79	210	7.70
50K125P	125	.63	204	7.70
50K150P	150	.58	244	7.70
50K225P	225	.47	298	7.70
50K300P	300	.41	268	7.70
50K500P	500	.32	205	7.70
50K800P	800	.25	363	8.15
50K1000P	1000	.22	354	8.15
50K1600P	1600	.176	449	8.15
50K2500P	2500	.14	455	8.15
50K3500P	3500	.12	500	8.60
50K5000P	5000	.10	550	8.60
50K8000P	8000	.08	690	8.60

Type 100K—100 Watts

Outside Diameter—3 1/8"
Angle of Rotation—300°

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
100K.5P	.5	14.20	30	$12.85
100K1P	1	10.00	40	12.85
100K2P	2	7.07	42	12.85
100K3P	3	5.77	56	12.85
100K5P	5	4.47	59	12.85
100K7.5P	7.5	3.65	96	12.05
100K10P	10	3.16	101	12.05
100K16P	16	2.50	128	12.05
100K25P	25	2.00	160	12.05
100K50P	50	1.41	200	12.05
100K75P	75	1.15	240	12.05
100K100P	100	1.00	250	12.05
100K200P	200	.71	315	12.05
100K300P	300	.58	302	12.05
100K400P	400	.50	316	12.05
100K500P	500	.45	342	12.05
100K750P	750	.37	406	12.05
100K1000P	1000	.32	435	12.85
100K1500P	1500	.26	520	12.85
100K2000P	2000	.22	544	12.85
100K2500P	2500	.20	535	12.85
100K5000P	5000	.14	692	13.70
100K7500P	7500	.12	820	14.60
100K10000P	10000	.10	840	15.40

Type 150K—150 Watts

Outside Diameter—4 1/32"
Angle of Rotation—305°

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
150K.5P	.5	17.30	31	$16.35
150K1P	1	12.30	38	16.35
150K2P	2	8.66	51	16.35
150K3P	3	7.07	73	16.35
150K5P	5	5.48	77	16.35
150K7.5P	7.5	4.47	70	16.35
150K10P	10	3.87	145	15.40
150K15P	15	3.16	138	15.40
150K25P	25	2.45	142	15.40
150K35P	35	2.07	198	15.40
150K50P	50	1.73	182	15.40
150K75P	75	1.41	218	15.40
150K100P	100	1.22	229	15.40
150K150P	150	1.00	276	15.40
150K200P	200	.87	289	15.40
150K250P	250	.77	360	15.40
150K350P	350	.66	350	15.40
150K500P	500	.55	400	15.40
150K750P	750	.45	460	16.35
150K1250P	1250	.35	490	16.35
150K1800P	1800	.290	555	17.15
150K2250P	2250	.26	547	17.15
150K3000P	3000	.22	729	17.15
150K4500P	4500	.18	689	18.00
150K7500P	7500	.14	930	18.85
150K10000P	10000	.12	980	20.55

Type 300K—300 Watts

Outside Diameter—6 1/16"
Angle of Rotation—315°

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
300K1P	1	17.30	48	$23.15
300K2P	2	12.25	60	23.15
300K3P	3	10.00	64	23.15
300K4P	4	8.66	80	23.15
300K5P	5	7.75	80	23.15
300K7.5P	7.5	6.32	100	23.15
300K10P	10	5.48	139	23.15
300K15P	15	4.47	128	23.15
300K25P	25	3.46	182	23.15
300K50P	50	2.45	228	23.15
300K75P	75	2.00	271	23.15
300K100P	100	1.73	287	23.15
300K150P	150	1.41	338	23.15
300K200P	200	1.22	361	23.15
300K300P	300	1.00	427	23.15
300K400P	400	.87	460	23.15
300K700P	700	.66	555	23.15
300K900P	900	.58	564	23.15
300K1200P	1200	.50	605	23.15
300K1500P	1500	.45	755	23.15
300K1750P	1750	.41	691	23.15
300K2500P	2500	.35	785	23.15

Order by wattage and resistance. For example: A 25-watt 100 ohm unit is indicated by 25K100P. A 100-watt 12 ohm unit is 100K12P. Or, a 50-watt .5 ohm unit is 50K.5P . . . etc. Knobs and Dial Plates packaged with each unit.

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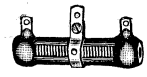
VITREOUS ENAMEL RESISTORS

P. R. MALLORY & CO., INC. · INDIANAPOLIS

P.R. MALLORY & CO. Inc. MALLORY

Mallory Fixed and Adjustable Vitreous Enamel Resistors



Wire-wound, covered with a special, vitreous, non-alkaline, non-hygroscopic enamel coating which assures exceptional sealing and permanence of electrical characteristics. Adjustable types equipped with slider. 5 and 10 watt sizes have tinned-copper leads. All others supplied with mounting feet.

Fixed Types

Type HHJ-5 Watt Rating
Tube Size 5/16" x 1"

Resistance Ohms						
1	10	40	250	700	1250	3500
1.5	12	50	300	750	1500	4000
2	15	75	350	800	1750	4500
3	20	100	400	900	2000	5000
4	25	125	450	1000	2250	
5	30	150	500	1100	2500	
7.5	35	200	600	1200	3000	

Ohms	List Price
1 Thru 1000	$0.74
1100 Thru 5000	.83

Type 1HJ-10 Watt Rating
Tube Size 5/16" x 1¾"

Resistance Ohms						
1	25	225	800	2500	8500	18000
2	30	250	900	3000	10000	20000
3	35	300	1000	3500	11000	22500
4	40	350	1100	4000	12000	25000
5	50	400	1200	4500	12500	30000
7.5	75	450	1250	5000	13500	35000
10	100	500	1500	6000	14300	40000
12	125	600	1750	7000	15000	45000
15	150	700	2000	7500	16000	50000
20	200	750	2250	8000	17500	

Ohms	List Price
1 Thru 1000	$0.83
1100 Thru 5000	.88
6000 Thru 10000	1.01
11000 Thru 20000	1.13
22500 Thru 50000	1.22

Type 2HJ-20 Watt Rating
Tube Size 7/16" x 2"

Resistance Ohms						
5	100	500	2000	4000	12500	40000
10	150	750	2250	4500	15000	50000
15	200	1000	2500	5000	20000	75000
25	250	1250	2750	6000	25000	100000
50	300	1500	3000	7500	30000	
75	400	1750	3500	10000	35000	

Ohms	List Price
5 Thru 1000	$1.05
1250 Thru 5000	1.07
6000 Thru 10000	1.23
12500 Thru 20000	1.32
25000 Thru 40000	1.51
50000	1.65
75000 Thru 100000	1.93

Type 5HJ—50 Watt Rating
Tube Size 9/16" x 4"

Resistance Ohms					
10	250	1500	7500	20000	50000
25	500	2000	10000	25000	75000
50	750	2500	12500	30000	100000
100	1000	5000	15000	40000	

Ohms	List Price
10 Thru 5000	$1.93
7500 Thru 10000	2.11
12500 Thru 20000	2.33
25000 Thru 40000	2.56
50000	2.84
75000	3.21
100000	3.52

Type 10HJ—100 Watt Rating
Tube Size ¾" x 6½"

Resistance Ohms					
25	500	2000	10000	25000	50000
50	750	2500	15000	30000	75000
100	1000	5000	20000	40000	100000
250	1500	7500			

Ohms	List Price
25 Thru 1000	$2.73
1500 Thru 5000	2.78
7500 Thru 10000	2.97
15000 Thru 20000	3.27
25000 Thru 40000	3.59
50000	3.71
75000	3.94
100000	4.18

Type 20HJ—200 Watt Rating
Tube Size 1⅛" x 10½"

Resistance Ohms						
25	100	750	2000	5000	20000	50000
50	250	1000	2500	7500	30000	75000
75	500	1500	3000	10000	40000	100000

Ohms	List Price
25 Thru 1000	$3.62
1500 Thru 5000	3.67
7500 Thru 10000	3.89
20000	4.13
30000 Thru 40000	4.29
50000	4.43
75000	4.68
100000	4.98

Adjustable Types

Type 1AV—10 Watt Rating
Tube Size 5/16" x 1¾"

Resistance Ohms						
1	15	150	500	1500	4000	8000
2	20	200	600	2000	4500	8500
3	25	250	750	2250	5000	9000
5	50	300	800	2500	6000	10000
7.5	75	350	1000	3000	7000	
10	100	400	1250	3500	7500	

Ohms	List Price
1 Thru 1000	$1.62
1100 Thru 5000	1.68
6000 Thru 10000	1.79

Type 2AV—25 Watt Rating
Tube Size 9/16" x 2"

Resistance Ohms						
1	25	200	750	2500	6000	20000
3	50	250	1000	3000	7500	25000
5	75	300	1250	3500	10000	
10	100	400	1500	4000	12000	
15	150	500	2000	5000	15000	

Ohms	List Price
1 Thru 1000	$2.02
1250 Thru 5000	2.07
6000 Thru 10000	2.23
12000 Thru 20000	2.29
25000	2.51

Type 5AV—50 Watt Rating
Tube Size 9/16" x 4"

Resistance Ohms						
5	75	250	1500	4000	15000	40000
10	100	500	2000	5000	20000	50000
25	150	750	2500	7500	25000	
50	200	1000	3000	10000	30000	

Ohms	List Price
5 Thru 1000	$2.61
1500 Thru 5000	2.72
7500 Thru 10000	2.89
15000 Thru 20000	3.11
25000 Thru 40000	3.39
50000	3.64

Type 10AV—100 Watt Rating
Tube Size ¾" x 6½"

Resistance Ohms					
50	2000	5000	15000	30000	50000
100	2500	7500	20000	35000	75000
500	3000	10000	25000	40000	
1000	4000				

Ohms	List Price
50 Thru 1000	$3.91
2000 Thru 5000	4.04
7500 Thru 10000	4.26
15000 Thru 20000	4.53
25000 Thru 40000	4.81
50000	5.03
75000	5.23

Type 20AV—200 Watt Rating
Tube Size 1⅛" x 10½"

Resistance Ohms				
50	1000	2500	20000	50000
100	1500	5000	25000	75000
500	2000	10000	30000	

Ohms	List Price
50 Thru 1000	$4.81
1500 Thru 5000	4.90
10000	5.17
20000	5.41
25000 Thru 30000	5.53
50000	5.69
75000	5.96

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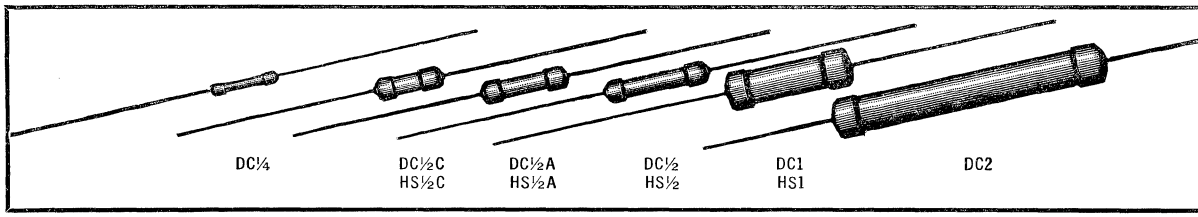
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Types HS and DC Deposited Carbon Resistors



(Resistors illustrated are approximately ⅔ actual size)

Type DC ± 1% Deposited Carbon Precision Resistors

Mallory Deposited Carbon Precision Resistors are designed primarily as low-cost replacements for expensive wire-wound resistors in high-quality laboratory instruments. Their unique operating characteristics also make them ideal for replacement or substitution in all radio, television, electronic, or electric circuitry where stability, close tolerance, low-noise, and low inductance are desired. Average shelf life change will not exceed ¼% per year. One thousand hour load life test indicates a maximum change not exceeding ± 1% .

These resistors are formed of pure, crystalline-carbon particles deposited on specially compounded ceramic. Each Mallory Deposited Carbon Resistor is equipped with 1½" tinned copper, axially-placed leads rigidly attached to silver plated brass end-caps. Baked moisture-resistant insulation is incorporated in construction for protection against humidity. Each resistor is calibrated at a nominal temperature of 25°C. and each has a negative temperature coefficient range of approximately .03% for low resistance values, through .08% for resistances exceeding 1 megohm.

Each unit is inspected according to requirements of accepted government specifications, and each is marked with resistance value, type and tolerance, except the smaller types which have a separate label.

Cat. No.	Wattage	Working Volts	Size (in inches) Dia. Length	Standard Value Resistance Range	List Price
DC½A	.50	350	1 1/64 x 1 9/32	41 ohms—2.2 Meg.	$0.67
DC1	1.00	500	9/32 x 1 5/32	41 ohms—4.5 Meg.	1.00
				5.0 Meg.	1.10
DC2	2.00	750	9/32 x 2 1/16	120 ohms—10 Meg.	1.20

Each of the three DC types is available in the following resistance values, within resistance ranges shown in the table above:

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
50	464	2870	20.0 K	121.0 K	600.0 K	5.11 Meg.
56	500	3000	21.5 K	125.0 K	619.0 K	5.62 Meg.
62	511	3160	22.5 K	133.0 K	681.0 K	6.19 Meg.
68	562	3500	23.7 K	147.0 K	750.0 K	6.81 Meg.
75	600	3830	25.0 K	150.0 K	825.0 K	7.50 Meg.
83	619	4000	26.1 K	162.0 K	900.0 K	8.25 Meg.
91	681	4220	28.7 K	175.0 K	1.00 Meg.	9.09 Meg.
100	700	4640	30.0 K	178.0 K	1.10 Meg.	10.00 Meg.
110	50	5000	31.6 K	196.0 K	1.21 Meg.	11.00 Meg.
121	825	5110	34.8 K	200.0 K	1.33 Meg.	12.10 Meg.
133	909	5620	35.0 K	215.0 K	1.47 Meg.	13.30 Meg.
147	1000	6190	38.3 K	225.0 K	1.50 Meg.	14.70 Meg.
162	1100	6810	40.0 K	237.0 K	1.62 Meg.	16.20 Meg.
178	1210	7500	42.2 K	250.0 K	1.78 Meg.	17.80 Meg.
200	1330	8250	46.4 K	261.0 K	2.00 Meg.	19.60 Meg.
215	1470	9090	50.0 K	287.0 K	2.15 Meg.	21.50 Meg.
237	1500	10.0 K	51.1 K	300.0 K	2.37 Meg.	23.70 Meg.
250	1620	11.0 K	56.2 K	316.0 K	2.50 Meg.	26.10 Meg.
261	1780	12.1 K	60.0 K	348.0 K	2.61 Meg.	28.70 Meg.
287	1960	12.5 K	61.9 K	383.0 K	2.87 Meg.	31.60 Meg.
300	2000	13.3 K	68.1 K	400.0 K	3.16 Meg.	34.80 Meg.
316	2150	14.7 K	75.0 K	422.0 K	3.48 Meg.	38.30 Meg.
348	2200	15.0 K	82.5 K	464.0 K	3.83 Meg.	42.20 Meg.
383	2370	16.2 K	90.0 K	500.0 K	4.22 Meg.	46.40 Meg.
400	2500	17.8 K	100.0 K	511.0 K	4.64 Meg.	51.10 Meg.
422	2610	19.6 K	110.0 K	562.0 K	5.00 Meg.	

Type HS ± 10% Deposited Carbon Resistors

For the first time the well-known advantages of high-stability low inductance, and small size of Mallory Deposited Carbon Resistors are available at moderate cost for use in many commercial applications where accuracy of resistance is of less importance than the consistency of operation over long periods of time and through many changes of temperature. Average shelf life change will not exceed ¼% per year. One thousand hour load life test indicates a maximum change not exceeding ± 1% .

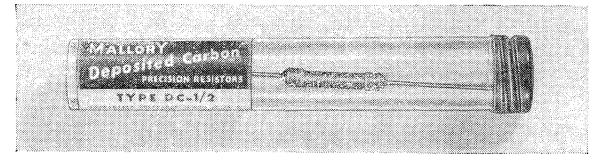
Television servicemen, laboratory technicians, and model shop engineers, in particular, will find these resistors ideal for critical television and other oscillator circuits where constancy of resistance is of utmost importance. The electrical and mechanical characteristics of HS types are exactly the same as similar DC types, with exception of the resistance tolerance which has been increased to ± 10% of the nominal value. The same quality and temperature coefficient, as featured in the DC types, is maintained throughout.

Cat. No.	Wattage	Working Volts	Size (in inches) Dia. Length	Standard Value Resistance Range	List Price
HS½	.50	500	1 1/64 x 1 3/16	47 ohms—8.2 Meg.	$0.35
HS½A	.50	350	1 1/64 x 1 9/32	10 ohms—3.3 Meg.	.40
HS½C	.50	350	1 1/64 x 1 5/32	10 ohms—1.2 Meg.	.45
HS1	1.00	500	9/32 x 1 5/16	100 ohms—10 Meg.	.50

Each of the four HS types is available in the following RTMA resistance values, within resistance ranges shown in the chart above:

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
10	100	1 K	10 K	100 K	1 Meg.
12	120	1.2 K	12 K	120 K	1.2 Meg.
15	150	1.5 K	15 K	150 K	1.5 Meg.
18	180	1.8 K	18 K	180 K	1.8 Meg.
22	220	2.2 K	22 K	220 K	2.2 Meg.
27	270	2.7 K	27 K	270 K	2.7 Meg.
33	330	3.3 K	33 K	330 K	3.3 Meg.
39	390	3.9 K	39 K	390 K	3.9 Meg.
47	470	4.7 K	47 K	470 K	4.7 Meg.
56	560	5.6 K	56 K	560 K	5.6 Meg.
68	680	6.8 K	68 K	680 K	6.8 Meg.
82	820	8.2 K	82 K	820 K	8.2 Meg.
					10 Meg.

When ordering specify type and resistance value desired.



All DC Types are packaged in this dust-free plastic tube, assuring adequate physical protection.

Note: Use of values listed in this catalog will szve you time and money. However special values will be made to your specifications on your request.

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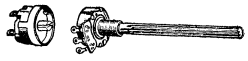
CONTROLS

BLUE SHAFT RADIOHMS®



The most widely accepted line of 15/16" diameter carbon-type controls, constructed to meet exacting radio, television, and industrial standards. Blue, anodized aluminum shafts, 3" long with universal mill. Rating ½ watt.

Ohms Max. Resistance	Taper or Tap	Cat. No. Plain	List Price Plain
500	C1	B-4	$1.40
1,000	C1	B-5	1.40
2,000	C1	B-6	1.40
2,500	C1	B-7	1.40
3,000	C1	B-8	1.40
5,000	C1	B-10	1.40
5,000	C2	B-11	1.40
5,000	C5	B-12	1.40
6,500	C1	B-13	1.40
10,000	C1	B-14	1.40
10,000	C2	B-15	1.40
10,000	C4	B-18	1.40
10,000	C5	B-17	1.40
10,000	C6	B-16	1.40
15,000	C6	B-20	1.40
20,000	C1	B-22	1.40
20,000	C5	B-23	1.40
20,000	C6	B-24	1.40
25,000	C1	B-26	1.40
25,000	C5	B-27	1.40
25,000	C6	B-28	1.40
50,000	C1	B-31	1.40
50,000	C2	B-32	1.40
50,000	25K	BT-33	2.05
75,000	C1	B-35	1.40
100,000	C1	B-40	1.40
100,000	C2	B-41	1.40
150,000	C2	B-44	1.40
200,000	C1	B-46	1.40
250,000	C1	B-50	1.40
250,000	C2	B-51	1.40
250,000	C5	B-52	1.40
250,000	125K	BT-53	2.05
250,000	75K	BT-55	2.05
350,000	70K	BT-57	2.05
½ meg.	C1	B-59	1.40
½ meg.	C4	B-58	1.40
½ meg.	C5	B-61	1.40
½ meg.	C7	B-617	1.40
½ meg.	50K	BT-63	2.05
½ meg.	100K	BT-66	2.05
½ meg.	150K	BT-67	2.05
½ meg.	250K	BT-65	2.05
1 meg.	C1	B-69	1.40
1 meg.	C4	B-744	1.40
1 meg.	C5	B-68	1.40
1 meg.	C7	B-697	1.40
1 meg.	100K	BT-74	2.05
1 meg.	200K	BT-72	2.05
1 meg.	300K	BT-73	2.05
1 meg.	½ meg. (50%)	BT-71	2.05
1 meg.	½ meg. (62%)	BT-7417	2.05
2 megs.	C1	B-75	1.40
2 megs.	C2	B-76	1.40
2 megs.	C5	B-77	1.40
2 megs.	200K	BT-81	2.05
2 megs.	400K	BT-79	2.05
2 megs.	600K	BT-80	2.05
2 megs.	1 meg. (50%)	BT-78	2.05
2 megs.	1 meg. (62%)	BT-82	2.05
2½ megs.	C1	B-83	1.40
3 megs.	C1	B-84	1.40
3 megs.	C2	B-85	1.40
4 megs.	C1	B-86	1.40
5 megs.	C1	B-87	1.40
7 megs.	C7	B-89	1.40
10 megs.	C1	B-98	1.40

Ohms Max. Resistance	Taper or Tap	Cat. No. Plain	Cat. No. w/Switch	List Price Plain	List Price w/Switch
½ meg.	C2	B-60	B-60-S	$1.20	$1.75
1 meg.	C2	B-70	B-70-S	1.20	1.75

Switches are universal DPST, easily wired for SPST or 3-wire use.

FASTATCH® SWITCHES

TYPE KB — For field attachment to plain Type B and AB controls bearing blue and white label. Easiest switch on the market to install. Underwriters approved. Packaged 1 per carton.

Type	Cat. No.	List Price	Type	Cat. No.	List Price
SPST—5 amp. A.C.	KB-1	$0.55	SPDT—5 amp. A.C.	KB-3	$0.85
SPST—w/dummy lug	KB-6	.55	DPST—5 amp. A.C.	KB-2	.65
SPST—8 amp. A.C.	KB-4	.95	DPST—8 amp. A.C.	KB-7	.95

TYPE "AB" ADASHAFT RADIOHMS®
SELECT THE CONTROL
ADD-A-SHAFT TO MEET YOUR NEEDS

Adashaft Controls are now built in the popular Model "B" —15/16" construction. The basic control unit is constructed with a patented stub shaft . . . usable just this way in many cases as a short, screwdriver slotted unit. A selection of nine basic shaft types are available, ranging from 3/8" to 10" in length, including auto types, insulating nylon and many others. This original, patented Centralab construction permits instant locking . . . resulting in a solid, integral, well aligned unit. There is no price premium on Adashaft . . . you pay for exactly what you need. After adding the required shaft, the units may be converted to switch type with the new "Fastatch" type KB line switches. All "AB" characteristics same as Model B. Packaged — singly including all data.

Ohms Max. Resistance	Taper or Tap	CRL Cat. No.	Ohms Max. Resistance	Taper or Tap	CRL Cat. No.
200	C1	AB-2	250,000	125K(62%)	ABT-55
500	C1	AB-4	350,000	70K	ABT-57
750	C5	AB-415	½ meg.	C1	AB-59
1,000	C1	AB-5	½ meg.	C2	AB-60
1,000	C5	AB-505	½ meg.	C4	AB-58
1,500	C5	AB-515	½ meg.	C5	AB-61
2,000	C1	AB-6	½ meg.	C6	AB-616
2,500	C1	AB-7	½ meg.	C7	AB-617
2,500	C5	AB-705	½ meg.	50K(37%)	ABT-62
3,000	C1	AB-8	½ meg.	50K(50%)	ABT-63
4,000	C1	AB-9	½ meg.	100K	ABT-66
5,000	C1	AB-10	½ meg.	150K	ABT-67
5,000	C2	AB-11	½ meg.	250K(50%)	ABT-65
5,000	C5	AB-12	½ meg.	250K(62%)	ABT-64
6,500	C1	AB-13	¾ meg.	C1	AB-66
10,000	C1	AB-14	1 meg.	C1	AB-69
10,000	C2	AB-15	1 meg.	C2	AB-70
10,000	C4	AB-18	1 meg.	C4	AB-744
10,000	C5	AB-17	1 meg.	C5	AB-68
10,000	C6	AB-16	1 meg.	C7	AB-697
15,000	C5	AB-19	1 meg.	500K	ABT-71
15,000	C6	AB-20	1 meg.	200K	ABT-72
20,000	C1	AB-22	1 meg.	300K	ABT-73
20,000	C5	AB-23	1 meg.	500K	ABT-74
20,000	C6	AB-24	1 meg.	100K	ABT-7417
25,000	C1	AB-26	1½ megs.	C1	AB-742
25,000	C4	AB-29	2 megs.	C1	AB-75
25,000	C5	AB-27	2 megs.	C2	AB-76
25,000	C6	AB-28	2 megs.	C5	AB-77
50,000	C1	AB-31	2 megs.	200K	ABT-81
50,000	C2	AB-32	2 megs.	400K	ABT-79
50,000	C5	AB-34	2 megs.	600K	ABT-80
50,000	25K	ABT-33	2 megs.	1 meg.(50%)	ABT-78
75,000	C1	AB-35	2 megs.	1 meg.(62%)	ABT-82
75,000	C5	AB-36	2½ megs.	C1	AB-83
100,000	C1	AB-40	3 megs.	C1	AB-84
100,000	C2	AB-41	3 megs.	C2	AB-85
100,000	50K	ABT-39	3 megs.	C5	AB-855
150,000	C1	AB-43	3 megs.	300K (50% Rot.)	ABT-8515
150,000	C2	AB-44			
200,000	C1	AB-46	3 megs.	300K (37% Rot.)	ABT-8517
200,000	100K	ABT-47			
250,000	C1	AB-50	4 megs.	C1	AB-86
250,000	C2	AB-51	4 megs.	C2	AB-862
250,000	C5	AB-52	5 megs.	C1	AB-87
250,000	50K	ABT-54	5 megs.	C2	AB-88
250,000	75K	ABT-55	7 megs.	C7	AB-89
250,000	125K(50%)	ABT-53	10 megs.	C1	AB-98

AB-60 and AB-70 ..... List Price $1.05
All other AB units ..... List Price $1.25
All ABT units ..... List Price $1.90

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CONTROLS (Cont'd)

DUAL TAPPED AB ADASHAFTS

Ohms Max.	Taps—Ohms	Cat. No.	Ohms Max.	Taps—Ohms	Cat. No.
15K	5K and 10K	ABT-154	1 meg.	200K and 500K	ABT-165
250,000	50K and 125K	ABT-155	1.5 megs.	250K and 500K	ABT-167
250,000	41K and 82K	ABT-156	2 megs.	250K and 500K	ABT-174
500,000	82K and 165K	ABT-159	2 megs.	400K and 1 meg.	ABT-175
500,000	100K and 250K	ABT-160	2.5 megs.	300K and 625K	ABT-176
1 meg.	165K and 330K	ABT-164			

LIST PRICE ON ALL ABOVE ITEMS.....$1.90 EA.

HANDY-ADASHAFT KIT

14 AB Adashaft controls, 17 shafts and couplers, and 6-"KB" switches CAT. No. AB-100. List Price $25.05

ADASHAFT SHAFTS — COUPLERS — SHAFT EXTENSIONS

Cat. No.	Description	List Price Per Pkg.
AK-1	Fingertip knurl and screwdriver slot 3/8" long from bushing.	$0.75/5
AK-2	1 9/16" long from bushing, with .078"-wide slot	1.00/5
AK-3	Universal fluted mill full length, 3" long from bushing	.75/5
AK-4	Split knurl shaft 3 7/8" long from bushing	1.25/5
AK-5	3" from bushing auto type	2.75/5
AK-6	6" from bushing auto type	3.25/5
AK-8	3/16" diameter, full round, 2 1/8" long from bushing	1.50/5
AK-9	1/4" diameter, full round, 2 1/8" long from bushing	1.50/5
AK-10	10" long from bushing, with flat mill .216" x 4 5/16"	1.50/5
AK-16	Coupler adaptable to 1/4" and 1/4" or 1/4" and 3/16" shafts	2.00/5
AK-19	Insulating nylon, 2 1/16" long from bushing	2.75/5
AK-21	Shaft extension 4" long, 1/4" diam., .218" flat	2.00/5
AK-22	Shaft extension 4" long, 1/4" diam., .154" flat	2.00/5
AK-23	Shaft extension 4" long, 3/16" diam., .172" flat	2.00/5
AK-24	1/8" diameter, full round, 3/8" from bushing	.75/5
AK-25	1/4" diameter, flatted to .218", 3/8" from bushing	.75/5
AK-26	Adapter bushing, 3/8-32 thd. to 7/16-28 thd., 1 3/4" long, with nuts and lockwasher	.75 ea.
AK-28	Adapter bushing, 3/8-32 thd. to 1/2-28 thd., 2 1/4" long, with nuts and lockwasher	.75 ea.
AK-30	Grounding lug, grounds bushing to terminal	.50/doz.

MODEL "BB" TWIN RADIOHMS®

Two tandem-mounted Model B 15/16"- diameter Radiohms operated by a single shaft. Specifications same as Model B Blue Shaft Radiohm. Shaft 3" from 3/8"-long bushing, universal fluted mill full length. 1 per carton.

FRONT SECTION Ohms Max. Resistance	Taper	REAR SECTION Ohms Max. Resistance	Taper	CRL Cat. No.
10,000	C1	25,000	C1	BB-1001
10,000	C1	50,000	C1	BB-1011
10,000	C2	50,000	C1	BB-101
10,000	C4	25,000	C3	BB-100
50,000	C1	50,000	C1	BB-1051
50,000	C3	50,000	C3	BB-105
100,000	C1	100,000	C1	BB-1021
100,000	C2	100,000	C2	BB-102
250,000	C1	250,000	C1	BB-1031
250,000	C2	250,000	C2	BB-103
500,000	C1	500,000	C1	BB-1041
500,000	C2	500,000	C2	BB-104
1 meg.	C1	1 meg.	C1	BB-102
1 meg.	C2	1 meg.	C2	BB-107
2 megs.	C1	2 megs.	C1	BB-110
5 megs.	C1	5 megs.	C1	BB-112

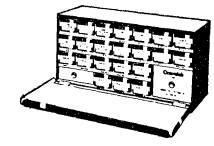
List Price.....$2.75 ea.

MODEL B16 RADIOHM®

This tiny control is smaller than a dime, virtually a watch maker's production job. The noise level is exceptionally low. In the switch types, the switches are built entirely within the unit. 5/8" diameter without knob, 23/32" with knob. 1/4" total thickness, including knob. Rating 1/10 watt.

Plain Type Cat. No.	Res. & Taper	Switch Type Cat. No.	Res. & Taper
B16-107	500-C1	B16-212	2,500-C2
B16-109	1,000-C1	B16-214	5,000-C2
B16-111	2,500-C1	B16-216	10,000-C2
B16-112	2,500-C2	B16-218	500,000-C2
B16-113	5,000-C1	B16-220	1 Meg.-C2
B16-114	5,000-C2	B16-222	2 Megs.-C2
B16-115	10,000-C1	B16-224	3 Megs.-C2
B16-116	10,000-C2	B16-228	5 Megs.-C2
B16-118	500,000-C2		
B16-120	1 Meg.-C2		
B16-122	2 Megs.-C2		
B16-124	3 Megs.-C2		
B16-128	5 Megs.-C2		
LIST PRICE	$2.50 ea.	LIST PRICE	$4.00 ea.

B-A AND B-B METAL CABINET KITS OF 22 CONTROLS



Two assortments of popular Model B Blue Shaft Controls are furnished in handy, useful cabinets at no price premium. The B-A Kit contains values you use every day. Half and one Megohm, audio taper units only. The B-B Kit contains fifteen different types . . . the fifteen controls most often used in radio and television service. The kits contain no slow movers.

† Trade Mark

KIT DEAL B-A

22 Controls — Values You Use Every Day

PLAIN TYPE Quan.	Cat. No.	Ohms Resist.	Taper	SWITCH TYPE Quan.	Cat. No.	Ohms Resist.	Taper
5	B-60	1/2 meg.	C2	8	B-60-S	1/2 meg.	C2
4	B-70	1 meg	C2	5	B-70-S	1 meg.	C2

Plus one metal cabinet.....List Price $32.35

KIT DEAL B-B

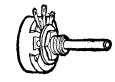
22 Controls — 15 Types Most Used in Radio and TV

PLAIN TYPE Quan.	Cat. No.	Ohms Resist.	Taper	SWITCH TYPE Quan.	Cat. No.	Ohms Resist.	Taper
1	B-5	1,000	C1	4	B-60-S	1/2 meg.	C2
1	B-10	5,000	C1	2	B-70-S	1 meg.	C2
1	B-26	25,000	C1	1	BT-80	2 megs.-T-600K	C13
2	B-31	50,000	C1				
2	B-40	100,000	C1				
1	B-59	500,000	C1				
2	B-69	1 meg.	C1		"FASTATCH"® SWITCHES		
1	B-75	2 megs.	C1	3	KB-1		SPST
2	B-83	2.5 megs.	C1	1	KB-2		DPST
1	B-84	3 megs.	C1	1	KB-3		SPDT
1	B-87	5 megs.	C1				

Plus one metal cabinet..... List Price $35.80

MODEL JP and JL RADIOHMS

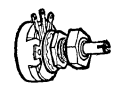
Exceptionally small, high-quality variable resistors designed for miniature applications. Diameter, .671". Tolerance 20%.



MODEL JP

Plain round shaft, 1/8" diam., 1/2" long. Bushing, 1/4"-32 — 1/4" long. Furnished with mounting nut and lock washer.

Ohms	Taper	Cat. No.	Ohms	Taper	Cat. No.
1000	C1	JP-102	50K	C1	JP-503
1500	C1	JP-152	100K	C1	JP-104
2500	C1	JP-252	250K	C1	JP-254
5000	C1	JP-502	500K	C1	JP-504
7500	C1	JP-752	500K	C2	JP2-504
10K	C1	JP-103	1 Meg.	C1	JP-105
10K	C2	JP2-103	2.5 Meg.	C1	JP-255
25K	C1	JP-253			



MODEL JL

Slotted shaft, 1/8" diam. Split locking bushing 1/4"-32 — 3/8" long. Furnished with jam nut, mounting nut, lock washer.

Ohms	Taper	Cat. No.	Ohms	Taper	Cat. No.
1000	C1	JL-102	50K	C1	JL-503
1500	C1	JL-152	100K	C1	JL-104
2500	C1	JL-225	250K	C1	JL-254
5000	C1	JL-502	500K	C1	JL-504
7500	C1	JL-752	1 Meg.	C1	JL-105
10K	C1	JL-103	2.5 Meg.	C1	JL-255
25K	C1	JL-253			

Prices quoted upon request.

Copyright by U. C. P., Inc.

CONTROLS (Cont'd)

FASTATCH® DUAL-CONCENTRIC CONTROL SYSTEM

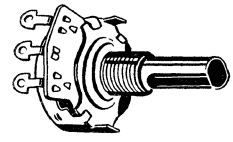
No tools needed — just snap the units together

Contains the total number of parts you need to make all carbon dual-concentric replacements, current or future — including color TV. Front and rear units snap together to give you more than 4,000 different combinations of resistance and taper. You don't have to do the manufacturer's job—there are no loose parts, no lugs to bend, no tricky assembling. Fastatch units are completely assembled, tested, and guaranteed by Centralab.

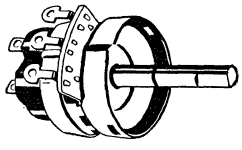
FASTATCH DUAL

Outer shaft is 3 5/16" long from mounting surface, with double-fluted mill . . . brass for quick cutting to proper length. Use for single or double flat or round shaft. Scores make cutting for single or double slot easy.

FRONT UNIT



FASTATCH DUAL — REAR UNIT



List Price $1.75 — F or R

Distinctive blue aluminum inner shaft is 3¾" long from mounting surface. Easily cut to proper length. Diameter, 3/16" with .156" flat. Fits .187" or .202" flat shaft knob — spring adapter furnished for other knob types. Convert to switch type with type KB switches listed on page R-23. Front and rear units.

Max. Resist.	Taper or Tap	Front Unit	Rear Unit
300	C1	F1- 0	——
500	C1	F1- 1	R2- 1
750	C1	F1- 2	——
750	C5	F3- 2	——
750	500	F1- 3	——
1000	C1	F1- 4	R2- 4
1000	C5	F1- 5	R2- 5
1500	C1	F1- 6	R2- 6
1500	C5	F1- 7	R2- 7
1500	187 and 375	F1- 8	——
2000	C1	F1- 9	R2- 9
2000	C5	F1-10	R2-10
2000	1500	F1-11	——
2000	250 and 500	F3-11	——
2500	C1	F1-12	R2-12
2500	C2	——	R2-13
2500	C3	——	R2-14
2500	C5	F1-15	——
2500	500	F1-16	——
2500	625	F1-17	——
3500	C5	——	R2-18
5000	C1	F1-19	R2-19
5000	C3	F1-20	——
5000	C5	F1-21	——
7500	C1	——	R2-22
10K	C1	F1-23	R2-23
10K	C2	F1-24	——
10K	C5	F1-25	R2-25
15K	5K and 10K	F1-26	——
25K	C1	F1-27	R2-27
35K	C1	F1-28	——
50K	C1	F1-29	R2-29
75K	C1	F1-30	R2-30
100K	C1	F1-31	R2-31
125K	C1	F1-32	R2-32
200K	C1	F1-33	R2-33
250K	C1	F1-34	R2-34
250K	C2	F1-35	R2-35
250K	C4	——	R2-36
250K	C5	F1-37	R2-37
250K	75K	F3-37	R4-37
330K	66K	——	R2-38
350K	C2	F1-39	——
500K	C1	F1-40	R2-40
500K	C2	F1-41	R2-41
500K	C4	F1-42	R2-42
500K	100K	F1-44	R2-44
500K	150K	——	R2-45
500K	250K	——	R2-46
500K	50K	F1-47	R2-47
500K	150K	——	R2-48
750K	C7	F1-49	——
850K	C1	F1-50	——
1 meg.	C1	F1-51	R2-51
1 meg.	C2	F1-52	R2-52
1 meg.	C3	F1-53	R2-53
1 meg.	C4	F1-54	R2-54
1 meg.	C7	F1-55	——
1 meg.	500K	——	R2-56
1 meg.	200K	——	R2-57
1 meg.	250K	——	R2-58
1 meg.	300K	F1-59	R2-59
1 meg.	500K	——	R2-60
1 meg.	100K	——	R2-61
1 meg.	300K	——	R2-62
1 meg.	200K and 500K	F1-63	——
1½ meg.	C1	F1-64	R2-64
1½ meg.	C7	F1-65	——
1½ meg.	250K and 500K	——	R2-66
2 megs.	C1	F1-67	R2-67
2 megs.	C2	F1-68	R2-68
2 megs.	C4	F1-69	——
2 megs.	C5	——	R2-70
2 megs.	C7	F1-71	——
2 megs.	1 meg.	——	R2-72
2 megs.	400K	F1-73	R2-73
2 megs.	200K	F1-74	R2-74
2 megs.	600K	——	R4-74
2 megs.	1 meg.	F1-75	R2-75
2½ megs.	C1	F1-76	R2-76
2½ megs.	C7	F1-77	R2-77
3 megs.	C1	F1-78	R2-78
3 megs.	C2	F1-79	R2-79
3 megs.	1½ meg.	——	R2-80
3 megs.	900K	F1-81	R2-81
4 megs.	C7	F1-82	——
5 megs.	C7	F1-83	R2-83
5 megs.	C3	——	R2-84

FASTATCH® WIREWOUND FRONT UNITS

The latest addition to the Centralab control line. These wirewound units are constructed just like Centralab's carbon front units and may be snapped in assembly with carbon rear units. All linear taper. Replace any unit rated from 2 to 5 watts. 1⅛" diameter.

Resistance Ohms	Cat. No.	Resistance Ohms	Cat. No.
250	F7-50	2,000	F7-75
300	F7-53	2,250	F7-78
500	F7-59	2,500	F7-82
750	F7-65	3,000	F7-85
1,000	F7-68	5,000	F7-90
1,500	F7-72	10,000	F7-96

List Price.....$2.25 ea.

FASTATCH® CONTROL SHOP KITS

FR-22A KIT—Contains the 11 most popular fronts and the 11 most popular rears. Used in 80% of dual-concentric controls by major TV manufacturers. Complete with Fastatch switches and adapter bushings. No extra charge for metal cabinet.....$42.95 List

FR-22B KIT — Cabinet of Fastatch controls selected by you to meet your own particular needs. Ask your distributor.

MODEL WW WIREWOUNDS

The first really new development in wirewound controls in 15 years. Size of a 2-watt, price of a 2-watt — but rated at 5 watts. Diameter 1 3/32". Bushing, 3/8"-32. Plain round ¼" aluminum shaft 3" long from mounting surface. Mechanical rotation, 295°.

Ohms	Cat. No.	Ohms	Cat. No.	Ohms	Cat. No.	Ohms	Cat. No.
1	WW-010	20	WW-200	250	WW-251	2000	WW-202
2	WW-020	25	WW-250	300	WW 301	2500	WW-252
3	WW-030	30	WW-300	400	WW-401	3000	WW-302
4	WW-040	40	WW-400	500	WW-501	4000	WW-402
5	WW-050	50	WW-500	750	WW-751	5000	WW-502
6	WW-060	60	WW-600	1000	WW-102	7500	WW-752
8	WW-080	75	WW-750	1500	WW-152	10K	WW-103
10	WW-100	100	WW-101			15K	WW-153
15	WW-150	200	WW-201				

List price.....$1.50 ea.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

CONTROLS (Cont'd)

SNAP-TITE* REPLACEMENT CONTROL
For speed-servicing of "hidden" volume controls

The revolutionary new Centralab control with amazing time-saving features:

- SNAP-TITE is installed by just *pushing* it into the chassis mounting hole. It holds itself in place.
- No tools needed for mounting; no nuts, lockwashers, or any other hardware. A clean, fast replacement.
- Six spring clips grip the panel for positive, non-twist mounting. Replaces any standard control type. (One or two locating lugs.)
- Shaft is molded, high-strength polystyrene, fingertip knurled and slotted for screwdriver adjustment. Extends ½" from face of mounting surface.

The ten values below will replace 75% of current rear-end or "hidden" television controls:

Max. Resistance	Taper	Cat. No.	Max. Resistance	Taper	Cat. No.
5000	C1	BX-10	1 meg.	C1	BX-69
50K	C1	BX-31	1½ megs.	C1	BX-742
100K	C1	BX-40	2 megs.	C1	BX-75
200K	C1	BX-46	2½ megs.	C1	BX-83
500K	C1	BX-59	3 megs.	C1	BX-84

List Price.....$.85 each

* Trademark

THE COMPENTROL® †

The COMPENTROL is a volume control and special Packaged Electronic Circuit network designed to better reproduce the apparent bass and treble response of amplifiers, radio, and television sets when volume is at low level. For use in radio sets (5 or more tube AC or DC), audio amplifiers, or phono combinations.

Resistance	Type	Cat. No.
½ meg.	Plain Type	C1-60
½ meg.	Switch Type	C1-60-S
1 meg.	Plain Type	C1-70
1 meg.	Switch Type	C1-70-S

Suggested Dlr. Net — Plain.....$2.50 ea. Switch.....$3.00 ea.

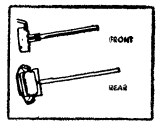
SENIOR COMPENTROL WITH LEVEL-SET

There's nothing else like it. Lets you control bass and treble compensation to your own tastes—not possible with any other compensated volume control. A universal unit that replaces any value without additional amplification. Special knobs furnished.

Cat. No. C2-100.....Suggested Dealer Net $4.50

† Trademark

FASTATCH® SENIOR COMPENTROL® KIT
With High-Boost P. E. C. Plates



The ultimate in compensated control for the advanced hi-fi owner. The Senior Compentrol is furnished as two separate units that can be snapped together after shafts are cut to any length up to 3¾" from mounting surface. Compensating P. E. C. plate is pre-wired to rear unit. Two high-frequency boost plates are furnished for medium or substantial boosting of highs. Contains knobs and complete instructions.

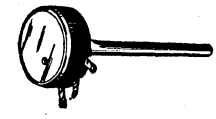
C2-200 KIT.....Suggested dealer net, $4.75

SEPARATE HIGH-BOOST P. E. C. PLATES

Same as furnished in C2-200 Kit, for overall emphasis of high frequencies. Can be installed in existing Compentrol unit or other location in high-fidelity amplifiers.

Cat. No.	Boost at 10 KC.	Recommended for	Suggested Dealer Net
PC-60	4 db.	Multiple speaker installations	$0.50
PC-61	8 db.	Single or coaxial speaker installations	.50

MODEL "A" 1 WATT PATENTED NON-RUBBING CONTACT CONTROLS



Wall type resistor element provides one-third longer effective resistor length assuring low noise level, closer taper tolerance, double load carrying ability. Patented non-rubbing contact eliminates all friction between resistance element and contacting member assuring accuracy . . . the resistance strip CAN'T wear out.

Ohms Max. Resistance	Taper	Cat. No.	Ohms Max. Resistance	Taper	Cat. No.
500	C1	A-100	500,000	C1	A-128
1,000	C1	A-101	500,000	C2	A-130
2,000	C1	A-102	1 meg.	C1	A-232
5,000	C1	A-105	1 meg.	C2	A-132
10,000	C1	A-108	2 megs.	C1	A-233
25,000	C1	A-115	2 megs.	C2	A-133
50,000	C1	A-118	3 megs.	C1	A-234
50,000	C2	A-119	3 megs.	C2	A-134
100,000	C1	A-122	5 megs.	C1	A-249
100,000	C2	A-123	5 megs.	C2	A-149
250,000	C1	A-227	10 megs.	C1	A-250
250,000	C2	A-127	10 megs.	C2	A-150

List Price.....$1.65 ea.

SWITCHES FOR MODEL "A" CONTROLS

Attachable switch "covers" are rated 3 amps. 125 V.A.C.

Type	Cat. No.	List Price
SPST	K-10	$0.65
SPDT	K-11	.85
DPST	K-12	.85

MODEL "SVT" CENTER TAPPED WIREWOUND RADIOHMS®

Tapped at 50% rotation — 3 watts, phenolic case, 1 7/16" diam. Furnished with ⅜" fingertip knurl and screwdriver slot shaft. Units are not adaptable to switches.

Ohms Resistance	Tap Resistance	Cat. No.	Ohms Resistance	Tap Resistance	Cat. No.
20	10	SVT-901	40	20	SVT-903
30	15	SVT-902	50	25	SVT-904

List Price.....$2.45 ea.

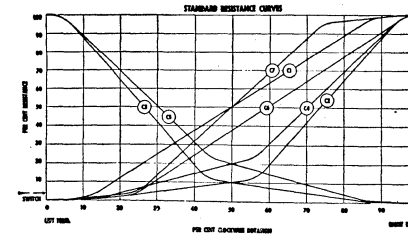
SERIES MX CONTROLS — DELTA T TYPE

For use in equipment where it may be necessary to maintain an impedance match. Not adapted for switches. Rating, 1 watt. Shaft, 1⅞" long from end of ⅜" bushing. Diameter, 1 7/16" x 1 1/16" depth. Packaged singly.

Resistance Ohms	Cat. No.	Resistance Ohms	Cat. No.
50	MX-146	500	MX-148
200	MX-147	600	MX-149

List Price.....$5.50 ea.

STANDARD RESISTANCE TAPERS



CENTRALAB POCKET-EDITION CONTROL GUIDE

Handy size, 3¾"x 8½". Gives replacements by TV manufacturers' part numbers. Up-to-date—revised semi-annually. From your distributor or direct from Centralab.....20c Net

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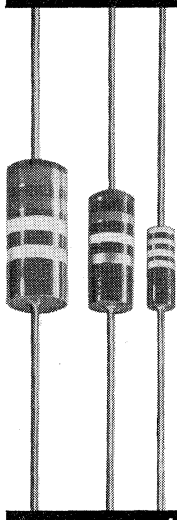
RESISTORS CAPACITORS

HIGH QUALITY FIXED COMPOSITION

PAPER DIELECTRIC CUSTOM MANUFACTURED

5% and 10% TOLERANCE, ½-1-2 WATT RATINGS



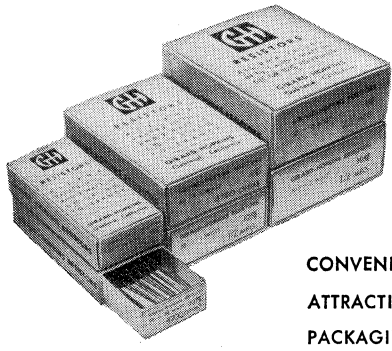
2W 1W 1/2W (ACTUAL SIZE)

G-H, fixed composition resistors of highest quality, feature permanent electrical characteristics, small physical size for a given wattage rating, great mechanical strength. Leads are differentially tempered—prevent sharp bends near the resistor body while still permitting easy forming to fit a particular wiring arrangement.

Resistor bodies are molded brown phenolic with coding in brilliant colors.

G-H resistors are now supplied in attractive new containers. Three convenient sizes with pull-out sections accommodate standard quantities of ½, 1 and 2 watt resistors.

A G-H innovation, Gold and Silver container ends, permits instant identification of 5% or 10% tolerance units. Quantity, wattage and resistance values are also clearly printed on these ends. These attractive black and green containers with Gold and Silver ends provide a space-saving, functional shelf display.



CONVENIENT ATTRACTIVE PACKAGING

5% TOLERANCE

One-half, one and two watt ratings.

Standard packages: One-half and one watt...50 per package; Two watt.....25 per package

10	82	680	5600	47,000	390,000	3.3 meg.
11	91	750	6200	51,000	430,000	3.6 "
12	100	820	6800	56,000	470,000	3.9 "
13	110	910	7500	62,000	510,000	4.3 "
15	120	1000	8200	68,000	560,000	4.7 "
16	130	1100	9100	75,000	620,000	5.1 "
18	150	1200	10,000	82,000	680,000	5.6 "
20	160	1300	11,000	91,000	750,000	6.2 "
22	180	1500	12,000	100,000	820,000	6.8 "
24	200	1600	13,000	110,000	910,000	7.5 "
27	220	1800	15,000	120,000	1.0 meg.	8.2 "
30	240	2000	16,000	130,000	1.1 "	9.1 "
33	270	2200	18,000	150,000	1.2 "	10.0 "
36	300	2400	20,000	160,000	1.3 "	11.0 "
39	330	2700	22,000	180,000	1.5 "	12.0 "
43	360	3000	24,000	200,000	1.6 "	13.0 "
47	390	3300	27,000	220,000	1.8 "	15.0 "
51	430	3600	30,000	240,000	2.0 "	16.0 "
56	470	3900	33,000	270,000	2.2 "	18.0 "
62	510	4300	36,000	300,000	2.4 "	20.0 "
68	560	4700	39,000	330,000	2.7 "	22.0 "
75	620	5100	43,000	360,000	3.0 "	

All Standard RTMA Values

10% TOLERANCE

One-half, one and two watt ratings.

10	120	1500	18,000	220,000	2.7 meg.
12	150	1800	22,000	270,000	3.3 "
15	180	2200	27,000	330,000	3.9 "
18	220	2700	33,000	390,000	4.7 "
22	270	3300	39,000	470,000	5.6 "
27	330	3900	47,000	560,000	6.8 "
33	390	4700	56,000	680,000	8.2 "
39	470	5600	68,000	820,000	10.0 "
47	560	6800	82,000	1.0 meg.	12.0 "
56	680	8200	100,000	1.2 "	15.0 "
68	820	10,000	120,000	1.5 "	18.0 "
82	1000	12,000	150,000	1.8 "	22.0 "
100	1200	15,000	180,000	2.2 "	

Available in 1 watt 10% tolerance only:

2.7 ohms.
3.3 ohms.
3.9 ohms.
4.7 ohms.
5.6 ohms.
6.8 ohms.
8.2 ohms.

Standard packages: One-half and one watt...50 per package; Two watt.....25 per package

PAPER DIELECTRIC CAPACITORS

Custom-manufactured to customers specifications. Can be supplied in any practical capacity, working voltage and tolerance. Containers and terminal arrangements may be in accordance with customers drawings. Capacitors can be manufactured for AC or DC operation—impregnated with Wax, Tensoil or in the stable, highly superior oil impregnant, G-H PERMANOL.

GIRARD-HOPKINS

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DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

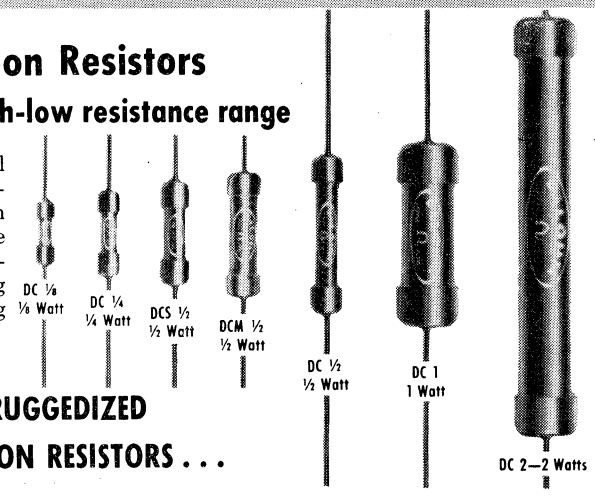
DALOHM Ω

DEPOSITED CARBON RESISTORS and HERMETIC SEALED RUGGEDIZED DEPOSITED CARBON RESISTORS

TYPE DC Deposited Carbon Resistors

for exceptional accuracy in any high-low resistance range

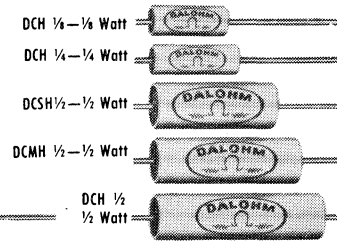
Manufactured under the most rigid quality control standards to deliver matchless performance and economy. Dalohm Type DC resistors now supplied with an improved coating material which incorporates extreme toughness, low temperature cycling, humidity resistance, and high temperature characteristics – making these resistors suitable for printed circuit solder dipping without the added space required for sleeving.

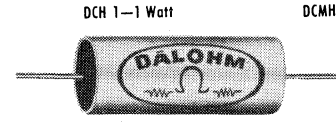


TYPE DCH HERMETIC SEAL RUGGEDIZED DEPOSITED CARBON RESISTORS . . .

the ultimate in precision under all conditions

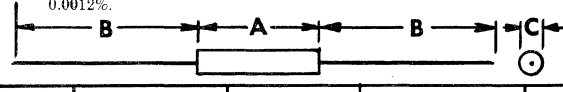
Ideal for use in UHF equipment where only the optimum of quality may be tolerated. Completely high temperature alloy solder sealed in envelope of non-hydroscopic ceramic. Ruggedized for incorporation into snap-in clips. Production tested for resistance to thermal shock, salt-water immersion, and resistance to humidity.





CHARACTERISTICS

- **TEMPERATURE COEFFICIENT**—Will vary slightly with type and resistance value. Variation will run from 140 to 500 parts per million per degree C.
- **VOLTAGE COEFFICIENT**—Less than 0.002% per volt with average about 0.0012%.
- **DEVIATION UNDER LOAD**—High stability is experienced when operated continuously at full wattage. A change of less than 0.1% takes place after 100 hours of operation at 125 Degrees Ambient (½ watt resistor dissipating 0.1 watt).
- **HUMIDITY CHARACTERISTICS**—TYPE DC: Negligible; TYPE DCH: After 1000 hours 95% R.H. at 70 Degrees C, a change of less than 0.1% is experienced.
- **TOLERANCE**—Supplied with 1% tolerance and are calibrated at 25 Degrees C. (Other tolerances available.)



TYPE	DIM. A	DIM. B	DIM. C	STANDARD RESISTANCE RANGE*	MAX. WEIGHT (Grams)
DC-⅛	9/32″±1/32″	1½″±⅛″	5/64″±1/32″	10 Ohms to 400 K Ohms	
DC-¼	13/32″±1/32″	1½″±⅛″	5/64″±1/32″	10 Ohms to 600 K Ohms	
DCS-½	½″±1/16″	1½″±⅛″	5/32″±1/32″	10 Ohms to 5 Megohms	
DCM-½	19/32″±1/16″	1½″±⅛″	11/64″±1/32″	10 Ohms to 5 Megohms	
DC-½	13/16″±1/16″	1½″±⅛″	3/16″±1/32″	10 Ohms to 5 Megohms	
DC-1	15/16″±1/16″	1½″±⅛″	19/64″±1/32″	10 Ohms to 10 Megohms	
DC-2	2 1/16″±1/16″	1½″±⅛″	19/64″±1/32″	10 Ohms to 50 Megohms	
DCH-⅛	9/32″±1/32″	1½″±⅛″	.160″±.010	10 Ohms to 500 K Ohms	.4 Grms.
DCH-¼	7/16″±1/32″	1½″±⅛″	.160″±.010	10 Ohms to 1 Megohm	.6 Grms.
DCSH-½	⅝″±1/32″	1½″±⅛″	.250″±.010	10 Ohms to 2 Megohms	1.6 Grms.
DCMH-½	¾″±1/32″	1½″±⅛″	.250″±.010	10 Ohms to 5 Megohms	1.95 Grms.
DCH-½	⅞″±1/32″	1½″±⅛″	.250″±.010	10 Ohms to 5 Megohms	2.3 Grms.
DCH-1	1″±1/32″	1½″±⅛″	.400″±.010	10 Ohms to 10 Megohms	5.2 Grms.
DCH-2	2⅛″±1/32″	1½″±⅛″	.400″±.010	10 Ohms to 50 Megohms	10.2 Grms.

*Other values available on request

CONFORM to APPLICABLE JAN & MIL SPECIFICATIONS

Your request for samples and quotations are cordially invited

IN CANADA:
Charles W. Pointon, Ltd.
6 Alcina Ave.
Toronto

EXPORT DEPT.:
Pan-Mar Corp.
1270 Broadway
New York, New York

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DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

DALOHM Ω

TYPE DC-5

DEPOSITED CARBON RESISTORS

for high voltage and/or high resistance applications

Originally designed for use in high-voltage circuits of color TV receivers, Type DC-5 resistors have found additional demands in high resistance applications where maximum stability has been a prime factor.

ACTUAL SIZE

- High voltage up to 20,000 VDC
- Resistance values up to 500 megohms
- Precision tolerances 1% to 10%
- Voltage coefficient less than 0.002% per volt
- Temperature coefficient less than 500 PPM per degree C.
- Small ratio of size vs. wattage and voltage
- Special silicone insulation.

DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

DALOHM Ω

TYPE RH

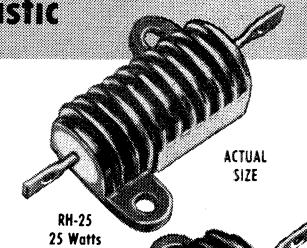
MINIATURE WIRE WOUND RESISTORS

every desirable characteristic

For all applications where the equipment must survive the most severe environmental, shock, vibration, humidity and temperature conditions.

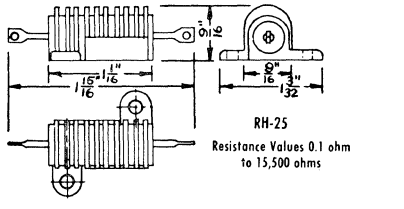
Smallest in size; completely welded from terminal to terminal; silicone sealed in a die-cast black anodized aluminum housing and mounts on sub-panel for maximum heat dissipation; impervious to moisture, salt ions, vapor and gases.

- Temperature coefficient 0.00002/Deg. C
- Ranges from 0.1 ohm to 55,000 ohms, depending on type
- Tolerances 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%, 5%

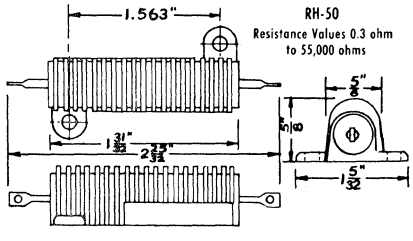


ACTUAL SIZE

RH-25
25 Watts

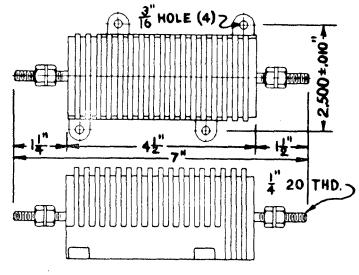


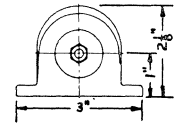
RH-25
Resistance Values 0.1 ohm to 15,500 ohms



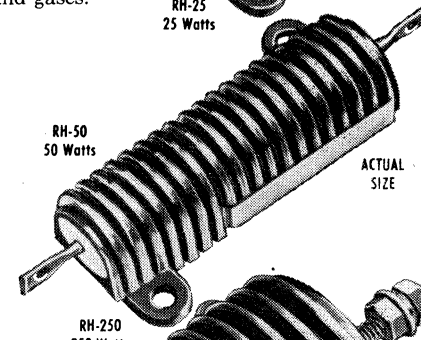
RH-50
Resistance Values 0.3 ohm to 55,000 ohms

RH-250 Resistance Values 0.3 ohm to 35,000 ohms



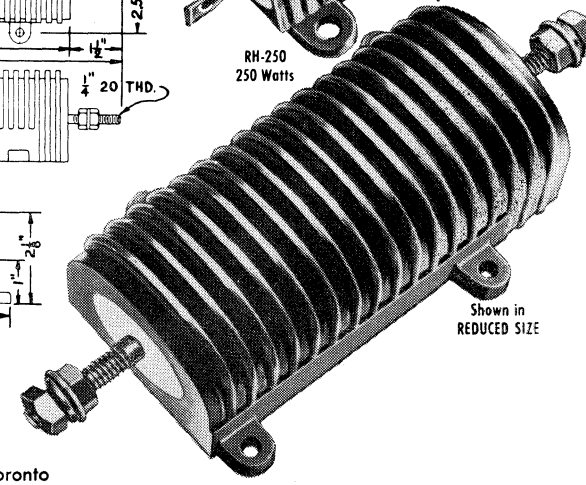


RH-50
50 Watts



ACTUAL SIZE

RH-250
250 Watts



Shown in REDUCED SIZE

CONFORM TO APPLICABLE JAN AND MIL SPECIFICATIONS

Your requests for samples and quotations cordially invited

IN CANADA: Charles W. Pointon, Ltd., 6 Alcina Ave., Toronto
EXPORT DEPT.: Pan-Mar Corp., 1270 Broadway, New York

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DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

DALOHM Ω

TYPES RS and RLS

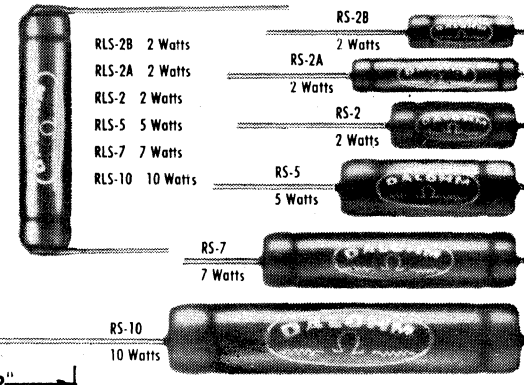
MINIATURE WIRE WOUND RESISTORS
every desirable characteristic

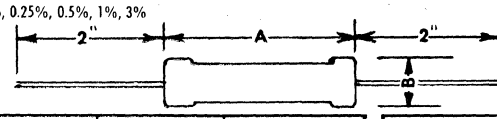
For all applications where the equipment must survive the most severe environmental, shock, and vibration conditions.

Smallest in size; completely welded from terminal to terminal; silicone sealed, offering high di-electric strength, maximum heat dissipation, and maximum resistance to abrasion; impervious to moisture, salt ions, and gases.

Type RS supplied with axial leads;
Type RLS with radial leads—especially designed for printed circuit applications.

- Temperature coefficient 0.00002/Deg. C
- Ranges from 0.05 ohm to 55,000 ohms, depending on type
- Tolerances 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%





FULL WATT RATING	DIM. A	DIM. B	MAX. RES. VALUE
RS-2 B RLS-2 B	9/16" ±1/16"	3/16" ±1/32"	4,000 Ohms
RS-2 A RLS-2 A	13/16" ±1/16"	3/16" ±1/32"	6,000 Ohms
RS-2 RLS-2	⅝" ±1/16"	¼" ±1/32"	6,500 Ohms

FULL WATT RATING	DIM. A	DIM. B	MAX. RES. VALUE
RS-5 RLS-5	⅞" ±1/16"	5/16" ±1/32"	15,500 Ohms
RS-7 RLS-7	1 7/32" ±1/16"	5/16" ±1/32"	22,000 Ohms
RS-10 RLS-10	1 25/32" ±1/16"	⅜" ±1/32"	55,000 Ohms

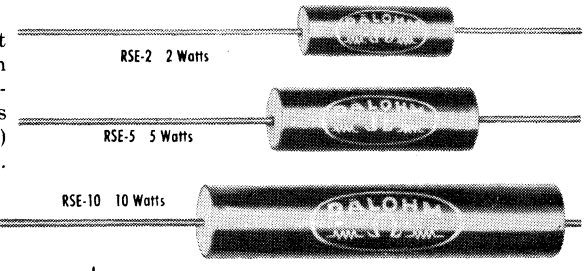
DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

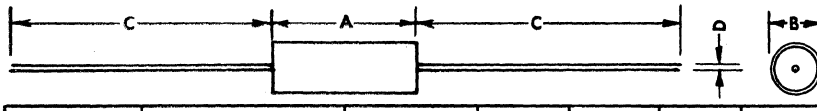
DALOHM Ω

TYPE RSE

RUGGEDIZED MINIATURE WIRE WOUND RESISTORS

Designed for trouble-free performance under the most exacting conditions of shock and vibration. Smallest in size; completely welded from terminal to terminal; sealed in silicone and housed in bright nickel plated brass tubing. (Suggested mounting clip: Atlas E-E Corp.) Impervious to moisture, salt ions, vapor and gases. Same characteristics as Types RS and RLS.





TYPE	WATTAGE RATING	A	B	C	D	RESISTANCE RANGE	WEIGHTS (max.)
RSE-2	2	25/32"	.260	1⅞"	.040	2 Ohms to 6,500 Ohms	3 Grams
RSE-5	5	1 3/64"	.330	1⅞"	.040	5 Ohms to 15,500 Ohms	4.1 Grams
RSE-10	10	1 7/8"	.380	1⅞"	.040	10 Ohms to 55,000 Ohms	10 Grams

RS, RLS and RSE RESISTORS CONFORM TO APPLICABLE JAN and MIL SPECIFICATIONS

Your request for samples and quotations cordially invited

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DALE PRODUCTS INC.
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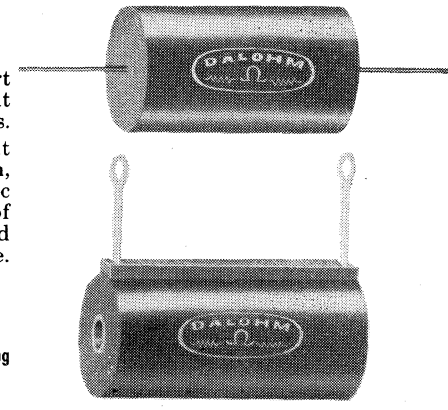
DALOHM Ω

TYPES WWA and WWL
LIGHT WEIGHT WIRE WOUND RESISTORS

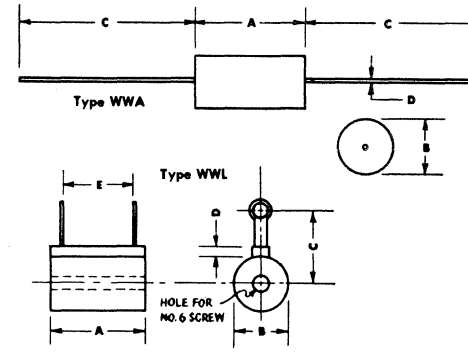
ENCAPSULATED for HERMETIC SEALING

Dale engineers and chemists have compounded a chemically inert material making possible these light weight precision resistors that surpass the requirements of applicable JAN and MIL specifications. They are completely impervious to the penetrating effects of salt ions, humidity, moisture and corrosive gases and vapors. In addition, the material in which they are encased has a very high di-electric strength, and, due to its coefficient of expansion matching that of the wire itself, it eliminates the possibility of distorted windings and shorted turns that are quite common on other resistors of this type.



- Non-inductive, pi-wound
- Resistance range—0.1 ohm to 5 megohms depending on type
- Tolerances—0.1% to 1%
- Temperature coefficient—0.00002/per degree C at 25° C
- Humidity test—no change in resistance after cycling per MIL-R-93A Specs

DIMENSIONS	A	B	C	D	E
WWL-1 WWA-1	½ 11/16 ± 1/32	9/16	.608 1⅛±⅛	.040	11/32
WWL-2 WWA-2	⅝ 13/16 ± 1/32	9/16	.608 1⅛±⅛	.040	15/32
WWL-3 WWA-3	1 1 3/16 ± 1/32	9/16	.608 1⅛±⅛	.040	27/32
WWL-4 WWA-4	1½ 1 23/32 ± 1/32	9/16	.608 1⅛±⅛	.040	1 11/32
WWL-5 WWA-5	2 2¼ ± 1/32	9/16	.608 1⅛±⅛	.040	1 27/32
MIL-R-93A Styles RB 09, RB 15, RB 16, RB 17, RB 18 and RB 19 also available.					

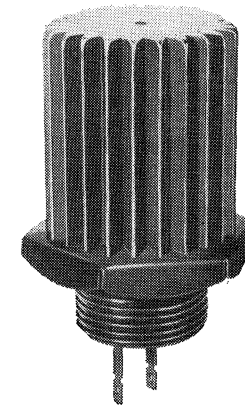


DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

DALOHM Ω

TYPE PH
POWERHOUSE WIRE WOUND RESISTORS

A rugged new precision resistor designed for panel mounting. All welded construction; silicone coated, and sealed in black anodized finned aluminum housing.



- Temperature coefficient 0.00002/Deg. C
- Resistance ranges 0.1 ohm to 55,000 ohms depending on type
- Tolerance 0.05% to 5%

PH-25 25 Watts

PH-100 100 Watts

CONFORM TO APPLICABLE JAN and MIL SPECIFICATIONS

Your request for samples and quotations cordially invited

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DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

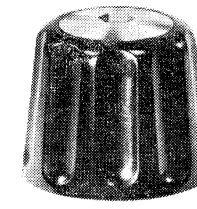
DALOHM Ω

COLLET FITTING KNOBS

for hard use at high-low temperatures

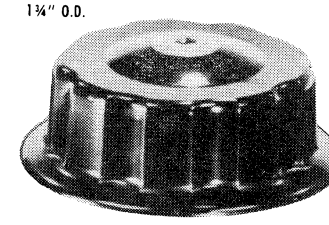
K-1
⅛" O.D.
(BLACK ANODIZED)

Dalohm design permits positive locking on all standard shaft diameters full round or flatted with no damaging effect so frequently found when using set-screw type knobs.



K-2
1 1/16" O.D.

- FIVE SIZES ⅛"—1 1/16"—1¾"—2¼"—3"
- COLLETS INTERCHANGEABLE. Accommodate all shaft sizes from ⅛" to ⅜"
- Precision cast of thermo setting plastic in easy grip shapes. Match modern styling
- Knobs fit concentrically on shaft and can be positioned accurately and easily on full 360° radius
- Standard pointers and indicators available

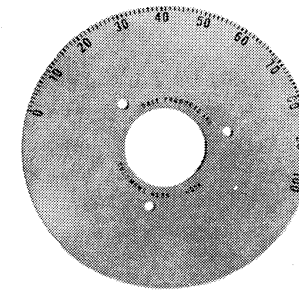


K-3
1¾" O.D.

K-4 2¼" O.D. K-5 3" O.D.

DALOHM Ω

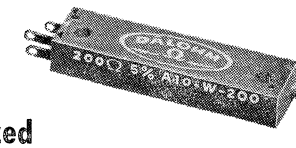
ALUMINUM DIALS



Three basic types in four sizes; calibrated 0-100 and 100-0 in 180° and 270° rotation. Also plain dials for special applications or markings.

DALOHM Ω

A10-W-TRIMMERS



Wire Wound—High Temperature—Humidity Proof—Ruggedized

Designed to meet the ever increased requirements as set forth in MIL specifications, Dalohm A10-W-Trimmer provides precision adjustment in critical electronic circuits under extreme environmental conditions. The A10-W-Trimmer provides an extended winding surface and assures high precision resolution without sacrificing sub-miniature design.

- **Unique new safety clutch prevents damage from over-excursion of the trimmer adjustment screw.**
- **Holds set resistance values—internal units have nearly identical coefficients of expansion.**
- **Housing has heat resistance of 200° C continuous.**
- **Resistance values 10 ohms to 50,000 ohms; tolerance 5% standard; power rating .8 watt.**
- **Size .220 x .312 x 1.250; weight 2.25 grams.**

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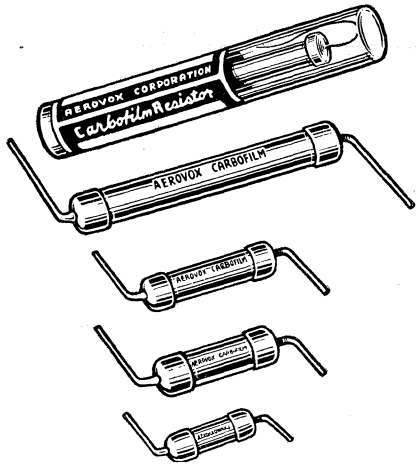
AEROVOX
Distributor Division

*CARBOFILM RESISTORS



CARBOFILM RESISTORS

Precision Resistors made with Matchless Accuracy

Made under licensed agreement with Western Electric, these precision resistors are the result of years of intensive research in developing components with extreme accuracy and stability. Carbofilm resistors are intended for circuits calling for the accuracy and stability of wire-wound resistors with the marked economy of carbon resistors. They serve a real need in test equipment and laboratory instruments. All in all, Carbofilm resistors meet the requirements of accuracy, stability and economy.

The Carbofilm resistors are a carbon deposit type and are available in the following standard or jobber stock sizes with the resistance value shown in the listing.
Packed and sealed in plastic tubes for your protection.

Aerovox Type CPC—ceramic-cased, hermetically sealed Carbofilm resistors are available to meet requirements of MIL-R 10509B. For additional information request technical brochure #CPR-369 by writing Aerovox Corp., New Bedford, Mass.

SIZES

CPS ½ watt 0.162D x 19/32L
CPL ½ watt 0.23OD x 11/16L
CP ½ watt 0.23OD x15/16L
CP 1 watt 0.293D x 15/16L
CP 2 watt 0.293D x 2-1/16L
TOLERANCE ±1%

* Trade Mark

STANDARD STOCK VALUES CARBOFILM RESISTORS

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megohms	Megohms	
3.0	40	450	5500	60,000	250,000	1.0	5.1	47.0
3.3	43	470	5600	62,000	270,000	1.1	5.5	50.0
3.5	44.5	500	5950	65,000	300,000	1.2	5.6	100.0*
3.6	45	510	6000	68,000	330,000	1.25	6.0	
3.9	47	550	6200	70,000	350,000	1.3	6.2	
4.0	50	560	6500	75,000	360,000	1.5	6.5	
4.3	51	600	6800	80,000	390,000	1.6	6.8	
4.5	55	620	7000	82,000	400,000	1.8	7.0	
4.7	56	650	7450	85,000	430,000	2.0	7.5	
5.0	59.5	680	7500	90,000	450,000	2.2	8.0	
5.1	60	750	8000	91,000	470,000	2.225	8.2	
5.5	62	800	8200	100,000	500,000	2.4	8.5	
5.6	65	820	8500	110,000	510,000	2.5	9.0	
6.0	68	850	8950	120,000	550,000	2.7	9.1	
6.2	70	900	9000	125,000	560,000	3.0	10.0	
6.5	74.5	910	9100	130,000	600,000	3.3	12.0	
6.8	75	1000	9950	150,000	620,000	3.5	12.5	
7.5	80	1100	10,000	160,000	650,000	3.6	13.0	
8.0	82	1200	11,000	175,000	680,000	3.9	15.0	
8.2	85	1250	12,000	180,000	700,000	4.0	16.0	
8.5	89.5	1300	12,500	200,000	750,000	4.3	18.0	
9.0	90	1450	13,000	220,000	800,000	4.5	20.0	
9.1	91	1500	13,500	225,000	820,000	4.7	22.0	
10.0	99.5	1600	15,000	240,000	850,000	5.0	25.0	
11.0	100	1750	16,000		900,000		27.0	
12.0	110	1800	17,500		910,000		30.0	
12.5	120	2000	18,000				33.0	
13.0	130	2200	20,000				36.0	
14.5	150	2250	22,000				39.0	
15.0	160	2400	22,500				43.0	
16.0	175	2500	24,000					
17.5	180	2700	25,000					
18.0	200	2950	27,000					
20.0	220	3000	30,000					
22.0	225	3300	33,000					
22.5	240	3500	36,000					
24.0	250	3600	39,000					
25.0	270	3900	40,000					
27.0	300	4000	43,000					
29.5	330	4300	45,000					
30	350	4450	47,000					
33	360	4500	50,000					
35	390	4700	51,000					
36	400	5000	55,000					
39	430	5100	56,000					

CARBOFILM RESISTOR PRICES
STANDARD VALUES ONLY

		List
CPS½	7 ohms to 40 ohms	$1.00
	43 ohms to 2 meg.	.65
CP½	3 ohms to 40 ohms	1.00
	43 ohms to 5 meg.	.65
CPL½	5.1 meg.to 7.5 meg.	.75
CP—1	10 ohms to 15 ohms	1.80
	16 ohms to 40 ohms	1.15
	43 ohms to 1 meg.	.95
	1.1 meg. to 5 meg.	1.00
	5.1 meg. to 15 meg.	1.10
CP—2	50 ohms to 99.5 ohms	1.80
	100 ohms to 10 meg.	1.20
	12 meg. to 20 meg.	1.30
	22 meg. to 30 meg.	1.75
	33 meg. to 50 meg.	2.00
	*100 meg.	5.00

Standard tolerance ±1%.
For addition of vinyl sleeve add $.15 to list price.
For non-standard values double the list price of the next highest standard value.
*Only stock value above 50 megohms is 100 megohms, furnished in ±2% tolerance.

Available in hermetically-sealed, ceramic cases—For more information request Form No. CPR-369.

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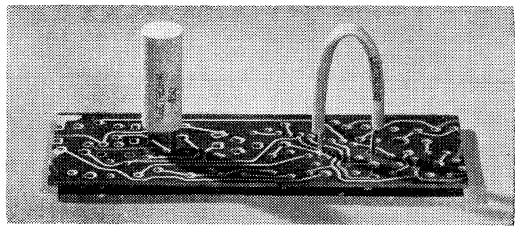
LECTROHM

INCORPORATED • 5560 NORTHWEST HIGHWAY, CHICAGO 30, ILLINOIS

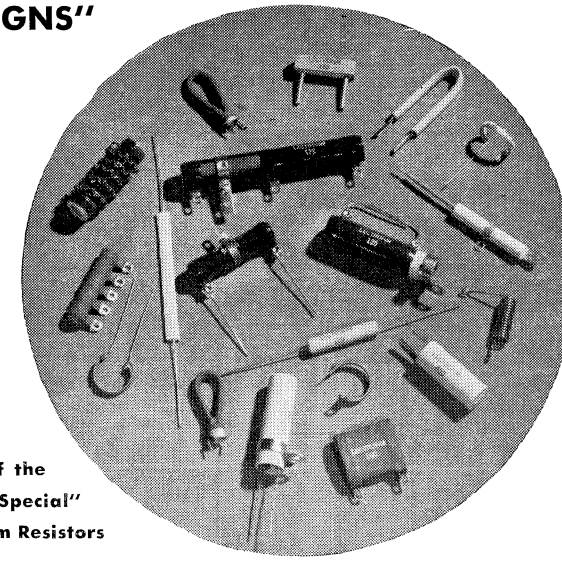
LECTROHM IS CREATING NEW DESIGNS AND MATERIALS IN WIRE WOUND RESISTORS FOR NEW ASSEMBLY METHODS

In addition to supplying the electronics industry with superior vitreous enameled wire-wound power resistors in the familiar sizes and ratings, LECTROHM is producing whole new groups of types, each designed to solve a special problem. Miniaturization and printed circuit restrictions in space and ventilation no longer are complicated by conventional power resistor size standards. New coating materials and winding methods developed by LECTROHM permit an infinite variety of configurations yet retain operating and life characteristics expected of the finest grade vitreous enameled types. LECTROHM engineers will fit the resistor size and shape to your design.

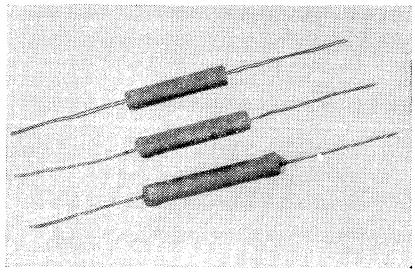
LECTROHM LEADS IN "SPECIAL DESIGNS"



Printed Circuit Upright — Printed Circuit Flexible



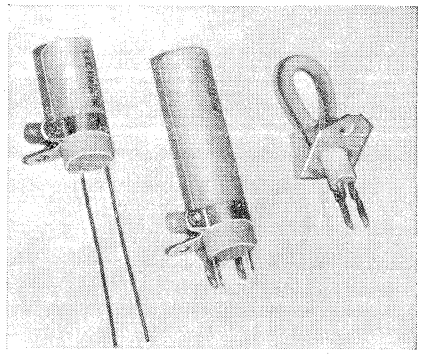
Some of the many "Special" Lectrohm Resistors



LECTROHM AXIAL LEAD WIREWOUNDS

For added convenience in mounting in many types of assembly.

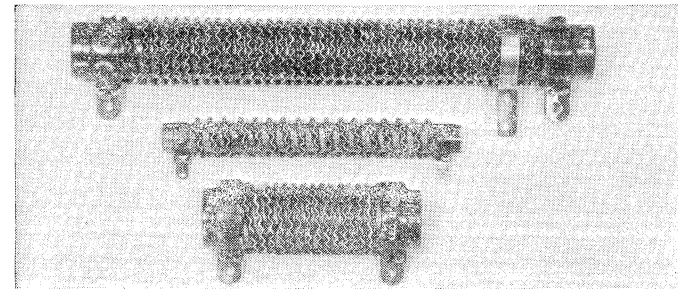
3 to 10 watts. 10 to 50,000 Ohms.



LECTROHM ABOVE CHASSIS TYPE

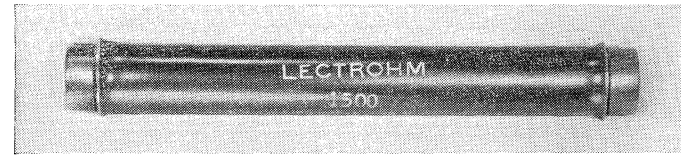
More efficient use of space designed to eliminate heat beneath the chassis. Lectrohm engineers will create resistors to fit your available space.

5 to 25 watts. 10 to 15,000 Ohms.



RIB-ON-EDGE LECTROHM (STANDARD SIZES AND VALUES)

155 to 420 watts. .06 to 22 Ohms.



VITREOUS ENAMELED LECTROHM-FERRULE TYPE (STANDARD SIZES AND VALUES)

13 to 190 watts. To 100,000 Ohms.

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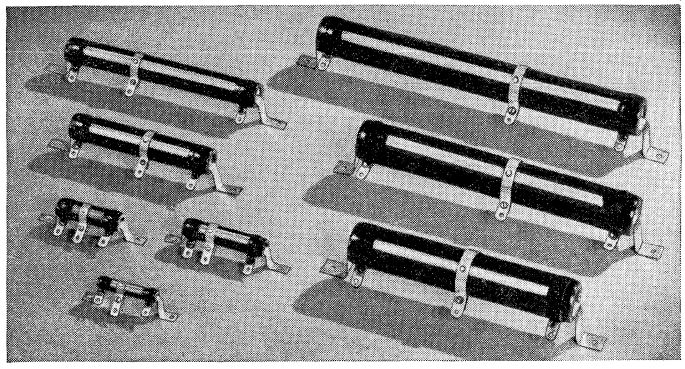
LECTROHM
INCORPORATED • 5560 NORTHWEST HIGHWAY, CHICAGO 30, ILLINOIS

VITREOUS ENAMELED RESISTORS



Adjustable Wire-Wound Types

The same high quality and construction are used for LECTROHM Adjustable Resistors as are incorporated in LECTROHM fixed units.

These resistors are used for replacing voltage dividers in radio receivers, for radio transmitter power supply, and for general experimental work.

TYPE 1¾EV—10-WATT

DIMENSIONS ..... $\frac{5}{16}$" x $\frac{5}{16}$" x 1¾"
TERMINALS ..... Lug Type
MAXIMUM RESISTANCE..... 10,000 ohms
MOUNTING BRACKET ..... Centers 2¼"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	$1.47	750	115	$1.47
2	2230	1.47	800	111	1.47
3	1825	1.47	1000	100	1.47
5	1415	1.47	1250	89	1.53
7.5	1155	1.47	1500	79	1.53
10	1000	1.47	2000	69	1.53
15	815	1.47	2250	64	1.53
20	707	1.47	2500	61	1.53
25	630	1.47	3000	56	1.53
50	447	1.47	3500	51	1.53
75	365	1.47	4000	47	1.53
100	315	1.47	4500	44	1.53
150	258	1.47	5000	40	1.53
200	223	1.47	6000	36	1.63
250	200	1.47	7000	33	1.63
300	182	1.47	7500	32	1.63
350	169	1.47	8000	31	1.63
400	158	1.47	8500	30	1.63
500	141	1.47	10000	24	1.63
600	129	1.47			

TYPE 2SV—25-WATT

DIMENSIONS ..... $\frac{9}{16}$" x $\frac{5}{16}$" x 2"
TERMINALS ..... Solder Lug
MAXIMUM RESISTANCE..... 25,000 ohms
MOUNTING BRACKET..... Centers 2⅞"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	5000	$1.87	1000	158	$1.87
3	2890	1.87	1250	141	1.88
5	2240	1.87	1500	129	1.88
10	1580	1.87	2000	112	1.88
15	1290	1.87	2500	100	1.88
25	1000	1.87	3000	91	1.88
50	707	1.87	3500	84	1.88
75	575	1.87	4000	79	1.88
100	500	1.87	5000	71	1.88
150	400	1.87	6000	64	2.03
200	353	1.87	7500	57	2.03
250	316	1.87	10000	50	2.03
300	288	1.87	12000	44	2.08
400	250	1.87	15000	26	2.08
500	224	1.87	20000	22	2.08
750	182	1.87	25000	20	2.28

TYPE 4½MV—50-WATT

DIMENSIONS ..... ¾" x ½" x 4½"
TERMINALS ..... Solder Lugs
MAXIMUM RESISTANCE ..... 100,000 ohms
MOUNTING BRACKET ..... Centers 5½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3160	$2.37	3000	129	$2.47
10	2230	2.37	4000	112	2.47
25	1410	2.37	5000	100	2.47
50	1000	2.37	7500	81	2.63
75	816	2.37	10000	70	2.63
100	707	2.37	12000	64	2.83
150	577	2.37	15000	57	2.83
200	500	2.37	20000	50	2.83
250	447	2.37	25000	44	3.08
300	408	2.37	30000	41	3.08
400	354	2.37	40000	35	3.08
500	316	2.37	50000	20	3.30
750	258	2.37	60000	18	3.30
1000	224	2.37	75000	17	3.67
1500	182	2.47	80000	16	3.67
2000	158	2.47	100000	14	3.92
2500	141	2.47			

TYPE 6½MV—80-WATT

DIMENSIONS ..... ¾" x ½" x 6½"
TERMINALS ..... Solder Lugs
MAXIMUM RESISTANCE ..... 100,000 ohms
MOUNTING BRACKET ..... Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
10	2830	$2.75	3500	152	$2.83
15	2310	2.75	5000	126	2.83
25	1790	2.75	7500	103	3.00
50	1265	2.75	10000	89	3.00
100	894	2.75	15000	73	3.20
250	566	2.75	20000	63	3.20
300	517	2.75	25000	57	3.53
400	495	2.75	30000	51	3.53
500	400	2.75	40000	44	3.53
750	327	2.75	50000	25	3.62
1000	283	2.75	60000	23	3.62
1500	231	2.83	75000	21	3.97
2000	200	2.83	80000	20	3.97
2500	179	2.83	100000	18	4.33

ADJUSTABLE LUGS

Screw-Driver Type

Diameter of Resistor	List Price
⅜"	$0.25
⅝"	.25
⅞"	.42
1¼"	.42

TYPE 6½KV—100-WATT

DIMENSIONS ..... 1⅛" x ¾" x 6½"
TERMINALS ..... Solder Lugs
MAXIMUM RESISTANCE ..... 100,000 ohms
MOUNTING BRACKET ..... Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	1413	$3.58	15000	81	$4.12
100	1000	3.58	20000	70	4.12
500	447	3.58	25000	63	4.37
1000	316	3.58	30000	57	4.37
2000	223	3.67	35000	53	4.37
3000	182	3.67	40000	50	4.37
4000	158	3.67	50000	44	4.53
5000	141	3.67	75000	28	4.75
7500	115	3.67	100000	20	4.95
10000	100	3.87			

TYPE 8½KV—160-WATT

DIMENSIONS ..... 1⅛" x ¾" x 8½"
TERMINALS ..... Solder Lugs
MAXIMUM RESISTANCE ..... 100,000 ohms
MOUNTING BRACKET ..... Centers 9½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	$5.33	10000	126	$4.44
10	4000	4.14	15000	103	4.69
25	2530	4.14	20000	89	4.69
50	1788	4.14	25000	80	4.81
100	1266	4.14	30000	73	4.81
500	566	4.14	40000	55	4.81
1000	400	4.14	50000	43	4.94
2500	253	4.19	75000	27	5.17
5000	179	4.19	100000	18	5.44

TYPE 10½KV—200-WATT

DIMENSIONS ..... 1⅛" x ¾" x 10½"
TERMINALS ..... Solder Lugs
MAXIMUM RESISTANCE ..... 100,000 ohms
MOUNTING BRACKET ..... Centers 11½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	2000	$4.37	10000	141	$4.70
100	1414	4.37	20000	100	4.92
500	632	4.37	25000	89	5.03
1000	447	4.37	30000	81	5.03
1500	361	4.45	50000	63	5.17
2000	316	4.45	75000	51	5.42
2500	283	4.45	100000	28	5.67
5000	200	4.45			

Mounting brackets and one band are furnished with all adjustable types.

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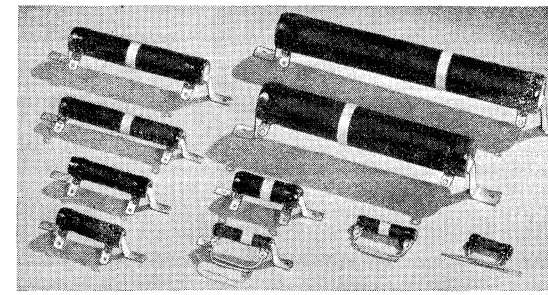
LECTROHM
INCORPORATED • 5560 NORTHWEST HIGHWAY, CHICAGO 30, ILLINOIS

VITREOUS ENAMELED RESISTORS

Fixed Wire-Wound Types

LECTROHM Resistors are manufactured from the highest quality materials obtainable and are rated according to RTMA standards. They are rugged, dependable, accurate—quality components that will give long, trouble-free service. Mounting brackets available for 10, 20, 50, 80, 100, 160 and 200 watt units.



TYPE 1¼L—5-WATT

DIMENSIONS.....¼" x $\frac{5}{32}$" x 1¼"
TERMINALS.....Pig Tail
MAXIMUM RESISTANCE.....10,000 ohms
No Mounting Brackets

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	2240	$0.67	300	129	$0.67
2	1580	.67	350	119	.67
3	1290	.67	400	111	.67
4	1110	.67	500	100	.67
5	1000	.67	600	91	.67
10	707	.67	700	84	.67
15	575	.67	750	81	.67
20	500	.67	800	79	.67
25	447	.67	900	74	.67
30	408	.67	1000	70	.67
35	374	.67	1100	64	.72
40	346	.67	1200	60	.72
50	316	.67	1250	59	.72
75	258	.67	1500	54	.72
100	222	.67	1750	50	.72
125	200	.67	2000	44	.72
150	182	.67	2500	40	.72
200	158	.67	3000	36	.72
225	149	.67	4000	31	.72
250	141	.67	5000	28	.72

TYPE 1¾E—10-WATT

DIMENSIONS.....$\frac{5}{16}$" x $\frac{3}{16}$" x 1¾"
TERMINALS.....Pig Tail
MAXIMUM RESISTANCE.....40,000 ohms
No Mounting Brackets

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	$0.75	1500	79	$0.80
2	2230	.75	1750	74	.80
3	1825	.75	2000	69	.80
5	1415	.75	2250	64	.80
7.5	1155	.75	2500	61	.80
10	1000	.75	3000	56	.80
15	815	.75	3500	51	.80
20	707	.75	4000	47	.80
25	630	.75	4500	44	.80
50	447	.75	5000	40	.80
75	365	.75	6000	36	.92
100	315	.75	7000	33	.92
150	258	.75	7500	32	.92
200	223	.75	8000	31	.92
250	200	.75	8500	30	.92
300	182	.75	10000	24	.92
350	169	.75	12000	20	1.03
400	158	.75	12500	20	1.03
500	141	.75	15000	18	1.03
600	129	.75	17500	17	1.03
700	119	.75	18000	16	1.03
750	115	.75	20000	15	1.03
800	111	.75	22500	15	1.08
900	105	.75	25000	14	1.08
1000	100	.75	30000	8	1.22
1200	91	.80	40000	7	1.22
1250	89	.80			

LECTROHM
R. F. PLATE CHOKES
(1000 Milliamps.)

Type	RFC-1	RFC-2	RFC-3	RFC-4
Amateur				20, 40
Band Meters	5	10 & 20	20 & 40	80 & 160
Microhenries	5.4	35	95	220
D. C. Ohms	0.85	2	5	9
Lgth. Overall	1¾"	3"	6"	6½"
Diameter	¼"	$\frac{9}{16}$"	$\frac{9}{16}$"	¾"
List Price	$0.33	$1.04	$1.56	$2.15

TYPE 2R—20-WATT

DIMENSIONS.....½" x $\frac{5}{16}$" x 2"
TERMINALS.....Solder Lug
MAXIMUM RESISTANCE.....100,000 ohms
MOUNTING BRACKET.....Centers 2⅞"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	2000	$0.95	1100	134	$0.97
10	1414	.95	1250	126	.97
15	1153	.95	1500	115	.97
20	1000	.95	2000	100	.97
25	894	.95	2500	89	.97
40	707	.95	3000	81	.97
50	633	.95	4000	70	.97
60	574	.95	5000	63	.97
75	517	.95	6000	57	1.12
100	448	.95	7000	53	1.12
125	400	.95	7500	51	1.12
150	365	.95	8000	50	1.12
200	316	.95	10000	43	1.12
250	283	.95	12500	39	1.20
300	258	.95	15000	30	1.20
350	238	.95	20000	24	1.20
400	223	.95	25000	21	1.37
500	200	.95	30000	21	1.37
600	182	.95	35000	18	1.37
700	169	.95	40000	17	1.37
750	163	.95	45000	13	1.58
800	158	.95	50000	11	1.58
1000	141	.95			

TYPE 4½M—50-WATT

DIMENSIONS.....¾" x ½" x 4½"
TERMINALS.....Solder Lugs
MAXIMUM RESISTANCE.....100,000 ohms
MOUNTING BRACKET.....Centers 5½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3165	$1.63	6000	85	$1.92
10	2230	1.63	7000	78	1.92
25	1390	1.63	7500	77	1.92
50	1000	1.63	8000	75	1.92
100	700	1.63	10000	66	1.92
200	500	1.63	12000	63	2.08
250	440	1.63	12500	60	2.08
500	300	1.63	15000	56	2.08
750	250	1.63	20000	48	2.08
1000	215	1.63	25000	43	2.33
1500	175	1.75	30000	39	2.33
2000	155	1.75	40000	34	2.33
2500	135	1.75	50000	30	2.58
3000	120	1.75	60000	28	2.92
4000	105	1.75	75000	25	2.92
5000	95	1.75	100000	21	2.92

TYPE 6½M—80-WATT

DIMENSIONS.....¾" x ½" x 6½"
TERMINALS.....Solder Lugs
MAXIMUM RESISTANCE.....100,000 ohms
MOUNTING BRACKET.....Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	4000	$2.00	5000	122	$2.08
10	2730	2.00	6000	112	2.25
25	1730	2.00	7500	100	2.25
50	1220	2.00	8000	98	2.25
100	865	2.00	10000	86	2.25
200	612	2.00	15000	70	2.45
250	545	2.00	20000	61	2.45
500	387	2.00	25000	55	2.78
750	316	2.00	30000	50	2.78
1000	274	2.00	40000	43	2.87
1500	223	2.08	50000	39	2.87
2000	193	2.08	60000	35	3.22
2500	173	2.08	75000	31	3.22
3000	158	2.08	100000	27	3.58
4000	137	2.08			

TYPE 6½K—100-WATT

DIMENSIONS.....1⅛" x ¾" x 6½"
TERMINALS.....Solder Lugs
MAXIMUM RESISTANCE.....100,000 ohms
MOUNTING BRACKET.....Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
25	2000	$2.42	3000	180	$2.53
50	1414	2.42	5000	140	2.53
75	1155	2.42	7500	115	2.70
100	1100	2.42	10000	100	2.70
150	815	2.42	15000	80	2.97
250	632	2.42	20000	70	2.97
500	447	2.42	25000	63	3.20
750	365	2.42	30000	58	3.20
1000	315	2.42	40000	50	3.20
1250	280	2.53	50000	44	3.37
1500	250	2.53	60000	41	3.37
2000	220	2.53	75000	36	3.58
2500	200	2.53	100000	31	3.58

TYPE 8½K—160-WATT

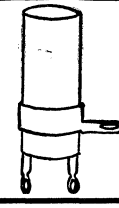
DIMENSIONS.....1⅛" x ¾" x 8½"
TERMINALS.....Solder Lugs
MAXIMUM RESISTANCE.....100,000 ohms
MOUNTING BRACKET.....Centers 9½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	$4.16	4500	185	$3.04
10	4000	2.98	5000	180	3.04
25	2530	2.98	7500	145	3.30
50	1788	2.98	10000	125	3.30
75	1460	2.98	15000	105	3.54
100	1260	2.98	20000	90	3.54
200	900	2.98	25000	80	3.64
500	570	2.98	30000	67	3.64
1000	400	2.98	35000	57	3.64
1500	330	3.04	40000	50	3.64
2000	280	3.04	50000	40	3.76
2500	250	3.04	60000	33	3.76
3000	230	3.04	70000	28	3.76
3500	215	3.04	80000	25	4.03
4000	200	3.04	100000	20	4.26

TYPE 10½K—200-WATT

DIMENSIONS.....1⅛" x ¾" x 10½"
TERMINALS.....Solder Lugs
MAXIMUM RESISTANCE.....100,000 ohms
MOUNTING BRACKET.....Centers 11½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max M.A.	List Price
5	6310	$4.53	4500	210	$3.30
10	4470	3.22	5000	200	3.30
25	2830	3.22	7500	165	3.53
50	2000	3.22	10000	140	3.53
75	1635	3.22	15000	115	3.77
100	1400	3.22	20000	100	3.77
250	900	3.22	25000	90	3.90
500	630	3.22	30000	82	3.90
1000	450	3.22	35000	71	3.90
1500	365	3.30	40000	62	3.90
2000	315	3.30	50000	50	4.03
2500	280	3.30	60000	42	4.03
3000	260	3.30	75000	33	4.25
3500	240	3.30	100000	25	4.25
4000	225	3.30			



ALSO AVAILABLE
Upright and axial lead designs

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Shallcross PRECISION PRODUCTS

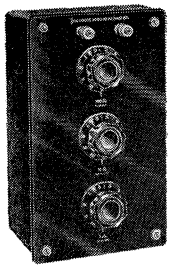
SHALLCROSS MANUFACTURING CO.
Collingdale, Penna.

RESISTORS
SWITCHES
ATTENUATORS
DELAY LINES
INSTRUMENTS

Durable, Accurate

DECADE RESISTANCE BOXES

36 Types 1 to 6 Dials



RESISTOR ACCURACY:
10 ohms and above ±0.1%
1.0 ohm ±0.25%
0.01 ohm ±5%
Closer tolerance on request.

TEMPERATURE COEFFICIENT:
0.002% per degree C.

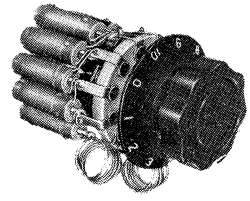
MAXIMUM LOAD: ½ watt per step.

FREQUENCY LIMIT:
Non-inductive to 20 kc.

Type	Dials	Ohm Steps	Total Resistance Ohms	Net Price
550	1	1,000,000	10,000,000	$66.00
823	3	1,000	1,110,000	77.00
824	3	10,000	11,100,000	120.00
817-A	4	0.01	111.1	75.00
819	4	0.1	1,111	71.00
825	4	1	11,110	77.00
826	4	10	111,100	79.00
827	4	100	1,111,000	92.00
828	4	1,000	11,110,000	139.00
817-B	5	0.01	1,111.1	94.00
8285	5	0.1	11,111	94.00
829	5	1	111,110	101.00
830	5	10	1,111,100	113.00
832	6	1	1,111,110	121.00
833	6	10	11,111,100	169.00

UNMOUNTED DECADE RESISTANCES

For engineers, manufacturers, and physicists who design their own electrical instruments, Shallcross has available Unmounted Decade Resistances. These consist of ten Shallcross precision wirewound resistors mounted on a ceramic instrument switch and are the same as those used in the Decade Resistance Boxes described on this page.

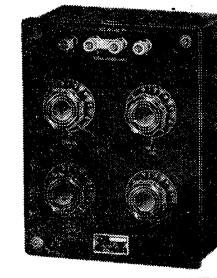


Type	Dials	Ohm Steps	Total Resistance Ohms	Net Price
436	1	1	10	$13.25
437	1	10	100	13.25
438	1	100	1,000	15.00
439	1	1,000	10,000	16.00

DECADE VOLTAGE DIVIDERS

(Potentiometers)

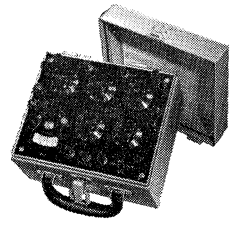
These small, highly accurate, and easy-to-operate voltage dividers are part of a complete line manufactured by Shallcross. Ideally suited for routine electrical measurements.



Type	Dials	Ohm Steps	Total Resistance Ohms	Net Price
837	4	0.1	1,000	$126.00
835	4	1	10,000	132.00
836	4	10	100,000	146.00

SHALLCROSS No. 6100 FAULT LOCATION WHEATSONE BRIDGE

Resistance Range:
1 ohm to 1,011,000 ohms



APPLICATIONS—Measures resistances from 1 ohm to 1 megohm. Locates grounds, crosses and shorts by Murray, Varley, Hilborn or Fisher Loop.

RHEOSTAT ARM—Four decades, 10,110 ohms in 1 ohm steps. Can be used as a resistance box. Accuracy of decades ±0.1% +0.01 ohms.

RATIO—Multiplier dial marked $\frac{1}{1000}$, $\frac{1}{100}$, $\frac{1}{10}$, $\frac{1}{1}$, $\frac{10}{1}$, $\frac{100}{1}$, M1000, M100, M10, $\frac{1}{9}$ and $\frac{1}{4}$. Ratio arm resistors accurate to within 0.05%.

GALVANOMETER—Built-in Shallcross galvanometer, Sensitivity 1 microampere per mm scale division.

SWITCHES—Shallcross molded phenolic instrument type. Pure nickel contacts, berryllium copper brushes.

CASE—Light-weight aluminum carrying case with battery compartment and removable cover.

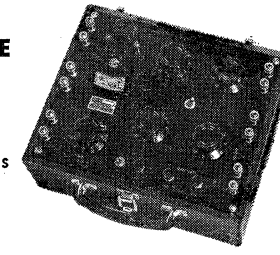
DIMENSIONS—8⅞" x 7⅜" x 5¾".

WEIGHT—Approximately 8 lbs.

NET PRICE—$175.00

SHALLCROSS No. 638-R KELVIN-WHEATSTONE BRIDGE

Resistance Range:
0.001 ohm to 11,110,000 ohms



APPLICATION—This combination Kelvin-Wheatstone Bridge measures resistances from 0.001 to 11.11 megohms.

RHEOSTAT ARM—Kelvin ranges up to 11,110 microhms in one microhm steps. Wheatstone ranges up to 11,110 ohms in one ohm steps. Rheostat resistors accurate within 0.1% except the 1 ohm which are accurate to 0.25%. Each resistor in each decade will dissipate 0.5 watt.

RESISTANCE BOX—Binding posts permit use of rheostat as a resistance box.

GALVANOMETER—Built-in galvanometer with knife-edge pointer and fine line scale has sensitivity of 1 microampere per mm scale.

CASE—Wooden carrying case with battery compartment and removable cover.

DIMENSIONS—12½" x 10½" x 6¾".

WEIGHT—Approximately 9 lbs.

NET PRICE—$260.00

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Shallcross PRECISION PRODUCTS

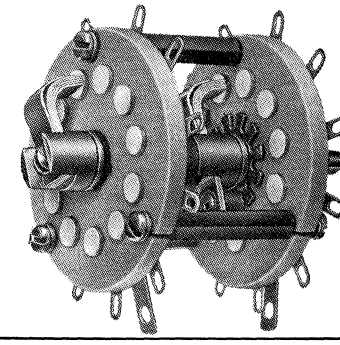
SHALLCROSS MANUFACTURING CO.
Collingdale, Penna.

RESISTORS
SWITCHES
ATTENUATORS
DELAY LINES
INSTRUMENTS

STANDARD ROTARY SELECTOR SWITCHES

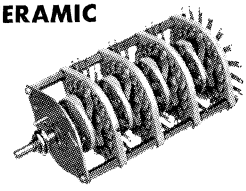
These Shallcross switches cover a wide range of applications. Both shorting and non-shorting types easily modified to control a variety of circuits. Write for Specification Sheet SS-6.

Poles	Positions	Contact Spacing	Contact Plate Material	TYPE NUMBERS Shorting	TYPE NUMBERS Non-Shorting	Isolated	Non-Isolated	Net Price
1	11	32.72°	Steatite	4550-S	4585-S	X		$ 6.75
2	11	32.72°	Steatite	4620-S	4615-S		X	10.00
2	11	32.72°	Steatite	10049-S	10048-S	X		11.75
2	11	32.72°	Steatite	2714-S	5925-S	X		11.25
1	11	32.72°	Steatite	4605-S	4610-S		X	4.50
1	12	30°	Bakelite	5550-S	5620-S		X	5.25
1	15	24°	Steatite	5610-S	4225-S		X	6.00
2	15	24°	Steatite	5615-S	4980-S		X	13.50
1	24	15°	Bakelite	5630-S	5570-S		X	10.00



Note: All above types available with brass contacts and contact arms. When ordering specify number followed by -B.

SHALLCROSS "12000 SERIES" OVAL CERAMIC SWITCHES



Single Deck Types — Listed Below

Single deck types available with one, two, or three poles. Number of positions is limited by the number of poles and placement of collector ring.

Multiple-Deck Types — not listed

Up to ten sections or decks may be ganged. Any combination of 1, 2, or 3 pole decks may be ganged. A complete listing and price list of assembled 2, 3, and 4 deck switches is given in Bulletin L-32. Prices on switches with more than 4 decks quoted on request.

SPECIFICATIONS (Single Deck Types)

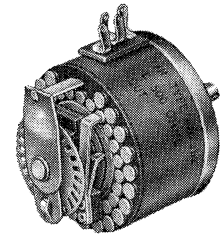
Number	Poles per Deck	Degree Spacing	Positions	Stops	Net Price
12200-06	1	20	3-9	yes	$ 8.00
12208-13	1	20	10-15	yes	8.50
12213	1	20	18	no	8.50
12256-62	2	20	3-9	yes	9.00
12284-87	3	20	3-6	yes	10.00
12300-07	1	30	2-9	yes	9.00
12308	1	30	10	yes	9.50
12309	1	30	12	no	9.50
12340-44	2	30	2-6	yes	10.00
12360-62	3	30	2-4	yes	12.50
12400-03	1	40	2-5	yes	8.00
12404-06	1	40	6-8	yes	8.50
12407	1	40	9	no	8.50
12432-35	2	40	2-5	yes	9.00
12448-49	3	40	2-3	yes	10.00

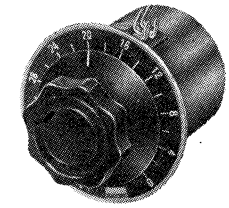
SHALLCROSS PRECISION WIREWOUND RESISTORS

Resistance Ohms	PRICES* BX183AE	BX193E	BX196E	BX116E
1000	$ 1.90	$ 1.90	$ 2.28	$ 2.85
5000	2.09	2.09	2.57	3.28
10,000	2.14	2.14	2.70	3.47
15,000	2.19	2.19	2.90	3.51
30,000	2.42	2.42	3.04	3.80
50,000	2.47	2.47	3.23	4.13
75,000	2.82	2.82	3.42	4.47
100,000	3.08	3.08	3.84	4.60
125,000	3.36	3.36	4.07	4.89
150,000	3.63	3.63	4.40	5.22
200,000	4.06	4.06	4.82	5.52
250,000	4.20	4.20	5.07	5.59
300,000	4.35	4.35	5.48	5.60
400,000	4.76	4.76	5.96	6.31
500,000	5.28	5.28	6.50	6.89
600,000	5.71	5.71	6.96	7.30
700,000	6.17	6.17	7.36	7.51
750,000	6.42	6.42	7.64	7.64
900,000	6.78	6.78	7.95	8.16
1 Meg.	7.02	7.02	8.28	8.90
1.5 Meg.	—	9.11	9.72	12.21
2.0 Meg.	—	11.16	12.42	15.30
2.5 Meg.	—	14.47	15.30	19.05

(*) Above prices subject to 40% trade discounts.

SHALLCROSS AUDIO ATTENUATORS





- Off position attenuation well in excess of 100 db.
- 25% to 50% fewer soldered joints.
- Noise level ratings that are factual—130 db or more below zero level.
- Non-inductive Shallcross precision resistors used throughout assure flat attenuation to and beyond 30 kc.
- Types and sizes engineered for all needs.
- Attenuation accuracies of 1%. Resistor accuracies of 0.1% on special order.

IMPEDANCE: 150, 500, 250/500, 600 ohms, except potentiometers which are 100,000 and 250,000 ohms.

RESISTORS: All non-inductive wirewound, 5% tolerance, except types preceded with "C" which have 5% composition resistors.

ATTENUATION: Increases with counter-clockwise rotation of knob end of shaft.

FREQUENCY RESPONSE: Flat over entire audio range.

SWITCH MECHANISM: Multi-leaf wiper arms, collector rings, and contacts available in tarnish-resistant silver alloy brass. Noise level—130 db.

DETENT: Indexing mechanism available on any unit at $0.75 List. Increases back-of-panel depth $\frac{5}{16}$".

DIALS: $1.50 List each additional.

KNOBS: Shallcross Type VA-16906. $0.75 List each, additional.

120-2A3
$10.50 Silver
9.50 Brass

Ladder Attenuator, 20 steps 2 db per step, tapered on last 3 steps to off. MOUNTING: Single hole ⅜"-32 threaded bushing or two hole, 6-32 screws, 1⅜" centers. DIMENSIONS: 1¾" diameter, 1¾" back of panel depth. CONTACT SPACING: 15°.

C720-2A3
$10.50 Silver
9.50 Brass

Potentiometer, 20 steps 2 db per step, tapered on last 3 steps to off. MOUNTING: Single hole, ⅜"-32 threaded bushing or two hole, 6-32 screws, 1⅜" centers. DIMENSIONS: 1¾" diameter, 1¾" back of panel depth. CONTACT SPACING: 15°.

430-1.5C3
$29.00 Silver
27.00 Brass

Bridged T Attenuator, 20 steps 1.5 db per step tapered on last 5 steps to off. MOUNTING: Two hole 6-32 or 8-32 screws, 1¼" or 1½" centers. DIMENSIONS: 2⅛" diameter, 1¾" back of panel depth. CONTACT SPACING: 11¼°.

420-2B2
$21.50 Silver

Bridged T Attenuator, 20 steps, 2 db per step, attenuation linear with off on last step. MOUNTING: Two hole 8-32 or 6-32 screws, 1¼" or 1½" centers. DIMENSIONS: 2⅛" diameter, 1¾" back of panel depth. CONTACT SPACING: 15°.

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Net

TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

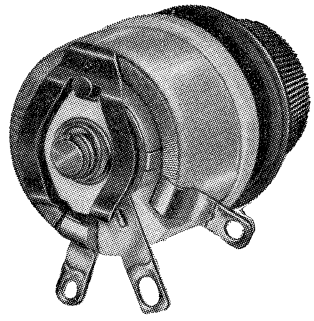
HARDWICK-HINDLE INC.

NEWARK • NEW JERSEY

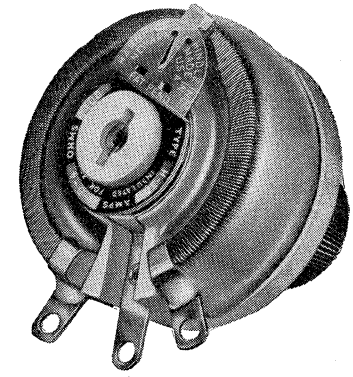
VITREOUS ENAMELED RHEOSTATS

Insulated shafts and mounting bushings

Type A-25 — Will withstand rugged treatment under the most adverse conditions. It has unusually smooth mechanical operation. The terminals, made of strong corrosion resistant alloy, are permanently welded to the winding form. The wound ring is made an integral part of the refractory base by vitreous enamel. The phosphor bronze actuating arm, with its graphite brush, gives smoothest action and excellent electrical control. Shafts are insulated. Three terminals permit either potentiometer or rheostat use; and our new high temperature gray enamel gives an added safety factor.



Types H-50, H-100, H-150 — These are our newest rheostats and they will give longer service and greater protection. They are designed for use under extremes of humidity and abnormal atmospheric conditions. The unique "buss bar" type brush *automatically adjusts tension* for complete, continuous contact. It eliminates backlash and prevents binding. It assures perfect contact with the entire winding surface. Our new high-temperature gray enamel bonding gives you an increased safety factor and better overall service. These improved rheostats are designed to comply with current standards of: (a) Military Specifications MIL R-22. (b) RETMA. (c) N.E.M.A. (d) "listed by Underwriters Laboratories, Inc."



TABLES OF SIZES AND RATINGS OF RHEOSTATS

TYPE A-25
25 WATT RHEOSTAT

Stock No.	Total Ohms	Approx. Max. Amps.	Approx. No. Steps	List Price
0201	0.50	7.06	17	$8.13
0202	0.75	5.77	17	8.13
0203	1.0	5.00	17	7.70
0204	1.5	4.08	34	7.70
0205	2.5	3.16	34	6.84
0206	5.0	2.22	34	6.84
0207	7.5	1.82	34	6.84
0208	10	1.58	90	6.84
0209	15	1.29	90	6.84
0210	25	1.00	100	6.84
0211	50	0.706	100	6.84
0212	75	0.577	135	6.84
0213	100	0.500	112	6.84
0214	150	0.408	146	6.84
0215	250	0.316	146	6.84
0216	500	0.222	180	6.84
0217	750	0.182	214	6.84
0218	1000	0.158	248	7.70
0219	1500	0.129	292	7.70

*Thru all or any part of winding.
Diameter of base: $1\frac{9}{16}$".
Depth behind panel: $1\frac{1}{32}$".
Mounting: Single hole for 3/8" bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 285 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Terminals: Holes for No. 4 screw.

TYPE H-50
50 WATT RHEOSTAT

Stock No.	Total Ohms	Approx. Max. Amps.	Approx. No. Steps	List Price
0301	0.50	10.0	25	$8.59
0302	0.75	8.16	25	8.59
0303	1.0	7.06	52	8.59
0304	1.5	5.77	52	8.59
0305	2.5	4.48	52	7.70
0306	5.0	3.16	52	7.70
0307	7.5	2.58	52	7.70
0308	10	2.22	98	7.70
0309	15	1.82	98	7.70
0310	25	1.41	98	7.70
0311	50	1.00	129	7.70
0312	75	0.816	153	7.70
0313	100	0.706	157	7.70
0314	150	0.577	187	7.70
0315	250	0.448	258	7.70
0316	500	0.316	308	7.70
0317	750	0.258	294	8.10
0318	1000	0.222	390	8.10
0319	1500	0.182	364	8.10
0320	2500	0.141	485	8.10
0321	5000	0.100	590	8.59
0322	7500	0.082	714	8.59
0323	10000	0.070	750	8.59

*Thru all or any part of winding.
Diameter of base: $2\frac{3}{8}$".
Depth behind panel: $1\frac{7}{16}$".
Mounting: Single hole for 3/8"-32 bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.

TYPE H-100
100 WATT RHEOSTAT

Stock No.	Total Ohms	Approx. Max. Amps.	Approx. No. Steps	List Price
0401	0.50	14.2	30	$12.87
0402	0.75	11.6	30	12.87
0403	1.0	10.0	30	12.87
0404	1.5	8.16	30	12.87
0405	2.5	6.34	54	12.87
0406	5.0	4.48	54	12.87
0407	7.5	3.66	54	12.05
0408	10	3.16	54	12.05
0409	15	2.58	112	12.05
0410	25	2.00	108	12.05
0411	50	1.42	127	12.05
0412	75	1.16	151	12.05
0413	100	1.00	160	12.05
0514	150	0.816	190	12.05
0415	250	0.634	250	12.05
0416	500	0.448	302	12.05
0417	750	0.366	303	12.05
0418	1000	0.316	317	12.87
0419	1500	0.258	375	12.87
0420	2500	0.200	494	12.87
0421	5000	0.141	640	13.70
0422	7500	0.115	760	14.60
0423	10000	0.100	740	15.40

*Thru all or any part of winding.
Diameter of base: $3\frac{1}{8}$".
Depth behind panel: $1\frac{3}{32}$".
Mounting: Single hole for 3/8"-32 bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.

TYPE H-150
150 WATT RHEOSTAT

Stock No.	Total Ohms	Approx. Max. Amps.	Approx. No. Steps	List Price
0501	0.50	17.30	26	$16.30
0502	0.75	14.10	30	16.30
0503	1.00	12.25	40	16.30
0504	1.5	10.00	37	16.30
0505	2.5	7.75	39	16.30
0506	5.0	5.48	79	16.30
0507	7.5	4.47	75	16.30
0508	10	3.88	77	15.40
0509	15	3.16	151	15.40
0510	25	2.45	151	15.40
0511	50	1.73	192	15.40
0512	75	1.41	224	15.40
0513	100	1.22	204	15.40
0514	150	1.00	280	15.40
0515	250	0.775	252	15.40
0516	500	0.548	362	15.40
0517	750	0.447	378	16.30
0518	1000	0.388	398	16.30
0519	1500	0.316	483	17.17
0520	2500	0.245	635	17.17
0521	5000	0.173	790	18.00
0522	7500	0.141	940	18.89
0523	10000	0.122	1020	20.59

*Thru all or any part of winding.
Diameter of base: 4".
Depth behind panel: $1\frac{3}{32}$".
Mounting: Two holes as shown 10-32 x 5/8" screws furnished.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: For single hole mounting supplied on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.

RATING—current ratings shown for all Rheostats are for use in free air. When units are enclosed values should be reduced about 50%.

Data on non-stock Rheostats—special shafts and bushings; values intermediate to those listed; tapered windings; tandem assemblies, etc., furnished upon request.

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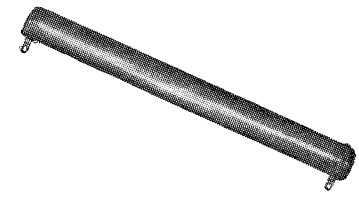
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

HARDWICK-HINDLE INC.

NEWARK • NEW JERSEY

FIXED VITREOUS ENAMELED RESISTORS
WITH MOUNTING BRACKETS



Five stock sizes fill a great variety of applications.

Ratings are in accordance with NEMA standards, being based on a temperature rise of 300° C. in free air.

Data on types, sizes and values not listed herein, and for resistors with intermediate taps, special mountings, etc., furnished upon request.

TABLE OF RATINGS

25 WATT SIZE — Type 2B-35 — 2" Long x 5/8" O.D. — Mounting Centers 2 1/2"

Stock No.	Ohms	Max. Milli-Amps.	List Price
1001	5	2225	$ .97
1002	10	1580	.97
1003	25	1000	.97
1004	50	700	.97
1005	75	575	.97
1006	100	500	.97
1007	150	410	.97
1008	200	353	.97
1009	250	316	.97
1010	500	224	.97
1011	750	182	.97
1012	1000	158	.97
1013	1500	129	1.03
1014	2000	112	1.03
1015	2500	100	1.03
1016	3000	91	1.03
1017	3500	85	1.03
1018	4000	79	1.03
1019	5000	71	1.03
1020	6000	64	1.14
1021	7500	57	1.14
1022	10000	50	1.14
1023	12000	44	1.19
1024	15000	40	1.19
1025	20000	26	1.19
1026	25000	23	1.36

40 WATT SIZE — Type 3 1/2 L-35 — 3 1/2" Long x 3/4" O.D. — Mounting Centers 4"

Stock No.	Ohms	Max. Milli-Amps.	List Price
2001	5	2830	$1.20
2002	10	2000	1.20
2003	25	1260	1.20
2004	50	895	1.20
2005	75	730	1.20
2006	100	635	1.20
2007	150	518	1.20
2008	200	448	1.20
2009	250	400	1.20
2010	500	283	1.20
2011	750	230	1.20
2012	1000	200	1.20
2013	1500	163	1.30
2014	2000	140	1.30
2015	2500	125	1.30
2016	3000	115	1.30
2017	4000	100	1.30
2018	5000	90	1.30
2019	7500	73	1.43
2020	10000	63	1.43
2021	12500	56	1.65
2022	15000	52	1.65
2023	20000	45	1.65
2024	25000	40	1.87
2025	35000	33	1.87
2026	50000	28	2.20

80 WATT SIZE — Type 6 1/2 L-35 — 6 1/2" Long x 3/4" O.D. — Mounting Centers 7"

Stock No.	Ohms	Max. Milli-Amps.	List Price
3001	5	4000	$1.73
3002	10	2830	1.73
3003	25	1790	1.73
3004	50	1260	1.73
3005	75	1030	1.73
3006	100	890	1.73
3007	250	565	1.73
3008	500	400	1.73
3009	1000	283	1.73
3010	1500	231	1.80
3011	2000	200	1.80
3012	2500	179	1.80
3013	3000	163	1.80
3014	4000	141	1.80
3015	5000	126	1.80
3016	7500	103	2.03
3017	10000	89	2.03
3018	15000	73	2.13
3019	20000	63	2.13
3020	25000	56	2.18
3021	30000	52	2.18
3022	35000	48	2.18
3023	40000	45	2.18
3024	50000	40	2.27
3025	60000	36	2.27
3026	75000	32	2.37

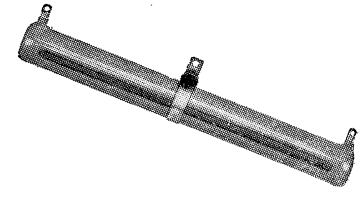
160 WATT SIZE — Type 8 1/2 F-35 — 8 1/2" Long x 1 1/8" O.D. — Mounting Centers 9 3/8"

Stock No.	Ohms	Max. Milli-Amps.	List Price
4001	5	5660	$4.16
4002	10	4000	2.98
4003	25	2530	2.98
4004	50	1788	2.98
4005	75	1460	2.98
4006	100	1260	2.98
4007	150	1030	2.98
4008	250	800	2.98
4009	500	566	2.98
4010	750	461	2.98
4011	1000	400	2.98
4012	1500	326	3.04
4013	2000	282	3.04
4014	2500	253	3.04
4015	3000	231	3.04
4016	5000	179	3.04
4017	7500	146	3.30
4018	10000	126	3.30
4019	15000	105	3.54
4020	20000	89	3.54
4021	25000	80	3.64
4022	30000	73	3.64
4023	40000	63	3.64
4024	50000	56	3.76
4025	75000	46	4.03
4026	100000	40	4.26

200 WATT SIZE — Type 10 1/2 F-35 — 10 1/2" Long x 1 1/8" O.D. — Mounting Centers 11 3/8"

Stock No.	Ohms	Max. Milli-Amps.	List Price
5001	5	6310	$4.53
5002	10	4470	3.22
5003	25	2830	3.22
5004	50	2000	3.22
5005	75	1635	3.22
5006	100	1414	3.22
5007	150	1155	3.22
5008	250	895	3.22
5009	500	632	3.22
5010	750	515	3.22
5011	1000	447	3.22
5012	1500	365	3.30
5013	2000	315	3.30
5014	2500	283	3.30
5015	3000	258	3.30
5016	5000	200	3.30
5017	7500	163	3.53
5018	10000	140	3.53
5019	15000	115	3.77
5020	20000	100	3.77
5021	25000	90	3.90
5022	30000	81	3.90
5023	40000	70	3.90
5024	50000	63	4.03
5025	75000	51	4.25
5026	100000	44	4.53

ADJUSTABLE VITREOUS ENAMELED RESISTORS
WITH MOUNTING BRACKETS



Embodying features originated by Hardwick, Hindle, Inc., resulting in a Resistor possessing the many advantages of Vitreous Enamel Construction, plus an adjustable feature.

The winding is closely and evenly spaced, assuring ample insulation between turns. Where the winding appears exposed in the track, its underside is tightly embedded in the enamel, the upper surface only being exposed for contact with the adjustable band.

All sizes of Adjustable Resistors listed herein are furnished complete with mounting brackets and with one adjustable contact band.

TABLE OF RATINGS

25 WATT SIZE — Type K-25 — 2" Long x 5/8" O.D. — Mount. Centers 2 1/2"

Stock No.	Ohms	Max. Milli-Amps.	List Price
6001	1	5000	$1.87
6002	2	3540	1.87
6003	3	2890	1.87
6004	5	2240	1.87
6005	10	1580	1.87
6006	20	1140	1.87
6007	25	1000	1.87
6008	50	700	1.87
6009	75	550	1.87
6010	100	500	1.87
6011	200	350	1.87
6012	300	289	1.87
6013	400	250	1.87
6014	500	224	1.87
6015	750	182	1.87
6016	800	177	1.87
6017	1000	158	1.87
6018	1250	141	1.88
6019	1500	129	1.88
6020	2000	112	1.88
6021	2500	100	1.88
6022	3000	91	1.88
6023	3500	84	1.88
6024	4000	79	1.88
6025	5000	70	1.88
6026	6000	64	2.03
6027	7000	60	2.03
6028	8000	56	2.03
6029	10000	50	2.03
6030	15000	40	2.08
6031	20000	35	2.08
6032	25000	31	2.28

50 WATT SIZE — Type K-50 — 4 1/2" Long x 5/8" O.D. — Mount. Centers 5"

Stock No.	Ohms	Max. Milli-Amps.	List Price
7001	5	3160	$2.37
7002	10	2240	2.37
7003	25	1420	2.37
7004	50	1000	2.37
7005	75	815	2.37
7006	100	700	2.37
7007	200	500	2.37
7008	250	447	2.37
7009	300	406	2.37
7010	400	350	2.37
7011	500	316	2.37
7012	750	258	2.37
7013	800	250	2.37
7014	1000	224	2.37
7015	1500	183	2.47
7016	2000	158	2.47
7017	2500	141	2.47
7018	3000	129	2.47
7019	4000	112	2.47
7020	5000	100	2.47
7021	6000	91	2.63
7022	7000	84	2.63
7023	7500	81	2.63
7024	8000	79	2.63
7025	9000	74	2.63
7026	10000	70	2.63
7027	12000	64	2.83
7028	15000	57	2.83
7029	20000	48	2.83
7030	25000	43	3.08
7031	30000	41	3.08
7032	40000	35	3.08
7033	50000	30	3.30

75 WATT SIZE — Type K-75 — 6" Long x 5/8" O.D. — Mount. Centers 6 1/2"

Stock No.	Ohms	Max. Milli-Amps.	List Price
8001	5	3870	$2.75
8002	10	2730	2.75
8003	15	2230	2.75
8004	25	1730	2.75
8005	50	1220	2.75
8006	100	865	2.75
8007	200	612	2.75
8008	300	500	2.75
8009	400	424	2.75
8010	500	387	2.75
8011	750	316	2.75
8012	1000	274	2.75
8013	1500	223	2.83
8014	2000	193	2.83
8015	2500	173	2.83
8016	3000	158	2.83
8017	4000	137	2.83
8018	5000	122	2.83
8019	6000	112	3.00
8020	7000	103	3.00
8021	7500	100	3.00
8022	10000	86	3.00
8023	15000	70	3.20
8024	20000	61	3.20
8025	25000	55	3.53
8026	30000	50	3.53
8027	40000	43	3.53
8028	50000	39	3.62
8029	60000	35	3.62
8030	80000	30	3.97
8031	100000	25	4.33

100 WATT SIZE — Type K-100 — 6 1/2" Long x 1 1/8" O.D. — Mount. Centers 7 3/8"

Stock No.	Ohms	Max. Milli-Amps.	List Price
9001	5	4470	$3.58
9002	10	3160	3.58
9003	25	2000	3.58
9004	50	1414	3.58
9005	100	1000	3.58
9006	250	630	3.58
9007	500	445	3.58
9008	1000	316	3.58
9009	1500	257	3.67
9010	2500	200	3.67
9011	5000	140	3.67
9012	10000	100	3.87
9013	15000	81	4.12
9014	20000	70	4.12
9015	25000	63	4.37
9016	30000	57	4.37
9017	40000	50	4.37
9018	50000	44	4.53
9019	75000	36	4.75
9020	100000	31	4.95

160 WATT SIZE — Type K-160 — 8 1/2" Long x 1 1/8" O.D. — Mount. Centers 9 3/8"

Stock No.	Ohms	Max. Milli-Amps.	List Price
9030	5	5660	$5.33
9031	10	4000	4.14
9032	25	2530	4.14
9033	50	1788	4.14
9034	100	1266	4.14
9035	250	800	4.14
9036	500	566	4.14
9037	1000	400	4.14
9038	1500	335	4.19
9039	2500	253	4.19
9040	5000	179	4.19
9041	10000	126	4.44
9042	15000	105	4.69
9043	20000	89	4.69
9044	25000	80	4.81
9045	30000	73	4.81
9046	40000	63	4.81
9047	50000	56	4.94
9048	75000	46	5.17
9049	100000	40	5.44

200 WATT SIZE — Type K-200 — 10 1/2" Long x 1 1/8" O.D. — Mount. Centers 11 3/8"

Stock No.	Ohms	Max. Milli-Amps.	List Price
9060	5	6310	$5.67
9061	10	4470	4.37
9062	25	2830	4.37
9063	50	2000	4.37
9064	100	1414	4.37
9065	250	890	4.37
9066	500	632	4.37
9067	1000	445	4.37
9068	2500	280	4.45
9069	5000	200	4.45
9070	10000	140	4.78
9071	15000	115	4.92
9072	20000	100	4.92
9073	25000	90	5.03
9074	30000	81	5.03
9075	40000	70	5.03
9076	50000	63	5.17
9077	75000	51	5.42
9078	100000	44	5.67

ADJUSTABLE CONTACT BANDS

SCREW TYPE	Diameter of Resistor	Stock No.	List Prices
BAKELITE TYPE KNOB	5/8"	1791-6	$ .25
	1 1/8"	1793-4	.42
	5/8"	1791-6-X	.36
	1 1/8"	1793-4-X	.47

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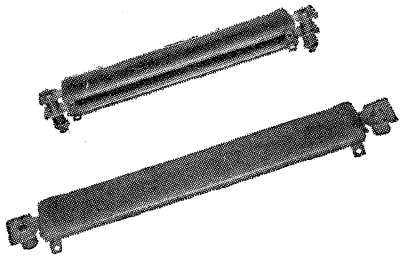
HARDWICK-HINDLE INC.

NEWARK • NEW JERSEY

BLUE RIBBON RESISTORS



Blue Ribbon resistors differ from tubular resistors in that they are wound on an elliptical core. An aluminum bar through the center insures more even distribution of heat, avoiding hot spots.

Our gray enamel eliminates crazing which results in failure of the resistive element due to moisture penetration from humidity, salt and other severe atmospheric conditions.

Mounting studs—corrosion and rust resistant—peened to the ends of the thru-bar conduct heat to the mounting surface. You can stack two or more units. Our method of fastening the tube to the thru-bar prevents loosening.

In comparison with tubular units of equivalent wattage rating these resistors offer outstanding advantages: • Higher wattage rating per unit space requirement. • Reduction in space requirement. • Simple sturdy mounting, single or stacked. • Light weight. • Lower inductance.

Designed for and manufactured in accordance with JAN-R-26A specifications.

TABLE OF RATINGS

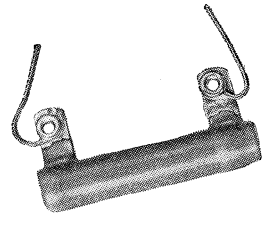
TYPE 1¼" B 30 Watt Rating* Mounting Centers 2"				TYPE 2" B 40 Watt Rating* Mounting Centers 2¾"				TYPE 3½" B 55 Watt Rating* Mounting Centers 4¼"				TYPE 6" B 75 Watt Rating* Mounting Centers 6¾"			
Stock No.	Ohms	Max. Milli-Amps.	List Price	Stock No.	Ohms	Max. Milli-Amps.	List Price	Stock No.	Ohms	Max. Milli-Amps.	List Price	Stock No.	Ohms	Max. Milli-Amps.	List Price
B101	5	2450	$1.92	B201	5	2830	$2.01	B301	5	3320	$2.32	B601	5	3880	$2.88
B102	10	1730	1.92	B202	10	2000	2.01	B302	10	2350	2.32	B602	10	2750	2.88
B103	15	1410	1.92	B203	15	1640	2.01	B303	15	1920	2.32	B603	15	2240	2.88
B104	25	1090	1.92	B204	25	1260	2.01	B304	25	1480	2.32	B604	25	1730	2.88
B105	50	770	1.92	B205	50	890	2.01	B305	50	1050	2.32	B605	50	1220	2.88
B106	100	550	1.92	B206	100	630	2.01	B306	100	740	2.32	B606	100	860	2.88
B107	150	440	1.92	B207	150	510	2.01	B307	150	600	2.32	B607	150	710	2.88
B108	250	340	1.92	B208	250	400	2.01	B308	250	470	2.32	B608	250	550	2.88
B109	500	245	1.92	B209	500	283	2.01	B309	500	332	2.32	B609	500	388	2.88
B110	1000	173	1.92	B210	1000	200	2.01	B310	1000	235	2.32	B610	1000	275	2.88
B111	1500	141	1.92	B211	1500	164	2.01	B311	1500	192	2.32	B611	1500	224	2.88
B112	2500	109	1.92	B212	2500	126	2.01	B312	2500	148	2.32	B612	2500	173	2.88
B113	5000	77	2.06	B213	5000	89	2.15	B313	5000	105	2.45	B613	5000	122	3.02
B114	10000	55	2.10	B214	10000	63	2.42	B314	10000	74	2.72	B614	10000	86	3.26
				B215	15000	51	2.52	B315	15000	60	2.83	B615	15000	71	3.38
								B316	25000	47	3.10	B616	25000	55	3.67
												B617	50000	39	4.12

*This rating based on a maximum temperature rise of 300 degrees C. with the Resistor mounted horizontally on a 10" x 10" x .040" steel plate supported horizontally ½" above a wooden surface.

When Resistors are mounted on a non-metallic base the nominal watt rating should be reduced by approximately 15%.

10 and 20 WATT FIXED VITREOUS ENAMELED RESISTORS

Designed for radio service and replacement use—conservatively rated—wound upon Steatite Tube—combination lug and pigtail terminal connections. Vitreous



enamel insulation, insures proof against moisture. 10 watt and 20 watt sizes, in the range of resistance values shown.

TABLE OF RATINGS

10 WATT 1¾" Long x 5/16" O.D.								20 WATT 2" Long x ½" O.D.							
Stock No.	Ohms	Max. Milli-Amps.	List Price	Stock No.	Ohms	Max. Milli-Amps.	List Price	Stock No.	Ohms	Max. Milli-Amps.	List Price	Stock No.	Ohms	Max. Milli-Amps.	List Price
A101	1	3160	$ .75	A116	750	115	$ .75	A201	5	2000	$ .95	A216	2000	100	$ .97
A102	3	1825	.75	A117	1000	100	.75	A202	10	1415	.95	A217	2500	89	.97
A103	5	1415	.75	A118	1250	89	.80	A203	25	895	.95	A218	3000	81	.97
A104	7.5	1150	.75	A119	1500	81	.80	A204	50	633	.95	A219	4000	71	.97
A105	10	1000	.75	A120	2000	70	.80	A205	75	517	.95	A220	5000	63	.97
A106	15	815	.75	A121	2500	63	.80	A206	100	447	.95	A221	6000	57	1.12
A107	25	630	.75	A122	3000	58	.80	A207	150	375	.95	A222	7500	51	1.12
A108	50	450	.75	A123	4000	50	.80	A208	200	316	.95	A223	10000	44	1.12
A109	75	365	.75	A124	5000	45	.80	A209	250	282	.95	A224	12500	40	1.20
A110	100	315	.75	A125	7500	36	.92	A210	400	224	.95	A225	15000	37	1.20
A111	150	260	.75	A126	10000	31	.92	A211	500	200	.95	A226	25000	15	1.37
A112	200	225	.75	A127	12500	16	1.03	A212	750	163	.95	A227	35000	13	1.37
A113	250	200	.75	A128	15000	14	1.03	A213	1000	141	.95	A228	40000	12	1.37
A114	400	158	.75	A129	20000	12	1.03	A214	1250	126	.97	A229	50000	11	1.58
A115	500	142	.75	A130	25000	11	1.08	A215	1500	115	.97				

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

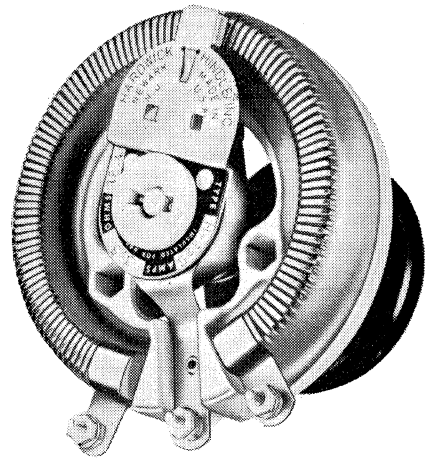
HARDWICK-HINDLE INC.

NEWARK • NEW JERSEY

TYPE H-225
225 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.*	Approx. No. Steps	List Price
0530	1	15.00	55	
0531	1.5	12.30	55	
0532	2	10.60	55	
0533	2.5	9.50	55	
0534	3	8.66	55	
0535	4	7.50	55	
0536	5	6.71	55	
0537	7.5	5.49	115	
0538	10	4.74	115	
0539	15	3.87	115	
0540	25	3.00	115	
0541	50	2.12	256	
0542	75	1.73	306	
0543	100	1.50	315	$21.40
0544	150	1.22	385	
0545	200	1.06	357	
0546	250	.950	350	
0547	300	.866	335	
0548	400	.750	448	
0549	500	.671	450	
0550	700	.567	495	
0551	750	.549	533	
0552	900	.500	500	
0553	1,000	.474	555	
0554	1,200	.433	526	
0555	1,500	.387	630	
0556	1,750	.358	620	
0557	2,500	.300	670	

* Through all or any part of winding.



a. High temperature enamel—bonds the wire to core and the core to base to afford greater safety factor where overloaded conditions are demanded.

b. Bus-bar construction gives minimum resistance and ample safety under maximum current requirements. Made of alloy materials to fit wire size and current requirements of various resistance values and also to give minimum wear on wire.

c. Constant pressure contact arm—This patented feature is made of high carbon spring steel to insure uniform pressure of contact brush on both collector ring and winding surface and to eliminate troublesome contact resistance.

d. Tripod Mounting Frame—Alloy casting designed to give greater safety factor under shock and vibration.

TYPE H-300
300 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.*	Approx. No. Steps	List Price
0601	1	17.25	49	
0602	1.5	14.15	47	
0603	2	12.24	49	
0604	2.5	10.95	70	
0605	3	10.00	73	
0606	4	8.66	70	
0607	5	7.75	66	
0608	7.5	6.32	71	
0609	10	5.48	136	
0610	15	4.47	144	
0611	25	3.46	145	
0612	50	2.45	245	
0613	75	2.00	260	
0614	100	1.73	327	$23.20
0615	150	1.41	394	
0616	200	1.22	420	
0617	250	1.09	525	
0618	300	1.00	420	
0619	400	.866	440	
0620	500	.775	440	
0621	700	.655	502	
0622	750	.633	540	
0623	900	.578	521	
0624	1,000	.548	580	
0625	1,200	.500	690	
0626	1,500	.449	680	
0627	1,750	.414	790	
0628	2,500	.346	862	

* Through all or any part of winding.

TYPE H-500
500 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.*	Approx. No. Steps	List Price
0701	1	22.3	70	
0702	1.5	18.2	64	
0703	2	15.8	68	
0704	2.5	14.1	67	
0705	3	12.9	65	
0706	4	11.2	96	
0707	5	10.0	96	
0708	7.5	8.17	98	
0709	8	7.90	97	
0710	10	7.07	105	
0711	12.5	6.30	103	
0712	15	5.77	202	
0713	16	5.60	192	
0714	25	4.47	195	
0715	40	3.54	205	$33.50
0716	50	3.16	200	
0717	75	2.58	395	
0718	80	2.52	382	
0719	100	2.23	450	
0720	125	2.00	505	
0721	150	1.82	544	
0722	175	1.69	500	
0723	250	1.41	570	
0724	325	1.24	515	
0725	500	1.00	620	
0726	750	.817	740	
0727	1,000	.707	780	
0728	1,500	.577	940	
0729	2,000	.500	986	
0730	2,500	.447	940	

* Through all or any part of winding.

TYPE H-750
750 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.*	Approx. No. Steps	List Price
0801	1	27.4	85	
0802	1.5	22.3	85	
0803	2	19.4	81	
0804	2.5	17.3	87	
0805	3	15.8	83	
0806	4	13.6	87	
0807	5	12.2	122	
0808	7.5	10.0	129	
0809	8	9.65	122	
0810	10	8.65	121	
0811	12.5	7.75	120	
0812	15	7.07	127	
0813	16	6.82	120	
0814	25	5.47	240	
0815	50	3.87	238	
0816	75	3.19	250	$47.30
0817	80	3.06	266	
0818	100	2.74	265	
0818	150	2.23	500	
0820	160	2.17	485	
0821	200	1.94	472	
0822	250	1.73	470	
0823	300	1.58	500	
0824	400	1.37	472	
0825	500	1.22	565	
0826	600	1.12	677	
0827	750	1.00	670	
0828	1,000	.865	715	
0829	1,200	.791	860	
0830	1,500	.707	840	
0831	1,800	.646	1,020	
0832	2,500	.547	1,085	

* Through all or any part of winding.

TYPE H-1000
1000 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.*	Approx. No. Steps	List Price
0901	1	31.60	81	
0902	1.5	25.80	84	
0903	2	22.40	109	
0904	2.5	20.00	105	
0905	3	18.30	113	
0906	4	15.80	106	
0907	5	14.10	105	
0908	7.5	11.50	158	
0909	8	11.20	168	
0910	10	10.00	166	
0911	12.5	8.95	165	
0912	15	8.16	156	
0913	16	7.90	166	
0914	25	6.33	160	$55.25
0915	50	4.47	331	
0916	75	3.65	303	
0917	100	3.16	320	
0918	150	2.58	306	
0919	175	2.39	645	
0920	225	2.11	585	
0921	250	2.00	640	
0922	300	1.83	605	
0923	400	1.58	640	
0924	500	1.41	635	
0925	750	1.15	820	
0926	1,000	1.00	862	
0927	1,500	.816	1,030	
0928	2,500	.633	1,300	

* Through all or any part of winding.

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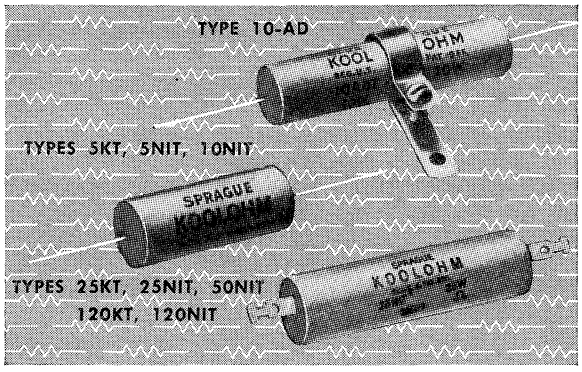
SPRAGUE RESISTORS

KOOLOHM® WIRE-WOUND RESISTORS



- Wound with wire which is insulated **before winding** with a flexible ceramic coating. This coating is impervious to heat as high as 1000°C.
- Each resistor is "tropicalized" by a glazed ceramic outer coating and new type end seals which offer complete protection against moisture or any other climatic conditions
- May be mounted anywhere—even flat against chassis or grounded parts
- Extremely high insulation resistance—10,000 volts from surface of ceramic jacket to inner resistance elements
- Insulated wire permits winding higher values in layers, which means much smaller physical sizes for each wattage rating
- Insulated wire permits true "non-inductive" wound designs

NOTE: ALL NIT TYPES ARE NON-INDUCTIVE

5 WATTS
TYPES 5 KT & 5 NIT
15/32" dia. x 1 7/32" long

5 KT List	Ohms	Max. Ma.	Max. Volts	5 NIT List
$.65	5	1000	5.00	$1.00
.65	10	707	7.07	1.00
.65	15	587	8.67	1.00
.65	20	500	10	1.00
.65	25	446	11	1.00
.65	30	406	12	1.00
.65	40	354	14	1.00
.65	50	316	15	1.00
.65	75	258	19	1.00
.65	100	224	22	1.00
.65	150	183	27	1.00
.65	200	158	31	1.00
.65	250	141	35	1.00
.65	300	129	38	1.00
.65	400	112	44	1.00
.65	500	100	50	1.00
.65	600	91	54	1.00
.65	700	84	59	1.00
.65	800	79	63	1.00
.65	900	74	67	1.00
.65	1000	70	70	1.00
.70	1250	63	79	1.15
.70	1500	57	86	1.15
.70	1750	53	93	1.15
.70	2000	50	100	1.15
.70	2500	44	112	1.25
.70	3000	40	123	1.25
.70	4000	35	141	1.25
.70	5000	31	158	1.30
.80	6000	28	173	*
.80	7000	26	187	*
.80	7500	25	194	*
.80	8000	25	200	*
.80	9000	23	212	*
.80	10000	22	224	*
.90	12500	20	250	*
.90	14000	18	265	*
.95	15000	18	274	*
.95	20000	15	333	*
1.10	25000	14	354	*
1.20	30000	13	387	*
1.40	35000	12	418	*
1.50	40000	11	447	*

10 WATTS
TYPES 10 KT & 10 NIT
15/32" dia. x 1 27/32" long

10 KT List	Ohms	Max. Ma.	Max. Volts	10 NIT List
$.75	5	1414	7.07	$1.00
.75	10	1000	10	1.00
.75	15	830	12.3	1.00
.75	20	707	14.1	1.00
.75	25	630	15.8	1.00
.75	30	575	17.4	1.00
.75	40	500	20	1.00
.75	50	447	22.4	1.00
.75	75	365	27.4	1.00
.75	100	316	31.6	1.00
.75	150	259	38.7	1.00
.75	200	223	44.6	1.00
.75	250	200	50	1.00
.75	300	182	54.7	1.00
.75	400	158	63.3	1.00
.75	500	141	70.7	1.00
.75	600	129	77.6	1.00
.75	700	119	84	1.00
.75	750	115	86.9	1.00
.75	800	112	89.5	1.00
.75	900	105	95	1.00
.75	1000	100	100	1.00
.80	1250	89	112	1.15
.80	1500	81	123	1.15
.80	1750	75	133	1.15
.80	2000	70	143	1.15
.80	2500	63	158	1.25
.80	3000	57	174	1.25
.80	4000	50	200	1.25
.80	5000	44	227	1.30
.90	6000	41	245	1.30
.90	7500	36	275	1.45
.90	8000	35	283	1.45
.90	9000	33	300	1.45
.90	10000	32	316	1.90
1.00	12000	29	346	*
1.00	14000	26	384	*
1.00	15000	25	400	*
1.00	17500	24	419	*
1.10	20000	21	475	*
1.20	25000	20	500	*
1.30	30000	18	555	*
1.50	35000	17	591	*
1.65	40000	16	632	*
1.80	50000	14	700	*
2.00	60000	13	780	*
2.20	70000	12	840	*

10 WATTS ADJUSTABLE†
TYPE 10-AD
15/32" dia. x 1 29/32" long

Ohms	Max. Ma.	Max. Volts	List
10	1000	10	$1.45
25	630	15.8	1.45
50	447	22.4	1.45
100	316	31.6	1.45
150	259	38.7	1.45
200	223	44.6	1.45
250	200	50	1.45
300	182	54.7	1.45
400	158	63.3	1.45
500	141	70.7	$1.45
750	115	86.9	1.45
1000	100	100	1.45
1500	81	123	1.55
2000	70	143	1.55
2500	63	158	1.55
3000	57	174	1.55
4000	50	200	1.55
5000	44	227	1.55
7500	36	275	1.65
10000	32	316	1.65

Extra Bands, $ .10

25 WATTS
TYPES 25 KT & 25 NIT
23/32" dia. x 2 7/8" long

25 KT List	Ohms	Max. Amps.	Max. Volts	25 NIT List
$1.45	5	2.23	11	$ 1.85
1.30	10	1.58	15	1.85
1.30	25	1.0	25	1.85
1.30	50	.707	35	1.85
1.30	75	.577	43	1.85
1.30	100	.500	50	1.85
1.30	150	.408	61	1.85
1.30	200	.353	70	1.85
1.30	250	.316	79	1.85
1.30	500	.223	111	1.85
1.35	600	.204	122	1.85
1.35	750	.182	137	1.85
1.35	1000	.158	158	1.85
1.35	1500	.129	193	2.00
1.35	2000	.111	223	2.00
1.35	2500	.100	250	2.00
1.45	3000	.091	273	2.40
1.45	4000	.079	316	2.40
1.45	5000	.070	353	2.40
1.45	7500	.057	432	2.40
1.50	10000	.050	500	2.75
1.55	12000	.046	548	2.75
1.55	15000	.041	612	2.75
1.65	20000	.035	707	3.10
1.80	25000	.032	790	3.40
2.00	40000	.025	1000	*
2.20	50000	.022	1118	*
2.85	75000	.018	1370	*
3.55	100000	.016	1580	*

50 WATTS
TYPES 50 KT & 50 NIT
⅞" dia. x 4" long

50 KT List	Ohms	Max. Amps.	Max. Volts	50 NIT List
$1.95	5	3.16	15	$ 3.10
1.95	10	2.23	22	3.10
1.95	25	1.41	35	3.10
1.95	50	1.000	50	$3.10
1.95	75	.816	61	3.10
1.95	100	.707	70	3.10
1.95	150	.577	86	3.10
1.95	200	.500	100	3.10
1.95	250	.477	111	3.10
1.95	500	.316	158	3.10
1.95	600	.289	173	3.10
1.95	750	.258	193	3.10
1.95	1000	.223	223	3.10
2.10	1500	.182	274	3.10
2.10	2000	.158	316	3.10
2.10	2500	.141	353	3.10
2.30	3000	.129	387	3.10
2.30	4000	.111	447	3.10
2.30	5000	.100	500	3.10
2.40	7500	.081	612	3.10
2.85	10000	.070	707	3.10
2.85	12000	.064	775	3.10
2.85	15000	.057	870	3.10
2.90	20000	.050	1000	3.30
2.90	25000	.044	1120	3.30
3.00	50000	.032	1580	5.75
3.10	75000	.026	1936	*
3.50	100000	.022	2238	*

120 WATTS
TYPES 120 KT & 120 NIT
1 1/16" Dia. x 8 15/16" long

120 KT List	Ohms	Max. Amps.	Max. Volts	120 NIT List
$7.75	5	4.9	24.5	$9.40
7.75	10	3.46	34.6	9.40
7.75	25	2.18	54.6	9.40
7.75	50	1.54	77.4	9.40
7.75	75	1.26	94.8	9.40
7.75	100	1.09	109.5	9.40
7.75	150	.884	134	9.40
7.75	200	.775	155	9.40
7.75	250	.692	173	9.40
	390	.574	211	9.40
7.75	500	.490	245	9.40
7.75	600	.446	268	9.40
7.75	750	.400	300	9.40
7.75	1000	.346	346	9.40
7.75	1500	.282	424	9.40
7.75	2000	.245	490	9.40
7.75	2500	.219	548	9.40
7.75	3000	.200	600	9.40
7.75	5000	.154	774	9.40
8.00	7500	.126	948	10.00
8.00	10000	.109	1095	10.00
8.00	15000	.089	1340	10.00
8.00	20000	.077	1550	10.00
8.00	25000	.069	1733	10.00
8.00	50000	.049	2450	10.00
8.00	75000	.040	3000	*
8.00	100000	.034	3460	*

*KT Types only

†Adjustable Resistors are not tropicalized

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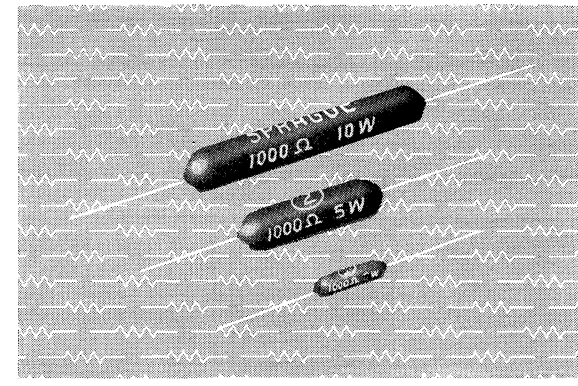
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

SPRAGUE RESISTORS

BLUE JACKET® WIREWOUND RESISTORS

- A NEW Resistor That Can Be Used Almost Anywhere—Dependable in Critical Equipment, Yet Priced Low Enough for Radio-TV Service Work.
- Ideal for Point-to-point, Terminal Board, and Printed Chassis Wiring. Axial Lead Design Provides Secure Mounting, Even Under Severe Vibration.
- Will Satisfy MIL Specification Performance Requirements with 35% to 50% Reduction in Size.
- Crazeproof Vitreous Enamel Coating Guards Against Humidity and Prevents Failure from Electrolysis. Resists Corrosive Industrial Fumes.
- Thermal Expansion Characteristics of the Ceramic Winding Core and Coating Enamel Are Closely Matched to Withstand Rapid Thermal Changes.
- Hot Spot Rating of 300°C Rise above 40°C Ambient Temperature.
- Standard Resistance Tolerance: to 50 ohms, ±10%—over 50 ohms, ±5%.



TYPE 151E, 3 WATTS, 15/64" Max. D. x 9/16" Max. L.

Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List
10	548	$ .85	50	245	$ .85	220	117	$ .85	680	66	$ .85	2700	33	$ .85
12	500	.85	56	232	.85	250	110	.85	820	60	.85	3300	30	.85
15	446	.85	68	210	.85	270	105	.85	1000	55	.85	3900	28	.85
18	409	.85	82	191	.85	300	100	.85	1200	50	.85	4700	25	.85
22	370	.85	100	173	.85	330	95	.85	1500	45	.85	5000	24	.95
27	334	.85	120	158	.85	390	88	.85	1800	41	.85	5600	23	.95
33	302	.85	150	141	.85	470	80	.85	2000	39	.85	6800	21	.95
39	278	.85	180	129	.85	500	77	.85	2200	37	.85	8200	19	.95
47	253	.85	200	123	.85	560	73	.85	2500	35	.85	10000	15	.95

TYPE 27E, 5 WATTS, 11/32" Max. D. x 1 3/16" Max. L.

Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List
1	2236	$ .90	35	377	$ .90	400	112	$ .90	1500	57	$ .95	7500	25	$1.05
1.5	1928	.90	40	354	.90	450	106	.90	1750	53	.95	8000	25	1.05
2	1581	.90	50	316	.90	500	100	.90	2000	50	.95	9000	23	1.05
3	1356	.90	75	258	.90	600	91	.90	2250	47	.95	10000	22	1.05
4	1118	.90	100	224	.90	700	84	.90	2500	44	.95	12000	20	1.40
5	1000	.90	125	205	.90	750	82	.90	3000	40	.95	14000	18	1.40
7.5	862	.90	150	183	.90	800	79	.90	3500	37	.95	15000	18	1.40
10	707	.90	200	158	.90	900	74	.90	4000	35	.95	17500	16	1.40
12	646	.90	225	150	.90	1000	70	.90	4500	33	.95	20000	15	1.40
15	587	.90	250	141	.90	1100	67	.95	5000	31	.95	22500	15	1.45
20	500	.90	300	129	.90	1200	64	.95	6000	28	1.05	25000	14	1.45
25	447	.90	350	122	.90	1250	63	.95	7000	26	1.05	30000	13	1.45
30	406	.90												

TYPE 28E, 10 WATTS, 11/32" Max. D. x 1 15/16" Max. L.

Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List	Ohms	Max MA	List
1	3162	$1.00	50	447	$1.00	750	115	$1.00	3500	54	$1.05	13500	27	$1.40
1.5	2701	1.00	75	365	1.00	800	112	1.00	3900	51	1.05	14300	26	1.40
2	2236	1.00	100	316	1.00	900	105	1.00	4000	50	1.05	15000	25	1.40
3	1918	1.00	125	288	1.00	1000	100	1.00	4500	47	1.05	16000	25	1.40
4	1581	1.00	150	259	1.00	1100	95	1.05	5000	45	1.05	17500	24	1.40
5	1414	1.00	200	224	1.00	1200	91	1.05	6000	41	1.25	18000	23	1.40
7.5	1252	1.00	225	213	1.00	1250	89	1.05	7000	38	1.25	20000	21	1.40
10	1000	1.00	250	200	1.00	1450	82	1.05	7500	36	1.25	22500	21	1.50
12	911	1.00	300	182	1.00	1500	81	1.05	8000	35	1.25	25000	20	1.50
15	830	1.00	350	170	1.00	1750	75	1.05	8500	34	1.25	30000	18	1.50
20	707	1.00	400	158	1.00	2000	71	1.05	9000	33	1.25	35000	17	1.50
25	632	1.00	450	148	1.00	2250	67	1.05	10000	32	1.25	40000	16	1.65
30	575	1.00	500	141	1.00	2500	63	1.05	11000	30	1.40	45000	15	1.75
35	539	1.00	600	129	1.00	3000	57	1.05	12000	29	1.40	50000	14	1.80
40	500	1.00	700	119	1.00	3300	55	1.05	12500	28	1.40			

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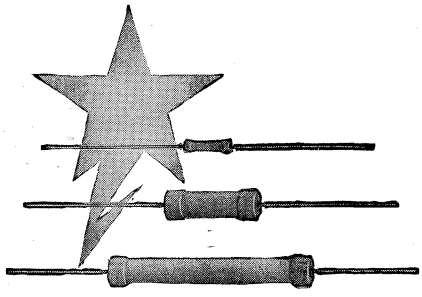
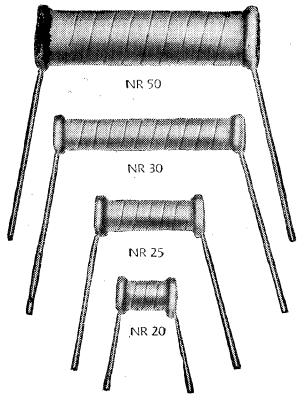
METAL FILM RESISTORS

WITH AXIAL OR RADIAL LEADS

NOBLETTE TYPE NA



NOBELOY TYPE NR



DESIGN AND CONSTRUCTION

A metallic resistance element is deposited on a low loss ceramic carrier using a pyrochemic process developed and patented by Continental. A layer of vitreous enamel protects metal film against unusual atmospheric conditions. They are calibrated to value by means of spiralled grooves cut into the film to increase the resistance path. The NOBLETTE with its axial leads and the NOBELOY with radial leads permits the use of metal film resistors in a wider range of application.

Notable quantities of these metal film resistors are low inductance—initial accuracy and excellent resistance stability under adverse operating conditions.

Both types are stocked in standard tolerances of ±1 and 5%. Also available in ½ and 2%—prices furnished on request. When ordering, specify quantity, resistance, tolerance and type or wattage.

Type	Wattage	Resistance Range	Voltage	List Price 1%	List Price 5%
NA15	½ watt	1 ohm to 1 megohm	350	$0.80	$0.70
NA25	1 watt	1 ohm to 1 megohm	500	1.00	.90
		1.1 megohm to 5 megohm	500	1.30	1.15
NA30	2 watt	2 ohm to 1 megohm	750	1.25	1.10
		1.1 megohm to 10 megohm	750	1.65	1.50
		No. 20 AWG Tinned Copper Axial Leads, 1½" long.			
NR20	½ watt	1 ohm to 1 megohm	350	.80	.70
		1.1 megohm to 3 megohm	350	1.05	.95
NR25	1 watt	1 ohm to 1 megohm	500	1.00	.90
		1.1 megohm to 5 megohm	500	1.30	1.15
NR30	2 watt	2 ohm to 1 megohm	750	1.25	1.10
		1.1 megohm to 10 megohm	750	1.65	1.50
NR50	5 watt	3 ohm to 24 ohm	1000	2.00	1.80
		25 ohm to 1 megohm	1000	1.50	1.35
		1.1 megohm to 15 megohm	1000	2.00	1.80
		No. 18 AWG Tinned Copper Radial Leads, 1½" long.			

CONTINENTAL CARBON, INC.

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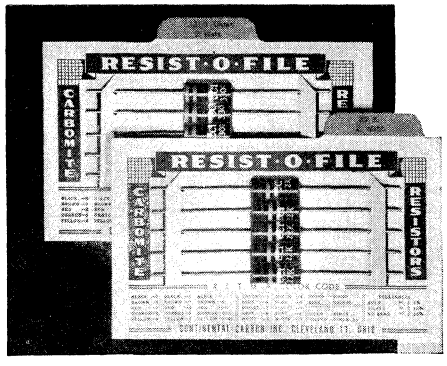
CARBOMITE RESISTORS

COMPOSITION TYPE M

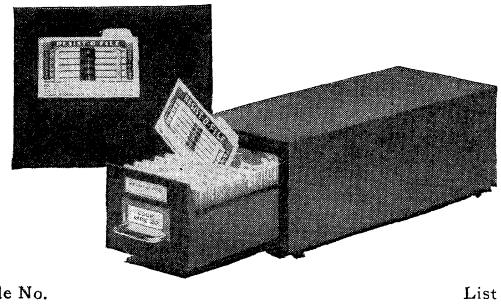
Continental's "Carbomite" resistors meet all requirements of JAN or MIL-R-11 specifications covering fixed composition resistors, including characteristic G for 70° C. operating temperature.
These resistors being fully insulated can be mounted side by side without shorting. They are recommended where space is at a premium and when reliable stability is required for severe service.
The tinned copper terminals are coated with a heavy layer of tin composition for instant soldering.

Type	Wattage	Rating	List Price per Unit 5% Tol.	10% Tol.
M20	½ watt	70°C Amb. 350 Volts Max.	$0.33	$0.17
M25	1 watt	70°C Amb. 500 Volts Max.	.50	.25
M30	2 watt	70°C Amb. 1000 Volts Max.	.66	.33



Identified, staggered-tab file system adds to your convenience.

RESIST-O-FILES TYPE MRC



Code No.		List Price
MRC 20	(40 cards)	$34.00
MRC 25	(40 cards)	49.50
MRC 30	(30 cards)	50.00

Five Type M resistors are mounted on a 3 x 5 index card and arranged in RESIST-O-FILES for ½ watt, 1 watt or 2 watt, all 10% tolerance.

Code MRC20, ½ watt (200 resistors), 1 card each with values of: 10 ohms, 15, 22, 33, 47, 68, 100, 150, 220, 330, 470, 680, 1000, 1500, 2200, 3300, 4700, 6800, 10K, 15K, 22K, 33K, 47K, 68K, 150K, 220K, 330K, 1.5 meg., 2.2 meg., 3.3 meg., 4.7 meg., 6.8 meg. and 10 meg., and 2 cards each of 100K, 470K and 1 meg.

Code MRC25, 1 watt (200 resistors), the same values and quantities as MRC 20 assortment.

Code MRC 30, 2 watt (150 resistors), 1 card each with values of: 10 ohms, 15, 22, 47, 68, 100, 150, 220, 330, 470, 680, 1000, 1500, 2200, 3300, 4700, 6800, 10K, 15K, 22K, 33K, 47K, 68K, 100K, 150K, 220K, 330K, 470K, 680K, and 1 meg.

Kindly order by quantity and code number.

BULK PACKAGE TYPE M

Conveniently packaged in 50 per box in bulk. When ordering, specify quantity, resistance, tolerance and type of wattage.

CARD MOUNTED TYPE MR

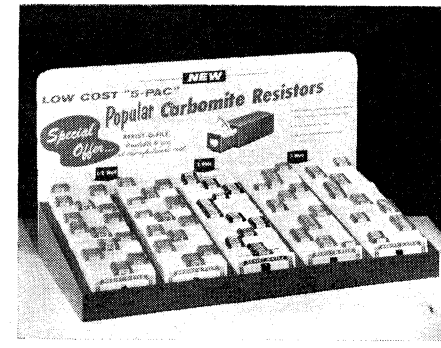
Five Type M resistors of one resistance, type and tolerance are mounted on a 3 x 5 index card, 10 cards per package. When ordering specify quantity, resistance, tolerance and type or wattage.

Type		List Price per Card 10% Tol.
MR20	(½ watt) per 5-Pac card	$0.85
MR25	(1 watt) per 5-Pac card	1.25
MR30	(2 watt) per 5-Pac card	1.65

Order out a trial set from your Electonic Parts Distibutor.

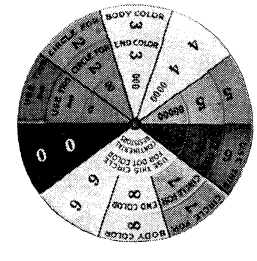
POPULAR 5-PAC DISPLAY

10% Carbomite Resistors



To facilitate stocking the numerous popular values of resistors, Continental offers the last word in a handy visual self-serve inventory stock. Each card is identified with a color coded file tab showing type, value and rating. A metal cabinet is available to house a selection of up to 40 cards.

COLOR CODE INDICATOR



Resistor values easily read with circular slide chart. Band identification printed on back.

Price $0.20

All package arrangements are available from your local distributor exclusively.

CONTINENTAL CARBON, INC.

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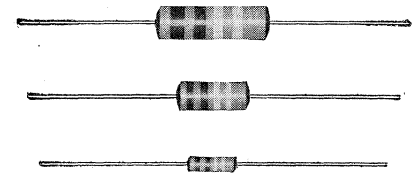
WIRE WOUND RESISTORS

LOW POWER

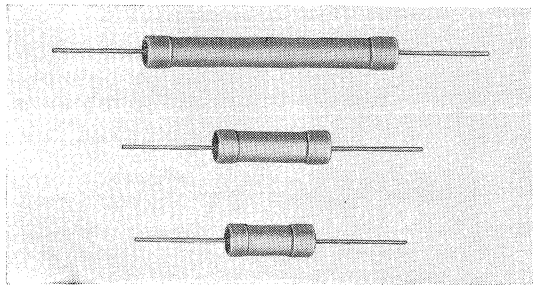
Resistance Wire Molded in Bakelite

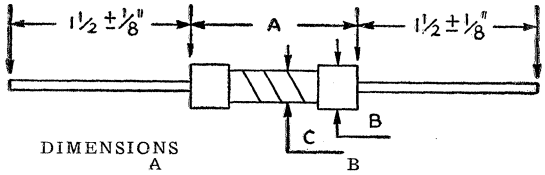
Axial Lead — Insulated **Color Coded — RETMA Standard**

For low power application. Composed with a minimum of .0015 inch wire that is wound automatically for true parallel winding to prevent shorting at turns. Terminals are securely bonded to permanent connections to the winding. They are moisture resistant and recommended for circuits requiring very low resistance, which is not ordinarily available in the carbon style.



Type	Wattage	Resistance Range	List Price 5% Tol.	List Price 10% Tol.
WM 10	1/3 watt	.47 ohms to 10 ohms	$0.30	$0.25
WM 20	1/2 watt	.47 ohms to 10 ohms	.33	.28
WM 25	1 watt	.47 ohms to 10 ohms	.40	.35





DIMENSIONS

	A	B		C
*CF 10	1/2"	1/16"	3/32"	.010	.062
CF 15	9/16"	1/16"	5/32"	.010	.125
CF 20	11/16"	1/16"	9/32"	.010	.250
CF 25	15/16"	1/16"	9/32"	.010	.250
CF 30	2 1/16"	1/16"	9/32"	.010	.250

* No. 22 AWG Tinned Copper Leads, all others No. 20 AWG.

CARBON FILM RESISTORS

Standard 1% Tolerance

(2% and 5% Tolerances Available)

A low cost precision resistor, highly recommended for test equipment, meters, hi-frequency circuits, etc. Design and construction features a layer of pure carbon particles deposited on a ceramic rod. Silver plated end caps are expansion fitted over silver contact bands for good electrical and positive contact. The terminals will withstand a 5 pound pull test. Tinned copper leads are securely riveted to caps.

Type	Rating Watts	Continuous D.C. Volts	Resistance Min.	Resistance Max.
CF 10	1/4	300	5	1 Meg
CF 15	1/2	350	10	2 Meg
CF 20	1/2	350	10	3 Meg
CF 25	1	500	10	5 Meg
CF 30	2	1000	30	10 Meg

ELECTRICAL CHARACTERISTICS

	CF10	CF15	CF20	CF25	CF30
*Rated Load, 95% R.H., 250 hours, % change	3	3	3	3	3
*Rated Load, 40° C Ambient, 1000 hours, % change	1	1	1	1	1
*Temperature Cycling, % change	1	1	.5	.5	.5
*Low Temperature Exposure, % change	.5	.5	.5	.5	.5
*Short Time Overload, % change	.3	.3	.3	.3	.3
*Effect of Soldering, % change	.1	.1	.1	.1	.1

*TEST METHOD per MIL-R-10509

In ordering kindly specify Tolerance, Type and full details relative to insulation characteristics desired.

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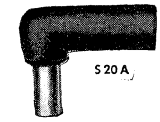
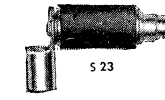
SUPPRESSORS

AUTO RADIO AND OIL BURNER

S19

S 21


S 20 A


S 23

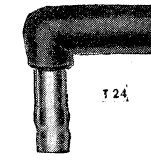
CONTINENTAL SUPPRESSORS have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and high-tension distributor—yet do not in any way affect the motor car ignition system.

They have mechanical strength to stand the most severe service. The resistance value of 10,000 ohms has been scientifically determined. Sparking across the terminals is eliminated by careful shaping of the electrodes and cases.

The S-19, S-21 and S-23 Suppressors are equipped with a removable terminal nut for spade type mountings.

SPARK PLUG SUPPRESSORS	List Price
S-19, S-21 and S-23	each $0.30
S-20A	each .35

C 11

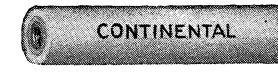

T 24

DISTRIBUTOR SUPPRESSORS	List Price
C-11	each $0.30
T-24	each .35

OIL BURNER SUPPRESSORS

OB15

OB15A



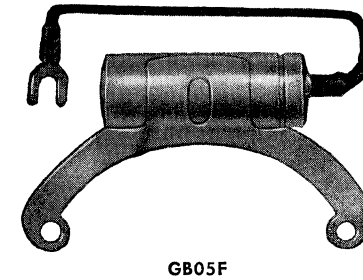
OB15B

Type	List Price
OB15 with Rajah Terminal	$1.80
OB15A	1.40
OB15B	1.40
OB15C	1.40

OB15C

GENERATOR CONDENSERS

GB05


GB05F

Type	Application	Capacity	Size	List Price
GB025	Generator and Coil	.25 mfd.	2⅛" x ¾"	$0.60
GB05	Generator and Coil	.5 mfd.	2⅛" x ¾"	.75
GB05F	Ford V-8 Coil 1936 Models	.5 mfd.	2⅛" x ¾"	1.00

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THERMISTORS

Victory Engineering Corporation

Union, New Jersey

VECO T. M.

Manufacturers of THERMISTORS and VARISTORS

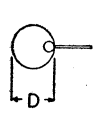
VECO Code No.	Resistance at 25° C	Fig. Type	Approx. Dim. "D"	Approx. Res. Ratio 0°C to 50°C	List Price
05E1	5 ± 10%	B	1.0	6.95	2.15
11E1	10 ± 10%	B	1.0	6.95	2.10
11X1‡	10 ± 10%	F	.770	6.95	2.10
12X1‡	16 ± 10%	F	.625	6.95	3.35
13E1	25 ± 10%	B	1.0	6.95	2.10
13X3‡	31.5 ± 10%	F	.770	6.95	2.50
14X2‡	38 ± 10%	F	.770	6.95	2.50
15D1	50 ± 10%	B	1.0	9.1	2.15
21E2	100 ± 10%	B	.4	6.95	2.00
21W1‡	100 ± 10%	F	.770	9.1	2.10
21W4‡	130 ± 10%	F	.770	9.1	2.15
21W5‡	100 ± 5%	E	1.25	9.1	8.30
22W2‡	180 ± 10%	F	.770	9.1	2.15
22X1‡	150 ± 10%	F	.215	6.95	3.25
23D7	295 ± 10%	B	.4	9.1	2.10
23E3	310 ± 10%	D	.2	6.95	2.75
23W1‡	315 ± 10%	F	.770	9.1	2.10
24W1‡	415 ± 10%	F	.770	9.1	2.10
25E2	500 ± 10%	B	.1	6.95	2.90
26A2	528 ± 20.5%	H	.088	5.6	4.60
28D1	760 ± 5%	E	.4	9.1	8.00
28D3	760 ± 5%	B	.4	9.1	4.30
31A1	1250 ± 30%	H	.014	5.6	2.90
31A2	1000 ± 20%	J	.043	7.3	3.75
31A3	1000 ± 20%	H	.043	7.3	3.75
31A6	1000 ± 20%	K	2.0	7.3	4.60
31A11	1000 ± 20%	K	.5	7.3	4.60
31D3	1000 ± 10%	B	.4	9.1	2.10
31D4	1000 ± 10%	D	.2	9.1	2.10
31D7	1200 ± 10%	D	.2	9.1	2.00
31D10	1000 ± 10%	B	.2	9.1	2.10
31W1‡	1100 ± 10%	F	.215	9.1	3.25
32A1	2000 ± 20%	K	2.0	7.3	2.85
32A11	2000 ± 20%	K	.5	7.3	3.10
32A12	2,000 ± 20%	J	.043	7.3	2.70
32A13	2,000 ± 20%	H	.043	7.3	2.70
32A16*	2,000 ± 20%	L	1.0	7.3	20.00
32A24	2,000 ± 10%	K	2.0	7.3	4.85
32A48	2,000 ± 25%	H	.014	5.6	3.35
33A3*	2,800 ± 25%	L	.15	5.8	15.80
33D2	3,000 ± 10%	D	.2	9.1	2.10
33S1	3,150 ± 10%	U	.875	7.1	2.10
34A1	3,500 ± 15%	J	.014	7.3	5.40
34A2	3,500 ± 15%	H	.014	7.3	5.40
34A3	3,500 ± 30%	K	2.0	7.3	2.90
35A1	5,000 ± 20%	J	.043	7.3	3.70
35A2	5,000 ± 20%	H	.043	7.3	3.75
35A3	5,000 ± 20%	K	2.0	7.3	4.60
35A11	5,000 ± 20%	K	.5	7.3	4.60
35D2	5,000 ± 10%	B	.1	9.1	2.90
36S1	6,300 ± 10%	U	.875	7.1	2.10
37A1	7,000 ± 20%	L	.438	7.3	5.00
37A3*	7,000 ± 20%	H	.023	7.3	7.95
38C1	8,000 ± 20%	J	.014	7.3	3.75
38C2	8,000 ± 20%	H	.014	7.3	3.75
38S1	8,000 ± 10%	U	.875	7.1	2.10
41A1	10,000 ± 20%	K	2.0	7.5	4.60
41A2	10,000 ± 20%	J	.043	7.5	3.75
41A3	10,000 ± 20%	H	.043	7.5	3.75
41A11	10,000 ± 20%	K	.5	7.5	4.60
41D2	10,000 ± 10%	B	.1	9.1	2.90
41R1	10,000 ± 10%	U	.5	9.1	2.10
41S1	10,000 ± 10%	U	1.625	7.1	2.10
42A2*	15,000 ± 16%	L	.15	7.5	17.50
43A1	30,000 ± 25%	J	.014	7.5	4.15
43A2	30,000 ± 25%	H	.014	7.5	4.15
43A3	30,000 ± 20%	K	2.0	7.5	4.60
43A4	30,000 ± 20%	J	.043	7.5	3.75
43A5	30,000 ± 20%	H	.043	7.5	3.75
43A11	30,000 ± 20%	K	.5	7.5	4.60
43R1	31,500 ± 10%	U	.875	9.1	2.10
44A1	35,000 ± 25%	N	1.25	4.5	2.10
45A1	50,000 ± 20%	K	2.0	9.1	4.60
45A2	50,000 ± 20%	J	.043	9.1	3.75
45A11	50,000 ± 20%	K	.5	9.1	4.60
45B2	50,000 ± 40%	N	1.25	9.1	3.00
45B7	50,000 ± 20%	H	.026	9.1	3.75
45R1	50,000 ± 10%	U	1.0	9.1	2.10
46A2	60,500 ± 29%	N	1.25	4.5	2.50
47A1	71,000 ± 30%	J	.039	9.5	3.25
49A1	85,000 ± 25%	N	1.25	4.5	2.10
51A1	100,000 ± 15%	K	2.0	10.3	2.85
51A2	100,000 ± 15%	J	.043	10.3	2.65
51A3	100,000 ± 15%	H	.043	10.3	2.65
51A11	100,000 ± 15%	K	.5	10.3	3.10
51R1	100,000 ± 10%	U	1.625	9.1	2.10
51R2	100,000 ± 10%	R	.5	9.1	2.50
52A1	170,000 ± 50%	J	.043	10.4	1.65
55A1	500,000 ± 20%	K	2.0	11.5	5.00
55A2	500,000 ± 20%	J	.043	11.5	4.15
55A3	500,000 ± 20%	H	.043	11.5	4.15
55A11	500,000 ± 20%	K	.5	11.5	5.00
61A1	1 Meg ± 25%	K	2.0	14.0	5.00
61A2	1 Meg ± 25%	J	.043	14.0	4.15
61A3	1 Meg ± 25%	H	.043	14.0	4.15
61A11	1 Meg ± 25%	K	.5	14.0	5.00
65A1	5.4 Meg ± 32%	P	1.5	17.0	6.00
71A2	12 Meg ± 20%	L	.438	20.0	6.00
A819	Stainless Steel packing gland for standard probes, Neoprene sealant. Fig. Y				4.00
A820	Stainless Steel packing gland for standard probes, Lava sealant. Fig. Y				5.00

NOTES

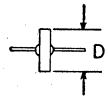
All probe diameters are 0.1" max.

* Indicates indirectly heated type.

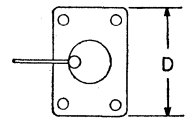
‡ If desired, mounting hardware available.



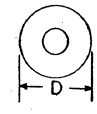
DISC
FIG. B



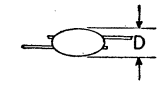
DISC
FIG. D



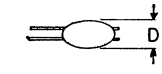
DISC ON PLATE
FIG. E



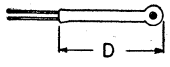
WASHER
FIG. F



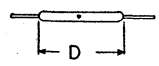
BEAD
FIG. H



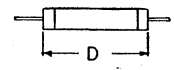
BEAD
FIG. J



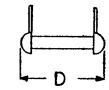
PROBE
FIG. K



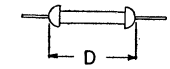
GLASS ROD
FIG. L



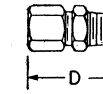
CARTRIDGE
FIG. N



ROD
FIG. R



ROD
FIG. U



PACKING GLAND
FIG. Y

EXPERIMENTOR'S KITS

Designed to acquaint the experimentor, technician, engineer, designer, etc., with a variety of VECO thermistor and varistor applications.

Net Price $5.00

M-168 EXPERIMENTOR'S KIT INCLUDES:

- 2 - Bead thermistors
- 2 - Washer thermistors
- 2 - Disc thermistors with leads
- 1 - Washer varistor
- 1 - Form showing typical circuitry
- 1 - Form showing specific characteristics of units in kit

Net Price $10.00

M-168A EXPERIMENTOR'S DELUXE KIT INCLUDES:

- 2 - Bead thermistors
- 2 - Washer thermistors
- 2 - Disc thermistors with leads
- 1 - Rod thermistor
- 1 - Probe thermistor
- 2 - Washer varistors
- 1 - Form showing typical circuitry
- 1 - Form showing specific characteristics of units in kit
- 1 - Set, miscellaneous mounting hardware

Victory Engineering Corporation operates under Bell System patents on a cross license agreement with Western Electric Company.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

Order your copy of the VECO THERMISTOR AND VARISTOR DATA BOOK containing historical background, technical data, typical circuitry, curves, and other valuable information. Price $1.00.

Complete TECHNICAL CATALOG OF VECO PRODUCTS available upon request from your jobber.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

VITREOUS ENAMELED RHEOSTATS

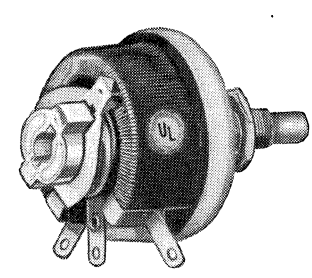
CLOSE CONTROL RHEOSTATS

Underwriters' Laboratories Reexamination Service Listed

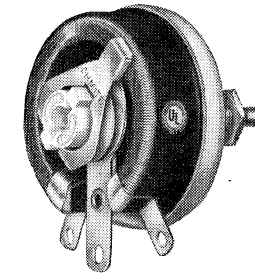
For many years the Ohmite line of ten wirewound, vitreous enameled rheostats, ranging from 25 to 1000 watts in size, has been the most extensive available to industry. Six of the most popular sizes have been carried in stock by Ohmite Distributors and at our factory. Now, the other four sizes, the Model G, 75 watts; Model P, 225 watts; Model T, 750 watts; and the Model U, 1000 watts are available from stock, thus making the entire line of ten sizes quickly obtainable for design and production needs and for emergencies.

FEATURES OF CONSTRUCTION: Ohmite rheostats are designed to produce permanently smooth, close control. The construction is all ceramic and metal; there is nothing to smoke, char, shrink, or shift. All models have insulated shafts with provision to keep the rheostat from turning on the panel. The resistance wire is wound over a solid ceramic core. Each turn is a separate resistance step and is locked against shifting by vitreous enamel. The core and base are also bonded by vitreous enamel. The pivoted universal-action-mounted contact brush is of copper-graphite or silver-graphite on the heavier current rheostats. It rides upon a large flat surface and assures perfect contact without wear on the wire. Pressure at the contact and at the center lead are independent. The construction is patented under U. S. Patent No. 1,942,495 and Re-issue 19607; other patents pending. Ohmite Rheostat Models H, J, K, L, and N, all marked Series A, are listed under the Underwriters' Laboratories Reexamination Service.

RATING: The current carrying capacities shown in the tables are for use in *free air;* when units are enclosed, these currents should be reduced possibly as much as 30% to 50%, depending upon the degree of ventilation. The rated current will cause the rheostat to dissipate its rated wattage when the full resistance is in the circuit.



Model "H"



Models "J", "G" and "K"

MODEL "H", Series A — 25 WATT

Diameter 1 9/16"—Depth behind panel 1 3/8"—Shaft 1/4" diameter. Rotation 295°—Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex. Nut—Non-turn lug requires 3/16" hole 1/2" below center of shaft—Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
0140	1	5.000	$7.70	0152	125	.445	$6.85
0141	2	3.540	6.85	0153	175	.375	6.85
0142	3	2.880	6.85	0154	250	.316	6.85
0143	6	2.040	6.85	0155	350	.267	6.85
0144	8	1.770	6.85	0156	500	.222	6.85
0145	10	1.580	6.85	0157	750	.182	6.85
0146	15	1.290	6.85	0158	1,000	.155	7.70
0147	25	1.000	6.85	0159	1,500	.129	7.70
0148	35	.845	6.85	0160	2,500	.100	7.70
0149	50	.707	6.85	0161	3,500	.084	8.10
0150	75	.575	6.85	0162	5,000	.070	8.10
0151	100	.500	6.85				

MODEL "J", Series A — 50 WATT

Diameter 2 5/16"—Depth behind panel 1 3/8"—Shaft 1/4" Diameter. Rotation 300°—Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex Nut—Non-turn lug requires 3/16" hole 1/2" below center of shaft—Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
0308	0.5	10.000	$8.60	0321	150	.575	$7.70
0309	1	7.070	8.60	0322	225	.470	7.70
0310	2	5.000	8.60	0323	300	.408	7.70
0311	4	3.530	7.70	0324	500	.316	7.70
0312	6	2.880	7.70	0325	800	.250	8.10
0313	8	2.500	7.70	0326	1,000	.224	8.10
0314	12	2.040	7.70	0327	1,600	.176	8.10
0315	16	1.760	7.70	0328	2,500	.141	8.10
0316	22	1.500	7.70	0329	3,500	.119	8.60
0317	35	1.190	7.70	0330	5,000	.100	8.60
0318	50	1.000	7.70	0331	8,000	.079	8.60
0319	80	.790	7.70	0332	10,000	.070	8.60
0320	125	.630	7.70				

MODEL "G" — 75 WATT

Diameter 2 3/4"—Depth behind panel 1 3/4"—Shaft 1/4" Diameter. Rotation 300°—Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex. Nut—Non-turn lug requires 3/16" hole 1/2" below center of shaft—Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
1100	0.5	12.300	$11.60	1112	200	.612	$10.70
1101	1	8.660	11.60	1113	300	.500	10.70
1102	2	6.120	11.60	1114	400	.433	10.70
1103	3	5.000	11.60	1115	500	.388	10.70
1104	5	3.880	10.70	1116	750	.316	11.60
1105	7.5	3.160	10.70	1117	1,000	.274	11.60
1106	10	2.740	10.70	1118	1,500	.224	11.60
1107	16	2.170	10.70	1119	2,000	.194	11.60
1108	25	1.730	10.70	1120	2,500	.173	11.60
1109	50	1.230	10.70	1121	5,000	.123	12.40
1110	75	1.000	10.70	1122	7,500	.100	13.30
1111	100	.866	10.70	1123	10,000	.087	13.30

MODEL "K", Series A — 100 WATT

Diameter 3 1/8"—Depth behind panel 1 3/4"—Shaft 1/4" Diameter. Rotation 300°—Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex. Nut—Non-turn lug requires 3/16" hole 1/2" below center of shaft—Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
0440	0.5	14.100	$12.90	0452	200	.707	$12.05
0441	1	10.000	12.90	0453	300	.575	12.05
0442	2	7.070	12.90	0454	400	.500	12.05
0443	3	5.750	12.90	0455	500	.447	12.05
0444	5	4.470	12.90	0456	750	.365	12.05
0445	7.5	3.650	12.05	0457	1,000	.316	12.90
0446	10	3.160	12.05	0458	1,500	.258	12.90
0447	16	2.500	12.05	0459	2,000	.224	12.90
0448	25	2.000	12.05	0460	2,500	.200	12.90
0449	50	1.410	12.05	0461	5,000	.141	13.70
0450	75	1.150	12.05	0462	7,500	.115	14.60
0451	100	1.000	12.05	0463	10,000	.100	15.40

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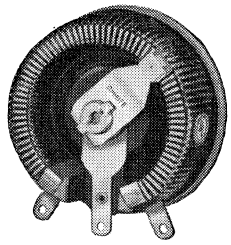
OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

VITREOUS ENAMELED RHEOSTATS



Model "L"

MODEL "L", Series A — 150 WATT

Diameter 4"—Depth behind panel 2"—Shaft 1/4" Diameter. Rotation 300°—Mounting for panels up to 1/4", 3/8"-32 Bushing and Hex. Nut or two 10-32 x 3/4" flat head screws, mounting centers 7/8" each side of center of shaft on line perpendicular to center terminal.—Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
0524	0.5	17.300	**$16.30**	0537	150	1.000	**$15.40**
0525	1	12.300	**16.30**	0538	200	.865	**15.40**
0526	2	8.650	**16.30**	0539	250	.775	**15.40**
0527	3	7.070	**16.30**	0540	350	.655	**15.40**
0528	5	5.480	**16.30**	0541	500	.548	**15.40**
0529	7.5	4.470	**16.30**	0542	750	.447	**16.30**
0530	10	3.880	**15.40**	0543	1,250	.346	**16.30**
0531	15	3.613	**15.40**	0544	1,800	.288	**17.20**
0532	25	2.450	**15.40**	0545	2,250	.259	**17.20**
0533	35	2.070	**15.40**	0546	3,000	.224	**17.20**
0534	50	1.735	**15.40**	0547	4,500	.182	**18.00**
0535	75	1.415	**15.40**	0548	7,500	.141	**18.90**
0536	100	1.225	**15.40**	0549	10,000	.122	**20.60**

MODEL "P" — 225 WATT

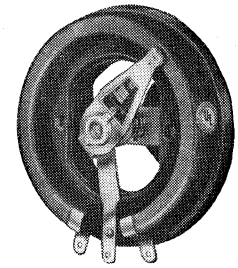
Diameter 5"—Depth behind panel 2 1/8"—Shaft 3/8" Diameter. Rotation 310°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 7/8" each side of center of shaft on center line of cross-bar.—Sotck No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
1250	1	15.000	**$21.40**	1261	100	1.500	**$21.40**
1251	2	10.600	**21.40**	1262	150	1.220	**21.40**
1252	3	8.660	**21.40**	1263	200	1.060	**21.40**
1253	4	7.500	**21.40**	1264	300	.866	**21.40**
1254	5	6.710	**21.40**	1265	400	.750	**21.40**
1255	7.5	5.490	**21.40**	1266	700	.567	**21.40**
1256	10	4.740	**21.40**	1267	900	.500	**21.40**
1257	15	3.870	**21.40**	1268	1,200	.433	**21.40**
1258	25	3.000	**21.40**	1269	1,500	.387	**21.40**
1259	50	2.120	**21.40**	1270	1,750	.358	**21.40**
1260	75	1.730	**21.40**	1271	2,500	.300	**21.40**

MODEL "N", Series A — 300 WATT

Diameter 6"—Depth behind panel 2 3/8"—Shaft 3/8" Diameter. Rotation 315°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 1 3/16" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
0650	1	17.320	**$23.20**	0661	100	1.730	**$23.20**
0651	2	12.240	**23.20**	0662	150	1.410	**23.20**
0652	3	10.000	**23.20**	0663	200	1.220	**23.20**
0653	4	8.660	**23.20**	0664	300	1.000	**23.20**
0654	5	7.750	**23.20**	0665	400	.866	**23.20**
0655	7.5	6.320	**23.20**	0666	700	.655	**23.20**
0656	10	5.480	**23.20**	0667	900	.578	**23.20**
0657	15	4.470	**23.20**	0668	1,200	.500	**23.20**
0658	25	3.460	**23.20**	0669	1,500	.447	**23.20**
0659	50	2.450	**23.20**	0670	1,750	.414	**23.20**
0660	75	2.000	**23.20**	0671	2,500	.346	**23.20**



Models "N" and "R"
("P", "T" and "U" Similar)

MODEL "R" — 500 WATT

Diameter 8"—Depth behind panel 2 1/8"—Shaft 3/8" Diameter. Rotation 325°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 1 1/2" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
0849	1.0	22.300	**$33.50**	0872	50	3.160	**$33.50**
0850	1.5	18.200	**33.50**	0861	80	2.520	**33.50**
0851	2	15.800	**33.50**	0862	125	2.000	**33.50**
0852	2.5	14.100	**33.50**	0863	175	1.690	**33.50**
0853	3	12.900	**33.50**	0864	250	1.410	**33.50**
0854	4	11.200	**33.50**	0865	325	1.240	**33.50**
0855	5	10.000	**33.50**	0866	500	1.000	**33.50**
0856	8	7.900	**33.50**	0867	750	.817	**33.50**
0857	12.5	6.300	**33.50**	0868	1,000	.707	**33.50**
0858	16	5.600	**33.50**	0869	1,500	.577	**33.50**
0859	25	4.470	**33.50**	0870	2,000	.500	**33.50**
0860	40	3.540	**33.50**	0871	2,500	.447	**33.50**

MODEL "T" — 750 WATT

Diameter 10"—Depth behind panel 3"—Shaft 3/8" Diameter. Rotation 330°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 1 7/8" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
1300	1	27.400	**$47.30**	1312	50	3.870	**$47.30**
1301	1.5	22.300	**47.30**	1313	80	3.060	**47.30**
1302	2	19.400	**47.30**	1314	100	2.740	**47.30**
1303	2.5	17.300	**47.30**	1315	160	2.170	**47.30**
1304	3	15.800	**47.30**	1316	200	1.940	**47.30**
1305	4	13.600	**47.30**	1317	300	1.580	**47.30**
1306	5	12.200	**47.30**	1318	400	1.370	**47.30**
1307	8	9.650	**47.30**	1319	600	1.117	**47.30**
1308	10	8.650	**47.30**	1320	750	1.000	**47.30**
1309	12.5	7.750	**47.30**	1321	1,200	.791	**47.30**
1310	16	6.820	**47.30**	1322	1,800	.646	**47.30**
1311	25	5.470	**47.30**	1323	2,500	.547	**47.30**

MODEL "U" — 1000 WATT

Diameter 12" — Depth behind panel 3" — Shaft 3/8" Diameter. Rotation 335°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 3" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	List Price	Stock No.	Total Ohms	Max. Amps.	List Price
1450	1	31.600	**$55.25**	1462	50	4.470	**$55.25**
1451	1.5	25.800	**55.25**	1463	75	3.650	**55.25**
1452	2	22.400	**55.25**	1464	100	3.160	**55.25**
1453	2.5	20.000	**55.25**	1465	175	2.390	**55.25**
1454	3	18.300	**55.25**	1466	225	2.110	**55.25**
1455	4	15.800	**55.25**	1467	300	1.830	**55.25**
1456	5	14.100	**55.25**	1468	400	1.580	**55.25**
1457	8	11.200	**55.25**	1469	500	1.410	**55.25**
1458	10	10.000	**55.25**	1470	750	1.150	**55.25**
1459	12.5	8.950	**55.25**	1471	1,000	1.000	**55.25**
1460	16	7.900	**55.25**	1472	1,500	.816	**55.25**
1461	25	6.330	**55.25**	1473	2,500	.633	**55.25**

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE® STOCK AXIAL-LEAD RESISTORS

Ohmite axial-lead, vitreous-enameled resistors are compact, wire-wound units available in *three stock sizes:* 3-Watt ($\frac{9}{16}$" x ¼"), 5-Watt (1" x $\frac{11}{32}$"), and 10-watt (1¾" x $\frac{13}{32}$") . . . The resistance wire and terminal lead are both welded to the end cap, utilizing the patented Ohmite welding technique. All have 1½" tinned wire leads, are simple to mount, and occupy small space.

Axial-lead resistors are especially suited for printed circuits, terminal board, and point-to-point wiring applications.

The standard resistance tolerance is ±5%, 50 ohms and higher; tolerance below 50 ohms is ±10%.

Ohms	Ohms	Ohms	Ohms
1.0	125	1,200	9,000
1.5	150	1,250	10,000
2.0	200	1,500	†11,000
3.0	225	1,750	†12,000
4.0	250	2,000	*12,500
5.0	300	2,250	†13,500
7.5	350	2,500	*15,000
10	400	3,000	†16,000
12	450	3,500	*17,500
15	500	4,000	*18,000
20	600	4,500	*20,000
25	700	5,000	*22,500
30	750	6,000	*25,000
35	800	7,000	†30,000
40	900	7,500	†35,000
50	1,000	8,000	†40,000
75	1,100	†8,500	†45,000
100			†50,000

*5 and 10-watt size only.
†10-watt size only.

3-WATT SIZE

List Price, 1 thru 1,000 ohms.....**$0.85**
List Price, 1,100 thru 5,000 ohms..... **.90**
List Price, 6,000 thru 10,000 ohms..... **.95**

5-WATT SIZE

List Price, 1 thru 1,000 ohms.....**$0.90**
List Price, 1,100 thru 5,000 ohms..... **.95**
List Price, 6,000 thru 10,000 ohms..... **1.00**
List Price, 12,500 thru 20,000 ohms..... **1.20**
List Price, 22,500 and 25,000 ohms..... **1.25**

10-WATT SIZE

List Price, 1 thru 1,000 ohms.....**$1.00**
List Price, 1,100 thru 5,000 ohms..... **1.05**
List Price, 6,000 thru 10,000 ohms..... **1.20**
List Price, 11,000 thru 20,000 ohms..... **1.35**
List Price, 22,500 thru 40,000 ohms..... **1.40**
List Price, 45,000 and 50,000 ohms..... **1.60**

Popular OHMITE "BROWN DEVIL"® RESISTORS

5 Watt—1" x 5/16" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
1	2,236	200	158	2,250	46
1.5	1,820	225	149	2,500	44
2	1,580	250	141	3,000	39
3	1,290	300	129	3,500	36
4	1,120	350	120	4,000	33
5	1,000	400	112	4,500	31
7.5	818	450	105	5,000	29
10	707	500	100	6,000	26
12	645	600	91	7,000	24
15	575	700	84	7,500	22
20	500	750	81	8,000	21
25	447	800	79	9,000	19
30	408	900	74	10,000	18
35	378	1,000	70	12,500	15
40	353	1,100	67	15,000	13
50	316	1,200	64	17,500	12
75	258	1,250	63	20,000	11
100	224	1,500	57	22,500	10
125	200	1,750	53	25,000	9
150	182	2,000	46		

List Price, 1 thru 1,000 ohms.....**$0.75**
List Price, 1,100 thru 5,000 ohms..... **.80**
List Price, 6,000 thru 10,000 ohms..... **.85**
List Price, 12,500 and 15,000 ohms..... **.90**
List Price, 17,500 and 20,000 ohms..... **.95**
List Price, 22,500 and 25,000 ohms..... **1.00**

10 Watt—1¾" x 5/16" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
1	3,160	350	169	6,000	38
2	2,235	400	158	7,000	34
3	1,825	450	149	7,500	32
4	1,580	500	141	8,000	31
5	1,414	600	129	8,500	29
7.5	1,155	700	119	10,000	26
10	1,000	750	115	11,000	24
12	910	800	111	12,000	23
15	816	900	105	12,500	22
20	707	1,000	100	13,500	21
25	632	1,100	95	14,300	20
30	575	1,200	91	15,000	19
35	535	1,250	89	16,000	18
40	500	1,500	79	17,500	17
50	447	1,750	74	18,000	17
75	365	2,000	69	20,000	16
100	316	2,250	64	22,500	15
125	283	2,500	63	25,000	14
150	258	3,000	56	30,000	12
200	223	3,500	51	35,000	10
225	217	4,000	47	40,000	9
250	200	4,500	45	45,000	8
300	182	5,000	43	50,000	7

List Price, 1 thru 1,000 ohms.....**$0.80**
List Price, 1,100 thru 5,000 ohms..... **.90**
List Price, 6,000 thru 10,000 ohms..... **1.00**
List Price, 11,000 thru 20,000 ohms..... **1.10**
List Price, 22,500 & 25,000 ohms..... **1.20**
List Price, 30,000 thru 50,000 ohms..... **1.35**

WITH WELDED TERMINALS

High quality, small size, wire-wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-ceramic, vitreous enameled. These all-welded construction units have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world —prove their complete reliability and economy. All units can be conveniently mounted by means of their 1½" tinned wire leads.

20 Watt—2" x 7/16" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
5	2,000	1,250	126	12,500	35
10	1,414	1,500	115	15,000	30
25	894	1,750	107	20,000	24
50	632	1,850	104	25,000	20
75	516	2,000	100	30,000	17
100	447	2,250	94	35,000	15
150	365	2,400	91	40,000	14
200	316	2,500	89	45,000	13
250	283	2,750	85	50,000	12
300	258	3,000	81	55,000	10
350	239	3,500	75	60,000	9
400	223	4,000	70	65,000	8
500	200	4,500	66	70,000	7
650	175	5,000	63	75,000	7
700	169	6,000	57	80,000	7
750	163	7,000	53	85,000	6
800	158	7,500	51	90,000	6
850	153	8,000	50	95,000	6
1,000	141	9,000	47	100,000	6
1,200	129	10,000	43		

List Price, 5 thru 1,000 ohms.....**$1.05**
List Price, 1,200 thru 5,000 ohms..... **1.10**
List Price, 6,000 thru 10,000 ohms..... **1.20**
List Price, 12,500 thru 20,000 ohms..... **1.30**
List Price, 25,000 thru 40,000 ohms..... **1.50**
List Price, 45,000 thru 60,000 ohms..... **1.75**
List Price, 65,000 thru 80,000 ohms..... **2.00**
List Price, 85,000 thru 100,000 ohms.... **2.30**

10 WATT DIVIDOHM® ADJUSTABLE RESISTORS

Core Size 1¾"x$\frac{5}{16}$" Mounting Centers 2¼"

Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
1	3,150	1001	75	365	1011
2	2,235	1002	100	316	1012
3	1,825	1003	150	258	1013
5	1,415	1004	200	223	1014
7.5	1,155	1005	250	200	1015
10	1,000	1006	300	182	1016
15	816	1007	350	169	1017
20	707	1008	400	158	1018
25	632	1009	500	141	1019
50	447	1010	600	129	1020

Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
750	115	1021	4,000	47	1031
800	111	1022	4,500	45	1032
1,000	100	1023	5,000	43	1033
1,250	89	1024	6,000	38	1034
1,500	79	1025	7,000	34	1035
2,000	69	1026	7,500	33	1036
2,250	64	1027	8,000	31	1037
2,500	63	1028	8,500	29	1038
3,000	56	1029	9,000	28	1039
3,500	51	1030	10,000	26	1040

List Price, 1 thru 1,000 ohms.....**$1.60**
List Price, 1,250 thru 5,000 ohms..... **1.70**
List Price, 6,000 thru 10,000 ohms..... **1.80**

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OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE VITREOUS ENAMELED FIXED AND DIVIDOHM® RESISTORS

25 WATTS

Core Size 2″x$^{9}/_{16}$″ Mounting Centers 2$^{3}/_{4}$″

Res. Ohms	Max. Mils.	Fixed Resist. Stock No.	Fixed Resist. List Price	Adj. Resist. Stock No.	Adj. Resist. List Price
1	5,000	0200J	$1.10	0360	$2.05
2	3,535	0200K	1.10	0360B	2.05
3	2,885	0200L	1.10	0361	2.05
5	2,235	0200A	1.10	0362	2.05
7.5	1,825			0362B	2.05
10	1,580	0200B	1.10	0363	2.05
15	1,290	0200R	1.10	0364	2.05
20	1,117			0364B	2.05
25	1,000	0200C	1.10	0365	2.05
50	707	0200D	1.10	0366	2.05
75	577	0200E	1.10	0367	2.05
100	500	0200F	1.10	0368	2.05
150	408	0200G	1.10	0369	2.05
200	353	0200H	1.10	0370	2.05
250	316	0201	1.10	0371	2.05
300	288			0371B	2.05
400	250			0371C	2.05
500	223	0202	1.10	0372	2.05
750	182	0203	1.10	0373	2.05
800	176	0204	1.10	0374	2.05
1,000	158	0205	1.10	0375	2.05
1,250	141			0375B	2.10
1,500	129	0206	1.15	0376	2.10
2,000	111	0207	1.15	0377	2.10
2,250	105			0377B	2.10
2,500	100	0208	1.15	0378	2.10
3,000	91	0209	1.15	0379	2.10
3,500	84	0210	1.15	0380	2.10
4,000	79	0211	1.15	0381	2.10
4,500	74			0381B	2.10
5,000	70	0212	1.15	0382	2.10
6,000	64	0213	1.25	0383	2.20
7,000	60			0383B	2.20
7,200	59			0383C	2.20
7,500	57	0214	1.25	0384	2.20
8,000	55			0384B	2.20
9,000	52			0384C	2.20
10,000	50	0215	1.25	0385	2.20
12,000	42	0216	1.30	0386	2.30
15,000	34	0217	1.30	0387	2.30
20,000	26	0218	1.30	0388	2.30
25,000	21	0219	1.50	0389	2.50
40,000	14	0222	1.50		
50,000	12	0224	1.70		
100,000	7	0229	2.30		

100 WATTS

Core Size 6$^{1}/_{2}$″x$^{3}/_{4}$″ Mounting Centers 7$^{3}/_{8}$″

Res. Ohms	Max. Mils.	Fixed Resist. Stock No.	Fixed Resist. List Price	Adj. Resist. Stock No.	Adj. Resist. List Price
5	4,470	0600A	$2.65	0956	$3.95
10	3,160	0600B	2.65	0957	3.95
25	2,000	0601	2.65	0958	3.95
50	1,414	0602	2.65	0959	3.95
75	1,153	0603	2.65		
100	1,000	0604	2.65	0960	3.95
150	816	0605	2.65		
250	632	0606	2.65	0960B	3.95
500	447	0607	2.65	0961	3.95
750	365	0608	2.65		
1,000	316	0609	2.65	0962	3.95
1,500	258	0610	2.80	0962B	4.05
2,000	223	0611	2.80		
2,500	200	0612	2.80	0963	4.05
3,000	182	0613	2.80		
5,000	141	0614	2.80	0964	4.05
7,500	115	0615	3.00		
10,000	100	0616	3.00	0965	4.25
15,000	81	0617	3.30	0966	4.50
20,000	70	0618	3.30	0967	4.50
25,000	53	0619	3.50	0968	4.80
30,000	47	0620	3.50	0969	4.80
40,000	36	0621	3.50	0970	4.80
50,000	29	0622	3.70	0971	5.00
60,000	24	0623	3.70		
75,000	19	0624	3.95	0972	5.20
100,000	15	0625	4.20	0973	5.45

50 WATTS

Core Size 4″x$^{9}/_{16}$″ Mounting Centers 4$^{3}/_{4}$″

Res. Ohms	Max. Mils.	Fixed Resist. Stock No.	Fixed Resist. List Price	Adj. Resist. Stock No.	Adj. Resist. List Price
5	3,160	0400A	$1.80	0560	$2.60
10	2,235	0400B	1.80	0561	2.60
25	1,414	0400C	1.80	0562	2.60
50	1,000	0400D	1.80	0563	2.60
75	816	0400E	1.80	0564	2.60
100	707	0400F	1.80	0565	2.60
150	577	0400G	1.80	0566	2.60
200	500	0400H	1.80	0567	2.60
250	447	0401	1.80	0568	2.60
300	408			0568B	2.60
400	353			0568C	2.60
500	316	0402	1.80	0569	2.60
750	258	0403	1.80	0570	2.60
1,000	223	0405	1.80	0572	2.60
1,250	200			0572B	2.70
1,500	182	0406	1.90	0573	2.70
2,000	158	0407	1.90	0574	2.70
2,500	141	0408	1.90	0575	2.70
3,000	129	0409	1.90	0576	2.70
3,500	119			0576B	2.70
4,000	111	0410	1.90	0577	2.70
4,500	105			0577B	2.70
5,000	100	0411	1.90	0578	2.70
6,000	91			0578B	2.90
7,000	84			0578C	2.90
7,500	81	0412	2.10	0579	2.90
8,000	79	0413	2.10	0580	2.90
9,000	74			0580B	2.90
10,000	70	0414	2.10	0581	2.90
12,000	64	0415	2.30	0582	3.10
15,000	57	0416	2.30	0583	3.10
20,000	48	0417	2.30	0584	3.10
25,000	41	0418	2.55	0585	3.40
30,000	36			0586	3.40
35,000	32	0419	2.55		
40,000	28			0587	3.40
50,000	23	0420	2.85	0588	3.60
60,000	19			0589	3.60
75,000	16	0421	3.20		
80,000	15			0590	4.05
100,000	12	0422	3.50	0591	4.30

160 WATTS

Core Size 8$^{1}/_{2}$″x1$^{1}/_{8}$″ Mounting Centers 9$^{3}/_{8}$″

Res. Ohms	Max. Mils.	Fixed Resist. Stock No.	Fixed Resist. List Price	Adj. Resist. Stock No.	Adj. Resist. List Price
5	5,660	0700A	$4.60	1156	$5.85
10	4,000	0700B	3.30	1157	4.55
25	2,530	0701	3.30	1158	4.55
50	1,788	0702	3.30	1159	4.55
75	1,460	0703	3.30		
100	1,265	0704	3.30	1160	4.55
150	1,032	0705	3.30		
250	800	0706	3.30	1160B	4.55
500	566	0707	3.30	1161	4.55
750	462	0708	3.30		
1,000	400	0709	3.30	1162	4.55
1,500	326	0710	3.35	1162B	4.60
2,000	283	0711	3.35		
2,500	253	0712	3.35	1163	4.60
3,000	231	0713	3.35		
5,000	179	0714	3.35	1164	4.60
7,500	146	0715	3.60		
10,000	126	0716	3.60	1165	4.90
15,000	103	0717	3.90	1166	5.15
20,000	89	0718	3.90	1167	5.15
25,000	80	0719	4.00	1168	5.30
30,000	67	0720	4.00	1169	5.30
40,000	50	0721	4.00	1170	5.30
50,000	40	0722	4.15	1171	5.40
60,000	34	0723	4.15		
75,000	27	0724	4.40	1172	5.70
100,000	21	0725	4.70	1173	6.00

These all-welded construction resistors have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. Units are wire-wound on ceramic cores and protected by Ohmite Vitreous Enamel. Furnished with mounting brackets and on DIVIDOHM with one adjustable lug.

75 WATTS

Core Size 6″x$^{9}/_{16}$″ Mounting Centers 6$^{3}/_{4}$″

Adjustable Res. Res. Ohms	Adjustable Res. Max. Mils.	Adjustable Res. Stock No.	Adjustable Res. Res. Ohms	Adjustable Res. Max. Mils.	Adjustable Res. Stock No.
5	3,870	0769	5,000	122	0783
10	2,735	0770	6,000	111	0783B
15	2,236	0771	7,000	103	0783C
25	1,732	0772	7,500	100	0784
50	1,224	0773	8,000	96	0784B
100	866	0774	9,000	91	0784C
200	612	0774B	10,000	86	0785
250	547	0775	12,000	79	0785B
300	500	0775B	15,000	70	0786
400	433	0775C	20,000	61	0787
500	387	0776	25,000	49	0788
750	316	0777	30,000	42	0789
1,000	273	0778	35,000	36	0790
1,250	245	0778B	40,000	32	0791
1,500	223	0779	45,000	29	0792
2,000	193	0780	50,000	26	0793
2,500	173	0781	60,000	22	0794
3,000	158	0781B	80,000	17	0795
3,500	146	0782	100,000	13	0796
4,000	136	0782B			

List Price, 5 thru 1,000 ohms..... **$3.00**
List Price, 1,250 thru 5,000 ohms..... **3.10**
List Price, 6,000 thru 10,000 ohms..... **3.30**
List Price, 12,000 thru 20,000 ohms..... **3.50**
List Price, 25,000 thru 40,000 ohms..... **3.90**
List Price, 45,000 thru 60,000 ohms..... **4.00**
List Price, 80,000 ohms..... **4.40**
List Price, 100,000 ohms..... **4.75**

200 WATTS

Core Size 10$^{1}/_{2}$″x1$^{1}/_{8}$″ Mounting Centers 11$^{3}/_{8}$″

Res. Ohms	Max. Mils.	Fixed Resist. Stock No.	Fixed Resist. List Price	Adj. Resist. Stock No.	Adj. Resist. List Price
5	6,320	0900A	$5.00	1356	$6.25
10	4,470	0900B	3.55	1357	4.80
25	2,828	0901	3.55	1358	4.80
50	2,000	0902	3.55	1359	4.80
75	1,635	0903	3.55		
100	1,414	0904	3.55	1360	4.80
150	1,153	0905	3.55		
250	894	0906	3.55	1360B	4.80
500	632	0907	3.55	1361	4.80
750	516	0908	3.55		
1,000	447	0909	3.55	1362	4.80
1,500	365	0910	3.60	1362B	4.90
2,000	316	0911	3.60		
2,500	283	0912	3.60	1363	4.90
3,000	258	0913	3.60		
5,000	200	0914	3.60	1364	4.90
7,500	163	0915	3.90		
10,000	141	0916	3.90	1365	5.20
15,000	115	0917	4.15	1366	5.40
20,000	100	0918	4.15	1367	5.40
25,000	89	0919	4.30	1368	5.50
30,000	81	0920	4.30	1369	5.50
40,000	61	0921	4.30	1370	5.50
50,000	49	0922	4.40	1371	5.70
60,000	41	0923	4.40		
75,000	33	0924	4.70	1372	5.95
100,000	25	0925	5.00	1373	6.25

ADJUSTABLE LUGS

Bakelite Knob Res. Dia.	Bakelite Knob Stock No.	Bakelite Knob List Price	Screw Driver Type Res. Dia.	Screw Driver Type Stock No.	Screw Driver Type List Price
$^{9}/_{16}$″	0359	$0.40	$^{5}/_{16}$″	1058	$0.30
$^{3}/_{4}$″	1959	.50	$^{9}/_{16}$″	0358	.30
1$^{1}/_{8}$″	2159	.50	$^{3}/_{4}$″	1958	.45
			1$^{1}/_{8}$″	2158	.45

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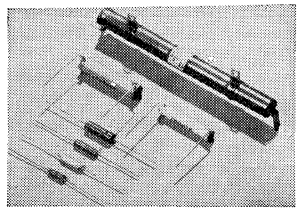
BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE R.F. PLATE CHOKES

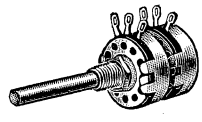


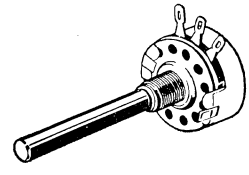
This series of seven Ohmite single layer wound solenoid radio frequency plate chokes covers the entire frequency range of 3 to 520 megacycles. The four highest frequency chokes are wound on low power factor plastic cores while the other three units are wound on steatite tubes. Windings are insulated and protected by a moisture-proof coating. The single layer winding is designed to avoid adverse harmonic effects within the recommended operating range and also prevents breakdown from high r.f. potentials.

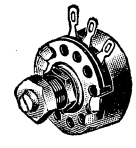
Stock Number	Operating Range Megacycles	Micro-henries	Core Dimensions	List Price
Z-7	3 to 20 Mc.	84.0	6″ x 9/16″	**$2.05**
Z-14	7 to 35 Mc.	44.0	2″ x 7/16″	**.90**
Z-28	20 to 60 Mc.	21.0	1¾″ x 5/16″	**.80**
Z-50	35 to 110 Mc.	7.0	⅞″ x 9/32″	**.50**
Z-144	80 to 200 Mc.	1.8	¾″ x 3/16″	**.50**
Z-235	160 to 350 Mc.	0.84	¾″ x 3/16″	**.50**
Z-460	320 to 520 Mc.	0.20	½″ x 5/32″	**.50**

Non-magnetic Brackets Furnished with Z-7. The Z-14 and Z-28 are rated at 600 ma. All others 1000 ma.

2 WATT MOLDED COMPOSITION POTENTIOMETER – TYPE AB







The Type AB Potentiometer is an exceptionally high quality unit designed especially for industrial, laboratory, radio service and other uses where reliability is particularly important. Because the resistor element is molded, the unit has an exceptionally large safety factor. The power rating of 2 watts is unusual for a unit of such small size. The unit has a very low noise level and low voltage coefficient. It will pass the Army-Navy 200 hour salt spray test, specification AN-QQ-S-91. The single unit is 1-1/16″ diameter and extends 9/16″ behind the panel. The dual unit extends 1-3/16″ behind the panel. The 2″ long round shaft (including the ⅜″ long mounting bushing) is available from stock on potentiometers with all three resistance tapers and on the dual unit. The screwdriver shaft with locking-nut is available from stock on the linear taper units only. A SPST switch, to be attached to the back of the control, can be supplied extra.

Total Resistance ±10% Except as Noted	Resistance Rotation Characteristics (Taper) LINEAR: Type U 2″ Shaft Stock No.	Type LU Locking Shaft Stock No.	Type U Dual Unit Stock No.	Type A Clockwise Log. Stock No.	Type B Counterclock. Log. Stock No.
50 Ohms	CU 5001	CLU 5001			
100 Ohms	CU 1011	CLU 1011			
250 Ohms	CU 2511	CLU 2511			
500 Ohms	CU 5011	CLU 5011			
1,000 Ohms	CU 1021	CLU 1021			
2,500 Ohms	CU 2521	CLU 2521			
5,000 Ohms	CU 5021	CLU 5021			
10,000 Ohms	CU 1031	CLU 1031	CCU 1031		CB 1031
25,000 Ohms	CU 2531	CLU 2531	CCU 2531		CB 2531
50,000 Ohms	CU 5031	CLU 5031	CCU 5031		CB 5031
.10 Meg.	CU 1041	CLU 1041	CCU 1041	CA 1041	
.25 Meg.	CU 2541	CLU 2541	CCU 2541	CA 2541	
.5 Meg.	CU 5041	CLU 5041	CCU 5041	CA 5041	
1.0 Meg. ±20%	CU 1052	CLU 1052	CCU 1052	CA 1052	
2.5 Meg. ±20%	CU 2552	CLU 2552		CA 2552	
5.0 Meg. ±20%	CU 5052	CLU 5052			

Stock No. CU Potentiometer..... **List Price $3.25**
Stock Nos. CA and CB Potentiometer..... **List Price 3.75**
Stock No. CLU Potentiometer..... **List Price 4.25**
Stock No. CCU Dual Potentiometer..... **List Price 9.75**
Stock No. CS-1, Switch only for above unit (supplied unmounted).. **List Price 1.10**

OHMITE "LITTLE DEVIL"® RESISTORS

Ohmite "LITTLE DEVILS" are full ½ watt, 1 watt and 2 watt insulated composition resistors and can be used at their full wattage ratings at 70° C. (158° F.) ambient temperature. They meet requirements of specification MIL-R-11A.

"LITTLE DEVILS" are available from stock with ±5% or ±10% tolerance. The standard RETMA values, 10 ohms to 22 megohms can be furnished. In the 1 watt size, ±10% tolerance values as low as 2.7 ohms are available from stock.

Stocked in RETMA Values ±5% or ±10% Tolerance

(Figures in bold type are ±10% RETMA values. All values except (*) available in ±5% tolerance.)

Ohms	Ohms	Ohms	Ohms	Megs.
*2.7	110	2,400	51,000	1.1
*3.3	**120**	**2,700**	**56,000**	1.2
*3.9	130	3,000	62,000	1.3
*4.7	**150**	**3,300**	**68,000**	1.5
*5.6	160	3,600	75,000	1.6
*6.8	**180**	**3,900**	**82,000**	1.8
*8.2	200	4,300	91,000	2.0
10	**220**	4,700	MEGS	2.2
11	240	5,100	**0.1**	2.4
12	**270**	**5,600**	0.11	2.7
13	300	6,200	**0.12**	3.0
15	**330**	**6,800**	0.13	3.3
16	360	7,500	**0.15**	3.6
18	**390**	**8,200**	0.16	3.9
20	430	9,100	**0.18**	4.3
22	**470**	**10,000**	0.20	4.7
24	510	11,000	**0.22**	5.1
27	**560**	**12,000**	0.24	5.6
30	620	13,000	**0.27**	6.2
33	**680**	**15,000**	0.30	6.8
36	750	16,000	**0.33**	7.5
39	**820**	**18,000**	0.36	8.2
43	910	20,000	**0.39**	9.1
47	**1,000**	**22,000**	0.43	**10.0**
51	1,100	24,000	**0.47**	11.0
56	**1,200**	**27,000**	0.51	**12.0**
62	1,300	30,000	**0.56**	13.0
68	**1,500**	**33,000**	0.62	**15.0**
75	1,600	36,000	**0.68**	16.0
82	**1,800**	**39,000**	0.75	**18.0**
91	2,000	43,000	**0.82**	20.0
100	**2,200**	**47,000**	0.91	**22.0**
			1.0	

*1 Watt Size Only. ±10% tolerance.

	TYPE		
Watt	½	1	2
Size Lgth.	⅜″	9/16″	11/16″
Size Diam.	9/64″	7/32″	5/16″
Max. Volts	350	500	1000
List Price ±10%	**17c**	**25c**	**33c**
List Price ±5%	**33c**	**50c** 10 Ohms & up	**66c**

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

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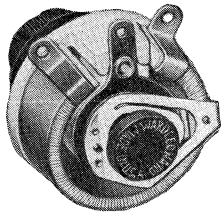
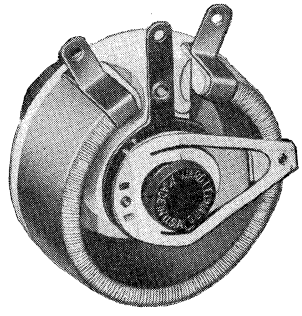
Vitrohm
RING RHEOSTATS

WARD LEONARD



TYPE 25R

TYPE 50R



25-Watt — 50-Watt

The Ward Leonard 25-watt (Type 25R) and 50-watt (Type 50R) Type Rheostats are especially suited for use in electronic and electrical circuits where gradual and positive resistance change is essential. Balanced contact arms, self-lubricating metal graphite contact shoes, and no backlash in the drive shaft combine to assure uniform contact pressure and smooth operation.

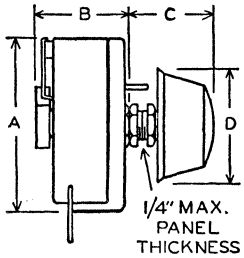
Standard shaft length for back-of-board mounting on ¼" panel.

25 WATTS TYPE 25R
Dimensions: A-1 9/16" B-1⅛" C-1" D-1 3/32"

Current M.A.	Approx. No. of Steps	List Price	Ohms
5000	27	$7.70	1
3540	27	6.85	2
2880	27	6.85	3
*	*	*	4
2040	81	6.85	6
1770	90	6.85	8
1580	90	6.85	10
1280	103	6.85	15
1000	103	6.85	25
840	108	6.85	35
707	137	6.85	50
574	137	6.85	75
500	171	6.85	100
407	171	6.85	150
316	240	6.85	250
267	274	6.85	350
223	308	6.85	500
181	308	6.85	750
158	390	7.70	1000
128	376	7.70	1500
100	520	7.70	2500
84	520	8.10	3500
70	520	8.10	5000
*	*	*	7500
*	*	*	10000

50 WATTS TYPE 50R
Dimensions: A-2 5/16" B-1⅛" C-1" D-1 3/32"

Current M.A.	Approx. No. of Steps	List Price
7070	49	$8.60
5000	49	8.60
*	*	*
3540	59	7.70
2880	108	7.70
2500	113	7.70
2230	150	7.70
1810	150	7.70
1415	188	7.70
1190	119	7.70
1000	188	7.70
812	188	7.70
707	225	7.70
574	225	7.70
447	300	7.70
374	338	7.70
316	375	7.70
256	450	8.10
223	450	8.10
181	570	8.10
141	570	8.10
119	713	8.60
100	713	8.60
81	855	8.60
70	998	8.60



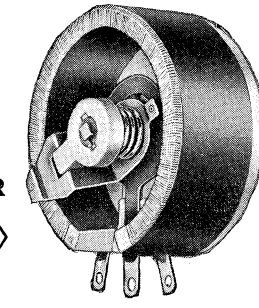
DIMENSION SKETCH

SEE DIMENSIONS HEADING EACH TABLE

The Ring Rheostats shown on this page are standard values and sizes carried in stock at our factory and by our Distributors. Information concerning Rheostats of special construction available on request.

100-Watt — 150-Watt

The Ward Leonard 100-watt (Type 100R) and 150-watt (Type 150R) Ring Type Rheostats are of sturdy construction for electrical applications, such as control of fractional h.p. motors, rectifiers, voltage regulators, and some electronic circuits, such as filament and battery control.



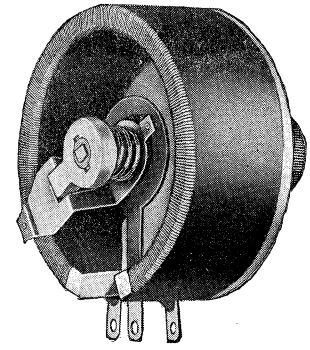
TYPE 100R

100 WATTS TYPE 100R
Dimensions: A-3 5/32" B-1¾" C-1⅛" D-1½"

Current M.A.	Approx. No. of Steps	List Price	Ohms
10000	41	$12.90	1
7070	41	12.90	2
5740	72	12.90	3
4470	82	12.90	5
3640	82	12.05	7.5
3160	72	12.05	10
2560	156	12.05	15
2000	196	12.05	25
1415	274	12.05	50
1150	313	12.05	75
1000	274	12.05	100
707	313	12.05	200
574	353	12.05	300
500	392	12.05	400
447	392	12.05	500
364	464	12.05	750
316	470	12.90	1000
223	595	12.90	2000
200	744	12.90	2500
141	893	13.70	5000
115	893	14.60	7500
100	1041	15.40	10000

150 WATTS TYPE 150R
Dimensions: A-3 13/16" B-2" C-1⅛" D-1½"

Current M.A.	Approx. No. of Steps	List Price
12240	43	$16.30
8660	43	16.30
7070	54	16.30
5470	107	16.30
4470	107	16.30
3870	107	15.40
3160	107	15.40
2440	204	15.40
1730	245	15.40
1415	286	15.40
1224	367	15.40
866	326	15.40
707	408	15.40
612	408	15.40
547	489	15.40
447	489	16.30
387	620	16.30
273	775	17.20
244	775	17.20
173	930	18.90
141	1240	18.90
122	1240	20.60



TYPE 150R

For Correct Current Control Use Ward Leonard

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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Vitrohm RESISTORS

Wire wound resistors, sturdy construction, using low temperature coefficient materials. Coated with Ward Leonard's own crazeless Green Enamel.

WARD LEONARD

5 WATTS — Size—1" x 5/16" — TYPE 5F

Ohms	M.A.	List Price	Ohms	M.A.	List Price	Ohms	M.A.	List Price
1	2230	$0.75	100	223	$0.75	1250	63	$0.80
1.5	1820	.75	125	200	.75	1500	57	.80
2	1580	.75	150	182	.75	1750	53	.80
3	1290	.75	200	158	.75	2000	50	.80
4	1117	.75	250	141	.75	2250	47	.80
5	1000	.75	300	129	.75	2500	45	.80
7.5	811	.75	350	119	.75	3000	40	.80
10	707	.75	400	112	.75	3500	37	.80
12	644	.75	450	105	.75	4000	35	.80
15	577	.75	500	100	.75	4500	33	.80
20	500	.75	600	91	.75	5000	31	.80
25	450	.75	700	84	.75	6000	28	.85
30	408	.75	750	81	.75	7000	26	.85
35	378	.75	800	79	.75	7500	25	.85
40	353	.75	900	74	.75	8000	25	.85
50	316	.75	1000	70	.75	9000	23	.85
75	257	.75	1100	67	.80	10000	22	.85
			1200	64	.80			

10 WATTS — Type 10F–*Fixed* — Type 10A–*Adj.*

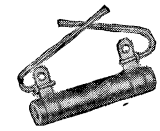
Size—1¾" x 5/16" Mtg. Centers—2⅛"

Ohms	M.A.	List Price Fixed	List Price Adj.	Ohms	M.A.	List Price Fixed	List Price Adj.
1	3160	$0.80	$1.60	1200	91	$0.90	*
1.5	2580	.80	*	1250	89	.90	$1.70
2	2235	.80	1.60	1500	81	.90	1.70
3	1825	.80	1.60	1750	75	.90	*
4	1580	.80	*	2000	70	.90	1.70
5	1415	.80	1.60	2250	66	.90	*
7.5	1155	.80	1.60	2500	63	.90	1.70
10	1000	.80	1.60	3000	58	.90	1.70
12	913	.80	*	3500	53	.90	1.70
15	815	.80	1.60	4000	50	.90	1.70
20	707	.80	1.60	4500	47	.90	1.70
25	630	.80	1.60	5000	45	.90	1.70
30	577	.80	*	6000	41	1.00	1.80
35	534	.80	*	7000	38	1.00	1.80
40	500	.80	*	7500	36	1.00	1.80
50	450	.80	1.60	8000	35	1.00	1.80
75	365	.80	1.60	8500	34	1.00	1.80
100	316	.80	1.60	9000	33	1.00	1.80
125	283	.80	*	10000	32	1.00	1.80
150	258	.80	1.60	11000	30	1.10	*
200	224	.80	1.60	12000	29	1.10	*
225	211	.80	*	12500	28	1.10	*
250	200	.80	1.60	13500	27	1.10	*
300	182	.80	1.60	15000	25.5	1.10	*
350	169	.80	1.60	16000	25	1.10	*
400	158	.80	1.60	17500	24	1.10	*
450	149	.80	*	18000	23	1.10	*
500	142	.80	1.60	20000	22	1.10	*
600	129	.80	1.60	22500	21	1.20	*
700	120	.80	*	25000	20	1.20	*
750	115	.80	1.60	30000	18	1.20	*
800	112	.80	1.60	35000	17	1.20	*
900	105	.80	*	40000	16	1.20	*
1000	100	.80	1.60	45000	15	1.35	*
1100	95	.90	*	50000	14	1.35	*

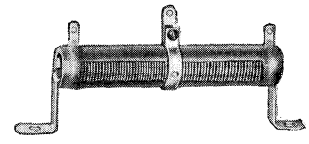
20 WATTS — TYPE 20F

Size—2" x 9/16" Mtg. Centers 2⅝"

Ohms	M.A.	List Price	Ohms	M.A.	List Price	Ohms	M.A.	List Price
1	4480	$1.05	850	153	$1.05	8000	50	$1.20
3	2580	1.05	1000	141	1.05	10000	45	1.20
5	2000	1.05	1200	130	1.10	12500	40	1.30
10	1410	1.05	1250	125	1.10	15000	36	1.30
15	1150	1.05	1500	115	1.10	20000	32	1.30
25	900	1.05	1750	107	1.10	25000	28	1.50
50	630	1.05	1850	104	1.10	30000	26	1.50
75	517	1.05	2000	100	1.10	35000	24	1.50
100	450	1.05	2250	94	1.10	40000	22	1.50
150	365	1.05	2400	91	1.10	45000	21	1.75
175	340	1.05	2500	90	1.10	50000	20	1.75
200	320	1.05	2750	85	1.10	55000	18	1.75
250	285	1.05	3000	81	1.10	60000	16	1.75
300	258	1.05	3500	76	1.10	65000	15	2.00
350	240	1.05	4000	70	1.10	70000	14	2.00
400	224	1.05	4500	67	1.10	75000	13	2.00
500	200	1.05	5000	63	1.10	80000	12	2.00
650	175	1.05	6000	57	1.20	85000	11.5	2.30
700	169	1.05	7000	53	1.20	90000	11	2.30
750	163	1.05	7500	51	1.20	95000	10.5	2.30
800	155	1.05				100000	10	2.30



Types 5F, 10F, and 20F. Furnished with wire terminal leads. Brackets supplied on request.



Type 10A, 25A, 50A, 80A, 100A, 160A, 200A. Furnished with mounting brackets and one adjustable band.

Order by Type Number and Resistance Value.

Asterisks (*) in Tables Indicate that Resistors are not Stock Items.

ADJUSTABLE BANDS

Screw Driver Type

Size of Resistor	Cat. No.	Price
10 Watts	507-685	$0.30
25 Watts	507-686	.30
50 Watts	507-688	.30
80 Watts	507-688	.30
100 Watts	507-690	.45
160 Watts	507-690	.45
200 Watts	507-690	.45

Bakelite Knob Type

25 Watts	507-691	$0.40
50 Watts	507-693	.40
80 Watts	507-693	.40
100 Watts	507-695	.50
160 Watts	507-695	.50
200 Watts	507-695	.50

80 WATTS — TYPE 80A

Size—6½" x ¾" Mtg. Centers—7¼"

Ohms	M.A.	List Price	Ohms	M.A.	List Price
1	8940	$3.90	3000	161	$3.10
2	6320	3.90	3500	151	3.10
3	5160	3.00	4000	141	3.10
4	4470	3.00	4500	133	3.10
5	4000	3.00	5000	126	3.10
10	2830	3.00	6000	115	3.30
15	2310	3.00	7000	107	3.30
25	1790	3.00	7500	103	3.30
50	1260	3.00	8000	100	3.30
75	1030	3.00	9000	94	3.30
100	894	3.00	10000	89	3.30
200	632	3.00	15000	73	3.50
250	565	3.00	20000	63	3.50
300	515	3.00	25000	57	3.90
400	447	3.00	30000	51	3.90
500	400	3.00	35000	48	3.90
750	325	3.00	40000	45	3.90
800	316	3.00	45000	41	4.00
1000	282	3.00	50000	40	4.00
1250	253	3.10	60000	36	4.00
1500	231	3.10	70000	33	4.40
2000	200	3.10	80000	31	4.40
2250	188	3.10	100000	28	4.75
2500	178	3.10			

HEAVY DUTY RESISTORS
Types 25F, 50F, 100F, 160F, 200F

Furnished with lug terminals and mounting brackets.

25 WATTS — Type 25F–*Fixed* — Type 25A–*Adj.*

Size—2" x 5/8" Mtg. Centers—2⅝"

Ohms	M.A.	List Price Fixed	List Price Adj.	Ohms	M.A.	List Price Fixed	List Price Adj.
1	5000	$1.10	$2.05	2500	100	$1.15	$2.10
2	3535	1.10	2.05	3000	90	1.15	2.10
3	2890	1.10	2.05	3500	85	1.15	2.10
4	2500	1.10	*	4000	80	1.15	2.10
5	2230	1.10	2.05	4500	74	*	2.10
7.5	1825	*	2.05	5000	70	1.15	2.10
10	1580	1.10	2.05	6000	65	1.25	2.20
15	1290	1.10	2.05	7000	60	*	2.20
20	1115	*	2.05	7500	58	1.25	2.20
25	1000	1.10	2.05	8000	56	*	2.20
50	710	1.10	2.05	8500	54	1.25	2.20
75	580	1.10	2.05	9000	52	*	2.20
100	500	1.10	2.05	10000	50	1.25	2.20
150	410	1.10	2.05	12000	46	1.30	2.30
200	354	1.10	2.05	15000	41	1.30	2.30
250	315	1.10	2.05	20000	34	1.30	2.30
300	289	1.10	2.05	25000	32	1.50	2.50
400	250	1.10	2.05	30000	29	1.50	*
500	224	1.10	2.05	35000	27	1.50	*
750	182	1.10	2.05	40000	25	1.50	*
800	177	1.10	2.05	50000	20	1.70	*
850	170	1.10	2.05	60000	17	1.70	*
1000	158	1.10	2.05	70000	14	2.00	*
1250	140	1.15	2.10	75000	13	2.00	*
1500	129	1.15	2.10	80000	12	2.00	*
2000	112	1.15	2.10	100000	10	2.30	*
2250	105	*	2.10				

50 WATTS — Type 50F–*Fixed* — Type 50A–*Adj.*

Size—4½" x ¾" Mtg. Centers—5¼"

Ohms	M.A.	List Price Fixed	List Price Adj.	Ohms	M.A.	List Price Fixed	List Price Adj.
1	7070	$2.50	$3.30	5000	100	$1.90	$2.70
2	5000	1.80	2.60	6000	91	2.10	2.90
3	4080	1.80	2.60	7000	85	*	2.90
4	3535	1.80	2.60	7500	82	2.10	2.90
5	3160	1.80	2.60	8000	79	2.10	2.90
10	2235	1.80	2.60	9000	75	*	2.90
25	1415	1.80	2.60	10000	71	2.10	2.90
50	1000	1.80	2.60	12000	65	2.30	3.10
75	815	1.80	2.60	12500	63	2.30	*
100	707	1.80	2.60	15000	58	2.30	3.10
150	575	1.80	2.60	20000	50	2.30	3.10
200	500	1.80	2.60	25000	45	2.55	3.40
250	445	1.80	2.60	30000	41	2.55	3.40
300	408	1.80	2.60	35000	38	2.55	*
400	353	1.80	2.60	40000	35	2.55	3.40
500	316	1.80	2.60	45000	33	2.85	*
750	258	1.80	2.60	50000	32	2.85	3.60
800	250	1.80	2.60	60000	29	*	3.60
1000	224	1.80	2.60	75000	23	3.20	4.05
1250	200	*	2.70	80000	21	*	4.05
1500	180	1.90	2.70	100000	17	3.50	4.30
2000	160	1.90	2.70	125000	14	3.70	*
2250	150	*	2.70	150000	12	3.85	*
2500	141	1.90	2.70	175000	10	4.00	*
3000	130	1.90	2.70	200000	9	4.15	*
3500	120	*	2.70	225000	8	4.65	*
4000	110	1.90	2.70	250000	7	4.65	*
4500	105	*	2.70				

100 WATTS — Type 100F–*Fixed* — Type 100A–*Adj.*

Size—6½" x 1⅛" Mtg. Centers—7¼"

Ohms	M.A.	List Price Fixed	List Price Adj.	Ohms	M.A.	List Price Fixed	List Price Adj.
1	10000	$3.70	$5.00	2500	200	$2.80	$4.05
2	7070	3.70	5.00	3000	180	2.80	4.05
3	5770	3.70	5.00	3500	170	2.80	*
4	5000	2.65	3.95	4000	158	2.80	4.05
5	4470	2.65	3.95	4500	150	2.80	4.05
10	3160	2.65	3.95	5000	141	2.80	4.05
25	2000	2.65	3.95	6000	130	*	4.25
50	1410	2.65	3.95	7500	115	3.00	4.25
75	1150	2.65	*	10000	100	3.00	4.25
100	1000	2.65	3.95	15000	80	3.30	4.50
125	895	2.65	*	20000	70	3.30	4.50
150	815	2.65	*	25000	63	3.50	4.80
200	707	*	3.95	30000	58	3.50	4.80
250	630	2.65	3.95	35000	54	3.50	*
400	500	*	3.95	40000	50	3.50	4.80
500	447	2.65	3.95	50000	45	3.70	5.00
750	365	2.65	3.95	60000	41	3.70	5.00
1000	316	2.65	3.95	70000	38	3.95	*
1250	285	2.80	*	75000	36	3.95	5.20
1500	260	2.80	4.05	100000	32	4.20	5.45
2000	225	2.80	4.05				

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Vitrohm RESISTORS

Order by Type Number and Resistance Value

Asterisks (*) in Tables Indicate that Resistors are not Stock Items.

WARD LEONARD

160 WATTS Type 160F–*Fixed* Type 160A–*Adj.*

Size—8½" x 1⅛" Mtg. Centers—9¼"

Ohms	M.A.	List Price Fixed	List Price Adj.	Ohms	M.A.	List Price Fixed	List Price Adj.
1	12650	$4.60	$5.85	2500	252	$3.35	$4.60
2	8940	4.60	5.85	3000	230	3.35	4.60
3	7300	4.60	5.85	3500	215	3.35	4.60
4	6320	4.60	5.85	4000	200	3.35	4.60
5	5650	4.60	5.85	4500	185	3.35	4.60
10	4000	3.30	4.55	5000	178	3.35	4.60
15	3265	3.30	4.55	7500	146	3.60	4.90
25	2525	3.30	4.55	10000	126	3.60	4.90
50	1785	3.30	4.55	15000	105	3.90	5.15
75	1460	3.30	*	20000	90	3.90	5.15
100	1265	3.30	4.55	25000	80	4.00	5.30
150	1035	3.30	*	30000	73	4.00	5.30
200	894	3.30	4.55	35000	68	4.00	*
250	800	3.30	4.55	40000	64	4.00	5.30
500	565	3.30	4.55	50000	57	4.15	5.40
750	460	3.30	*	60000	52	4.15	5.40
1000	400	3.30	4.55	75000	46	4.40	5.70
1500	326	3.35	4.60	80000	45	4.40	5.70
2000	280	3.35	4.60	100000	40	4.70	6.00

200 WATTS Type 200F–*Fixed* Type 200A–*Adj.*

Size—10½" x 1⅛" Mtg. Centers—11¼"

Ohms	M.A.	List Price Fixed	List Price Adj.	Ohms	M.A.	List Price Fixed	List Price Adj.
1	14140	$5.00	$6.25	3500	240	$3.60	$4.90
2	10000	5.00	6.25	4000	225	3.60	4.90
3	8162	5.00	6.25	4500	210	3.60	4.90
4	7070	5.00	6.25	5000	200	3.60	4.90
5	6320	5.00	6.25	7500	163	3.90	5.20
10	4470	3.55	4.80	10000	141	3.90	5.20
25	2825	3.55	4.80	15000	115	4.15	5.40
50	2000	3.55	4.80	20000	100	4.15	5.40
75	1630	3.55	*	25000	90	4.30	5.50
100	1414	3.55	4.80	30000	82	4.30	5.50
150	1150	3.55	*	35000	76	4.30	*
250	900	3.55	4.80	40000	71	4.30	5.50
500	632	3.55	4.80	50000	63	4.40	5.70
750	515	3.55	*	60000	58	4.40	5.70
1000	447	3.55	4.80	75000	52	4.70	5.95
1500	365	3.60	4.90	100000	45	5.00	6.25
2000	315	3.60	4.90	125000	40	*	6.25
2500	282	3.60	4.90	150000	35	*	6.25
3000	260	3.60	4.90				

OTHER STOCK RESISTORS

Plaque Type — Available in three sizes, 25-watt, 50-watt, and 150-watt.

Disc Type — Available in 24-watt size.

Non-Inductive Type — Available in three sizes, 35-watt 80 watt, and 160-watt.

For complete information on all our stock resistors ask for our Catalog D-130.

AXIOHM RESISTORS

5 WATTS – TYPE 5X • 10 WATTS – TYPE 10X

Vitreous enameled wire-wound resistors with 1½" tinned copper leads for self-mounting.

The same fine materials used in the manufacture of Ward Leonard Vitrohm Resistors are used in making Axiohms.

Order by Type Number and Resistance Value.

5 WATTS — Size—1" x 11/32" — TYPE 5X

Ohms	M.A	List Price	Ohms	M.A.	List Price	Ohms	M.A.	List Price
1	2230	$0.90	125	200	$0.90	1200	64	$0.95
1.5	1820	.90	150	182	.90	1250	63	.95
2	1580	.90	200	158	.90	1500	57	.95
3	1290	.90	225	148	.90	1750	53	.95
4	1117	.90	250	141	.90	2000	50	.95
5	1000	.90	300	129	.90	2250	47	.95
7.5	811	.90	350	119	.90	2500	45	.95
10	707	.90	400	112	.90	3000	40	.95
12	644	.90	450	105	.90	3500	37	.95
15	577	.90	500	100	.90	4000	35	.95
20	500	.90	600	91	.90	4500	33	.95
25	450	.90	700	84	.90	5000	31	.95
30	408	.90	750	81	.90	6000	28	1.00
35	378	.90	800	79	.90	7000	26	1.00
40	353	.90	900	74	.90	7500	25	1.00
50	316	.90	1000	70	.90	8000	25	1.00
75	257	.90	1100	67	.95	9000	23	1.00
100	223	.90				10000	22	1.00

10 WATTS — Size—1¾" x 13/32" — TYPE 10X

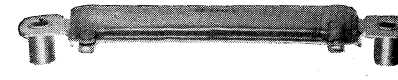
1	3160	$1.00	300	182	$1.00	6000	41	$1.20
1.5	2580	1.00	350	169	1.00	7000	38	1.20
2	2235	1.00	400	158	1.00	7500	36	1.20
3	1825	1.00	450	149	1.00	8000	35	1.20
4	1580	1.00	500	142	1.00	8500	34	1.20
5	1415	1.00	600	129	1.00	9000	33	1.20
7.5	1155	1.00	700	120	1.00	10000	32	1.20
10	1000	1.00	750	115	1.00	11000	30	1.35
12	913	1.00	800	112	1.00	12000	29	1.35
15	815	1.00	900	105	1.00	12500	28	1.35
20	707	1.00	1000	100	1.00	13500	27	1.35
25	630	1.00	1100	95	1.05	15000	25.5	1.35
30	577	1.00	1200	91	1.05	16000	25	1.35
35	534	1.00	1250	89	1.05	17500	24	1.35
40	500	1.00	1500	81	1.05	18000	23	1.35
50	450	1.00	1750	75	1.05	20000	22	1.35
75	365	1.00	2000	70	1.05	22500	21	1.40
100	316	1.00	2250	66	1.05	25000	20	1.40
125	283	1.00	2500	63	1.05	30000	18	1.40
150	258	1.00	3000	58	1.05	35000	17	1.40
200	224	1.00	3500	53	1.05	40000	16	1.40
225	211	1.00	4000	50	1.05	45000	15	1.60
250	200	1.00	4500	47	1.05	50000	14	1.60
			5000	45	1.05			

STRIPOHM RESISTORS

Order by Type Number and Resistance Value

NEW!

MINISTRIP



Vitreous enameled wire-wound resistors built on a strong refractory core, and provided with low mounting brackets. Particularly suited for applications where space is limited. Specially adapted to stacking for networks.

All Stripohms, except the Ministrip, are 1⅛" wide.

The "Ministrip" is smaller in size than the standard Stripohm. May be stacked by using 1/32" washers. Rated at 20 watts.

20 WATTS • TYPE 20S

2" long—Mtg. Centers 2 5/16" Width 7/16"

Ohms	Current m.a.	List Price	Ohms	M.A.	List Price
1	4480	$1.50	1500	115	$1.50
3	2580	1.50	2000	100	1.50
5	2000	1.50	2500	90	1.50
10	1410	1.50	3000	81	1.50
15	1150	1.50	3500	76	1.50
25	900	1.50	4000	70	1.50
50	630	1.50	5000	63	1.50
100	450	1.50	7500	51	1.50
150	365	1.50	10000	45	1.75
200	320	1.50	15000	36	1.75
250	285	1.50	20000	32	1.75
400	224	1.50	25000	28	2.00
500	200	1.50	30000	26	2.00
750	163	1.50	35000	24	2.00
1000	141	1.50	40000	22	2.00
1250	125	1.50	50000	20	2.00

30 WATTS • TYPE 30S

1¼" long—Mtg. Centers 2"

1	5480	$2.00	500	244	$2.00
3	3160	2.00	750	200	2.00
5	2450	2.00	1000	173	2.00
10	1730	2.00	1250	154	2.00
15	1420	2.00	1500	142	2.00
25	1095	2.00	2000	122	2.00
50	774	2.00	2500	109	2.00
100	547	2.00	3000	100	2.20
150	447	2.00	3500	92	2.20
200	387	2.00	4000	86	2.20
250	346	2.00	5000	77	2.20
400	273	2.00			

40 WATTS • TYPE 40S

2" long—Mtg. Centers 2¾"

1	6320	$2.10	750	230	$2.10
3	3650	2.10	1000	200	2.10
5	2830	2.10	1250	180	2.10
10	2000	2.10	1500	163	2.10
15	1630	2.10	2000	141	2.10
25	1270	2.10	2500	126	2.10
50	894	2.10	3000	114	2.25
100	632	2.10	3500	106	2.25
150	510	2.10	4000	100	2.25
200	447	2.10	5000	88	2.25
250	400	2.10	7500	73	2.55
400	315	2.10	10000	63	2.55
500	283	2.10	15000	51	2.65

55 WATTS • TYPE 55S

3½" long—Mtg. Centers 4¼"

Ohms	M.A.	List Price	Ohms	M.A.	List Price
1	7420	$2.45	1250	209	$2.45
3	4280	2.45	1500	191	2.45
5	3320	2.45	2000	165	2.45
10	2350	2.45	2500	148	2.45
15	1910	2.45	3000	135	2.60
25	1480	2.45	3500	129	2.60
50	1050	2.45	4000	117	2.60
100	741	2.45	5000	104	2.60
150	604	2.45	7500	84	2.85
200	522	2.45	10000	74	2.85
250	469	2.45	15000	60	3.00
400	370	2.45	20000	52	3.10
500	331	2.45	25000	47	3.30
750	270	2.45	30000	42	3.40
1000	234	2.45			

65 WATTS • TYPE 65S

4¾" long—Mtg. Centers 5½"

1	8060	$2.80	1500	208	$2.80
3	4650	2.80	2000	180	2.80
5	3610	2.80	2500	161	2.80
10	2550	2.80	3000	146	2.90
15	2080	2.80	3500	136	2.90
25	1610	2.80	4000	127	2.90
50	1140	2.80	5000	114	2.90
100	806	2.80	7500	92	3.20
150	658	2.80	10000	82	3.20
200	570	2.80	15000	65	3.30
250	509	2.80	20000	57	3.45
400	403	2.80	25000	51	3.60
500	360	2.80	30000	46	3.80
750	294	2.80	35000	43	3.80
1000	254	2.80	40000	40	3.95
1250	228	2.80	50000	36	3.95

75 WATTS TYPE 75S

6" long

Mtg. Centers 6¾"

Ohms	M.A.	List Price
1	8660	$3.00
3	5000	3.00
5	3870	3.00
10	2740	3.00
15	2235	3.00
25	1730	3.00
50	1220	3.00
100	866	3.00
150	707	3.00
200	612	3.00
250	550	3.00
400	433	3.00
500	387	3.00
750	315	3.00
1000	274	3.00
1250	245	3.00
1500	224	3.00
2000	193	3.00
2500	173	3.00
3000	158	3.20
3500	146	3.20
4000	137	3.20
5000	122	3.20
7500	100	3.45
10000	87	3.45
15000	71	3.55
20000	61	3.70
25000	55	3.90
30000	50	4.00
35000	46	4.00
40000	43	4.15
50000	37	4.15
60000	35	4.35
65000	33	4.35

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

2 Big Reasons for Buying and Using...

G-C STACKPOLE *Packaged* CARBON RESISTORS

1

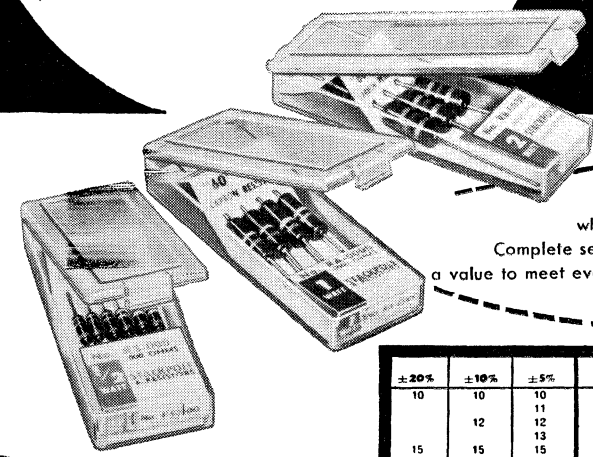
They're Genuine Stackpole Resistors

- ✓Exact replacements for original installations.
- ✓Surpass MIL-R11 specifications.
- ✓Rated at 70°C. ambient.
- ✓Protected from humidity.
- ✓Low noise level.

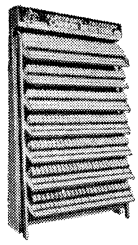
2

They're Packaged by G-C for Protection and Convenience

- ✓No damage possible to resistors or leads.
- ✓Complete range of RETMA values . . . enough for every circuit need.
- ✓All resistors clearly labelled and color coded.
- ✓Handy hinged plastic boxes are re-usable.
- ✓Bonus coupon offer with every box.



You get both quality and packaging protection when you insist on G-C Stackpole Carbon Resistors. Complete selection in ½-, 1- and 2-watt values . . . a value to meet every circuit requirement.



Look for this self-service display at your jobber . . . buy where you see the G-C Stackpole sign!

±20%	±10%	±5%	±20%	±10%	±5%	±20%	±10%	±5%	±20%	±10%	±5%
10	10	10		390	390	15000	15000	15000		560000	560000
		11			430			16000			620000
	12	12	470	470	470		18000	18000	680000	680000	680000
		13			510			20000			750000
15	15	15		560	560	22000	22000	22000		820000	820000
		16			620			24000			910000
	18	18	680	680	680		27000	27000	1.0 Meg	1.0 Meg	1.0 Meg
		20			750			30000			1.1 Meg
22	22	22		820	820	33000	33000	33000		1.2 Meg	1.2 Meg
		24			910			36000			1.3 Meg
	27	27	1000	1000	1000		39000	39000	1.5 Meg	1.5 Meg	1.5 Meg
		30			1100			43000			1.6 Meg
33	33	33		1200	1200	47000	47000	47000		1.8 Meg	1.8 Meg
		36			1300			51000			2.0 Meg
	39	39	1500	1500	1500		56000	56000	2.2 Meg	2.2 Meg	2.2 Meg
		43			1600			62000			2.4 Meg
47	47	47		1800	1800	68000	68000	68000		2.7 Meg	2.7 Meg
		51			2000			75000			3.0 Meg
	56	56	2200	2200	2200		82000	82000	3.3 Meg	3.3 Meg	3.3 Meg
		62			2400			91000			3.6 Meg
68	68	68		2700	2700	100000	100000	100000		3.9 Meg	3.9 Meg
		75			3000			110000			4.3 Meg
	82	82	3300	3300	3300		120000	120000	4.7 Meg	4.7 Meg	4.7 Meg
		91			3600			130000			5.1 Meg
100	100	100		3900	3900	150000	150000	150000		5.6 Meg	5.6 Meg
		110			4300			160000			6.2 Meg
	120	120	4700	4700	4700		180000	180000	6.8 Meg	6.8 Meg	6.8 Meg
		130			5100			200000			7.5 Meg
150	150	150		5600	5600	220000	220000	220000		8.2 Meg	8.2 Meg
		160			6200			240000			9.1 Meg
	180	180	6800	6800	6800		270000	270000	10.0 Meg	10.0 Meg	10.0 Meg
		200			7500			300000			11.0 Meg
220	220	220		8200	8200	330000	330000	330000		12.0 Meg	12.0 Meg
		240			9100			360000			13.0 Meg
	270	270	10000	10000	10000		390000	390000	15.0 Meg	15.0 Meg	15.0 Meg
		300			11000			430000			16.0 Meg
330	330	330		12000	12000	470000	470000	470000		18.0 Meg	18.0 Meg
		360			13000			510000			20.0 Meg
									22.0 Meg	22.0 Meg	22.0 Meg

BULK PACKED FOR VOLUME USERS
IMMEDIATE DELIVERY FROM STOCK
ALSO PACKED FOR AUTOMATION USE

G-C ELECTRONICS MFG. CO.
Division of General Cement Mfg. Co.
Rockford, Illinois

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AUTOMATIC AMPERITE REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

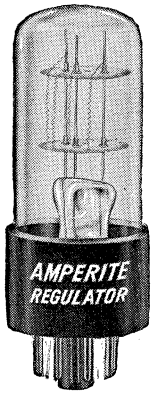
AUTOMATIC REGULATION

WHAT IT IS! ***AMPERITE*** **is an automatic "rheostat" designed to keep the current in a circuit at a definite value, e.g., 0.5 amps.**

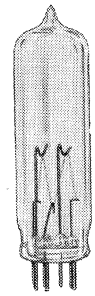
Should we supply voltage increase, the *AMPERITE* will automatically increase in resistance to take up the increase in supply voltage.

Since *AMPERITE* is a constant current device, it can only be used on a fixed load.

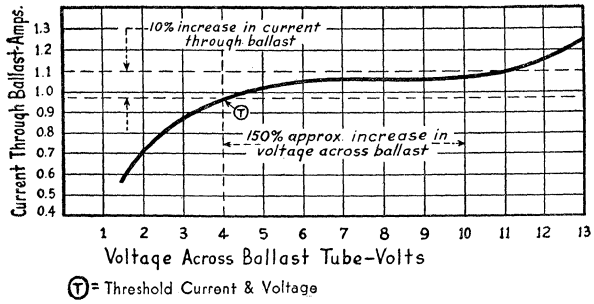
We strongly recommend that you send us your specfications on special problems, and let us recommend the BALLAST TUBE you need.



STANDARD



MINIATURE



Ⓣ = Threshold Current & Voltage

Characteristic curve of a typical Amperite. Approximate curve of any other Amperite can be obtained by multiplying or dividing the current or voltage scale by any number.

POPULAR TYPES OF BALLAST TUBES
List $3.00

D6-1E	1H20	*3T4	4A10	6-3	7-4	9-4A	12-4
*D6T4	1H22	*3T4A	4-12	6-4	**7TF4	9-7	12-7
**D6TK7	**2TK7	**3TF4A	4H3	6-4A	7A10	9-8	12A10
**D6TF10	2A10	**3TF4	4H4	6-4B	7-11	9A10	12-11
**D6TF30	2A12	**3TFV4	**4HTF4	*6T4	**7HTF2	10T1	13-4
D7-20	2A20	3V4	**4HTF7	*6T4F	**7HTF3	**10TF2	15-2
D7H4	*2HT2	3-7	4H10	**6TF4	**7HTF4	10-3	15-4
*D7HT4	2H4	**3TF7	4H11	6-7	7H4	10-4A	16-4
*D7HT11	*2HT4	3A10	5E1	**6TF7	7H4B	10-4B	17-3
1A10	**2HTF4	3-11	**5TF2	6-8B	7H7	10-4C	20-3
**1TF10	2H10	3H11	5-4	6A10	7H11	10-4D	20-4
1-15	3-2	*3T11	**5TF4	6-11	**8TF2	10-4E	22-4
*1HT2	**3TF2	3TF11	5A10	6-12	8-3B	10A10	24-3
1H4	**3TK2	**3TF12	5-11	6-13	8-4	10A12	34-2
*1HT4	3-4	3-14	5-16	6A15	8A10	10-25	35-4
1H10	3H-1-7	3-16	5H3	6-36	**9TF2	11-3	40-6E
**1HTF10	3H4	3A20	5H4	6H4	9-3	11-4	41-7E
*1HT11	**3HTF4	3H-25	5H10	**6HTF4	9-4	11A10	55-1
**1HTF11		3-38A	5H11	6H6		11-11	55-4
		3-50A					

*T denotes T5½ bulb-7 pin miniature, e.g., 3T4.
**TF denotes T6½ bulb-9 pin miniature, e.g., 3TF4.
Base Wiring: Octal, 7 and 9 pin miniature—prongs 2-7.

ADVANTAGES

Light . . . Compact . . . No Moving Parts (Will withstand vibrations of 10G min.) (Not affected by altitude or humidity changes) . . . Can Be Changed as Easily as a Radio Tube . . . Operates Equally Well on AC or DC . . . Inexpensive.

CAPACITIES AVAILABLE

Current values of 60 ma. to 5 amps; threshold voltage 0.4 to 30 V. Maximum dissipation per **AMPERITE** 50w per tube (ST19 bulb). Any number of **AMPERITES** with the same voltage range can be operated in parallel. **AMPERITES** should not be used in series.

AGEING

AMPERITE Ballast Tubes may change approximately up to 3% in current if aged for 4 to 8 hours, at maximum voltage. They will change very little thereafter.

LIFE EXPECTANCY

Average life if operated as recommended	**2000 Hours**
If operated continuously at maximum voltage	**1000 Hours**
If operated continuously at 80% maximum voltage	**5000 Hours**
If filament is operated below glow point	**5000 Hours up**

In operation, the *Amperite* filament starts to glow at one point; as the voltage is increased, the glow spreads over the entire filament. Like incandescent lamps, turning *Amperite* on and off reduces its life, especially if operating near its maximum voltage.

TIME LAG CHARACTERISTICS

Time lag encountered in an *Amperite Ballast Tube* depends upon the wattage consumed by the ballast and the size of the bulb. Where the wattage is small for the size of the bulb, the action can be made practically instantaneous — less than 1 second. In such cases the bulb will remain at practically ambient temperature. When the wattage is high enough to heat the bulb to a temperature uncomfortable to the hand (160°F) the lag might be as much as several minutes for final readings—but normally reaches within 90% of final readings within a few seconds.

AMPERITE NUMBERING SYSTEM

In general, the AMPERITE number approximately denotes the current—voltage threshold value. For example:

AMPERITE NUMBER	3-4	3H4	10-7	12-11	12H11
THRESHOLD CURRENT	0.3	0.35	1.0	1.2	1.25
THRESHOLD VOLTAGE	4.0	4.0	7.0	11.0	11.0

We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

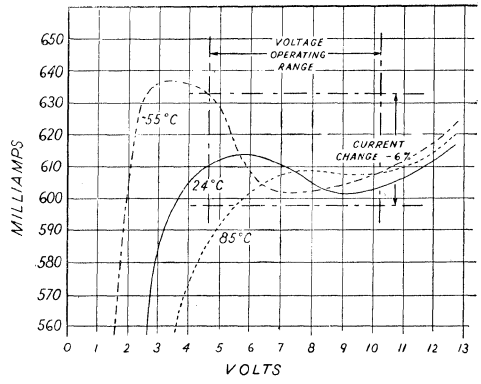
AUTOMATIC AMPERITE REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

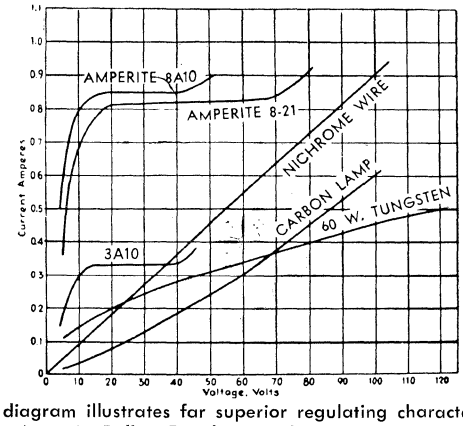
AMBIENT EFFECTS

Ambient temperature variation of —50° to +70°C will change the current value of an *Amperite* approximately 2% on regulating portion of curve shown directly below. Being hermetically sealed the *Amperite* is not affected by altitude or humidity changes.

We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.

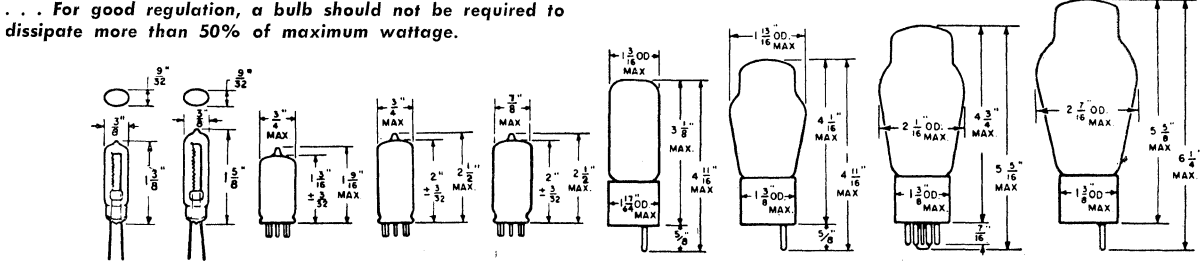


Amperite Ballast-Type 6-4 current voltage characteristic under ambient conditions of —55°, 24°, and 85°C. The percentage change with ambient is approximately the same with all type *Amperite* ballasts.



This diagram illustrates far superior regulating characteristics of the *Amperite* Ballast-Regulating Tube.

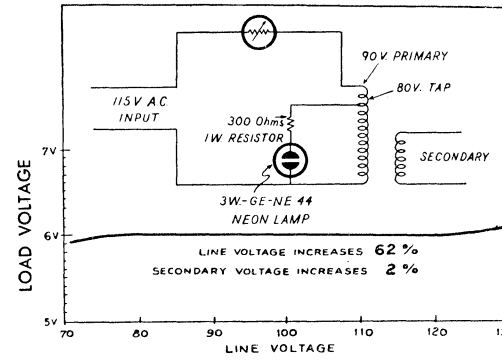
STANDARD SIZES available for various wattage consumption . . . For good regulation, a bulb should not be required to dissipate more than 50% of maximum wattage.



SIZE	SUB. MIN. S	SUB. MIN. L	T5½S	T5½L	T6½L	T9	ST-14	ST-16	ST-19
MAX. WATTS	1 W	2 W	3	5	5	12	20	30	60
WT. PER TUBE	1¾ GMS.	2 GMS.	7 GMS.	8 GMS.	8 GMS.	1 oz.	2¼ oz.	2½ oz.	2¾ oz.

BATTERY CHARGING AND DISCHARGING

Amperite Ballast Tubes are very successfully used for keeping the current constant in charging and discharging batteries. Any number of *Amperites* of the same voltage range can be placed in parallel in order to obtain the proper current. The current can be kept to ± 1%. Advise voltage variation and currents desired.



On 115V supplies ± 1% regulation can be obtained by shunting the load or transformer primary with a G.E. 3W—NE-44 Neon Lamp. 1 G.E. 3W—NE-44 Neon Lamp should be used for each 50 watts of load. This is the cheapest and most compact method of obtaining ± 1% regulation. The *Amperite* is not affected by frequency changes.

POWER SUPPLIES

We strongly recommend, for any particular application, to fill and return one of our special problem sheets (ASP 343) and permit us to recommend the most suitable AMPERITE.

Pow. Supply	Dry Cells	6 Volts	12 Volts	26 Volts	115 Volts
Supply Variation	2.2-3.0V	5.5-7.5V	10.0-14.0V	22.0-30.0V	105-125V
Desired on Load	1.8-2.0V	3.9-4.1V	6.1- 6.4V	17.5-18.5V	90- 95V
Required on **AMPERITE**	0.4-1.0V	1.6-3.4V	3.9- 7.6V	4.5-11.5V	15- 30V
Current Variation	.29-.32a	.29-.31a	.29-.31a	.29-.32a	.29-.32a

The above chart shows the maximum load voltage for the given supply to obtain ± 2% regulation on load. Better regulation is obtainable by increasing the voltage across the **AMPERITE**. In general, the higher the percent of the supply voltage taken by the **AMPERITE**, the better the regulation.

We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.

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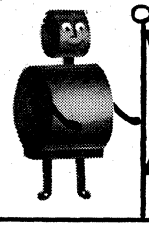
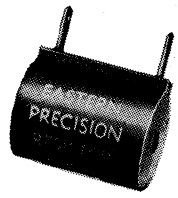
Net

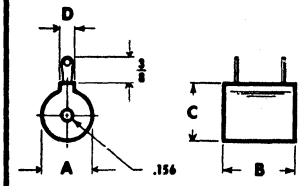


EASTERN PRECISION RESISTOR CORP.

EPR

"N-CAP" Series — ENCAPSULATED LUG TYPE



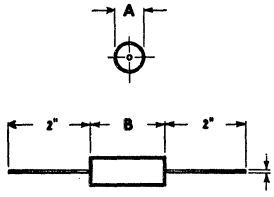


EPR Style	MIL-R-93 Characteristic "A"	MIL Wattage	COMM Wattage	MAX MIL Resistance	MAX COMM Resistance	A	B	C	D
*N-109	RB-09	.125	.25	130K	2.7 meg	9/16"	1/2"	11/16"	3/16"
N-110E	RB-15	.25	.50	135K	3.0 meg	5/8"	1/2"	21/32"	5/16"
N-111	RB-16	.33	.75	335K	7.0 meg	3/4"	11/16"	7/8"	3/16"
N-112A	RB-17	.50	1.0	465K	9.6 meg	13/16"	1"	27/32"	5/16"
N-113	RB-18	.50	1.0	1.2 meg	10.0 meg	7/8"	1-1/4"	1"	3/16"
N-114	RB-19	1.0	2.0	2.5 meg	10.0 meg	1-1/16"	2-1/8"	1-3/16"	1/4"

"N-CAPS" are manufactured to surpass the requirements of MIL-R-93 characteristic "A". Wound on plastic bobbins and totally encapsulated in the same material these resistors represent the optimum in precision wire wound resistors.

* Clearance for a #2 screw

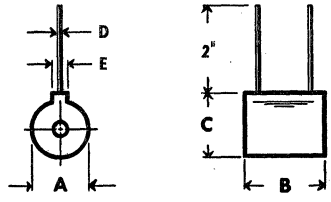
"NS" Series — ENCAPSULATED AXIAL LEAD TYPE



EPR Style	MIL-R-93 Characteristic "A"	MIL Wattage	COMM Wattage	MAX MIL Resistance	MAX COMM Resistance	A	B	C (AWG)
NS-6AV	—	—	.10	—	125 K	.150	3/8"	#24
NS-6AWE	—	—	.10	—	250 K	1/4"	5/16"	#22
NS-6AWM	—	—	.15	—	380 K	1/4"	1/2"	#22
NS-6AWG	—	—	.15	—	600 K	1/4"	5/8"	#22
NS-6AW	RB-52	.20	.40	27.5 K	675 K	1/4"	3/4"	#22
NS-6AH	—	—	.20	—	1.4 meg	7/16"	1/2"	#22
NS-6A	RB-52	.25	.50	80 K	2.5 meg	3/8"	1"	#20
NS-6B	RB-52	.25	.50	235 K	4.78 meg	1/2"	1"	#20
NS-6C	—	—	1.50	—	10.0 meg	1/2"	1-3/4"	#20
NS-6D	—	—	2.0	—	10.0 meg	1/2"	2"	#20

Wound on plastic bobbins and encapsulated to meet the requirements of characteristic "A" of MIL-R-93 specification. Suitable where point to point wiring is indicated "NS" series resistors are adaptable to automation assembly.

"NM" Series — ENCAPSULATED RADIAL LEAD TYPE



EPR Style	Maximum Resistance	Wattage	A	B	C	D (AWG)	E
NM-2	130 K	.125	1/4"	1/4"	11/32"	#24	3/32"
NM-3	360 K	.17	1/4"	7/16"	5/16"	#22	3/32"
NM-4	1 meg	.25	1/4"	3/4"	5/16"	#22	3/32"
NM-5	1.5 meg	.33	1/4"	1"	5/16"	#22	3/32"
NM-6	720 K	.25	5/16"	7/16"	3/8"	#22	1/8"
NM-7	1.8 meg	.33	5/16"	3/4"	3/8"	#22	1/8"
NM-10	480 K	.25	3/8"	5/16"	19/32"	#22	5/32"
NM-12	1.9 meg	.5	3/8"	5/8"	1/2"	#22	1/8"

"NM" series resistors are encapsulated to the requirements of MIL-R-93 characteristic "A". Sub-miniature in size these resistors are designed to meet the specifications of critical applications wherein space and stability is a prime factor.

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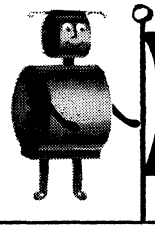

ENCAPSULATED PRECISION WIRE WOUND RESISTORS

EPR

PRICE LIST

EPR STYLES
N-109, N-110, N-111, N-112A
ALL "NS"-AXIAL LEAD STYLES
ALL "NM"-RADIAL LEAD STYLES

RESISTANCE VALUES	LIST PRICE
25 Ohms	3.25
100 Ohms	2.10
5,000 Ohms	2.10
10,000 Ohms	2.15
15,000 Ohms	2.20
30,000 Ohms	2.45
50,000 Ohms	2.50
75,000 Ohms	3.00
100,000 Ohms	3.30
125,000 Ohms	3.80
150,000 Ohms	4.20
200,000 Ohms	4.65
250,000 Ohms	5.15
300,000 Ohms	5.40
400,000 Ohms	6.00
500,000 Ohms	6.75
600,000 Ohms	7.35
700,000 Ohms	8.05
750,000 Ohms	8.50
900,000 Ohms	9.10
1 Meg	9.55
1.5 Meg	12.40
2 Meg	15.20

EPR STYLES
N-113

RESISTANCE VALUES	LIST PRICE
25 Ohms	4.10
100 Ohms	2.60
5,000 Ohms	2.60
10,000 Ohms	2.75
15,000 Ohms	2.95
30,000 Ohms	3.10
50,000 Ohms	3.30
75,000 Ohms	3.60
100,000 Ohms	4.15
125,000 Ohms	4.50
150,000 Ohms	5.00
200,000 Ohms	5.55
250,000 Ohms	6.25
300,000 Ohms	6.85
400,000 Ohms	7.50
500,000 Ohms	8.30
600,000 Ohms	9.00
700,000 Ohms	9.65
750,000 Ohms	10.15
900,000 Ohms	10.70
1 Meg	11.25
1.5 Meg	13.25
2 Meg	16.95

EPR STYLES
N-114

RESISTANCE VALUES	LIST PRICE
25 Ohms	5.25
100 Ohms	3.55
5,000 Ohms	3.55
10,000 Ohms	3.55
15,000 Ohms	3.60
30,000 Ohms	3.90
50,000 Ohms	4.25
75,000 Ohms	4.80
100,000 Ohms	5.05
125,000 Ohms	5.50
150,000 Ohms	6.00
200,000 Ohms	6.50
250,000 Ohms	6.90
300,000 Ohms	7.00
400,000 Ohms	8.00
500,000 Ohms	8.85
600,000 Ohms	9.50
700,000 Ohms	9.95
750,000 Ohms	10.25
900,000 Ohms	11.00
1 Meg	12.10
1.5 Meg	16.65
2 Meg	20.75

STANDARD TOLERANCE	SPECIAL TOLERANCE	PRICING
± 1%	± .5%	Add 5% to Listed Prices
	± .25%	Add 10% to Listed Prices
	± .10%	Add 25% to Listed Prices
	± .05%	Add 50% to Listed Prices
	± .01%	Add 300% to Listed Prices

FOR PRICE OF VALUES NOT LISTED, USE NEXT HIGHER LISTED VALUE.

EASTERN PRECISION RESISTOR CORP. Brooklyn • New York

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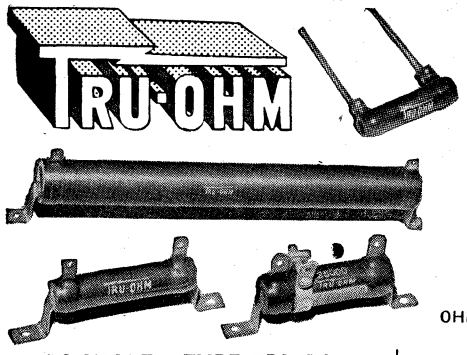

VITREOUS ENAMELED RESISTORS

● FIXED ● ADJUSTABLE ● TRU-RIB

Our new, modern plant occupies 80,000 square feet devoted to producing the finest power rheostats and wire wound resistors available. If you need a rheostat or resistor, whether it be right from stock or to your specifications, we assure you of courteous service, prompt delivery and quality merchandise.

10 WATT—TYPE FRL-10

OHMS	FIXED MILLIAMPS	VOLTS
1	3160	3.1
1.5	2580	3.8
2	2230	4.4
3	1820	5.4
4	1580	6.3
5	1410	7.0
7.5	1150	8.6
10	1000	10
12	914	11
15	816	12
20	707	14
25	631	16
30	577	17
35	535	19
40	500	20
50	447	22
75	365	27
100	316	31
125	283	35
150	254	38
200	223	44
225	211	47
250	200	50
300	182	54
350	169	59
400	158	63
450	149	67
500	141	70
600	129	77
700	120	84
750	115	86
800	112	89
900	105	94
1000	100	100
1100	95	104
1200	91	109
1250	89	111
1500	82	123
1750	76	133
2000	71	142
2250	67	151
2500	63	158
3000	57	171
3500	53	185
4000	50	200
4500	47	212
5000	45	225
6000	41	246
7000	38	266
7500	36	270
8000	35	280
8500	34	289
9000	33	297
10,000	30	300
11,000	27	300
12,000	25	300
12,500	24	300
13,500	22	300
14,300	21	300
15,000	20	300
16,000	19	300
17,500	17	300
18,000	16	300

25 WATT—TYPE FR-25

OHMS	FIXED 100% RATING VOLTS	AMPS	50% RATING AMPS
1	5.0	5.000	3.535
2	7.0	3.535	2.500
3	8.6	2.885	2.040
4	10	2.500	1.770
5	11	2.236	1.580
10	15	1.580	1.118
15	19	1.291	.914
25	25	1.000	.707
50	35	.707	.500
75	43	.577	.408
100	50	.500	.353
150	61	.408	.289
200	70	.353	.250
250	79	.316	.223
300	86	.289	.204
400	100	.250	.177
500	111	.223	.158
750	136	.182	.129
800	141	.177	.125
850	145	.171	.121
1000	158	.158	.111
1250	176	.141	.100
1500	193	.129	.091
2000	222	.111	.079
2500	250	.100	.070
3000	273	.091	.064
3500	294	.084	.058
4000	316	.079	.056
5000	350	.070	.050
6000	384	.064	.045
7500	427	.057	.040
10,000	500	.050	.035
12,000	505	.042	.029
15,000	510	.034	.024
20,000	520	.026	.018
25,000	530	.022	.014
30,000	540	.018	.012
35,000	550	.016	.010
40,000	560	.014	.009
50,000	585	.012	.008
60,000	610	.010	.007
70,000	630	.009	.006
75,000	635	.008	.005
80,000	640	.008	.005
100,000	700	.007	.005

Free air rating to 10,000 Ohms at 25 Watts

10 WATT—TYPE AR-10

OHMS	ADJUSTABLE 100% RATING VOLTS	AMPS	50% RATING AMPS
1	3.1	3.160	2.230
2	4.4	2.230	1.580
3	5.4	1.820	1.290
5	7.0	1.410	1.000
7.5	8.6	1.150	.816
10	10	1.000	.707
15	12	.816	.576
20	14	.707	.500
25	16	.631	.447
50	22	.447	.316
75	27	.365	.258
100	31	.316	.223
150	38	.254	.182
200	44	.223	.158
250	50	.200	.141
300	54	.182	.129
350	59	.169	.119

10 WATT *(Continued)*

400	63	.158	.112
500	70	.141	.100
600	77	.129	.091
750	86	.115	.081
800	89	.112	.079
1000	100	.100	.071
1250	111	.089	.063
1500	123	.082	.058
2000	142	.071	.050
2250	151	.067	.047
2500	158	.063	.045
3000	171	.057	.041
3500	185	.053	.038
4000	200	.050	.035
4500	212	.047	.033
5000	225	.045	.032
6000	246	.041	.029
7000	226	.038	.027
7500	270	.036	.026
8000	280	.035	.025
8500	289	.034	.024
9000	297	.033	.023
10,000	300	.030	.022

25 WATT—TYPE AR-25

OHMS	ADJUSTABLE 100% RATING VOLTS	AMPS	50% RATING AMPS
1	5.0	5.000	3.535
2	7.0	3.535	2.500
3	8.6	2.885	2.040
5	11	2.236	1.580
7.5	13	1.825	1.290
10	15	1.580	1.118
15	19	1.291	.914
20	22	1.117	.790
25	25	1.000	.707
50	35	.707	.500
75	43	.577	.408
100	50	.500	.353
150	61	.408	.289
200	70	.353	.250
250	79	.316	.223
300	86	.289	.204
400	100	.250	.177
500	111	.223	.158
750	136	.182	.129
800	141	.177	.125
850	145	.171	.121
1000	158	.158	.111
1250	176	.141	.100
1500	193	.129	.091
2000	222	.111	.079
2250	236	.105	.074
2500	250	.100	.070
3000	273	.091	.064
3500	294	.084	.058
4000	316	.079	.056
4500	332	.074	.052
5000	350	.070	.050
6000	384	.064	.045
7000	420	.060	.042
7200	425	.059	.041
7500	427	.057	.040
8000	440	.055	.039
9000	468	.052	.037
10,000	500	.050	.035
12,000	505	.042	.029
15,000	510	.034	.024
20,000	520	.026	.018
25,000	530	.022	.014

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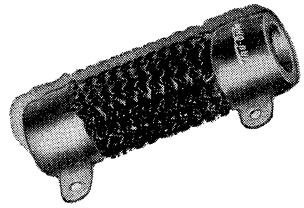

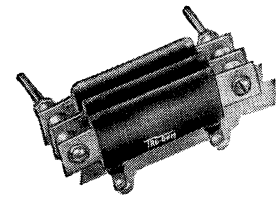

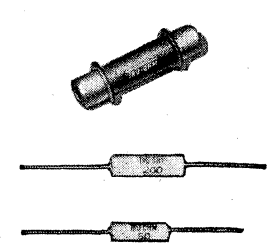

SPECIAL RESISTORS

Now Available — 25 watt — 50 watt — 75 watt — 100 watt — 150 watt — Power Rheostats — ready for shipment from stock; special features available to meet your requirements.

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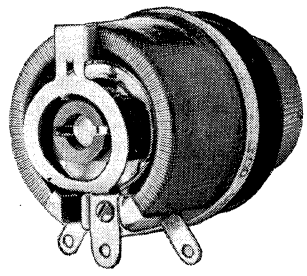
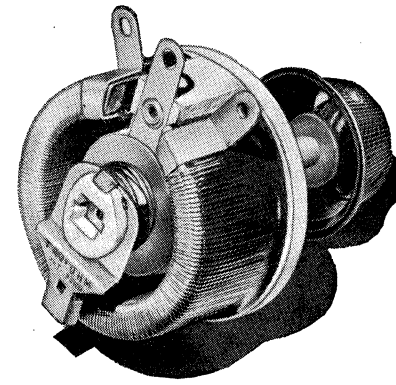
TRU-OHM POWER RHEOSTATS

Approved





TYPE R-25 — 25 WATTS

Cat. No.	Resistance	Max. Amps.	Approx. Steps
100	1	5.000	26
101	2	3.540	28
102	3	2.880	44
103	6	2.040	50
104	8	1.770	54
105	10	1.580	60
106	15	1.290	78
107	25	1.000	80
108	35	.845	100
109	50	.707	105
110	75	.575	120
111	100	.500	140
112	125	.445	145
113	175	.375	153
114	250	.316	170
115	350	.267	180
116	500	.222	215
117	750	.182	230
118	1000	.155	270
119	1500	.129	325
120	2500	.100	410
121	3500	.084	440
122	5000	.070	480

TYPE R-50 — 50 WATTS

Cat. No.	Resistance	Max. Amps.	Approx. Steps
200	0.5	10.000	22
201	1	7.070	36
202	2	5.000	38
203	4	3.540	38
204	6	2.880	75
205	8	2.500	70
206	12	2.040	80
207	16	1.760	90
208	22	1.500	95
209	35	1.190	120
210	50	1.100	120
211	80	.790	135
212	125	.630	185
213	150	.574	175
214	225	.470	215
215	300	.408	225
216	500	.316	295
217	800	.250	360
218	1000	.223	375
219	1600	.176	465
220	2500	.141	560
221	3500	.119	585
222	5000	.100	600
223	8000	.079	710
224	10,000	.070	720

CONSTRUCTION

The TRU-OHM power rheostat will provide smooth variation of resistance under the most severe operating conditions. The all ceramic-metal construction insures dependable service even at extreme operating temperatures. An extra deep core, on which the resistance wire is toroidally wound, means a more conservative power rating.

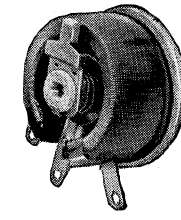
Types R-50, 75, 100 and 150 have an exclusive torsion spring assembly which provides uniform pressure of the contact brush against the winding at all times. Current flows from the brush through a flexible shunt wire to a large size slip ring. Positive, low-wear contact is maintained against the center terminal by an adequate compression spring. Back lash in the rotating assembly is reduced to a minimum by means of the design. A positive stop is provided at the extremes of rotation entirely independent at the contact arm assembly.

SPECIAL FEATURES

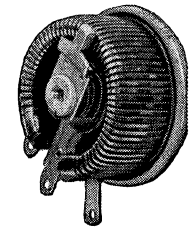
TRU-OHM rheostats are available with many extras such as off positions, screw driver control, shaft assemblies for special mounting conditions, etc. Prompt engineering service is available for all special requirements. Knobs furnished upon request.

Also ready for Immediate Shipment

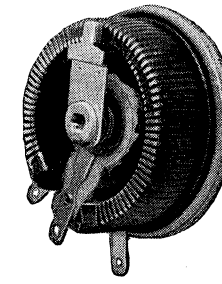
TYPE R-75 ⟶
75 Watts



⟵ **TYPE R-100**
100 Watts



TYPE R-150 ⟶
150 Watts



TRU-OHM

You are guaranteed to receive 24 hour delivery as we maintain jobber stock items!

Mfd. by TRU-OHM PRODUCTS DIVISION OF MODEL ENG. & MFG. INC.
General Sales Office: Chicago 18, Ill.

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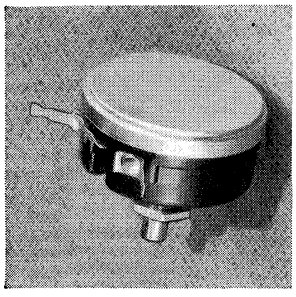
WIRT
TRADE MARK

wire wound

POTENTIOMETERS and RHEOSTATS

Phenolic Housed SINGLE CONTROL

4 WATT RATING
10 to 100,000 Ohms



STYLE WCA

Features stability and dependability in unusually high wattage for a wide range of exacting applications in Radio, Instrument, Electric, Electronic and Test Equipment fields.

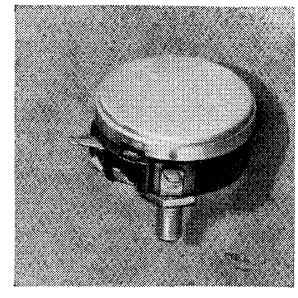
Proper design assures maximum heat conduction and radiation in resistance ranges from 10 ohms to 100,000 ohms.

May be used as a rheostat or potentiometer depending upon terminal connections selected.

Style WCA: Standard tolerance of ± 10%.

Style GCA: Tolerance is ± 5% exception of 100,000 ohm which is ± 10%. Parts and finishes meet U. S. Navy specifications RE13A492C.

3 WATT RATING
10 to 70,000 Ohms



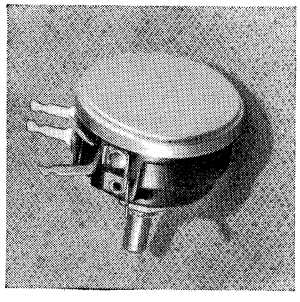
STYLE WCB

All WIRT phenolic housed potentiometers are protected with a dust proof cover. They are nominally rated for maximum power dissipation in an ambient temperature of 40° C. There is complete absence of electrolytic effects.

A special heat resisting adhesive holds the high quality resistance wire which is carefully space-wound on specially treated laminated phenolic strips.

Style WCB: Standard tolerance of ± 10%.

Style GCB: Tolerance is ± 5%. Parts and finishes meet U.S. Navy specifications RE13A492C.



STYLE WCD

Phenolic Housed DUAL CONTROL

5 WATT RATING

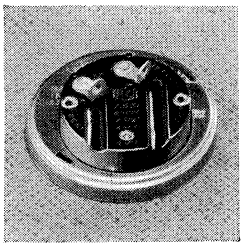
Maximum resistance ranges are 25,000 ohms on panel or front section, and 50,000 ohms on side furthest from panel or rear section.

Style WCD: Standard tolerance of ± 10%. Contact arm of front winding grounded to bushing. Rear winding is completely insulated.

Style GCD: Tolerance ± 5%. Both front and rear windings are insulated from mounting bushing.

SWITCHES

For Use with Controls

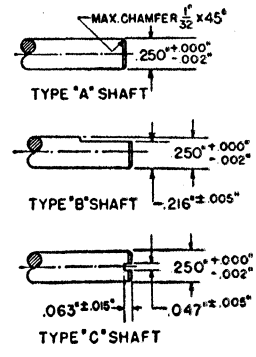


STYLE WCS1

3 Amps., 125 volts AC.

Used with controls Style WCA or GCA.

S.P.S.T. Underwriters' approved.



TYPE "A" SHAFT
Round

TYPE "B" SHAFT
Flatted

TYPE "C" SHAFT
Screw Driver Slot

Shafts for potentiometers and rheostats can be supplied in A, B, or C.

WIRT COMPANY, Philadelphia 44, Pa.

Copyright by U. C. P., Inc.

WIRT
TRADE MARK

wire wound

POTENTIOMETERS and RHEOSTATS

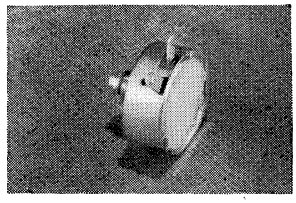
WIRT, tin plated, steel housed potentiometers and rheostats are rugged and compact. These wire wound controls feature reliability and exceptional stability for a wide variety of exacting applications in the radio, instrument, electronic, electrical and test equipment fields.

High quality resistance wire is space wound on specially prepared cores. The phosphor bronze contact arm is grounded to the metal casing and terminals are hot tin dipped.

Stops to provide fixed resistance can be supplied on several types.

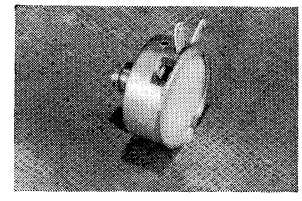
Your inquiry is invited. Kindly state details of your requirements.

Metal Housed STANDARD SIZE CONTROLS



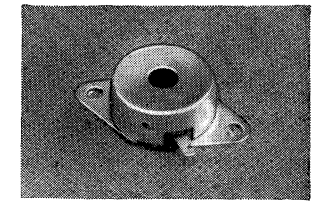
WC801
Rheostat

HOUSING DIMENSIONS: 1⅛" dia., ⅝" th.
RATING: 2 watts
RESISTANCE RANGE: 5 to 15,000 ohms with linear winding.
STANDARD TOLERANCE: ±15%.
ROTATING CONTACT: Grounded to mounting bushing. Can be insuated by use of bushing and washer available.
SHAFT: Aluminum, ¼" diameter, any desired length. Details of three available styles on preceding page.
MOUNTING BUSHING: Brass ⅜" — 32 x ¼" long or ⅜" — 32 x ⅜" long.
MOUNTING NUT: Each control equipped with one ½" hex. mounting nut.



WC802
Thin
Potentiometer

HOUSING DIMENSIONS: 1⅛" dia., ⅝" th.
RATING: 2 watts.
RESISTANCE RANGE: 5 to 15,000 ohms linear winding.
STANDARD TOLERANCE: ±15%.
ROTATING CONTACT: Grounded to mounting bushing. Can be insulated by use of bushing and washer available.
SHAFT: Aluminum, ¼" diameter, any desired length. Details of three available styles on preceding page.
MOUNTING BUSHING: ⅜" — 32 x ¼" long, or ⅜"—32 x ⅜" long.
MOUNTING NUT: Each control equipped with one ½" hex. mounting nut.



WC804
Rheostat
Adjustable from front or back.

HOUSING DIMENSIONS: 1$\frac{3}{32}$" dia., ½" th.
RATING: 2 watts.
RESISTANCE RANGE: 5 to 15,000 ohms wiith linear winding.
STANDARD TOLERANCE: 15%.
FIXED RESISTANCE: Can be supplied with stops in most cases to provide fixed resistance.
Style WC804 has slot in rotor mechanism for screw driver adjustment from either front or back.

Metal Housed MINIATURE CONTROLS

WC807
Rheostat
Grounded Rotor

WC808
Rheostat
Insulated Rotor

*** WC815**
Rheostat
with Terminal
Back of Panel

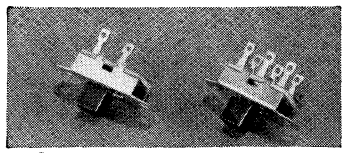
WC817
Potentiometer
Grounded Rotor

WC818
Potentiometer
Insulated Rotor

Rating: 1.5 watts
RESISTANCE RANGE: 5 to 5,000 ohms with linear winding.
STANDARD TOLERANCE: ± 20%.

FIXED RESISTANCE: Can be supplied with stops in most cases to provide fixed resistance.
ADJUSTMENT: Slot is provided in rotor mechanism for screw driver adjustment from front or back.

* This type also available in printed circuit style. Refer to style 816B.



SW723
2 Terminals
or
SW724
3 Terminals

SW725
4 Terminals
or
SW726
6 Terminals

S.P.S.T. Rated at 0.75 Amps. 125 V. AC-DC.
S.P.D.T. Rated at 0.75 Amps. 125 V. AC-DC.
D.P.S.T. Rated at 0.50 Amps. 125 V. AC-DC.
D.P.D.T. Rated at 0.50 Amps. 125 V. AC-DC.

SLIDE SWITCHES (1" L., 1-13/32" W., 35/64" D.)

The radio, signal, phonograph, instrument and automotive industries find innumerable uses for these compact, rugged Wirt Slide Switches. Housings are made of tin plated steel. All contacts and terminals are plated for soldering. Black phenolic material is used for buttons.
Other colors can be supplied by special arrangement.
All slide switches UL approved except center-off.

SLIDE SWITCH SHIELD SWS511

Used for terminal protection or electrostatic shielding, Wirt Slide Switch Shields are available for all listed slide switches. The shield is made of cadmium plated steel insulated with fiber.

UL approved.

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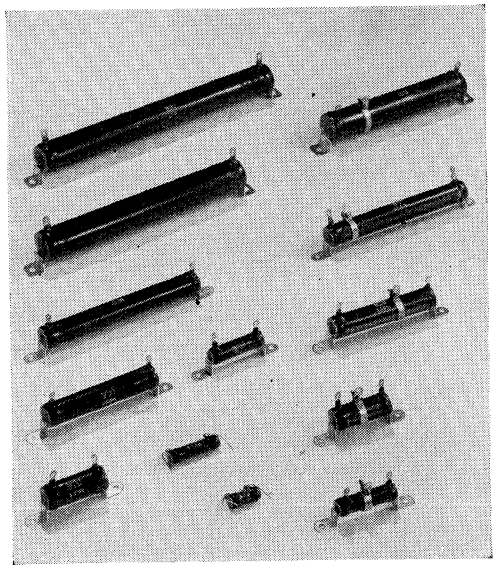
WIRT TRADE MARK

wire wound

FIXED and ADJUSTABLE RESISTORS



WIRT POWER resistors are produced to exacting quality standards for maximum reliability and long trouble-free operation. **WIRT POWER** resistors are rated for hot spot temperature of 515° F in an ambient of 40°C (104° F). They are available from stock in all standard RETMA resistance values.

FIXED RESISTORS

WINDINGS — A low temperature coefficient resistance wire is precisely space wound on a low loss ceramic core. Maximum wire size is used consistent with wattage ratings and resistance.

TERMINALS — Bands are securely clamped and permanently secured to the winding and core to insure continuity of resistance. Wire terminals are affixed to all sizes of 20 watts and below unless expressly omitted.

COATING — Each resistor winding is protected with a coat of vitreous enamel fused on at high temperature to insure a mosture-proof, acid resistant barrier and rapid dissipation of heat.

MARKING — Each resistor is marked with resistance wattage and manufacturers designation. Special markings available if desired.

TABLE OF SIZES AND RATINGS (FIXED)

Code No.	Wattage	SIZE Length	SIZE O.D.	SIZE I.D.	RESISTANCE RANGE Min.	RESISTANCE RANGE Max.
VFR-1	5	1″	3/8″	1/4″	1 Ohm	10 K
VFR-3	10	1 3/4″	3/8″	1/4″	1 Ohm	50 K
VFR-4	20	2″	1/2″	5/16″	1 Ohm	100 K
VFR-7	25	2″	3/4″	1/2″	1 Ohm	100 K
VFR-12	50	4″	3/4″	1/2″	1 Ohm	250 K
VFR-15	75	6″	3/4″	1/2″	1 Ohm	250 K
VFR-19	100	6 1/2″	1 1/8″	3/4″	1 Ohm	100 K
VFR-22	160	8 1/2″	1 1/8″	3/4″	1 Ohm	100 K
VFR-23	200	10 1/2″	1 1/8″	3/4″	1 Ohm	100 K

STANDARD TOLERANCE: ± 5%. Other tolerances and special resistance values available on special order.

ADJUSTABLE RESISTORS

Adjustable **WIRT POWER** resistors are made under the same specifications as the fixed. A portion of the winding is exposed longitudinally to which a slider contact band is attached. A screw-driver adjustable band is supplied with each resistor to make contact at any point of the exposed portion. Ratings are based on the entire resistance from terminal to terminal and rated proportionately to the point of the adjusting contact band. Loosen the band free of the winding before moving to avoid abrasion of the resistance wire.

TABLE OF SIZES AND RATINGS (ADJUSTABLE)

Code No.	Wattage	SIZE Length	SIZE O.D.	SIZE I.D.	RESISTANCE RANGE Min.	RESISTANCE RANGE Max.
VAR-3	10	1 3/4″	3/8″	1/4″	1 Ohm	10 K
VAR-4	20	2″	1/2″	5/16″	1 Ohm	25 K
VAR-7	25	2″	3/4″	1/2″	1 Ohm	25 K
VAR-12	50	4″	3/4″	1/2″	1 Ohm	100 K
VAR-15	75	6″	3/4″	1/2″	1 Ohm	100 K
VAR-19	100	6 1/2″	1 1/8″	3/4″	1 Ohm	100 K
VAR-22	160	8 1/2″	1 1/8″	3/4″	1 Ohm	100 K
VAR-23	200	10 1/2″	1 1/8″	3/4″	1 Ohm	150 K

STANDARD TOLERANCE: ± 5%. Other tolerances and special resistance values available on special order. Phenolic knob type slider bands also available on any of the above sizes.

Special fixed tapped resistors also available on special order. Send us your complete specifications and we will advise.

Low temperature Phenocote resistors also available in above styles upon application.

WIRE WOUND FLAT RESISTORS

Construction is of evenly spaced nickel alloy resistance wire wound on a special molded rectangular ceramic base. Terminal leads are permanently affixed by a special Patent Applied For process to insure positive and everlasting contact. These resistors are coated with a tough moisture resistant high temperature material. Center taps and other positioned taps can be furnished on special order to provide a wide assortment of styles in various ratings. Standard tolerance is ± 10%; however, other tolerances are available. Resistors are permanently marked with resistance, ratings and manufacturers designation.

Maximum surface temperature is 250°C in an ambient of 40°C at full rated load.

TABLE OF SIZES AND RATINGS

Code No.	Wattage	SIZE Length	SIZE Width	SIZE Depth	RESISTANCE Min.	RESISTANCE Max.
CS-151	3	1 3/8″	1/2″	1/4″	3 Ohms	4500 Ohms
CS-152	5	1 27/32″	1/2″	1/4″	3 Ohms	8500 Ohms
CS-1	7	2 1/8″	1/2″	1/4″	3 Ohms	9500 Ohms
CS-2	10	2 1/8″	7/8″	1/4″	3 Ohms	15 K
CS-25	15	2 5/8″	7/8″	1/4″	3 Ohms	22 K
CS-3	20	3 1/8″	7/8″	1/4″	3 Ohms	25 K

Lead spacing on above is 15/16″ on CS-151; 1 7/16″ on CS-152; 1 5/8″ on CS-1 and CS-2; 2 1/8″ on CS-25 and 2 5/8″ on CS-3.

Your inquiry is invited. Kindly list details of your requirements.

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Birnbach

PLASTIC and RUBBER MICROPHONE CABLE
MULTI-CONDUCTOR — ARMORED CABLE

PLASTIC MICROPHONE CABLE

Designed to stand up under physical abuse and is resistant to moisture and aging for long life. These cables have low capacitance, high insulation resistance and low attenuation at audio frequencies.

#1839 is used for high impedance microphone, lapel, contact, crystal, ribbon, velocity and Hi-Fi interconnecting cable.

#1840 is used for high impedance lapel microphones.

#1841 is used for crystal, ribbon and other impedance microphones.

PLASTIC — ONE-CONDUCTOR MICROPHONE CABLE

DESCRIPTION:

Nos. 1839, 1840, 1841

Single Conductor Stranded
3 strands #33 copper tinned, and 4 strands #33 (steel-tinned 1840 and 1841) cellulose yarn braid, Polyethylene insulation, tinned copper shielded braid, with chrome vinyl plastic jacket overall.

Cat. No.	Spool	Cond.	Size No. Awg.	Stranding	Nom. Cap./Ft.	Nom. O.D.
1839	500′	1	20	26/34	39MMF	.175″
1840	500′	1	25	7/33*	34MMF	.144″
1841	500′	1	25	7/33*	25MMF	.200″

*3X33 Copper, 4X33 Steel (All tinned)

For longer lengths and alternate put-ups—Specify.

PLASTIC — MULTI-CONDUCTOR MICROPHONE CABLE

Used with carbon and all low impedance microphones.

DESCRIPTION:

No. 1842

Each conductor tinned copper, Polyethylene insulation — color coded tinned copper braid shield, chrome vinyl jacket overall.

Cat. No.	Spool	Cond.	Size No. Awg.	Stranding	Nom. Cap./Ft.	Nom. O.D.
1842	500′	2	22	16/34	31MMF	.231″
1843	500′	3	20	26/34	39MMF	.295″
1844	500′	4	20	26/34	43MMF	.320″
1845	500′	5	20	26/34	48MMF	.345″
1846	500′	6	20	26/34	54MMF	.370″

COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green, 5—Yellow, 6—Blue

For longer lengths and alternate put-ups—Specify.

SHIELDED MULTI-CONDUCTOR CABLE

Used indoors for permanent or portable work to prevent interference pickup on P.A. systems, recording equipment, photo electric circuits, etc.

TINNED COPPER SHIELD OVERALL

DESCRIPTION:

Nos. 972 to 978

Each Conductor #20 10/30 Stranded Tinned Copper, 1/64″ rubber wall, waxed cotton braid color coded, twisted conductors, tinned copper shield overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Insul.	Cap/Ft. Bet. Cond. & Shield	Cap/Ft. Bet. Conds.	Nom. O.D.
972	100′	2	20	10/30	1/64	65 Mmf	43 Mmf	.215″
973	100′	3	20	10/30	1/64	68 Mmf	55 Mmf	.220″
974	100′	4	20	10/30	1/64	69 Mmf	57 Mmf	.250″
975	100′	5	20	10/30	1/64	70 Mmf	58 Mmf	.280″
976	100′	6	20	10/30	1/64	71 Mmf	60 Mmf	.290″
977	100′	7	20	10/30	1/64	72 Mmf	62 Mmf	.315″
978	100′	8	20	10/30	1/64	74 Mmf	65 Mmf	.350″

COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green, 5—Brown, 6—Yellow, 7—Blue, 8—Orange

For longer lengths and alternate put-ups—Specify.

ARMORED INDUSTRIAL CABLE

Used for P.A. systems on speaker extensions, oil burner installations, auto wiring, etc.

Two Conductors Parallel #18 16/30 Stranded Tinned Copper, rubber insulation, lacquered cotton braid color coded, spiral galvanized steel armor overall.

Cat. No.	Spool	Size AWG	Strand	O.D.
1111	250′	18	16/30	.155″ x .240″
1112	500′	18	16/30	.155″ x .240″
1113	1000′	18	16/30	.155″ x .240″

For longer lengths and alternate put-ups—Specify.

RUBBER MICROPHONE CABLE

Especially Designed for Heavy Studio Use

RUBBER CRYSTAL MICROPHONE CABLE

Designed for long service life and low loss. Use with crystal, ribbon, dynamic and velocity microphones and photoelectric cells. Birnbach #1870 is used widely for lapel microphones and phono pick ups.

DESCRIPTION:

No. 870

Single Conductor, 26 Strands
#34 extra flexible tinned copper, special low loss rubber compound, tinned copper braid shield, cotton wrap, tough black rubber jacket overall.

No. 872

Cat. No.	Spool	Cond.	Size No. Awg.	Stranding	Nom. Cap./Ft.	Nom. O.D.
870	100′	1	20	26/34	40 Mmf	.175″
1870	250′	1	20	26/34	40 Mmf	.175″
872	100′	1	20	26/34	30 Mmf	.245″
1872	250′	1	20	26/34	30 Mmf	.245″

For longer lengths and alternate put-ups—Specify.

RUBBER MICROPHONE CABLE

DESCRIPTION:

Nos. 772 to 778

Each Conductor, extra flexible stranded tinned copper, insulated with a .022″ wall special low capacity rubber, color coded, conductors twisted, jute filler, cotton wrap, tinned copper braided shield, cotton wrap with tough weatherproof black rubber jacket overall.

Used for indoor and outdoor crystal, carbon and condenser microphones and for public address systems.

Cat. No.	Spool	Cond.	Size Awg.	Strand.	Nom. Cap. Between 1-Cond. & Shield	Nom. Cap. Between 1-Cond. & Others Connected to Shield	Nom. Cap. Between 1-Cond. & Others	Nom. O.D.
772	100′	2	20	26/34	65 Mmf	68 Mmf	43 Mmf	.280″
1772	250′	2	20	26/34	65 Mmf	68 Mmf	43 Mmf	.280″
772/18	100′	2	18	41/34	70 Mmf	73 Mmf	48 Mmf	.300″
773	100′	3	20	26/34	68 Mmf	72 Mmf	55 Mmf	.290″
1773	250′	3	20	26/34	68 Mmf	72 Mmf	55 Mmf	.290″
773/18	100′	3	18	41/34	68 Mmf	72 Mmf	55 Mmf	.350″
774	100′	4	20	26/34	68 Mmf	74 Mmf	57 Mmf	.300″
1774	250′	4	20	26/34	68 Mmf	74 Mmf	57 Mmf	.300″
775	100′	5	20	26/34	70 Mmf	76 Mmf	58 Mmf	.330″
1775	250′	5	20	26/34	70 Mmf	76 Mmf	58 Mmf	.330″
776	100′	6	20	26/34	71 Mmf	80 Mmf	60 Mmf	.350″
1776	250′	6	20	26/34	71 Mmf	80 Mmf	60 Mmf	.350″
777	100′	7	20	26/34	72 Mmf	85 Mmf	62 Mmf	.365″
1777	250′	7	20	26/34	72 Mmf	85 Mmf	62 Mmf	.365″
778	100′	8	20	26/34	74 Mmf	90 Mmf	65 Mmf	.390″

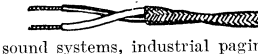
For longer lengths and alternate put-ups—Specify.

MICROPHONE CABLE COLOR CODE CHART

1—Black	3—Red	5—Yellow	7—Brown
2—White	4—Green	6—Blue	8—Orange

2 CONDUCTOR SHIELDED

(Twisted Pair)



Used for transmission lie, P. A. and sound systems, industrial paging systems, broadcast and audio cable, paging and rack and panel wiring.

DESCRIPTION:

Each conductor copper tinned, plastic insulation, color coded twisted, tinned copper shield overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Insul.	NOM O.D.
826	500′	2	24	16/36	.015″	.120″
825	500′	2	22	7/30	.017″	.140″
972S	500′	2	20	10/30	.017″	.155″
827	500′	2	18	16/30	.017″	.180″
828	500′	2	16	26/30	.020″	.210″
829	500′	2	14	41/30	.020″	.235″
830	500′	2	12	65/30	.025″	.295″
3 CONDUCTOR SHIELDED						
973S	500′	3	20	10/30	.017″	.192″
2 CONDUCTOR SHIELDED WAXED COTTON BRAID OVER SHIELD						
972B	500′	2	20	10/30	.017″	.180″

COLOR CODE: 1—Black, 2—Red, 3—White

For longer lengths and alternate put-ups—Specify.

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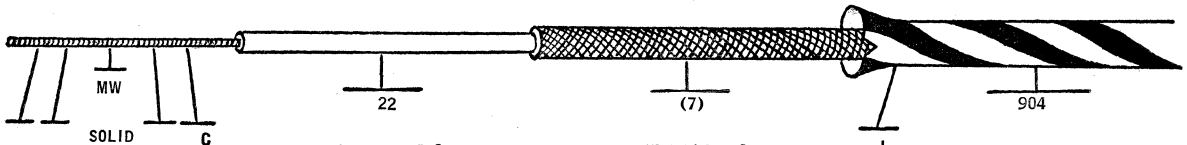
See Pages S-26 and S-27 for Birnbach Prices

Birnbach

GOV'T SPEC. HOOK-UP WIRE

SPECIFICATION MIL-W-76A TYPES MW, LW, HW, GLASS BRAID

EXAMPLE SPEC. MIL-W-76A TYPE CODE DESIGN



MW — SOLID OR STRANDED TINNED COPPER

C

22 — "U" PLASTIC INSULATION ONLY

OR

(7) — "B" PLASTIC PLUS GLASS BRAID LACQUERED

OR

J — "J" PLASTIC PLUS NYLON JACKET

904

MW	C	22	(7)	J	904

TYPE OF WIRE	CONDUCTOR MATERIAL	CONDUCTOR SIZE AWG	STRANDING	CONSTRUCTION	*COLOR CODE
LW .....300 Volt Light Wall	Tinned Copper	30 thru 20	Minimum number of strands	Symbol covering over insulated wire:	0 .....Black
MW .....1000 Volt Medium Wall	Tinned Copper	24 thru 12		U .....None	1 .....Brown
HW .....2500 Volt Heavy Wall	Tinned Copper	22 thru 12		J .....Jacket	2 .....Red
HW .....600 Volt Heavy Wall	Tinned Copper	10 thru 6		B .....Braid	3 .....Orange
				S .....Shield	4 .....Yellow
				JS .....Jacket and Shield	5 .....Green
				BS .....Braid and Shield	6 .....Blue
				SJ ..Shield & Outer Jacket	7 .....Violet (Purple)
				JSJ ....Jacket, Shield and outer Jacket	8 .....Gray (Slate)
				BSJ ....Braid, Shield and outer Jacket	9 .....White

***COLOR CODE** — The first digit indicates the body color and successive digits indicate tracer color or colors. The maximum number of stripes or tracers shall be three.

***SPEC. MIL-W-76A COLOR CODE DESIGNATIONS:**
(Examples) 9-Solid Color (White).
90-Solid Color with one tracer (White/Black).
904-Solid Color with two tracers (White/Black/Yellow).
9042-Solid Color with three tracers (White/Black/Yellow/Red).

Specification Mil-W-76A has been approved by the Departments of the Army, the Navy, and the Air Force. Supersedes Spec. Jan-C-76.

General purpose hook-up wire for application on Electronic devices, aircraft instruments, computers, radio, radar, receivers, light and power, rectifiers, transmitters.

High dielectric strength, temperature rating -40°C to 80°C. High temperature stability. Low temperature flexibility. Resists acids, alkalis, oil, flame, moisture, fungus proof.

SPECIFICATION MIL-W-76A TYPE MW (MEDIUM WALL) PLASTIC HOOK-UP WIRE TYPE MW 1000 VOLTS (FUNGUS PROOF) SUPERSEDES JAN-C-76 TYPE SRIR

STRANDED

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7024	1000′	24	MW-C 24(16)U	16/36	.015″	1000	.055″
7024-I	100′	24	MW-C 24(16)U	16/36	.015″	1000	.055″
7024-S	1000′	24	MW-C 24(16)U	16/36	.015″	1000	.055″
7024-IS	100′	24	MW-C 24(16)U	16/36	.015″	1000	.055″
7001	1000′	22	MW-C 22(7)U	7/30	.017″	1000	.066″
7001-I	100′	22	MW-C 22(7)U	7/30	.017″	1000	.066″
*† 7001-S	1000′	22	MW-C 22(7)U	7/30	.017″	1000	.066″
*† 7001-IS	100′	22	MW-C 22(7)U	7/30	.017″	1000	.066″
7003	1000′	20	MW-C 20(10)U	10/30	.017″	1000	.074″
7003-I	100′	20	MW-C 20(10)U	10/30	.017″	1000	.074″
*† 7003-S	1000′	20	MW-C 20(10)U	10/30	.017″	1000	.074″
*† 7003-IS	100′	20	MW-C 20(10)U	10/30	.017″	1000	.074″
7005	1000′	18	MW-C 18(16)U	16/30	.017″	1000	.085″
7005-I	100′	18	MW-C 18(16)U	16/30	.017″	1000	.085″
*7005-S	1000′	18	MW-C 18(16)U	16/30	.017″	1000	.085″
*7005-IS	100′	18	MW-C 18(16)U	16/30	.017″	1000	.085″
7007	1000′	16	MW-C 16(26)U	26/30	.017″	1000	.098″
7007-I	100′	16	MW-C 16(26)U	26/30	.017″	1000	.098″
7009	1000′	14	MW-C 14(41)U	41/30	.017″	1000	.114″
7009-I	100′	14	MW-C 14(41)U	41/30	.017″	1000	.114″
7011	1000′	12	MW-C 12(65)U	65/30	.017″	1000	.132″
7011-I	100′	12	MW-C 12(65)U	65/30	.017″	1000	.132″

SOLID

7000	1000′	22	MW-C 22(1)U	1	.017″	1000	.061″
7000-I	100′	22	MW-C 22(1)U	1	.017″	1000	.061″
7002	1000′	20	MW-C 20(1)U	1	.017″	1000	.068″
7002-I	100′	20	MW-C 20(1)U	1	.017″	1000	.068″
7004	1000′	18	MW-C 18(1)U	1	.017″	1000	.075″
7004-I	100′	18	MW-C 18(1)U	1	.017″	1000	.075″

STOCK COLORS: White, Yellow, Lt. Blue, Black, Violet (purple), Blue, Brown, Lt. Green, Pink, Red, Green, Tan, Orange, Gray (slate).

***SINGLE SPIRAL TRACER COLORS AVAILABLE:**

White/Black	White/Orange	White/Blue
White/Brown	White/Yellow	White/Purple
White/Red	White/Green	White/Gray

†DOUBLE SPIRAL TRACER COLORS AVAILABLE:

White/Black/Red	White/Black/Blue	White/Black/Gray
White/Black/Green	White/Black/Brown	White/Black/Purple
White/Black/Yellow	White/Black/Orange	

Additional spiral tracer combination available, to order, for all numbers.

See Pages S-26 and S-27 for Birnbach Prices

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PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-76A
TYPE MW (Medium Wall) — NYLON JACKET 1000 VOLT (Fungus Proof)
(Supersedes Jan-C-76 Types SRIR and WL Nylon Jacket)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and extruded nylon jacket overall.

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7224	1000′	24	MW-C 24(16)J	16/36	.015″	1000	.068″
7224-1	100′	24	MW-C 24(24)J	16/36	.015″	1000	.068″
*7222	1000′	22	MW-C 22(7)J	7/30	.017″	1000	.075″
*7222-1	100′	22	MW-C 22(7)J	7/30	.017″	1000	.075″
*7220	1000′	20	MW-C 20(10)J	10/30	.017″	1000	.087″
*7220-1	100′	20	MW-C 20(10)J	10/30	.017″	1000	.087″
*7218	1000′	18	MW-C 18(16)J	16/30	.017″	1000	.100″
*7218-1	100′	18	MW-C 18(16)J	16/30	.017″	1000	.100″
7216	1000′	16	MW-C 16(26)J	26/30	.017″	1000	.112″
7216-1	100′	16	MW-C 16(26)J	26/30	.017″	1000	.112″
7214	1000′	14	MW-C 14(41)J	41/30	.017″	1000	.122″
7214-1	100′	14	MW-C 14(41)J	41/30	.017″	1000	.122″
7212	1000′	12	MW-C 12(65)J	65/30	.017″	1000	.140″
7212-1	100′	12	MW-C 12(65)J	65/30	.017″	1000	.140″
7210	1000′	10	HW-C 10(105)J	105/30	.045″	600	.240″
7210-1	100′	10	HW-C 10(105)J	105/30	.045″	600	.240″

STOCK COLORS: White, Orange, Purple, Black, Yellow Gray, Brown, Green, Red, Blue

White/Black	White/Yellow	White/Gray	White/Black/Green
White/Brown	White/Green	White/Black/Red	White/Black/Orange
White/Red	White/Blue	White/Black/Yellow	White/Black/Brown
White/Orange	White/Purple	White/Black/Blue	White/Black/Gray

*In addition Nos. 7218, 7220, 7222, available in Red/Black and Black/White.
Nos. 7212, 7210 available solid colors only.

SHIELDED PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-76A — TYPE MW (Medium Wall) — SHIELDED
(Supersedes Jan-C-76 Type SRIR Shielded)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and tinned copper shielded braid overall.

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7074	1000′	24	MW-C 24(16)S	16/30	.015″	1000	.074″
7074-1	100′	24	MW-C 24(16)S	16/30	.015″	1000	.074″
7072	1000′	22	MW-C 22(7)S	7/30	.017″	1000	.084″
7072-1	100′	22	MW-C 22(7)S	7/30	.017″	1000	.084″
7070	1000′	20	MW-C 20(10)S	10/30	.017″	1000	.094″
7070-1	100′	20	MW-C 20(10)S	10/30	.017″	1000	.094″
7068	1000′	18	MW-C 18(16)S	16/30	.017″	1000	.106″
7068-1	100′	18	MW-C 18(16)S	16/30	.017″	1000	.106″
7067	1000′	16	MW-C 16(26)S	26/30	.017″	1000	.121″
7067-1	100′	16	MW-C 16(26)S	26/30	.017″	1000	.121″
*7066	1000′	14	MW-C 14(41)S	41/30	.017″	1000	.137″
*7065	1000′	12	MW-C 12(65)S	65/30	.017″	1000	.155″

STOCK COLORS: (Underneath Shield) Black, White, Red, Yellow, Brown, Green, Blue, Gray
*Nos. 7066, 7065, available from stock in Black or White.

SHIELDED HOOK-UP WIRE

SPECIFICATION MIL-W-76A — TYPE MW (Medium Wall) — GLASS BRAID, SHIELDED
(Supersedes Jan-C-76 Types SRIR and WL Glass Braid Shielded

DESCRIPTION: Same as MW — Glass braid, one conductor with tinned copper shield overall.

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7052	1000′	22	MW-C 22(7)BS	7/30	.017″	1000	.094″
7052-1	100′	22	MW-C 22(7)BS	7/30	.017″	1000	.094″
7053	1000′	20	MW-C 20(10)BS	10/30	.017″	1000	.107″
7053-1	100′	20	MW-C 20(10)BS	10/30	.017″	1000	.107″
7054	1000′	18	MW-C 18(16)BS	16/30	.017″	1000	.123″
7054-1	100′	18	MW-C 18(16)BS	16/30	.017″	1000	.123″
7055	1000′	16	MW-C 16(26)BS	26/30	.017″	1000	.135″
7055-1	100′	16	MW-C 16(26)BS	26/30	.017″	1000	.135″
7056	1000′	14	MW-C 14(41)BS	41/30	.017″	1000	.146″
7056-1	100′	14	MW-C 14(41)BS	41/30	.017″	1000	.146″
7057	1000′	12	MW-C 12(65)BS	65/30	.017″	1000	.169″
7057-1	100′	12	MW-C 12(65)BS	65/30	.017″	1000	.169″
7058	1000′	10	HW-C 10(105)BS	105/30	.045″	600	.264″
7058-1	100′	10	HW-C 10(105)BS	105/30	.045″	600	.264″
7059	1000′	8	HW-C 8(133)BS	133/29	.045″	600	.367″
7059-1	100′	8	HW-C 8(133)BS	133/29	.045″	600	.367″

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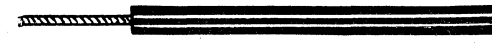
See Pages S-26 and S-27 for Birnbach Prices

PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-76A TYPE LW (Light Wall) TYPE LW — 300 VOLTS

DESCRIPTION: One conductor stranded tinned copper with light wall of primary thermoplastic insulation.



Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7330	1000′	30	LW-C 30(7)U	7/28	.010″	300	.033″
7330-1	100′	30	LW-C 30(7)U	7/28	.010″	300	.033″
7328	1000′	28	LW-C 28(7)U	7/36	.010″	300	.035″
7328-1	100′	28	LW-C 28(7)U	7/36	.010″	300	.035″
7326	1000′	26	LW-C 26(10)U	10/36	.010″	300	.040″
7326-1	100′	26	LW-C 26(10)U	10/36	.010″	300	.040″

STOCK COLORS: Black, Brown, Red, White, Green, Orange, Yellow, Gray, Blue, Purple

Additional sizes, colors available to order.

SPECIFICATION MIL-W-76A TYPE HW (Heavy Wall) — 2500 VOLTS (Fungus Proof) (SUPERSEDES Jan-C-76 Type SRHV)

DESCRIPTION: Similar to type MW. One conductor stranded tinned copper with larger wall of primary thermoplastic insulation to take 2500 V RMS.

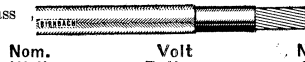
Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7322	1000′	22	HW-C 22(7)U	7/30	.033″	2500	.105″
7322-1	100′	22	HW-C 22(7)U	7/30	.033″	2500	.105″
7320	1000′	20	HW-C 20(10)U	10/30	.033″	2500	.112″
7320-1	100′	20	HW-C 20(10)U	10/30	.033″	2500	.112″
7318	1000′	18	HW-C 18(16)U	16/30	.033″	2500	.122″
7318-1	100′	18	HW-C 18(16)U	16/30	.033″	2500	.122″
7316	1000′	16	HW-C 16(26)U	26/30	.033″	2500	.135″
7316-1	100′	16	HW-C 16(26)U	26/30	.033″	2500	.135″
7314	1000′	14	HW-C 14(41)U	41/30	.045″	2500	.175″
7314-1	100′	14	HW-C 14(41)U	41/30	.045″	2500	.175″
7312	1000′	12	HW-C 12(65)U	65/30	.045″	2500	.195″
7312-1	100′	12	HW-C 12(65)U	65/30	.045″	2500	.195″
*7013	1000′	10	HW-C 10(105)U	105/30	.045″	600	.217″
*7013-1	100′	10	HW-C 10(105)U	105/30	.045″	600	.217″
*7015	1000′	8	HW-C 8(133)U	133/29	.045″	600	.268″
*7015-1	100′	8	HW-C 8(133)U	133/29	.045″	600	.268″
*7017	1000′	6	HW-C 6(133)U	133/27	.045″	600	.315″
*7017-1	100′	6	HW-C 6(133)U	133/27	.045″	600	.315″

STOCK COLORS: White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray

*Nos. 7013, 7015, 7017, available stock colors: Black, White. Additional sizes, colors available to order.

SPECIFICATION MIL-W-76A TYPE MW (Medium Wall) — GLASS BRAID 1000 VOLTS (Supersedes Jan-C-76 Types SRIR and WL Glass Braid)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and lacquered glass braid overall.



Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7022	1000′	22	MW-C 22(7)B	7/30	.017″	1000	.079″
7022-1	100′	22	MW-C 22(7)B	7/30	.017″	1000	.079″
7020	1000′	20	MW-C 20(10)B	10/30	.017″	1000	.084″
7020-1	100′	20	MW-C 20(10)B	10/30	.017″	1000	.084″
7018	1000′	18	MW-C 18(16)B	16/30	.017″	1000	.100″
7018-1	100′	18	MW-C 18(16)B	16/30	.017″	1000	.100″
7016	1000′	16	MW-C 16(26)B	26/30	.017″	1000	.116″
7016-1	100′	16	MW-C 16(26)B	26/30	.017″	1000	.116″
*7014	1000′	14	MW-C 14(41)B	41/30	.017″	1000	.129″
*7014-1	100′	14	MW-C 14(41)B	41/30	.017″	1000	.129″
*7012	1000′	12	MW-C 12(65)B	65/30	.017″	1000	.149″
*7012-1	100′	12	MW-C 12(65)B	65/30	.017″	1000	.149″

STOCK COLORS:

White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White/Brown, White/Black, White/Orange, White/Yellow, White/Green, White/Blue, White/Red, White/Gray, White/Purple, White/Black/Red, White/Black/Yellow, White/Black/Blue, White/Black/Green, White/Black/Orange, White/Black/Brown, White/Black/Gray

*Nos. 7014, 7012, available stock colors White, Black.

TYPE HW (Heavy Wall) — GLASS BRAID (Supersedes Jan-C-76 Type SRHV — Glass Braid)

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7010	1000′	10	HW-C 10(105)B	105/30	.045″	600	.237″
7010-1	100′	10	HW-C 10(105)B	105/30	.045″	600	.237″
7008	1000′	8	HW-C 8(133)B	133/29	.045″	600	.293″
7008-1	100′	8	HW-C 8(133)B	133/29	.045″	600	.293″
7006	1000′	6	HW-C 6(133)B	133/27	.045″	600	.340″
7006-1	100′	6	HW-C 6(133)B	133/27	.045″	600	.340″

STOCK COLORS: White, Black

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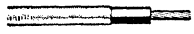
AIRCRAFT PLASTIC HOOK-UP WIRE

SPECIFICATIONS MIL-W-5086 and MIL-C-7078

NYLON JACKET



No. 7351

Used where a single conductor, 600 volt insulated wire, is required. This aircraft electrical wire is resistant to effects of salt water, oils, aircraft engine fuels, alcohol, fungus, heat, cold, salt water, abrasion, meets -65°F temperature test.

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket overall. Color: White.

No. 7371

MIL-W-5086 UNSHIELDED (Supersedes AN-J-C-48A)

Cat. No.	Spool	Size AWG	Mil Type Type Designation	Conductor Stranded	Volt Rating	Nom. O.D.
7351	1000′	22	AN-22	19/34	600	.080″
7353	1000′	20	AN-20	19/32	600	.090″
7355	1000′	18	AN-18	19/30	600	.104″
7357	1000′	16	AN-16	19/29	600	.118″
7359	1000′	14	AN-14	19/27	600	.135″
7361	1000′	12	AN-12	19/25	600	.154″
7362	1000′	10	AN-10	65/28	600	.198″
7363	1000′	8	AN-8	133/29	600	.247″
7364	1000′	6	AN-6	133/27	600	.297″
7365	1000′	4	AN-4	133/25	600	.394″

In addition MIL-W-5086 unshielded available in sizes AN-2, AN-0, AN-00.

MIL-C-7078 SHIELDED (Supersedes An-C-168)

7371	1000′	22	AN-22	19/34	600	.100″
7372	1000′	20	AN-20	19/32	600	.110″
7373	1000′	18	AN-18	19/30	600	.124″
7374	1000′	16	AN-16	19/29	600	.139″
7375	1000′	14	AN-14	19/27	600	.158″
7376	1000′	12	AN-12	19/25	600	.177″

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket with tinned copper shielded braid overall. Color: White under shield.

BIRFLON (EXTRUDED) TEFLON* HOOK-UP WIRE

SPECIFICATION MIL-W-16878B TYPE E — 600 VOLT

HIGH TEMPERATURE RATING —90° TO +250°C.

Chemically inert, non-flammable, excellent flexibility, easy stripping, high dielectric strength, unaffected by fungus. Class H insulation. Unaffected by high or low temperatures. Outstanding for its dependability and long life under all operating conditions.

DESCRIPTION: Soft or annealed copper, silver plated stranded, extruded Teflon* insulations.

Cat. No.	Spool	Size AWG	Con. Strand	Nom. Cir. Mils	Nom. Cond. Diam.	Diam. Over Ins. (Max.)
8530	1000′	30	7/38	112	.012″	.036″
8530-1	100′	30	7/38	112	.012″	.036″
8528	1000′	28	7/36	175	.015″	.039″
8528-1	100′	28	7/36	175	.015″	.039″
8526	1000′	26	7/34	278	.019″	.043″
8526-1	100′	26	7/34	278	.019″	.043″
8524	1000′	24	19/36	475	.025″	.048″
8524-1	100′	24	19/36	475	.025″	.048″
8522	1000′	22	7/30	700	.030″	.054″
8522-1	100′	22	7/30	700	.030″	.054″
8520	1000′	20	7/28	1120	.038″	.062″
8520-1	100′	20	7/28	1120	.038″	.062″
8518	1000′	18	19/30	1900	.050″	.074″
8518-1	100′	18	19/30	1900	.050″	.074″
8516	1000′	16	19/29	2430	.057″	.087″
8516-1	100′	16	19/29	2430	.057″	.087″

*DuPont's Trade Name for Polytetrafluorethylene.

Colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White. Additional sizes and strandings available upon request. Wrapped Teflon* insulated wire available. Can be furnished in a variety of constructions with or without shielding, glass braid, multi-conductors.

PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-16878B TYPE B — HIGH TEMPERATURE

Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required.

DESCRIPTION: One conductor stranded tinned copper with rated -55°C to +105°C high temperature thermoplastic light wall insulation.

Cat. No.	Spool	Size AWG	Mil-W-16878B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7190	1000′	32	B-32	7/40	.010″	600	.028″
7191	1000′	30	B-30	7/38	.010″	600	.030″
7192	1000′	28	B-28	7/36	.010″	600	.033″
7193	1000′	26	B-26	7/34	.010″	600	.037″
7194	1000′	24	B-24	7/32	.010″	600	.043″
7195	1000′	22	B-22	7/30	.010″	600	.048″
7196	1000′	20	B-20	7/28	.010″	600	.057″
7197	1000′	18	B-18	7/26	.010″	600	.067″
7198	1000′	16	B-16	19/29	.010″	600	.077″

STOCK COLORS: Black, White, Red, Yellow, Brown, Green, Blue, Gray, Orange, Purple

White/Black, White/Red, White/Green, White/Yellow, White/Blue, White/Brown, White/Orange, White/Gray, White/Violet

Mil-W-16878B Type B also available with nylon jacket.

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See Pages S-26 and S-27 for Birnbach Prices

MINIATURIZATION HOOK-UP WIRE and CABLE

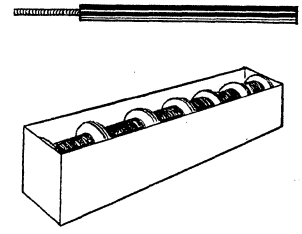
HIGH TEMPERATURE 105°C. — UNSHIELDED — ONE CONDUCTOR

Used in miniaturized equipment, computers transistor circuits, electro-medical and electro therapeutic apparatus, instrumentation projects, miniaturization programs, where fine sizes are required with high operating temperature.

For "Lab" requirements Miniaturization Hook-Up Wire and Cable assortments — WRITE for information.

Cat. No	Spool	No. of Cond.	Size AWG	Conductor Strand	Nom. Wall	Nom. O.D.
7534	1000′	1	34	4/40	.010″	.027″
7534-500	500′	1	34	4/40	.010″	.027″
7532	1000′	1	32	7/40	.010″	.029″
7532-500	500′	1	32	7/40	.010″	.029″
7530	1000′	1	30	7/38	.010″	.030″
7530-500	500′	1	30	7/38	.010″	.030″
7529	1000′	1	29	5/36	.010″	.030″
7529-500	500′	1	29	5/36	.010″	.030″
7528	1000′	1	28	7/36	.010″	.035″
7528-500	500′	1	28	7/36	.010″	.035″
7527	1000′	1	27	7/35	.010″	.037″
7527-500	500′	1	27	7/35	.010″	.037″
7526	1000′	1	26	10/36	.010″	.038″
7526-500	500′	1	26	10/36	.010″	.038″
7524	1000′	1	24	16/36	.015″	.055″
7524-500	500′	1	24	16/36	.015″	.055″

STOCK COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple



DESCRIPTION:

One conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation overall.

SUB-MINIATURE — MULTI-CONDUCTOR CABLE — (Super Flexible)

NO OUTER JACKET — CLEAR VINYL JACKET OVERALL

Cat. No.	Spool	No. of Cond.	Size AWG	Cond. Strand	Nom. Wall	Nom. O.D.
7652	1000′	2	30	7/38	.010″	.059″
7652	500′	2	30	7/38	.010″	.059″
7653	1000′	3	30	7/38	.010″	.065″
7653	500′	3	30	7/38	.010″	.065″
7654	1000′	4	30	7/38	.010″	.072″
7654	500′	4	30	7/38	.010″	.072″

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

Cat. No.	Spool	No. of Cond.	Size AWG	Cond. Strand	Nom. Wall	Nom. O.D.
7668	1000′	2	28	7/36	.010″	.079″
7668	500′	2	28	7/36	.010″	.079″
7669	1000′	3	28	7/36	.010″	.086″
7669	500′	3	28	7/36	.010″	.086″
7670	1000′	4	28	7/36	.010″	.095″
7670	500′	4	28	7/36	.010″	.095″

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

SUB-MINIATURE — SHIELDED HOOK-UP WIRE — (Super Flexible)

Cat. No	Spool	No. of Cond.	Size AWG	Conductor Strand	Nom. Wall	Nom. O.D.
7538	1000′	1	30	7/38	.010″	.053″
7538	500′	1	30	7/38	.010″	.053″
7535	1000′	1	28	7/36	.010″	.058″
7535	500′	1	28	7/36	.010″	.058″
7537	1000′	1	26	10/36	.010″	.061″
7537	500′	1	26	10/36	.010″	.061″
7536	1000′	1	24	16/36	.015″	.075″
7536	500′	1	24	16/36	.015″	.075″

STOCK COLOR: White (under shield)

DESCRIPTION:

One or multi-conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation and tinned copper shielded braid overall.

SUB-MINIATURE — MULTI-CONDUCTOR CABLE SHIELDED — (Super Flexible)

NO OUTER JACKET — CLEAR VINYL JACKET OVERALL

Cat. No.	Spool	No. of Cond.	Size AWG	Cond. Strand	Nom. Wall	Nom. O.D.
7542	1000′	2	24	16/36	.015″	.114″
7542/3	1000′	3	24	16/36	.015″	.123″
7542/4	1000′	4	24	16/36	.015″	.144″

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

Cat. No.	Spool	No. of Cond.	Size AWG	Cond. Strand	Nom. Wall	Nom. O.D.
7552	1000′	2	28	7/36	.010″	.137″
7552/3	1000′	3	28	7/36	.010″	.145″
7552/4	1000′	4	28	7/36	.010″	.163″

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

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BIRSIL SILICONE RUBBER HOOK-UP LEAD WIRE

200° C. — 600 VOLT

This Birsil Silicone Rubber Hook up lead wire withstands extreme temperature range and flexibility from —104° C. to +400° F. with retention of physical properties and is highly resistant to flex cracking at temperature extremes; fungus resistant; corona resistant; engineered for high-heat and hi-frequency applications; low power factor; acid-alkali-oil resistant; low dielectric constant; insulation appproaching mica. Approved by U. L. but consumer must apply for Underwriter's Laboratories approval for individual product.

Cat. No.	Spool	Size AWG	Strand	Nom. Ins. Wall	Volt Rating	Nom. O.D.
7622	1000′	22	7/30	1/32″	600	.105″
7622-1	100′	22	7/30	1/32″	600	.105″
7620	1000′	20	10/30	1/32″	600	.121″
7620-1	100′	20	10/30	1/32″	600	.121″
7618	1000′	18	16/30	1/32″	600	.128″
7618-1	100′	18	16/30	1/32″	600	.128″
7616	1000′	16	26/30	1/32″	600	.144″
7616-1	100′	16	26/30	1/32″	600	.144″
7614	1000′	14	41/30	1/32″	600	.165″
7614-1	100′	14	41/30	1/32″	600	.165″
7612-1	100′	12	65/30	1/32″	600	.185″
7610-1	100′	10	65/28	3/64″	600	.240″

Additional sizes and colors available to order.

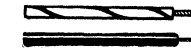
DESCRIPTION:
One conductor, tinned copper strands, silicone rubber insulation, glass braid, lacquered. Color: White.

BIRFLENE* KEL-F HOOK-UP WIRE

—125° C. to +150° C. MEETS MIL-W-12349-SPEC

PERFORMANCE SPECIFICATIONS:
Continuous: —60° to +150° C. **Operating Voltage:** 1000 volts RMS. **Spark Test:** 7500 volts. **Dielectric Strength:** 5000 volts at 60° C. for 1 minute. **Insulation Resistance:** Greater than 5000 Meg Ohms/1000 Ft. at 60° C. **Moisture Absorption:** Nil. **Flammability:** Non-flammable. **Resistance to Chemicals:** All solvents and acids. **Aging:** Outdoor, 1 year; no detectable change.

Cat. No.	Spool	Size AWG	Strand	Nom. Ins. Wall	Nom. O.D.
7130	1000′	30	7/38	.006″	.029″
7130-1	100′	30	7/38	.006″	.029″
7128	1000′	28	7/36	.006″	.032″
7128-1	100′	28	7/36	.006″	.032″
7126	1000′	26	7/34	.008″	.037″
7126-1	100′	26	7/34	.008″	.037″
7124	1000′	24	7/32	.008″	.043″
7124-1	100′	24	7/32	.008″	.043″
7122	1000′	22	7/30	.008″	.050″
7122-1	100′	22	7/30	.008″	.050″
7120	1000′	20	7/28	.010″	.060″
7120-1	100′	20	7/28	.010″	.060″
7118	1000′	18	16/30	.010″	.070″
7118-1	100′	18	16/30	.010″	.070″
7116	1000′	16	19/29	.010″	.079″
7116-1	100′	16	19/29	.010″	.079″



DESCRIPTION:
One conductor silver plated copper stranded, insulation — Monochlorotrifluoroethylene (Birflene Kel-F).

COLORS: White, Red, Green, Gray, Black, Orange, Dk. Blue, Lt. Blue, Brown, Yellow, Purple

Available in Spiral Tracers.

*Made with Kellogg Co. Kel-F or Bakelite Co. Fluorothene.

HI-VOLTAGE and CATHODE RAY CABLE

Used for 10,000, 20,000, 40,000, 60,000 volt applications as for cathode ray tubes in TV receivers, oscilloscopes and other electronic devices. Has dielectric constant of 2.7 and power factor of .002. Shielded Hi-Voltage type used to shield RF radiation in X-Ray, diathermy, medical equipment, and in transmitters.

UNSHIELDED

Cat. No.	Spool	Size AWG	Strand	Nom. Ins. Wall	Volt Rating	Nom. O.D.
7402	1000′	20	10/30	.047″	10,000	.125″
7402-1	100′	20	10/30	.047″	10,000	.125″
7412	1000′	20	10/30	.068″	20,000	.169″
7412-1	100′	20	10/30	.068″	20,000	.169″
7418	1000′	18	16/30	.047″	10,000	.135″
7418-1	100′	18	16/30	.047″	10,000	.135″
7428	1000′	18	16/30	.069″	20,000	.179″
7428-1	100′	18	16/30	.069″	20,000	.179″
7448	1000′	18	16/30	.095″	40,000	.231″
7448-1	100′	18	16/30	.095″	40,000	.231″
7449	1000′	18	16/30	.123″	60,000	.285″
7449-1	100′	18	16/30	.123″	60,000	.285″

SHIELDED

7458	1000′	18	16/30	.095″	40,000	.256″
7458-1	100′	18	16/30	.095″	40,000	.256″

DESCRIPTION:
One conductor stranded copper tinned rulan (flame retarding type) polyethylene insulation. Available in White.

Shielded: Same as above with tinned copper braided shield overall.

PLASTIC INSULATED HOOK-UP WIRE

Designed for the chassis, sub-chassis wiring of radio and television receivers and transmitters inside or outside the chassis. UL approved for 105° C. (221° F.) operating temperature.

105° C. — 600 VOLT RATING UL APPROVED

Cat. No.	Spool	AWG	Stranding	Nom. Wall	Volt. Breakdown	DC Ins. Res. Megs./Ft.	Max. O.D.
7201	1000′	22	7/30	.032″	18000	5000	.100″
7201-1	100′	22	7/30	.032″	18000	5000	.100″
7203	1000′	20	10/30	.032″	18000	5000	.104″
7203-1	100′	20	10/30	.032″	18000	5000	.104″
7205	1000′	18	16/30	.032″	18000	5000	.112″
7205-1	100′	18	16/30	.032″	18000	5000	.112″
7207	1000′	16	26/30	.032″	18000	5000	.129″
7207-1	100′	16	26/30	.032″	18000	5000	.129″
7202	1000′	22	Solid	.032″	18000	5000	.095″
7202-1	100′	22	Solid	.032″	18000	5000	.095″
7204	1000′	20	Solid	.032″	18000	5000	.102″
7204-1	100′	20	Solid	.032″	18000	5000	.102″

COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple

DESCRIPTION:
One Conductor stranded annealed copper tinned, plastic insulation.

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See Pages S-26 and S-27 for Birnbach Prices

Birnbach — SHIELDED — MULTI — TWO WIRE SPEAKER CABLE TWISTED PAIR CABLES

SHIELDED TWO WIRE SPEAKER CABLE

Used extensively for master control sound systems, photo electric circuits, P.A. systems, etc.

DESCRIPTION:
#972A—2 Cond. #18-16/30 Tinned Copper, 1/32" wall special low capacity rubber, color coded, twisted, paper wrap, closely woven tinned copper shield overall.

No. 972A

#1972A—Similar to #972A with a waxed cotton braid over shield.

TINNED SHIELD OVERALL

Cat. No.	Spool	Cond.	Size AWG	Strand	Insul.	Cap/Ft. Bet. Cond. & Shield	Cap/Ft. Bet. Conds.	O.D.
972A	500'	2	18	16/30	1/32	65	43	.250"

WAXED COTTON BRAID OVER SHIELD

1972A	500'	2	18	16/30	1/32	65	43	.275"

COLOR CODE: Black and Red
For longer lengths and alternate put-ups—Specify.

Multi-Conductor Industrial Cable

PLASTIC JACKET OVERALL

DESCRIPTION:
#18 solid tinned copper plastic insulation, color coded, twisted conductors. Gray vinyl jacket overall. Used for inter-com systems, speaker cable, alarm, signal, P. A. systems, thermostats, remote control circuits. Suitable for outdoor installations.

Cat. No.	Spool	Conds.	Size AWG	Nom. Insul.	Nom. Jacket	Nom. O.D.
4752	500'	2	18 solid	.017"	.020"	.185"
4753	500'	3	18 solid	.017"	.020"	.190"
4754	500'	4	18 solid	.017"	.020"	.235"
4755	500'	5	18 solid	.017"	.020"	.240"
4756	500'	6	18 solid	.017"	.020"	.275"

COLOR CODE:
1—Black, 2—Red, 3—White, 4—Green, 5—Orange, 6—Blue

UNSHIELDED AUDIO CABLE
Solid Conductors (2 & 3)

Widely used for connecting sound and inter-com systems, audio hook-ups, indoor and outdoors.

FOR INDOOR USE

Without plastic Jacket

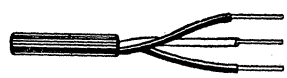
DESCRIPTION:
Solid Tinned Copper Conductors, vinyl plastic insulation, color coded, conductors twisted.

Cat. No.	Spool	Conds.	Size AWG	Nom. Insul.	Nom. O.D.
931	1000'	2	22 solid	.016"	.115"
933	1000'	3	22 solid	.016"	.125"
981	1000'	2	20 solid	.016"	.130"
983	1000'	3	20 solid	.016"	.140"
985	1000'	2	18 solid	.016"	.145"
987	1000'	3	18 solid	.016"	.155"

FOR OUTDOOR USE

With Plastic Jacket Overall

DESCRIPTION:
Solid Tinned Copper Conductors, vinyl plastic insulation, color coded, conductors twisted with weatherproof plastic jacket overall.



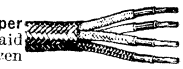
Cat. No.	Spool	Conds.	Size AWG	Nom. Insul.	Nom. Jacket	Nom. O.D.
932	1000'	2	22 solid	.010"	.020"	.125"
934	1000'	3	22 solid	.010"	.020"	.130"
982	1000'	2	20 solid	.016"	.020"	.170"
984	1000'	3	20 solid	.016"	.020"	.180"
986	1000'	2	18 solid	.016"	.020"	.185"
988	1000'	3	18 solid	.016"	.020"	.190"

For longer lengths and alternate put-ups—Specify.
COLOR CODE: 1—Brown 2—Tan 3—Gray

MULTI-CONDUCTOR FLEXIBLE CABLE

RUBBER INSULATED — Cotton Braid Overall

DESCRIPTION:
Each Conductor, #20 — 10/30 Tinned Copper Stranded, 1/64" low capacity rubber, cotton braid color coded, conductors twisted, closely woven brown cotton braid overall.



Used for multiple circuit hookups, connecting speakers, remote control units, analyzers, etc.

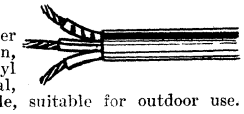
Cat. No.	Spool	Conds.	Size AWG	Strand	Ins.	Nom. O.D.
172	100'	2	20	10/30	1/64"	.205"
173	100'	3	20	10/30	1/64"	.245"
174	100'	4	20	10/30	1/64"	.265"
175	100'	5	20	10/30	1/64"	.290"
176	100'	6	20	10/30	1/64"	.310"
177	100'	7	20	10/30	1/64"	.325"
178	100'	8	20	10/30	1/64"	.360"
179	100'	9	20	10/30	1/64"	.395"
180	100'	10	20	10/30	1/64"	.425"
182	100'	12	20	10/30	1/64"	.440"

COLOR CODE:

1—Black	5—Orange	9—White/Black Tracer
2—White	6—Blue	10—Red/Black Tracer
3—Red	7—Brown	11—Green/Black Tracer
4—Green	8—Yellow	12—Orange/Black Tracer

MULTI-CONDUCTOR FLEXIBLE CABLE
Plastic Jacket Overall

DESCRIPTION:
Each conductor #22 7/30 tinned copper stranded 1/64" thermoplastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Used for signal, P.A. systems. Electronic computer cable, suitable for outdoor use.

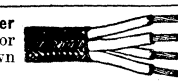


Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
156	500'	2	22	7/30	.010"	.020"	.150"
157	500'	3	22	7/30	.010"	.020"	.155"
158	500'	4	22	7/30	.010"	.020"	.185"
159	500'	5	22	7/30	.010"	.020"	.190"
160	500'	6	22	7/30	.010"	.020"	.195"
161	500'	7	22	7/30	.010"	.020"	.230"
162	250'	8	22	7/30	.010"	.020"	.245"
163	250'	9	22	7/30	.010"	.020"	.250"
164	250'	10	22	7/30	.010"	.020"	.255"
165	250'	12	22	7/30	.010"	.020"	.280"

For longer lengths and alternate put-ups—Specify.
COLOR CODE:
1—Black 3—White 5—Orange 7—Brown 9—Violet 11—Pink
2—Red 4—Green 6—Blue 8—Yellow 10 Slate 12—Tan

THERMO-PLASTIC INSULATED — Cotton Braid Overall

Each Conductor #22 — 7/30 Tinned Copper Stranded, 1/64" Thermoplastic insulation, color coded, conductors twisted, closely woven brown cotton braid overall.



Cat. No.	Spool	Conds.	Size AWG	Strand	Ins.	Nom. O.D.
263	100'	3	22	7/30	1/64"	.160"
264	100'	4	22	7/30	1/64"	.170"
265	100'	5	22	7/30	1/64"	.195"
266	100'	6	22	7/30	1/64"	.210"
267	100'	7	22	7/30	1/64"	.230"
268	100'	8	22	7/30	1/64"	.245"
269	100'	9	22	7/30	1/64"	.260"
270	100'	10	22	7/30	1/64"	.295"
272	100'	12	22	7/30	1/64"	.325"

For longer lengths and alternate put-ups—Specify.
COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green, 5—Orange, 6—Blue, 7—Brown, 8—Yellow, 9—Purple, 10—Pink, 11—Gray, 12—Dk. Blue

TWISTED PAIR TRANSMISSION CABLE

WEATHERPROOF BRAID

DESCRIPTION:
No. 952—Two Conductors, #22-7/30 Tinned Copper Stranded, special low loss rubber insulation, color coded, twisted conductors, cotton braid overall with rugged weatherproof finish.

No. 919, 920—Two Conductors, #18-16/30 Tinned Copper Stranded, same construction as above.

Used for low loss transmission coupling between antenna and receiver as doublet twisted lead-in wire for inter-com. setup.

Cat. No.	Spool	Size AWG	Strand	Insul.	Nom. O.D.
952	500'	22	7/32	1/32"	.180"
919	500'	18	16/30	1/32"	.195"
920	1000'	18	16/30	1/32"	.195"

For longer lengths and alternate put-ups—Specify.

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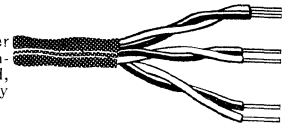
PLASTIC INTERCOMMUNICATING CABLES

TWISTED PAIRS—SOLID CONDUCTORS

Used in connecting Intercommunicating and Sound Systems, Telephones, Annunciators, etc.

DESCRIPTION:
Each Conductor #22 Solid Copper Tinned, .010" Wall Vinyl Plastic Insulation, conductors color coded, twisted pairs cabled, tubed gray Vinyl plastic jacket overall.



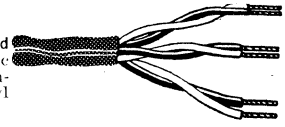
No. 4701 to 4729

Cat. No.	Spool	Pairs	Cond.	Size No. AWG	O.D.
4701	500′	1	2	22 Solid	.145″
4702	500′	2	4	22 Solid	.205″
4703	500′	3	6	22 Solid	.215″
4706	500′	6	12	22 Solid	.250″
4709	500′	9	18	22 Solid	.310″
4711	500′	11	22	22 Solid	.350″
4715	500′	15	30	22 Solid	.390″
4716	500′	16	32	22 Solid	.405″
4727	500′	27	54	22 Solid	.495″
4729	500′	51	102	22 Solid	.650″

For longer lengths and alternate put-ups—Specify.

TWISTED PAIRS—STRANDED CONDUCTORS

DESCRIPTION:
Each Conductor #22 7/30 Stranded Tinned Copper, .010" Vinyl plastic insulation, twisted pairs cabled, conductors color coded, tubed gray Vinyl plastic jacket overall.



No. 4731 to 4747

Cat. No.	Spool	Pairs	Cond.	Size No. AWG	Strand	Nom. O.D.
4731	500′	1	2	22	7/30	.145″
4732	500′	2	4	22	7/30	.210″
4733	500′	3	6	22	7/30	.225″
4734	500′	4	8	22	7/30	.235″
4735	500′	5	10	22	7/30	.245″
4736	500′	6	12	22	7/30	.270″
4739	500′	9	18	22	7/30	.325″
4745	500′	15	30	22	7/30	.455″
4747	500′	27	54	22	7/30	.570″

For longer lengths and alternate put-ups—Specify.

COLOR CODE CHART FOR PAIRED INTERCOMMUNICATING CABLES

Pair No.	Color
1	Black with Red
2	Black with White
3	Black with Green
4	Black with Blue
5	Black with Brown
6	Black with Yellow
7	Black with Orange
8	Red with Green
9	Red with White
10	Red with Blue
11	Red with Yellow
12	Red with Brown
13	Red with Orange
14	Green with Blue
15	Green with White
16	Green with Brown
17	Green with Orange
18	Green with Yellow
19	White with Blue
20	White with Brown
21	White with Orange
22	White with Yellow
23	Blue with Brown
24	Blue with Orange
25	Blue with Yellow
26	Brown with Orange
27	Brown with Yellow
28	Purple with Red
29	Purple with White
30	Purple with Green
31	Purple with Blue
32	Purple with Brown
33	Purple with Yellow
34	Purple with Orange
35	Purple with Slate
36	Purple with Black
37	Slate with Red
38	Slate with White
39	Slate with Green
40	Slate with Blue
41	Slate with Brown
42	Slate with Yellow
43	Slate with Orange
44	Slate with Black
45	White/Black with Red
46	White/Black with Green
47	White/Black with Blue
48	White/Black with Brown
49	White/Black with Yellow
50	White/Black w. Orange
51	White/Black with Purple

SPIRAL WRAPPED SHIELDED AUDIO and MULTI-CONDUCTOR CABLE

Plastic Jacketed—with Spiral wrapped copper shield

Designed for P. A. and sound systems, installations in schools, hospitals, and institutions, recording studios, transmitters, paging and call systems.

DESCRIPTION:
Each conductor copper tinned, 1/64 plastic insulation, color coded, twisted, spiral wrapped tinned copper shield, gray plastic jacket overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	O.D.
941	500′	2	22	7/30	.017″	.020″	.171″
942	500′	2	20	10/30	.017″	.020″	.190″
943	500′	3	20	10/30	.017″	.020″	.208″
944	500′	4	20	10/30	.017″	.020″	.222″
947	500′	2	18	16/30	.017″	.020″	.230″

COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green

PLASTIC INTER-COM CABLE

4 CONDUCTORS (2 Shielded — 2 Unshielded)

Widely used for wiring from station to station where a shielded twisted pair is indicated in order to eliminate cross talk.

DESCRIPTION:
No. 925 — 4 conductors #22 7/30 stranded tinned copper, vinyl plastic insulation color coded, tinned copper shield over one pair (2 cond.) One pair (2 cond.) unshielded. Tubed gray vinyl jacket overall.

COLOR CODE: Black/white shielded Black/red unshielded

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	O.D.
925	500′	4	22	7/30	.016″	.020″	.310″

3 CONDUCTORS (1 Shielded — 2 Unshielded)

Widely used for wiring from station to station where a single shielded conductor is indicated in order to eliminate cross talk.

DESCRIPTION:
No. 924 — 3 conductors #22 7/30 stranded tinned copper, vinyl, plastic insulation color coded, tinned copper shield over one conductor, tubed gray vinyl jacket overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	O.D.
924	500′	3	22	7/30	.016″	.020″	.205″

COLOR CODE: Black/red unshielded White shielded

SHIELDED BROADCAST AUDIO CABLE

Designed to provide maximum performance on all equipment. Conductors twisted correctly assures quiet, clear operation which eliminates interference and cross talk. Used by Broadcast studios, for P. A. and sound systems, rack wiring, etc.

DESCRIPTION:
#938—#22 Solid Tinned Copper Conductor, enameled, heavy cellulose acetate yarn wrap, cotton braid waxed; cabled with #22 AWG solid tinned copper wire laid parallel to twisted pair under tinned copper braid shield; tubed-on Vinyl plastic jacket overall.

No. 938
CBS, ABC TYPE

#939—#22-7/30 Stranded Tinned Copper, plastic insulation, color coded, twisted, copper braid shield, tubed-on Vinyl plastic jacket overall.

No 939

#940—2 Conductors #22 solid plastic insulation, color coded, twisted with #22 AWG solid tinned copper ground wire under tinned copper shield with vinyl plastic jacket overall.

No. 940

#822 and #824 have solid enameled copper wire, cotton wrap, cotton braid waxed twisted pair, bare copper braid overall.

Nos. 822 and 824

Cat. No.	Spool	Conds.	Size No. AWG	Strand	Nom. O.D.
938	500′	2	22	Solid	.210″
939	500′	2	22	7/30	.160″
940	500′	2	22	Solid	.50″
822	500′	2	22	Solid	.125″
824	500′	2	19	Solid	.145″

COLOR CODE: Black and Red
For longer lengths and alternate put-ups—Specify.

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See Pages S-26 and S-27 for Birnbach Prices

RUBBER JACKETED MULTI-CONDUCTOR CABLE
(NOT SHIELDED)

Used for permanent or portable P.A. systems, sound recording, indoor or outdoor speakers, interconnecting cable for all electronic uses.

DESCRIPTION:
Each conductor, extra flexible stranded tinned copper, insulated with a .022" wall special low capacity rubber, color coded, conductors twisted, jute filler, cotton wrap with tough weatherproof black rubber jacket overall.

COLOR CODE CHART

1—Black	3—Red	5—Yellow	7—Brown
2—White	4—Green	6—Blue	8—Orange

Cat. No.	Spool	Cond.	Size No. AWG	Strand	Cap. Bet. 1 Cond. & Others	Nom. O.D.
788	100′	2	20	26/34	40 Mmf	.275″
789	250′	2	20	26/34	40 Mmf	.275″
790	100′	3	20	26/34	50 Mmf	.285″
791	250′	3	20	26/34	50 Mmf	.285″
792	100′	4	20	26/34	53 Mmf	.305″
793	250′	4	20	26/34	53 Mmf	.305″
794	100′	5	20	26/34	56 Mmf	.335″
795	250′	5	20	26/34	56 Mmf	.335″
796	100′	6	20	26/34	58 Mmf	.355″
797	250′	6	20	26/34	58 Mmf	.355″
798	100′	7	20	26/34	60 Mmf	.370″
749	100′	8	20	26/34	63 Mmf	.395″

For longer lengths and alternate put-ups—Specify.

RUBBER SERVICE CORD
(HEAVY DUTY) — UL APPROVED

For power line requirement where rough usage is indicated as for amplifiers, sound systems, speakers, vacuum cleaners, washing machines, trouble lights, refrigerators, etc. Color coded. Underwriters approved.

DESCRIPTION:
Each Conductor Stranded Bare Copper, cotton serve, rubber insulation, color coded, conductors twisted, jute fillers, cotton wrap, tough rubber jacket overall.

Cat. No.	Std. Put-Up	Conds.	Size No. AWG	Type	Strand	Amp. Rating	Volt. Rating	Nom. O.D.	Std. Pkgs.
701	250′	2	18	SV	41/34	7	300	.250″	2 Spools
574	250′	2	18	SJ	41/34	7	300	.300″	2 Spools
575	250′	3	18	SJ	41/34	7	300	.345″	1 Spool
578	250′	2	16	SJ	65/34	10	300	.325″	2 Spools
702	250′	2	18	S	41/34	7	600	.390″	2 Coils
703	250′	2	16	S	65/34	10	600	.410″	2 Coils
704	250′	2	14	S	41/30	15	600	.540″	1 Coil
705	250′	2	12	S	65/30	20	600	.605″	1 Coil
706	250′	2	10	S	103/30	25	600	.640″	1 Coil

Additional Conductors Available

RIP-STRIP LAMP CORD
TYPE SP-1 (POSJ-64) — UL APPROVED
TYPE SPT-1 (POT) — UL APPROVED

All purpose approved cords SP-1 (rubber) SPT-1 (Plastic) for line cord on lamps, radios, clocks, small electronic instruments and appliances.

DESCRIPTION:
Two Conductors Parallel, #18—41/34 Extra Flexible Copper, rubber or plastic jacket slit for easy separation.

Cat. No.	Spool	Cond.	Size AWG	Strand	Insul. Type	UL Tpe	Nom. O.D.
570	100′	2	18	41/34	Rubber SP-1	(POSJ)	.130″ x .235″
572	250′	2	18	41/34	Rubber SP-1	(POSJ)	.130″ x .235″
573	500′	2	18	41/34	Rubber SP-1	(POSJ)	.130″ x .235″
569	500′	2	18	41/34	Plastic SPT-1	(POT)	.130″ x .235″

Colors: (Rubber) Brown, Black, Ivory.
(Plastic) Brown, Black, Ivory, Gray, Pink, Light Blue, Yellow, Green.

SERVICE LINE CORDS—UL APPROVED

An all purpose approved power supply cord for radios, record players, lamps, and small appliances.

DESCRIPTION:
Two Conductors Rubber Parallel SP-1 (POSJ) with Molded-on Male Plug, double brass blades, conductor end stripped and tinned, hanked. Available in Black and Brown.

Cat. No.	Lgth. Ft.	Size No. Conds.	AWG	Strand	Nom. O.D.	Std. Pkge.
816	6	2	18	41/34	.130″ x .235″	100
817	7½	2	18	41/34	.130″ x .235″	100
819	10	2	18	41/34	.130″ x .235″	50

JUKE BOX SPEAKER CABLE

Small, compact diameter. Useful. Practical.

DESCRIPTION:
Composed of 7 strand #32-1 Bare—copper conductor, 1 tinned copper conductor, 2 conductors parallel chrome vinyl plastic insulation.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. O.D.
4500	1000′	2	24	7/32	.015″	.058″ x .115″

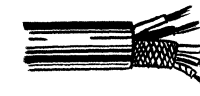
JUKE BOX CONTROL CABLE

Used as replacement cable in Juke Boxes.

DESCRIPTION:
Two Conductors #16 stranded vinyl insulation tinned copper, color coded green-orange. One conductor #20 stranded tinned copper, vinyl insulation. Color coded Blue, 3 conductors cable with .020" chrome vinyl plastic jacket overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
4510	500′	3	2—#16	26/30	.020″	.020″	.240″
			1—#20	10/30	.020″		

SHIELDED JUKE BOX CONTROL CABLE



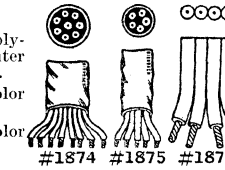
DESCRIPTION:
5 Conductor cable. Three cond. twisted color coded, black, green, red with tinned copper shielded braid overall.
Two Conductor twisted color coded blue, yellow and chrome vinyl jacket overall.

Cat. No.	Spool	Conds.	Size AWG #22	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
4515	500′	5	3 (shielded)	7/30	.015″	.020″	.200″x.300″
			2 (unshielded)				

ANTENNA CONTROL ROTOR CABLE

Developed for remote control of television antenna rotators.

DESCRIPTION:
#1874—4 Conductors flat parallel polyethylene plastic insulation — One outer conductor tinned, balance bare copper.
#1875 — 5 Conductors twisted, color coded. Vinyl plastic jacket overall.
#1878 — 8 Conductors twisted, color coded. Vinyl plastic jacket overall.



#1874 #1875 #1878

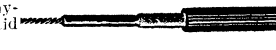
Cat. No.	Spool	Cond.	Size AWG	Strand	Nom. O.D.
1874	1000′	4	20	7/28	.072″ x .390″
1874A	500′	4	20	7/28	.072″ x .390″
1875	1000′	5	20	7/28	.180″
1875A	500′	5	20	7/28	.180″
1878	1000′	8	22	7/30	.205″
1878A	500′	8	22	7/30	.205″

COLOR CODE CHART FOR #1875, #1878

1—Black	3—Red	5—Yellow	7—Brown
2—White	4—Green	6—Blue	8—Orange

RG/U COAXIAL TRANSMISSION CABLE

DESCRIPTION:
One and Two Conductor, Polyethylene plastic insulation, copper braid shield, plastic jacket overall.



Cat. No.	Spool	Type	Nom. Imped.	Nom. Mmfd./ Ft.	Size AWG	Strand	Nom. O.D.
901	500′	RG-8/U	52	29.5	13	7/21 Bare	.405″
903	500′	RG-11/U	75	20.5	18	7/26 Tinned	.405″
905	1000′	RG-58A/U	50	29.0	20	19/.0068 Tinned	.195″
910	1000′	RG-59/U	73	21.0	22	Solid Copperweld	.242″
912	500′	RG-22/U	95.0	16.0	18	2 Cond. 7/.0152	.405″

DIATHERMY CABLE

Used as leads on electro-therapy apparatus, charging cable, battery lead, underground cable, etc. Used where extreme flexibility and long life is required. Has tough ruber jacket.

DESCRIPTION:
Cne Conductor #14-104/34 Stranded Bare Copper, annealed, cotton serve, 3/64" special low loss rubber insulation, double cotton braid, extremely flexible special grade tough live rubber jacket.

Cat. No.	Spool	Size AWG	Strand	Ins.	Nom. O.D.
756	100′	14	104/34	3/64″	.300″
757	1000′	14	104/34	3/64″	.300″

KINKLESS TEST LEAD WIRE

Used with portable test equipment; as tested, leads in analyzers, oscillators, instruments; wherever extreme flexibility and limpness is required. Has excellent dielectric properties.

DESCRIPTION:
Nos. 61, 62—#20—41/36 extra flexible annealed tinned copper, stranded.

COLORS: Red, Black

Nos. 66, 67—#18—65/36 extra flexible annealed tinned copper stranded; paper serve; 3/64" special low capacity rubber, wax finish.

Cat. No.	Spool	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
61	100′	20	41/36	3/64″	20,000 Volts	.137″
62	500′	20	41/36	3/64″	20,000 Volts	.137″
66	100′	18	65/36	3/64″	22,000 Volts	.145″
67	500′	18	65/36	3/64″	22,000 Volts	.145″

HEAVY DUTY HI-VOLTAGE TYPE

DESCRIPTION:
Nos. 68, 69—#18—65/36 extra flexible annealed tinned copper; stranded; paper serve; 5/64" special low capacity rubber, wax finish.

Used for oscillators, analyzers, TV, therapeutic instruments, etc.; wherever an extremely flexible high voltage lead is indicated.

Cat. No.	Spool	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
68	100′	18	65/36	5/64″	29,000 Volts	.210″
69	500′	18	65/36	5/64″	29,000 Volts	.210″

For longer lengths and alternate put-ups—Specify.

SHIELDED PHONO WIRE

Used where small diameter, limpness and extreme flexibility is necessary as for phono pickup arms and grid wire.

DESCRIPTION:
#1822—Single Conductor #22-7/30 Tinned Copper Strands, Vinyl plastic insulation, close tinned copper shield braided overall.

#1824—Single Conductor #24-16/36 Extremely Flexible Tinned Copper Strands, special plastic insulation, close tinned copper shield braided overall.
#1825—Same construction as #1824 except with fine cotton braid overall.

TINNED COPPER SHIELD OVERALL

Cat. No.	Spool	Strand	Cond.	Size AWG	Insul.	Nom. O.D.
1824	500′	1	24	16/36	.010″	.080″
1824M	1000′	1	24	16/36	.010″	.080″
1822	100′	1	22	7/30	.010″	.080″
1822B	500′	1	22	7/30	.015″	.090″
1822C	1000′	1	22	7/30	.015″	.090″

COTTON BRAID OVER SHIELD

1825	500′	1	24	16/36	.010″	.095″
1825M	1000′	1	24	16/36	.010″	.095″

For longer lengths and alternate put-ups—Specify.

SHIELDED GRID LEAD WIRE

Used to reduce loss in grid lead use, also to reduce interference caused by motors, high tension wires, X-ray machines, etc.

DESCRIPTION:
#820—Single Conductor #20—10/30, #818—16/30 Stranded Tinned Copper, low loss rubber insulation, cotton braid lacquered, closely woven tinned copper shield overall.

Cat. No.	Spool	Size AWG	Strand	Ins. Under Shield	Cap./Ft. Mmf.	Nom. O.D.
820	100′	20	10/30	.085″	70	.140″
818	100′	18	16/30	.085″	75	.150″

For longer lengths and alternate put-ups—Specify.

7MM HIGH TENSION CABLE

Used as hi voltage leads in electronic equipment and instruments, photo electric cell leads, automotive, etc.

DESCRIPTION:
#1600 — Unshielded One Conductor #16-19/29 stranded tinned copper wire, rubber insulation, cotton braid highly lacquered.

No. 1600

DESCRIPTION:
#781 — Shielded, Same construction as #1600 plus a closely woven tinned copper shield overall.

No. 781

Cat. No.	Spool	Size AWG	Strand	Insul.	Nom. O.D.
1600	100′	16	19/29	3/32″	.275″
781	100′	16	19/29	3/32″	.295″

Used for auto and aircraft ignition systems where grounding is required for elimination of interference.
For longer lengths and alternate put-ups—specify.

HI VOLTAGE LACQUERED WIRE

Used as primary wiring as for automobiles, tail, dashboard, horn, etc. Instrument leads, high voltage and primary voltage requirements.

DESCRIPTION:
One Conductor tinned copper annealed stranded, rubber insulation, highly lacquered braid, oil, heat, and moisture resistant.

Cat. No.	Spool	Size AWG	Strand	Ins.	Puncture V.	Nom. O.D.
2818	100′	18	16/30	.022″	9500	.117″
2816	100′	16	19/29	.022″	9500	.127″
2814	100′	14	19/27	.022″	9500	.148″
2812	100′	12	19/25	.027″	9500	.171″
2810	100′	10	19/23	.031″	9500	.202″

For longer lengths and alternate put-ups—Specify.

LACQUERED HOOK-UP WIRE

Used in transformers, amplifiers, hook-ups, leads, etc. Strips easily for soldering.

DESCRIPTION:
No. 3462—#20-10/30 **Single Conductor** stranded tinned copper, low loss free stripping rubber insulation, cotton braid highly lacquered.

No. 3600—#18-16/30 **Single Conductor** stranded tinned copper, 1/32" low loss free stripping rubber insulation, rayon braid highly lacquered.

Cat. No.	Spool	Size AWG	Strand	Insul.	Punct. Volt.	DC Ins. Res./Ft. Meg.	Nom. O.D.
3461	100′	20	10/30	1/64″	7000	390	.090″
3462	500′	20	10/30	1/64″	7000	390	.090″
3460	100′	18	16/30	1/32″	9000	460	.125″
3600	500′	18	16/30	1/32″	9000	460	.125″

COLORS: Black, Red, Green, Yellow, Brown, Blue, White
For longer lengths and alternate put-ups—Specify.

SHIELDED HOOK-UP & LEAD-IN WIRE

Used to prevent and reduce interference caused by motors, hi-tension cables, X-ray machines and various units radiating electrical impulses. Useful in grid circuits.

TINNED COPPER SHIELD OVER RUBBER INSULATION

DESCRIPTION:
Single Conductor, Tinned Copper Stranded, low loss rubber insulation, closely woven tinned copper shield overall.

Cat. No.	Spool	Size AWG	Strand	Ins.	Cap./Ft. Mmf.	Nom. O.D.
810	500′	20	10/30	.015″	105	.095″
803	250′	18	16/30	.015″	125	.125″
802	250′	16	26/30	.031″	90	.145″

TINNED COPPER SHIELD OVER LACQUERED BRAID

DESCRIPTION:
Single Conductor, Tinned Copper Stranded, low loss Vinyl insulation, highly lacquered braid, closely woven tinned copper shield overall.

Cat. No.	Spool	Size AWG	Strand	Nom. O.D.
831	1000′	22	7/30	.105″
832	1000′	20	10/30	.110″
833	1000′	18	16/30	.145″
834	1000′	16	26/30	.160″
835	1000′	14	41/30	.180″

For longer lengths and alternate put-ups—Specify.

HEAVY DUTY SERVICE CORD

(U/L APPROVED)

Used for heavy duty replacement on refrigerators, washing machines, machinery, tools and electronic devices.

DESCRIPTION:
Two Conductors, Stranded Bare Copper, cotton serve, rubber insulation, jute filler, cotton wrap, tough rubber jacket overall, molded rubber plug one end, free end stripped and tinned for easy attachment—Hanked.

Cat. No.	Length Ft.	Conds.	Size AWG	Type	Strand	O.D.	Std. Pkg.
348	8	2	16	S.J.	65/34	.325″	25
309	9	2	18	S.V.	41/34	.250″	25
312	12	2	18	S.V.	41/34	.250″	25

TELEVISION POWER SUPPLY CORD

(U/L APPROVED)

Used extensively as replacement of damaged or worn out TV cords.

DESCRIPTION:
Six Foot Rip Strip TV U.L. Approved Safety Cord. 2-cond. No. 18 SP-1 (POSJ) brown rubber cord with molded male plug and TV molded-on connector on other end.

Cat. No.			Std. Pkg.
815	Television Power Supply Cord	6 Feet	100

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See Pages S-26 and S-27 for Birnbach Prices

PUSHBACK — HEAVY FORMVAR — MAGNET WIRE
PLAIN ENAMEL — DCC — DNC — SOLID TINNED

Birnbach

BIRNBACH RADEX SLIPBACK HOOK-UP WIRE

Has a double cotton braid over the conductor, brightly color coded, saturated with paraffin. This construction will not cause the cotton insulation to fray or bunch up when pushed back. Has high dielectric strength and will withstand all climatic changes without breakdown.

COLORS: Black, Red, Blue, Yellow, Green, White, Brown, Orange.

SOLID

Cat. No.	Put-Up	Size	Strands	Puncture V. 60-cy. AC	O.D.
380	100′ Spool	20	Solid	2000	.090″
382	100′ Spool	18	Solid	2100	.098″
384	100′ Coil	16	Solid	2100	.108″
580	1000′ Spool	20	Solid	2000	.090″
582	1000′ Spool	18	Solid	2100	.098″
584	1000′ Spool	16	Solid	2100	.108″

STRANDED

Cat. No.	Put-Up	Size	Strands	Puncture V. 60-cy. AC	O.D.
381	100′ Spool	20	10/30	2100	.093″
383	100′ Spool	18	16/30	2200	.103″
385	100′ Spool	16	26/30	2200	.118″
581	1000′ Spool	20	10/30	2100	.093″
583	1000′ Spool	18	16/30	2200	.103″
585	1000′ Spool	16	26/30	2200	.118″

BIRNBACH BIRNTEX SLIPBACK WIRE

This wire is constructed of quality materials and carefully insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with paraffin. Pushes back easily.

SOLID

Cat. No.	Put-Up	Size	Strands	Puncture V. 60-cy. AC	O.D.
72	100′ Spool	22	Solid	1500	.060″
76	1000′ Spool	22	Solid	1500	060″
84	100′ Spool	20	Solid	1500	.065″
86	100′ Spool	18	Solid	1500	.075″
92	1000′ Spool	20	Solid	1500	.065″
94	1000′ Spool	18	Solid	1500	.075″

STRANDED

Cat. No.	Put-Up	Size	Strands	Puncture V. 60-cy. AC	O.D.
73	100′ Spool	22	7/30	1500	.065″
77	1000′ Spool	22	7/30	1500	.065″
85	100′ Spool	20	10/30	1500	.070″
87	100′ Spool	18	16/30	1500	.080″
93	1000′ Spool	20	10/30	1500	.070″
95	1000′ Spool	18	16/30	1500	.080″

HEAVY FORMVAR, PLAIN ENAMEL, DOUBLE COTTON, DOUBLE NYLON, SOLID TINNED MAGNET WIRE

HEAVY FORMVAR

Has new tough abrasion resisting film. Replaces enamel and fabric insulations for certain applications requiring exceptional abrasion resistance. Stable under heat. High dielectric strength. Infinite resistance to water and moisture. Does not fail after two hours at 105°C. Takes up less winding space.

¼ lb. SPOOL		½ lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
10	8	10	16	10	32
12	12	12	25	12	50
14	20	14	39	14	78
16	31	16	62	16	124
18	49	18	99	18	198
20	78	20	156	20	313
22	125	22	250	22	501
24	200	24	399	24	798
26	300	26	600	26	1200
28	500	28	1000	28	1999
30	800	30	1600	30	3200
32	1225	32	2450	32	4900
34	1988	34	3975	34	7950
36	3200	36	6400	36	12800
38	5050	38	10100	38	20200
40	7975	40	15850	40	31700
42	12375	42	24750	42	49500
44	14500	44	29000	44	58000

PLAIN ENAMEL

¼ lb. SPOOL		½ lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
10	8	10	16	10	32
12	12	12	25	12	50
14	20	14	40	14	80
16	32	16	63	16	126
18	50	18	100	18	201
20	80	20	160	20	320
22	127	22	254	22	508
24	201	24	403	24	806
26	320	26	640	26	1280
28	507	28	1015	28	2030
30	805	30	1610	30	3220
32	1282	32	2564	32	5128
34	2037	34	4075	34	8150
36	3221	36	6443	36	12887
38	5132	38	10246	38	20492
40	8143	40	16286	40	32573
42	12803	42	25605	42	51211
44	20455	44	40910	44	81819

DOUBLE NYLON

¼ lb. SPOOL		½ lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
12	12	12	24	12	49
14	19	14	39	14	78
16	31	16	62	16	125
18	49	18	99	18	198
20	78	20	157	20	314
22	123	22	247	22	495
24	195	24	390	24	781
26	303	26	606	26	1212
28	478	28	956	28	1912
30	739	30	1479	30	2958
32	1136	32	2272	32	4545
34	1712	34	3424	34	6849
36	2551	36	5102	36	10204
38	3770	38	7541	38	15082
40	5040	40	10080	40	20161

DOUBLE COTTON

¼ lb. SPOOL		½ lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
10	8	10	16	10	31
12	12	12	24	12	49
14	19	14	39	14	78
16	31	16	62	16	123
18	48	18	97	18	194
20	78	20	157	20	304
22	119	22	238	22	477
24	134	24	269	24	538
26	284	26	568	26	1136
28	435	28	871	28	1742
30	641	30	1284	30	2569
32	976	32	1953	32	3906
34	1365	34	2735	34	5470
36	1827	36	3654	36	7309
38	2738	38	5476	38	10952
40	3405	40	6811	40	13623

SOLID TINNED (Soft Drawn)

¼ lb. SPOOL		½ lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
10	8	10	16	10	32
12	12	12	25	12	50
14	20	14	40	14	80
16	32	16	63	16	126
18	50	18	100	18	201
20	80	20	160	20	320
22	127	22	254	22	508
24	201	24	403	24	806
26	320	26	640	26	1280
28	507	28	1015	28	2030
30	805	30	1610	30	3220
32	1282	32	2564	32	5128
34	2037	34	4075	34	8150
36	3221	36	6443	36	12887
38	5132	38	10246	38	20492
40	8143	40	16286	40	32573

BARE COPPER — SOFT DRAWN AVAILABLE FROM STOCK

Birnbach COPPERWELD ENAMEL, TINNED AND BARE COPPER BUS BAR, BRAIDED TINNED COPPER SHIELDING

AERIAL WIRE — SOLID — STRANDED

STRANDED TINNED COPPER WIRE

Cat. No.	Put-Up	Size AWG	Strand	O.D.
495	100′ Coil	12	7/20	.102″
1671	100′ Coil	11	7/22	.076″
1638	1000′ Spool	14	7/22	.076″
1674	100′ Coil	15	7/23	.069″
1633	1000′ Spool	15	7/23	.069″
1628	1000′ Spool	16	7/24	.062″

COIL LEAD, JUMPER CABLE

No. Cat.	Put-Up	AWG Size	Strand	O.D.
1622	1000′ Spool	22	7/30	.030″
1620	1000′ Spool	20	10/30	.037″
1618	1000′ Spool	18	16/30	.045″

BARE COPPER WIRE (Soft Drawn)

Cat. No.	Put-Up	Size AWG	Area Circular Mils	O.D.
1560	100′ Coil	8	16,510	.1285″
1562	100′ Coil	10	10,380	.102″
1563	1000′ Spool	10	10,380	.102″
1566	100′ Coil	12	6,530	.081″
1567	1000′ Spool	12	6,530	.081″
1570	100′ Coil	14	4,107	.064″
1571	1000′ Spool	14	4,107	.064″
1574	100′ Coil	16	2,583	.051″
1575	1000′ Spool	16	2,583	.051″

SILICON BRONZE AERIAL WIRE

Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

Cat. No.	Put-Up	Size AWG	Strand	Breaking Strength	O.D.
529	100′	4	7/12	3670 lbs.	.240″
528	100′	6	7/14	2140 lbs.	.190″
527	100′	8	7/16	1600 lbs.	.150″
499	100′	10	7/18	1000 lbs.	.122″
524	100′	12	7/20	650 lbs.	.100″
526	100′	14	7/22	420 lbs.	.075″

For longer lengths and alternate put-ups—Specify.

COPPERWELD ENAMEL ANTENNA WIRE

Used where high tensile strength is required as for short wave and transmitting aerials. Has low R.F. resistance and is ideal for transmitting doublet and directional antennas. Will maintain frequency characteristics because of its stretchless qualities.

Cat. No.	Put-Up	Size AWG	Tensile Strength	O.D.
710-100	100′ Spool	10	1130 lbs.	.103″
710-250	250′ Spool	10	1130 lbs.	.103″
710-500	500′ Spool	10	1130 lbs.	.103″
710-1000	1000′ Spool	10	1130 lbs.	.103″
710-2500	2500′ Spool	10	1130 lbs.	.103″
712-100	100′ Coil	12	720 lbs.	.082″
712-250	250′ Coil	12	720 lbs.	.082″
712-500	500′ Spool	12	720 lbs.	.082″
712-1000	1000′ Spool	12	720 lbs.	.082″
712-2500	2500′ Spool	12	720 lbs.	.082″
714-100	100′ Coil	14	400 lbs.	.065″
714-250	250′ Spool	14	400 lbs.	.065″
714-500	500′ Spool	14	400 lbs.	.065″
714-1000	1000′ Spool	14	400 lbs.	.065″
714-2500	2500′ Spool	14	400 lbs.	.065″

SOLID ENAMEL COPPER WIRE

Cat. No.	Put-Up	Size AWG	O.D.
497	100′ Coil	10	.103″
1497	1000′ Spool	10	.103″
492	100′ Coil	12	.083″
492A	150′ Coil	12	.083″
492B	200′ Coil	12	.083″
1492	1000′ Spool	12	.083″
490	100′ Coil	14	.066″
490A	150′ Coil	14	.066″
490B	200′ Coil	14	.066″
1490	1000′ Spool	14	.066″

STRANDED BARE COPPER WIRE

Cat. No.	Put-Up	Size AWG	Strand	O.D.
493	100′ Coil	12	7/20	.100″
1670	100′ Coil	14	7/22	.075″
1639	1000′ Spool	14	7/22	.075″
1673	100′ Spool	15	7/23	.068″
1634	1000′ Spool	15	7/23	.068″
1680	100′ Coil	16	7/24	.060″
1647	1000′ Spool	16	7/24	.060″
681	100′ Coil	18	7/26	.050″
1648	1000′ Spool	18	7/26	.050″
790	100′ Coil	19	7/27	.041″
1741	1000′ Spool	19	7/27	.041″

TINNED COPPER WIRE — BUS BAR

Pure Electrolytic, Copper, annealed, tinned for quick soldering

Cat. No.	Put-Up	Size AWG	Area Circular Mils	O.D.
1433/4	100′ Coil	4	41,740	.204″
1433/6	100′ Coil	6	26,250	.162″
1433/8	100′ Coil	8	16,510	.129″
1402	100′ Coil	10	10,380	.103″
1403	1000′ Spool	10	10,380	.103″
1406	100′ Coil	12	6,530	.082″
1407	1000′ Spool	12	6,530	.082″
1410	100′ Coil	14	4,107	.065″
1411	1000′ Spool	14	4,107	.065″
1414	100′ Coil	16	2,583	.051″
1415	1000′ Spool	16	2,583	.051″
1418	100′ Coil	18	1,624	.040″
1419	1000′ Spool	18	1,624	.040″
1422	100′ Coil	20	1,022	.033″
1423	1000′ Spool	20	1,022	.033″
1434	1000′ Spool	22	624.4	.025″
1424	1000′ Spool	24	404.0	.020″
1429	1000′ Spool	26	254.1	.016″
1428	1000′ Spool	28	159.8	.013″
1430	1000′ Spool	30	100.5	.010″

BUS BAR WIRE (Hard Drawn)

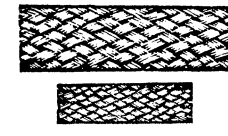
For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

Cat. No.	No.	
2010	10	Round Tinned
2012	12	Square Tinned
2013	12	Round Tinned
2014	14	Square Tinned
2015	14	Round Tinned
2016	16	Round Tinned
2018	18	Round Tinned

(100 to Std. Package)

TINNED COPPER SHIELDING

Used for shielding and bonding on aircraft, marine and auto radio wires and cables. Shields speaker leads, lead-ins, amplifier wires. Extremely flexible, slides over wires and cables.



DESCRIPTION:

No. 853 to 856 — Composed of extremely flexible fine soft annealed copper tinned wires closely woven, braided and **Rolled Flat.**

No. 860 — Composed of extremely flexible fine soft annealed copper wires closely woven, braided and **Rolled Flat.**

TINNED

Cat. No.	Size & No. of Wires	Inside Diam. Flattened	Spool
853	12 x 2/36	1/32″	1000′
854	12 x 2/36	3/64″	1000′
855	16 x 3/16	1/16″	50′
858	24 x 5/36	1/8″	50′
859	30 x 4/36	3/16″	50′
863	24 x 10/36	1/4″	50′
854	48 x 4/34	3/8″	50′
863	48 x 7/36	1/2″	50′
865	48 x 11/36	5/8″	50′
865/1	48 x 11/36	3/4″	50′
857	48 x 19/36	25/32″	50′
856	48 x 19/36	1″	50′
856/1	48 x 19/36	1-3/8″	50′
856/2	48 x 19/36	1-1/2″	50′

BARE

860	24 x 10/36	1/4″	50′

For longer lengths and alternate put-ups—Specify.

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See Pages S-26 and S-27 for Birnbach Prices

BIRACO PLASTIC TUBING

UL APPROVED FOR 105° C. OPERATION — MEETS MIL-I-631C SPECS.

A quality plastic Vinyl tubing designed for electronic and electrical insulation work. Has high dielectric strength, extreme flexibility, non-flammability, abrasion resistance, impervious to oil, water, alkalies, alcohol, solvents, etc., high heat stability and resistance to aging. Meets all A.S.T.M. specifications, Mil. Spec. (Type F, Form U, Grades A and C, Class 2, Category 1).

BIRACO TUBING

Put up on convenient 100' Spools or Coils.

Cat. No.	B & S Gauge Size No.	Approx. I.D.	Lgth. Spool
308BC...	24....	.022"....	100'
311BC...	22....	.027"....	100'
313BC...	20....	.034"....	100'
314BC...	18....	.042"....	100'
315BC...	16....	.053"....	100'
316BC...	14....	.066"....	100'
317BC...	12....	.085"....	100'
325BC...	10....	.106"....	100'
318BC...	8....	.135"....	100'
326BC...	6....	.166"....	100'
319BC...	4....	.208"....	100'
320BC...	2....	.263"....	100'
321BC..	5/16....	.3125"...	100'
322BC...	3/8....	.375"....	100'
323BC...	1/2....	.500"....	100'
324BC...	5/8....	.625"....	100'
*327BC...	¾"...	.750"....	100'
*328BC...	1¾"...	1.750"....	100'
*360BC...	7/8....	.875"....	100'
*361BC...	1"...	1.000"....	100'
*362BC...	1¼"...	1.250"....	50'
*363BC...	1½"...	1.500"....	50'
*364BC...	2¼"...	2.250"....	100'
*365BC...	2½"...	2.500"....	100'

SPECIAL SPOOLS BIRACO TUBING

Cat. No.	B & S Gauge Size No.	Approx. I.D.	Lgth. Spool
308B.....	24....	.022"....	25'
311B.....	22....	.027"....	25'
313B.....	20....	.034"....	25'
314B.....	18....	.042"....	25'
315B.....	16....	.053"....	25'
316B.....	14....	.066"....	25'
317B.....	12....	.085"....	25'
325B.....	10....	.106"....	15'
318B.....	8....	.135"....	15'
326B.....	6....	.166"....	15'
319B.....	4....	.208"....	10'
320B.....	2....	.263"....	10'

Also available in 36" Lengths.

COLORS AVAILABLE FROM STOCK:

Black, Red, Green, White, Yellow, Blue, Brown, Orange, Clear.

*Cat. Nos. 360BC, 361BC, 362BC, 363BC, 364BC, 365BC available in **Black and Clear** from stock.

DIMENSIONAL TOLERANCES OF BIRACO

Size	Approx. I.D., Inches	ASTM Tolerances, Ins.	Wall Thickness, Inches
24...	.022..	.020 — .027..	.012±.002
22...	.027..	.025 — .032..	.012±.002
20...	.034..	.032 — .039..	.016±.003
18...	.042..	.040 — .049..	.016±.003
16...	.053..	.051 — .061..	.016±.003
14...	.066..	.064 — .072..	.016±.003
12...	.085..	.081 — .089..	.016±.003
10...	.106..	.102 — .112..	.016±.003
8...	.133..	.129 — .141..	.020±.003
6...	.166..	.162 — .178..	.020±.003
4...	.208..	.204 — .224..	.020±.003
2...	.263..	.258 — .278..	.020±.003
5/16..	.315..	.3125— .334..	.025±.003
3/8...	.375..	.375 — .399..	.025±.003
1/2...	.500..	.500 — .524..	.025±.003
5/8...	.625..	.625 — .655..	.030±.005
¾"...	.750..	.750 — .786..	.035±.005
7/8...	.875..	.875 — .911..	.035±.005
1"...	1.000..	1.000 —1.036..	.035±.005
1¼"..	1.250..	1.250 —1.286..	.040±.005
1½"..	1.500..	1.500 —1.536..	.045±.005
1¾"..	1.750..	1.812 —1.750..	.055±.088
2"...	2.000..	2.000 —2.070..	.060±.006
2¼"..	2.250..	2.250 —2.330..	.065±.010
2½"..	2.500..	2.500 —2.590..	.070±.010

TABLE OF PHYSICAL & ELECTRICAL PROPERTIES

BIRACO TUBING

Tensile Strength—2500 Psi (Minimum Average)

Flammability—Non-Flammable

Ultimate Elongation—340%

Recommended for Temperatures to—105° C.

Cold Bend— -40° C.

Dielectric Strength .020" Wall—800 V/Mil

Varnish Baking—Good

Water Absorption

Weight Increase (1 Week)—0.1%

Oil Resistance—Indefinitely flexible when immersed in oil

BIRFLEX VINYL COATED FIBERGLASS TUBING

(ASTM, NEMA Grade B-B-1) MEETS MIL-I-3190 SPECS.

Quality Electronic and Electrical Tubing. It is Class B Insulation that combines the best features of the inorganic fiberglass base sleeving with heat resistant, flexible plastic insulation. The plastic compound provides the highest electrical properties, heat stability (130° C.), flexibility and toughness. Meets performance requirements of specs. MIL-I-3190 A, NEMA VSI, ASTM D 372.

SPECIAL SPOOLS VINYL COATED FIBERGLASS

Cat. No.	B & S Gauge Size	Apx. I.D.	Lgth. Spool
291V	20	.034	25'
293V	18	.042	25'
294V	16	.053	25'
295V	14	.066	25'
300V	12	.085	25'
307V	10	.106	20'
301V	8	.135	15'
302V	6	.166	10'
305V	4	.208	10'
306V	2	.263	10'

*VINYL COATED FIBERGLASS

30" Lengths

Cat. No.	B & S Gauge Size	Apx. I.D.
291....	20....	.034
293....	18....	.042
294....	16....	.053
295....	14....	.066
300....	12....	.085
307....	10....	.106
301....	8....	.135
302....	6....	.166
297....	3/16....	.208
298....	1/4....	.263

36" Lengths

*303...	5/16....	.3125
*304...	3/8....	.375
*299...	1/2....	.500
*296...	5/8....	.625

*VINYL COATED FIBERGLASS

Put up on convenient 100' Spools or Coils.

Cat. No.	B & S Gauge Size	Apx. I.D.	Lgth. Spool
291VC	20	.034	100'
293VC	18	.042	100'
294VC	16	.053	100'
295VC	14	.066	100'
300VC	12	.085	100'
307VC	10	.106	100'
301VC	8	.135	100'
302VC	6	.166	100'
305VC	4	.208	100'
306VC	2	.263	100'
*303VC	5/16	.3125	100'
*304VC	3/8	.375	100'
*299VC	1/2	.500	100'
*296VC	5/8	.625	100'

DIMENSIONAL TOLERANCES OF VINYL COATED FIBERGLASS

Size	Apx. I.D.	N.E.M.A. Tolerances Inches
20	.034	.032-.039
18	.042	.040-.049
16	.053	.051-.061
14	.066	.064-.072
12	.085	.081-.089
10	.106	.102-.112
8	.133	.129-.141
6	.166	.162-.178
5/32, 4	.208	.204-.224
1/4, 2	.263	.258-.278
5/16	.3125	.312-.328
3/8	.375	.375-.399
1/2	.500	.500-.524
5/8	.625	.625-.655

PHYSICAL & ELECTRICAL PROPERTIES BIRFLEX VINYL COATED FIBERGLASS

Class B
Grade B-1
Dielectric Strength.....4000 V.
Temperature Rating.....130° C.
Low Temp. Flexibility.....—30° C.
Non-Flammable
Ins. Resistance.....Over 100,000 MEGS.
Corrosion Resistance .....Excellent
Oil Resistance .....Good

COLORS: Black, Red, White, Yellow, Brown, Orange, Green, Blue.

Other types of Biraco, Birflex, Birflon Tubing and sleeving available. Write for new Comprehensive Catalog on Tubing and Sleeving.

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Birnbach

BIRFLON TEFLON TUBING
BUS BAR WIRE - INSULATED BUSHINGS

Spaghetti, Sleeving, made from "TEFLON" is used in electronic equipment primarily for connection of components. Where temperature range and space is a factor, spaghetti made from "TEFLON" is ideal because its continuous service temperature is 250° C. This is more than 100° C. above other materials used for spaghetti. "TEFLON" is a Class C dielectric. Even where 100° C. temperature applications are indicated "TEFLON" will be of help in simplifying the soldering technique since "TEFLON" is not harmed by the hot barrel of the soldering iron—therefore, the assembly of aircraft and communication electronic equipment is greatly speeded up.

ADDITIONAL ADVANTAGES OF BIRFLON T-500 "TEFLON"*

- Good dielectric strength (500 to 1000 volts/mil)
- Lowest dielectric constant (2.0) and dissaption factor (0.0002) of any solid dielectric
- NO change of electrical properties with temperature (25° C. to 250° C.) or frequency (60cps to 100mc.)
- Service range from -320° F. to 500° F. and retains toughness and flexibility throughout temperature range from -110° F. to 500° F.
- Non-flammable, Non-explosive
- Unaffected by corrosive atmospheres and fungus
- Zero water absorption
- Full range of colors for identification

ADDITIONAL USES FOR BIRFLON T-500 SPAGHETTI

- SHEATHING FOR SEVERAL WIRES
- MEDICAL APPLICATIONS
- INSULATION FOR BARE WIRES
- INSTRUMENT TUBING
- REPLACEMENT FOR HOOK-UP WIRE INSULATED WITH "TEFLON"*

BIRNBACH is your best source of tubing, made from "TEFLON." Your inquiry and order will receive immediate attention. We offer: wide range of standard sizes, colored tubing and special sizes, quick delivery and right price.

*"TEFLON"—DuPont trade name for Tetrafluoroethylene resin

STOCK NUMBERS

Cat. No.	Spool or Coil Put-Up	B & S Gauge Size No.	Approx. I.D.
8015-100	100′	28	.015″
8016-100	100′	26	.018″
8000-100	100′	24	.022″
8000-50	50′	24	.022″
8000-25	25′	24	.022″
8001-100	100′	22	.027″
8001-50	50′	22	.027″
8001-25	25′	22	.027″
8002-100	100′	20	.034″
8002-50	50′	20	.034″
8002-25	25′	20	.034″
8003-100	100′	18	.042″
8003-50	50′	18	.042″
8003-25	25′	18	.042″
8004-100	100′	16	.053″
8004-50	50′	16	.053″
8004-25	25′	16	.053″
8005-100	100′	14	.066″
8005-50	50′	14	.066″
8005-25	25′	14	.066″
8006-100	100′	12	.085″
8006-50	50′	12	.085″
8006-25	25′	12	.085″
8007-100	100′	10	.106″
8007-50	50′	10	.106″
8007-25	25′	10	.106″
8008-100	100′	8	.133″
8008-50	50′	8	.133″
8008-25	25′	8	.133″
8009-100	100′	6	.166″
8009-50	50′	6	.166″
8009-25	25′	6	.166″
8010-100	100′	4	.208″
8010-50	50′	4	.208″
8010-25	25′	4	.208″
8011-100	100′	2	.263″
8011-50	50′	2	.263″
8011-25	25′	2	.263″
8012-100	100′	0	.330″
8012-50	50′	0	.330″
8012-25	25′	0	.330″

COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White. Additional colors, sizes, and longer lengths available.

TINNED COPPER WIRE — BUS BAR

Pure Electrolytic, Copper, annealed, tinned for quick soldering

Cat. No.	Put-Up	Size AWG	Area Circular Mills	O.D.
1433/4	100′ Coil	4	41,740	.204″
1433/6	100′ Coil	6	26,250	.162″
1433	100′ Coil	8	16,510	.129″
1402	100′ Coil	10	10,380	.103″
1403	1000′ Spool	10	10,380	.103″
1406	100′ Coil	12	6,530	.082″
1407	1000′ Spool	12	6,530	.082″
1410	100′ Coil	14	4,107	.065″
1411	1000′ Spool	14	4,107	.065″
1414	100′ Coil	16	2,583	.051″
1415	1000′ Spool	16	2,583	.051″
1418	100′ Coil	18	1,624	.040″
1419	1000′ Spool	18	1,624	.040″
1422	100′ Coil	20	1,022	.033″
1423	1000′ Spool	20	1,022	.033″
1434	1000′ Spool	22	624.4	.025″
1424	1000′ Spool	24	404.0	.020″
1426	1000′ Spool	26	254.1	.016″
1428	1000′ Spool	28	159.8	.013″
1430	1000′ Spool	30	100.5	.010″

SPECIFICATIONS

Awg. Size	Nom. O.D.	Nom. I.D.	Wall Thick.
28	.035″	.015″	.010″
26	.038″	.018″	.010″
24	.042″	.022″	.010″
22	.047″	.027″	.010″
20	.058″	.034″	.012″
18	.066″	.042″	.012″
16	.077″	.053″	.012″
14	.090″	.066″	.012″
12	.109″	.085″	.012″
10	.130″	.106″	.012″
8	.163″	.133″	.015″
6	.196″	.166″	.015″
4	.238″	.208″	.015″
2	.293″	.263″	.015″
0	.360″	.330″	.015″

TOLERANCE: ±.003″ ON WALL

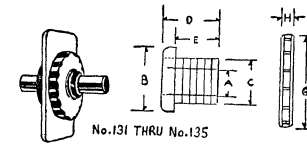
BUS BAR WIRE (Hard Drawn)

For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

Cat. No.	No.	
2010	10	Round Tinned
2012	12	Square Tinned
2013	12	Round Tinned
2014	14	Square Tinned
2015	11	Round Tinned
2016	16	Round Tinned
2018	18	Round Tinned

(100 to Std. Package)

INSULATED MOLDED GROMMET BUSHINGS



No.131 THRU No.135

Black Phenolic - Matte Finish

Knurled nut can be tightened easily. Can be used as insulated grommet bushing on panel bearing, condenser shafts, etc.

Cat. No.	A	B	C	D	E	G	H	Std. pkg.
131	1/8″	3/4″	1/4″-32	.3750	1/4″	1/2″	1/8″	50
132	3/16″	7/8″	5/16″-32	.4250	5/16″	5/8″	1/8″	50
133	1/4″	1 1/2″	3/8″-27	.4375	5/16″	11/16″	1/8″	50
134	5/16″	1 5/16″	3/8″-32	.4500	5/16″	7/8″	1/8″	50
135	3/8″	3/4″	5/8″-27	.4500	5/16″	1″	1/8″	50

Red available to special order.

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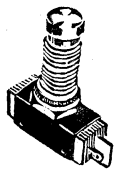
See Pages S-26 and S-27 for Birnbach Prices

Birnbach SWITCHES

TOGGLE • PUSH BUTTON • ROTARY • KNIFE • POWER • SLIDE

1

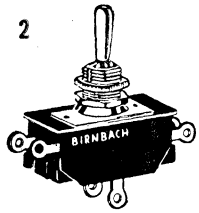


1 PUSH BUTTON SWITCH MOMENTARY CONTACT

Solder lugs, slow make and break. Has 5/16" slotted sleeve, 15/32" diam. Complete with hex and knurled nuts. Nickel plated, UL approved. Rated 1 A. — 125 V. Less insulating button.

Cat. No.		Std. Pkg.
6224	—Two Circuits	25
6230	—SPST (Nor. Cl., Push to Break)	25
6231	—DPST (Nor. Op., Push to Make)	25
6232	—Button Only, Red or Black	20
6185	—SPDT (Nor. Off-Push to Make)	25
6180	—SPST Refrigerator Sw. (Nor.-On)	25

2

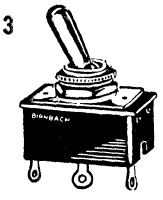


2 BAKELITE MOLDED "CENTER-OFF" SWITCHES

Molded bakelite case. Three position center-off. Solder terminals. Rated at 3 A., 2 V.; 6 A., 125 V. UL approved.

Cat. No.	Description	Shank Length	Std. Pkg.
6261	SPDT	15/32"	25
6263	DPDT	15/32"	25

3

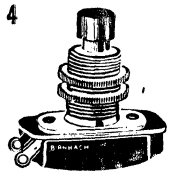


3 BAKELITE MOLDED MOMENTARY CONTACT SWITCHES

Same as above except momentary. SPST Normally Off. 3 A., 250 V. UL approved. Rated 6 A., 125 V.

Cat. No.	Description	Shank Length	Std. Pkg.
6240	SPDT	15/32"	25
6241	SPST	15/32"	25
6242	DPDT	15/32"	25

4

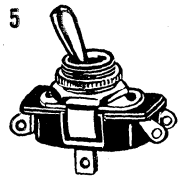


4 MOMENTARY PUSH BUTTON SWITCHES

Molded momentary, solder lugs. Rated 1 A., 125 V. With 9/16" shank, normally OFF — push to make. Nickel plated. UL approved.

Cat. No.	Description	Std. Pkg.
6233	SPST	25
6234	SPDT	25
6235	DPST	25
6236	DPDT	25

5



5 DPDT CENTER OFF SWITCHES

Rated 1 A., 125 V., center OFF. Lug terminal with bat handle. 15/32" diam. shaft, nickel plated.

Cat. No.	Description	Std. Pkg.
6243	DPDT	25

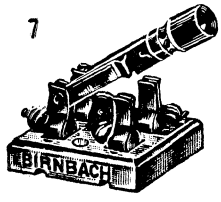
6

6 SMALL APPLIANCE SWITCHES

Rated high — 3 A. at 250 V., 6 A. at 125 V. 15/32" shank; brass nickel plated with solder lugs, complete with hex nut and ring. One-hole mounting. UL approved.

Cat. No.	Description	Std. Pkg.
6244	— SPST	25
6244A	— Bat Handle, SPST	25

7

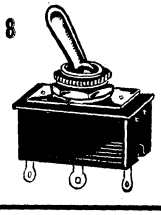


7 BIRNBACH KNIFE SWITCHES

Made of special nickel plated spring brass on a rugged base. Screw terminals located conveniently for easy connections in circuit. Two mounting holes.

Cat. No.	Descrip.	Base	Std. Pkg.
6100	SPST	Por.	25
6102	SPDT	Bake.	20
6103	DPST	Por.	10
6104	DPDT	Bake.	10
6105	TPDT	Por.	10

8



8 MOLDED BAKELITE SWITCHES

Bat handle, back connected, silver plated, lug contacts, slotted sleeve. 15/32" shank. 3 A., 125V.; 6 A., 125 V.

Cat. No.	Description	Std. Pkg.
6280	SPST	25
6281	SPDT	25
6282	DPST	25
6283	DPDT	25

9 SLIDE LEVER SWITCHES

Used on phonographs, test instruments, auto light, radio, etc. UL approved .5 A., 125 V.

Cat. No.	Description	Std. Pkg.
6245	SPST	25
6246	SPDT	25
6247	DPST	25
6248	DPDT	25

10 BALL HANDLE TOGGLE SWITCHES

UL approved. Ball handle switches nickel plated; laminated type, ring and mounting nuts.

Cat. No.	Descrip.	Shank Length	Current Rating 125 V	Current Rating 250 V	Std. Pkg.
6200	SPST	15/32"		3 amps	25
6201	SPST	3/4"		3 amps	25
6202	SPDT	15/32"	3 amps	1 amp	25
6203	SPDT	3/4"	3 amps	1 amp	25
6204	DPST	15/32"	3 amps	1 amp	25
6205	DPST	3/4"	3 amps	1 amp	25
6206	DPDT	15/32"	3 amps	1 amp	25
6207	DPDT	3/4"	3 amps	1 amp	25

NAME PLATE

6208	— On-Off — Fits 15/32" Sleeves — 100
6208A	— Hi-Low — Fits 15/32" Sleeves — 100

11 BAT HANDLE TOGGLE SWITCHES

UL approved. Laminated type. Nickel plated finish; supplied with rin gand mounting nuts. 15/32" shank.

Cat. No.	Descrip.	Current Rating 125 V	Current Rating 250 V	Std. Pkg.
6220	SPST		3 amps	25
6221	SPDT	3 amps	1 amp	25
6222	DPST	3 amps	1 amp	25
6223	DPDT	3 amps	1 amp	25

12 MOLDED BAT HANDLE TOGGLE SWITCHES

MEETS JOINT ARMY-NAVY SPEC. JAN-S-23 SUPERCEDED BY MIL-S-3950

Bat handle, back connected, silver plated contacts. Slotted sleeve. Maintained contact. 15/32" shank.

Cat. No.	A.W.S. No. & Descrip.	Current Rating 125 V	Current Rating 250 V	Std. Pkg.
6250	ST-12-A SPST	6 amps	3 amps	25
6251	ST-12-D SPDT	6 amps	3 amps	25
6252	ST-22-K DPST	6 amps	3 amps	25
6253	ST-22-N DPDT	6 amps	3 amps	25

CONFORMING TO JOINT ARMY-NAVY SPEC. JAN-S-23 SUPERCEDED BY MIL-S-3950 AIRCRAFT SWITCH SPECIFICATIONS MIL-S-6745 (AN-S-23)

6270	ST-12-A SPST	.15 amps	.6 amps	25
6271	ST-42-D SPDT	.15 amps	.6 amps	25
6272	ST-52-K DPST	.25 amps	.9 amps	25
6273	ST-52-N DPDT	.25 amps	.9 amps	25
6249	ST-42-E SPDT (On-Off-On)	.15 amps	.6 amps	25
6274	ST-52-P DPDT (On-Off-On)	.25 amps	.9 amps	25

13 POWER SWITCHES HEAVY DUTY MOMENTARY SWITCHES

Contact push button, normally off, molded bakelite, screw terminals; 7/16" slotted sleeves. Rated at 12 A., 125 V.; 6A., 250 V. 1 H.P. at 250 V. Adaptable as a safety switch for hi frequency, transmitters, racks, transformers. UL approved.

Cat. No.		Std. Pkg.
6226	— DPST Momentary	25

14 HEAVY DUTY SWITCHES

DPST Maintained Contact. Bat handle molded bakelite, 7/16" slotted sleeve, screw terminals. Rated at 12 A., 125 V.; 6 A., 250 V. 1 H.P. 250 V. UL approved.

Cat. No.		Std. Pkg.
6225	— DPST Power Switch	25

15 HEAVY DUTY POWER SWITCHES

Recommended where heavy currents are carried. Molded bakelite. Rated at 10 A., 125 V.; 5 A., 250 V. Neutral off in center. UL approved. Mounting sleeve diam. 3/4" long. x 3/8" long.

Cat. No. 6227	Std. Pkg. 25
DPDT 2"x1 1/4"x7/8" - 3/4 H.P. 250 V.	
Cat. No. 6228	Std. Pkg. 25
3PDT 2"x2 1/4"x1" - 1/2 H.P. 115-220 V.A.C.	
Cat. No. 6229	Std. Pkg. 10
4PDT 2"x2 1/4"x1" - 1/2 H.P. 115-230 V.A.C.	

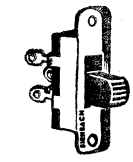
16 ROTARY SWITCHES

UL approved. Complete with mounting nut. Nickel plated.

Cat. No.	Descrip.	Shank Length	Shaft Shank	Cur. Rat. 125 V amps	Cur. Rat. 250 V amps
6210	SPST	3/8"	1 1/2"		3
6211	SPST	1"	2 1/2"		3
6212	SPDT	3/8"	1 1/2"	3	1
6213	SPDT	1"	2 1/2"	3	1
6214	DPST	3/8"	1 1/2"	3	1
6215	DPST	1"	2 1/2"	3	1
6216	DPDT	3/8"	1 1/2"	3	1
6217	DPDT	1"	2 1/2"	3	1

Standard Pack: 25

9



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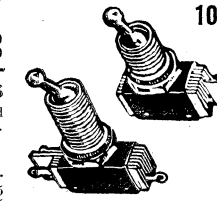

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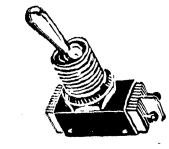

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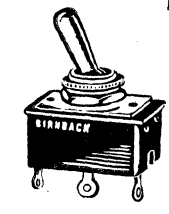

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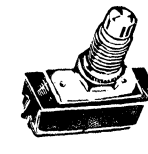

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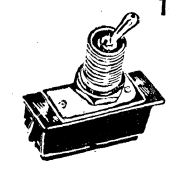

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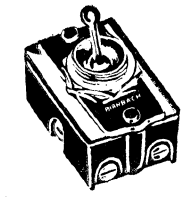

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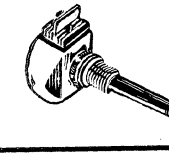

See Pages S-26 and S-27 for Birnbach Prices

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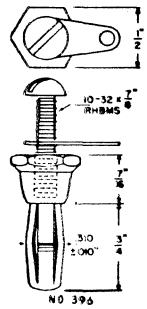
GIANT, STANDARD, MIDGET BANANA PLUGS JACKS and PHONE TIPS

Birnbach

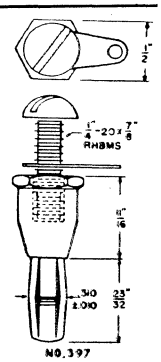
GIANT PLUG No. 396



Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Rated at 25 amps.

Cat. No.	Spring	Std. Pkg.
396	Phos. Brz.	25
396B	Beryl. Cop.	25

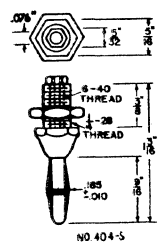
GIANT PLUG No. 397



Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Heavy duty, 25 amp. rating.

Cat. No.	Spring	Std. Pkg.
397	Phos. Brz.	25
397B	Beryl. Cop.	25

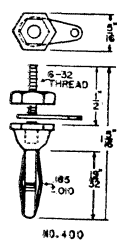
BANANA PLUG No. 404S



Hexed brass nickel pl. Complete with hex brass n.pl. nut. Has solderless Scrulok connection. Fits all standard banana plugs. Spring is four-leaved phosphor bronze nickel plated. Rated at 5 amps.

Cat. No.	Std. Pkg.
404S Scrulok Banana Plug	100

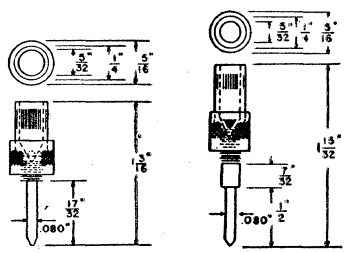
BANANA PLUG No. 400



Hexed brass nickel plated. Fits all standard banana plugs. Complete with hex brass n.pl. nut and tinned copper lug. Spring is four-leaved nickel plated. Rated at 5 amps.

Cat. No.	Spring	Std. Pkg.
400	Phos. Brz.	100
400B	Beryl. Cop.	100

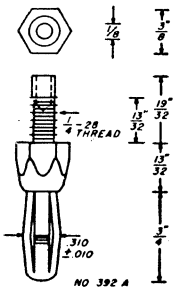
SOLDERLESS PHONE TIPS No. 23 and No. 24



Brass, nickel plated. Wire fits thru body of tip, tightened around screw with nickel plated knurled nut. Fits all standard phone tip jacks.

Cat. No.	Std. Pkg.
23—Junior Solderless Phone Tip	100
24—Senior Solderless Phone Tip	100

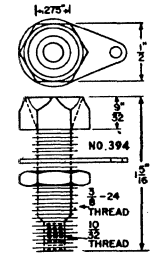
GIANT PLUG No. 392A



Body is hexed brass nickel plated. Rated at 25 amps. Has large soldering well in threaded shank. Fits all Giant Banana Jacks.

Cat. No.	Spring	Std. Pkg.
392A	Phos. Brz.	25

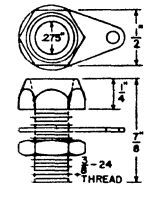
GIANT JACK No. 394



Hexed brass nickel plated. Fits all Giant Banana Plugs. Mounts in ⅜" hole in panels up to ⅞" thick. Complete with n.pl. nut and tinned copper lug.

Cat. No.	Std. Pkg.
394 Giant Jack	25

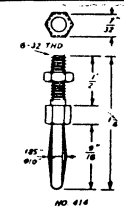
GIANT JACK No. 395



Fits all giant banana plugs. Hexed brass head nickel plated overall. Mounts in ¾" hole. Complete with nut and tinned copper lug.

Cat. No.	Std. Pkg.
395 Giant Jack	25

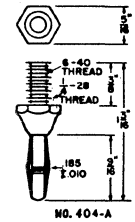
BANANA PLUG No. 414



Hexed brass, nickel plated. One-piece construction. Four-leaved phosphor bronze spring. Complete with brass hexed nut n.pl. Rated at 5 amps. Fits all standard banana jacks.

Cat. No.	Spring	Std. Pkg.
414	Phos. Brz.	100

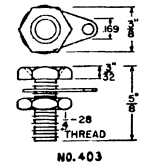
BANANA PLUG No. 404A



Hexed brass and four-leaved phosphor bronze spring all nickel plated. Rated at 5 amps. Fits all standard banana jacks.

Cat. No.	Std. Pkg.
404A Banana Plug	100

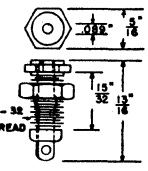
BANANA JACK No. 403



Hexed brass n.pl., with brass n.pl. hex nut and tinned copper lug. Mounts in ¼" hole in panels up to ⅜" thick. Fits standard plugs.

Cat. No.	Std. Pkg.
403 Banana Jack	100

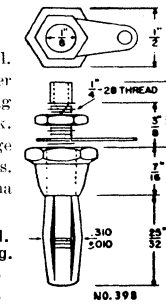
PHONE TIP JACK No. 26



Brass nickel pl. body. Double phosphor bronze springs, hot tinned. Fits standard phone tip plugs. Mounts in ¼" hole in panels up to ⅜" thick. Complete with hex n.pl. brass nut.

Cat. No.	Std. Pkg.
26 Phone Tip Jack	100

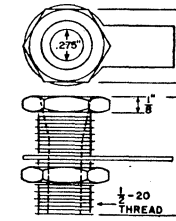
GIANT PLUG No. 398



Body is hexed brass, n.pl. nut and tinned copper lug. Has large soldering well in threaded shank. Used in high amperage circuits rated at 25 amps. Fits all giant banana jacks.

Cat. No.	Spring	Std. Pkg.
398	Phos. Brz.	25
398B	Beryl. Cop.	25

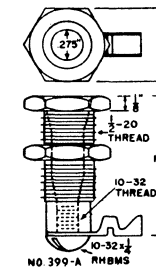
GIANT JACK No. 399



Hexed brass nickel plated. Complete with hex brass n.pl. nut and tinned copper lug. Fits all giant banana plugs. Mounts in ½" hole in panels up to 31/32" thick.

Cat. No.	Std. Pkg.
399 Gt. Jack	25

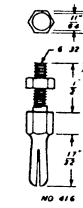
GIANT JACK No. 399A



Hexed brass nickel plated. Mounts in ½" hole. Fits panels up to ¾" thick. Tapped at end with screw and lug connection. Complete with hex brass n.pl. nut, screw and hot tinned copper lug.

Cat. No.	Std. Pkg.
399A Gt. Jack	25

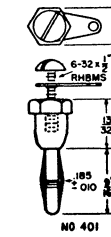
BANANA PLUG No. 416



Hexed brass nickel plated. Cross slotted for positive contact. One-piece construction. Fits all standard banana jacks. Complete with hexed brass n.pl. nut.

Cat. No.	Std. Pkg.
416 Banana Plug	100

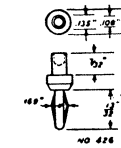
BANANA PLUG No. 401



Hexed brass nickel plated. One-piece four-leaved spring. Complete with brass n.pl. screw and tinned copper lug. Rated at 5 amps. Fits all standard banana jacks.

Cat. No.	Spring	Std. Pkg.
401	Phos. Brz.	100
401B	Beryl. Cop.	100

MIDGET BANANA PLUG RIVET TYPE—No. 426



Brass silver plated body. One-piece four-leaved phosphor bronze spring silver plated. Used in government equipment.

Cat. No.	Std. Pkg.
426 Midget Banana Plug Rivet Type	100

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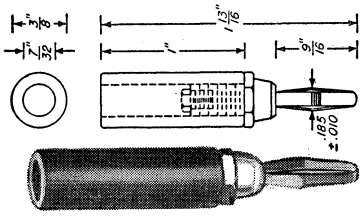
See Pages S-26 and S-27 for Birnbach Prices

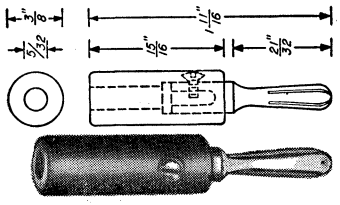
INSULATED BANANA — GIANT — PLUGS and JACKS



INSULATED BANANA PLUG

Hexed brass N. Pl. spring type. Fits standard banana jacks. Scrulok solderless connection. Molded handle.
Colors: Red, Black, Yellow, Blue, Green.

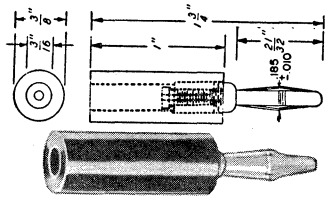
Cat. No.	Spring	Std. Pkg.
404	Phos. Brz.	50
404-CB	Beryl. Cop.	50



INSULATED BANANA PLUG

Split type plug brass n. pl. fits standard banana jacks. Set screw. Solderless connection. Molded handle.
Colors: Red, Black, Yellow, Blue, Green.

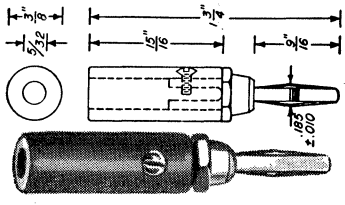
Cat. No.		Std. Pkg.
604	Banana Plug	50



INSULATED BANANA PLUG

Brass n.pl. plug. Fits standard banana jacks. Spring type. Scrulok solderless connection. Molded handle.
Colors: Red, Black, Yellow, Blue, Green.

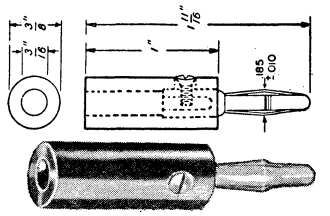
Cat. No.	Spring	Std. Pkg.
465	Phos. Brz.	50
465-B	Beryl. Cop.	50



SPRING BANANA PLUG

Hexed brass n.pl. plug. Set screw solderless connection. 404-BC Beryllium springs, highly resilient. Molded handle.
Colors: Red, Black, Yellow, Blue, Green.

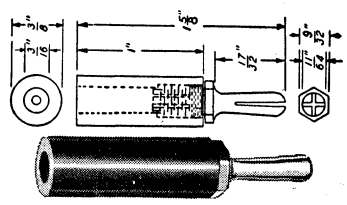
Cat. No.	Spring	Std. Pkg.
404-B	Phos. Brz.	50
404-BC	Beryl. Cop.	50



INSULATED BANANA PLUG

Plug brass n.pl. set screw solderless connection. Spring type. Fits standard banana jacks. Molded handle.
Colors: Red, Black, Yellow, Blue, Green.

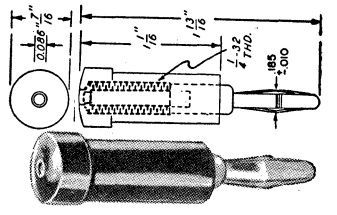
Cat. No.	Hdl.	Spring	Std. Pkg.
466	1"	Ph. Brz.	50
466A	1½"	Ph. Brz.	50



INSULATED BANANA PLUG

Split type, brass n.pl. Scrulok solderless connection. Fits standard jacks. Molded handle.
Colors: Red, Black, Yellow, Blue, Green.

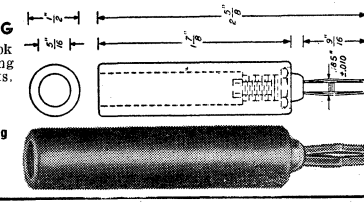
Cat. No.		Std. Pkg.
606	Banana Plug	50



TIP PLUG TO BANANA PLUG ADAPTER

Fits standard banana jacks. Adapter for phone tip to banana plug. Molded handle.
Colors: Red, Black, Yellow, Blue, Green.

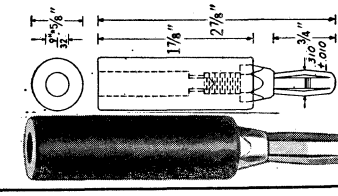
Cat.No.	Spring	Std. Pkg.
467	Phos. Brz.	50
467B	Beryl. Cop.	50



INSUL. BANANA PLUG

Plug brass n.pl. Scrulok solderless connection. Spring type. Fits standard jacks. Plastic handle.
Colors: Red, Black.

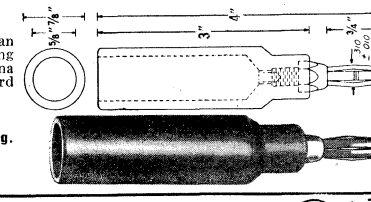
Cat. No.	Spring	Std. Pkg
341	Phos. Brz.	50
341B	Beryl. Cop.	50



INSUL. GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Plastic handle.
Colors: Red, Black.

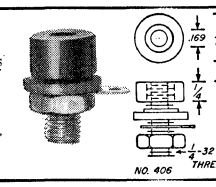
Cat. No.	Spring	Std. Pkg.
392	Phos. Brz.	50
392B	Beryl. Cop.	50



INSUL. GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Polished giant hard rubber handle.
Colors: Red, Black.

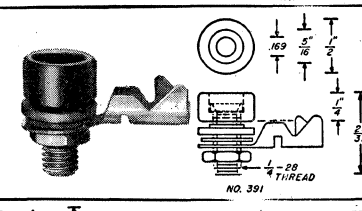
Cat. No.	Spring	Std. Pkg.
342	Phos. Brz.	50
342B	Beryl. Cop.	50



INSULATED BANANA JACK

Takes all standard banana plugs. Body is brass n.pl. Mounts in $\frac{7}{16}$" hole in panels up to $\frac{3}{8}$" thick. Molded head.
Colors: Red, Black, Yellow, Blue, Green.

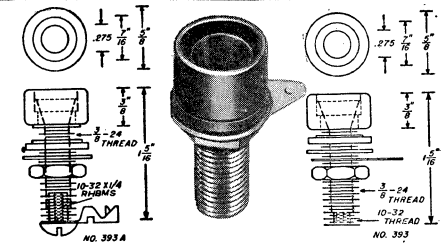
Cat. No.		Std. Pkg.
406	Insulated Jack	50



INSULATED BANANA JACK

Accommodates all standard banana plugs. Body is brass n.pl. Mounts in $\frac{5}{16}$" hole in panels up to $\frac{3}{8}$" thick. Complete with all hardware. Molded head.
Colors: Red, Black, Yellow, Blue, Green

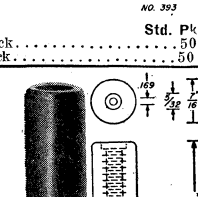
Cat. No.		Std. Pkg.
391	Insulated Jack	50



INSULATED GIANT JACK

Accommodates all giant plugs. Body is brass n.pl. Mounts in $\frac{3}{8}$" hole in panels up to $\frac{5}{8}$" thick. Molded plastic head.
Colors: Red, Black.

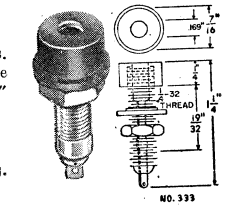
Cat. No.		Std. Pkg.
393	Insulated Giant Jack	50
393A	Insulated Giant Jack	50



INSULATED HANDLE JACK

Jack brass, n.pl. Fits all standard banana plugs. Plastic handle.
Colors: Red, Black, Yellow, Blue, Green.

Cat. No.		Std. Pkg.
605	Insulated Handle Jack	50



INSULATED COMBINATION JACK

Takes standard senior phone tip or banana plugs. Body is brass n.pl. Double Phosphor Bronze spring. Mounts in $\frac{5}{16}$" hole in panels up to ½" thick. Molded head.
Colors: Red, Black, Yellow, Blue, Green.

Cat. No.		Std. Pkg.
333	Insulated Combination Jack	50

See Pages S-26 and S-27 for Birnbach Prices

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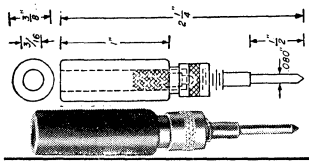
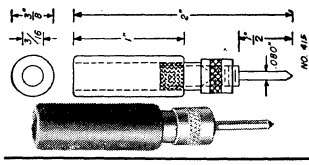


SENIOR SOLDERLESS PHONE TIP

Brass nickel plated. Fits standard phone tip jacks. Wire fastens under knurled nut. Molded handle.

Colors:
Red, Black, Yellow, Blue, Green.

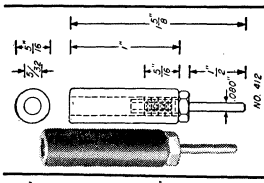
Cat. No. 409 Sr. . . Std. Pkg. 50



JUNIOR SOLDERLESS PHONE TIP

Same as above. Specify colors required.

Cat. No. 415 Jr. . . Std. Pkg. 50

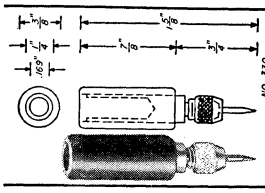


SCRULOK PHONE TIP

Brass nickel plated. Fits standard phone tip jacks. Scrulok solderless connection. Molded handle.

Colors:
Red, Black, Yellow, Blue, Green.

Cat. No. 412 . . . . . Std. Pkg. 50

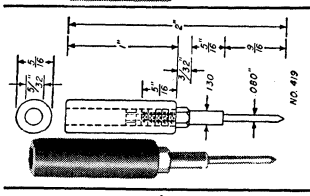


NEEDLE POINT PLUG

Brass nickel plated body. Needle point tip. Accommodates standard banana plug in molded plastic handle.

Colors: Red, Black.

Cat. No. 330 . . . . . Std. Pkg. 50

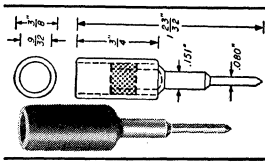


SCRULOK PHONE TIP

Fits standard phone tip jacks. Plug is brass, nickel plated. Has Scrulok solderless connection. Molded handle.

Colors:
Red, Black, Yellow, Blue, Green.

Cat. No. 419 . . . . . Std. Pkg. 50

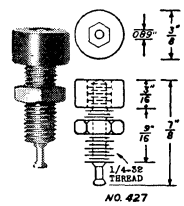


PHONE TIP

Plugs into standard phone tip jacks. Brass nickel plated plug. Accommodates standard banana plug in molded plastic handle.

Colors: Red, Black, Yellow, Green.

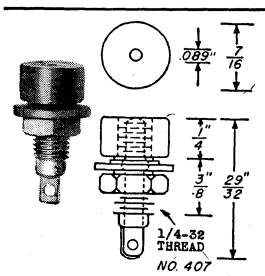
Cat. No. 331 . . . . . Std. Pkg. 50



HIGH VOLTAGE NYLON TIP JACK

Molded low-loss nylon body. Mounts in 17/64" hole in panels up to 3/8" thick. Complete with brass n.pl. nut. Rugged, tough. Low capacity—Hi-Volt. Fits standard phone tips. **Colors:** White, Red, Black, Green, Blue, Orange, Yellow, Brown, Ivory.

Cat. No. 427 . . Nylon Tip Jack . . **Std. Pkg.** 50

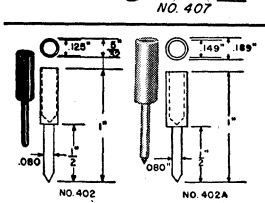


PHONE TIP JACK

Fits all standard phone tips. Body is brass, n.pl. Double Phosphor Bronze springs. Mounts in 5/16" hole in panels up to 3/8" thick. Molded head.

Colors:
Red, Black, Yellow, Blue, Green.

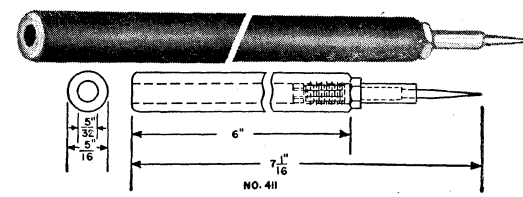
Cat. No. 407 . . . . . Std. Pkg. 50



BRASS NICKEL PLATED TIPS

Fits all standard phone tip jacks.

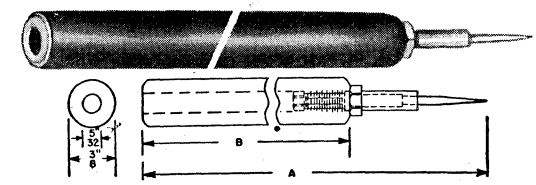
Cat. No.		Std. Pkg.
402	— Standard Phone Tip	100
402A	— Phone Tip Larger Diam. . .	100



BAKELITE PENCIL TEST PROD

Body is brass nickel plated with steel n.pl. needle. Has Scrulok solderless connection. Bakelite handle. **Colors:** Red, Black.

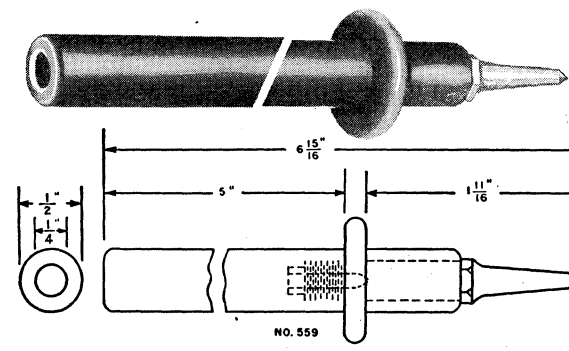
Cat. No.		Std. Pkg.
411	. . . . . Bakelite Pencil Test Prod	12



SCRULOK NEEDLEPOINT TEST PRODS

Phenolic insulated prod, has Scrulok solderless connection. Body is brass, nickel plated with steel n.pl. needle. **Colors:** Red, Black.

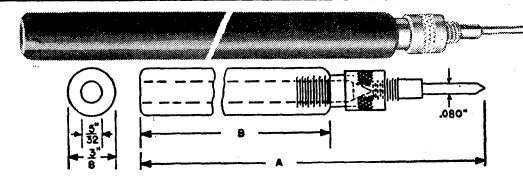
Cat. No.	(A) Overall	(B) Handle Length	Std. Pkg.
417	5-3/32"	4"	50
418	6-3/32"	5"	50



HEAVY DUTY HI-VOLTAGE TEST PROD HANDLE

Tip is heavy brass nickel plated. Bakelite finger guard. Accommodates IN-34 diode and condenser for use as RF Probe. **Colors,** Red, Black.

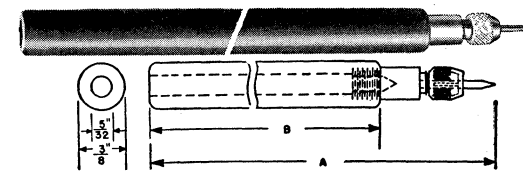
Cat. No.		Std. Pkg.
559	. . . . . 6" H.V. Test Prod Handles	20



SOLDERLESS TEST PRODS

Body is brass nickel plated with solderless knurled nut connection. Heavy duty needlepoint, nickel plated. **Colors:** Red, Black.

Cat. No.	(A) Overall	(B) Handle Length	Std. Pkg.
410	5 1/8"	4"	50
343	6 1/4"	5"	50



NEEDLEPOINT TEST PRODS

Brass nickel plated body with steel nickel plated needle. Chuck threaded in end of handle is removable for replacing needles. Polished cast phenolic handle.

Cat. No.	(A) Overall	(B) Handle Length	Std. Pkg.
344	4-15/16"	4"	50
345	5-15/16"	5"	50

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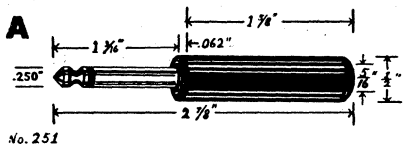
See Pages S-26 and S-27 for Birnbach Prices



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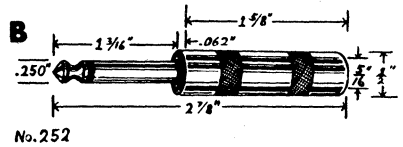

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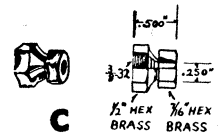

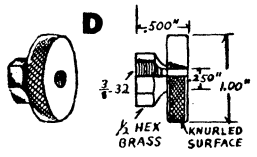

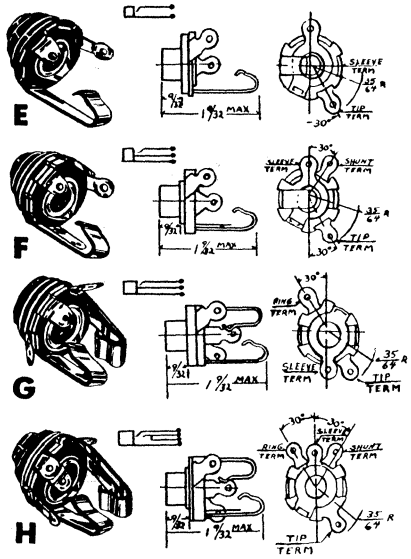

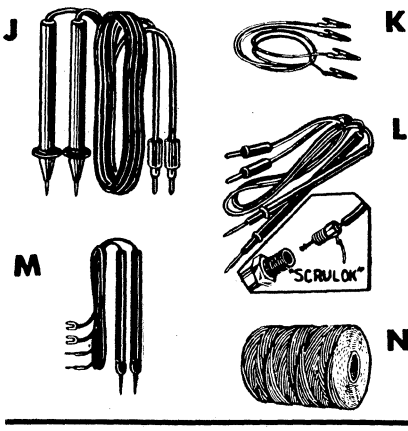

TELEPHONE TYPE PLUGS

This standard two conductor plug fits all standard jacks. All metal parts brass with nickel plating except for contact screw. Barrel is molded bakelite. Red or Black.

A — BAKELITE DOUBLE PHONE PLUG
Cat. No. 251 ..... Std. Pkg. 25

B — SHIELDED PHONE PLUG
Cat. No. 252 ..... Std. Pkg. 25

SHAFT LOCKS

C — WRENCH TYPE

Brass, nickel plated. ½" length overall. Rear: ½" hex brass with ⅜-32 thread. Front: 7/16" hex brass.

Cat. No.	Std. Pkg.
546 — For ¼" Shaft	25

D — THUMB TYPE

Brass, nickel plated. ½" length overall. Rear: ½" hex brass with ⅜-32 thread. Front: 1" diam. knurled nut.

Cat. No.	Std. Pkg.
547 — For ¼" Shaft	25

TELEPHONE TYPE JACKS

The body is brass nickel plated. Small, rugged and they are designed for long life, with low contact resistance snap springs made specially from nickel silver alloy which is corrosion resistant. Mounts in ⅜" hole.

E — Cat. No. 257 — Open Circuit Two Conductor ..... **Std. Pkg. 25**
F — Cat. No. 258 — Single Closed Circuit Two Conductor ..... **Std. Pkg. 25**
G — Cat. No. 259 — Open Circuit Three Conductor ..... **Std. Pkg. 25**
H — Cat. No. 260 — Single Closed Circuit Three Conductor .... **Std. Pkg. 25**

TEST LEADS

J — BIRNBACH HEAVY DUTY HIGH VOLTAGE TEST LEADS

Overall length 60". Tips are heavy solid brass nickel plated. Rugged, dependable heavy duty bakelite prods. Color coded Red and Black. Uses our Hi Volt kinkless test lead wire.

Cat. No.	Std. Pkg.
562 — Heavy Duty High Voltage Test Leads	10

K — ALLIGATOR CLIP TEST LEADS

Black and Red kinkless test lead wire with Alligator Clips at each end.

Cat. No.	Wire Length	Std. Pkg.
675	12"	25
676	24"	25
677	36"	25
678	48"	25

SPECIAL ASSEMBLIES AVAILABLE TO ORDER

L — DELUXE AND BAKELITE PENCIL TYPE TEST LEADS

No. 408 Bakelite pencil test leads, color coded, Red, Black, all with kinkless test lead wire. Overall length 60". #560 and #561 polished cast phenolic resin handles, solderless type tips. 50" long. Color coded Red, Black.

Cat. No.	Std. Pkg.
408 — Bakelite Pencil Type Test Leads, 6" handles	10
560 — DeLuxe Solderless Prod Test Leads, 5" handles	25
561 — DeLuxe Needlepoint Prod Test Leads, 5" handles	25

M — BIRNBACH NEEDLEPOINT TEST LEADS

Have Red and Black 4" fibre handles. Use kinkless lead wire. Overall length 50". Good, dependable low priced leads.

Cat. No.	Std. Pkg.
420 — Needlepoint Phone Tip Test Leads	25
421 — Needlepoint Spade Lug Test Leads	25
422 — Solderlss Phone Tip Test Leads	25
423 — Solderless Spade Lug Test Leads	25

N NYLON LACING CORD

This nylon lacing cord manufactured to meet Spec. JAN-T-713 Type S, Composition P, Classes 3, 2, and 1. Available in 1 lb. tubes.

	Cat. No. 1070 70 lb. Test	Cat. No. 1071 48 lb. Test	Cat. No. 1072 32 lb. Test
	Class 1 ..... 600 Yds.	Class 2 ..... 800 Yds.	Class 3 ..... 1140 Yds.

N LINEN LACING CORD

This linen lacing cord is made from pure flax, waxed and mildew-proofed. The twelve, eight and six ply cord meet Spec. JAN-T-713 Type N Classes 1, 2, and 3, respectively.

			4 oz. tube Cat. No.	4 oz. tube Yds.	8 oz. tube Cat. No.	8 oz. tube Yds.	1 lb. tube Cat. No.	1 lb. tube Yds.
	4 ply	20 lb. test	1073	210	1074	425	1075	850
Class 3 —	6 ply	42 lb. test	1076	75	1077	150	1078	300
Class 2 —	8 ply	56 lb. test	1082	115	1083	235	1084	470
	9 ply	60 lb. test	1079	100	1080	200	1081	400
Class 1 —	12 ply	77 lb. test	1085	75	1086	150	1087	300

See Pages S-26 and S-27 for Birnbach Prices

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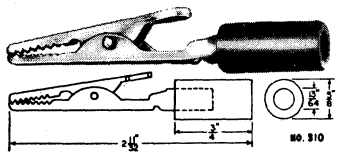
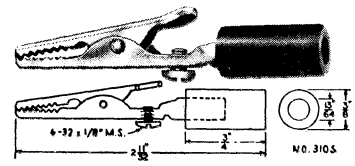
ALLIGATOR CLIPS — TEST CLIPS — SPADE LUGS — BINDING POSTS



INSULATED ALLIGATOR CLIP

Made of steel, cadmium plated. Insulated handle allows use of all banana plugs. Has small soldering lip. **Colors:** Red, Black.

Cat. No.		Std. Pkg.
310	Insulated Alligator Clip	50
311	1½" Insulated Alligator Clip	50

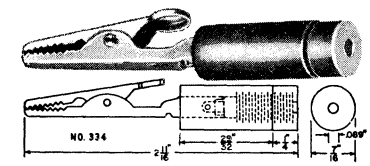


INSULATED ALLIGATOR CLIP (Screw Type)

Made of steel, cadmium plated. Accurately matching jaws for tight grip. Has screw for solderless connection. Banana plug fits into rear of clip. Insulated handle.

Colors: Red, Black.

Cat. No.		Std. Pkg.
310S	Insulated Alligator Clip	50



ALLIGATOR CLIP WITH PHONE TIP JACK

Handle has our No. 31 clip and our No. 407 tip jack in rear for all standard phone tip plugs. **Colors:** Red, Black.

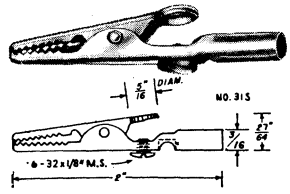
Cat. No.		Std. Pkg.
334	Alligator Clip with Phone Tip Jack	50
336	Same as above except with our #31C screw type Copper Alligator Clip	50

INSULATED COPPER ALLIGATOR CLIP (SCREW TYPE) — No. 310C

Composed of our No. 31C—Copper Alligator Clip with insulated handle. Has brass screw for solderless connection.

Colors: Red, Black.

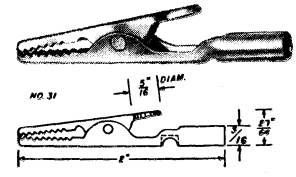
Cat. No.		Std. Pkg.
310C	Insulated Copper Alligator Clip	50



ALLIGATOR CLIP (Screw Type)

Made of cadmium plated steel. The jaws match accurately, permitting them to grip all kinds of wire securely. Has screw for solderless wire connection. Banana plug fits into rear of clip.

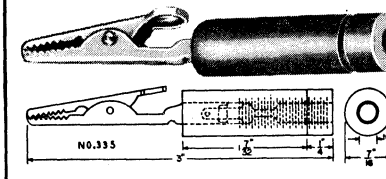
Cat. No.		Std. Pkg.
31S	Alligator Clip	50
31C	Alligator Clip (Copper)	50



ALLIGATOR CLIP

Made of cadmium plated steel. Banana plug fits into rear of clip. Equipped with soldering lip.

Cat. No.		Std. Pkg.
31	Alligator Clip	50



ALLIGATOR CLIP COMBINATION JACK

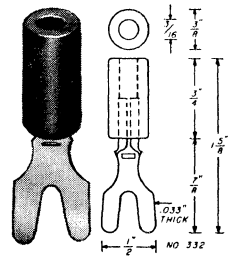
Insulated alligator clip is composed of our #31, steel, cadmium plated Alligator Clip with our #333 Combination Jack in rear allowing the adaption of both standard senior phone tip plugs and banana plugs to Alligator Clips. **Colors:** Red, Black.

Cat. No.		Std. Pkg.
335	Alligator Clip Combination Jack	50
337	Same as above except with our #31C screw type Copper Alligator Clip	50

ALLIGATOR CLIP VINYL INSULATOR

Extremely flexible. Made to fit Nos. 31, 31S, 31C. **Colors:** White, Red, Black, Yellow, Blue.

Cat. No.		Std. Pkg.
31R	Vinyl Insulator	50

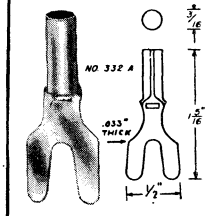


INSULATED SPADE LUG

Accommodates all standard banana plugs into the rear of lug enabling same to be adapted to a splade lug. Lug is Steel Hot Tinned.

Colors: Red or Black.

Cat. No.		Std. Pkg.
332	Insulated Spade Lug	50



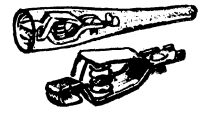
SPADE LUG

Barrel accommodates all standard banana type plugs. Lug is Steel Hot Tinned.

Cat. No.		Std. Pkg.
332A	Spade Lug	50

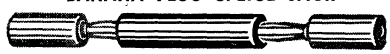
BIRNBACH TEST CLIPS

The teeth mesh correctly permitting good contact to be made. The No. 27-C is a solid copper clip with a brass screw designed for high frequency work.



Cat. No.		Length	Jaw Spread	Capacity	Std. Pkg.
27	Pee Wee	1½"	⅜"	5 Amp.	50
28	Midget	2"	9/16"	10 Amp.	50
29	Medium	2⅞"	1"	25 Amp.	50
30	Large	4"	1¼"	50 Amp.	50
27C	Pee Wee Copper	1½"	⅜"	10 Amp.	50
27R	Rubber Sleeve—Red or Black				50

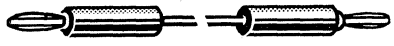
BANANA PLUG SPLICE JACK



Couples two standard banana plugs. Useful for extension of test leads, etc. Colors: RED & BLACK.

Cat. No.	Std. Pkg.
603	50

BIRNBACH PATCH CORDS



Birnbach No. 465 Banana Plugs connected to our kinkless test lead wire. Used to interconnect circuits. Fits all standard banana jacks.

Cat. No.	Wire Length	Std. Pkg.
607	12"	25
608	24"	25
609	36"	25
610	48"	25

NEW! BIRNBACH 5-WAY BINDING POSTS

HEAVY DUTY

Rugged, versatile 5-way binding post. Molded in brass bushings provide complete insulation from panel. Provides permanent clamping for phone tip plug, spade lug, banana plug, alligator clip or wire connection. Capacity: 30 amps. Working voltage: 1000 volts. Available in Red or Black. Specify when ordering. Brass body, complete with all hardware. Heavy duty.

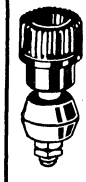
Cat. No.	Description	Std. Pkg.
274	Red or Black	100

SHIELDED EXTENSION JACK

Cadmium plated brass shell with black bakelite insert. Length is 2-7/16". Insulates for solder grip contact. Mates with No. 248 Phono Plug.

Cat. No.		Std. Pkg.
246	Inline Extension Jack	100

STANDARD DUTY 5-WAY BINDING POST



Molded-in brass bushings for complete insulation. Useful for standard duty work. Available in Red or Black. Specify color. Body is brass nickel plated.

Cat. No.	Description	Std. Pkg.
278	Red or Black	100
279*	Red or Black	100

*Same as above, but normally grounded. (Without bottom insulating section.)

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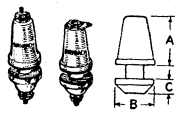
See Pages S-26 and S-27 for Birnbach Prices

FEEDTHRU — STEATITE PILLARS — CORRUGATED CERAMIC — STANDOFF INSULATORS. TRANSMITTING SOCKETS

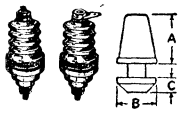
BIRNBACH FEEDTHRU INSULATORS



Made of highly vitrified, low absorption porcelain smoothly glazed to prevent accumulation of dust or dirt. Maximum strength is achieved by the proper proportions and flat mounting surfaces. Long insulating sleeves on the lower part of the insulator contribute much to their performance on high voltages. Brass nickel plated hardware.

Cat. No.	Height A	Std. Pkg.	Dimensions B	C	Mounting Hole	Hardware
458	5/8"	50	11/16"	1/4"	5/16"	6-32
478	1"	25	13/16"	5/16"	7/16"	10-32
478J	1"	25	13/16"	5/16"	7/16"	No. 403 Jack
4125	1 1/4"	25	7/8"	3/8"	7/16"	10-32
4125J	1 1/4"	25	7/8"	5/8"	7/16"	No. 403 Jack
4234	2 3/4"	10	2"	1"	3/4"	1/4-20
4175	2 3/4"	10	1 1/4"	3/4"	5/8"	1/4-20
4175J	2 3/4"	10	1 1/4"	3/4"	5/8"	No. 394 Jack

CORRUGATED FEEDTHRU INSULATORS



The six new corrugated type feedthru insulators have more than twice the leakage path of the straight type because of increased surface of the corrugations and recommends itself where a straight side insulator of equal height is not satisfactory because of its shorter leakage path. Brass nickel plated hardware and cork mounting washers supplied.

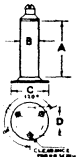
Cat. No	Height A	Std. Pkg.	Dimensions B	C	Mounting Hole	Hardware
479	1 3/8"	25	1 1/4"	11/16"	9/16"	10-32
479J	1 3/8"	25	1 1/4"	11/16"	9/16"	No. 403 Jack
4276	2 3/4"	10	1 5/8"	1"	3/4"	1/4-20
4276J	2 3/4"	10	1 5/8"	1"	3/4"	No. 394 Jack
4452	4 1/2"	5	2 1/8"	1 1/2"	1"	1/4-20
4452J	4 1/2"	5	2 1/8"	1 1/2"	1"	No. 394 Jack

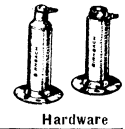
HIGH VOLTAGE FEEDTHRU INSULATOR

This insulator has been designed to meet the demand for an insulator having high dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve taper from a base dia. of 1-3/16" where the electric stress is greatest.

Cat. No.	Height	Std. Pkg.	Base Dia.	Mounting Hole	Hardware
4233	1 5/8"	10	2"	1 1/4"	1/4-20

STEATITE PILLARS

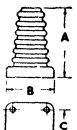




Have great tensile strength with extremely low losses at very high frequencies. Tapped on both ends; supplied with nickel plated mounting base and top hardware.

Cat. No.	Height A	Std. Pkg.	Dimen. B	Base Dia. C	D	Hardware
450	1"	10	1/2"	1 1/8"	7/8"	6-32
450J	1"	10	1/2"	1 1/8"	7/8"	No. 403 Jack
451	1 1/2"	10	1/2"	1 1/8"	7/8"	6-32
451J	1 1/2"	10	1/2"	1 1/8"	7/8"	No. 403 Jack
452	2 1/2"	10	1/2"	1 1/8"	7/8"	6-32
452J	2 1/2"	10	1/2"	1 1/8"	7/8"	No. 403 Jack
453	2 1/2"	5	3/4"	1-9/16"	1-3/16"	1/4-20
453J	2 1/2"	5	3/4"	1-9/16"	1-3/16"	No. 395 Jack
454	4"	5	3/4"	1-9/16"	1-3/16"	1/4-20
454J	4"	5	3/4"	1-9/16"	1-3/16"	No. 395 Jack

BIRNBACH METAL BASE INSULATORS

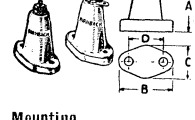


Corrugated surface provides long leakage path. Made of high tensile strength low absorption porcelain fully glazed. Supplied with nickel plated brass screws and nuts, cadmium plated drawn steel bases.

Cat. No.	Height A	Std. Pkg.	Base Dimension B	C	Mtg. Screw D	Hardware
867	1 3/8"	25	1 7/8" x 1 5/8"	1 1/2"	2 No. 8	10-32
867J	1 3/8"	25	1 7/8" x 1 5/8"	1 1/2"	2 No. 8	403 Jack
4176	2 3/4"	10	1 3/4" x 1 3/4"	1 3/8"	4 No. 10	1/4-20
4176J	2 3/4"	10	1 3/4" x 1 3/4"	1 3/8"	4 No. 10	395 Jack
4451	4 1/2"	5	2 1/4" x 2 1/4"	1 3/4"	4 No. 10	1/4-20
4451J	4 1/2"	5	2 1/4" x 2 1/4"	1 3/4"	4 No. 10	395 Jack

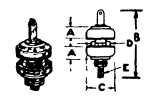
BIRNBACH STANDOFF INSULATORS

Made of highly vitrified low absorption glazed porcelain. No washers necessary — mounting surface is ground flat for No. 404. No. 966 it is advisable to use cork washers which are available. All brass nickel plated hardware supplied.



Cat. No.	Height A	Std. Pkg.	Base Dimension B	C	D	Mounting Holes	Hardware
405	5/8"	100	1"	37/64"	11/16"	5/32"	6-32
965	1"	50	1 1/4"	7/8"	19/32"	5/32"	8-32
966	1"	50	1 5/8"	7/8"	1"	5/32"	8-32
966J	1"	50	1 5/8"	7/8"	1"	5/32"	No. 403 Jack
866	1 1/2"	25	1 3/4"	1 1/8"	1 1/4"	13/64"	10-32
866J	1 1/2"	25	1 3/4"	1 1/8"	1 1/4"	13/64"	No. 403 Jack
866SJ	1 1/2"	10	1 3/4"	1 1/8"	1 1/4"	13/64"	No. 395 Jack
4275	2 3/4"	10	2 3/4"	2"	2 1/4"	1/4"	1/4-20
4275J	2 3/4"	10	2 3/4"	2"	2 1/4"	1/4"	No. 399 Jack
4450	4 1/2"	5	3 5/8"	2 1/2"	2 5/8"	13/32"	1/4-20
4456J	4 1/2"	5	3 5/8"	2 1/2"	2 5/8"	13/32"	No. 399 Jack

STEATITE BUTTONS



This specially designed Steatite button is intended for use to simplify wiring and to be used as a binding post or a binding post insulator. Attention is called to the uniqueness of the design which prevents either section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.

Cat. No.	Std. Pkg.
457—Button	25

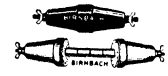
Dimensions A	B	C	D	E
5/16"	1 5/8"	3/4"	1/2"	6-32

"LUCITE" FEEDTHRU INSULATORS

These feedthru insulators are ideal for bringing high frequency leads thru a panel. They are made of genuine Dupont Lucite. Because of its low loss at high frequency, it is well adapted to insulated elements of high frequency circuits. The 1/2" dia. insulators have brass nickel plated 6-32 hardware and the 3/4" dia. insulators, 10-32 hardware.

Cat. No.	Height Above Panel	Insulator Dia.	Mounting Hole	Bottom Height	Std. Pkg.
377	1/4"	1/2"	5/16"	1/4"	25
378	1/2"	1/2"	5/16"	1/4"	25
379	1"	1/2"	5/16"	1/4"	25
475	1 1/2"	3/4"	7/16"	1/2"	25
476	2"	3/4"	7/16"	1/2"	25

BIRNBACH LEADIN INSULATORS



Each cone is 2 3/4" high and made of low absorption, highly vitrified glazed porcelain. The Nos. 4237 and 4238 Leadin Insulators have sufficient insulating bushings to insulate the rod that goes through the wall. In addition, 2 bushings are included, 1/4" and 1/2" long, allowing complete insulation of the threaded rod of any length in multiples of 1/4". They come complete with brass nickel plated hardware and lead and cork washers to permit a water-tight seal.

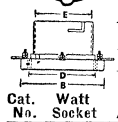
Cat. No.	Description	Std. Pkg
4235	10" Rod	10
4236	15" Rod	10
4237	10" Rod with bushings	10
4238	15" Rod with bushings	10

BIRNBACH STEATITE PILLARS
(Without Hardware)

In many constructions, these unmounted threaded Steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting surfaces. They are made of L5 glazed Steatite with threaded holes on both sides.

Cat. No.	Height	Diam.	Threaded Hole	Std. Pkg.
441	1/4"	1/4"	6-32	100
441A	1/2"	1/4"	6-32	100
442	3/8"	3/8"	6-32	100
442A	1/2"	3/8"	6-32	100
443	1/2"	1/2"	6-32	100
444	3/4"	1/2"	6-32	100
445	1"	1/2"	6-32	100
446	1 1/2"	1/2"	6-32	100
447	2 1/2"	1/2"	6-32	100
448	2 1/2"	3/4"	1/4-20	50
449	4"	3/4"	1/4-20	50

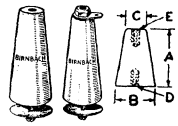
BIRNBACH TRANSMITTING TUBE SOCKETS



Accepted as standard. Widely used in industrial application. No. 435—10 watt socket, has heavy phosphor bronze, cadmium plated side wiping type contacts; white glazed porcelain base; heavy nickel plated brass shell. No. 434—50 watt socket, has heavy double filament phosphor bronze, cadmium plated spring contacts to carry heavy currents; polished nickel plated brass shell set in a white glazed porcelain base. All brass nickel plated screws and milled nuts used.

Cat. No.	Watt Socket	A	B	D	E	Mtg. Holes	Pin	Tube Base	Std. Pkg.
434	50	2 5/8"	3 3/8"	2 13/16"	1.886"	2	4	Std. Jumbo	25
435	10	1 7/8"	2 1/2"	2 1/16"	1.386"	2	4	Med. Bay	25

BIRNBACH CONE STANDOFF INSULATORS
(Steatite)



Made of low absorption high tensile strength Steatite with a smooth glaze. All heights except the No. 430 are available with a Jack or a threaded hole top. Available in a white glaze and are complete with screws, metal and cork washers.

Cat. No.	Height A	Std. Pkg.	Base Dimensions B	C	Threaded Holes D	E	Mtg. Hole
430	5/8"	100	5/8"	7/16"	6-32	6-32	5/16"
431	1"	50	11/16"	1/2"	8-32	8-32	5/16"
431J	1"	50	11/16"	1/2"	8-32	No. 403 Jack	5/16"
432	1 1/2"	50	7/8"	5/8"	10-32	10-32	7/16"
432J	1 1/2"	50	7/8"	5/8"	10-32	No. 403 Jack	7/16"
433	2 3/4"	25	1 1/4"	3/4"	1/4-20	1/4-20	9/32"
433J	2 3/4"	25	1 1/4"	3/4"	1/4-20	No. 395 Jack	9/32"

See Pages S-26 and S-27 for Birnbach Prices

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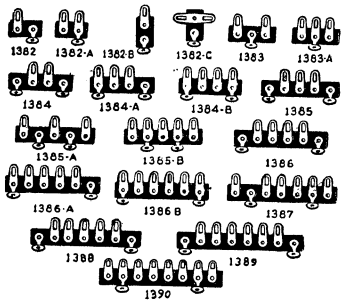
TERMINAL STRIPS — LUGS — BUSHINGS — SPACERS SHAFT COUPLINGS — PANEL BEARINGS — TUBE CLAMPS

Birnbach

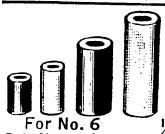
BIRNBACH LUG TERMINAL STRIPS

These lug terminals are used in circuit wiring for supporting resistors, condensers, etc. Made of 1/16" x ⅜" wide bakelite with cadmium plated brass lugs. Securely eyeletted in place. Lugs are spaced ⅜" centers with .140 dia. mounting holes.



Cat. No.	Std. Pkg.
1382	100
1382A	100
1382B	100
1382C	100
1383	100
1383A	100
1384	100
1384A	100
1384B	100
1385	100
1385A	100
1385B	100
1386	100
1386A	100
1386B	100
1387	100
1388 — 5 Ter., 2 grds.	100
1389 — 6 Ter., 2 grds.	100
1390	100

BIRNBACH BRASS BUSHINGS & SPACERS



An ideal brass bushing for raising sub panels, chassis, condensers, transformers, etc. Hole will accommodate a No. 6 or No. 8 screw.

For No. 6 Cat. No.	Std. Pkg.	¼" O.D. Length	For No. 8 Cat. No.	Std. Pkg.
1125	100	¼"	1130	100
1126	100	⅜"	1131	100
1127	100	½"	1132	100
1128	100	¾"	1133	100
1129	100	1"	1134	100
		⅜" O.D.		
1135	100	¼"	1140	100
1136	100	⅜"	1141	100
1137	100	½"	1142	100
1138	100	¾"	1143	100
1139	100	1"	1144	100

THREADED BRASS SPACERS

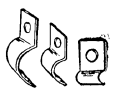
¼" O.D.

For No. 6-32 Cat. No.	Std. Pkg.	Length	For No. 8-32 Cat. No.	Std. Pkg.
1125T	100	¼"	1130T	100
1126T	100	⅜"	1131T	100
1127T	100	½"	1132T	100
1128T	100	¾"	1133T	100
1129T	100	1"	1134T	100

BIRNBACH INSULATED BUSHINGS AND SPACERS

For No. 6 Cat. No.	Std. Pkg.	¼" O.D. Length	For No. 8 Cat. No.	Std. Pkg.
1145	100	¼"	1149	100
1146	100	⅜"	1150	100
1147	100	½"	1151	100
1148	100	¾"	1152	100

BIRNBACH CABLE CLAMPS



Cat. No.	To Fit Cable Up to	Lth.	Wth.	Mtg. Hole	Std. Pkg.
1153	3/32"	7/32"	3/16"	4	100
1154	5/32"	7/32"	3/16"	6	100
1155	1/4"	11/32"	5/16"	6	100
1156	1/4"	11/32"	5/16"	8	100
1157	3/4"	1 1/8"	3/8"	10	100

BIRNBACH THREADED RODS

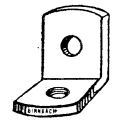
These brass nickel plated threaded rods are standard parts of our insulator assemblies.

Cat. No.	Length	Thread	Std. Pkg.
16	4"	1/4-20	1000
17	5 1/2"	1/4-20	1000
18	10"	1/4-20	1000
113	15"	1/4-20	1000
114	1 3/8"	10-32	1000
115	1 5/8"	10-32	1000
116	2 1/4"	10-32	1000
117	8"	10-32	1000
118	8"	8-32	1000
119	8"	6-32	1000
15	2"	6-32	1000

BIRNBACH TAPPED ANGLE BRACKETS

Steel cadmium plated. ½" by ½". One plain .165 hole and one 8/32 tapped hole.

Cat. No.	Std. Pkg.
1120	100



SHAFT COUPLING REDUCERS AND EXTENDERS

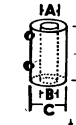
By the use of these units all ¼" and ⅜" dia. shafts and knobs can be assembled together. The insulated units are for use where electrical isolation is desired. Furnished complete with set screws shown. Be sure to specify whether Brass or Insulated is desired.

SHAFT COUPLINGS

Cat. No. Br.	Cat. No. Insul.	Shaft A	Hole B	O.D. C	Std. Pkg.
534	634	¼"	¼"	½"	50
535	635	¼"	⅜"	11/16"	50
536	636	⅜"	¼"	½"	50
537	Reducer for ⅜" Dia. Hole to ¼" Dia. Hole			⅜"	50

COUPLINGS

531	631	¼"	¼"	½"	50
532	632	¼"	⅜"	11/16"	50
533	633	⅜"	¼"	11/16"	50



EXTENDERS

Cat. No.	Over-all Lgth.	Shaft Lgth.	Hole I.D.	Shaft O.D.	Std. Pkg.
538 Brass	1¾"	1¼"	¼"	¼"	50
539 Insulated	1¾"	1¼"	¼"	¼"	50

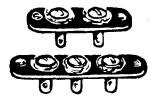
BRASS SHAFTING

Cat. No.		Std. Pkg.
540	¼" Dia. 6" Long	12
541	¼" Dia. 12" Long	12
542	⅜" Dia. 8" Long	12

FIBRE SHAFTING

543	¼" Dia. 6" Long	12
544	¼" Dia. 12" Long	12
545	⅜" Dia. 8" Long	12

BAKELITE TERMINAL STRIPS



Terminals are made of brass and cadmium plated. Terminals are mounted on 1/16" bakelite. 7, 8, 9 and 10 terminals are mounted on 3/32" bakelite. All terminals are space 7/16" center to center.

PLAIN Cat. No.	Terminals	Mtg. Center
1372	2	1-5/16"
1373	3	1-3/16"
1374	4	2-3/16"
1375	5	2-5/16"
1376	6	3-5/16"
1377	7	3-1/16"
1378	8	3-15/16"
1379	9	4-3/16"
1380	10	4-13/16"

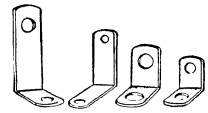
MARKED Cat. No.	Terminals Marked
1260	2; A-G
1261	2; Output
1262	2; Input
1263	3; 1-2-3
1264	4; 1-2-3-4
1265	5; 1-2-3-4-5
1266	6; 1-2-3-4-5-6

SPRING WIRE CLIPS

They will hold a wire up to No. 10 B&S Gauge in a secure contact. All clips are brass nickel plated.

Cat. No.	Length	Width	Mtg. Hole	Std. Pkg.
32A—Spring Clip	¾"	5/16"	6	100
32 —Spring Clip	1"	⅜"	10	100
33 —Twin Clip	1¾"	⅜"	10	100

BRASS AND STEEL ANGLES



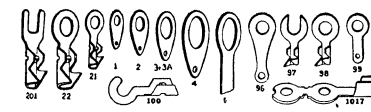
Cat. No.	Material	Size	Mtg. Holes	Std. Pkg.
1121	Brass N.P.	½" x ½"	1	69	100
1122	Brass N.P.	⅝" x ⅝"	1	69	100
1123	Steel H.T.	¾" x ¾"	1	44	100
1124	Steel H.T.	⅝" x 1 1/8"	1	69	100

BIRNBACH TUBE CLAMPS

These Tube Clamps are made of hard drawn aluminum and are found to be extremely desirable when mounting resonant lines, or elements of directive beam antennas. The ⅛" thru ⅝" clamps have a clearance for No. 10 Screw. The ¾" to the 1¼" clamps have a clearance for ¼" bolts.

Cat. No.	To Fit Tube	Wdth.	Lgth.	Thick-ness	Std. Pkg.
51A	⅛"	½"	13/16"	.050"	100
51	¼"	½"	⅞"	.050"	100
52	5/16"	½"	15/16"	.050"	100
53	⅜"	½"	1"	.050"	100
54	½"	½"	1 1/8"	.050"	100
54A	⅝"	½"	1 1/4"	.050"	50
55	¾"	¾"	1 5/16"	.090"	50
57	⅞"	¾"	1⅝"	.090"	50
56	1"	¾"	1¾"	.090"	50
56A	1 1/4"	¾"	1⅞"	.090"	50
56B	1 1/4"	¾"	2"	.090"	50

BIRNBACH TINNED TERMINAL LUGS



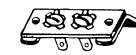
Cat. No.	Hole for Screw	Material	Thick-ness	Lgth.
1	6	Tinned Copper	.015"	3/32"
2	10	Tinned Copper	.016"	⅜"
3	.252	Tinned Copper	.015"	3/32"
3A	1/4	Tinned Copper	.015"	13/16"
4	3/8	Tinned Copper	.016"	⅞"
5	1/2	Hot Tin. Cop.	.024"	1 3/16"
21	10	Hot Tin. Cop.	.020"	3/16"
22	1/4	Hot Tin. Cop.	.025"	1 1/16"
201	8	Brass Hot Tin.	.020"	13/16"
96	6-8-10	Brass Hot Tin.	.020"	⅞"
97	8	Tinned Copper	.016"	⅜"
98	6-8-10	Brass Hot Tin.	.020"	11/16"
99	4-6-8	Brass Hot Tin.	.020"	11/16"
100	10	Brass Hot Tin.	.020"	⅞"
1017	10	N. Pl. Cop.	.023"	13/16"

Standard Package — 1000

BIRNBACH LOCKING TYPE TERMINAL LUGS

Brass Electro Plated

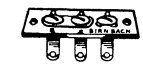
Cat. No.	Hole for Screw	Thickness	Length In.	Std. Pkg.
193	4	.020"	¾"	1000
194	6	.020"	¾"	1000
195	8	.020"	⅞"	1000
196	¼"	.020"	13/16"	1000



TERMINAL STRIPS 2 POST

Excellent mounting for twin lead transmission lines. Brass hot tinned lugs spaced 7/16" center to center. ⅛" bakelite. 1 15/16" mounting center.

Cat. No. T16 ..... St. Pkge. 50



BIRNBACH 3 POST

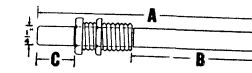
A synchronizing lock strip for RCA type television receivers.

Brass hot tinned lugs. Spaced 7/16" center to center. Mounting center 1¾". 1/16" bakelite.

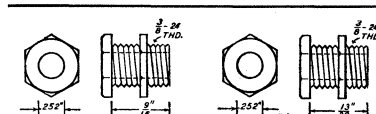
Ca. No. T16A ..... Std. Pkg. 50

BIRNBACH FRONT PANEL BEARING

Cadmium plated brass for panels up to ⅜" in thickness and for ¼" dia. shafts. The No. 551 and No. 552 are complete assemblies of the No. 550 and ¼" dia. brass shaft cadmium plated.



Cat. No.	A	B	C
551	3"	1¾"	½"
552	6"	4¾"	½"



(Same as used on No. 551 and No. 552)

Cat. No.		Std. Pkg.
550	—Front Panel Bearing, threaded length 9/16"	50
550A	—Front Panel Bearing, threaded length 13/32"	50
550-B	—Front Panel Bearing, ⅜-32 threaded length ⅜"-11/16" O.L.	
551	—Front Panel Bearing, ¼" Shaft, 3" long	50
552	—Front Panel Bearing, ¼" Shaft, 6" long	25

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See Pages S-26 and S-27 for Birnbach Prices

SCREWS & NUTS — WASHERS — STANDOFFS INSULATORS and SPREADERS

BIRNBACH ROUND HEAD MACHINE SCREWS

Standard Package 1000

STEEL NICKEL PLATED Cat. No.	Size	BRASS NICKEL PLATED Cat. No.	Size
6300	2-56 x 3/16	6400	4-36 x 1/4
6301	2-56 x 1/4	6401	4-36 x 3/8
6302	2-56 x 1/2	6402	4-36 x 1/2
6303	3-48 x 3/4	6403	4-36 x 3/4
6304	4-36 x 1/4	6404	4-36 x 1
6305	4-36 x 1/2	6312	4-40 x 1/4
6306	4-36 x 3/4	6313	4-40 x 3/8
6307	4-40 x 1/4	6314	4-40 x 1/2
6308	4-40 x 1/2	6315	4-40 x 3/4
6309	4-40 x 3/4		
6420	6-32 x 1/4		
6421	6-32 x 3/8	6405	6-32 x 1/4
6422	6-32 x 1/2	6406	6-32 x 3/8
6423	6-32 x 5/8	6407	6-32 x 1/2
6424	6-32 x 3/4	6408	6-32 x 5/8
6425	6-32 x 1	6409	6-32 x 3/4
6426	8-32 x 1/4	6410	6-32 x 1
6427	8-32 x 3/8	6411	6-32 x 1 1/4
6428	8-32 x 1/2	6412	6-32 x 1 1/2
6429	8-32 x 5/8	6413	8-32 x 1/4
6430	8-32 x 3/4	6414	8-32 x 3/8
6431	8-32 x 1	6415	8-32 x 1/2
6432	8-32 x 1 1/2	6416	8-32 x 5/8
6433	10-32 x 1/4	6417	8-32 x 3/4
6434	10-32 x 5/8	6418	8-32 x 1
6435	10-32 x 1/2		
6436	10-32 x 5/8		
6437	10-32 x 3/4	6316	10-32 x 1/4
6438	10-32 x 1	6317	10-32 x 3/8
6439	1/4-20 x 1/2	6318	10-32 x 1/2
6310	1/4-20 x 1 1/4	6319	10-32 x 3/4
6311	1/4-20 x 2 1/2	6320	10-32 x 1

BIRNBACH BINDING HEAD MACHINE SCREWS

Steel Nickel Plated

Cat. No.	Size	Std. Pkg.
6321	6-32 x 1/4"	1000
6322	6-32 x 3/8"	1000
6323	6-32 x 1/2"	1000
6324	8-32 x 1/4"	1000
6325	8-32 x 3/8"	1000
6326	8-32 x 1/2"	1000

BIRNBACH OVAL HEAD RACK SCREWS

Steel Nickel Plated

Widely used for mounting panels on racks and cabinets. Screws are nickel-plated brass.

Cat. No.	Size	Std. Pkg.
6600	6-32 x 1/4"	1000
6601	6-32 x 1/2"	1000
6602	6-32 x 3/4"	1000
6603	6-32 x 1"	1000
6604	8-32 x 1/4"	1000
6605	8-32 x 1/2"	1000
6606	8-32 x 3/4"	1000
6607	8-32 x 1"	1000
6608	10-32 x 1/4"	1000
6609	10-32 x 1/2"	1000
6610	10-32 x 5/8"	1000
6611	10-32 x 3/4"	1000
6611-A	10-32 x 1"	1000

BIRNBACH FINISHING RACK WASHERS

Brass Nickel Plated

Cat. No.	Size	Std. Pkg.
6612	6-32 Cup Washer	1000
6613	8-32 Cup Washer	1000
6614	10-32 Cup Washer	1000

ORNAMENTAL HEAD SCREWS

Steel—Statuary Bronze Finish

Cat. No.	Size	Std. Pkg.
6327	6-32 x 3/4"	1000
6328	6-32 x 1"	1000
6329	8-32 x 1 1/4"	1000

BRASS AND STEEL WOOD SCREWS

Available in round, flat and oval heads.

BRASS NICKEL PLATED Cat. No.	Size	Std. Pkg.	STEEL NICKEL PLATED Cat. No.	Size	Std. Pkg.
6460	3/8 x #4	144	6470	3/8 x #4	144
6461	1/2 x #4	144	6471	1/2 x #4	144
6462	5/8 x #5	144	6472	5/8 x #5	144
6463	3/4 x #5	144	6473	3/4 x #5	144
6464	1 x #5	144	6474	1 x #5	144
6465	1 1/4 x #6	144	6477	1 x #6	144
6466	1 1/2 x #6	144	6475	1 1/4 x #6	144
			6476	1 1/2 x #6	144
			6478	3/4 x #8	144

BIRNBACH SHEET METAL SELF TAPPING SCREWS

Steel Cadmium Plated

TYPE A — SHARP POINT

Cat. No.	Size	Std. Pkg.
6500	#4 x 1/2	144
6501	#6 x 1/4	144
6502	#6 x 3/8	144
6503	#6 x 1/2	144
6504	#6 x 3/4	144
6540	#8 x 3/8	144
6541	#8 x 1/2	144
6505	#8 x 1	144
6542	#10 x 3/8	144
6543	#10 x 1/2	144
6506	#10 x 3/4	144
6507	#10 x 1	144

BIRNBACH HEX HEAD SELF TAPPING SCREWS

TYPE B — BLUNT POINT SLOTTED

Steel Cadmium Plated

Cat. No.	Size	Std. Pkg.	Cat. No.	Size	Std. Pkg.
6510	#6 x 3/8	144	6515	#8 x 1/2	144
6511	#6 x 1/2	144	6516	#8 x 3/4	144
6512	#6 x 3/4	144	6517	#8 x 1	144
6513	#8 x 1/4	144	6518	#10 x 1/2	144
6514	#8 x 3/8	144	6519	#10 x 1	144

BIRNBACH VOLUME CONTROL AND TOGGLE NUTS

STEEL - BRASS - NICKEL PLATED

No.	Type	Size	Std. Pkg.
6337	Vol. Control Brass	3/8-32x1/2x3/8	1000
6337A	Vol. Control Steel	3/8-32x1/2x3/8	1000
6338	Toggle Switch Brass	15-32x7/8x5/8	1000
6339	Toggle Ring Nut	15-32x5/8x1/16	1000

BIRNBACH WING NUTS

It is a high quality brass nickel plated wing nut used extensively on portable and test instruments.

Cat. No.	Thread	Std. Pkg.
6	6-32	100
8	8-32	100
10	10-32	100
11	1/4-20	100

BIRNBACH HEXAGON STEEL MACHINE SCREW NUTS

Nickel Plated

Cat. No.	Thread Size	Width across Flats	Thickness	Std. Pkg.
6330	2-56	3/16"	1/16"	1000
6331	3-48	3/16"	1/16"	1000
6332	4-36	1/4"	3/32"	1000
6333	4-40	1/4"	3/32"	1000
6448	6-32	1/4"	3/32"	1000
6449	6-32	5/16"	7/64"	1000
6334	8-32	1/4"	3/32"	1000
6450	8-32	5/16"	7/64"	1000
6335	10-32	3/8"	1/8"	1000
6336	1/4-20	7/16"	3/16"	1000

BIRNBACH HEXAGON MACHINE SCREW NUTS

BRASS—NICKEL PLATED

Cat. No.	Thread Size	Width across Flats	Thickness	Std. Pkg.
6440	4-36	1/4"	3/32"	1000
6442	4-40	1/4"	3/32"	1000
6441	6-32	1/4"	5/64"	1000
6443	6-32	5/16"	7/64"	1000
6444	8-32	11/32"	1/8"	1000
6445	10-32	5/16"	7/64"	1000
6446	10-32	3/8"	1/8"	1000
6447	1/4-20	7/16"	1/8"	1000

BIRNBACH BRASS NICKEL PLATED FLAT WASHERS

Cat. No.	Fits Screw No.	Hole Size	O.D.	Thickness	Std. Pkg.
6479	4	.118"	9/32"	.025"	1000
6480A	6	.145"	5/16"	.025"	1000
6480	6	.145"	3/8"	.025"	1000
6481	8	.172"	3/8"	.032"	1000
6482	10	.203"	7/16"	.036"	1000
6483	1/4-20	.265"	9/16"	.040"	1000

BIRNBACH STEEL KANKLINK LOCKWASHERS

Cat. No.	Screw Size	O.D.	Thickness	Std. Pkg
6484	4	3/16"	1/32"	1000
6485	6	15/64"	1/32"	1000
6486	8	15/64"	.025"	1000
6487	10	5/16"	.050"	1000
6488	1/4	7/16"	5/64"	1000

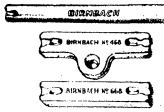
BIRNBACH SHAKEPROOF LOCKWASHERS EXTERNAL TEETH

Cat. No.	Screw Size	Std. Pkg.
6358	4	1000
6359	6	1000
6360	8	1000
6361	10	1000
6362	1/4	1000
6363	5/16	1000

BIRNBACH SHAKEPROOF LOCKWASHERS INTERNAL TEETH

Cat. No.	Screw Size	Std. Pkg.
6355	2	1000
6356	3	1000
6357	4	1000
6490	6	1000
6491	8	1000
6492	10	1000
6493	1/4	1000
6494	5/16	1000

BIRNBACH ANTENNA INSULATORS



These antenna insulators have exceptionally low moisture absorption. The leakage path is long and the cross section is small and is consistent with the strength required. Smooth white glaze overall prevents the accumulation of dirt or ice.

Cat. No.		Std. Pkg.
468	4 1/2" long Center Insulator	10
668	4 1/4" long	25
470	7" long	10
471	12" long	5

BEE HIVE STANDOFF

Base measures 2-3/16" diam. with 3 holes on 1-15/16" circle for No. 6 screws. Height of base 1½". Complete with 10-32 brass screw and nuts. No. 766J has a No. 403 Jack. Available in white glaze.

Cat. No.		Std. Pkg.
766	—Standoff Insulator, 10-32 Screws	10
766J	—Jack Type with No. 403 Jack	10

BIRNBACH AIRPLANE INSULATORS

They are used on mobile and aircraft and also with guy wire on TV installations. They are shaped for the least air resistance and have very high tensile strength, and low loss. Nos. 473 and 474 are made of white glazed low absorption porcelain. No. 472 is made of wet process glazed brown.

Cat. No.		Std. Pkg.
472	—2 1/4" (brown)	25
473	—2" (white)	100
474	—1 1/2" (white)	100

BIRNBACH FEEDER SPREADERS

They have a cross section of 3/8" x ½", Made of highly vitrified, low absorption, high tensile strength porcelain with a smooth white glaze overall.

Cat. No.		Stw. Pkg.
462	—Spreader, 2" long	25
464	—Spreader, 4" long	25
469	—Spreader, 6" long	25

BIRNBACH STEATITE AIRPLANE INSULATORS

A very small compression type Steatite insulator with small wind resistance. Fully glazed. It is 1¼" in length; 17/32" in diameter; ¾" line spacing.

Cat. No.		Std. Pkg.
463	—Steatite Airplane Insulators	25

BIRNBACH FLEXIBLE SHAFTS

Modern construction calls for more compact arrangement of parts. At times there is difficulty getting the controls to the proper position on the panel. With couplings and these flexible shafts, locations can be made with ease on an offset and angles up to 90 degrees. The flexible shafts are made of phosphor bronze and fitted into ¼" dia. hubs.

Cat. No.		Std. Pkg.
553	—Flexible Shaft 3" long	25
554	—Flexible Shaft 6" long	25

See Pages S-26 and S-27 for Birnbach Prices

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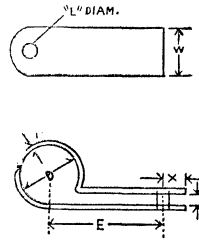
Birnbach

NYLON CABLE CLAMPS, BINDING POSTS
DIAL CORD, PHONO JACKS — SPLICE & TIP

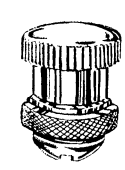


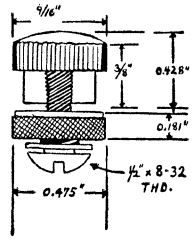
NYLON CABLE CLAMPS

Used as a clamp, strain relief, clip hanger, fastener, strap, these nylon cable clamps are light and tough. Have smooth, non-abrasive surfaces, rounded edges will not chafe conductors or cause shorts or grounds in cable. Insoluble in solvents, oils, gasoline, alcohol, hydraulic fluids, alkalies, acids. Temperature resistant from -60°F to +300°F. Do not support combustion. Moisture and heat resistant. Inside matte finish surfaces prevents slippage under vibration and are self aligning when tightened by screw. Snaps onto cable. Meets MIL specs.

Cat. No.	Put-Up	To Fit Size	D.	E.	W.	T.	L.	X.	A.
725	100 per pkg.	1/8"	.13	3/8	3/8	.050	.17	3/16	1/8
726	100 per pkg.	3/16"	.21	13/32	3/8	.050	.17	3/16	3/16
727	100 per pkg.	1/4"	.27	7/16	3/8	.050	.17	3/16	3/16
728	100 per pkg.	5/16"	.33	13/32	3/8	.050	.17	3/16	3/16
729	100 per pkg.	3/8"	.42	1/2	3/8	.050	.17	3/16	1/4
730	100 per pkg.	7/16"	.48	17/32	3/8	.050	.17	3/16	1/4
731	100 per pkg.	1/2"	.52	9/16	3/8	.050	.17	3/16	1/4
732	100 per pkg.	5/8"	.63	5/8	3/8	.050	.17	3/16	1/4
733	100 per pkg.	3/4"	.75	11/16	1/2	.070	.20	1/4	5/16
734	100 per pkg.	7/8"	.87	3/4	1/2	.070	.20	1/4	5/16

See our complete catalog for additional sizes and types.





INSULATED BINDING POST

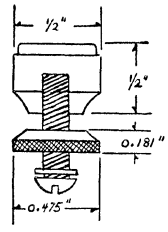
Milded bakelite head with brass insert molded-in. Supplied complete with 8/32 x ½" screw, lock washer. Has brass insert molded-in. Supwasher. Available in black.

Cat. No.	Std. pkg.
184...Binding Post...	50

Molded bakelite head with brass insert molded-in. Supplied complete with 8/32 x ½" screw and lock washer. Has brass nickel-plated retaining washer.

Colors: Red, Black.

Cat. No.	Std. pkg.
185...Binding Post...	50



Brass, heavily nickel-plated overall. Complete with screw and lock washer. Designed for high amperage, low resistance connections.

Cat. No.	Std. pkg.
186. Metal Binding Post.	50

PHONE TIP PLUG SPLICE

Takes all standard phone tip plugs excellent for quick connections or test, lead extensions.

Colors: Red, Black, Yellow, Green.

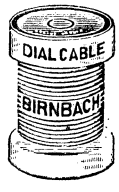
Cat. No. 619 — Insulated Banana Plug Splice ..... **Std. pkg.** 25

IN-LINE PHONE TIP JACK

Takes all standard phone tip plugs. Can be used as lead extension.

Colors: Red, Black, Yellow, Green.

Cat. No. 621 — Insulated-In-Line Tip Jack ..... **Std. pkg.** 25



BIRNBACH DIAL CABLE 42-STRAND PHOSPHOR BRONZE
(.040 Diameter)

This cable is constructed of the finest phosphor bronze wire over a linen thread center. Due to its high tensile strength, it will not stretch. Used on Majestic, Bosch, Philco etc. Very durable and flexible. It is also widely used for aircraft reel-in antenna cable, special instruments, etc.

Cat. No.	
1025	25 ft. Spool
1050	50 ft. Spool
1051	100 ft. Spool
1952	1000 ft. Spool

BRAIDED PHOSPHOR BRONZE DIAL CABLE
(Light — .025 Diameter)

Cat. No.	
1053	25 ft. Spool
1054	50 ft. Spool
1055	100 ft. Spool
1056	1000 ft. Spool

EXTRA THIN NYLON DIAL CABLE
(.025 Diameter)

All of the quality cables are constructed of the finest Nylon Braid, over a fibreglass core. They are pre-stretched and chemically treated to prevent stretching and slipping. Has maximum resistance to abrasion.

Cat. No.	
4025	25 ft. Spool
4050	50 ft. Spool
4051	100 ft. Spool
4052	1000 ft. Spool

Used on Motorola, RCA, GE, etc. Is extra thin!

THIN NYLON CORD
(.028 Diameter)

The most popular of all dial cords.

Cat. No.	
2025	25 ft. Spool
2050	50 ft. Spool
2051	100 ft. Spool
2052	1000 ft. Spool

LIGHT NYLON DIAL CORD
(.040 Diameter)

Used extensively in RCA, Philco, Majestic, Wells Gardner, etc.

Cat. No.	
3025	25 ft. Spool
3050	50 ft. Spool
3051	100 ft. Spool
3052	1000 ft. Spool

HEAVY DUTY NYLON DIAL CORD
(.062 Diameter)

Cat. No.	
1057	25 ft. Spool
1058	50 ft. Spool
1059	100 ft. Spool
1060	1000 ft. Spool

As used on models of Philco, Majestic, Brunswick, etc.

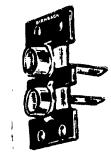
PHONO ATTACHMENT PLUG

.175 Hole in Cap

To be used with recording and reproducing equipment, record players, etc. Large hole in cap for coaxial cable and extra long pin for new type jacks.

Cat. No.	Std. Pkg.
248 —Phono Plug (Long Pin) (1" overall)...	100
248S—Phono Plug (Short Pin) (13/16" overall)..	100

DUAL PHONO JACK



Used on phono players and recording units, etc., where dual application is needed.

Mounted on 1/16" bakelite. Double mounting holes are spaced ½" x 1-3/16", 9/16" center to center of jacks.

Cat. No.	Std. Pkg.
T250—Dual Phono Jack....	100
T251—Triple Phono Jack....	100

PHONO JACK

Designed to fit No. 248 Plug. Positive grip, single prong.

Mounted on 1/16" bakelite. 11/16" mounting centers.

Cat. No.	Std. Pkg.
249—Phono Jack	100

TELEVISION CHEATER CORD

6 ft. UL approved. Plugs into No. 813.

815—TV Safety Cord..... Std. Pkg. 100

MALE AC INTERLOCK PLUG

Designed to mount on TV receiver cabinet and serves as socket for safety cord No. 815.

Cat. No.	Std. Pkg.
813	100

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See Pages S-26 and S-27 for Birnbach Prices

Birnbach PRICE LIST

See BIRNBACH Pages S-1 thru S-25

NUMERICALLY ARRANGED BY CATALOG NUMBER

Cat. No.	List Price
00	$11.00/C
1-50	.66/Ea.
1-100	1.32/Ea.
1-1000	10.73/M
2-50	.66/Ea.
2-100	1.32/Ea.
2-1000	10.73/M
3-50	.66/Ea.
3-100	1.32/Ea.
3-1000	10.73/M
3A-1000	10.73/M
4-1000	41.25/M
5-1000	55.00/M
6	13.20/C
8	13.75/C
10	13.75/C
11	19.25/C
15	7.70/C
16	27.50/C
17	60.00/C
18	100.00/C
19	.45/Ea.
20	.90/Ea.
20-A	.75/Ea.
21-35	.66/Ea.
21-100	1.65/Ea.
21-1000	13.75/M
22-15	.66/Ea.
22-100	3.52/Ea.
22-1000	32.45/M
23	16.00/C
24	17.00/C
26	17.00/C
27	11.00/C
27-C	21.00/C
27-R	19.50/C
28	11.00/C
29	17.00/C
30	30.00/C
31	15.00/C
31-C	21.00/C
31-R	11.00/C
31-S	16.00/C
32	2.50/C
32-A	2.25/C
33	$10.50/C
34	1.40/Ea.
35	1.40/Ea.
36	1.40/Ea.
37	1.40/Ea.
38	1.40/Ea.
39	1.40/Ea.
40	1.40/Ea.
41	1.40/Ea.
42	7.00/C
43	8.00/C
44	10.00/C
45	1.40/Ea.
46	14.00/C
47	1.40/Ea.
48	33.50/C
49	1.40/Ea.
51	17.50/C
51-A	17.50/C
52	17.50/C
53	17.50/C
54	17.50/C
54-A	18.00/C
55	20.00/C
56	22.50/C
56-A	30.00/C
56-B	32.50/C
57	22.50/C
58	1.50/Ea.
59	1.80/Ea.
61-C	4.40/Ea.
62-E	20.85/Ea.
66-C	5.00/Ea.
67-E	23.60/Ea.
68-C	8.50/Ea.
69-E	41.80/Ea.
70-25'	.66/Ea.
71-25'	.77/Ea.
72-C	2.60/Ea.
73-C	3.05/Ea.
74-E	12.70/Ea.
75-E	15.40/Ea.
76-M	23.65/Ea.
77-M	26.70/Ea.
80-25'	.77/Ea.
81-25'	.85/Ea.
82-25'	.95/Ea.
83-25'	1.00/Ea.
84-C	3.05/Ea.
85-C	3.35/Ea.
86-C	3.65/Ea.
87-C	4.00/Ea.
88-E	15.15/Ea.
89-E	17.05/Ea.
90-E	17.30/Ea.
91-E	19.35/Ea.
92-M	26.65/Ea.
93-M	29.75/Ea.
94-M	32.45/Ea.
95-M	36.30/Ea.
96-40	.66/Ea.
96-100	1.32/Ea.
96-1000	11.83/M
97-40	.66/Ea.
97-100	1.32/Ea.
97-1000	11.83/M
98-35	.66/Ea.
98-100	1.65/Ea.
98-1000	13.75/M
99-35	.66/Ea.
99-100	1.54/Ea.
99-1000	13.75/M
100-20	.66/Ea.
100-100	2.47/Ea.
100-1000	22.00/M
102	.90/Ea.
103	.90/Ea.
104	1.50/Ea.
105	1.50/Ea.
106	.90/Ea.
107	1.50/Ea.
108	1.90/Ea.
109	2.75/Ea.
110	3.75/Ea.
113	125.00/C
114	11.00/C
115	12.00/C
116	13.00/C
117	27.50/C
118	25.00/C

Cat. No.	List Price
119	$22.00/C
120	2.75/Ea.
125	2.75/Ea.
126	2.30/Ea.
127	2.75/Ea.
128	3.35/Ea.
131	25.00/C
132	27.00/C
133	29.00/C
134	30.00/C
135	32.00/C
184	27.00/C
185	25.00/C
186	35.00/C
149	6.75/Ea.
151	.60/Ea.
155-H	45.00/Ea.
156-E	20.15/Ea.
157-E	22.90/Ea.
158-E	29.55/Ea.
159-E	36.15/Ea.
160-E	55.85/Ea.
161-E	62.50/Ea.
162-D	34.45/Ea.
163-D	37.20/Ea.
164-D	40.85/Ea.
165-D	47.90/Ea.
166	2.00/Ea.
172-C	8.80/Ea.
172-E	43.75/Ea.
172-M	87.50/Ea.
173-C	12.10/Ea.
173-E	60.25/Ea.
173-M	120.50/Ea.
174-C	16.50/Ea.
174-E	82.25/Ea.
174-M	164.50/Ea.
175-C	19.25/Ea.
175-E	96.00/Ea.
175-M	192.00/Ea.
176-C	22.00/Ea.
176-E	109.50/Ea.
176-M	219.00/Ea.
177-C	27.50/Ea.
178-C	33.00/Ea.
179-C	38.50/Ea.
180-C	41.25/Ea.
182-C	49.50/Ea.
193	15.00/M
194	15.00/M
195	15.00/M
196	18.00/M
201-35	.66/Ea.
201-100	1.54/Ea.
201-1000	13.75/M
203	.65/Ea.
203-A	3.75/Ea.
203-H	3.75/Ea.
204	.65/Ea.
204-A	3.75/Ea.
205	.65/Ea.
205-H	3.75/Ea.
206	.65/Ea.
206-A	3.75/Ea.
206-H	3.75/Ea.
207	.65/Ea.
207-H	3.75/Ea.
208	.65/Ea.
208-H	3.75/Ea.
209	.65/Ea.
209-H	3.75/Ea.
220	8.00/Ea.
220-A	6.75/Ea.
221	1.80/Ea.
221-A	1.40/Ea.
226	4.00/Ea.
231-MC	35.00/C
232-FC	53.00/C
233-CC	38.00/C
234-CLC	60.00/C
239-FC2	6.20/Ea.
245-MFC	6.20/Ea.
246	28.00/C
248	8.00/C
248-S	8.00/C
249	11.00/C
251	80.00/C
252	120.00/C
253	110.00/C
257	50.00/C
258	57.00/C
259	60.00/C
260	75.00/C
263-C	9.00/Ea.
263-E	44.50/Ea.
263-M	89.00/Ea.
264-C	11.60/Ea.
264-E	57.50/Ea.
264-M	115.00/Ea.
265-C	14.00/Ea.
265-E	69.50/Ea.
265-M	139.00/Ea.
266-C	16.30/Ea.
266-E	81.00/Ea.
266-M	162.00/Ea.
267-C	18.50/Ea
267-E	91.00/Ea.
267-M	182.00/Ea.
268-C	20.50/Ea.
268-E	102.00/Ea.
268-M	204.00/Ea.
269-C	23.75/Ea.
269-E	118.25/Ea.
269-M	236.50/Ea.
270-C	26.25/Ea.
270-E	130.75/Ea.
270-M	261.50/Ea.
272-C	32.55/Ea.
272-E	162.25/Ea.
272-M	324.50/Ea.
274	83.00/C
278	55.00/C
279	45.00/C
280-25'	.80/Ea.
281-25'	.90/Ea.
282-25'	.90/Ea.
283-25'	1.00/Ea.
287	.49/Ea.
288	12.25/Ea.
291	.19/Ea.
291-V-25'	1.70/Ea.
291-VC-C	6.00/Ea.
293	.19/Ea.
293-V-25'	1.75/Ea.
293-VC-C	6.40/Ea.

Cat. No.	List Price
294	.19/Ea.
294-V-25	1.80/Ea.
294-VC-C	6.70/Ea.
295	.19/Ea.
295-V-25'	1.80/Ea.
295-VC-C	7.00/Ea.
296	1.75/Ea.
296-VC-C	50.00/Ea.
297	.45/Ea.
298	.50/Ea.
299	1.45/Ea.
299-VC-C	42.50/Ea.
300	.19/Ea.
300-V-25'	1.95/Ea.
300-VC-C	7.65/Ea.
301	.35/Ea.
301-V-15'	1.75/Ea.
301-VC-C	10.00/Ea.
302	.35/Ea.
302-V-10'	1.25/Ea.
302-VC-C	11.00/Ea.
303	.65/Ea.
303-VC-C	25.00/Ea.
304	.90/Ea.
304-VC-C	30.00/Ea.
305-V-10'	1.50/Ea.
305-VC-C	14.00/Ea.
306-V-10'	1.70/Ea.
306-VC-C	16.60/Ea.
307	.30/Ea.
307-V-20'	1.80/Ea.
307-VC-C	9.00/Ea.
308-B	.75/Ea.
308-BC	2.75/Ea.
309	1.70/Ea.
310	18.00/C
310-C	23.00/C
310-S	19.00/C
311	35.00/C
311-B-25'	.75/Ea.
311-BC-C	2.75/Ea.
312	2.00/Ea.
313	.17/Ea.
313-B-25'	.75/Ea.
313-BC-C	2.75/Ea.
314	.17/Ea.
314-B-25'	.75/Ea.
314-BC-C	2.75/Ea.
315	.18/Ea.
315-B-25'	.75/Ea.
315-BC-C	2.75/Ea.
316	.19/Ea.
316-B-25'	.80/Ea.
316-BC-C	3.00/Ea.
317	.19/Ea.
317-B-25'	.80/Ea.
317-BC-C	3.00/Ea.
318	.40/Ea.
318-B-15'	.75/Ea.
318-BC-C	4.70/Ea.
319	.45/Ea.
319-B-10'	.75/Ea.
310-BC-C	6.75/Ea.
320	.50/Ea.
320-B-10'	.75/Ea.
320-BC-C	6.75/Ea.
321	.60/Ea.
321-BC-C	8.50/Ea.
322	.65/Ea.
322-BC-C	14.00/Ea.
323	1.00/Ea.
323-BC-C	22.50/Ea.
324	1.10/Fa
324-BC-C	27.50/Ea.
325	.35/Ea.
325-B-15'	.75/Ea.
325-BC-C	4.40/Ea.
326	.40/Ea.
326-B-15'	.75/Ea.
326-BC-C	5.00/Ea.
327-BC-C	26.75/Ea.
328-BC-C	80.00/Ea.
329-BC-C	108.25/Ea.
330	25.00/C
330-A	22.00/C
331	25.00/C
331-A	17.00/C
332	18.00/C
332-A	2.00/C
333	27.00/C
334	55.00/C
335	65.00/C
336	65.00/C
337	70.00/C
340	11.00/C
341	65.00/C
341-B	100.00/C
342	275.00/C
342-B	330.00/C
343	.60/Ea.
343-A	20.00/C
344	.55/Ea.
345	.60/Ea.
345-A	25.00/C
348	2.00/Ea.
350	1.25/Ea.
351	1.25/Ea.
352	1.25/Ea.
353	1.25/Ea.
354	3.85/Ea.
359	1.25/Ea.
360-BC-C	32.50/Ea.
361-BC-C	35.00/Ea.
362-BC-50'	22.50/Ea.
363-BC-50'	30.00/Fa.
364-BC-C	127.50/Ea.
365-BC-C	138.00/Ea.
366	17.00/C
367	22.00/C
368	2.50/C
369	2.50/C
370	5.00/C
371	3.00/C
372	2.50/C
373	6.50/C
377	.48/Ea.
378	.63/Ea.
379	.68/Ea.
380-C	3.46/Ea.
381-C	3.85/Ea.
382-C	3.85/Ea.
383-C	4.25/Ea.
384-C	4.75/Ea.

Cat. No.	List Price
385-C	5.25/Ea.
386-C	6.40/Ea.
387-C	7.60/Ea.
388-C	10.30/Ea.
389-C	10.90/Ea.
391	25.00/C
392	77.00/C
392-A	55.00/C
392-B	110.00/C
393	70.00/C
393-A	70.00/C
394	50.00/C
395	50.00/C
396	50.00/C
396-B	90.00/C
397	55.00/C
397-B	95.00/C
398	50.00/C
398-B	85.00/C
399	50.00/C
399-A	55.00/C
400	25.00/C
400-B	40.00/C
401	25.00/C
401-B	40.00/C
402	4.40/C
402-A	5.50/C
403	17.00/C
404	35.00/C
404-A	30.00/C
404-B	45.00/C
404-BC	60.00/C
404-CB	50.00/C
404-S	30.00/C
405	.15/Ea.
406	22.00/C
407	22.00/C
408	3.15/Ea.
409	25.00/C
410	.55/Ea.
411	1.32/Ea.
412	33.00/C
413	1.50/Ea.
414	25.00/C
415	25.00/C
416	22.00/C
417	.55/Ea.
418	.60/Ea.
419	40.00/C
420	1.45/Ea.
420-A	22.00/C
421	1.45/Ea.
422	1.45/Ea.
423	1.45/Ea.
426	27.00/C
427	45.00/C
430	.32/Ea.
431	.40/Ea.
431-J	.48/Ea.
432	.72/Ea.
432-J	.95/Ea.
433	1.40/Ea.
433-J	1.70/Ea.
434	2.87/Ea.
435	2.15/Ea.
436	.60/Ea.
437	.65/Ea.
438	.75/Ea.
439	.40/Ea.
441	14.00/C
441-A	14.00/C
442	14.00/C
442-A	14.00/C
443	15.00/C
444	17.00/C
445	17.00/C
446	18.00/C
447	20.00/C
448	28.00/C
449	45.00/C
450	.59/Ea.
450-J	.71/Ea.
451	.71/Ea.
451-J	.77/Ea.
452	.77/Ea.
452-J	1.00/Ea.
453	1.37/Ea.
453-J	1.58/Ea.
454	1.80/Ea.
454-J	1.84/Ea.
457	.42/Ea.
458	.27/Ea.
462	.25/Ea.
463	.50/Ea.
464	.35/Ea.
465	30.00/C
465-B	50.00/C
466	30.00/C
466-A	40.00/C
467	50.00/C
467-B	70.00/C
468	.45/Ea.
469	.45/Ea.
470	1.00/Ea.
471	1.40/Ea.
472	.45/Ea.
473	.23/Ea.
474	.20/Ea.
475	1.47/Ea.
476	1.10/Ea.
478	.37/Ea.
478-J	.45/Ea.
479	.65/Ea.
479-J	.79/Ea.
480-E	17.05/Ea.
481-E	19.15/Ea.
482-E	19.15/Ea.
483-E	21.20/Ea.
484-E	23.65/Ea.
485-E	26.00/Ea.
486-E	29.05/Ea.
487-E	30.25/Ea.
488-E	48.40/Ea.
489-E	53.35/Ea.
490-C	3.50/Ea.
490-M	35.00/Ea.
490-A-150'	5.25/Ea.
490-B-200'	7.00/Ea.
492-C	5.30/Ea.
492-M	53.00/Ea.
492-A-150'	7.95/Ea.
492-B-200'	10.60/Ea.
493-C	4.95/Ea.
495-C	5.45/Ea.
497-C	8.75/Ea.

Cat. No.	List Price
497-M	86.00/Ea.
499-C	13.25/Ea.
499-M	130.00/Ea.
501	3.60/Ea.
503	3.35/Ea.
505	2.90/Ea.
524-C	10.25/Ea.
524-M	100.00/Ea.
526-C	6.75/Ea.
526-M	65.00/Ea.
527-C	21.00/Ea.
527-M	200.00/Ea.
528-C	30.00/Ea.
528-M	290.00/Ea.
529-C	47.50/Ea.
529-M	450.00/Ea.
531	27.00/C
532	27.00/C
533	27.00/C
534	27.00/C
535	27.00/C
536	27.00/C
537	27.00/C
538	33.00/C
539	33.00/C
540	.33/Ea.
541	.66/Ea.
542	.50/Ea.
543	.25/Ea.
544	.50/Ea.
545	.60/Ea.
546	40.00/C
547	55.00/C
550	.25/Ea.
550-A	.25/Ea.
551	.55/Ea.
552	.65/Ea.
553	.90/Ea.
554	1.30/Ea.
555	2.20/Ea.
558	.95/Ea.
559	1.45/Ea.
559-A	.80/Ea.
560	2.50/Ea.
561	2.50/Ea.
562	6.60/Ea.
569-E	25.30/Ea.
570-C	6.25/Ea.
572-D	15.50/Ea.
573-E	28.00/Ea.
574-D	33.00/Ea.
575-D	47.50/Ea.
578-D	38.75/Ea.
580-M	32.00/Ea.
581-M	35.20/Ea.
582-M	37.00/Ea.
583-M	39.60/Ea.
584-M	42.35/Ea.
585-M	48.40/Ea.
586-M	53.35/Ea.
587-M	60.50/Ea.
588-M	96.00/Ea.
589-M	106.50/Ea.
600	11.00/C
601	50.00/C
603	40.00/C
604	30.00/C
605	40.00/C
606	30.00/C
607	90.00/C
608	100.00/C
609	110.00/C
610	120.00/C
611	14.00/C
613	15.00/C
616	1.40/Ea.
617	20.00/C
618	2.25/Ea.
619	45.00/C
621	35.00/C
625	23.00/C
626	.56/Ea.
628	.28/Ea.
629	8.50/C
631	25.00/C
632	25.00/C
633	25.00/C
634	25.00/C
635	25.00/C
636	25.00/C
647	1.40/Ea.
650	.50/Ea.
663	14.00/C
664	19.50/C
666	11.00/C
667	45.00/C
668	.35/Ea.
669	12.75/C
675	95.00/C
676	105.00/C
677	120.00/C
678	135.00/C
681-C	1.70/Ea.
700-C	1.34/Ea.
701-D	28.00/Ea.
702-D	53.50/Ea.
703-D	64.50/Ea.
704-D	102.00/Ea.
705-D	140.00/Ea.
706-D	192.50/Ea.
710-100-C	9.79/Ea.
710-250-D	24.20/Ea.
710-500-E	48.40/Ea.
710-1000-M	92.40/Ea.
710-2500-F	226.88/Ea.
712-100-C	6.35/Ea.
712-250-D	15.20/Ea.
712-500-E	30.36/Ea.
712-1000-M	59.05/Ea.
712-2500-F	146.75/Ea.
714-100-C	3.85/Ea.
714-250-D	9.45/Ea.
714-500-E	18.90/Ea.
714-1000-M	36.70/Ea.
714-2500-F	89.80/Ea.
725	6.50/C
726	7.50/C
727	8.50/C
728	8.95/C

Cat. No.	List Price
729	9.35/C
730	9.90/C
731	10.50/C
732	12.00/C
733	13.00/C
734	14.25/C
740-C	1.10/Ea.
749-C	41.25/Ea.
749-E	205.00/Ea.
749-M	410.00/Ea.
756-C	22.50/Ea.
756-E	110.00/Ea.
757-M	210.00/Ea.
762	20.00/C
763-3	30.00/C
763-5	38.00/C
763-7	85.00/C
764	.35/Ea.
765	.90/Ea.
766	.53/Ea.
766-J	.80/Ea.
768	.70/Ea.
769	1.40/Ea.
770	2.50/Ea.
771	16.75/Ea.
772-C	17.00/Ea.
772-D	42.15/Ea.
772-E	84.25/Ea.
772-M	168.50/Ea.
772/18-C	22.50/Ea.
772/18-D	55.75/Ea.
772/18-E	110.50/Ea.
772/18-M	221.00/Ea.
772-Q	4.50/Ea.
773-C	20.00/Ea.
773-D	48.75/Ea.
773-E	97.50/Ea.
773-M	195.00/Ea.
773/18-C	30.00/Ea.
773/18-D	70.00/Ea.
773/18-E	140.00/Ea.
773/18-M	280.00/Ea.
774-C	24.00/Ea.
774-D	57.50/Ea.
774-E	115.00/Ea.
774-M	230.00/Ea.
775-C	27.50/Ea.
775-D	67.50/Ea.
775-E	135.00/Ea.
775-M	270.00/Ea.
776-C	33.50/Ea.
776-D	82.50/Ea.
776-E	165.00/Ea.
776-M	330.00/Ea.
777-C	36.50/Ea.
777-D	89.50/Ea.
777-E	179.00/Ea.
777-M	358.00/Ea.
778-C	46.75/Ea.
778-D	116.50/Ea.
778-E	233.00/Ea.
778-M	466.00/Ea.
781-C	22.00/Ea.
786-E	30.00/Ea.
787-E	43.00/Ea.
788-C	14.50/Ea.
788-D	35.00/Ea.
788-E	70.00/Ea.
788-M	140.00/Ea.
789-D	35.00/Ea.
790-C	17.50/Ea.
790-D	40.00/Ea
790-E	80.00/Ea.
790-M	160.00/Ea.
791-D	40.00/Ea.
792-C	20.65/Ea.
792-D	47.50/Ea.
792-E	95.00/Ea.
792-M	190.00/Ea.
793-D	47.50/Ea.
794-C	24.25/Ea.
794-D	55.00/Ea.
794-E	110.00/Ea.
794-M	220.00/Ea.
795-D	55.00/Ea.
796-C	31.50/Ea.
796-D	72.50/Ea.
796-E	145.00/Ea.
796-M	290.00/Ea.
797-D	72.50/Ea.
798-C	32.00/Ea.
798-D	78.75/Ea.
798-E	157.50/Ea.
798-M	315.00/Ea.
799-C	20.00/Ea.
800-C	27.50/Ea.
802-D	26.40/Ea.
803-D	22.00/Ea.
810-E	39.00/Ea.
813	16.75/C
814	15.00/C
815	.80/Ea.
816	.55/Ea.
817	.70/Ea.
818-C	14.60/Ea.
818-E	73.00/Ea.
818-M	145.50/Ea.
819-10'	.75/Ea.
820-C	12.65/Ea.
820-E	63.25/Ea.
820-M	126.00/Ea.
822-E	44.00/Ea.
824-E	52.25/Ea.
825-E	32.50/Ea.
827-E	47.25/Ea.
828-E	94.50/Ea.
829	122.50/Ea.
830	169.75/Ea.
826-M	75.00/Ea.
831-C	7.25/Ea.
831-E	35.00/Ea.
831-M	70.00/Ea.
832-C	8.00/Ea.
832-E	38.50/Ea.
832-M	77.00/Ea.
833-C	9.00/Ea.
833-E	43.75/Ea.
833-M	87.50/Ea.
834-C	11.00/Ea.
834-E	52.50/Ea.
834-M	105.00/Ea.
835-C	14.00/Ea.
835-E	66.00/Ea.

Cat. No.	List Price
835-M	132.00/Ea.
853-C	5.50/Ea.
853-E	26.00/Ea.
853-M	50.00/Ea.
854-C	6.00/Ea.
854-E	28.00/Ea.
854-M	55.50/Ea.
855-50	3.10/Ea.
855-C	6.10/Ea.
855-E	28.50/Ea.
855-M	55.50/Ea.
856-50'	27.00/Ea.
856-C	54.00/Ea.
856-E	265.00/Ea.
856-M	525.00/Ea.
856/1-50'	31.50/Ea.
856/1-C	62.00/Ea.
856/1-E	305.75/Ea.
856/1-M	608.00/Ea.
856/2-50'	47.00/Ea.
856/2-C	90.50/Ea.
856/2-E	360.00/Ea.
856/2-M	710.00/Ea.
857-50'	25.50/Ea.
857-C	51.00/Ea.
857-E	245.00/Ea.
857-M	490.00/Ea.
858-50'	3.25/Ea.
858-C	6.50/Ea.
858-E	30.50/Ea.
858-M	61.00/Ea.
859-50'	4.15/Ea.
859-C	8.30/Ea.
859-E	40.50/Ea.
859-M	81.00/Ea.
860-50'	4.45/Ea.
860-C	8.90/Ea.
860-E	44.25/Ea.
860-M	88.50/Ea.
863-50'	5.25/Ea.
863-C	10.50/Ea.
863-E	50.00/Ea.
863-M	100.00/Ea.
864-50'	8.25/Ea.
864-C	16.50/Ea.
864-E	81.00/Ea.
864-M	162.00/Ea.
865-50'	11.50/Ea.
865-C	23.00/Ea.
865-E	110.00/Ea.
865-M	220.00/Ea.
865/1-50'	25.90/Ea.
865/1-C	50.90/Ea.
865/1-E	254.50/Ea.
865/1-M	508.50/Ea.
866	.25/Ea.
866-J	.32/Ea.
866-SJ	.74/Ea.
867	.37/Ea.
867-J	.48/Ea.
868-50'	10.50/Ea.
868-C	21.00/Ea.
868-E	100.00/Ea.
868-M	200.00/Ea.
870-C	11.75/Ea.
870-D	29.75/Ea.
870-E	58.00/Ea.
870-M	115.00/Ea.
870-Q	3.10/Ea.
872-C	14.75/Ea.
872-D	36.00/Ea.
872-E	71.50/Ea.
872-M	142.50/Ea
872-Q	3.90/Ea.
901-E	150.00/Ea.
903-E	137.50/Ea.
905-M	97.25/Ea.
910-M	116.50/Ea.
919-E	42.50/Ea.
920-M	85.00/Ea.
923-C	9.50/Ea.
923-E	45.00/Ea.
923-M	90.00/Ea.
923-Q	3.25/Ea.
924-C	9.50/Ea.
924-E	45.00/Ea.
924-M	90.00/Ea.
924-Q	3.25/Ea.
925-C	11.50/Ea.
925-E	55.00/Ea.
925-M	110.00/Ea.
925-Q	3.65/Ea.
931-E	18.00/Ea.
931-M	35.00/Ea.
931-C	3.75/Ea.
932-E	18.00/Ea.
932-M	35.00/Ea.
933-E	19.00/Ea.
933-M	37.50/Ea.
933-C	3.95/Ea.
934-E	28.00/Ea.
934-M	55.00/Ea.
935-E	15.00/Ea.
935-M	30.00/Ea.
936-E	15.00/Ea.
936-M	30.00/Ea.
938-C	9.00/Ea.
938-E	42.00/Ea.
938-M	84.00/Ea.
938-Q	2.75/Ea.
939-C	9.25/Ea.
939-E	42.50/Ea.
939-M	85.00/Ea.
939-Q	2.95/Ea.
940-E	42.25/Ea.
941-E	40.20/Ea.
942-E	41.25/Ea.
943-E	57.50/Ea.
944-E	79.20/Ea.
947-E	53.30/Ea.
952-E	32.50/Ea.
963	14.00/C
964	19.50/C
965	.18/Ea.
966	.18/Ea.
966-J	.24/Ea.
967	45.00/C
972-C	15.75/Ea.
972A-C	15.50/Ea.
972A-M	152.00/Ea.
972B-C	15.25/Ea.
972A-E	76.00/Ea.
972B-E	75.50/Ea.
972B-M	150.00/Ea.
972S-C	12.50/Ea.

Cat. No.	List Price
972S-E	55.00/Ea.
972S-M	110.00/Ea.
972SQ	3.25/Ea.
973-C	16.00/Ea.
973S-C	14.00/Ea.
973S-E	66.00/Ea.
973S-M	132.00/Ea.
973SQ	4.90/Ea.
974-C	20.00/Ea.
975-C	27.50/Ea.
976-C	30.25/Ea.
977-C	36.85/Ea.
978-C	41.25/Ea.
981-M	33.20/Ea.
983-M	45.40/Ea.
985-M	47.25/Ea.
987-M	70.75/Ea.
982-M	49.90/Ea.
984-M	64.85/Ea.
986-M	67.85/Ea.
988-M	95.30/Ea.
1013-25'	2.75/Ea.
1014-50'	5.25/Ea.
1015-C	10.00/Ea.
1017-10	.66/Ea.
1017-100	4.24/Ea.
1017-1000	38.50/M
1025-25'	1.35/Ea.
1050-50'	2.50/Ea.
1051-C	4.50/Ea.
1052-M	35.00/Ea.
1053-25'	.75/Ea.
1054-50'	1.40/Ea.
1055-C	2.75/Ea.
1056-M	21.00/Ea.
1057-25'	1.45/Ea.
1058-50'	2.80/Ea.
1059-C	5.00/Ea.
1060-M	40.00/Ea.
1070	15.00/Ea.
1071	15.00/Ea.
1072	16.00/Ea.
1073	2.70/Ea.
1074	4.70/Ea.
1075	9.00/Ea.
1076	2.60/Ea.
1077	4.50/Ea.
1078	8.00/Ea.
1079	2.60/Ea.
1080	4.50/Ea.
1081	8.00/Ea.
1082	2.60/Ea.
1083	4.50/Ea.
1084	8.00/Ea.
1085	2.60/Ea.
1086	4.50/Ea.
1087	8.00/Ea.
1101	4.20/Ea.
1111-D	37.50/Ea.
1112-E	70.00/Ea.
1113-M	140.00/Ea.
1120	5.50/C
1121	3.00/C
1122	6.00/C
1123	2.50/C
1124	2.50/C
1125	5.50/C
1125T	6.50/C
1126	7.25/C
1126T	8.25/C
1127	8.80/C
1127T	10.00/C
1128	10.50/C
1128T	12.00/C
1129	12.00/C
1129T	13.75/C
1130	5.50/C
1130T	6.50/C
1131	7.25/C
1131T	8.25/C
1132	8.80/C
1132T	10.00/C
1133	10.50/C
1133T	12.00/C
1134	12.00/C
1134T	13.75/C
1135	8.80/C
1136	10.50/C
1137	12.00/C
1138	13.75/C
1139	15.50/C
1140	8.80/C
1141	10.50/C
1142	12.00/C
1143	13.75/C
1144	15.50/C
1145	6.50/C
1146	8.25/C
1147	10.00/C
1148	12.00/C
1149	6.50/C
1150	8.25/C
1151	10.00/C
1152	12.00/C
1153	1.50/C
1154	1.80/C
1155	2.00/C
1156	2.25/C
1157	2.50/C
1220-M	16.60/Ea.
1220-A-M	12.50/Ea.
1260	25.00/C
1261	25.00/C
1262	25.00/C
1263	44.00/C
1264	50.00/C
1265	60.00/C
1266	69.00/C
1372	13.00/C
1373	18.00/C
1374	22.00/C
1375	30.00/C
1376	35.00/C
1377	38.00/C
1378	42.00/C
1379	44.00/C
1380	48.00/C
1382	3.00/C
1382-A	3.25/C
1382-B	3.90/C
1382-C	3.75/C
1383	4.00/C
1383-A	4.00/C
1384	5.50/C
1384-A	5.90/C

Cat. No.	List Price
1384-B	6.10/C
1385	6.25/C
1385-A	6.50/C
1385-B	7.25/C
1386	8.25/C
1386-A	9.00/C
1386-B	10.75/C
1387	10.75/C
1388	9.75/C
1389	10.75/C
1390	10.00/C
1402-C	9.00/Ea.
1403-M	80.00/Ea.
1406-C	5.50/Ea.
1407-M	52.00/Ea.
1410-C	3.75/Ea.
1411	34.00/Ea.
1414-C	2.30/Ea.
1415-M	21.05/Ea.
1418-C	1.84/Ea.
1419-M	16.90/Ea.
1422-C	1.38/Ea.
1423-M	10.40/Ea.
1424-M	7.90/Ea.
1426-M	7.30/Ea.
1428-M	6.60/Ea.
1430-M	6.45/Ea.
1433-C	16.95/Ea.
1433/4-C	35.00/Ea.
1433/6-C	22.20/Ea.
1434	6.88/Ea.
1490-M	35.00/Ea.
1492-M	53.00/Ea.
1497-M	86.00/Ea.
1516-C	28.50/Ea.
1560-C	16.50/Ea.
1562-C	8.50/Ea.
1563-M	78.00/Ea.
1566-C	5.40/Ea.
1567-M	51.00/Ea.
1570-C	3.70/Ea.
1571-M	33.50/Ea.
1574-C	2.40/Ea.
1575-M	21.45/Ea.
1600-C	14.00/Ea.
1618-M	18.05/Ea.
1620-M	11.45/Ea.
1622-M	8.85/Ea.
1627-M	26.40/Ea.
1628-M	24.00/Ea.
1633-M	30.30/Ea.
1634-M	25.20/Ea.
1638-M	33.50/Ea.
1639-M	31.30/Ea.
1640-75'	2.40/Ea.
1641-75'	2.40/Ea.
1643-75'	1.98/Ea.
1644-75'	2.22/Ea.
1646-75'	1.62/Ea.
1647-M	20.50/Ea.
1648-M	14.20/Ea.
1670-C	3.18/Ea.
1671-C	3.60/Ea.
1673-C	2.58/Ea.
1674-C	3.05/Ea.
1680-C	2.10/Ea.
1682-C	2.70/Ea.
1683-75'	2.10/Ea.
1696-C	2.40/Ea.
1697-75'	1.98/Ea.
1716-C	42.00/Ea.
1741-M	14.50/Ea.
1772-D	42.15/Ea.
1773-D	48.75/Ea.
1774-D	57.50/Ea.
1775-D	67.50/Ea.
1776-D	82.50/Ea.
1777-D	89.50/Ea.
1822-C	7.10/Ea.
1822-B-E	31.50/Ea.
1822-C-M	58.50/Ea.
1824-C	5.75/Ea.
1824-E	27.50/Ea.
1824-M-M	54.00/Ea.
1825-C	6.00/Ea.
1825-E	29.00/Ea.
1825-M-M	56.50/Ea.
1825-Q	1.63/Ea.
1839-E	52.00/Ea.
1840-C	7.00/Ea.
1840-E	33.40/Ea.
1840-M	66.75/Ea.
1840-Q	1.95/Ea.
1841-C	9.25/Ea.
1841-E	44.00/Ea.
1841-M	88.00/Ea.
1841-Q	2.50/Ea.
1842-C	13.00/Ea.
1842-E	63.00/Ea.
1842-M	126.00/Ea.
1842-Q	3.50/Ea.
1843-E	101.00/Ea.
1844-E	123.65/Ea.
1870-D	29.75/Ea.
1872-D	36.00/Ea.
1874-M	69.00/Ea.
1874-A-E	36.10/Ea.
1875-M	86.10/Ea.
1875-A-E	45.00/Ea.
1878-M	111.10/Ea.
1878-A-E	58.35/Ea.
1963	6.00/C
1964	10.00/C
1965	10.00/C
1967	20.00/C
1968	10.00/C
1972-C	13.90/Ea.
1972-A-E	75.00/Ea.
1973-C	19.00/Ea.
1974-C	23.00/Ea.
1975-C	30.00/Ea.
1976-C	35.00/Ea.
2000-M	15.00/Ea.
2010	15.30/Ea.
2012	12.70/Ea.
2013	10.90/Ea.
2014	9.90/Ea.
2015	8.10/Ea.
2016	6.60/Ea.
2018	6.25/Ea.
2025-25'	1.35/Ea.
2050-50'	2.50/Ea.
2051-C	4.50/Ea.
2052-M	28.00/Ea.
2100-C	1.65/Ea.

C=100 ft. — D=250 ft. — E=500 ft. — M=1000 ft. — F=2500 ft.

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

Birnbach PRICE LIST

See BIRNBACH Pages S-1 thru S-25
NUMERICALLY ARRANGED BY CATALOG NUMBER

Cat. No.	List Price
2125-25'	.45/Ea.
2318-E	18.00/Ea.
2320-E	12.00/Ea.
2321-E	12.60/Ea.
2500-E	7.50/Ea.
2611	.30/Ea.
2617	.40/Ea.
2650	.56/Ea.
2810-C	15.68/Ea.
2810-E	78.25/Ea.
2812-C	10.42/Ea.
2812-E	52.00/Ea.
2814-C	7.26/Ea.
2814-E	36.00/Ea.
2816-C	6.05/Ea.
2816-E	30.00/Ea.
2818-C	5.28/Ea.
2818-E	26.25/Ea.
3000-3024	1.55/Ea.
3025-25'	1.35/Ea.
3050-50'	2.50/Ea.
3051-C	4.50/Ea.
3052-M	28.00/Ea.
3460-C	5.23/Ea.
3461-C	3.85/Ea.
3462-E	18.15/Ea.
3600-E	24.75/Ea.
3618	2.35/Ea.
3619	2.75/Ea.
4025-25'	.85/Ea.
4050-50'	1.60/Ea.
4051-C	2.80/Ea.
4052-M	25.00/Ea.
4125	.42/Ea.
4125-J	.48/Ea.
4175	.95/Ea.
4175-J	1.37/Ea.
4176	.66/Ea.
4176-J	.88/Ea.
4233	.95/Ea.
4234	1.05/Ea.
4235	2.40/Ea.
4236	2.65/Ea.
4237	2.90/Ea.
4238	3.70/Ea.
4275	.63/Ea.
4275-J	1.05/Ea.
4276	1.25/Ea.
4276-J	1.45/Ea.
4450	1.25/Ea.
4450-J	1.60/Ea.
4451	1.05/Ea.
4451-J	1.40/Ea.
4452	1.80/Ea.
4452-J	2.10/Ea.
4701-C	4.15/Ea.
4701-E	18.00/Ea.
4701-M	33.35/Ea.
4701-Q	1.30/Ea.
4702-C	6.75/Ea.
4702-E	31.10/Ea.
4702-M	62.20/Ea.
4702-Q	2.10/Ea.
4703-C	9.00/Ea.
4703-E	41.70/Ea.
4703-M	83.40/Ea.
4703-Q	3.10/Ea.
4706-C	14.10/Ea.
4706-E	70.00/Ea.
4706-M	137.50/Ea.
4709-C	25.00/Ea.
4709-E	123.50/Ea.
4709-M	247.00/Ea.
4711-C	26.25/Ea.
4711-E	131.00/Ea.
4711-M	259.00/Ea.
4715-C	34.00/Ea.
4715-E	166.00/Ea.
4715-M	330.00/Ea.
4716-C	36.00/Ea.
4716-E	177.50/Ea.
4716-M	355.00/Ea.
4727-C	57.50/Ea.
4727-E	287.50/Ea.
4727-M	575.50/Ea.
4729-E	916.40/Ea.
4731-C	5.00/Ea.
4731-E	22.87/Ea.
4731-M	45.75/Ea
4732-C	9.00/Ea.
4732-E	41.67/Ea.
4732-M	83.35/Ea.
4733-C	13.20/Ea.
4733-E	62.50/Ea.
4733-M	125.00/Ea.
4734-C	15.50/Ea.
4734-E	75.00/Ea.
4734-M	150.00/Ea
4735-C	17.15/Ea.
4735-E	82.50/Ea.
4735-M	165.00/Ea.
4736-C	21.00/Ea.
4736-E	92.50/Ea.
4736-M	185.00/Ea.
4739-C	26.00/Ea.
4739-E	126.25/Ea.
4739-M	252.50/Ea.
4745-C	45.00/Ea.
4745-E	217.50/Ea.
4745-M	435.00/Ea.
4747-C	75.00/Ea.
4747-E	362.50/Ea.
4747-M	725.00/Ea.
4752-C	6.50/Ea.
4752-E	30.00/Ea.
4752-M	60.00/Ea.
4753-C	8.00/Ea.
4753-E	38.50/Ea.
4753-M	77.00/Ea.
4754-C	11.00/Ea.
4754-E	52.50/Ea.
4754-M	105.00/Ea.
4755-C	14.00/Ea.
4755-E	68.00/Ea.
4755-M	136.00/Ea.
4756-C	18.00/Ea.
4756-E	77.00/Ea.
4756-M	154.00/Ea.
5000	1.65/Ea.
5002	1.75/Ea.
5003	2.40/Ea.
5004	.75/Ea.
5005	.85/Ea.
5006	1.25/Ea.
5007	.90/Ea.

Cat. No.	List Price
5008	1.25/Ea.
5009	1.50/Ea.
5010	4.25/Ea.
5011	4.25/Ea.
5012	6.00/Ea.
5013	6.00/Ea.
5040	.23/Ea.
5041	.23/Ea.
5042	24/Ea.
5043	24/Ea.
5044	.24/Ea.
5045	24/Ea.
5046	.24/Ea.
5047	23/Ea.
5050	45/Ea.
5051	55/Ea.
5052	56/Ea.
5053	50/Ea.
5070	50/Ea.
5071	.50/Ea.
5075	.30/Ea.
5076	30/Ea.
5080	.50/Ea.
5081	.50/Ea.
5085	50/Ea.
5086	.50/Ea.
5090	55/Ea.
5091	.55/Ea.
5095	.36/Ea.
5096	.35/Ea.
5105	.45/Ea.
5106	.60/Ea.
5110	.60/Ea.
5111	.60/Ea.
5130	.30/Ea.
5131	.30/Ea.
5132	30/Ea.
5133	.30/Ea.
5134	.30/Ea.
5140	.30/Ea.
5141	.40/Ea.
5142	.30/Ea.
5143	.60/Ea.
5160	.23/Ea.
5161	25/Ea.
5165	.30/Ea.
5166	.30/Ea.
5170	.50/Ea.
5171	.30/Ea.
5180	.55/Ea.
5181	.55/Ea.
5185	.30/Ea.
5190	.17/Ea.
5191	.17/Ea.
5195	.55/Ea.
5200	.55/Ea.
5201	.55/Ea.
6100	.45/Ea.
6102	.55/Ea.
6103	.65/Ea.
6104	.80/Ea.
6105	3.00/Ea.
6180	100.00/C
6185	220.00/C
6244-A	120.00/C
6200	100.00/C
6201	125.00/C
6202	130.00/C
6203	160.00/C
6204	185.00/C
6205	210.00/C
6206	210.00/C
6207	235.00/C
6208	6.00/C
6208-A	6.00/C
6210	120.00/C
6211	135.00/C
6212	170.00/C
6213	190.00/C
6214	210.00/C
6215	225.00/C
6216	235.00/C
6217	250.00/C
6220	100.00/C
6221	130.00/C
6222	185.00/C
6223	210.00/C
6224	140.00/C
6225	235.00/C
6226	325.00/C
6227	8.50/Ea.
6228	12.50/Ea.
6229	17.00/Ea.
6230	115.00/C
6231	310.00/C
6232	35.00/C
6233	100.00/C
6234	110.00/C
6235	130.00/C
6236	170.00/C
6240	245.00/C
6241	195.00/C
6242	305.00/C
6243	150.00/C
6244	120.00/C
6245	21.00/C
6246	22.00/C
6247	36.00/C
6248	38.00/C
6249	190.00/C
6250	180.00/C
6251	200.00/C
6252	250.00/C
6253	277.00/C
6261	250.00/C
6263	305.00/C
6270	180.00/C
6271	220.00/C
6272	200.00/C
6273	230.00/C
6274	230.00/C
6280	135.00/C
6281	160.00/C
6282	195.00/C
6283	225.00/C
6300	6.25/M
6301	6.75/M
6302	7.00/M
6303	8.10/M
6304	7.00/M
6305	7.50/M
6306	8.50/M
6307	7.40/M
6308	7.40/M
6309	8.40/M

Cat. No.	List Price
6310	32.00/M
6311	55.00/M
6312	10.50/M
6313	10.75/M
6314	11.50/M
6315	14.50/M
6316	23.00/M
6317	27.50/M
6318	29.00/M
6319	36.50/M
6320	44.00/M
6321	6.25/M
6322	6.75/M
6323	7.25/M
6324	8.00/M
6325	8.65/M
6326	9.30/M
6327	11.00/M
6328	11.50/M
6329	16.50/M
6330	9.00/M
6331	9.00/M
6332	8.60/M
6333	8.80/M
6334	9.70/M
6335	11.50/M
6336 •	20.00/M
6337	27.50/M
6338	35.00/M
6339	50.00/M
6350	10.00/M
6350-A	10.00/M
6351	10.00/M
6351-A	10.00/M
6352	10.00/M
6352-A	10.00/M
6353	11.00/M
6353-A	11.00/M
6354	13.50/M
6354-A	13.50/M
6355	8.25/M
6356	7.70/M
6357	7.70/M
6358	5.50/M
6359	5.50/M
6360	5.75/M
6361	6.00/M
6362	7.75/M
6363	13.00/M
6400	9.00/M
6401	10.00/M
6402	11.00/M
6403	13.75/M
6404	17.50/M
6405	12.00/M
6406	13.00/M
6407	14.75/M
6408	15.50/M
6409	18.00/M
6410	21.00/M
6411	25.00/M
6412	28.50/M
6413	16.00/M
6414	18.00/M
6415	22.00/M
6416	24.20/M
6417	26.50/M
6418	28.50/M
6420	6.75/M
6421	7.30/M
6422	7.75/M
6423	8.25/M
6424	8.75/M
6425	10.00/M
6426	8.35/M
6427	8.75/M
6428	9.60/M
6429	10.00/M
6430	11.15/M
6431	12.65/M
6432	16.50/M
6433	9.60/M
6434	10.00/M
6435	11.20/M
6436	12.50/M
6437	13.25/M
6438	15.00/M
6439	19.00/M
6440	10.30/M
6441	12.00/M
6442	10.30/M
6443	16.50/M
6444	18.50/M
6445	15.90/M
6446	21.00/M
6447	27.50/M
6448	8.75/M
6449	9.25/M
6450	9.50/M
6460	3.70/Gr.
6461	3.96/Gr.
6462	4.90/Gr.
6463	5.50/Gr.
6464	7.65/Gr.
6465	8.55/Gr.
6466	9.40/Gr.
6470	2.30/Gr.
6471	2.50/Gr.
6472	2.60/Gr.
6473	2.70/Gr.
6474	3.00/Gr.
6475	3.70/Gr.
6476	4.00/Gr.
6477	3.30/Gr.
6478	3.30/Gr.
6479	4.80/M
6480	5.50/M
6480-A	4.80/M
6481	6.00/M
6482	7.50/M
6483	15.00/M
6484	4.95/M
6485	4.65/M
6486	5.20/M
6487	5.20/M
6488	7.50/M
6490	5.50/M
6491	5.50/M
6492	6.00/M
6493	7.75/M
6494	13.00/M
6500	1.65/Gr.
6501	2.00/Gr.
6502	2.15/Gr.
6503	2.25/Gr.

Cat. No.	List Price
6504	2.50/Gr.
6505	3.50/Gr.
6506	3.50/Gr.
6507	3.85/Gr.
6510	2.00/Gr.
6511	2.10/Gr.
6512	2.25/Gr.
6513	2.25/Gr.
6514	2.25/Gr.
6515	2.50/Gr.
6516	2.75/Gr.
6517	3.10/Gr.
6518	2.90/Gr.
6519	3.50/Gr.
6525	1.55/Gr.
6526	1.55/Gr.
6527	1.55/Gr.
6528	1.55/Gr.
6529	1.55/Gr.
6530	1.55/Gr.
6531	1.55/Gr.
6532	1.55/Gr.
6533	1.55/Gr.
6534	1.55/Gr.
6540	2.10/Gr.
6541	2.65/Gr.
6542	2.75/Gr.
6543	2.85/Gr.
6600	6.00/M
6601	7.00/M
6602	8.00/M
6603	9.75/M
6604	8.00/M
6605	9.75/M
6606	10.25/M
6607	12.25/M
6608	9.75/M
6609	10.25/M
6610	12.00/M
6611	12.00/M
6611-A	14.50/M
6612	11.00/M
6613	11.00/M
6614	12.00/M
7000-M	14.00/Ea.
7000-1-C	1.67/Ea.
7001-M	17.10/Ea.
7001-1-C	1.98/Ea.
7001-S-M	20.00/Ea.
7001-1S-C	2.25/Ea.
7002-M	17.90/Ea.
7002-1-C	2.00/Ea.
7003-M	21.75/Ea.
7003-1-C	2.45/Ea.
7003-S-M	24.50/Ea.
7003-1S-C	2.60/Ea.
7004-M	24.40/Ea.
7004-1-C	2.70/Ea.
7005-M	27.00/Ea.
7005-1-C	2.95/Ea.
7005-S-M	30.00/Ea.
7005-1S-C	3.25/Ea.
7006-M	499.00/Ea.
7006-1-C	50.00/Ea.
7007-M	42.00/Ea.
7007-1-C	4.50/Ea.
7008-M	349.50/Ea.
7008-1-C	35.00/Ea.
7009-M	65.00/Ea.
7009-1-C	6.75/Ea.
7010-M	220.00/Ea.
7010-1-C	22.50/Ea.
7011-M	108.00/Ea.
7011-1-C	11.00/Ea.
7012-M	169.50/Ea.
7012-1-C	17.00/Ea.
7013-M	199.50/Ea.
7013-1-C	20.00/Ea.
7014-M	99.50/Ea.
7014-1-C	10.00/Ea.
7015-M	320.00/Ea.
7015-1-C	32.50/Ea.
7016-M	68.75/Ea.
7016-1-C	7.25/Ea.
7017-M	449.00/Ea.
7017-1-C	45.00/Ea.
7018-M	51.00/Ea.
7018-1-C	5.60/Ea.
7020-M	40.00/Ea.
7020-1-C	4.50/Ea.
7022-M	37.00/Ea.
7022-1-C	4.75/Ea.
7024-M	16.25/Ea.
7024-1-C	1.90/Ea.
7024-S-M	19.00/Ea.
7024-1S-C	2.20/Ea.
7028-50'	3.00/Ea.
7029-C	5.00/Ea.
7030-M	45.00/Ea.
7032-12'	.95/Ea.
7033-C	5.95/Ea.
7034	15.00/C
7036	10.00/C
7037	10.00/C
7038	9.00/C
7043-1	7.50/C
7043-1-1/2	7.75/C
7043-2	8.00/C
7043-3	10.00/C
7049	.85/Ea.
7049-A	.85/Ea.
7049-B	.85/Ea.
7050	.90/Ea.
7052-M	78.50/Ea.
7052-1-C	7.90/Ea.
7053-M	82.50/Ea.
7053-1-C	8.50/Ea.
7054-M	94.50/Ea.
7054-1-C	9.75/Ea.
7055-M	115.00/Ea.
7055-1-C	12.00/Ea.
7056-M	153.00/Ea.
7056-1-C	15.50/Ea.
7057-M	238.00/Ea.
7058-M	337.50/Ea.
7057-1-C	24.50/Ea.
7058-1-C	34.75/Ea.
7059-M	627.50/Ea.
7059-1-C	62 95/Ea.
7061-50'	1.55/Ea.
7062-C	3.00/Ea.
7063-E	14.00/Ea.
7064-M	25.00/Ea.
7065-M	173.50/Ea.
7065-1-C	18.00/Ea.

Cat. No.	List Price
7066-M	119.50/Ea.
7066-1-C	12.60/Ea.
7067-M	97.50/Ea.
7067-1-C	10.50/Ea.
7068-M	72.50/Ea.
7068-1-C	7.90/Ea.
7070-M	63.50/Ea.
7070-1-C	7.00/Ea.
7072-M	56.50/Ea.
7072-1-C	6.25/Ea.
7074-M	54.50/Ea.
7074-1-C	5.95/Ea.
7080	1.68/Ea.
7081	1.68/Ea.
7082	2.10/Ea.
7083	4.75/Ea.
7084	2.10/Ea.
7086	2.10/Ea.
7088	2.10/Ea.
7089	4.00/Ea.
7116	405.00/M'
7116-1	50.00/C'
7118	355.00/M'
7118-1	44.25/C'
7120	249.50/M'
7120-1	35.00/C'
7122	201.00/M'
7122-1	25.00/C'
7124	220.00/M'
7124-1	27.00/C'
7126	225.00/M'
7126-1	27.50/C'
7128	165.00/M
7128-1	20.65/C'
7130	175.00/M'
7130-1	21.90/C'
7190-M	17.00/Ea.
7190-C	1.95/Ea.
7191-M	17.25/Ea.
7191-1-C	2.00/Ea.
7192-M	17.95/Ea.
7192-1-C	2.05/Ea.
7193-M	19.00/Ea.
7193-1-C	2.25/Ea.
7194-M	20.50/Ea.
7194-1-C	2.30/Ea.
7195-M	21.50/Ea.
7195-1-C	2.40/Ea.
7196	34.50/Ea.
7196-1	4.50/Ea.
7197	43.00/Ea.
7197-1	5.50/Ea.
7198	62.50/Ea.
7198-1	7.25/Ea.
7201-M	24.75/Ea.
7201-1-C	2.86/Ea.
7202-M	22.00/Ea.
7202-1-C	2.47/Ea.
7203-M	28.05/Ea.
7203-1-C	3.30/Ea.
7204-M	24.75/Ea.
7204-1-C	2.86/Ea.
7205-M	36.85/Ea.
7205-1-C	4.18/Ea.
7207-M	49.50/Ea.
7207-1-C	5.50/Ea.
7210-M	190.00/Ea.
7210-1-C	22.50/Ea.
7212-M	125.00 Ea.
7212-1-C	13.50/Ea.
7214-M	80.00/Ea.
7214-1-C	8.25/Ea.
7216-M	57.50/Ea.
7216-1-C	6.00/Ea.
7218-M	41.25/Ea.
7218-1-C	4.50/Ea.
7220-M	30.80/Ea.
7220-1-C	3.50/Ea.
7222-M	28.00/Ea.
7222-1-C	3.20/Ea.
7224-M	29.00/Ea.
7224-1-C	3.25/Ea.
7312-M	118.25/Ea.
7312-1-C	12.65/Ea.
7314-M	90.00/Ea.
7314-1-C	9.50/Ea.
7316-M	57.50/Ea.
7316-1-C	6.00/Ea.
7318-M	40.00/Ea.
7318-1-C	4.35/Ea.
7320-M	31.50/Ea.
7320-1-C	3.35/Ea.
7322-M	26.25/Ea.
7322-1-C	2.85/Ea.
7326-M	15.25/Ea.
7326-1-C	2.20/Ea.
7328-M	14.65/Ea.
7328-1-C	1.90/Ea.
7330-M	14.25/Ea.
7330-1-C	1.75/Ea.
7351-M	36.75/Ea.
7351-1-C	3.75/Ea.
7353-M	40.00/Ea.
7353-1-C	4.15/Ea.
7355-M	46.00/Ea.
7355-1-C	4.85/Ea.
7357-M	65.00/Ea.
7357-1-C	6.88/Ea.
7359-M	89.00/Ea.
7359-1-C	9.40/Ea.
7361-M	122.50/Ea.
7361-1-C	13.00/Ea.
7362	210.00/M'
7363	375.00/M'
7364	575.00/M'
7365	825.00/M'
7371-M	87.50/Ea.
7371-1-C	9.50/Ea.
7372-M	95.00/Ea.
7372-1-C	9.75/Ea.
7373-M	108.00/Ea.
7373-1-C	11.50/Ea.
7374-M	138.90/Ea.
7374-1-C	14.50/Ea.
7375-M	162.50/Ea.
7376-M	200.00/Ea.
7390	1,525.00/Ea.
7390-D	145.00/Ea.
7400	675.00/Ea.
7400-D	45.00/Ea.
7401	152.80/Ea.
7401-M	208.35/Ea.
7402-M	37.50/Ea.
7402-1-C	3.75/Ea.
7412-M	62.50/Ea.

Cat. No.	List Price
7412-1-C	6.25/Ea.
7412-Q	1.80/Ea.
7418-M	60.50/Ea.
7418-1-C	6.71/Ea.
7428-M	93.50/Ea.
7428-1-C	9.90/Ea.
7448 M	142.45/Ea.
7448-1-C	14.85/Ea.
7449-M	249.50/Ea.
7449-1-C	25.00/Ea.
7458-M	210.00/Ea.
7458-1-C	21.50/Ea.
7524-E	8.75/Ea.
7524-M	16.00/Ea.
7526-E	9.00/Ea.
7526-M	16.50/Ea.
7527-E	8.63/Ea.
7527-M	16.75/Ea.
7528-E	8.25/Ea.
7528-M	15.00/Ea.
7529-E	7.88/Ea.
7529-M	14.25/Ea.
7530-E	7.38/Ea.
7530-M	13.25/Ea.
7532-E	7.26/Ea.
7532-M	13.00/Ea.
7534-E	7.13/Ea.
7534-M	12.75/Ea.
7535-M	65.00/Ea.
7536-M	60.00/Ea.
7537	74.75/M
7537-E	76.00/M
7538	71.00/M
7538-E	72.50/M
7542	81.75/M
7532/3	100.50/M
7542/4	123.50/M
7552	87.50/M
7552/3	109.00/M
7552/4	133.75/M
7610-M	600.00/Ea.
7610-1-C	61.00/Ea.
7612-M	370.00/Ea.
7612-1-C	38.00/Ea.
7614-M	330.00/Ea.
7614-1-C	34.00/Ea.
7616-M	250.00/Ea.
7616-1-C	26.00/Ea.
7618-M	200.00/Ea.
7618-1-C	21.00/Ea.
7620-M	190.00/Ea.
7620-1-C	20.00/Ea.
7622-M	170.00/Ea.
7622-1-C	18.00/Ea.
7652	37.00/M
7652-E	19.15/Ea.
7653	59.75/M
7653-E	30.51/Ea.
7654	79.00/M
7654-E	40.16/Ea.
7668	49.50/M
7668-E	25.38/Ea.
7669	74.00/M
7669-E	37.63/Ea.
7670	96.25/M
7670-E	48.76/Ea.
8000-C	25.00/Ea.
8000-50'	13.75/Ea.
8000-25'	8.75/Ea.
8001-C	27.75/Ea.
8001-50'	15.00/Ea.
8001-25'	9.17/Ea.
8002-C	43.05/Ea.
8002-50'	22.50/Ea.
8002-25'	12.50/Ea.
8003-C	50.00/Ea.
8003-50'	27.50/Ea.
8003-25'	15.00/Ea.
8004-C	60.00/Ea.
8004-50'	34.05/Ea.
8004-25'	18.75/Ea.
8005-C	66.65/Ea.
8005-50'	36.10/Ea.
8005-25'	22.20/Ea.
8006-C	91.65/Ea.
8006-50'	48.60/Ea.
8006-25'	27.75/Ea.
8007-C	111.10/Ea.
8007-50'	61.10/Ea.
8007-25'	35.00/Ea.
8008-C	166.65/Ea.
8008-50'	90.00/Ea.
8008-25'	48.60/Ea.
8009-C	187.50/Ea.
8009-50'	97.20/Ea.
8009-25'	51.40/Ea.
8010-C	229.15/Ea.
8010-50'	125.00/Ea.
8010-25'	69.40/Ea.
8011-C	283.35/Ea.
8011-50/	152.75/Ea.
8011-25'	80.55/Ea.
8012-C	350.00/Ea.
8012-50'	194.45/Ea.
8012-25'	104.15/Ea.
8014-C	39.50/Ea.
8015-C	39.50/Ea.
8016-C	25.00/Ea.
8530-M	145.75/Ea.
8530-1-C	17.75/Ea.
8528	150.75/Ea.
8528-1	19.00/Ea.
8526	172.00/Ea.
8526-1	21.50/Ea.
8524	188.00/Ea.
8524-1	23.85/Ea.
8522	224.25/Ea.
8522-1	28.00/Ea.
8520	263.75/Ea.
8520-1	33.20/Ea.
8518	322.00/Ea.
8518-1	40.30/Ea.
8516	395.75/Ea.
8516-1	49.75/Ea.
D-50	4.95/M
R-100	4.95/M
T-6	20.00/C
T-7	.50/Ea.
T-8	.40/Ea.
T-10	8.00/C
T-14	.70/Ea.
T-14A	.80/Ea.
T-15	25.00/C
T-15A	40.00/C
T-15C	2.50/C

Cat. No.	List Price
T-16	25.00/C
T-16A	25.00/C
T-17	24.00/C
T-18	24.00/C
T-19-¾"	9.50/C
T-19-1"	9.50/C
T-19-1½"	13.50/C
T-20	.80/Ea.
T-42	7.00/M
T-44	18.00/C
T-46	28.00/C
T-48	48.00/C
T-100	10.00/C
T-101	10.00/C
T-102	10.00/C
T-105-14	9.45/Ea.
T-105-16	11.25/Ea.
T-105-16R	11.95/Ea.
T-105-17	12.95/Ea.
T-105-19R	18.50/Ea.
T-105-20	18.85/Ea.
T-105-21	20.00/Ea.
T-105-24	38.50/Ea.
T-105-27	39.50/Ea.
T-250	16.00/C
T-251	20.00/C
T-669	17.00/C

MAGNET WIRE

Spool $1.02

SOLID TINNED WIRE

Spool $1.02

HEAVY FORMVAR MAGNET WIRE

¼ Lb. Spools

Size	Ft.	List Price Each
10	8	$ .99
12	12	1.02
14	20	1.15
16	31	1.19
18	49	1.20
20	78	1.29
22	125	1.38
24	200	1.40
26	300	1.68
28	500	1.84
30	800	2.00
32	1225	2.36
34	1988	2.60
36	3200	3.36
38	5050	4.46
40	7975	6.66
42	12375	8.34
44	14500	11.66

½ Lb. Spools

Size	Ft.	List Price Each
10	16	$1.64
12	25	1.68
14	39	1.71
16	62	1.94
18	99	2.08
20	156	2.18
22	250	2.28
24	399	2.30
26	600	2.76
28	1000	3.06
30	1600	3.33
32	2450	3.72
34	3975	4.53
36	6400	5.40
38	10100	6.78
40	15850	9.90
42	24750	12.50
44	29000	17.52

HEAVY FORMVAR MAGNET WIRE

1 Lb. Spools

Size	Ft.	List Price Each
10	32	$3.00
12	50	3.06
14	78	3.12
16	124	3.26
18	198	3.44
20	313	3.74
22	501	4.00
24	798	4.20
26	1200	4.50
28	1999	5.34
30	3200	5.83
32	4900	6.66
34	7950	7.48
36	12800	9.17
38	20200	10.82
40	31700	15.00
42	49500	20.84
44	58000	28.32

PLAIN ENAMEL MAGNET WIRE

¼ Lb. Spools

Size	Ft.	List Price Each
10	8	$ .84
12	12	.87
14	20	.93
16	32	.93
18	50	.97
20	80	1.03
22	127	1.07
24	201	1.07
26	320	1.17
28	507	1.20
30	805	1.26
32	1282	1.40
34	2037	1.58
36	3221	1.85
38	5132	2.12
40	8143	3.18
42	12803	5.01
44	20455	10.03

PLAIN ENAMEL MAGNET WIRE

½ Lb. Spools

Size	Ft.	List Price Each
10	16	$1.62
12	25	1.62
14	40	1.68
16	63	1.68
18	100	1.73
20	160	1.76
22	254	1.80
24	403	1.86
26	640	1.98
28	1015	2.06
30	1610	2.32
32	2564	2.48
34	4075	2.85
36	6443	3.35
38	10246	3.89
40	16286	5.82
42	25605	9.18
44	40910	18.36

1 Lb. Spools

Size	Ft.	List Price Each
10	32	$2.64
12	50	2.64
14	80	2.70
16	126	2.75
18	201	2.82
20	320	3.00
22	508	3.06
24	806	3.12
26	1280	3.66
28	2030	3.68
30	3220	4.20
32	5128	4.58
34	8150	5.74
36	12887	6.26
38	20492	7.30
40	32573	11.04
42	51211	16.70
44	81819	33.36

SOLID TINNED WIRE

¼ Lb. Spools

Size	Ft.	List Price Each
10	8	$ .78
12	12	.79
14	20	.83
16	32	.84
18	50	.90
20	80	.97
22	127	1.00
24	201	1.02
26	320	1.10
28	507	1.16
30	805	1.26
32	1282	1.40
34	2037	1.58
36	3221	1.85
38	5132	2.10
40	8143	3.18

½ Lb. Spools

Size	Ft.	List Price Each
10	16	$1.46
12	25	1.50
14	40	1.50
16	63	1.55
18	100	1.56
20	160	1.62
22	254	1.68
24	403	1.80
26	640	1.95
28	1015	2.04
30	1610	2.32
32	2564	2.48
34	4075	2.86
36	6443	3.15
38	10246	3.89
40	16286	5.82

1 Lb. Spools

Size	Ft.	List Price Each
10	32	$2.52
12	50	2.53
14	80	2.58
16	126	2.64
18	201	2.74
20	320	2.82
22	508	3.00
24	806	3.12
26	1280	3.48
28	2030	3.68
30	3220	4.20
32	5128	4.58
34	8150	5.74
36	12887	6.28
38	20492	7.30
40	32573	11.04

DOUBLE NYLON MAGNET WIRE

¼ Lb. Spools

Size	Ft.	List Price Each
12	12	$1.32
14	19	1.38
16	31	1.56
18	49	1.68
20	78	1.92
22	123	2.22
24	195	2.40
26	303	2.88
28	478	3.12
30	739	3.72
32	1136	4.68
34	1712	6.48
36	2551	10.80
38	3770	15.00
40	5040	26.64

½ Lb. Spools

Size	Ft.	List Price Each
12	24	$2.52
14	39	2.58
16	62	2.88
18	99	3.18
20	157	3.66
22	247	4.08
24	390	4.56
26	606	5.52
28	956	6.00
30	1479	7.08
32	2272	9.00
34	3424	12.72
36	5102	21.00
38	7541	29.10
40	10080	50.60

1 Lb. Spools

Size	Ft.	List Price Each
12	49	$4.80
14	78	4.92
16	125	5.10
18	198	5.58
20	315	6.60
22	495	7.20
24	781	9.00
26	1212	11.10
28	1912	12.00
30	2958	13.80
32	4545	17.86
34	6849	24.96
36	10204	40.80
38	15082	55.80
40	20161	98.40

DOUBLE COTTON MAGNET WIRE

¼ Lb. Spools

Size	Ft.	List Price Each
10	8	$1.01
12	12	1.01
14	19	1.03
16	31	1.09
18	48	1.18
20	78	1.34
22	110	1.50
24	134	1.66
26	284	1.86
28	435	2.16
30	641	2.04
32	976	3.18
34	1365	4.68
36	1827	5.46
38	2738	9.60
40	3405	13.80

½ Lb. Spools

Size	Ft.	List Price Each
10	16	$1.74
12	24	1.74
14	39	1.80
16	62	1.86
18	97	2.00
20	157	2.34
22	220	2.64
24	235	2.82
26	568	3.30
28	871	4.20
30	1284	5.04
32	1953	6.00
34	2735	8.70
36	3654	10.46
38	5476	15.71
40	6811	23.52

1 Lb. Spools

Size	Ft.	List Price Each
10	31	$3.06
12	49	3.06
14	78	3.30
16	123	3.60
18	194	3.90
20	304	4.44
22	477	4.98
24	538	5.52
26	1136	6.30
28	1742	7.80
30	2569	9.30
32	3906	11.40
34	5470	16.20
36	7309	19.65
38	10952	29.40
40	13623	43.68

C = 100 ft. — D = 250 ft. — E = 500 ft. — M = 1000 ft. — F = 2500 ft.

NOTE: FOR STRIPED SPIRAL TRACERS, ADD $1.88 TO LIST PRICE. PRICE PER 1000'.

Where wire is shipped on returnable spools or reels a deposit covering same will be required. No credit will be allowed for returnable reels and spools unless returned prepaid within 12 months from date of shipment. All deposit spools and reels are billed separately on invoice and not included in price of materials sold. ***ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE***

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DEPENDABLE WIRE and CABLE

CAA-Signal & Control Cable
(Thermoplastic Insulation & Jacket)

COAXIAL CABLES Spec JAN-C-17-A
including Low-Temperature, Non-Contaminating Jackets

ELECTRONIC JOBBER WIRE & CABLE
300-ohm Television Lead-In
Rotary Antenna Cable
Double Shielded & Jacketed Coaxial Cable
(Radiation & Contamination Proof)

ELECTRICAL JOBBER WIRE & CABLE
"UF" Underground feeder and non-metallic sheath
"TW" Building Wire
Machine Tool Control & Switchboard
Fixture Wire—"TF" & "TFF"
Parallel Cord—"SPT-1" & "SPT-2"
Bell Wire-single & multi cond
Thermostat Cable 2-7 conductors
(Twisted & Thermoplastic Jacketed)
Flexible Service Cord—"ST" & "SJT"
Microphone Cables
Sound & Intercommunication Wire and Cable

SPECIAL PURPOSE CABLES
Meteorological Survey Cable
Underwater Sound Equipment Cable
Geophysical Cable
Fire Control Wire & Cable
Electronic Computer Wire & Cable
Inside Telephone Cable
Special Design High Frequency Cable

TEFLON INSULATED WIRE & CABLE

TV twin-leads, coaxial cable, hook-up wire, roto antenna cable, custom-engineered multi-conductor cable. For prices, samples and technical data, contact your nearest Plastoid representative (see list in manufacturers' section).

RADIO AND ELECTRONIC HOOK-UP WIRE
MIL-W-76-A (superseding JAN-C-76)
MIL-W-16878-A (types B, C, & D, with and without nylon jackets)
Underwriters Laboratory —80°; 90°; 105° (PVC insulation, nominal walls of .008; .015; .031; .047 & with braided outercovering or extruded nylon jacket)

AIRCRAFT WIRE & CABLE
MIL-W-5086
MIL-C-7078
MIL-W-5274-A

NAVY SHIPBOARD CABLE — MIL-C-915-A

DHFA	TTHFWA	TTRSA
THFA	PBJX	DBSP
FHFA	PBTX	TBSP
SHFR	PBTM	FBSP
THFR	TSP	TTRS
MHFA	MDGB	SRI
SRIB	SHFS	MRI-D

REA Telephone Cable (Spec PE-14)

MULTI PAIR RURAL DISTRIBUTION WIRE

TRAFFIC CONTROL CABLE (Specs IMSA 19 & 20)

POWER CONTROL CABLES (Specs IPCEA & IMSA)
(Thermoplastic Insulation & Jacket)

AIRPORT LIGHTING CABLE

PLASTOID Corporation

Synkote Insulated Wire and Cable is "Manufactured by the mile - tested by the inch"

plant: HAMBURG, N. J. • offices: Long Island City, N.Y.

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SHIELDED MICROPHONE CABLE

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

PLASTIC

APPLICATIONS: All high impedance microphones—Lapel, Ribbon, Velocity, Crystal, Contact. Hi-Fi interconnecting cables.

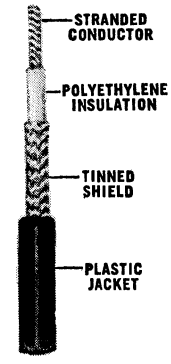
ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL CAPACITY	NOM. O.D.
1703	1	24	10/34	38 mmf./ft.	.145"
1704	1	24	10/34	25 mmf./ft.	.200"
1706	1	20	26/34	39 mmf./ft.	.175"

COLOR CODE OF CONDUCTOR: WHITE

APPLICATIONS: All low impedance microphones—Carbon, Condenser, Dynamic.

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL CAPACITY	NOM. O.D.
1710	2	22	16/34	31 mmf./ft.	.235"
1713	3	20	26/34	39 mmf./ft.	.295"
1715	4	20	26/34	43 mmf./ft.	.320"

COLOR CODE OF CONDUCTORS: 1—WHITE, 2—BLACK, 3—RED, 4—GREEN



DESCRIPTION:
Each conductor stranded tinned copper, polyethylene insulation, color coded, braided tinned copper shield, chrome colored vinyl plastic jacket overall.

CHARACTERISTICS:
Oil and moisture resistant. Flexible. Will not stain or mark. Will resist aging and rough usage.
Capacitance—Low
Insulation Resistance—High
Attenuation—Low

RUBBER

APPLICATIONS: All high impedance microphones. Broadcast and heavy duty studio use.

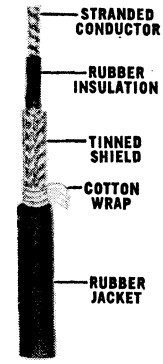
ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL CAPACITY	NOM. O.D.
1248	1	20	26/34	40 mmf./ft.	.175"
1249	1	20	26/34	30 mmf./ft.	.245"
1249/18	1	18	41/34	45 mmf./ft.	.250"

COLOR CODE OF CONDUCTOR: BLACK

APPLICATIONS: All low impedance microphones. Broadcast and heavy duty studio use.

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL CAPACITY	NOM. O.D.
1250	2	20	26/34	70 mmf./ft.	.275"
1250/18	2	18	41/34	75 mmf./ft.	.305"
1251	3	20	26/34	80 mmf./ft.	.285"
1251/18	3	18	41/34	85 mmf./ft.	.325"
1252	4	20	26/34	90 mmf./ft.	.305"

COLOR CODE OF CONDUCTORS: 1—BLACK, 2—WHITE, 3—RED, 4—GREEN



DESCRIPTION:
Each conductor stranded tinned copper, rubber insulation, color coded, braided tinned copper shield, cotton wrap, tough black rubber jacket overall. It is extremely flexible and specially designed for heavy studio use.

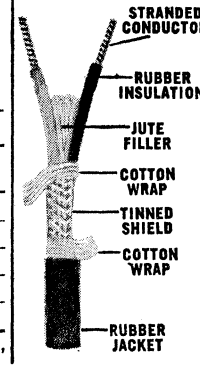
SHIELDED MULTI-CONDUCTOR CABLE (Rubber Jacket)

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Shielded electronic power cable. Control circuits. Video and audio interconnecting cable. Broadcast and heavy duty studio use.

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
1253	5	20	26/34	.020"	.340"
1254	6	20	26/34	.020"	.365"
1254/18	6	18	41/34	.020"	.430"
1255	7	20	26/34	.020"	.370"
1255/8	8	20	26/34	.020"	.400"

COLOR CODE OF CONDUCTORS: 1—BLACK, 2—WHITE, 3—RED, 4—GREEN, 5—YELLOW, 6—BLUE, 7—BROWN, 8—ORANGE



DESCRIPTION:
Each conductor stranded tinned copper, rubber insulation, color coded, conductors twisted, braided tinned copper shield, cotton wrap, tough black rubber jacket overall.

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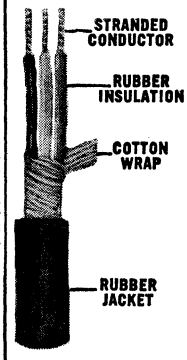
UNSHIELDED MULTI-CONDUCTOR CABLE (Rubber Jacket)

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Inter-rack connecting cable. Recording studio and broadcast. Remote control circuits. Rough usage electronic power cable. P.A. systems. Multiple speaker cable.

DESCRIPTION:

Each conductor 20 AWG stranded tinned copper, cotton wrap, rubber insulation, color coded, conductors twisted, cushioned with cotton fillers, cotton wrap, tough black rubber jacket overall. It is extremely flexible and specially designed for heavy studio use.



ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
1244	2	20	26/34	.020"	.250"
1245	3	20	26/34	.020"	.285"
1246	4	20	26/34	.020"	.300"
1247	5	20	26/34	.020"	.340"
1247/6	6	20	26/34	.020"	.370"
1247/8	8	20	26/34	.020"	.400"

COLOR CODE OF CONDUCTORS: 1—BLACK, 2—WHITE, 3—RED, 4—GREEN, 5—YELLOW, 6—BLUE, 7—BROWN, 8—ORANGE

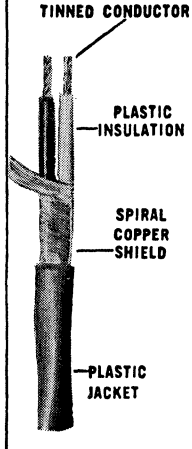
SHIELDED PLASTIC JACKETED CABLE
SPIRAL WRAPPED COPPER SHIELD

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: For public address and sound systems. Recording studios. Amateur radio transmitters. Paging and call systems.

DESCRIPTION:

Each conductor tinned copper, plastic insulation, color coded, conductors twisted, spiral wrapped copper shield, gray vinyl plastic jacket overall.



ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
2254	2	22	7/30	.016"	.020"	.175"
2255	2	22	1	.016"	.020"	.170"
2256	2	20	10/30	.016"	.020"	.195"
3256	3	20	10/30	.016"	.020"	.210"
4256	4	20	10/30	.016"	.020"	.225"
2258	2	18	16/30	.016"	.020"	.230"

COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE, 4—GREEN

SHIELDED SPEAKER CABLE

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Commercial speaker installations. Master control sound systems. Recording studios. Amateur radio transmitters. Paging and call systems.

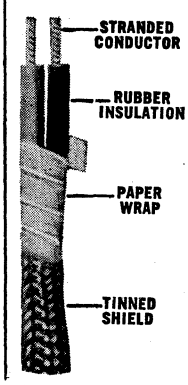
DESCRIPTION:

No. 1265: Two conductors 18 AWG stranded tinned copper, rubber insulation, color coded, conductors twisted, paper wrap, close tinned copper shield overall.

No. 1256: Each conductor 20 AWG stranded tinned copper, rubber insulation waxed cotton braid, color coded, conductors twisted, tinned copper shield overall.

No. 1266: Same as **No. 1265** except with waxed cotton braid over shield.

No. 1262: Same as **No. 1256** plus cotton braid over shield.



TINNED SHIELD OVERALL

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
1265	2	18	16/30	.032"	.235"
1256	2	20	10/30	.016"	.170"

COTTON BRAID OVER SHIELD

1266	2	18	16/30	.032"	.260"
1262	2	20	10/30	.016"	.225"

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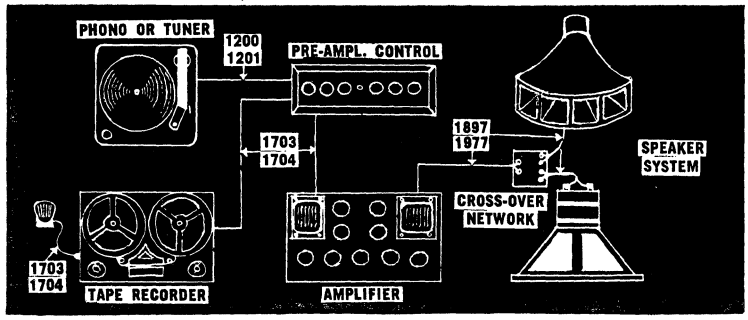
HI-FI INTERCONNECTING CABLE

STANDARD SPOOL PUT-UP: 10 FT., 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



PHONO WIRE — For wiring phono arm from cartridge to amplifier.

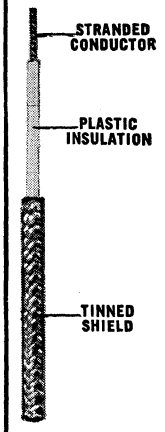
SHIELDED

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
1200	1	24	16/36	.010"	.080"
1201	1	24	16/36	.010"	.095"
1202	2	24	16/36	.010"	.115"

UNSHIELDED

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
2606	2	30	7/38	.010"	.065"
3606	3	30	7/38	.010"	.070"

COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE



DESCRIPTION:

No. 1200—Single conductor 24 AWG stranded tinned copper, white vinyl plastic insulation, fine close tinned copper shield overall.

No. 1201—Same as **No. 1200** plus cotton braid over shield.

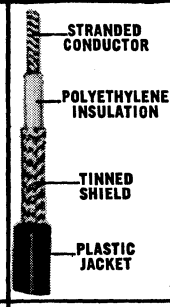
No. 1202—Same as **No. 1200** except two conductors (Black and Red) with shield overall.

DESCRIPTION:

No. 2606-3606. Each conductor 30 AWG stranded tinned copper, plastic insulation, conductors color coded and twisted.

SHIELDED INPUT CABLE — From tuner or tape recorder to amplifier.

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL CAPACITY	NOM. O.D.
1703	1	24	10/34	38 mmf/ft	.145"
1704	1	24	10/34	25 mmf/ft	.200"



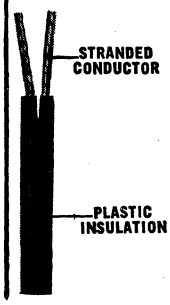
DESCRIPTION:

Single conductor 24 AWG stranded tinned copper, polyethylene insulation, braided tinned copper shield, gray vinyl plastic jacket overall.

PLASTIC SPEAKER CABLE — From amplifier to speaker(s).

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1977	2	18	41/34	—	—	.235" x .130"
1897	2	18	16/30	.016"	.020"	.200"

STOCK COLORS FOR NO. 1977: 1—BROWN, 2—BLACK, 3—WHITE, 4—GREY, 5—PINK, 6—LIGHT BLUE, 7—YELLOW, 8—GREEN



DESCRIPTION:

No. 1977—Two conductors parallel, 18 AWG stranded bare copper, plastic insulation, color coded. UL Type SPT-1 (POT).

No. 1897—Two conductors 18 AWG stranded tinned copper, plastic insulation, conductors color coded black and red, twisted, gray vinyl plastic jacket overall.

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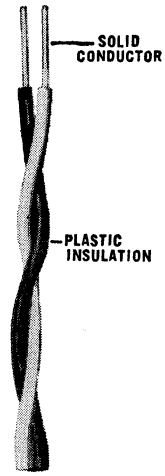
2 AND 3 CONDUCTOR UNSHIELDED CABLE

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Intercoms. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

DESCRIPTION:
Each conductor solid tinned copper, plastic insulation, color coded, conductors twisted.

COLOR CODE OF CONDUCTORS:
1—BROWN
2—TAN
3—GRAY

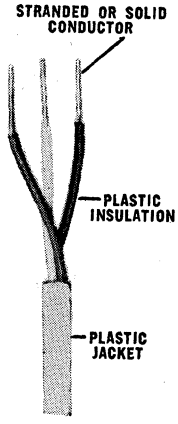


WITHOUT PLASTIC JACKET
SOLID CONDUCTORS

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
9269	2	22 Solid	1	.016"	.115"
9270	3	22 Solid	1	.016"	.125"
9271	2	20 Solid	1	.016"	.130"
9272	3	20 Solid	1	.016"	.140"
9273	2	18 Solid	1	.016"	.145"
9274	3	18 Solid	1	.016"	.155"

DESCRIPTION:
Each conductor tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor installations.

COLOR CODE OF CONDUCTORS:
1—BLACK
2—RED
3—WHITE



WITH PLASTIC JACKET
SOLID CONDUCTORS

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1793	2	22 Solid	1	.010"	.020"	.125"
1794	3	22 Solid	1	.010"	.020"	.130"
1795	2	20 Solid	1	.016"	.020"	.170"
1796	3	20 Solid	1	.016"	.020"	.180"
1797	2	18 Solid	1	.016"	.020"	.185"
1798	3	18 Solid	1	.016"	.020"	.190"
STRANDED CONDUCTORS						
1893	2	22	7/30	.010"	.020"	.135"
1894	3	22	7/30	.010"	.020"	.145"
1895	2	20	10/30	.016"	.020"	.180"
1896	3	20	10/30	.016"	.020"	.190"
1897	2	18	16/30	.016"	.020"	.200"
1898	3	18	16/30	.016"	.020"	.210"

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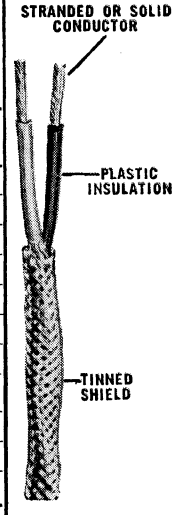
2 CONDUCTOR SHIELDED CABLE (Twisted Pair)

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: For public address and sound systems. Transmission line. Industrial paging and call systems. Recording equipment. Hospital and school sound installations. Broadcast and audio cable. Rack and panel wiring.

WITHOUT PLASTIC JACKET
STRANDED CONDUCTORS

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
1261	2	24	16/36	.016"	.125"
1256/22V	2	22	7/30	.016"	.140"
1256V	2	20	10/30	.016"	.155"
1259V	2	18	16/30	.016"	.180"
1260V	2	16	26/30	.020"	.210"
1260/14	2	14	41/30	.020"	.235"
1260/12	2	12	65/30	.025"	.295"
SOLID CONDUCTORS					
1267/22V	2	22 Solid	1	.016"	.135"
1267V	2	20 Solid	1	.016"	.145"
1267/18V	2	18 Solid	1	.016"	.170"

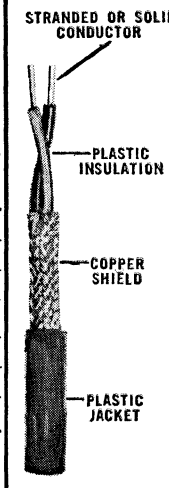


DESCRIPTION:
Each conductor tinned copper, plastic insulation, color coded, conductors twisted, tinned copper shield overall.

COLOR CODE OF CONDUCTORS:
1—BLACK
2—RED

WITH PLASTIC JACKET
STRANDED CONDUCTORS

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1736	2	22	7/30	.016"	.020"	.175"
1741	2	20	10/30	.016"	.020"	.195"
1746	2	18	16/30	.016"	.020"	.230"
SOLID CONDUCTORS						
9775	2	22 Solid	1	.016"	.020"	.170"
1779	2	20 Solid	1	.016"	.020"	.185"
1783	2	18 Solid	1	.016"	.020"	.220"



DESCRIPTION:
Each conductor tinned copper, plastic insulation, color coded, conductors twisted, braided copper shield, gray vinyl plastic jacket overall. Suitable for outdoor installations.

COLOR CODE OF CONDUCTORS:
1—BLACK
2—RED

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PLASTIC INTERCOMMUNICATION CABLE (Twisted Pairs)

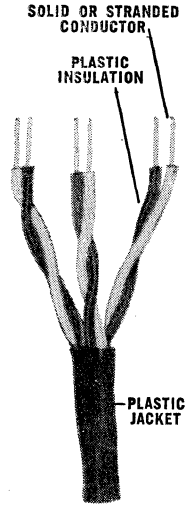
STANDARD SPOOL PUT-UP: 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Balanced intercom systems. Annunciators. Telephones. "Nurses call" systems. Control circuit cable. Electronic computer cable. Multiple speaker cable. Signal systems. "Alarm" systems. Guided missiles.

DESCRIPTION:
Each conductor 22 AWG tinned copper, plastic insulation, conductors color coded, twisted into pairs, gray vinyl plastic jacket overall. Suitable for outdoor installations.

COLOR CODE OF PAIRED CONDUCTORS:

Pair No.	Color Combination
1	Black paired with Red
2	Black paired with White
3	Black paired with Green
4	Black paired with Blue
5	Black paired with Brown
6	Black paired with Yellow
7	Black paired with Orange
8	Red paired with Green
9	Red paired with White
10	Red paired with Blue
11	Red paired with Yellow
12	Red paired with Brown
13	Red paired with Orange
14	Green paired with Blue
15	Green paired with White
16	Green paired with Brown
17	Green paired with Orange
18	Green paired with Yellow
19	White paired with Blue
20	White paired with Brown
21	White paired with Orange
22	White paired with Yellow
23	Blue paired with Brown
24	Blue paired with Orange
25	Blue paired with Yellow
26	Brown paired with Orange
27	Brown paired with Yellow
28	Purple paired with Red
29	Purple paired with White
30	Purple paired with Green
31	Purple paired with Blue
32	Purple paired with Brown
33	Purple paired with Yellow
34	Purple paired with Orange
35	Purple paired with Slate
36	Purple paired with Black
37	Slate paired with Red
38	Slate paired with White
39	Slate paired with Green
40	Slate paired with Blue
41	Slate paired with Brown
42	Slate paired with Yellow
43	Slate paired with Orange
44	Slate paired with Black
45	White/Black paired with Red
46	White/Black paired with Green
47	White/Black paired with Blue
48	White/Black paired with Brown
49	White/Black paired with Yellow
50	White/Black paired with Orange
51	White/Black paired with Purple



SOLID CONDUCTORS

ALPHA NO.	NO. OF PAIRS	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1300	1	2	22 Solid	1	.010"	.020"	.145"
1302	2	4	22 Solid	1	.010"	.020"	.190"
1304	3	6	22 Solid	1	.010"	.020"	.215"
1307	6	12	22 Solid	1	.010"	.020"	.280"
1307/9	9	18	22 Solid	1	.010"	.020"	.320"
1308	10	20	22 Solid	1	.010"	.020"	.345"
1308/11	11	22	22 Solid	1	.010"	.020"	.355"
1309	13	26	22 Solid	1	.010"	.025"	.365"
1309/15	15	30	22 Solid	1	.010"	.025"	.385"
1310	16	32	22 Solid	1	.010"	.025"	.395"
1312	26	52	22 Solid	1	.010"	.035"	.490"
1313	27	54	22 Solid	1	.010"	.035"	.500"
1314	51	102	22 Solid	1	.010"	.035"	.650"

STRANDED CONDUCTORS

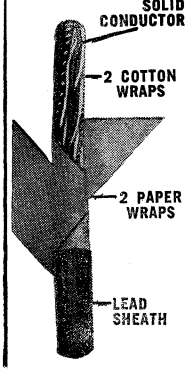
1316	1	2	22	7/30	.010"	.020"	.150"
1317	2	4	22	7/30	.010"	.020"	.190"
1318	3	6	22	7/30	.010"	.020"	.225"
1319	4	8	22	7/30	.010"	.020"	.235"
1320	5	10	22	7/30	.010"	.020"	.265"
1322	6	12	22	7/30	.010"	.020"	.315"
1323	9	18	22	7/30	.010"	.020"	.355"
1327	15	30	22	7/30	.010"	.025"	.440"
1329	27	54	22	7/30	.010"	.035"	.565"

LEAD-COVERED COMMUNICATION CABLE (Twisted Pairs)

STANDARD REEL PUT-UP: 1000 FT.

APPLICATIONS: Balanced intercom systems. Annunciators. Telephones. "Nurses call" systems. Control circuit cable. Electronic computer cable. Multiple speaker cable. Signal systems. "Alarm" systems. Guided missiles. Industrial electronic cable—"explosion-proof".

DESCRIPTION:
Each conductor 22 AWG solid tinned copper, two reverse serves paraffined, color coded, conductors twisted into pairs, covered with an impregnated double paper wrap, lead sheath overall. Use where 100% shielding is required for underground or waterproof requirements.



ALPHA NO.	NO. OF PAIRS	NO. OF COND.	COND. SIZE	LEAD SHEATH	NOM. O.D.
1289	6	12	22 Solid	.057"	.340"
1291	10	20	22 Solid	.057"	.415"
1293	16	32	22 Solid	.057"	.485"
1295	26	52	22 Solid	.057"	.530"

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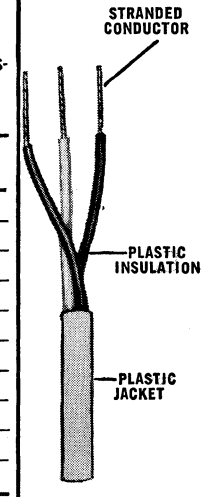
MULTI-CONDUCTOR FLEXIBLE CABLE

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Unbalanced intercom systems. Low voltage relay control cable. P.A. systems. Signal systems. Electronic computer cable.

PLASTIC JACKET

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM O.D.
1172	2	22	7/30	.010"	.020"	.150"
1173	3	22	7/30	.010"	.020"	.155"
1174	4	22	7/30	.010"	.020"	.185"
1175	5	22	7/30	.010"	.020"	.190"
1176	6	22	7/30	.010"	.020"	.195"
1177	7	22	7/30	.010"	.020"	.230"
1178	8	22	7/30	.010"	.020"	.245"
1179	9	22	7/30	.010"	.020"	.250"
1180	10	22	7/30	.010"	.020"	.255"
1181	12	22	7/30	.010"	.020"	.280"

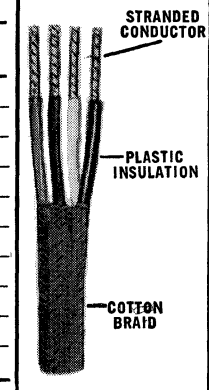


DESCRIPTION:
Each conductor 22 AWG stranded tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor installations.

COLOR CODE OF CONDUCTORS:
1—BLACK
2—RED
3—WHITE
4—GREEN
5—ORANGE
6—BLUE
7—BROWN
8—YELLOW
9—PURPLE
10—SLATE
11—PINK
12—TAN

COTTON BRAID

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
1182	2	20	10/30	.016"	.170"
1183	3	20	10/30	.016"	.175"
1184	4	20	10/30	.016"	.210"
1185	5	20	10/30	.016"	.230"
1186	6	20	10/30	.016"	.245"
1187	7	20	10/30	.016"	.250"
1188	8	20	10/30	.016"	.265"
1189	9	20	10/30	.016"	.295"
1190	10	20	10/30	.016"	.300"
1192	12	20	10/30	.016"	.315"



DESCRIPTION:
Each conductor 20 AWG stranded tinned copper, plastic insulation, color coded, conductors twisted, brown cotton braid overall.

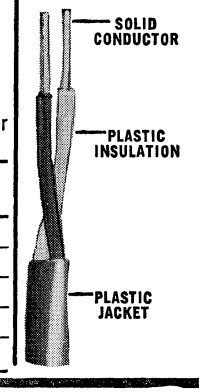
COLOR CODE OF CONDUCTORS:
1—BLACK
2—RED
3—WHITE
4—GREEN
5—ORANGE
6—BLUE
7—BROWN
8—YELLOW
9—PURPLE
10—SLATE
11—PINK
12—TAN

INDUSTRIAL MULTI-CONDUCTOR CABLE (Plastic Jacket)

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

APPLICATIONS: Telephones. Intercoms. Annunciators. Remote control circuit cable. Speaker cable. "Alarm" systems. Signal systems. P.A. systems. Thermostat.

ALPHA NO.	NO. OF COND.	COND. SIZE	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1797	2	18 Solid	.016"	.020"	.185"
1798	3	18 Solid	.016"	.020"	.190"
1798/4	4	18 Solid	.016"	.020"	.235"
1798/5	5	18 Solid	.016"	.020"	.240"
1798/6	6	18 Solid	.016"	.020"	.275"



DESCRIPTION:
Each conductor 18 AWG solid tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor installations.

COLOR CODE OF CONDUCTORS:
1—BLACK
2—RED
3—WHITE
4—GREEN
5—ORANGE
6—BLUE

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SHIELDED BROADCAST AUDIO CABLE

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Broadcast studios. Public address and sound systems. Intercommunication systems. Short wave. Rack wiring.

DESCRIPTION:

No. 1267—Two conductors 20 AWG solid tinned enameled copper, cotton insulation, color coded, conductors twisted, close copper shield overall.

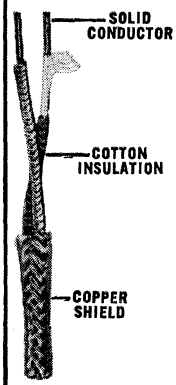
No. 1267V—Two conductors 20 AWG solid tinned copper, plastic insulation, color coded, conductors twisted, close tinned copper shield overall.

No. 1268—Same as **No. 1267** plus waxed cotton braid over shield.

No. 1268V—Same as **No. 1267V** plus waxed cotton braid over shield.

No. 1775—Two conductors 22 AWG solid tinned copper, plastic insulation, color coded, conductors twisted, 22 AWG solid tinned copper ground wire under braided copper shield, gray vinyl plastic jacket overall.

COLOR CODE OF CONDUCTORS:
1—BLACK
2—RED



TINNED SHIELD OVERALL

ALPHA NO.	NO. OF COND.	COND. SIZE	NOMINAL INSULATION	NOM. O.D.
1267	2	20 Solid	—	.135"
1267V	2	20 Solid	.016"	.145"

WAXED COTTON BRAID OVER SHIELD

1268	2	20 Solid	—	.165"
1268V	2	20 Solid	.016"	.175"

PLASTIC JACKET OVER SHIELD

ALPHA NO.	NO. OF COND.	COND. SIZE	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1775	2	22 Solid	.016"	.020"	.150"

PLASTIC INTERCOMMUNICATION CABLE

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

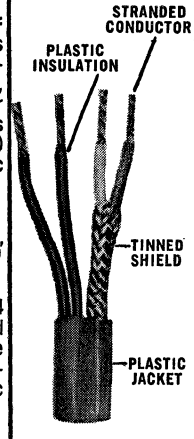
DESCRIPTION:

No. 1243/4—Four conductors 22 AWG stranded tinned copper, vinyl plastic insulation, color coded, tinned copper shield over two conductors (paired), two conductors (paired) unshielded, gray vinyl plastic jacket overall.

COLOR CODE OF CONDUCTORS:
SHIELDED PAIR—BLACK & WHITE,
UNSHIELDED PAIR—BLACK & RED

No. 1243—Same as **No. 1243/4** except three conductors, tinned copper shield over only one conductor, two conductors unshielded, gray vinyl plastic jacket overall.

COLOR CODE OF CONDUCTORS:
UNSHIELDED—BLACK, RED.
SHIELDED—WHITE



4 CONDUCTORS (2 SHIELDED—2 UNSHIELDED)

APPLICATIONS: General wiring from station to station where a shielded twisted pair is essential to eliminate cross talk. Balanced master to remote intercom with remote "break-in" feature. Audio imput with control cable. Low impedance cable with switch.

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1243/4	4	22	7/30	.016"	.020"	.315"

3 CONDUCTORS (1 SHIELDED—2 UNSHIELDED)

APPLICATIONS: General wiring from station to station where a shielded single conductor is essential to eliminate cross talk. Unbalanced master to remote intercom with remote "break-in" feature.

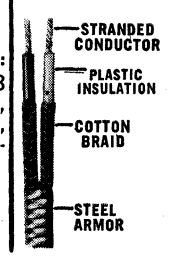
ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1243	3	22	7/30	.016"	.020"	.215"

ARMORED INDUSTRIAL SPEAKER CABLE

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:

Two conductors parallel, 18 AWG stranded tinned copper, plastic insulation, color coded, lacquered cotton braid, galvanized steel armor overall.



APPLICATIONS: P. A. systems. Industrial speaker cable. Commercial paging systems.

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
1272	2	18	16/30	.032"	.132" x .182"

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PLASTIC HOOK-UP-WIRE—SPECIFICATION MIL-W-76A

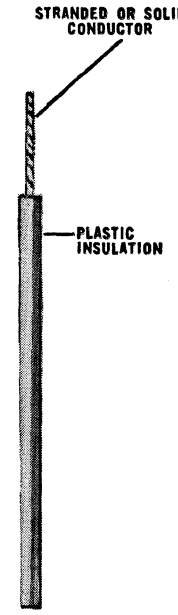
(superseding JAN-C-76)

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

TYPE MW (MEDIUM WALL)—superseding SRIR

STRANDED

ALPHA NO.	MIL-W-76A TYPE DESIGNA.	COND. SIZE	COND. STRAND	NOM. INSUL.	VOLT. RATE.	NOM. O.D.	STAND. P.U.	*STOCK COLORS
1550	MW-C 24(7)U	24	7/32	.016"	1000	.059"	1000'	1 thru 22
1550Q	MW-C 24(7)U	24	7/32	.016"	1000	.059"	100'	1 thru 22
1551	MW-C 22(7)U	22	7/30	.016"	1000	.064"	1000'	1 thru 30
1552	MW-C 22(7)U	22	7/30	.016"	1000	.064"	100'	1 thru 30
1553	MW-C 20(10)U	20	10/30	.016"	1000	.073"	1000'	1 thru 30
1554	MW-C 20(10)U	20	10/30	.016"	1000	.073"	100'	1 thru 30
1555	MW-C 18(16)U	18	16/30	.016"	1000	.084"	1000'	1 thru 22
1556	MW-C 18(16)U	18	16/30	.016"	1000	.084"	100'	1 thru 22
1557	MW-C 16(26)U	16	26/30	.016"	1000	.095"	1000'	1 thru 22
1558	MW-C 16(26)U	16	26/30	.016"	1000	.095"	100'	1 thru 22
1559	MW-C 14(41)U	14	41/30	.016"	1000	.110"	1000'	1 thru 22
1559Q	MW-C 14(41)U	14	41/30	.016"	1000	.110"	100'	1 thru 22
1560	MW-C 12(65)U	12	65/30	.016"	1000	.125"	1000'	1 thru 22
1560Q	MW-C 12(65)U	12	65/30	.016"	1000	.125"	100'	1 thru 22
			SOLID					
1561	MW-C 22(1)U	22	1	.016"	1000	.060"	1000'	1 thru 22
1562	MW-C 22(1)U	22	1	.016"	1000	.060"	100'	1 thru 22
1563	MW-C 20(1)U	20	1	.016"	1000	.066"	1000'	1 thru 22
1564	MW-C 20(1)U	20	1	.016"	1000	.066"	100'	1 thru 22
1565	MW-C 18(1)U	18	1	.016"	1000	.074"	1000'	1 thru 10
1566	MW-C 18(1)U	18	1	.016"	1000	.074"	100'	1 thru 10



DESCRIPTION:
Single conductor stranded or solid tinned copper, thermoplastic insulation.

***STOCK COLORS**

(1) WHITE	(11) TAN	(21) WHITE / GRAY
(2) BLACK	(12) PINK	(22) WHITE / VIOLET
(3) RED	(13) DARK BLUE	(23) WHITE/BLACK/RED
(4) GREEN	(14) WHITE / BLACK	(24) WHITE / BLACK / GREEN
(5) YELLOW	(15) WHITE / RED	(25) WHITE / BLACK / YELLOW
(6) LIGHT BLUE	(16) WHITE / GREEN	(26) WHITE / BLACK / BLUE
(7) BROWN	(17) WHITE / YELLOW	(27) WHITE / BLACK / BROWN
(8) ORANGE	(18) WHITE / BLUE	(28) WHITE / BLACK / ORANGE
(9) GRAY (slate)	(19) WHITE / BROWN	(29) WHITE / BLACK / GRAY
(10) VIOLET (purple)	(20) WHITE / ORANGE	(30) WHITE / BLACK / VIOLET

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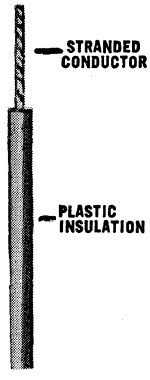
PLASTIC HOOK-UP WIRE—SPECIFICATION MIL-W-76A

(superseding JAN-C-76)

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:
Single conductor stranded tinned copper, light wall thermoplastic insulation.

***STOCK COLORS:**
(1) WHITE
(2) BLACK
(3) RED
(4) GREEN
(5) YELLOW
(6) BLUE
(7) BROWN
(8) ORANGE
(9) GRAY
(10) VIOLET
(11) WHITE/BLACK
(12) WHITE/RED
(13) WHITE/GREEN
(14) WHITE/YELLOW
(15) WHITE/BLUE
(16) WHITE/BROWN
(17) WHITE/ORANGE
(18) WHITE/GRAY
(19) WHITE/VIOLET

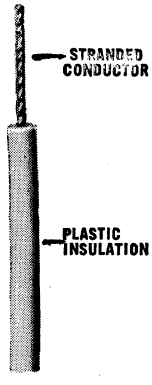


TYPE LW (LIGHT WALL)

ALPHA NO.	MIL-W-76A TYPE DESIGNA.	COND. SIZE	COND. STRAND	NOM. INSUL.	VOLT. RATE.	NOM. O.D.	STAND. P.U.	*STOCK COLORS
1685	LW-C 30(7)U	30	7/38	.010"	300	.033"	1000'	1 thru 19
1685Q	LM-C 30(7)U	30	7/38	.010"	300	.033"	100'	1 thru 19
1686	LW-C 28(7)U	28	7/36	.010"	300	.035"	1000'	1 thru 19
1686Q	LW-C 28(7)U	28	7/36	.010"	300	.035"	100'	1 thru 19
1687	LW-C 26(7)U	26	7/34	.010"	300	.039"	1000'	1 thru 19
1687Q	LW-C 26(7)U	26	7/34	.010"	300	.039"	100'	1 thru 19
1688	LW-C 24(7)U	24	7/32	.010"	300	.043"	1000'	1 thru 10
1688Q	LW-C 24(7)U	24	7/32	.010"	300	.043"	100'	1 thru 10
1689	LW-C 22(7)U	22	7/30	.010"	300	.049"	1000'	1 thru 10
1689Q	LW-C 22(7)U	22	7/30	.010"	300	.049"	100'	1 thru 10
1690	LW-C 20(10)U	20	10/30	.010"	300	.060"	1000'	1 thru 10
1690Q	LW-C 20(10)U	20	10/30	.010"	300	.060"	100'	1 thru 10

DESCRIPTION:
Single conductor stranded tinned copper, heavy wall thermoplastic insulation.

***STOCK COLORS**
(1) WHITE
(2) BLACK
(3) RED
(4) GREEN
(5) YELLOW
(6) LIGHT BLUE
(7) BROWN
(8) ORANGE
(9) GRAY (slate)
(10) VIOLET (purple)



TYPE HW (HEAVY WALL)—superseding SRHV

1571	HW-C 22(7)U	22	7/30	.032"	2500	.103"	1000'	1 thru 10
1571Q	HW-C 22(7)U	22	7/30	.032"	2500	.103"	100'	1 thru 10
1573	HW-C 20(10)U	20	10/30	.032"	2500	.108"	1000'	1 thru 10
1573Q	HW-C 20(10)U	20	10/30	.032"	2500	.108"	100'	1 thru 10
1575	HW-C 18(16)U	18	16/30	.032"	2500	.120"	1000'	1 thru 10
1575Q	HW-C 18(16)U	18	16/30	.032"	2500	.120"	100'	1 thru 10
1577	HW-C 16(26)U	16	26/30	.032"	2500	.134"	1000'	1 thru 3
1577Q	HW-C 16(26)U	16	26/30	.032"	2500	.134"	100'	1 thru 3
1579	HW-C 14(41)U	14	41/30	.045"	2500	.170"	1000'	1 thru 3
1579Q	HW-C 14(41)U	14	41/30	.045"	2500	.170"	100'	1 thru 3
1651	HW-C 12(65)U	12	65/30	.045"	2500	.190"	1000'	1 thru 3
1651Q	HW-C 12(65)U	12	65/30	.045"	2500	.190"	100'	1 thru 3
1653	HW-C 10(105)U	10	105/30	.045"	600	.215"	1000'	1 thru 3
1653Q	HW-C 10(105)U	10	105/30	.045"	600	.215"	100'	1 thru 3
1655	HW-C 8(133)U	8	133/29	.045"	600	.265"	1000'	1 thru 3
1655Q	HW-C 8(133)U	8	133/29	.045"	600	.265"	100'	1 thru 3
1657	HW-C 6(133)U	6	133/27	.045"	600	.310"	1000'	1 thru 3
1657Q	HW-C 6(133)U	6	133/27	.045"	600	.310"	100'	1 thru 3

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PLASTIC HOOK-UP WIRE — GLASS BRAID
SPECIFICATION MIL-W-76A (superseding JAN-C-76)

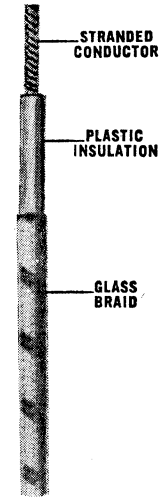
STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

TYPE MW (MEDIUM WALL)—GLASS BRAID
(superseding SRIR and WL Glass Braid)

ALPHA NO.	OLD ALPHA WL NO.	MIL-W-76A TYPE DESIGNA.	COND SIZE	COND. STRAND	NOM. INSUL.	VOLT. RATE.	NOM. O.D.	STAND. P.U.	*STOCK COLORS
1590	1490	MW-C 22(7)B	22	7/30	.016"	1000	.080"	1000'	1 thru 19
1590Q	1490Q	MW-C 22(7)B	22	7/30	.016"	1000	.080"	100'	1 thru 19
1591	1491	MW-C 20(10)B	20	10/30	.016"	1000	.090"	1000'	1 thru 19
1591Q	1491Q	MW-C 20(10)B	20	10/30	.016"	1000	.090"	100'	1 thru 19
1592	1492	MW-C 18(16)B	18	16/30	.016"	1000	.100"	1000'	1 thru 19
1592Q	1492Q	MW-C 18(16)B	18	16/30	.016"	1000	.100"	100'	1 thru 19
1593	1493	MW-C 16(26)B	16	26/30	.016"	1000	.115"	1000'	1 thru 19
1593Q	1493Q	MW-C 16(26)B	16	26/30	.016"	1000	.115"	100'	1 thru 19
1594	1494	MW-C 14(41)B	14	41/30	.016"	1000	.125"	1000'	1 thru 10
1594Q	1494Q	MW-C 14(41)B	14	41/30	.016"	1000	.125"	100'	1 thru 10
1595	1495	MW-C 12(65)B	12	65/30	.016"	1000	.140"	1000'	1 thru 10
1595Q	1495Q	MW-C 12(65)B	12	65/30	.016"	1000	.140"	100'	1 thru 10

TYPE HW (HEAVY WALL)—GLASS BRAID
(superseding SRHV—Glass Braid)

1598	1496	HW-C 10(105)B	10	105/30	.045"	600	.235"	1000'	1 thru 3
1598Q	1496Q	HW-C 10(105)B	10	105/30	.045"	600	.235"	100'	1 thru 3
1599	——	HW-C 8(133)B	8	133/29	.045"	600	.290"	1000'	1 thru 3
1599Q	——	HW-C 8(133)B	8	133/29	.045"	600	.290"	100'	1 thru 3
1599/6	——	HW-C 6(133)B	6	133/27	.045"	600	.340"	1000'	1 thru 3
1599/6Q	——	HW-C 6(133)B	6	133/27	.045"	600	.340"	100'	1 thru 3



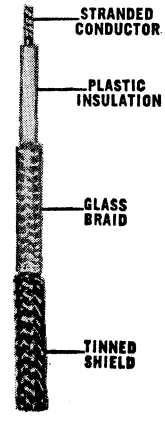
DESCRIPTION:
Single conductor stranded tinned copper, thermoplastic insulation, glass braid overall.

***STOCK COLORS**
(1) WHITE
(2) WHITE/BLACK
(3) WHITE/RED
(4) WHITE/GREEN
(5) WHITE/YELLOW
(6) WHITE/BLUE
(7) WHITE / BROWN
(8) WHITE / ORANGE
(9) WHITE / GRAY
(10) WHITE / VIOLET
(11) BLACK
(12) RED
(13) GREEN
(14) YELLOW
(15) BLUE
(16) BROWN
(17) ORANGE
(18) GRAY
(19) VIOLET

SHIELDED HOOK-UP WIRE—SPECIFICATION MIL-W-76A
GLASS BRAID OVER PLASTIC INSULATION
(superseding JAN-C-76) STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

TYPE MW (MEDIUM WALL)—GLASS BRAID, SHIELDED

ALPHA NO.	MIL-W-76A TYPE DESIGNA.	COND. SIZE	COND. STRAND	NOM. INSUL.	VOLT. RATE.	NOM. O.D.
1361	MW-C 22(7)BS	22	7/30	.016"	1000	.095"
1362	MW-C 20(10)BS	20	10/30	.016"	1000	.108"
1363	MW-C 18(16)BS	18	16/30	.016"	1000	.124"
1364	MW-C 16(26)BS	16	26/30	.016"	1000	.133"
1365	MW-C 14(41)BS	14	41/30	.016"	1000	.144"
1366	MW-C 12(65)BS	12	65/30	.016"	1000	.168"
1367	HW-C 10(105)BS	10	105/30	.045"	600	.265"



DESCRIPTION:
Single conductor stranded tinned copper, thermoplastic insulation, lacquered glass braid, tinned copper shield overall.

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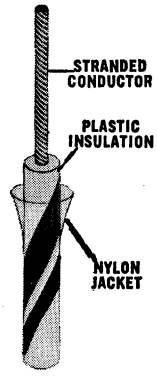
PLASTIC HOOK-UP WIRE—NYLON JACKET
SPECIFICATION MIL-W-76A (superseding JAN-C-76)

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:
Single conductor stranded tinned copper, thermoplastic insulation, nylon jacket overall.

*STOCK COLORS:
(1) WHITE
(2) BLACK
(3) RED
(4) GREEN
(5) YELLOW
(6) BLUE
(7) BROWN
(8) ORANGE
(9) GRAY
(10) VIOLET
(11) WHITE / BLACK
(12) WHITE / RED
(13) WHITE / GREEN
(14) WHITE / YELLOW
(15) WHITE / BLUE
(16) WHITE / BROWN
(17) WHITE / ORANGE
(18) WHITE / GRAY
(19) WHITE / VIOLET



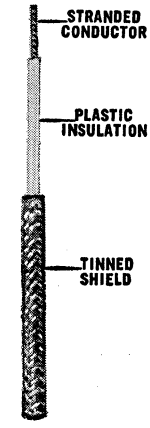
TYPE MW (MEDIUM WALL)—NYLON JACKET
(superseding WL-Nylon Jacket)

ALPHA NO.	MIL-W-76A TYPE DESIGNA.	COND. SIZE	COND. STRAND	NOM. INSUL.	VOLT. RATE.	NOM. O.D.	STAND. P.U.	*STOCK COLORS
1504	MW-C 22(7)J	22	7/30	.016"	1000	.075"	1000'	1 thru 19
1504Q	MW-C 22(7)J	22	7/30	.016"	1000	.075"	100'	1 thru 19
1505	MW-C 20(10)J	20	10/30	.016"	1000	.090"	1000'	1 thru 19
1505Q	MW-C 20(10)J	20	10/30	.016"	1000	.090"	100'	1 thru 19
1506	MW-C 18(16)J	18	16/30	.016"	1000	.103"	1000'	1 thru 19
1506Q	MW-C 18(16)J	18	16/30	.016"	1000	.103"	100'	1 thru 19
1507	MW-C 16(26)J	16	26/30	.016"	1000	.115"	1000'	1 thru 19
1507Q	MW-C 16(26)J	16	26/30	.016"	1000	.115"	100'	1 thru 19
1508	MW-C 14(41)J	14	41/30	.016"	1000	.125"	1000'	1 thru 6
1508Q	MW-C 14(41)J	14	41/30	.016"	1000	.125"	100'	1 thru 6
1509	MW-C 12(65)J	12	65/30	.016"	1000	.140"	1000'	1 thru 3
1509Q	MW-C 12(65)J	12	65/30	.016"	1000	.140"	100'	1 thru 3

SHIELDED PLASTIC HOOK-UP WIRE—
SPECIFICATION MIL-W-76A (superseding JAN-C-76)

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:
Single conductor stranded tinned copper, thermoplastic insulation, tinned copper shield overall.



TYPE MW (MEDIUM WALL) SHIELDED

ALPHA NO.	MIL-W-76A TYPE DESIGNA.	COND. SIZE	COND. STRAND	NOM. INSUL.	VOLT. RATE.	NOM. O.D.
1350	MW-C 24(7)S	24	7/32	.016"	1000	.075"
1351	MW-C 22(7)S	22	7/30	.016"	1000	.085"
1352	MW-C 20(10)S	20	10/30	.016"	1000	.095"
1353	MW-C 18(16)S	18	16/30	.016"	1000	.105"
1354	MW-C 16(26)S	16	26/30	.016"	1000	.120"
1355	MW-C 14(41)S	14	41/30	.016"	1000	.135"
1356	MW-C 12(65)S	12	65/30	.016"	1000	.155"

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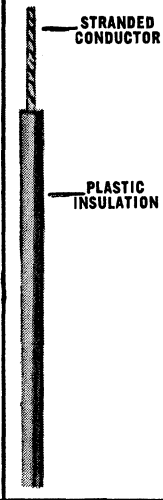
HIGH TEMPERATURE PLASTIC HOOK-UP WIRE— SPECIFICATION MIL-W-16878A

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

APPLICATIONS: For miniature and sub-miniature high temperature hook-ups.

ALPHA NO.	MIL-W-16878A DESIGNATION TYPE	COND. SIZE	COND. STRAND	NOMINAL INSULATION	VOLTAGE RATING	NOM. O.D.	*STOCK COLORS
1851	B-30	30	7/38	.010"	600	.032"	1 thru 19
1852	B-28	28	7/36	.010"	600	.035"	1 thru 19
1853	B-26	26	7/34	.010"	600	.038"	1 thru 19
1854	B-24	24	7/32	.010"	600	.043"	1 thru 10
1855	B-22	22	7/30	.010"	600	.049"	1 thru 10
1856	B-20	20	10/30	.010"	600	.060"	1 thru 10
1857	B-18	18	16/30	.010"	600	.071"	1 thru 10
1858	B-16	16	26/30	.010"	600	.081"	1 thru 10



DESCRIPTION:
Single conductor stranded tinned copper, 100°C high temperature vinyl thermoplastic light wall insulation.

***STOCK COLORS:**
(1) WHITE
(2) BLACK
(3) RED
(4) GREEN
(5) YELLOW
(6) BLUE
(7) BROWN
(8) ORANGE
(9) GRAY
(10) VIOLET
(11) WHITE/BLACK
(12) WHITE/RED
(13) WHITE/GREEN
(14) WHITE/YELLOW
(15) WHITE/BLUE
(16) WHITE/BROWN
(17) WHITE/ORANGE
(18) WHITE/GRAY
(19) WHITE/VIOLET

PLASTIC NYLON JACKETED HOOK-UP WIRE— SPECIFICATIONS MIL-W-5086 AND MIL-C-7078

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

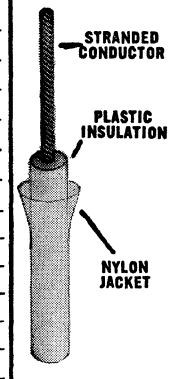
APPLICATIONS: Use wherever a single conductor, 600 volt insulated, aircraft electrical wire is needed. Resistant to: abrasion, moisture, cold, heat, flame, fungus, oil, salt water.

UNSHIELDED (MIL-W-5086)

ALPHA NO.	MIL TYPE DESIGNATION	COND. SIZE	COND. STRAND	VOLTAGE RATING	NOM. O.D
1381	AN-22	22	19/34	600	.080"
1382	AN-20	20	19/32	600	.090"
1383	AN-18	18	19/30	600	.105"
1384	AN-16	16	19/29	600	.120"
1385	AN-14	14	19/27	600	.138"
1386	AN-12	12	19/25	600	.157"
1387	AN-10	10	37/25	600	.193"
1388	AN-8	8	133/29	600	.248"
•1389	AN-6	6	133/27	600	.289"
•1389/4	AN-4	4	133/25	600	.338"
•1389/2	AN-2	2	646/30	600	.412"
•1389/0	AN-0	0	1045/30	600	.518"
•1389/00	AN-00	00	1330/30	600	.588"

SHIELDED (MIL-C-7078)

1391	AN-22	22	19/34	600	.100"
1392	AN-20	20	19/32	600	.110"
1393	AN-18	18	19/30	600	.125"
1394	AN-16	16	19/29	600	.140"
1395	AN-14	14	19/27	600	.160"
1396	AN-12	12	19/25	600	.178"



DESCRIPTION:
MIL-W-5086—Single conductor stranded tinned copper, white plastic insulation, nylon jacket overall. Superseding AN-J-C-48A
MIL-C-7078—Single conductor stranded tinned copper, white plastic insulation, nylon jacket, braided tinned copper shield overall. Superseding AN-C-168

• Nylon lacquered glass braid over plastic insulation instead of nylon jacket.

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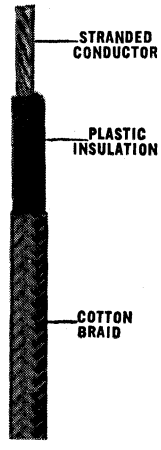
COMMERCIAL PLASTIC HOOK-UP WIRE—COTTON BRAID

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

APPLICATIONS: Hook-up wire in various bright colors for circuit identification. Radio. Radar. Electronics. Electrical toys. Model railroads.

DESCRIPTION:
Single conductor stranded tinned copper, plastic insulation, lacquered cotton braid overall.

***STOCK COLORS:**
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—SLATE
10—PURPLE



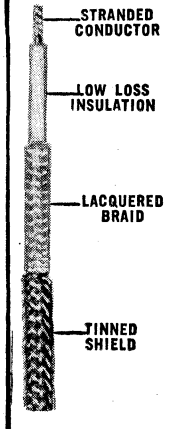
ALPHA NO.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.	STANDARD PUT-UP	*STOCK COLORS
1480	22	7/30	.016"	.090"	100′	1 thru 10
1480Q	22	7/30	.016"	.090"	1000′	1 thru 10
1481	20	10/30	.016"	.100"	100′	1 thru 10
1481Q	20	10/30	.016"	.100"	1000′	1 thru 10
1482	18	16/30	.016"	.110"	1000′	1 thru 10
1482Q	18	16/30	.016"	.110"	100′	1 thru 10
1483	16	26/30	.016"	.125"	1000′	1 thru 10
1483Q	16	26/30	.016"	.125"	100′	1 thru 10
1484	14	41/30	.016"	.140"	1000′	1 thru 3
1484Q	14	41/30	.016"	.140"	100′	1 thru 3
1485	12	65/30	.016"	.170"	1000′	1 thru 3
1485Q	12	65/30	.016"	.170"	100′	1 thru 3

COMMERCIAL SHIELDED HOOK-UP WIRE

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

APPLICATIONS: To reduce interference caused by motors, high tension wires, x-ray machines or other apparatus that radiates electrical impulses. Ideal for grid-lead use.

DESCRIPTION:
Single conductor stranded tinned copper, low loss insulation, highly lacquered braid, close tinned copper shield overall.



SHIELD OVERALL

ALPHA NO.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.
1194/22	22	7/30	.016"	.095"
1194	20	10/30	.016"	.105"
1196	18	16/30	.016"	.125"
1197	16	26/30	.016"	.135"
1198	14	41/30	.016"	.155"
1199	12	65/30	.016"	.175"
1199/10	10	105/30	.045"	.270"

DESCRIPTION:
Single conductor stranded tinned copper, low loss insulation, close tinned copper shield, plastic jacket overall.

PLASTIC JACKET OVER SHIELD

ALPHA NO.	COND. SIZE	COND. STRAND.	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1208	24	10/34	.016"	.032"	.150"
1210	20	26/34	.030"	.032"	.175"

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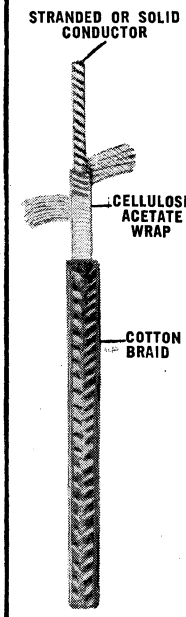
COMMERCIAL "CL" PUSHBACK WIRE—COTTON BRAID

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

STRANDED

ALPHA NO.	COND. SIZE	COND. STRAND	VOLT. BREAKDOWN (60 CYCLES)	NOM. O.D.	STANDARD PUT-UP	*STOCK COLORS
1460	22	7/30	1000	.065"	1000′	1 thru 8
1460Q	22	7/30	1000	.065"	100′	1 thru 8
1461	20	10/30	1000	.070"	1000′	1 thru 8
1461Q	20	10/30	1000	.070"	100′	1 thru 8
1462	18	16/30	1000	.082"	1000′	1 thru 8
1462Q	18	16/30	1000	.082"	100′	1 thru 8
1463	16	26/30	1000	.093"	1000′	1 and 2
1463Q	16	26/30	1000	.093"	100′	1 and 2
1464	14	41/30	1000	.105"	1000′	1 and 2
1464Q	14	41/30	1000	.105"	100′	1 and 2
			SOLID			
1465	22 Solid	1	1000	.060"	1000′	1 thru 8
1465Q	22 Solid	1	1000	.060"	100′	1 thru 8
1466	20 Solid	1	1000	.065"	1000′	1 thru 8
1466Q	20 Solid	1	1000	.065"	100′	1 thru 8
1467	18 Solid	1	1000	.075"	1000′	1 thru 8
1467Q	18 Solid	1	1000	.075"	100′	1 thru 8
1468	16 Solid	1	1000	.085"	1000′	1 and 2
1468Q	16 Solid	1	1000	.085"	100′	1 and 2
1469	14 Solid	1	1000	.095"	1000′	1 and 2
1469Q	14 Solid	1	1000	.095"	100′	1 and 2



DESCRIPTION:
Single conductor stranded or solid tinned copper, heavy wrap of cellulose acetate, cotton braid with flame-retarding lacquer.

***STOCK COLORS**
1—BLACK
2—RED
3—GREEN
4—YELLOW
5—BLUE
6—BROWN
7—WHITE
8—ORANGE

TINNED COPPER SHIELDING

STANDARD SPOOL PUT-UP: 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT

ALPHA NO.	SIZES OF WIRES	APPROX. I.D.
1221	36 AWG	.025"
1222	36 AWG	.035"
1223	36 AWG	3/64"
1224	36 AWG	3/32"
2229	36 AWG	7/64"
1229	36 AWG	1/8"
1230	36 AWG	3/16"
1231	36 AWG	1/4"
1232	36 AWG	3/8"
1233/2	36 AWG	1/2"
1233	36 AWG	5/8"
1234	36 AWG	3/4"
2234	36 AWG	25/32"
1235	36 AWG	1"
1239	36 AWG	1-3/8"

DESCRIPTION:
Very fine soft annealed tinned copper wires braided and rolled flat.

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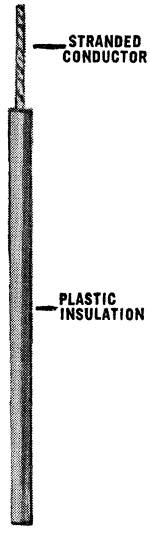
SUB-MINIATURE WIRE AND CABLE — HIGH TEMP. 105°C

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Wherever a fine hook-up wire is required for: instrumentation projects, electro-medical apparatus, computers, transistor circuits, photo-electric cell circuits, sub-miniaturization programs, strain gauges,, slip ring assemblies.



DESCRIPTION:
Single or multi-conductor stranded tinned copper, 105°C high temperature vinyl thermoplastic insulation.
When jacketed, a clear vinyl thermoplastic jacket is over cabled conductors.

***STOCK COLORS:**
(1) WHITE
(2) BLACK
(3) RED
(4) GREEN
(5) YELLOW
(6) BLUE
(7) BROWN
(8) ORANGE
(9) GRAY
(10) VIOLET
(11) WHITE/BLACK
(12) WHITE/RED
(13) WHITE/GREEN
(14) WHITE/YELLOW
(15) WHITE/BLUE
(16) WHITE/BROWN
(17) WHITE/ORANGE
(18) WHITE/GRAY
(19) WHITE/VIOLET

UNSHIELDED

SINGLE CONDUCTOR

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOM. O.D.	*STOCK COLORS
1606	1	30	7/38	.010"	.032"	1 thru 19
1607	1	28	7/36	.010"	.035"	1 thru 19
1609	1	26	7/34	.010"	.038"	1 thru 19
1610	1	24	16/36	.016"	.056"	1 thru 10

MULTI-CONDUCTOR (no jacket overall)

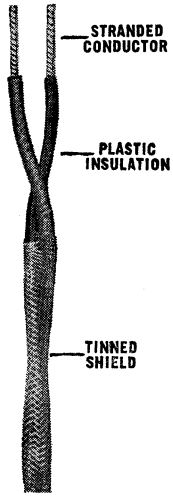
ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
2606	2	30	7/38	.010"	—	.061"
3606	3	30	7/38	.010"	—	.067"
4606	4	30	7/38	.010"	—	.075"

COLOR CODE OF CONDUCTORS: 1—BLACK 2—RED 3—WHITE 4—GREEN

MULTI-CONDUCTOR (plastic jacket overall)

2607	2	28	7/36	.010"	.010"	.081"
3607	3	28	7/36	.010"	.010"	.088"
4607	4	28	7/36	.010"	.010"	.097"

COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE, 4—GREEN



DESCRIPTION:
Single or multi-conductor stranded tinned copper, 105°C high temperature vinyl thermoplastic insulation, tinned copper shield.
When jacketed, a clear vinyl thermoplastic jacket is over tinned copper shield.

SHIELDED

SINGLE CONDUCTOR (no jacket overall)

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	NOMINAL JACKET	NOM. O.D.
1332	1	30	7/38	.010"	—	.055"
1334	1	28	7/36	.010"	—	.059"
1336	1	26	7/34	.010"	—	.063"
1337	1	24	16/36	.016"	—	.075"

MULTI-CONDUCTOR (no jacket overall)

2337	2	24	16/36	.016"	—	.118"
3337	3	24	16/36	.016"	—	.125"
4337	4	24	16/36	.016"	—	.145"

COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE, 4—GREEN

MULTI-CONDUCTOR (plastic jacket overall)

2334	2	28	7/36	.010"	.010"	.138"
3334	3	28	7/36	.010"	.010"	.146"
4334	4	28	7/36	.010"	.010"	.165"

COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE, 4—GREEN

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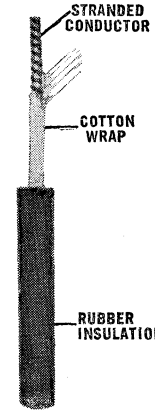
KINKLESS TEST LEAD WIRE

STANDARD SPOOL PUT UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: As test leads in analyzers, oscillators, multi-meters, and all other types of testing apparatus or wherever an Extra Flexible insulated wire is required. Heavy Duty type designed for television, therapeutic equipment, analyzers, oscillators, etc.

STANDARD TYPE

ALPHA NO.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	VOLTAGE BREAKDWON (60 CYCLES)	NOM. O.D.	STANDARD PUT-UP
9635Q	20	41/36	.044"	8,500	.135"	100′
9635	20	41/36	.044"	8,500	.135"	500′
1633	20	41/36	.047"	10,000	.140"	100′
1635	20	41/36	.047"	10,000	.140"	500′
1636Q	18	65/36	.047"	12,000	.150"	100′
1636	18	65/36	.047"	12,000	.150"	500′
HEAVY DUTY TYPE						
1637	18	65/36	.109"	22,000	.245"	100′
1638	18	65/36	.109"	22,000	.245"	500′



DESCRIPTION:
Single conductor extra flexible tinned soft annealed copper, concentric strand, cotton wrap, rubber insulation, satin finish.

STOCK COLORS:
RED
BLACK

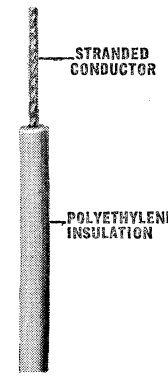
HI-VOLTAGE & CATHODE RAY WIRE

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: Designed for high-voltage leads for all applications, especially for cathode ray tubes in television receivers and oscilloscopes. Shielded type used to minimize RF radiation in transmitters, X-ray and diathermy equipment. CHARACTERISTICS: High dielectric strength. Resistant to heat, flame and moisture.

UNSHIELDED

ALPHA NO.	COND. SIZE	COND. STRAND	NOMINAL INSULATION	VOLTAGE RATING	NOM. O.D.
1641	20	10/30	.047"	10,000	.125"
1642	20	10/30	.063"	20,000	.170"
1645	18	16/30	.095"	40,000	.230"
SHIELDED					
1649	18	16/30	.095"	40,000	.260"



DESCRIPTION:
UNSHIELDED—Single conductor stranded tinned copper, special white polyethylene insulation.

DESCRIPTION:
SHIELDED—Single conductor 18 AWG stranded tinned copper, special white polyethylene insulation, tinned copper shield overall.

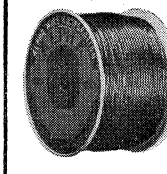
ANTENNA—AERIAL WIRE

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

APPLICATIONS: Recommended especially for ship, short-wave and transmitter antennas where high tensile strength and corrosion resistance is required.

BRONZE TYPE

ALPHA NO.	COND. SIZE	COND. STRAND	BREAKING STRENGTH	NOM. O.D.
1160	14	7/22	420 Lbs.	.075"
1161	12	7/20	650 Lbs.	.100"
1163	10	7/18	1000 Lbs.	.122"
1164	8	7/16	1600 Lbs.	.150"
1165	6	7/14	2140 Lbs.	.190"
1166	4	7/12	3670 Lbs.	.240"



ANTENNA WIRE

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DESCRIPTION:
Pure electrolytic solid or stranded copper properly annealed and tinned for quick soldering.

TINNED COPPER WIRE

TINNED COPPER WIRE

APPLICATIONS: Winding of coils. Antennas. Point to point wiring. Bus-bar. Component leads. Ground wire.

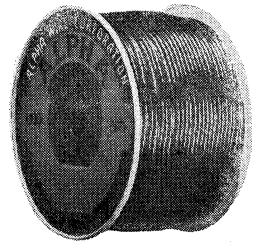
SOLID

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

ALPHA NO.	COND. SIZE	CIRCULAR MIL AREA	NOM. O.D.
299/5	34 AWG	39.75	.006"
299/4	32 AWG	63.21	.008"
299/3	30 AWG	100.5	.010"
299/2	28 AWG	159.8	.013"
299/1	26 AWG	254.1	.016"
299	24 AWG	404.0	.020"
298	22 AWG	642.4	.025"
297	20 AWG	1022	.033"
296	18 AWG	1642	.040"
295	16 AWG	2583	.051"
286	14 AWG	4107	.065"
289	12 AWG	6530	.082"
292	10 AWG	10380	.103"
292/8	8 AWG	16510	.129"
292/6	6 AWG	26250	.162"

BUS-BAR (ROUND)—2 FOOT LENGTHS
(100 LENGTHS PER PACKAGE)

2082	14 AWG	4107	.065"
2080	12 AWG	6530	.082"
2078	10 AWG	10380	.103"


STRANDED
TINNED COPPER WIRE

STRANDED

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

ALPHA NO.	COND. SIZE	COND. STRAND	CIRCULAR MIL AREA	NOM. O.D.
199	24 AWG	7/32	442.47	.025"
198	22 AWG	7/30	703.5	.030"
197	20 AWG	10/30	1005.0	.037"
196	18 AWG	16/30	1608.0	.045"
195	16 AWG	26/30	2613.0	.059"
193	14 AWG	41/30	4120.5	.073"
192	12 AWG	65/30	6532.5	.091"

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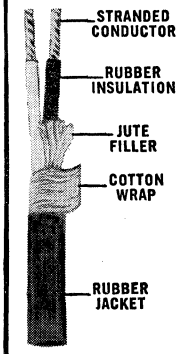
RUBBER SHEATHED SERVICE CORD (UNDERWRITERS APPROVED)

STANDARD PUT-UP: 25 FT., , 50 FT., 100 FT., 250 FT.

APPLICATIONS: For amplifiers, sound systems, speakers, vacuum cleaners, electric tools, washing machines, refrigerators, appliances, trouble lights, garage lamps or wherever a rough usage power line is required.

ALPHA NO.	NO. OF COND.	COND. SIZE	U/L TYPE	CURRENT CARRYING CAPACITY	VOLTAGE RATING	NOM. O.D.
1951	2	18	SV	5 amps	300	.250"
1952	2	18	SJ	5 amps	300	.310"
1952/3	3	18	SJ	5 amps	300	.345"
1953	2	16	SJ	7 amps	300	.340"
1953/3	3	16	SJ	7 amps	300	.375"
1954	2	18	S	5 amps	600	.390"
1954/3	3	18	S	5 amps	600	.405"
1955	2	16	S	7 amps	600	.410"
1955/3	3	16	S	7 amps	600	.430"
1956	2	14	S	15 amps	600	.540"
1956/3	3	14	S	15 amps	600	.560"
1957	2	12	S	20 amps	600	.605"
1957/3	3	12	S	20 amps	600	.635"
1958	2	10	S	25 amps	600	.640"
1958/3	3	10	S	25 amps	600	.690"



DESCRIPTION:
Each conductor stranded bare copper, cotton separator, 1/32" rubber insulation, conductors color coded and twisted, cushioned with jute fillers, tough rubber jacket overall.

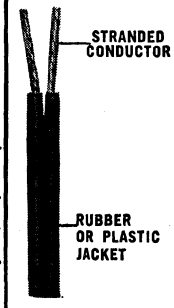
COLOR CODE OF CONDUCTORS:
1—WHITE
2—BLACK
3—GREEN

E-Z STRIP LAMP CORD (UNDERWRITERS APPROVED)

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: For line cord on radios, lamps, electric clocks, food mixers and other small instruments and appliances.

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	INSULATION TYPE	U/L TYPE	NOM. O.D.	*STOCK COLORS
1967	2	18	41/34	Rubber	SP-1 (POSJ)	.235" x .130"	1 thru 3
1977	2	18	41/34	Plastic	SPT-1(POT)	.235" x .130"	1 thru 8



DESCRIPTION:
Two conductors parallel, 18 AWG stranded extra flexible bare copper, rubber or plastic jacket overall. Slit in jacket to permit "E-Z" separation.

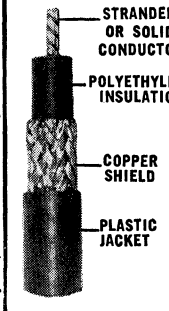
***STOCK COLORS:**
(1) BROWN
(2) BLACK
(3) WHITE
(4) GRAY
(5) PINK
(6) LIGHT BLUE
(7) YELLOW
(8) GREEN

RG-COAXIAL CABLE

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS: For radio frequency applications wherever a low capacitance shielded cable is required.

ALPHA NO.	RG TYPE	COND. SIZE	CONDUCTOR STRAND & TYPE	NOMINAL IMPEDANCE	CAPACITANCE PER FT.	NOM. O.D.
1803	RG-8/U	13	7/21 Bare Copper	52.0 ohms	29.5 mmf.	.405"
1806	RG-11/U	18	7/26 Tinned Copper	75.0 ohms	20.5 mmf.	.405"
1825	RG-58/U	20	Solid Bare Copper	53.5 ohms	28.5 mmf.	.195"
1827	RG-59/U	22	Solid Copperweld	73.0 ohms	21.0 mmf.	.242"



DESCRIPTION:
Single conductor, polyethylene insulation, braided copper shield, plastic jacket overall.

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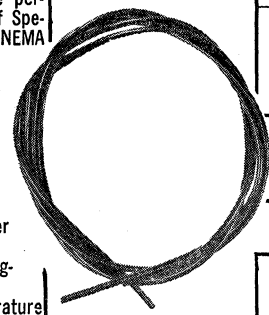
ALPHLEX PVC-105 (Plastic Tubing):

Made of especially compounded resins to offer an extraordinary combination of excellent qualities including high dielectric strength, flexibility, non-flammability, abrasion resistance, oil and chemical resistance, heat stability and resistance to aging. It is specifically recommended for applications involving higer than normal operating temperatures and is approved by the Underwriters' Laboratories for 105°C applications. It is compounded with non-migratory resinous type plasticizers and exhibits exceptional oil resistance characteristics. Conforms to the performance requirements of specifications MIL-I-631B. ASTM-D876, ASTM-D922.

ALPHLEX PIF-130 (Plastic Impregnated Fiberglass Tubing):

Class B insulation combining the advantages of an inorganic fiberglass base sleeving with the most desirable characteristics of a heat-resistant, very flexible plastic insulation. The plastic compound is formulated to provide the maximum in electrical characteristics, heat stability (130°C), flexibility and toughness. This tubing and sleeving conforms to the performance requirements of Specifications MIL-I-3190, NEMA VS1, ASTM D372.



OTHER TYPES OF AVAILABLE ALPHLEX TUBING & SLEEVING

SRF-200 — Silicone Rubber Coated Fiberglass Tubing.
SFS-400 — Silicone Impregnated Fiberglass Sleeving.
HTF-1200 — High Temperature Fiberglass Sleeving.
PVC-60 — Low Temperature Plastic Tubing.
PLE-70 — Polyethylene Tubing.
VTS-135 — Varnish Impregnated Tubing and Sleeving.

For Full Specifications of Complete Insulating Tubing & Sleeving Items Write For ALPHLEX CATALOG.

***STOCK COLORS**
(1) CLEAR
(2) BLACK
(3) RED
(4) YELLOW
(5) GREEN
(6) BLUE
(7) BROWN
(8) WHITE
(9) ORANGE

ALPHLEX TUBING & SLEEVING

SIZE	NOM. I.D.	ALPHLEX Plastic Tubing No.	*STOCK COLORS	ALPHLEX Plastic Fiberglass No.	*STOCK COLORS
24	.022"	PVC-105-24	1 thru 9	PIF-130-24	2, 3, 4
22	.027"	PVC-105-22	1 thru 9	PIF-130-22	2, 3, 4
20	.034"	PVC-105-20	1 thru 9	PIF-130-20	2, 3, 4
19	.038"	PVC-105-19	1 thru 9	PIF-130-19	2, 3, 4
18	.042"	PVC-105-18	1 thru 9	PIF-130-18	2, 3, 4
17	.047"	PVC-105-17	1 thru 9	PIF-130-17	2, 3, 4
16	.053"	PVC-105-16	1 thru 9	PIF-130-16	2, 3, 4
15	.059"	PVC-105-15	1 thru 9	PIF-130-15	2, 3, 4
14	.066"	PVC-105-14	1 thru 9	PIF-130-14	2, 3, 4
13	.076"	PVC-105-13	1 thru 9	PIF-130-13	2, 3, 4
12	.085"	PVC-105-12	1 thru 9	PIF-130-12	2, 3, 4
11	.095"	PVC-105-11	1 thru 6	PIF-130-11	2, 3, 4
10	.106"	PVC-105-10	1 thru 6	PIF-130-10	2, 3, 4
9	.118"	PVC-105-9	1 thru 6	PIF-130-9	2, 3, 4
8	.133"	PVC-105-8	1 thru 6	PIF-130-8	2, 3, 4
7	.148"	PVC-105-7	1 thru 6	PIF-130-7	2, 3, 4
6	.166"	PVC-105-6	1 thru 6	PIF-130-6	2, 3, 4
5	.186"	PVC-105-5	1 thru 6	PIF-130-5	2, 3, 4
4	.208"	PVC-105-4	1 thru 6	PIF-130-4	2, 3, 4
3	.234"	PVC-105-3	1 thru 6	PIF-130-3	2, 3, 4
2	.263"	PVC-105-2	1 thru 6	PIF-130-2	2, 3, 4
1	.294"	PVC-105-1	1, 2	PIF-130-1	2, 3, 4
5/16"	.312"	PVC-105-5/16"	1, 2	PIF-130-5/16"	2, 3, 4
0	.330"	PVC-105-0	1, 2	PIF-130-0	2, 3, 4
3/8"	.375"	PVC-105-3/8"	1, 2	PIF-130-3/8"	2, 3, 4
7/16"	.438"	PVC-105-7/16"	1, 2	PIF-130-7/16"	2, 3, 4
1/2"	.500"	PVC-105-1/2"	1, 2	PIF-130-1/2"	2, 3, 4
9/16"	.562"	PVC-105-9/16"	1, 2	PIF-130-9/16"	2, 3, 4
5/8"	.625"	PVC-105-5/8"	1, 2	PIF-130-5/8"	2, 3, 4
3/4"	.750"	PVC-105-3/4"	1, 2	PIF-130-3/4"	2, 3, 4
7/8"	.875"	PVC-105-7/8"	1, 2	PIF-130-7/8"	2, 3, 4
1"	1.000"	PVC-105-1"	1, 2	PIF-130-1"	2, 3, 4
1-1/8"	1.125"	PVC-105-1-1/8"	1, 2	— — — —	— — —
1-1/4"	1.250"	PVC-105-1-1/4"	1, 2	— — — —	— — —
1-3/8"	1.375"	PVC-105-1-3/8"	1, 2	— — — —	— — —
1-1/2"	1.500"	PVC-105-1-1/2"	1, 2	— — — —	— — —
1-3/4"	1.750"	PVC-105-1-3/4"	1, 2	— — — —	— — —
2"	2.000"	PVC-105-2"	1, 2	— — — —	— — —
2-1/4"	2.250"	PVC-105-2-1/4"	1, 2	— — — —	— — —
2-1/2"	2.500"	PVC-105-2-1/2"	1, 2	— — — —	— — —

STANDARD PACKAGING

SIZES	Standard Put-Up Type PVC-105	Type PIF-130
No. 24 to 16	1000' spls. 500' spls. 100' spls.	1000' spls. 500' spls. 100' spls. 36" lengths
No. 14 to 6	500' spls. 100' spls.	500' spls. 100' spls. 36" lengths
No. 4 to 7/16"	250' spls. 100' spls.	250' spls. 100' spls. 36" lengths
No. 1/2"	100' coils	100' coils 36" lengths
Larger than 1/2"	50' coils	36" lengths

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ALPHA WIRE ServiceSpool PACKAGED WIRE line

ALPHA WIRE CORPORATION

Self-Service Wire Department for Electronics, Hi-Fi & Audio

ALPHA NO.	GENERAL DESCRIPTION	COND. SIZE	NOM. O.D.	*STOCK COLORS	APPROX. LENGTH
453A	Plastic Hook-Up Wire	#20 Str.	.073"	1 thru 6	25 Ft.
453C	Plastic Hook-Up Wire	#20 Str.	.073"	1 thru 6	100 Ft.
463A	Plastic Hook-Up Wire	#20 Sol.	.066"	1 thru 6	25 Ft.
463C	Plastic Hook-Up Wire	#20 Sol.	.066"	1 thru 5	100 Ft.
455A	Plastic Hook-Up Wire	#18 Str.	.084"	1 thru 3	12 Ft.
460A	Pushback Wire	#22 Str.	.065"	1 thru 6	20 Ft.
465A	Pushback Wire	#22 Sol.	.060"	1 thru 6	20 Ft.
435A	Rubber Test Lead Wire	#20 Str.	.135"	2 & 3	10 Ft.
438B	Hi-Volt. Rubber Test Lead	#18 Str.	.245"	2 & 3	15 Ft.
498A	Tinned Copper Bus-Bar	#22 Sol.	.025"	——	70 Ft.
497A	Tinned Copper Bus-Bar	#20 Sol.	.033"	——	50 Ft.
496A	Tinned Copper Bus-Bar	#18 Sol.	.040"	——	30 Ft.
411A	60/40 Rosin Core Solder	——	.059"	——	10 Ft.
413A	52 lb. Nylon Lacing Cord	——	——	1	35 Ft.
407A	105° C Miniature Hook-Up	#28 Str.	.035"	1 thru 3	30 Ft.
426A	2 Cond. Phono Arm Wire	#30 Str.	.061"	——	12 Ft.
436A	3 Cond. Phono Arm Wire	#30 Str.	.067"	——	8 Ft.
400A	Shielded Phono Wire	#24 Str.	.080"	——	8 Ft.
401A	Covered Shielded Phono	#24 Str.	.095"	7	7 Ft.
432A	Fine Shielded Phono Wire	#30 Str.	.055"	——	10 Ft.
481A	AC-DC Plastic Ant. Wire	#24 Str.	.047"	7	35 Ft.
422A	Alphlex Plastic Tubing	#22 I.D.	——	2,3,4,10	20 Ft.
420A	Alphlex Plastic Tubing	#20 I.D.	——	2,3,4,10	20 Ft.
418A	Alphlex Plastic Tubing	#18 I.D.	——	2,3,4,10	20 Ft.
414A	Alphlex Plastic Tubing	#14 I.D.	——	2,3,10	20 Ft.
408A	Alphlex Plastic Tubing	# 8 I.D.	——	10	10 Ft.
402A	Alphlex Plastic Tubing	# 2 I.D.	——	10	5 Ft.
499A	Light Nylon Dial Cable	——	.036"	2	15 Ft.
492A	Light Bronze Dial Cable	——	.036"	——	10 Ft.

ALPHA NO.	GENERAL DESCRIPTION	COND. SIZE	NOM. O.D.	*STOCK COLORS	APPROX. LENGTH
423A	Flat Braided Pig-Tail Wire	3/64" I.D.	——	——	10 Ft.
429A	Flat Tinned Shielding	1/8" I.D.	——	——	7 Ft.
431A	Flat Tinned Shielding	1/4" I.D.	——	——	4 Ft.
444A	Miniature Speaker Cable	#24 Str.	——	8	12 Ft.
452A	Shielded Hook-Up Wire	#20 Str.	.095"	——	7 Ft.
459A	Heavy Duty Filament Wire	#14 Str.	.110"	1, 3, 7	6 Ft.
441A	10,000V Cathode Ray Wire	#20 Str.	.125"	1	9 Ft.
442A	20,000V Cathode Ray Wire	#20 Str.	.170"	1	7 Ft.
445A	40,000 Cathode Ray Wire	#18 Str.	.230"	1	3 Ft.
403A	Lapel Mic./Hi-Fi Cable	#24 Str.	.145"	8	6 Ft.
403B	Lapel Mic./Hi-Fi Cable	#24 Str.	.145"	8	15 Ft.
403C	Lapel Mic./Hi-Fi Cable	#24 Str.	.145"	8	25 Ft.
404A	Microphone/Hi-Fi Cable	#24 Str.	.200"	8	5 Ft.
404B	Microphone/Hi-Fi Cable	#24 Str.	.200"	8	12 Ft.
404C	Microphone/Hi-Fi Cable	#24 Str.	.200"	8	20 Ft.
410C	2 Cond. Plastic Mic. Cable	#22 Str.	.235"	8	12 Ft.
456C	2 Wire Shielded Intercom	#20 Str.	.155"	——	20 Ft.
475C	2 Wire Shielded, Jacketed	#22 Sol.	.170"	8	25 Ft.
477B	Hi-Fi Spkr-U/L Line Cord	#18 Str.	——	1,4,7,8,9	22 Ft.
477C	Hi-Fi Spkr-U/L Line Cord	#18 Str.	——	1,4,7,8,9	35 Ft.
469B	2 Wire Plastic Intercom	#22 Sol.	.115"	——	40 Ft.
469C	2 Wire Plastic Intercom	#22 Sol.	.115"	——	70 Ft.
470B	3 Wire Plastic Intercom	#22 Sol.	.125"	——	30 Ft.
470C	3 Wire Plastic Intercom	#22 Sol.	.125"	——	50 Ft.
472B	2 Wire Jacketed Intercom	#22 Str.	.150"	8	25 Ft.
472C	2 Wire Jacketed Intercom	#22 Str.	.150"	8	45 Ft.
473B	3 Wire Jacketed Intercom	#22 Str.	.155"	8	20 Ft.
473C	3 Wire Jacketed Intercom	#22 Str.	.155"	8	35 Ft.
474C	4 Wire Jacketed Intercom	#22 Str.	.185"	8	25 Ft.

***STOCK COLORS: 1-WHITE, 2-BLACK, 3-RED, 4-YELLOW, 5-GREEN, 6-BLUE, 7-BROWN, 8-GREY, 9-PINK, 10-CLEAR**

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Radio & TV Wire Products

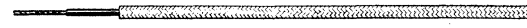
P.A. and sound system cables

1282 juke box speaker cable

24/2 7/32 stranded one conductor tinned one conductor bare copper. Parallel lay chrome vinyl insulation. Nominal O.D. .058" x 155". Put-up 500 ft. and 1000 ft. spools.

List Price $18.50 M. Weight 6 Lbs. per M. Ft.

1206 shielded connector cable



18/1 16/30 stranded tinned copper conductor .040" wall rubber insulation. Tinned copper braid shield. Nominal O.D. .155". Put-up 250 ft. spools.

List Price $60.00 M. Weight 24 Lbs. per M. Ft.

1283 juke box control cable

Three conductors twisted 2-#16 26/30 stranded tinned copper .020" vinyl plastic insulation color coded green and orange; 1-#20 10/30 stranded tinned copper .020" vinyl Plastic blue. Overall chrome vinyl jacket. Nominal O.D. .240". Put-up 500 ft. spools.

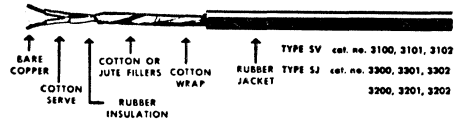
List Price $85.00 M. Weight 40 Lbs. per M. Ft.

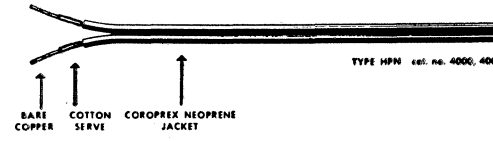
1934 extension wiring cable

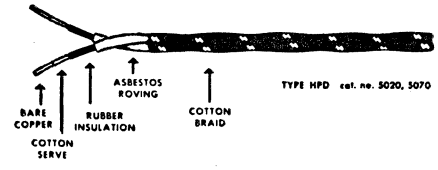
22/3 7/30 stranded tinned copper conductor .015" vinyl plastic insulation coded red, white and black. White conductor covered with tinned copper braid shield, black and red unshielded with .020" chrome vinyl plastic jacket. Nominal O.D. 185". Put-up 500 ft. and 1000 ft. spools.

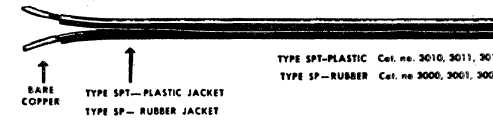
List Price $62.50 M. Weight 22 Lbs. per M. Ft.

flexible and portable cords









Catalog Number	AWG Size	UL Type	Number of Strands	Insulation Cond. In.	Thickness Jacket In.	Nominal Outside Diameter Inch	Current Carrying Capacity Amp.	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
3000	18/2	SP-1	41/34	2/64	—	.120x225	7	250' Spool	4 Spools	22	42.00
3001	18/2	SP-2	41/34	3/64	—	.150x285	7	250' Spool	4 Spools	36	63.00
3003	16/2	SP-2	65/34	3/64	—	.170x320	10	250' Spool	4 Spools	50	90.00
3010	18/2	SPT-1	41/34	2/64	—	.120x225	7	250' Spool	4 Spools	23	38.00
3011	18/2	SPT-2	41/34	3/64	—	.150x285	7	250' Spool	4 Spools	33	60.00
3012	16/2	SPT-2	65/34	3/64	—	.170x320	10	250' Spool	4 Spools	45	90.00
3100	18/2	SV	41/34	1/64	2/64	.250	7	250' Spool	4 Spools	42	85.00
3200	18/2	SJ	41/34	2/64	2/64	.305	7	250' Spool	4 Spools	54	100.00
3201	18/3	SJ	41/34	2/64	2/64	.345	7	250' Spool	4 Spools	73	150.00
3202	18/4	SJ	41/34	2/64	2/64	.360	5.6	250' Spool	1 Spool	96	215.00
3300	18/2	SJ	16/30	2/64	2/64	.305	7	250' Spool	4 Spools	54	94.00
3301	18/3	SJ	16/30	2/64	2/64	.345	7	250' Spool	4 Spools	73	140.00
5020	18/2	HPD	41/34	2/64	—	.274	10	250' Spool	4 Spools	32	89.00
5070	16/2	HPD	65/34	2/64	—	.301	15	250' Spool	4 Spools	42	110.00

Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.

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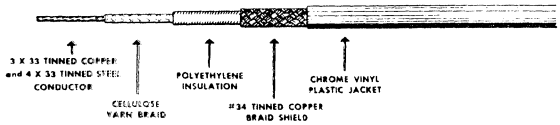
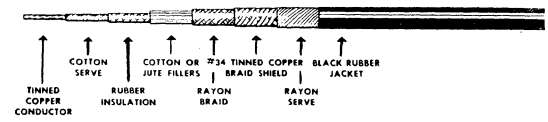
CORNISH Radio & TV Wire Products

microphone cables

Cornish Microphone Cables are available in plastic and rubber insulations. Plastic cables utilize polyethylene insulation on the conductor with outer vinyl plastic jacket. They are designed for low capacitance, high insulation resistance, low attenuation; and withstand severe service under all operating conditions.





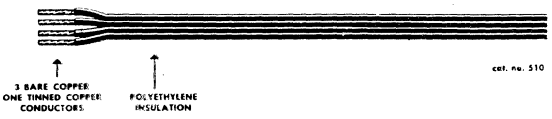
PLASTIC MICROPHONE CABLE								
Catalog Number	AWG Size	Number of Strands	Nominal Outside Diameter Inches	Nominal Capacitance Per Ft. MMF	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
2411	25/1	7/33	.144	37	500' Spool	1 Spool	15	64.00
2401	25/1	7/33	.200	25	500' Spool	1 Spool	25	82.00

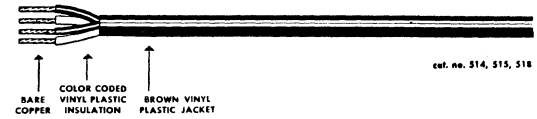
RUBBER MICROPHONE CABLE								
2101	20/1	26/34	.260	32*	500' Spool	1 Spool	49	105.00
2152	20/2	26/34	.280	68*	500' Spool	1 Spool	54	136.00
2153	20/3	26/34	.280	85*	500' Spool	1 Spool	59	154.00
2154	20/4	26/34	.305	95*	500' Spool	1 Spool	72	187.00
2182	18/2	41/34	.295	80*	500' Spool	1 Spool	60	175.00
2160	20/1	26/34	.175	34*	500' Spool	1 Spool	25	90.00

*Between one conductor and remaining conductors connected to shield.

antenna control cables

Cornish Antenna Control Cables are available in polyethylene and vinyl plastic insulations in a varied range of conductors to adequately meet all installation problems encountered. Flat and round constructions are furnished in brown colored outer insulation.

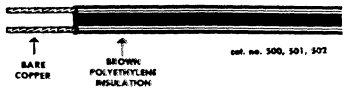


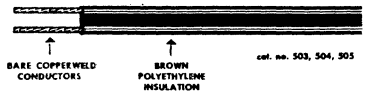


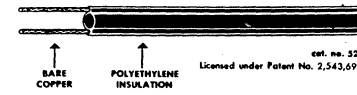
Catalog Number	AWG Size	Number of Strands	Thickness Conductor Insulation Inch	Nominal Outside Dimension Inch	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
510	20/4	7/28	—	.075x.350	1000' Spool	1 Spool	20	35.00
514	20/4	7/28	.010	.170	1000' Spool	1 Spool	24	55.00
515	20/5	7/28	.010	.180	1000' Spool	1 Spool	30	72.00
518	22/8	7/30	.015	.205	1000' Spool	1 Spool	34	84.00

t-v lead-in cables

Cornish TV Lead-in Cables are furnished only in pure virgin polyethylene insulation to insure long life under severe operating conditions and are designed so that only exceptionally low losses at high frequencies are experienced. They are available with pure copper or copperweld conductors. Copperweld 300 Ohm lead-in cable has 1½ times the tensile strength of copper and has approximately 2½ times greater flexing life. It insures long service life in TV aerial installations requiring long runs.

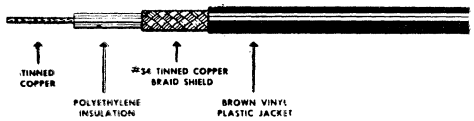






Catalog Number	AWG Size	Number of Strands	Nominal Outside Diameter Inch	Frequency (MC)	Attenuation Per 100 Ft. (Decibels)	Impedance (Ohms)	Capacitance Per Ft. (MMF)	Standard Put-Up Pkge.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
500	20/2	7/28	.052 x .400	100	1.1	300	4.6	1000' Spool	17	28.00
501	20/2	7/28	.072 x .400	200	1.7	300	4.6	1000' Spool	18	30.00
502	20/2	7/28	.100 x .400	300	2.2	300	4.6	1000' Spool	20	32.00
				400	2.7					
503	20/2	7/28	.052 x .400	100	1.1	300	4.6	1000' Spool	17	28.00
504	20/2	7/28	.072 x .400	200	1.7	300	4.6	1000' Spool	18	30.00
505	20/2	7/28	.100 x .400	300	2.2	300	4.6	1000' Spool	20	32.00
				400	2.7					
520	20/2	7/28	.320 x .460	100	1.25	300	4.65	500' Spool	28	58.00
499	22/2	7/50	.040 x .360			300	4.6	1000' Spool	12	22.00

RG/U coaxial transmission cables



Cornish RG/U Coaxial Transmission Cables are available in two basic constructions, namely RG-11/U, Catalog No. 522 and RG-59/U, Catalog No. 521. They are designed for use as communication cables and television antenna lead-in cable. These cables are available, normally, from factory stock. Other special RG/U constructions can be furnished to special order providing quantities required constitute an economical manufacturing run.

Catalog Number	AWG Size	Number of Strands	Nom. Outside Diam. Inch	Frequency (MMC)	Atten. per 100 Ft. (Decibels)	Impedance (Ohms)	Capacitance per M Ft. (MMF)	Standard Put-Up	Standard Shipping Pkge.	Approx. Wght. Per M Ft. Lbs.	List Per M'
521 RG-59/U	22/1	Solid	.245	100	3.75	73	21	500 Ft. Spool	1 Spool	43	110.00
				200	5.60						
				400	8.30						
522 RG-11/U	18/1	7/26	.405	100	1.90	75	20.5	500 Ft. Spool	1 Spool	98	220.00
				200	2.85						
				400	4.35						

Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.

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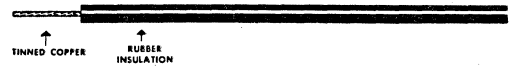
Radio & TV Wire Products

test lead wire

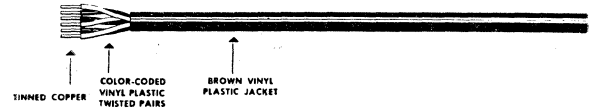


Catalog Number	AWG Size	Number of Strands	Jacket Insulation Inch	Nominal Outside Diameter Inch	Suggested Voltage Rating	Available Standard Put-Up	Standard Shipping Pkgs.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1142	18	65/36	.044	.140	5000	100' Spool	4 Spools	15	38.50
1142	18	65/36	.044	.140	5000	500' Spool	1 Spool	15	32.00
1142	18	65/36	.044	.140	5000	1000' Spool	1 Spool	15	32.00

STANDARD COLORS:—Red and Black.

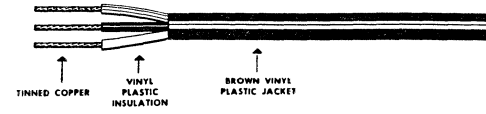
intercommunication cable

Cornish Intercommunication and Sound Cables are made in various constructions utilizing plastic insulation for both conductors and jacket. Where installation conditions dictate, Cornish shielded cables are recommended.



Catalog Number	AWG Size	Number of Strands	Number of Pairs	Thick. Conductor Insulation Inch	Thickness Jacket Insulation Inch	Nominal Outside Diameter Inch	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1240	22/2	Solid	1	.015	.015	.145	500' Spool	1 Spool	14	38.00
1241	22/4	Solid	2	.015	.015	.205	500' Spool	1 Spool	22	65.00
1242	22/6	Solid	3	.015	.015	.230	500' Spool	1 Spool	29	92.00
1243	22/12	Solid	6	.015	.015	.265	500' Spool	1 Spool	42	122.00
1244	22/18	Solid	9	.015	.015	.320	500' Spool	1 Spool	68	182.00
1245	22/30	Solid	15	.015	.015	.380	500' Coil	1 Coil	105	325.00
1246	22/54	Solid	27	.015	.015	.510	500' Coil	1 Coil	170	530.00

plastic insulated cable

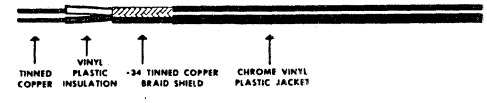


Catalog Number	AWG Size	Number of Strands	Thick. Conductor Insulation Inch	Thickness Jacket Insulation Inch	Nominal Outside Diameter Inch	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1223	22/3	7/30	.015	.015	.140	500' Spool	1 Spool	14	42.00
1224	22/4	7/30	.015	.015	.160	500' Spool	1 Spool	20	51.00

shielded intercommunication cable

Catalog Number	AWG Size	Number of Strands	Thickness Conductor Insulation Inch	Tinned Copper Shielding	Nominal Outside Diameter Inch	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1230	20/2	10/30	.015	#34	.163	1000 ft.	2	22	59.00
1238	18/2	16/30	.015	#34	.228	1000 ft.	2	35	77.00
1233	20/3	10/30	.015	#34	.230	500 ft.	2	42	115.00

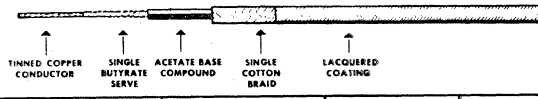
intercommunication cable



Catalog Number	AWG Size	Number of Strands	Thickness Conductor Insulation Inch	Thickness Jacket Insulation Inch	Nominal Outside Diameter Inch	Standard Put-Up	Standard Shipping Package	Approx. Weight Lbs./M ft.	List Price Per M Ft.
1234	20/2	10/30	.015	.015	.205	1000' Spool	1 Spool	29	88.00
1236	20/3	10/30	.015	.015	.262	1000' Spool	1 Spool	35	146.00
1237	18/2	16/30	.015	.015	.260	500' Spool	1 Spool	35	98.00
1239	*20/4	10/30	.015	.015	.230	500' Spool	1 Spool	45	116.00

* Two conductors twisted and shielded with unshielded twisted pair.

noflame-cor hook-up wire



Catalog Number	AWG Size	Number of Strands	Nominal Outside Diameter Inches	Voltage Break-Down Nominal Volts	Available Standard Put-Ups	*Standard Shipping Package	Approx. Weight Lbs./M Ft.	List Price Per M Ft.
1084	18	16/30	.110	7400	1000' Spool	1	9	38.60
1085	20	10/30	.102	7400	1000' Spool	1	7	35.50 32.10 29.00
1086	22	7/30	.091	7400	1000' Spool	1	6	27.90 24.80
1079	18	Solid	.103	7400	1000' Spool	1	9	35.90 32.80
1080	20	Solid	.095	7400	1000' Spool	1	6	29.40 26.30
1081	22	Solid	.091	7400	1000' Spool	1	5	26.10 23.00

STANDARD COLORS:—Black, Red, Green, Yellow, Blue, Brown, Orange, Slate, White.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

replacement and extension cord sets

DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug and Molded-On #185TV Connector UL Flag Label.
SUGGESTED USE
Television Power Supply Cord for use on original equipment or as a replacement cord set.

DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug, Appliance end slit 2 inches. Conductor stripped 1 inch. Hanked UL Flag Label.
SUGGESTED USE
Replacement Cord-set for radios, record players, lamps and small appliances.

DESCRIPTION
18/2 SV Black with Cornish Molded-On Male Plug. Appliance end jacket removed 2 inches. Conductors stripped 1 inch. Hanked UL Flag Label.
SUGGESTED USE
Replacement Cord-set for food mixers, test equipment and small appliances.

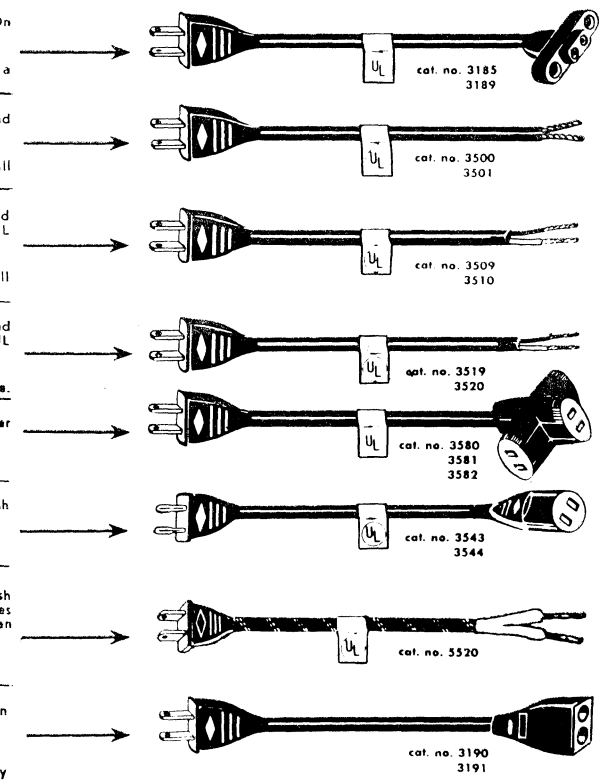
DESCRIPTION
18/2 16/30 SJ Black with Cornish Molded-On Plug Appliance end jacket removed 2 inches. Conductors stripped 1 inch. Hanked UL Flag Label.
SUGGESTED USE
Replacement Cord set for electric tools, small motors and general use.

DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Plug and soft molded rubber cube tap. UL Blue Flag Label.
SUGGESTED USE
Extension Cord set for office and household use.

DESCRIPTION
18/2 16/30 SJ Black with Cornish Molded-On Male Plug and Cornish Molded-On Female Connector. Coiled and boxed.
SUGGESTED USE
Extension Cord set for outdoor and heavy duty use.

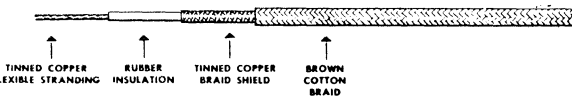
DESCRIPTION
16/2 Glazed Cotton HPD Replacement Heater Cord with Cornish Molded-On Plug and with crotch and conductors wrapped 3 inches with asbestos thread and conductors bared ½ inch. Hanked, Green Flag Label.
SUGGESTED USE
For electric irons and other heating devices.

DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug and Molded-On #190 Connector.
*Not UL Approved.
SUGGESTED USE
Television Power Supply "Cheater" Cord for sale to and use by authorized television servicemen



Catalog Number	Length	Standard Put-Up	Standard Shipping Pkg.	Wght. Standard Shipping Pkg.	List Price Per M Cords	Catalog Number	Length	Standard Put-Up	Standard Shipping Pkg.	Wght. Standard Shipping Pkg.	List Price Per M Cords
3185	6 Feet	100	100	19	565.00	3580	6 Feet	100	100	24	825.00
3189	9 Feet	100	100	25	670.00	3581	9 Feet	100	100	32	937.50
3500	6 Feet	100	100	18	345.00	3582	12 Feet	100	100	38	1,037.50
3501	10 Feet	100	100	26	480.00	5520	7 Feet	100	100	30	1,070.00
3509	6 Feet	100	100	28	665.00	3543	15 Feet	1	20	23	1,775.00
3510	10 Feet	50	50	23	952.50	3544	25 Feet	1	20	33	2,787.50
3519	6 Feet	50	50	19	680.00	3190*	6 Feet	100	100	19	565.00
3520	10 Feet	50	50	28	977.50	3191*	9 Feet	100	100	25	670.00

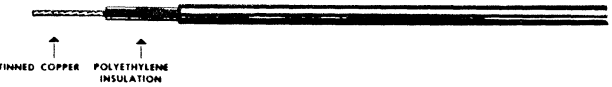
phonograph pick-up arm cable



This cable is designed specifically for use as phonograph pick-up arm cable. The conductor, being stranded from #36 AWG wire, is very flexible. The overall diameter of the wire is quite small and cable is devoid of stiffness.

Catalog Number	AWG Size	Number of Strands	Thick. Conductor Insulation Inch	Tinned Copper Shielding	Nom. Outside Diameter Inch	Outer Braid	Standard Put-Up	Standard Shipping Package	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1250	24/1	16/36	.015	#36	.095	Overall	100' Spool	4 Spools	7	55.00
1251	24/1	16/36	.015	#36	.080	None	100' Spool	4 Spools	6	48.00

high voltage and cathode-ray tube lead wire



This cable is designed for high voltage applications such as leads to cathode-ray tubes in television receivers and oscilloscopes. It has a high dielectric strength, corona resistance, and minimum surface leakage.

Catalog Number	AWG Size	Number of Strands	Nominal Outside Diameter Inch	Suggested Voltage Rating	Color	Available Standard Put-Ups	Standard Shipping Package	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1248	20/1	10/30	.108	10,000	White	100' Spool	4 Spools	14	36.00
1249	20/1	10/30	.169	20,000	White With Red Stripe	100' Spool	4 Spools	24	62.00

Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.

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Belden

ELECTRONIC WIRES & CABLES

microphone cables

plastic microphone cable

All Belden Microphone Cables are exceptionally limp, with long flex life, low capacitance, high tensile strength, and high resistance to abrasion.

Plastic Microphone Cables, because of their non-marking jacket and lightness in weight, are excellent for use in audience participation programs.

For Hi-Fi installations, 8401 and 8411 are recommended as connector cords because of their low loss and low capacitance.

Trade Number	8411	8401	8422
	15′ Coiled & cartoned 25′ Coiled & cartoned 50′ Coiled & cartoned 100′ Spool 500′ Spool	15′ Coiled & cartoned 25′ Coiled & cartoned 50′ Coiled & cartoned 100′ Spool 500′ Spool	15′ Coiled & cartoned 25′ Coiled & cartoned 50′ Coiled & cartoned 100′ Spool 500′ Spool
	25 A.W.G.	25 A.W.G.	22 A.W.G.
	3x33 copper & 4x33 steel stranded tinned conductor Cellulose yarn braid Polyethylene plastic insulation Tinned copper braid shield Chrome vinyl plastic jacket .144″ Nom. Diam. Nom. Capacitance — 34 mmf/ft	3x33 copper & 4x33 steel stranded tinned conductor Cellulose yarn braid Polyethylene plastic insulation Tinned copper braid shield Chrome vinyl plastic jacket .200″ Nom. Diam. Nom. Capacitance — 25 mmf/ft	16x34 stranded tinned copper conductor Polyethylene plastic insulation 2 conductors cabled with fillers: Black and White Rayon braid Tinned copper braid shield Chrome vinyl plastic jacket .231″ Nom. Diam. Nom. Capacitance — 32 mmf/ft between one conductor and remaining conductor connected to shield
	For high impedance lapel microphones and high fidelity interconnecting cables.	For crystal, ribbon, and other high impedance microphones and high fidelity interconnecting cables.	For all low impedance microphones.

microphone cables

rubber microphone cable

Rubber Microphone Cables have high resistance to abrasion and impact. They are limp and lie flat without kinking or looping. Recommended for all stage and studio use.

Trade Number	▲ 8410	▲ 8412	▲ 8414	▲ 8428	▲ 8423	▲ 8424
	15′ Coiled & cartoned 25′ Coiled & cartoned 50′ Coiled & cartoned 100′ Spool 500′ Spool	15′ Coiled & cartoned 25′ Coiled & cartoned 50′ Coiled & cartoned 100′ Spool 500′ Spool	50′ Coiled & cartoned 500′ Spool	15′ Coiled & cartoned 25′ Coiled & cartoned 50′ Coiled & cartoned 100′ Spool 500′ Spool	15′ Coiled & cartoned 50′ Coiled & cartoned 100′ Spool 250′ Spool 500′ Spool 1000′ Spool	15′ Coiled & cartoned 50′ Coiled & cartoned 100′ Spool 250′ Spool 500′ Spool 1000′ Spool
	25 A.W.G.	20 A.W.G.	20 A.W.G.	18 A.W.G.	20 A.W.G.	20 A.W.G.
	3x33 copper & 4x33 copper coated steel stranded tinned conductor Cellulose yarn braid Rubber insulation Rayon braid Tinned copper braid shield Rayon wrap Black rubber jacket .245″ Nom. Diam Nom. Capacitance — 33 mmf/ft	26x34 stranded tinned copper conductor Cotton wrap Rubber insulation 2 conductors cabled with fillers: Black and White Rayon braid Tinned copper braid shield Cotton wrap Black rubber jacket .268″ Nom. Diam Nom. Capacitance — 68 mmf/ft between one conductor and remaining conductor connected to shield	26x34 Stranded tinned copper conductor Cotton wrap Rubber insulation 2 conductors cabled with fillers: Black and White Spiraled stranded tinned copper drain wire Conductive textile served shield Black rubber jacket .256″ Nom. Diam	41x34 stranded tinned copper conductor Cotton wrap Rubber insulation 2 conductors cabled with fillers: Black and White Rayon braid Tinned copper braid shield Cotton wrap Black rubber jacket .295″ Nom. Diam Nom. Capacitance — 80 mmf/ft between one conductor and remaining conductor connected to shield	26x34 stranded tinned copper conductor Cotton wrap .020″ rubber insulation 3 conductors cabled: Black, Red, White Rayon braid Tinned copper braid shield Cotton wrap Black rubber jacket .277″ Nom. Diam Nom. Capacitance — 85 mmf/ft between one conductor and remaining conductors connected to shield	26x34 stranded tinned copper conductor Cotton wrap .020″ rubber insulation 4 conductors cabled: Black, Green, Red, White Rayon braid Tinned copper braid shield Cotton wrap Black rubber jacket .295″ Nom. Diam Nom. Capacitance — 95 mmf/ft between one conductor and remaining conductors connected to shield
	For crystal, ribbon, and other high impedance microphones.	For all low impedance microphones.	For hand and desk type microphones where exceptional limpness is required.	Heavy-duty studio cable.	For all low impedance microphones.	For all low impedance microphones.

▲ Construction Change

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BELDEN ELECTRONIC WIRES & CABLES

multiple conductor cables

rubber-jacketed portable cord

For other U.L. Approved Portable Cord see Belden Catalog on Portable Cords.

Belden shielded and unshielded multiple conductor cables provide dependable service as power supply cords, interconnecting cables on electronic equipment, remote control circuits, special press - to - talk microphone circuits, and a multitude of electronic applications. These cables are designed for long service life, excellent mechanical and electrical characteristics, and uniform quality. Special black rubber jacket has excellent resistance to abrasion and ozone.

Trade Number

▲ 8478

25′ Coiled & cartoned
50′ Coiled & cartoned
100′ Spool
250′ Spool
1000′ Spool

18 A.W.G.

41x34 stranded bare copper conductor
Cotton wrap
1/32″ rubber insulation
2 conductors cabled with fillers:
Black and White
Cotton wrap
1/32″ Black rubber jacket
.299″ Nom. Diam
Underwriters' Type SJ

▲ 8472

25′ Coiled & cartoned
50′ Spool
100′ Spool
250′ Spool

16 A.W.G.

65x34 stranded bare copper conductor
Cotton wrap
1/32″ rubber insulation
2 conductors cabled with fillers:
Black and White
Cotton wrap
1/32″ Black rubber jacket
.325″ Nom. Diam
Underwriters' Type SJ

▲ 8452

15′ Coiled & cartoned
25′ Coiled & cartoned
50′ Coiled & cartoned
100′ Spool
250′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

41x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insul.
2 conductors cabled with fillers:
Black and White
Cotton wrap
1/32″ Black rubber jacket
.245″ Nom. Diam
Underwriters' Type SV

▲ 8453

15′ Coiled & Cartoned
50′ Coiled & cartoned
100′ Spool
500′ Spool

18 A.W.G.

41x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
3 conductors cabled with fillers:
Black, Green, White
Cotton wrap
1/32″ Black rubber jacket
.265″ Nom. Diam

▲ 8454

15′ Coiled & cartoned
50′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

41x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
4 conductors cabled:
Black, Brown, Red, White
Cotton wrap
1/32″ Black rubber jacket
.265″ Nom. Diam

multiple conductor cables

rubber-jacketed portable cord

Trade Number

▲ 8455

15′ Coiled & cartoned
50′ Coiled & cartoned
100′ Spool
250′ Spool

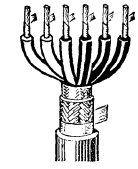
22 A.W.G.

16x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
18 A.W.G.
41x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
5 conductors cabled with fillers:
3—22 A.W.G.: Brown, Green, White
2—18 A.W.G.: Black, Red
Cotton wrap
1/32″ Black rubber jacket
.280″ Nom. Diam

shielded

▲ 8425

15′ Coiled & cartoned
50′ Spool
100′ Spool
250′ Spool
20 A.W.G.
26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
5 conductors cabled:
Black, Blue, Green, Red, White
Rayon braid
Tinned copper braid shield
Cotton wrap
.040″ Black rubber jacket
.323″ Nom. Diam
Interconnecting power cable for all electronic uses.



▲ 8426

15′ Coiled & cartoned
50′ Spool
100′ Spool
250′ Spool
20 A.W.G.
26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
6 conductors cabled:
Black, Blue, Brown, Green, Red, White
Rayon braid
Tinned copper braid shield
Cotton wrap
.040″ Black rubber jacket
.349″ Nom. Diam
Interconnecting power cable for all electronic uses.

▲ 8427

15′ Coiled & cartoned
50′ Spool
100′ Spool
250′ Spool
20 A.W.G.
26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
7 conductors cabled:
Black, Blue, Brown, Green, Red, White, Yellow
Rayon braid
Tinned copper braid shield
Cotton wrap
.040″ Black rubber jacket
.360″ Nom. Diam
Interconnecting power cable for all electronic uses.

intercommunicating and sound system cables

unshielded

Belden Intercom Cables are outstanding in their performance and dependability. Designed for maximum efficiency, performance and ease of installation.

Special approved vinyl compounds assure high insulation resistance and best electrical and physical properties. Precision short lay cabling maintains conductor balance, providing quiet circuit free from crosstalk. The outer, free stripping chrome vinyl jacket is waterproof, weather resistant, and is ideal for all types of industrial, home and office installations. Quick termination, positive color coding, and small diameter effect economies in any installation.

8740

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.
Tinned copper conductor, solid
.015″ vinyl plastic insulation
1 pair cabled
(2 conductors)
Color coded:
1 (See listing Page S-51)
.017″ tubed chrome vinyl plastic jacket
.134″ Nom. Diam

8741

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

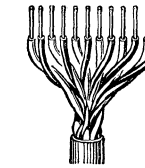
Tinned copper conductor, solid
.015″ vinyl plastic insulation
2 pair cabled
(4 conductors)
Color coded:
1 through 2 (See listing Page S-51)
.020″ tubed chrome vinyl plastic jacket
.185″ Nom. Diam

8742

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Tinned copper conductor, solid
.015″ vinyl plastic insulation
3 pair cabled
(6 conductors)
Color coded:
1 through 3 (See listing Page S-51)
.020″ tubed chrome vinyl plastic jacket
.220″ Nom. Diam



8743

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Tinned copper conductor, solid
.010″ vinyl plastic insulation
6 pair cabled
(12 conductors)
Color coded:
1 through 6 (See listing Page S-51)
.020″ tubed chrome vinyl plastic jacket
.265″ Nom. Diam

▲ Construction Change

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BELDEN ELECTRONIC WIRES & CABLES

intercommunicating and sound system cables

unshielded

Trade Number

8744

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Tinned copper conductor, **solid**
.010″ vinyl plastic insulation
9 pair cabled
(18 conductors)
Color coded:
1 through 9 (See listing Page S-51)
.020″ tubed **chrome** vinyl plastic jacket
.320″ Nom. Diam

8753

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Tinned copper conductor, **solid**
.010″ vinyl plastic insulation
11 pair cabled
(22 conductors)
Color coded:
1 through 11 (See listing Page S-51)
.025″ tubed **chrome** vinyl plastic jacket
.360″ Nom. Diam

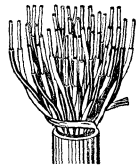
paired intercom cables color code listing

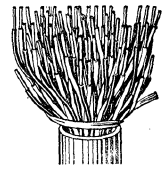
Belden Intercom Cables are color coded for easy identification. In the description of Intercom Cables, color coding of the pairs is identified by the number shown in the following list:

Pair Number	Color Combination	Pair Number	Color Combination
1	Black paired with Red	15	Green paired with White
2	Black paired with White	16	Green paired with Brown
3	Black paired with Green	17	Green paired with Orange
4	Black paired with Blue	18	Green paired with Yellow
5	Black paired with Brown	19	White paired with Blue
6	Black paired with Yellow	20	White paired with Brown
7	Black paired with Orange	21	White paired with Orange
8	Red paired with Green	22	White paired with Yellow
9	Red paired with White	23	Blue paired with Brown
10	Red paired with Blue	24	Blue paired with Orange
11	Red paired with Yellow	25	Blue paired with Yellow
12	Red paired with Brown	26	Brown paired with Orange
13	Red paired with Orange	27	Brown paired with Yellow
14	Green paired with Blue		

intercommunicating and sound system cables

unshielded





Trade Number

8745

100′ Spool
500′ Spool
1000 Returnable Reel

22 A.W.G.

Tinned copper conductor, **solid**
.010″ vinyl plastic insulation
15 pair cabled
(30 conductors)
Color coded:
1 through 15 (See listing Page S-51)
.025″ tubed **chrome** vinyl plastic jacket
.390″ Nom. Diam

8746

Put-up: To customers' specified length. Lengths to 500′ on Spools 501′ to 1500′ on Returnable Reels. Maximum length 1500 feet.

22 A.W.G.

Tinned copper conductor, **solid**
.010″ vinyl plastic insulation
27 pair cabled
(54 conductors)
Color coded:
1 through 27 (See listing Page S-51)
.025″ tubed **chrome** vinyl plastic jacket
.510″ Nom. Diam

8747

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 **stranded** tinned copper conductor
.010″ vinyl plastic insulation
6 pair cabled
(12 conductors)
Color coded:
1 through 6 (See listing Page S-51)
.020″ tubed **chrome** vinyl plastic jacket
.310″ Nom. Diam

8748

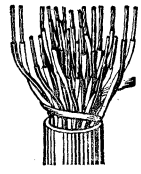
100′ Spool
500′ Spool
1000′ Spool

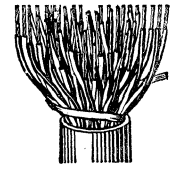
22 A.W.G.

7x30 **stranded** tinned copper conductor
.010″ vinyl plastic insulation
9 pair cabled
(18 conductors)
Color coded:
1 through 9 (See listing Page S-51)
.020″ tubed **chrome** vinyl plastic jacket
.355″ Nom. Diam

intercommunicating and sound system cables

unshielded





shielded

Trade Number

8749

100′ Spool
500′ Spool
1000′ Returnable Reel

22 A.W.G.

7x30 **stranded** tinned copper conductor
.010″ vinyl plastic insulation
15 pair cabled
(30 conductors)
Color coded:
1 through 15 (See listing Page S-51)
.025″ tubed **chrome** vinyl plastic jacket
.460″ Nom. Diam

8750

Put-up: To customers' specified length. Lengths to 400′ on Spools 401′ to 1500′ on Returnable Reels. Maximum length 1500 ft.
22 A.W.G.
7x30 **stranded** tinned copper conductor
.010″ vinyl plastic insulation
27 pair cabled
(54 conductors)
Color coded:
1 through 27 (See listing Page S-51)
.025″ tubed **chrome** vinyl plastic jacket
.555″ Nom. Diam

The stranded versions of Belden Intercom Cables have the same outstanding features but because of their flexibility are easier to pull through a conduit having more than the usual number of bends.

8734

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 **stranded** tinned copper conductor
.015″ vinyl plastic insulation
3 conductors cabled:
Black, Red, White
White conductor, tinned copper braid **shield**
Black and Red conductors, **unshielded**
.020″ tubed **chrome** vinyl plastic jacket
.184″ Nom. Diam
For Station-to-station and Extension Wiring (Shielded)

8735

15′ Coiled & cartoned
50′ Coiled & cartoned
100′ Spool
500′Spool
1000′ Spool

22 A.W.G.

7x30 **stranded** tinned copper conductor
.015″ vinyl plastic insulation
3 conductors cabled:
Black, Red, White
Tinned copper braid **shield**
.020″ tubed **chrome** vinyl plastic jacket
.189″ Nom. Diam

8737

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 stranded tinned copper conductor
.015″ vinyl plastic insulation
2 conductors cabled:
Black and Red
Tinned copper spiral wrapped **shield**
.020″ tubed **chrome** vinyl plastic jacket
.160″ Nom. Diam

The vinyl plastic jacket of Belden Inter-communication System Cables is tubed for greater flexibility and fast, easy stripping.

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BELDEN ELECTRONIC WIRES & CABLES

intercommunicating and sound system cables

shielded

8758

100′ Spool
500′ Spool
1000′ Spool

20 A.W.G.

7x28 stranded tinned copper conductor
.015″ vinyl plastic insulation
2 conductors cabled:
Black and Red
Tinned copper braid shield
.165″ Nom. Diam

8759

100′ Spool
500′ Spool
1000′ Spool

20 A.W.G.

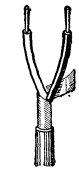
7x28 stranded tinned copper conductor
.015″ vinyl plastic insul.
2 conductors cabled:
Black and Red
Tinned copper spiral wrapped shield
.020″ tubed chrome vinyl plastic jacket
.185″ Nom. Diam

8738

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Tinned copper conductor, solid
.015″ vinyl plastic insulation
2 conductors cabled:
Black and Red
Tinned copper braid shield
.130″ Nom. Diam



8739

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Tinned copper conductor, solid
.015″ vinyl plastic insul.
2 conductors cabled:
Black and Red
Tinned copper spiral wrapped shield
.020″ tubed chrome vinyl plastic jacket
.150″ Nom. Diam

8732

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 stranded tinned copper conductor
.015″ polyethylene insulation
2 pair cabled:
(4 conductors)
Color coded:
Black and White
One pair tinned copper braid shield
One pair unshielded
.020″ tubed chrome vinyl plastic jacket
.168″x.276″ Nom. Diam

Trade Number

The vinyl plastic jacket of Belden Inter-communication System Cables is tubed for greater flexibility and fast, easy stripping.

intercommunicating and sound system cables

plastic-insulated cable

Single conductors cabled, waterproof, weather resistant, outer chrome vinyl jacket, flexible light weight and small in diameter for use in control, annunciator and communications circuits.

8443

25′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 stranded tinned copper conductor
.010″ vinyl plastic insulation
3 conductors cabled:
Black, Green, Red
.020″ tubed chrome vinyl plastic jacket
.140″ Nom. Diam

8444

25′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 stranded tinned copper conductor
.010″ vinyl plastic insulation
4 conductors cabled:
Black, Green, Red, White
.020″ tubed chrome vinyl plastic jacket
.158″ Nom. Diam

8445

25′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

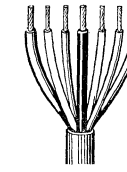
7x30 stranded tinned copper conductor
.010″ vinyl plastic insulation
5 conductors cabled:
Black, Brown, Green, Red, White
.020″ tubed chrome vinyl plastic jacket
.170″ Nom. Diam

8446

15′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 stranded tinned copper conductor
.010″ vinyl plastic insul.
18 A.W.G.
16x30 stranded tinned copper conductor
.018″ vinyl plastic insul.
6 conductors cabled:
4—22 A.W.G.: Brown, Blue, Green, White
2—18 A.W.G.: Black, Red
.020″ tubed chrome vinyl plastic jacket
.212″ Nom. Diam



8447

15′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

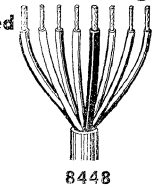
22 A.W.G.

7x30 stranded tinned copper conductor
.010″ vinyl plastic insul.
18 A.W.G.
16x30 stranded tinned copper conductor
.018″ vinyl plastic insul.
7 conductors cabled:
5—22 A.W.G.: Blue, Brown, Green, Orange, White
2—18 A.W.G.: Black, Red
.020″ tubed chrome vinyl plastic jacket
.230″ Nom. Diam

Trade Number

intercommunicating & sound system cable

plastic-insulated cable

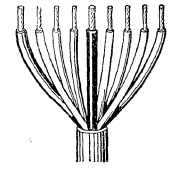


8448

15′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 stranded tinned copper cond.
.010″ vinyl plastic insulation
18 A.W.G.
16x30 stranded tinned copper cond.
.018″ vinyl plastic insulation
8 conductors cabled:
6—22 A.W.G.: Blue, Brown, Green, Orange, White, Yellow
2—18 A.W.G.: Black, Red
.020″ tubed chrome vinyl plastic jacket
.235″ Nom. Diam



8449

15′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 stranded tinned copper cond.
.010″ vinyl plastic insulation
18 A.W.G.
16x30 stranded tinned copper cond.
.018″ vinyl plastic insulation
9 conductors cabled:
7—22 A.W.G.: Blue, Brown, Green, Orange, Purple, White, Yellow
2—18 A.W.G.: Black, Red
.020″ tubed chrome vinyl plastic jacket
.245″ Nom. Diam

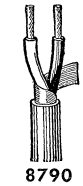
p.a. and sound system cables

8789

100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

7x26 stranded tinned copper conductor
.020″ vinyl plastic insulation
2 conductors cabled:
Black and White
Tinned copper braid shield
.205″ Nom. Diam



8790

100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

7x26 stranded tinned copper conductor
.020″ vinyl plastic insulation
2 conductors cabled:
Red and White
Tinned copper spiral wrapped shield
.025″ tubed chrome vinyl plastic jacket
.225″ Nom. Diam
For public address and intercommunicating systems in schools, hospitals and institutions.

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BELDEN ELECTRONIC WIRES & CABLES

p.a. and sound system cables

A cable for every service. Designed for maximum dependability, long service life, and freedom from maintenance. A choice of either copper braid or copper wrap shields for maximum shielding. Designed for P.A. system installations in schools, public buildings, churches, and wherever a cable of uniform quality and outstanding service life is required.

Trade Number 8791

100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

7x26 **stranded** tinned copper conductor
.020″ vinyl plastic insulation
3 conductors cabled:
Black, Red, White
Tinned copper spiral wrapped **shield**
.025″ tubed chrome vinyl plastic jacket
.230″ Nom. Diam

8209

15′ Coiled & cartoned
50′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

16x30 **stranded** tinned copper conductor
Low-loss rubber insulation
2 conductors cabled:
Red and White
Paper wrap
Tinned copper braid **shield**
White cotton braid treated with weather-resistant compound
.258″ Nom. Diam

For long runs in extension speaker installations.

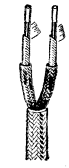
8208

15′ Coiled & cartoned
50′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

16x30 **stranded** tinned copper conductor
Low-loss rubber insulation
2 conductors cabled:
Red and White
Paper wrap
Tinned copper braid **shield**
.020″ tubed chrome vinyl plastic jacket
.260″ Nom. Diam

For extension speakers.



8799

100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

Bare copper conductor, **solid**
Enameled
Cotton wrap
Cotton braid waxed
2 conductors cabled:
Black and White
Tinned copper braid **shield**
.165″ Nom. Diam

P.A. Cable Amplifier to Speaker Broadcast Control Cable.

8206

15′ Coiled & cartoned
50′ Coiled & cartoned
100′ Spool
250′ Spool

18 A.W.G.

7x27 **stranded** tinned copper conductor
.040″ rubber insulation
Tinned copper braid **shield**
.155″ Nom. Diam
Shielded connector cable.

p.a. and sound system cables

Trade Number 8432

100′ Spool
500′ Spool
1000′ Spool

20 A.W.G.

10x30 **stranded** tinned copper conductor
.015″ rubber insulation
Cotton braid
Lacquer coating
2 conductors cabled:
Black and Red
Tinned copper braid **shield**
.225″ Nom. Diam

8433

100′ Spool
500′ Spool

20 A.W.G.

10x30 **stranded** tinned copper conductor
.015″ rubber insulation
Cotton braid
Lacquer coating
3 conductors cabled:
Black, Red, Yellow
Tinned copper braid **shield**
.230″ Nom. Diam

8204

25′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

16x30 **stranded** tinned copper conductor
Low-loss rubber insulation
2 conductors cabled:
Red and White
White cotton braid treated with weather-resistant compound
.220″ Nom. Diam

For extension speakers.

8205

25′ Coiled & cartoned
100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

7x30 **stranded** tinned copper conductor
Rubber insulation
2 conductors cabled:
Black and Red
Black cotton braid treated with weather-resistant compound
.165″ Nom. Diam

For extension speaker and control circuits.

8486

1000′ Spool

19 A.W.G.

Bare copper conductor, **solid**
.015″ vinyl plastic insulation
2 conductors cabled:
Brown and Tan
.025″ tubed chrome vinyl plastic jacket
.162″ Nom. Diam

p.a. and sound system cables

Trade Number 8482

1000′ Spool

19 A.W.G.

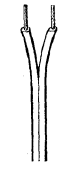
Bare copper conductor, **solid**
.015″ vinyl plastic insulation
2 conductors cabled:
Brown and Tan
.115″ Nom. Diam

8483

1000′ Spool

19 A.W.G.

Bare copper conductor, **solid**
.015″ vinyl plastic insulation
3 conductors cabled:
Brown, Gray, Tan
.132″ Nom. Diam



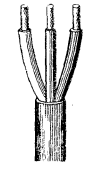
8782

500′ Spool
1000′ Spool

24 A.W.G.

7x32 **stranded—**
1 bare copper conductor and 1 tinned copper conductor
2 conductors parallel
Chrome vinyl plastic insulation
.058″x.115″ Nom. Diam

Juke Box Speaker Cable.



8783

500′ Spool

20 A.W.G.

10x30 **stranded** tinned copper conductor
.020″ vinyl plastic insulation

16 A.W.G.

26x30 **stranded** tinned copper conductor
.020″ vinyl plastic insulation
3 conductors cabled:
1—20 A.W.G.: Blue
2—16 A.W.G.: Green, Orange
.020″ tubed **chrome** vinyl plastic jacket
.240″ Nom. Diam

Juke Box Control Cable.

8785

500′ Spool

22 A.W.G.

7x30 **stranded** tinned copper conductor
.015″ vinyl plastic insulation
5 conductors cabled:
3 conductors: Black, Green, Red, with overall tinned copper braid **shield**
2 conductors: Blue & Yellow twisted pair, **unshielded**
.020″ tubed **chrome** vinyl plastic jacket
.195″x.300″ Nom. Diam

Juke Box Control Cable.

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BELDEN ELECTRONIC WIRES & CABLES

broadcast audio cables

Belden Broadcast Audio Cables are designed to meet the most exacting requirements of the industry for trouble-free, dependable service. High insulation resistance, precision cabling of the conductors, and a high percentage of shielding assure a low noise circuit, free from crosstalk. Spiral wrap copper shield plus drain wire plus shield isolation eliminate current loops so often found troublesome in this service. Free stripping jackets and fast shield termination reduce installation time and costs to a minimum.

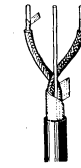
8437 meets CBS specifications.

8435 meets NBC specifications.

8438 meets NBC specifications.

8436 meets ABC specifications.

8439 meets ABC specifications.

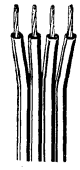


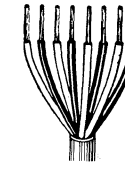
Trade Number	8435	8436
	100′ Spool **500′ Spool** **1000′ Spool**	**100′ Spool** **500′ Spool** **1000′ Spool**
	20 A.W.G.	**22 A.W.G.**
	Tinned copper conductor, **solid** Enameled Cotton wrap Cotton braid waxed **2 conductors cabled:** Blue and Red Tinned copper braid **shield** Cotton wrap .025″ tubed **black** plastic jacket .208″ Nom. Diam	Tinned copper conductor, **solid** Heavy cellulose acetate yarn wrap Cellulose acetate yarn braid Lacquer coating **2 conductors cabled:** Black and Red Tinned copper spiral wrapped **shield** 22 A.W.G. tinned solid copper wire parallel to twisted pair under shield .020″ tubed **black** plastic jacket .180″ Nom. Diam

broadcast audio cables

Trade Number	8437	8438	8439	8440
	100′ Spool **500′ Spool** **1000′ Spool**	**100′ Spool** **500′ Spool** **1000′ Spool**	**100′ Spool** **500′ Spool** **1000′ Spool**	**100′ Spool** **500′ Spool** **1000′ Spool**
	22 A.W.G.	**20 A.W.G.**	**20 A.W.G.**	**22 A.W.G.**
	Tinned copper conductor, **solid** Enameled Heavy cellulose acetate yarn wrap Cotton braid waxed **2 conductors cabled:** Black and Red Tinned copper braid **shield** 22 A.W.G. tinned solid copper wire parallel to twisted pair under shield .025″ tubed **black** vinyl plastic jacket .222″ Nom. Diam	Tinned copper conductor, **solid** Enameled Cotton wrap Cotton braid waxed **2 conductors cabled:** Blue and Red Tinned copper braid **shield** .140″ Nom. Diam	Tinned copper conductor, solid Heavy cellulose acetate yarn wrap Cellulose acetate yarn braid Lacquer coating **2 conductors cabled:** Black and Red Tinned copper braid **shield** .150″ Nom. Diam	Tinned copper conductor, **solid** Enameled Cotton wrap Cotton braid waxed **2 conductors cabled:** Black and Red Tinned copper spiral wrapped **shield** 22 A.W.G. tinned solid copper wire parallel to twisted pair under shield .020″ tubed **chrome** vinyl plastic jacket .185″ Nom. Diam

antenna rotor cables





Trade Number	8464	8484	8485	8488
	75′ Pancake Coils **100′ Pancake Coils** **500′ Spool** **1000′ Spool**	**100′ Spool** **500′ Spool** **1000′ Spool**	**100′ Spool** **500′ Spool** **1000′ Spool**	**100′ Spool** **500′ Spool** **1000′ Spool**
	20 A.W.G.	**20 A.W.G.**	**20 A.W.G.**	**22 A.W.G.**
	7x28 **stranded** bare copper conductor **4 conductors parallel** **Gray** vinyl plastic insulation One outer conductor tinned for polarity .070″x.390″ Nom. Diam	7x28 **stranded** bare copper conductor .010″ vinyl plastic insulation **4 conductors parallel:** Black, Green, Red, and White .015″ tubed **chrome** vinyl plastic jacket .170″ Nom. Diam	7x28 **stranded** bare copper conductor .010″ vinyl plastic insulation **5 conductors parallel:** Black, Green, Red, White, and Yellow .015″ tubed **chrome** vinyl plastic jacket .180″ Nom. Diam	7x30 **stranded** bare copper conductor .010″ vinyl plastic insulation **8 conductors cabled:** Black, Blue, Brown, Green, Orange, Red, White, and Yellow .020″ tubed **chrome** vinyl plastic jacket .205″ Nom. Diam

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BELDEN ELECTRONIC WIRES & CABLES

transmission line cables

Trade Number

8230 (Weldohm®)

50′ Pancake Coils
75′ Pancake Coils
100′ Pancake Coils
500′ Spool
1000′ Spool

20 A.W.G.

7x28 stranded "Weldohm®" annealed copper coated steel wire
2 conductors parallel
Brown polyethylene plastic insulation
.072″x.400″ Nom. Diam
Nom. Attenuation—
1.1 db/100 ft at 100 mc
1.7 db/100 ft at 200 mc
2.2 db/100 ft at 300 mc
2.7 db/100 ft at 400 mc
Nom. Impedance—300 ohms
Nom. Velocity of propagation—80%
Nom. Capacitance—4.4 mmf/ft

Greater service life in TV installations requiring long runs from receiving antennas. Has over 2½ times the flex-life and over 1½ times the breaking strength of the equivalent in copper.

8225

50′ Pancake Coils
75′ Pancake Coils
100′ Pancake Coils
500′ Spool
1000′ Spool

20 A.W.G.

7x28 stranded bare copper conductor
2 conductors parallel
Brown polyethylene plastic insulation
.058″x.400″ Nom. Diam
Nom. Attenuation—
1.1 db/100 ft at 100 mc
1.7 db/100 ft at 200 mc
2.2 db/100 ft at 300 mc
2.7 db/100 ft at 400 mc
Nom. Impedance—300 ohms
Nom. Velocity of propagation—80%
Nom. Capacitance—4.4 mmf/ft

For use with television and FM receiving antenna. Especially low losses at high frequencies.

8222

100′ Spooled & cartoned
500′ Spool

20 A.W.G.

7x28 stranded bare copper conductor
2 conductors parallel
Brown polyethylene plastic insulation
.075″x.128″ Nom. Diam
Nom. Attenuation—
7.7 db/100 ft at 100 mc
11.0 db/100 ft at 200 mc
13.6 db/100 ft at 300 mc
15.9 db/100 ft at 400 mc
Nom. Impedance—72 ohms
Nom. Velocity of propagation—69%
Nom. Capacitance—20.3 mmf/ft

For use with receiving antenna at high frequencies.

transmission line cables

Trade Number

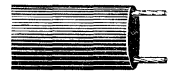
8224

100′ Spool
500′ Spool

20 A.W.G.

7x28 stranded bare copper conductor
2 conductors parallel
Brown polyethylene plastic insulation
.075″x.182″ Nom. Diam
Nom. Attenuation—
2.8 db/100 ft at 100 mc
4.2 db/100 ft at 200 mc
5.4 db/100 ft at 300 mc
6.4 db/100 ft at 400 mc
Nom. Impedance—150 ohms
Nom. Velocity of propagation—76%
Nom. Capacitance—9.0 mmf/ft

For use with receiving antenna, matching transformer, and experimental applications at high frequencies.



8235

100′ Spool
500′ Spool

20 A.W.G.

7x28 stranded "Weldohm®" copper coated steel wire
2 conductors parallel
Brown polyethylene plastic insul.
.185″x.520″ Nom. Diam
Nom. Attenuation—
1.1 db/100 ft at 100 mc
1.73 db/100 ft at 200 mc
2.28 db/100 ft at 300 mc
2.74 db/100 ft at 400 mc
3.18 db/100 ft at 500 mc
3.7 db/100 ft at 700 mc
4.5 db/100 ft at 900 mc
Nom. Impedance—300 ohms
Nom. Velocity of propagation—77%
Nom. Capacitance—5.0 mmf/ft

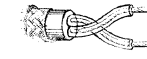
Greater service life in TV installations requiring long runs from receiving antennas. Has over 2½ times the flex-life and over 1½ times the breaking strength of the equivalent in copper.

8275 (CELLULINE®)

50′ Coils in counter dispenser
75′ Coils in counter dispenser
100′ Coils in counter dispenser
500′ Spools
1000′ Spools

20 A.W.G.

7x28 stranded "Weldohm®" annealed copper-coated steel wire
2 conductors parallel
Brown polyethylene plastic jacket with inert gas filled unicellular polyethylene core
.300″ Nom. Diam round
.356″ Nom. Diam over conductor insulation
Nom. Attenuation—
1.05 db/100 ft at 100 mc
2.12 db/100 ft at 300 mc
2.9 db/100 ft at 500 mc
3.62 db/100 ft at 700 mc
4.3 db/100 ft at 900 mc
Nom. Impedance—300 ohms
Nom. Velocity of propagation—80%
Nom. Capacitance—4.6 mmf/ft



8227

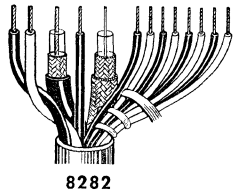
100′ Spool
250′ Spool
500′ Spool

20 A.W.G.

7x28 stranded—1 bare—1 tinned copper conductor
Polyethylene plastic insulation
2 conductors cabled:
Polyethylene plastic jacket
Tinned copper braid shield
Black vinyl plastic jacket
.325″ Nom. Diam
Nom. Attenuation—
4.1 db/100 ft at 100 mc
6.4 db/100 ft at 200 mc
8.4 db/100 ft at 300 mc
10.2 db/100 ft at 400 mc
Nom. Impedance—100 ohms
Nom. Velocity of propagation—62%
Nom. Capacitance—15.5 mmf/ft between conductors

For use with television and FM antenna in extremely noisy locations.

transmission line cables



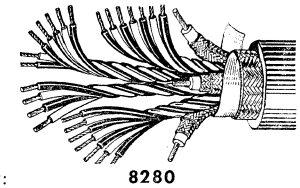
Trade Number

8282

50′ Spool
100′ Spool
500′ Spool
13 conductor TV eye cable

9 conductors:
22 A.W.G.
7x30 tinned stranded copper conductor
.010″ vinyl plastic insulation
Black, Blue, Brown, Green, Orange, Purple, Red, White, Yellow
2 conductors 18 A.W.G.
16x30 tinned stranded copper conductor
.018″ vinyl plastic insulation
2 conductors paired
Black and Red
1 conductor RG 58A/U cable (Belden 8259)
1 conductor RG 59/U type cable
.040″ tubed gray vinyl plastic jacket
.470″ Nom. Diam

tv camera cable



8280

PUT-UP:
To Customers' specified length. Lengths to 100 feet in coils, 101 feet to 200 feet on spools, 201 feet to 700 feet on returnable reels. Maximum length 700 feet.
4 Conductors: 18 A.W.G. Flexible Plastic Insulated Wires. Color Coded: Orange, Blue, Brown, Green.
21 Conductors: 22 A.W.G. Flexible Plastic Insulated Wires. Cabled in 3 Groups of 7 Wires Each. Each Group Color Coded.

(1)	(2)	(3)
White	White with Black Stripe	White with Red Stripe
Black	Black	Black
Red	Red	Red
Yellow	Yellow	Yellow
Green	Green	Green
Blue	Blue	Blue
Brown	Brown	Brown

3—Coaxial Cables—Nom. Impedance 51 ohms
Color Coded: Black, White, Red
Paper Separator — Tinned Copper Braid Shield
Chrome Vinyl Plastic Jacket. .750″ Nominal Diameter
May be used where RCA cable specification A-8831733 is indicated.

solid aluminum tv grounding wire

*10-50 FT. COILS PER DISPLAY

8018

50′ Coils in counter dispenser
500′ Spool
1000′ Spool

8 A.W.G.

Aluminum wire, soft annealed
.128″ Nom. Diam
*10-50 ft. coils in counter dispenser. Coils are connected and may be cut for any 50 ft. multiple —up to 500 ft.
500′ and 1000′ spools are marked at 100′ intervals for easy measuring.

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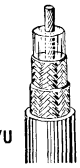
BELDEN ELECTRONIC WIRES & CABLES

RGU transmission line cables

Belden RGU Cables can be furnished on special order with Type II-A Black Non-contaminating Jacket. Other types will be quoted on request.

	RG-5A/U	RG-8/U	RG-9/U	RG-11/U
				
Trade Number	**8264**	**8237**	**8242**	**8238**
	100′ Spool 500′ Spool 1000′ Spool	100′ Spool 500′ Spool 1000′ Returnable Reel	100′ Spool 500′ Spool 1000′ Returnable Reel	100′ Spool 500′ Spool 1000′ Returnable Reel
	16 A.W.G.	13 A.W.G.	13 A.W.G.	18 A.W.G.
	Silver coated copper conductor, solid Polyethylene plastic insulation Silver coated copper, double braid shield Gray noncontaminating plastic jacket .328″ Nom. Diam Nom. Attenuation— 2.40 db/100 ft at 100 mc 3.50 db/100 ft at 200 mc 5.25 db/100 ft at 400 mc Nom. Impedance—50 ohms Nom. Velocity of propagation—66% Nom. Capacitance—29 mmf/ft	7x21 stranded bare copper conductor Polyethylene plastic insulation Bare copper braid shield Black vinyl plastic jacket .405″ Nom. Diam Nom. Attenuation— 2.10 db/100 ft at 100 mc 3.30 db/100 ft at 200 mc 4.50 db/100 ft at 400 mc Nom. Impedance—52 ohms Nom. Velocity of propagation 66% Nom. Capacitance—29.5 mmf/ft	7x21 stranded silver coated copper conductor Polyethylene plastic insulation Silver coated copper braid shield Bare copper braid shield Gray noncontaminating plastic jacket .420″ Nom. Diam Nom. Attenuation— 2.10 db/100 ft at 100 mc 3.30 db/100 ft at 200 mc 4.50 db/100 ft at 400 mc Nom. Impedance—51 ohms Nom. Velocity of propagation—66% Nom. Capacitance—30.0 mmf/ft	7x26 stranded tinned copper conductor Polyethylene plastic insulation Bare copper braid shield Black vinyl plastic jacket .405″ Nom. Diam Nom. Attenuation— 1.90 db/100 ft at 100 mc 2.85 db/100 ft at 200 mc 4.35 db/100 ft at 400 mc Nom. Impedance—75 ohms Nom. Velocity of propagation—66% Nom. Capacitance—20.5 mmf/ft

RGU transmission line cables

	RG-22A/U	RG-29/U	RG-54A/U	RG-55/U
Trade Number	**8260**	**8244**	**8239**	**8245**
	100′ Spool 500′ Spool 1000′ Returnable Reel	100′ Spool 500′ Spool 1000′ Spool	100′ Spool 500′ Spool 1000′ Spool	100′ Spool 500′ Spool 1000′ Spool
	18 A.W.G.	20 A.W.G.	18 A.W.G.	20 A.W.G.
	7x.0152″ stranded bare copper cond. Polyethylene plastic insulation 2 conductors cabled Core jacket polyethylene plastic Tinned copper double braid shield Gray noncontaminating plastic jacket .420″ Nom. Diam Nom. Attenuation— 4.00 db/100 ft at 100 mc 5.50 db/100 ft at 200 mc 8.50 db/100 ft at 400 mc Nom. Impedance—95 ohms Nom. Velocity of propagation—66% Nom. Capacitance—16 mmf/ft	Bare copper conductor, solid Polyethylene plastic insulation Tinned copper braid shield Clear polyethylene plastic jacket .174″ Nom. Diam Nom. Attenuation— 4.10 db/100 ft at 100 mc 6.20 db/100 ft at 200 mc 9.50 db/100 ft at 400 mc Nom. Impedance—53.5 ohms Nom. Velocity of propagation—66% Nom. Capacitance—28.5 mmf/ft	7x.0152″ bare copper conductor stranded Polyethylene plastic insulation Tinned copper braid shield Clear polyethylene plastic jacket .250″ Max. Diam Nom. Attenuation— 3.10 db/100 ft at 100 mc 4.40 db/100 ft at 200 mc 6.70 db/100 ft at 400 mc Nom. Impedance—58 ohms Nom. Velocity of propagation—66% Nom. Capacitance—26.5 mmf/ft	Bare copper conductor, solid Polyethylene plastic insulation Tinned copper, double braid shield Clear polyethylene plastic jacket .206″ Max. Diam Nom. Attenuation— 4.10 db/100 ft at 100 mc 6.20 db/100 ft at 200 mc 9.50 db/100 ft at 400 mc Nom. Impedance—53.5 ohms Nom. Velocity of propagation—66% Nom. Capacitance—28.5 mmf/ft

RGU transmission line cables

	RG-58A/U	RG-58/U	RG-59/U	RG-62/U	RG-71/U
Trade Number	**8259**	**8240**	**8241**	**8254**	**8257**
	100′ Spool 500′ Spool 1000′ Spool	100′ Spool 500′ Spool 1000′ Spool	100′ Spool 500′ Spool 1000′ Spool	100′ Spool 500′ Spool 1000′ Spool	100′ Spool 500′ Spool 1000′ Spool
	20 A.W.G.	20 A.W.G.	22 A.W.G.	22 A.W.G.	22 A.W.G.
	19x.0071″ tinned copper conductor stranded Polyethylene plastic insulation Tinned copper braid shield Black vinyl plastic jacket .195″ Nom. Diam Nom. Attenuation— 5.30 db/100 ft at 100 mc 8.20 db/100 ft at 200 mc 12.60 db/100 ft at 400 mc Nom. Impedance—50 ohms Nom. Velocity of propagation—66% Nom. Capacitance—29 mmf/ft	Bare copper conductor, solid Polyethylene plastic insulation Tinned copper braid shield Black vinyl plastic jacket .195″ Nom. Diam Nom. Attenuation— 4.10 db/100 ft at 100 mc 6.20 db/100 ft at 200 mc 9.50 db/100 ft at 400 mc Nom. Impedance—53.5 ohms Nom. Velocity of propagation—66% Nom. Capacitance—28.5 mmf/ft	Bare "Copperweld" conductor, solid Polyethylene plastic insulation Bare copper braid shield Black vinyl plastic jacket .242″ Nom. Diam Nom. Attenuation— 3.75 db/100 ft at 100 mc 5.60 db/100 ft at 200 mc 8.30 db/100 ft at 400 mc Nom. Impedance—73 ohms Nom. Velocity of propagation—66% Nom. Capacitance—21.0 mmf/ft	Bare "Copperweld" conductor, solid Semi-solid polyethylene plastic insulation Bare copper braid shield Black vinyl plastic jacket .242″ Nom. Diam Nom. Attenuation— 3.10 db/100 ft at 100 mc 4.40 db/100 ft at 200 mc 6.30 db/100 ft at 400 mc Nom. Impedance—93 ohms Nom. Velocity of propagation—84% Nom. Capacitance—13.5 mmf/ft	Bare "Copperweld" conductor, solid Semi-solid polyethylene plastic insulation Tinned copper, double braid shield Clear polyethylene plastic jacket .250″ Max. Diam Nom. Attenuation— 3.10 db/100 ft at 100 mc 4.40 db/100 ft at 200 mc 6.30 db/100 ft at 400 mc Nom. Impedance—93 ohms Nom. Velocity of propagation—84% Nom. Capacitance—13.5 mmf/ft

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BELDEN ELECTRONIC WIRES & CABLES

solid tinned copper (bus bar) wires

Trade Number	8011	8012	8013	8019	8020	8021
	100′ Coiled & cartoned	100′ Coiled & cartoned	100′ Coiled & cartoned	100′ Spool (5 Spools in carton)	100′ Spool (5 Spools in carton)	100′ Spool (5 Spools in carton)
	12 A.W.G.	14 A.W.G.	16 A.W.G.	18 A.W.G.	20 A.W.G.	22 A.W.G.
	Tinned copper wire, solid .080″ Nom. Diam	Tinned copper wire, solid .064″ Nom. Diam	Tinned copper wire, solid .050″ Nom. Diam	Tinned copper wire, solid .040″ Nom. Diam	Tinned copper wire, solid .032″ Nom. Diam	Tinned copper wire, solid .025″ Nom. Diam

tv power supply (cheater) cord

Trade Number	8874
	6′ Cord—Cartoned
	18 A.W.G.
	Brown Type SP-1
	Extra-flexible all-rubber parallel lamp cord with Belden molded-on all-rubber connector and Belden molded plastic plug
	Underwriters' Flag Type Blue Cord Set Label
	Television Power Supply Connector Cord
	Original equipment on most television sets

NOTE

Request the Belden 1700 series, "Household Electrical Cords" catalog, for complete listing of replacement and extension cord sets.

hook-up and lead wires

8864	8865	8856	8857
Contents: 6-25′ Coils 8941. 20 A.W.G. solid; cellulose acetate wrap and braid lacquered. One each **Black, Blue, Green, Red, White, and Yellow.**	Contents: 6-25′ Coils 8943. 20 A.W.G. flexible; cellulose acetate wrap and braid lacquered. One each **Black, Blue, Green, Red, White, and Yellow.**	Contents: 6-25′ Coils 8529. Type MW military specification MIL-W-76A, 20 A.W.G. solid; vinyl thermoplastic insulated. One each **Black, Blue, Green, Red, White, and Yellow.**	Contents: 6-25′ Coils 8523. Type MW military specification MIL-W-76A. 20 A.W.G. stranded; vinyl thermoplastic insulated. One each **Black, Blue, Green, Red, White, and Yellow.**

hook-up and lead wires

cellulose braid lacquered
(used on r-f circuits where low-loss properties are required)

There is a Belden hook-up and lead wire construction for every service requirement —for receivers, transmitters, amplifiers, rectifiers, aircraft radio, geophysical instruments, and all other types of electronic equipment.

Trade Number	8947	8945	8943	8942	8941	8938
	25′ Coiled & cartoned 100′ Spooled & cartoned 1000′ Spool	25′ Coiled & cartoned 100′ Spooled & cartoned 1000′ Spool	25′ Coiled & cartoned 100′ Spooled & cartoned 1000′ Spool	100′ Spooled & cartoned 1000′ Spool	25′ Coiled & cartoned 100′ Spooled & cartoned 1000′ Spool	100′ Spooled & cartoned 500′ Spool
	18 A.W.G.	18 A.W.G.	20 A.W.G.	16 A.W.G.	20 A.W.G.	14 A.W.G.
	16x30 tinned copper conductor **stranded**	Tinned copper conductor, **solid**	10x30 tinned copper conductor **stranded**	26x30 **stranded** tinned copper conductor	Tinned copper conductor, **solid**	41x30 **stranded** tinned copper conductor
	Heavy cellulose acetate yarn wrap	Heavy cellulose acetate yarn wrap	Heavy cellulose acetate yarn wrap	Heavy cellulose acetate yarn wrap	Heavy cellulose acetate yarn wrap	Heavy cellulose acetate yarn wrap
	Cellulose acetate yarn braid	Cellulose acetate yarn braid	Cellulose acetate yarn braid	Cellulose acetate yarn braid	Cellulose acetate yarn braid	Cellulose acetate yarn braid
	Fungus and flame resistant lacquer coating	Fungus and flame resistant lacquer coating	Fungus and flame resistant lacquer coating	Fungus and flame resistant lacquer coating	Fungus and flame resistant lacquer coating	Fungus and flame resistant lacquer coating
	Colors: **Black, Blue, Green, Red, White, Yellow**	Colors: **Black, Blue, Green, Red, White, Yellow**	Colors: **Black, Blue, Brown, Green, Orange, Red, White, Yellow**	Colors: **Black, Green, Red**	Colors: **Black, Blue, Brown, Green, Orange, Red, White, Yellow**	Colors: **Black, Red**
	.087″ Nom. Diam	.080″ Nom. Diam	.076″ Nom. Diam	.099″ Nom. Diam	.072″ Nom. Diam	.115″ Nom. Diam
	Nom. *d-c Ins. Res. per ft — 200 meg ohms	Nom. *d-c Ins. Res. per ft — 200 meg-ohms	Nom. *d-c Ins. Res. per ft — 200 meg-ohms	Nom. *d-c Ins. Res.— 200 megohms/ft	Nom. *d-c Ins. Res. per ft — 200 meg-ohms	Nom. *d-c Ins. Res.— 200 megohms/ft
	Nom. **breakdown voltage—1000 volts	Nom. **breakdown voltage—1000 volts	Nom. **breakdown voltage—1000 volts	Nom. **breakdown voltage—1000 volts	Nom. **breakdown voltage—1000 volts	Nom. **breakdown voltage—1000 volts

* Measurements for d-c insulation resistance made with a megohm bridge at 300 volts on specimens in mercury after subjection to 90% relative humidity and 100F for 24 hours.

** Measurements for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.

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BELDEN ELECTRONIC WIRES & CABLES

hook-up and lead wires

rubber insulated push-back

General-use hook-up wire and leads for transformers, speakers, and controls in audio and power circuits.

Trade Number

8837

100′ Spooled & cartoned
1000′ Spool
20 A.W.G.
Tinned copper conductor, solid
Cotton wrap
.010″ unvulcanized rubber insul.
Cellulose acetate yarn braid
Fungus and flame resistant lacquer coating
Colors: **Black, Blue, Green, Red, Yellow**
.075″ Nom. Diam
Nom. *d-c Ins. Res.—2000 megohms/ft
Nom. **breakdown volt. —2000 volts

8838

100′ Spooled & cartoned
1000′ Spool
20 A.W.G.
10x30 stranded tinned copper cond.
Cotton wrap
.010″ unvulcanized rubber insulation
Cellulose acetate yarn braid
Fungus and flame resistance lacquer coating
Colors: **Black, Blue, Green, Red, Yellow**
.081″ Nom. Diam
Nom. *d-c Ins. Res.—2000 meg/ft
Nom. **breakdown volt.—2000 volts

8833

100′ Spool
1000′ Spool
18 A.W.G.
16x30 stranded tinned copper cond.
.031″ rubber insulation
Cellulose acetate yarn braid
Fungus and flame resistant lacquer coating
Colors: **Black, Blue, Green, Red, Yellow**
.125″ Nom. Diam
Nom. *d-c Ins. Res.—10,000 megohms/ft
Nom. **breakdown voltage—8000 volts

thermoplastic insulated

8918

250′ Spool
1000′ Spool
18 A.W.G.
16x30 stranded tinned copper conductor
.031″ vinyl thermoplastic insulation
Colors: **Black, Blue, Green, Red, Yellow**
.112″ Nom. Diam
Nom. *d-c Ins. Res.—5000 megohms/ft
Nom. **breakdown voltage —12,000 volts

r-f push-back wire

cellulose acetate braid waxed

Used on r-f circuits where low-loss properties are required.

Trade Number

8841

100′ Spooled & cartoned
1000′ Spool
20 A.W.G.
Tinned copper conductor, solid
Two cellulose acetate yarn braids waxed
Colors: **Black, Blue, Green, Red, all with White Tracer**
.067″ Nom. Diam
Nom. *d-c Ins. Res.—1000 megohms/ft
Nom. **breakdown voltage —1000 volts

8839

100′ Spooled & cartoned
1000′ Spool
20 A.W.G.
10x30 stranded tinned copper conductor
Two cellulose acetate yarn braids waxed
Colors: **Black, Blue, Green, Red, all with White Tracer**
.072″ Nom. Diam
Nom. *d-c Ins. Res.—1000 megohms/ft
Nom. **breakdown voltage —1000 volts

8844

100′ Spooled & cartoned
1000′ Spool
18 A.W.G.
16x30 stranded tinned copper conductor
Two cellulose acetate yarn braids waxed
Colors: **Black, Blue, Green, Red, all with White Tracer**
.092″ Nom. Diam
Nom. *d-c Ins. Res. —1000 megohms/ft
Nom. **breakdown voltage —1000 volts

test prod wire

High-voltage lead wire for use with portable testing equipment, instruments, and other radio units where excellent dielectric properties of the insulation and extreme flexibility limpness of the cable are essential considerations.

8899

10′ Coiled & cartoned
14′ Coiled & cartoned (7′ Black and 7′ Red)
25′ Coiled & cartoned
100′ Spool; 500′ Spool; 1000′ Spool; 18 A.W.G.
65x36 stranded tinned copper conductor. Cotton wrap. .043″ rubber insulation. Colors: **Black, Red.** .140″ Nom. Diam. Puncture voltage 20,000 volts. Suggested Working Voltage **5,000 volts.**

8898

10′ Coiled & cartoned
25′ Coiled & cartoned
100′ Spool; 500′ Spool; 1000′ Spool; 18 A.W.G. 65x36 stranded tinned copper conductor. Cotton wrap. .088″ rubber insulation. Colors: **Black, Red.** .230″ Nom. Diam. Puncture voltage 29,000 volts. Suggested Working Voltage **10,000 volts.**

type MW hook-up wires — in 30 color combinations

Thermoplastic Insulated Type MW—1000 Volt—80°C—(Formerly Type SRIR—JAN-C-76) Military Specifications MIL-W-76A

Trade Number

8530

MW-C-22-(1)-U-*
25′ Coiled & cartoned
100′ Spooled & cartoned
1000′ Spool
22 A.W.G.
Tinned copper conductor, solid
.016″ vinyl thermoplastic insulation
.059″ Nom. Diam
Stock Colors:

Put-up	†Colors
25′	(1 thru 13)
100′	(1 thru 22)
1000′	(1 thru 22)

8529

MW-C-20-(1)-U-*
25′ Coiled & cartoned
100′ Spooled & cartoned
1000′ Spool
20 A.W.G.
Tinned copper conductor, solid
.016″ vinyl thermoplastic insulation
.066″ Nom. Diam
Stock Colors:

Put-up	†Colors
25′	(1 thru 13)
100′	(1 thru 22)
1000′	(1 thru 22)

8524

MW-C-22-(7)-U*
25′ Coiled & cartoned
100′ Spooled & cartoned
1000′ Spool
22 A.W.G.
7x30 stranded tinned copper conductor
.016″ vinyl thermoplastic insulation
.064″ Nom. Diam
Stock Colors:

Put-up	†Colors
25′	(1 thru 13)
100′	(1 thru 30)
1000′	(1 thru 30)

8523

MW-C-20-(7)-U*
25′ Coiled & cartoned
100′ Spooled & cartoned
1000′ Spool
20 A.W.G.
10x30 stranded tinned copper conductor
.016″ vinyl thermoplastic insulation
.072″ Nom. Diam
Stock Colors:

Put-up	†Colors
25′	(1 thru 13)
100′	(1 thru 30)
1000′	(1 thru 30)

8522

MW-C-18-(16)-U*
25′ Coiled & cartoned
100′ Spooled & cartoned
1000′ Spool
18 A.W.G.
16x30 stranded tinned copper conductor
.016″ vinyl thermoplastic insulation
.081″ Nom. Diam
Stock Colors:

Put-up	†Colors
25′	(1 thru 13)
100′	(1 thru 22)
1000′	(1 thru 22)

†SOLID AND STRIPED COLORS. First color in stripe combination is body color and second or third colors are stripes (White/Black/Red)

1 Brown	7 Violet (purple)	13 Dark Blue	19 White/Brown	25 White/Black/Yellow
2 Red	8 Gray (slate)	14 White/Black	20 White/Orange	26 White/Black/Blue
3 Orange	9 White	15 White/Red	21 White/Gray	27 White/Black/Brown
4 Yellow	10 Black	16 White/Green	22 White/Violet	28 White/Black/Orange
5 Green	11 Tan	17 White/Yellow	23 White/Black/Red	29 White/Black/Gray
6 Light Blue	12 Pink	18 White/Blue	24 White/Black/Green	30 White/Black/Violet

*Type Designation. Government Specification Hook-up Wire will be shown as follows:

MW	C	22	(7)	U	000
Type	Conductor Copper	Size A.W.G.	Minimum Strands	Finish Covering over Insulation None	Color Code First digit is body color and second or succeeding digits indicate tracer colors.

Colors: 0 Black, 1 Brown, 2 Red, 3 Orange, 4 Yellow, 5 Green, 6 Blue, 7 Violet (purple), 8 Gray (slate), 9 White

* Measurements for d-c insulation resistance made with a megohm bridge at 300 volts on specimens in mercury after subjection to 90% relative humidity and 100F for 24 hours.
** Measurements for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.

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BELDEN ELECTRONIC WIRES & CABLES

hook-up and lead wires

shielded hook-up wire

Trade Number **8885**

15′ Coiled & cartoned
25′ Coiled & cartoned
100′ Spooled & cartoned
500′ Spool
20 A.W.G.
10x30 **stranded** tinned copper conductor
.015″ rubber insulation
Cellulose acetate yarn braid
Fungus and flame resistant lacquer coating
Tinned copper braid **shield**
.117″ Nom. Diam
Nom. *d-c Ins. Res.—5000 megohms/ft
Nom. **breakdown voltage —4000 volts
Used in circuits where shielded grid return is required and to shield a circuit conductor from stray fields.

high-voltage and cathode-ray tube lead cable

8869

25′ Coiled & cartoned
100′ Spool
20 A.W.G.
7x28 **stranded** tinned copper conductor
.035″ flame retardant Rulan polyethylene plastic insulation
Color: **White**
.108″ Nom. Diam
Puncture voltage—32,000 volts
Temperature rating—100°C
Suggested Working Voltage—**10,000 volts**

8868

25′ Coiled & cartoned
100′ Spool
20 A.W.G.
7x28 **stranded** tinned copper conductor
.065″ flame retardant Rulan polyethylene plastic insulation
Color: **White with Red Stripe**
.168″ Nom. Diam
Puncture voltage—54,000 volts
Temperature rating—100°C
Suggested Working Voltage—**20,000 volts**

High-voltage leads to cathode-ray tubes in television receivers, oscilloscopes and in power supplies and other applications where a high-voltage cable is required. High dielectric strength, corona resistance, and minimum surface leakage are very important features of these cables.

aerial wire

indoor aerial wire (extra flexible)

8014

25′ Packaged on card (5 cards in carton)
500′ Spooled & cartoned
25 A.W.G.
13x36 **stranded** tinned copper conductor
.010″ **chrome** vinyl plastic insulation
.044″ Nom. Diam

aerial wire

solid formvar (HF) aerial wire

Trade Number

8008

100′ Coiled & cartoned
200′ Spool
500′ Spool
12 A.W.G.
(HF) Formvar
.084″ Nom. Diam

8009

100′ Coiled & cartoned
500′ Spool
14 A.W.G.
(HF) Formvar
.067″ Nom. Diam

stranded bare copper aerial wire

8000

50′ Coil
75′ Coil
100′ Coil
1000′ Spool
14 A.W.G.
7x22 **stranded** bare copper conductor
.076″ Nom. Diam

8002

50′ Coil
75′ Coil
100′ Coil
1000′ Spool
16 A.W.G.
7x24 **stranded** bare copper conductor
.060″ Nom. Diam

wires

litz wire

8817

100′ Spool
5x44 Celenamel conductor
Wrap of Nylon
.008″ Nom. Diam
For rewinding antenna primaries and for hand-wound r-f coils.

lead-in wire

8200

100′ Spool
500′ Spool
1000′ Spool
18 A.W.G.
7x27 stranded tinned copper conductor
.040″ **Black** rubber insulation
.126″ Nom. Diam

pickup arm and lead wire

phonograph pick-up arm cable

Trade Number **8431**

10′ Packaged on card (5 cards in carton)
15′ Packaged on card (5 cards in carton)
25′ Coiled & cartoned
100′ Spool
500′ Spool
24 A.W.G.
16x36 **stranded** tinned copper conductor
.015″ rubber insulation
Tinned copper braid **shield**
Brown, fine cotton braid
.095″ Nom. Diam

Extreme flexibility, limpness and high dielectric breakdown are important features of this cable.

voice coil lead wire

8127
10′ Packaged on card (5 cards in carton)
25 A.W.G.
32x40 **braided** bare copper wire
.024″ Nom. Diam

aircraft, marine and auto radio wires

8667

100′ Spool
7 MM
7x28 **stranded** tinned copper clad steel conductor
Rubber insulation
Cotton braid
Lacquer coating
Color: **Black**
.280″ Nom. Diam (7m/m)
High-voltage ignition cable.

8677

100′ Spool
500′ Spool
16 A.W.G.
19x29 **stranded** tinned copper conductor
Vinyl plastic insulation
One brown and one red conductor parallel
Chrome vinyl plastic jacket
.164″x.276″ Nom. Diam
Duplex weatherproof cable.

8675

100′ Spool
500′ Spool
14 A.W.G.
19x27 **stranded** tinned copper conductor
Vinyl plastic insulation
One brown and one red conductor parallel
Chrome vinyl plastic jacket
.189″x.326″ Nom. Diam
Duplex weatherproof cable.

8673

100′ Spool
500′ Spool
12 A.W.G.
19x25 **stranded** tinned copper conductor
Vinyl plastic insulation
One brown and one red conductor parallel
Chrome vinyl plastic jacket
.214″x.384″ Nom. Diam
Duplex weatherproof cable.

* Measurements for d-c insulation resistance made with a megohm bridge at 300 volts on specimens in mercury after subjection to 90% relative humidity and 100F for 24 hours.

** Measurements for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.

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BELDEN ELECTRONIC WIRES & CABLES

aircraft, marine and auto radio wires

Trade Number	8652	8651	8650	8656	8833	8665
	100′ Spool 16 A.W.G. 19x29 stranded tinned copper conductor Rubber insulation Cotton braid Lacquer coating Color: Black with one White Tracer .137″ Nom. Diam Heavy-duty hook-up wire.	100′ Spool 14 A.W.G. 19x27 stranded tinned copper conductor Rubber insulation Cotton braid Lacquer coating Color: Green with two White Tracers .159″ Nom. Diam Heavy-duty hook-up wire.	100′ Spool 12 A.W.G. 19x25 stranded tinned copper conductor Rubber insulation Cotton braid Lacquer coating Color: Red with three White Tracers .199″ Nom. Diam Heavy-duty hook-up wire.	100′ Spool 16 A.W.G. 19x29 stranded tinned copper conductor Rubber insulation Cotton braid Blue lacquer coating Tinned copper braid shield .170″ Nom. Diam Shielded heavy-duty hook-up wire.	100′ Spool 1000′ Spool 18 A.W.G. 16x30 stranded tinned copper conductor Rubber insulation Cellulose acetate yarn braid Lacquer coating Colors: Black, Blue, Green, Red, Yellow .125″ Nom. Diam Heavy-duty hook-up wire.	100′ Spool 19 A.W.G. 7x.013″ stranded stainless steel alloy conductor Rubber insulation Glass yarn web braid Neoprene jacket Tinned copper braid shield Black neoprene jacket .365″ Nom. Diam Nom. Capacitance—33.0 mmf/ft 7m/m shielded high-voltage ignition cable.

Belden supplies a complete line of auto radio wires and shielding to handle every wire requirement in installation and servicing. In installations of this type, the use of the correct wire is particularly important. Applications are indicated in the listings above.

shielding and bonding cable

braided tinned copper

Trade Number	8660	8661	8668	8669	8662
	10′ Coiled & cartoned 50′ Spooled & cartoned 250′ Spool 96x34 braided tinned copper Braided in tubing form 1/8″ ID Nom. Diam For shielding and bonding.	10′ Coiled & cartoned 50′ Spooled & cartoned 250′ Spool 192x34 braided tinned copper Braided in tubing form 3/8″ ID Nom. Diam For shielding and bonding.	10′ Coiled & cartoned 50′ Spooled & cartoned 250′ Spool 120x34 braided tinned copper Braided in tubing form 11/64″ ID Nom. Diam For shielding and bonding.	10′ Coiled & cartoned 50′ Spool 250′ Spool 336x34 braided tinned copper Braided in tubing form 1/2″ ID Nom. Diam For shielding and bonding.	10′ Coiled & cartoned 50′ Spool 250′ Spool 576x34 braided tinned copper Braided in tubing form 25/32″ ID Nom. Diam For shielding and bonding.

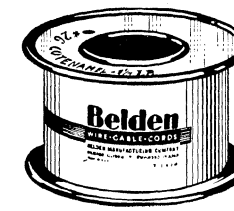
magnet wire

Nylclad magnet wire combines the most desirable features of Formvar with the well-known toughness and solvent resistance of Nylon enamel.

For difficult and exacting windings, these plus values may represent the difference between low and high rejections.

Nylclad will out-perform all other A.I.E.E., Class A, film-coated wires with respect to: (1) ability to withstand winding abuse and forming operations; (2) resistance to the solvent action of insulating varnishes and all types of thinners; (3) resistance to softening at elevated temperatures; (4) solvent crazing; (5) windability.

Other types of Belden Magnet Wires available are Beldenamel, Single Cotenamel, and Single Nyltex enamel.



BELDENAMEL (E)

Size	Turns per Linear Inch	Turns per Square Inch	Approx. Lgth. in Ft. ¼-Lb Spool	Approx. Lgth. in Ft. ½-Lb Spool
14	15.2	231	.....	40
16	19.1	365	.....	63
18	23.9	571	.....	100
20	29.9	894	.....	160
22	37.4	1399	.....	254
24	46.9	2200	.....	404
26	59.0	3481	.....	645
28	73.8	5446	510	1020
30	92.2	8501	807	1615
32	114.0	12996	1257	2515
34	144.0	20736	2030	4060
36	180.0	32400	3200	6400
38	225.0	50625	5070	.....
40	290.0	84100	8050	.....

NYLCLAD (HNC)

Size	Turns per Linear Inch	Turns per Square Inch	Approx. Lgth. in Ft. ½-Lb Spool	Approx. Lgth. in Ft. 1-Lb Spool
14	14.9	222	40	80
16	18.6	346	63	126
18	23.2	538	100	199
20	28.9	835	157	315
22	36.0	1296	250	501
24	44.7	1998	396	793
26	55.7	3102	630	1260
28	69.4	4816	995	1990
30	86.2	7430	1570	3140
32	106.0	11236	2440	4880
34	133.0	17689	3930	7860
36	167.0	27889	6200	12400
38	206.0	42436	9700	19400
40	263.0	69169	16050	32100

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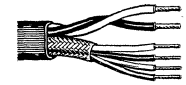
BELDEN ELECTRONIC WIRES & CABLES

NEW—P.A. and Sound System Cable



Trade Number

8492

1000′ Spool
19 A.W.G.
Bare copper conductor **solid**
.025″ vinyl plastic insulation
2 conductors cabled:
One conductor tinned for polarity
.150″ Nom. Diam
Colors: Brown or White
(Both conductors same color)
For sound and alarm systems and speaker extensions.

8493

1000′ Spool
19 A.W.G.
Bare copper conductor **solid**
.025″ vinyl plastic insulation
3 conductors cabled:
Polarity Coding: One conductor tinned, second conductor ridge on insulation and third conductor plain
.170″ Nom. Diam
Colors: Brown or White
(All 3 conductors same color)
For sound and alarm systems and speaker extensions.

8487

1000′ Spool
19 A.W.G.
Bare copper conductor **solid**
.015″ vinyl plastic insulation
3 conductors cabled:
Brown, Gray, Tan
.020″ tubed **chrome** vinyl plastic jacket
.170″ Nom. Diam
For sound system and speaker extensions.

8786

500′ Spool
22 A.W.G.
7x30 tinned **stranded** copper conductor
.015″ vinyl plastic insulation
2 conductors:
Blue and White
Twisted pair
24 A.W.G.
7x32 tinned **stranded** copper conductor
.015″ vinyl plastic insulation
4 conductors: Black, Green, Red, Yellow, with overall tinned copper braid **shield**
.020″ tubed **chrome** vinyl plastic jacket
.195″x.300″ Nom. Diam
Type MRVC2 cable for "200" record players.

8762

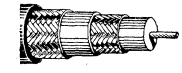
100′ Spool
500′ Spool
1000′ Spool
20 A.W.G.
7x28 tinned **stranded** copper conductor
.014″ vinyl plastic insulation
2 conductors cabled:
Black and White
Spiral wrapped **aluminum Foil shield**
7x28 tinned **stranded** copper drain wire parallel to twisted pair under shield
.018″ tubed **chrome** vinyl plastic jacket
.160″ Nom. Diam
For public address and intercommunicating systems in schools, hospitals and institutions.

COMMUNITY TV ANTENNA SYSTEM CABLES

Belden Community TV Antenna System Cables are designed for lowest losses, longer service life, and maximum dependability.

Quality Controlled through every step of manufacturing. No variation from shipment to shipment. The cables are essentially flat with no peaks in attenuation to reduce the signal on either the high or low television channels.

All cables are sweep tested before shipment which assures you of maximum performance and minimum maintenance.



8241

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.
Bare "Copperweld" conductor, **solid**
Polyethylene plastic insulation
Bare copper braid **shield**
Black vinyl plastic jacket
.242″ Nom. Diam
Nom. **Attenuation—**
2.70 db/100 ft at 50 mc
3.75 db/100 ft at 100 mc
5.60 db/100 ft at 200 mc
7.10 db/100 ft at 300 mc
Nom. **Impedance**—73 ohms
Nom. **Velocity** of propagation —66%
Nom. **Capacitance**—
21.0 mmf/ft
RG-59/U Tap-Off Lead-In.

8232

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.
Bare "Copperweld" conductor, **solid**
Polyethylene plastic insulation
Bare copper braid **shield**
Polyethylene plastic jacket
Bare copper braid **shield**
Black vinyl plastic jacket
.315″ Nom. Diam
Nom. **Attenuation—**
2.70 db/100 ft at 50 mc
3.75 db/100 ft at 100 mc
5.60 db/100 ft at 200 mc
7.10 db/100 ft at 300 mc
Nom. **Impedance**—73 ohms
Nom. **Velocity** of propagation 66%
Nom. **Capacitance**—
21.0 mmf/ft
Tap-Off Lead-In.
Double shielded double jacket.
Recommended as alternate for RG-59/U to minimize Line Radiation.

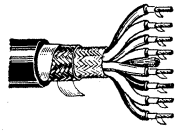
8238

100′ Spool
500′ Spool
1000′ Returnable Reel
1500′ Returnable Reel
18 A.W.G.
7x26 **stranded** tinned copper conductor
Polyethylene plastic insulation
Bare copper braid **shield**
Black vinyl plastic jacket
.405″ Nom. Diam
Nom. **Attenuation—**
1.30 db/100 ft at 50 mc
1.90 db/100 ft at 100 mc
2.85 db/100 ft at 200 mc
3.65 db/100 ft at 300 mc
Nom. **Impedance**—75 ohms
Nom. **Velocity** of propagation —66%
Nom. **Capacitance**—
20.5 mmf/ft
Secondary Lead. RG-11/U

8233

500′ Spool
1000′ Returnable Reel
1500′ Returnable Reel
18 A.W.G.
7x26 **stranded** tinned copper conductor
Polyethylene plastic insulation
Bare copper braid **shield**
Polyethylene plastic jacket
Bare copper braid **shield**
Black vinyl plastic jacket
.470″ Nom. Diam
Nom. **Attenuation—**
1.30 db/100 ft at 50 mc
1.90 db/100 ft at 100 mc
2.85 db/100 ft at 200 mc
3.65 db/100 ft at 300 mc
Nom. **Impedance**—75 ohms
Nom. **Velocity** of propagation —66%
Nom. **Capacitance**—
20.5 mmf/ft
Secondary Lead.
Double shielded double jacket.
Recommended as alternate for RG-11/U to minimize Line Radiation.

SPECIAL PURPOSE CABLES



Trade Number

8418

15′ Coiled & cartoned
50′ Spool
100′ Spool
250′ Spool
20 A.W.G.
26x34 **stranded** tinned copper conductor
Cotton wrap
.020″ rubber insulation
8 conductors cabled with fillers: Black, Blue, Brown, Green, Orange, Red, White, Yellow
Rayon braid
Tinned copper braid **shield**
Cotton wrap
.040″ **black** rubber jacket
.386″ Nom. Diam
Interconnecting power cable for all electronic uses.

8462

100′ Spool
18 A.W.G.
41x34 **stranded** bare copper conductor
Cotton wrap
2 conductors parallel
Brown rubber insulation and jacket integral
.123″x.223″ Nom. Diam
Underwriters' Type SP-1
Rubber Parallel Cord

8721

1200′ To 2500′ Spooled
2501′ To 4000′ Spooled
4001′ To 6000′ Returnable Reel
25 A.W.G.
3x33 copper & 4x33 steel **stranded** tinned conductor
Cellulose yarn braid
Polyethylene plastic insulation
Tinned copper coated steel braid **shield**
Chrome vinyl plastic jacket
.205″ Nom. Diam
Nom. Capacitance—25 mmf/ft
A high tensile strength, low capacitance, small diameter, waterproof cable for use with the deep well probe used in gamma ray logging of underground formations.
Breaking strength 250 pounds.
Uranium Logging Cable.

8231

100′ Spool
500′ Spool
1000′ Spool
21 A.W.G.
Tinned copper conductor, **solid**
Polyethylene plastic insulation
Bare copper braid **shield**
Black vinyl plastic jacket
.280″ Nom. Diam
Nom. **Attenuation—**
1.8 db/100 ft at 50 mc
2.2 db/100 ft at 100 mc
3.8 db/100 ft at 200 mc
4.8 db/100 ft at 300 mc
5.9 db/100 ft at 400 mc
Nom. **Impedance**—75 ohms
Nom. **Capacitance**—20.5 mmf/ft
A low loss coaxial cable designed for economical installation of multiple TV sets using a master antenna. Fits special tap-off connectors used in these installations.
Multiple Set Antenna Cable.

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BELDEN • Price List

Belden Trade Number	Unit Package and Length**	Suggested List Price Each
1701B		$ .95
1701K		1.08
1702B		1.18
1702K		1.30
1704		9.95
1705B		.83
1705K		.94
1707		2.96
1708		2.54
1716B		1.01
1716K		1.11
1717B		.90
1717K		1.01
1725K		.58
1728B		.67
1728K		.77
1735K		.77
1736B		.91
1736K		1.04
1737B		.73
1737K		.87
1738B		.77
1738K		.91
1739B		.63
1739K		.73
1749B		.58
1749K		.71
1750B		1.01
1750K		1.23
1751K		1.82
1752K		1.54
1754B		.71
1754B		.90
1756K		1.52
1765B		.38
1766B		1.08
1767K		1.67
1774		3.90
1776		4.59
1777K		.83
1784		3.29
1786		3.96
1790K		7.97
1791K		5.49
1792K		9.38
1793		2.54
1794		3.05
1795K		5.20
1796		3.55
8000	50′	1.55
8000	75′	2.25
8000	100′	2.75
8000	1000′	.03′
8002	50′	1.15
8002	75′	1.50
8002	100′	2.00
8002	1000′	.02′
8008	100′	4.25
8008	200′	8.00
8008	500′	.045′
8009	100′	2.90
8009	500′	.03′
8011	100′	3.90
8012	100′	2.75
8013	100′	2.00
8014	25′	.43
8014	500′	.015′
8018§	50′	1.38
8018	500′	.03′
8018	1000′	.03′
8019*	100′	$1.80
8020*	100′	1.55
8021*	100′	1.40
8127	10′	.40
8200	100′	2.50
8200	500′	.025′
8200	1000′	.025′
8204	25′	2.00
8204	100′	6.25
8204	500′	.08′
8204	1000′	.08′
8205	25′	1.38
8205	100′	4.15
8205	500′	.06′
8205	1000′	.06′
8206	15′	1.25
8206	50′	3.40
8206	100′	6.00
8206	250′	.08′
8208	15′	1.95
8208	50′	5.50
8208	100′	10.15
8208	500′	.12′
8208	1000′	.12′
8209	15′	1.90
8209	50′	5.40
8209	100′	10.00
8209	500′	.12′
8209	1000′	.12′
8222	100′	2.75
8222	500′	.03′
8224	100′	3.65
8224	500′	.04′
8225§	50′	2.00
8225§	75	3.00
8225§	100′	3.50
8225	500′	.04′
8225	1000′	.04′
8227	100′	16.25
8227	250′	.17′
8227●	500′	.17′
8230§	50′	2.00
8230§	75′	3.00
8230§	100′	3.50
8230	500′	.04′
8230	1000′	.04′
8235	100′	7.00
8235	500′	.08′
8237	100′	22.75
8237	500′	.23′
8237	1000′	.23′
8238	100′	21.25
8238	500′	.21′
8238	1000′	.21′
8239	100′	14.75
8239	500′	.15′
8239	1000′	.15′
8240	100′	9.65
8240	500′	.10′
8240	1000′	.10′
8241	100′	10.50
8241	500′	.12′
8241	1000′	.12′
8242	100′	47.00
8242	500′	.47′
8242	1000′	.47′
8244	100′	10.00
8244	500′	.10′
8244	1000′	.10′
8245	100′	$16.75
8245	500′	.17′
8245	1000′	.17′
8254	100′	12.25
8254	500′	.13′
8254	1000′	.13′
8257	100′	19.75
8257	500′	.20′
8257	1000′	.20′
8259	100′	9.65
8259	500′	.10′
8259	1000′	.10′
8260	100′	43.40
8260	500′	.44′
8260	1000′	.44′
8264	100′	38.75
8264	500′	.39′
8264	1000′	.39′
8275§	50′	3.80
8275§	75′	5.25
7275§	100′	6.90
8275	500′	.08′
8275	1000′	.08′
8280*	▲	1.00′
8282	50′	23.15
8282	100′	44.40
8282	500′	.46′
8401	15′	1.43
8401	25′	2.15
8401	50′	3.40
8401	100′	7.15
8401	500′	.09′
8410	15′	2.25
8410	25′	3.50
8410	50′	6.65
8410	100′	12.40
8410	500′	.15′
8411	15′	1.10
8411	25′	1.70
8411	50′	2.95
8411	100′	5.40
8411	500′	.08′
8412	15′	2.65
8412	25′	4.15
8412	50′	7.50
8412	100′	14.65
8412	500′	.17′
8414*	50′	6.40
8414*	500′	.13′
8422	15′	1.90
8422	25′	2.90
8422	50′	5.25
8422	100′	10.15
8422	500′	.12′
8423	15′	3.00
8423	50′	8.75
8423	100′	16.65
8423	250′	.18′
8423	500′	.18′
8423●	1000′	.18′
8424	15′	3.25
8424	50′	10.00
8424	100′	19.50
8424	250′	.20′
8424●	500′	.20′
8424●	1000′	.20′
8425	15′	3.90
8425	50′	12.00
8425	100′	22.75
8425	250′	.24′
8426	15′	4.90
8426	50′	14.65
8426	100′	$28.25
8426	250′	.30′
8427	15′	5.00
8427	50′	15.65
8427	100′	30.00
8427	250′	.32′
8428	15′	3.15
8428	25′	5.00
8428	50′	9.65
8428	100′	19.50
8428	500′	.20′
8431	10′	.83
8431	15′	1.13
8431	25′	1.70
8431	100′	5.25
8431	500′	.08′
8432	100′	10.40
8432	500′	.11′
8432	1000′	.11′
8433	100′	13.00
8433	500′	.13′
8435*	100′	10.65
8435*	500′	.11′
8435*	1000′	.11′
8436*	100′	7.90
8436*	500′	.09′
8436*	1000′	.09′
8437	100′	8.65
8437	500′	.09′
8437	1000′	.09′
8438	100′	7.40
8438	500′	.08′
8438	1000′	.08′
8439	100′	8.40
8439	500′	.09′
8439	1000′	.09′
8440	100′	7.75
8440	500′	.09′
8440	1000′	.09′
8443	25′	1.45
8443	100′	4.40
8443	500′	.06′
8443●	1000′	.06′
8444	25′	1.75
8444	100′	5.40
8444	500′	.08′
8444●	1000′	.08′
8445	25′	2.00
8445	100′	6.40
8445	500′	.09′
8445●	1000′	.09′
8446	15′	1.90
8446	100′	9.25
8446	500′	.11′
8446●	1000′	.11′
8447	15′	2.00
8447	100′	10.40
8447	500′	.12′
8447●	1000′	.12′
8448	15′	2.20
8448	100′	11.00
8448	500′	.12′
8448●	1000′	.12′
8449	15′	2.25
8449	100′	12.00
8449	500′	.13′
8449●	1000′	.13′
8452	15′	1.65
8452	25′	2.45
8452	50′	4.50
8452	100′	8.25

†Specify Color. All prices subject to change without notice. ▲Furnished on returnable reels to customers specified length. ●New put-up.
*New Item. **Please indicate length desired, immediately following trade number, when more than one length is listed under same trade number.
§10′-100′ coils in a counter dispenser. All prices shown on this sheet are suggested resale price only.

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BELDEN • Price List

Belden Trade Number	Unit Package and Length**	Suggested List Price Each
8452●	250′	19.00
8452	500′	$ .10′
8452●	1000′	.10′
8453	15′	2.00
8453	50′	5.50
8453	100′	10.25
8453	500′	.12′
8454	15′	2.25
8454	50′	6.50
8454	100′	12.25
8454	500′	.14′
8454	1000′	.14′
8455	15′	2.50
8455	50′	7.15
8455	100′	13.50
8455	250′	.15′
8464§	75′	4.25
8464§	100′	5.50
8464	500′	.06′
8464	1000′	.06′
8472	25′	3.65
8472	50′	6.65
8472	100′	12.25
8472	250′	.14′
8478	25′	3.00
8478	50′	5.25
8478	100′	9.90
8478	250′	.13′
8478	1000′	.13′
8482	1000′	.025′
8483	1000′	.035′
8484	100′	6.15
8484	500′	.07′
8484	1000′	.07′
8485	100′	7.15
8485	500′	.08′
8485	1000′	.08′
8486*	1000′	.04′
8488	100′	8.50
8488	500′	.09′
8488	1000′	.09′
8522†	25′	.68
8522†	100′	2.35
8522†	1000′	.025′
8523†	25′	.58
8523†	100′	1.95
8523†	1000′	.025′
8524†	25′	.55
8524†	100′	1.70
8524†	1000′	.025′
8529†	25′	.53
8529†	100′	1.70
8529†	1000′	.025′
8530†	25′	.45
8530†	100′	1.50
8530†	1000′	.02′
8650	100′	.09′
8651	100′	.06′
8652	100′	.05′
8656	100′	.09′
8660	10′	.75
8660	50′	3.15
8660	250′	.08′
8661	10′	1.20
8661	50′	4.65
8661	250′	.11′
8662	10′	2.90
8662	50′	13.50
8662	250′	.27′
8665	100′	.25′
8667	100′	.12′
8668	10′	1.10
8668	50′	$3.90
8668	250′	.09′
8669	10′	2.15
8669	50′	9.75
8669	250′	.20′
8673	100′	19.75
8673	500′	.20′
8675	100′	13.25
8675	500′	.14′
8677	100′	10.00
8677	500′	.11′
8732	100′	8.90
8732	500′	.11′
8732●	1000′	.11′
8734	100′	7.00
8734	500′	.08′
8734●	1000′	.08′
8735	15′	1.50
8735	50′	4.00
8735	100′	7.50
8735	500′	.09′
8735●	1000′	.09′
8737	100′	6.00
8737	500′	.06′
8737●	1000′	.06′
8738	100′	4.50
8738	500′	.055′
8738	1000′	.055′
8739	100′	5.15
8739	500′	.055′
8739	1000′	.055′
8740	100′	3.15
8740	500′	.04′
8740	1000′	.04′
8741	100′	5.00
8741	500′	.055′
8741	1000′	.055′
8742	100′	6.75
8742	500′	.08′
8742	1000′	.08′
8743	100′	10.00
8743	500′	.11′
8743●	1000′	.11′
8744	100′	14.40
8744	500′	.15′
8744●	1000′	.15′
8745	100′	25.40
8745	500′	.26′
8745●	1000′	.26′
8746	▲	.45′
8747	100′	$14.75
8747	500′	.16′
8747●	1000′	.16′
8748	100′	19.40
8748	500′	.20′
8748●	1000′	.20′
8749	100′	34.40
8749	500′	.35′
8749●	1000′	.35′
8750	▲	.59′
8753	100′	20.65
8753	500′	.21′
8753●	1000′	.21′
8758*	100′	6.00
8758*	500′	.06′
8758*	1000′	.06′
8759*	100′	7.15
8759*	500′	.08′
8759*	1000′	.08′
8782	500′	.02′
8782	1000′	.02′
8783	500′	.09′
8785	500′	.11′
8789	100′	8.00
8789	500′	.09′
8789	1000′	.09′
8790*	100′	8.15
8790*	500′	.09′
8790*	1000′	.09′
8791*	100′	11.00
8791*	500′	.12′
8791*	1000′	.12′
8799	100′	8.15
8799	500′	.09′
8799	1000′	.09′
8817	100′	.40
8833†	100′	4.00
8833†	1000′	.04′
8837†	100′	3.00
8837†	1000′	.04′
8838†	100′	3.15
8838†	1000′	.04′
8839†	100′	3.40
8839†	1000′	.04′
8841†	100′	3.15
8841†	1000′	$ .04′
8844†	100′	3.75
8844†	1000′	.04′
8856*		3.15
8857*		3.45
8864		4.65
8865		4.80
8868	25′	1.70
8868	100′	.08′
8869	25′	1.15
8869	100′	.05′
8874		1.00
8885	15′	1.00
8885	25′	1.65
8885	100′	5.25
8885	500′	.07′
8898†	10′	.85
8898†	25′	1.75
8898†	100′	5.50
8898†	500′	.08′
8899†	10′	.60
8899†	14′	.85
8899†	25′	1.35
8899†	100′	3.90
8899†	500′	.055′
8899†	1000′	.055′
8918†	250′	.025′
8918†	1000′	.025′
8938†	100′	4.90
8938†	500′	.055′
8941†	25′	.80
8941†	100′	2.50
8941†	1000′	.03′
8942†	100′	3.90
8942†	1000′	.05′
8943†	25′	.80
8943†	100′	2.75
8943†	1000′	.03′
8945†	25′	.85
8945†	100′	2.95
8945†	1000′	.03′
8947†	25′	.95
8947†	100′	3.25
8947†	1000	.04′

BELDENAMEL MAGNET WIRE

Size	¼-Lb. Spools List Price	½-Lb. Spools List Price
14	—	$1.18
16	—	1.15
18	—	1.15
20	—	1.18
22	—	1.25
24	—	1.30
26	—	1.38
28	$.83	1.45
30	.90	1.60
32	.93	1.63
34	.98	1.73
36	1.18	2.08
38	1.50	—
40	2.13	—

HNC NYLCLAD

Size	½-Lb. Spools List Price	1-Lb. Spools List Price
14	$1.15	$2.18
16	1.15	2.18
18	1.18	2.23
20	1.20	2.33
22	1.28	2.43
24	1.33	2.55
26	1.43	2.70
28	1.55	2.98
30	1.73	3.30
32	1.83	3.50
34	2.05	3.88
36	2.43	4.53
38	3.15	5.95
40	5.08	9.23

†Specify Color. All prices subject to change without notice. ▲Furnished on returnable reels to customers specified length. ●New put-up.
*New Item. **Please indicate length desired, immediately following trade number, when more than one length is listed under same trade number.
§10′-100′ coils in a counter dispenser. All prices shown on this sheet are suggested resale price only.

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NATIONAL

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"MIL and JAN-spec" WIRES

WIRES TO GOVERNMENT SPECIFICATION

ARMY • NAVY • AIR FORCE

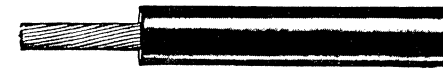
JAN-C-76 — MIL — ANJ-C-48A

MIL-W-76A

TYPE MW

Construction: Tinned copper, stranded or solid. Thermoplastic insulation. Temperature —40C to +80C. Rating 1000 volts (working). Colors: All standard NEMA color coding. Tracers also available on solid colors.

Stranded		Solid	
Gauge	Catalogue No.	Gauge	Catalogue No.
24	NMW732U	22	NMW221U
22	NMW730U	20	NMW201U
20	NMW1030U	18	NMW181U
18	NMW1630U		
16	NMW2630U		
14	NMW1927U		
12	NMW1925U		



TYPE MW-J

Construction: Tinned copper stranded. Thermoplastic insulation with an extruded nylon jacket overall. Temperature —40C to +80C. Rating 1000 volts (working) Colors: All standard NEMA color coding.

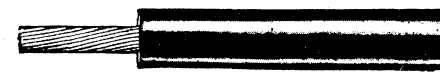
Gauge	Catalogue No.	Gauge	Catalogue No.
24	NMW1936N	18	NMW1930N
22	NMW1934N	16	NMW2630N
20	NMW1932N	14	NMW1927N

JAN-C-76

TYPE SRIR Hook-up Wire

Construction: Tinned copper stranded or solid. Nominal insulation thickness .015" thermoplastic. Rating 1000 volts (working). Temperature —40C to +60C. Colors: All standard NEMA color coding. Tracers available on solid colors.

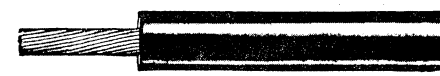
Stranded		Solid	
Gauge	Catalogue No.	Gauge	Catalogue No.
24	NIR732U	24	NIR241U
22	NIR730U	22	NIR221U
20	NIR1030U	20	NIR201U
18	NIR1630U	18	NIR181U
16	NIR2630U	16	NIR161U
14	NIR1927U		
12	NIR1925U		
10	NIR4927U		
8	NIR13329U		
6	NIR13327U		



TYPE SRHV Hook-up Wire

Construction: Tinned copper stranded. Nominal insulation thickness .031" thermoplastic. Temperature rating —40C to +60C. Rating 2500 volts (working). Colors: All standard NEMA color coding. Tracers available on solid colors.

Gauge	Catalogue No.
24	NHV732U
22	NHV730U
20	NHV1030U
18	NHV1630U
16	NHV2630U



TYPE WL NYLON JACKETED Hook-up Wire

Construction: Tinned copper stranded. Nominal insulation thickness .010" thermoplastic with .005" extruded nylon jacket overall. Temperature rating —40C to +60C. Rating 600 volts (working). Colors: All standard NEMA color coding. Tracers available on solid colors.

Gauge	Catalogue No.
24	NWL1936N
22	NWL1934N
20	NWL1932N
18	NWL1930N
16	NWL2630N

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MIL-W-16878-A HOOK-UP WIRE

TYPE B

Construction: Tinned copper stranded. Thermoplastic insulation. Temperature —54C to +105C. Rating 600 volts (working). Colors: All NEMA standard color coding. Tracers available on solid colors.

Gauge	Catalogue No.	Gauge	Catalogue No.
30	NB738U	22	NB1934U
28	NB736U	20	NB1932U
27	NB735U	18	NB1930U
26	NB734U	16	NB2630U
24	NB1936U		

TYPE B NYLON JACKETED

Construction: Tinned copper stranded. Thermoplastic insulation with an extruded nylon jacket overall. Temperature —40C to +80C. Rating 1000 volts (working) Colors: All standard NEMA color coding. Tracers also available on solid colors.

Gauge	Catalogue No.	Gauge	Catalogue No.
30	NB738N	22	NB1934N
28	NB736N	20	NB1932N
27	NB735N	18	NB1930N
26	NB734N	16	NB2630N
24	NB1936N		

TYPE C

Construction: Tinned copper stranded. Thermoplastic insulation. Temperature —54C to +105C. Rating 1000 volts (working). Colors: All standard NEMA color coding. Tracers available on solid colors.

Gauge	Catalogue No.	Gauge	Catalogue No.
24	NC1936U	14	NC1927U
22	NC1934U	12	NC1925U
20	NC1932U	10	NC4927U
18	NC1930U	8	NC13329U
16	NC2630U	6	NC13327U

TYPE C NYLON JACKETED

Construction: Tinned copper stranded. Thermoplastic insulation with an extruded nylon jacket overall. Temperature —54C to +105C. Rating 1000 volts (working). Colors: All NEMA standard colors. Tracers available on solid colors.

Gauge	Catalogue No.	Gauge	Catalogue No.
24	NC1936N	18	NC1930N
22	NC1934N	16	NC2630N
20	NC1932N	14	NC1927N

TYPE D

Construction: Tinned copper stranded. Thermoplastic insulation. Temperature —54C to +105C. Rating 3000 volts (working). Colors: All standard NEMA color coding. Tracers on solid colors available.

Gauge	Catalogue No.	Gauge	Catalogue No.
24	ND1936U	14	ND1927U
22	ND1934U	12	ND1925U
20	ND1932U	10	ND4927U
18	ND1930U	8	ND13329U
16	ND2630U	6	ND13327U

TYPE D NYLON

Construction: Tinned copper stranded. Thermopastic insulation with an extruded nylon jacket overall. Temperature —54C to +105C. Rating 3000 volts (working). Colors: All standard NEMA color coding. Tracers available on solid colors.

Gauge	Catalogue No.	Gauge	Catalogue No.
24	ND1936N	14	ND1927N
22	ND1934N	12	ND1925N
20	ND1932N	10	ND4927N
18	ND1930N	8	ND13329N
16	ND2630N	6	ND13327N

TYPE E TEFLON INSULATED

Construction: Silver-coated stranded copper conductor. Extruded teflon insulation. Temperature —65C to +200C. Rating 600 volts (working). Colors: All standard NEMA color coding.

Gauge	Catalogue No.	Gauge	Catalogue No.
24	NE1936U	18	NE1930U
22	NE1934U	16	NE2630U
20	NE1932U		

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MIL-W-5086 TYPE I AIRCRAFT WIRE

Construction: Tinned copper stranded. Synthetic resin insulation with a nylon jacket overall. Rating 600 volts (working). Temperature —54C to +105C. Color: white. Tracers available on white background.

Gauge	Catalogue No.	Gauge	Catalogue No.
22	NAN1934N	14	NAN1927N
20	NAN1932N	12	NAN1925N
18	NAN1930N	10	NAN4126N
16	NAN1929N		

MIL-W-5086 TYPE II AIRCRAFT WIRE

Construction: Tinned copper stranded. Synthetic resin insulation with a 100% glass braid and nylon jacket overall. Rating 600 volts (working). Temperature —54C to +105C. Color: white. Tracers available on white background.

Gauge	Catalogue No.	Gauge	Catalogue No.
22	NAN1934GN	8	NAN13329GN
20	NAN1932GN	6	NAN13327GN
18	NAN1930GN	4	NAN13325GN
16	NAN1929GN	2	NAN66530GN
14	NAN1927GN	1/0	NAN104530GN
12	NAN1925GN	2/0	NAN133030GN
10	NAN4126GN		

MIL-C-7078 TYPE I AIRCRAFT WIRE

Construction: Tinned copper stranded. Synthetic resin insulation with a nylon jacket and tinned copper shield overall. Rating 600 volts (working). Temperature —54C to +105C. Color: white. Tracers available on white background.

Gauge	Catalogue No.	Gauge	Catalogue No.
22	NAN1934NS	14	NAN1927NS
20	NAN1932NS	12	NAN1925NS
18	NAN1930NS	10	NAN4126NS
16	NAN1929NS		

MIL-C-7078 TYPE II AIRCRAFT WIRE

Construction: Tinned copper stranded. Synthetic resin insulation with a 100% glass braid and nylon jacket with a tinned copper shield overall. Rating 600 volts (working). Temperature —54C to +105C. Color: white. Tracers available on solid white background.

Gauge	Catalogue No.	Gauge	Catalogue No.
22	NAN1934GNS	8	NAN13329GNS
20	NAN1932GNS	6	NAN13327GNS
18	NAN1930GNS	4	NAN13325GNS
16	NAN1929GNS	2	NAN66530GNS
14	NAN1927GNS	1/0	NAN104530GNS
12	NAN1925GNS	2/0	NAN133030GNS
10	NAN4126GNS		

TYPE ANJC-48-A AIRCRAFT POWER AND LIGHTING CABLE

Construction: Tinned copper stranded. Thermoplastic insulation with a cotton braid and flame resisting lacquer finish overall. Rating 600 volts (working). Color: white.

Gauge	Catalogue No.	Gauge	Catalogue No.
22	NJC730C	8	NJC13329C
20	NJC728C	6	NJC13327C
18	NJC726C	4	NJC13325C
16	NJC1929C	2	NJC66530C
14	NJC1927C	1/0	NJC104530C
12	NJC1925C	2/0	NJC133030C
10	NJC6528C		

TYPE ANC-168 AIRCRAFT POWER AND LIGHTING CABLE

Construction: Tinned copper stranded. Thermoplastic insulation with a cotton braid and flame resisting lacquer finish and a tinned copper shield overall. Rating 600 volts (working). Color: white.

Gauge	Catalogue No.	Gauge	Catalogue No.
22	NJC730CS	8	NJC13329CS
20	NJC728CS	6	NJC13327CS
18	NJC726CS	4	NJC13325CS
16	NJC1929CS	2	NJC66530CS
14	NJC1927CS	1/0	NJC104530CS
12	NJC1925CS	2/0	NJC133030CS
10	NJC6528CS		

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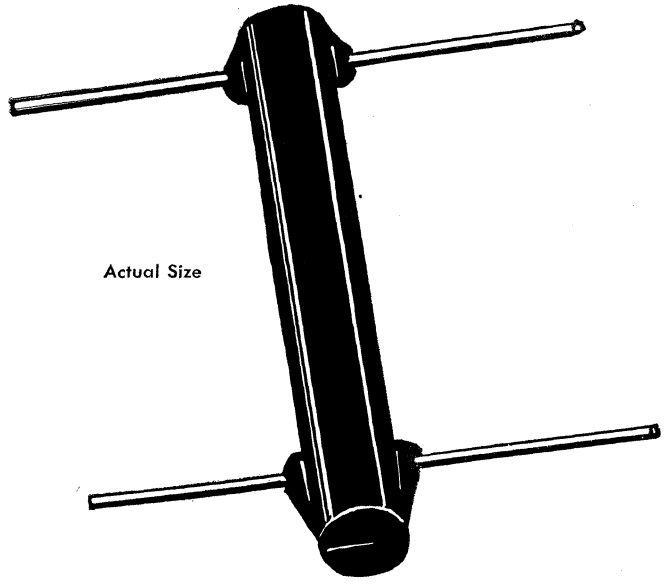
NATIONAL OPENLINE



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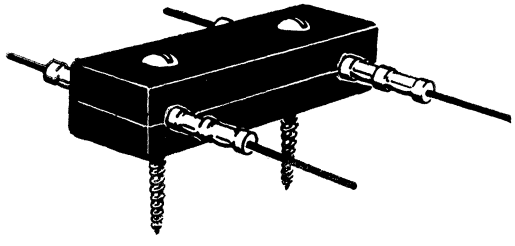
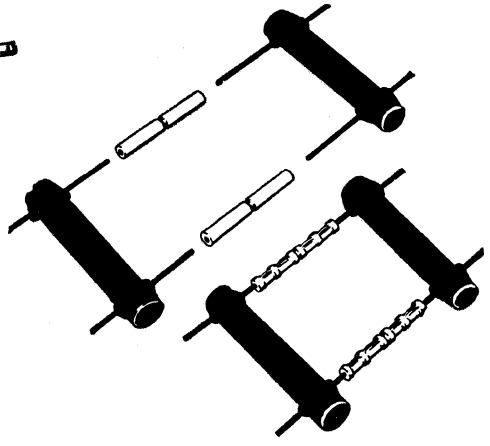


NATIONAL STAND OFF CLAMP BLOCKS

DESIGNED FOR COMMERCIAL TV DISTRIBUTION SYSTEMS AND RF POWER TRANSMISSION

Specifications two inch spacing between conductors . . . 12 and 14 copperweld . . . 470 and 500 ohm impedance . . . attenuation: 150 mc 0.25 DB PER 100 FEET . . . copperweld steel for maximum strength and electrical stability, and to insure permanent uniform performance . . . Spreaders are brown polystyrene, spaced at average five foot intervals staggered slightly to avoid spurious resonances.



NATIONAL CONNECTOR SLEEVES

IMMEDIATELY DELIVERY

ANTENNA WIRE
ANTENNA WIRE, WS 5 C/U
AUDIO CHANNEL CABLE
BONDING BRAID
COAXIAL CABLE
FIELD WIRE, W143
GUY WIRE
HIGH VOLTAGE HOOK-UP WIRE
HOOK-UP WIRE
INTERCOM CABLES
LOOM (CABLE)
MACHINE TOOL AND SWITCHBOARD WIRE
MICROPHONE CABLES
OLYMPIC METERS
MULTI CONDUCTOR CONTROL CABLE
PHONO PICK-UP WIRE
PORTABLE CORDS
TYPES S, SV, SO, SVO
ROTO DOWN LEAD
RULAN (22 GA.)
SHIELDING
SOLDER
SOLID TINNED COPPER
MIL-W-3861, TYPE S
QQ-W-341A
SPIRAL "L"
TELEPHONE WIRE
TELEVISION WIRE
TELEVISION LEAD-IN WIRE
OPENLINE
TEST LEAD
TRANSMISSION LINE, OPEN-WIRE

FROM WAREHOUSE STOCK

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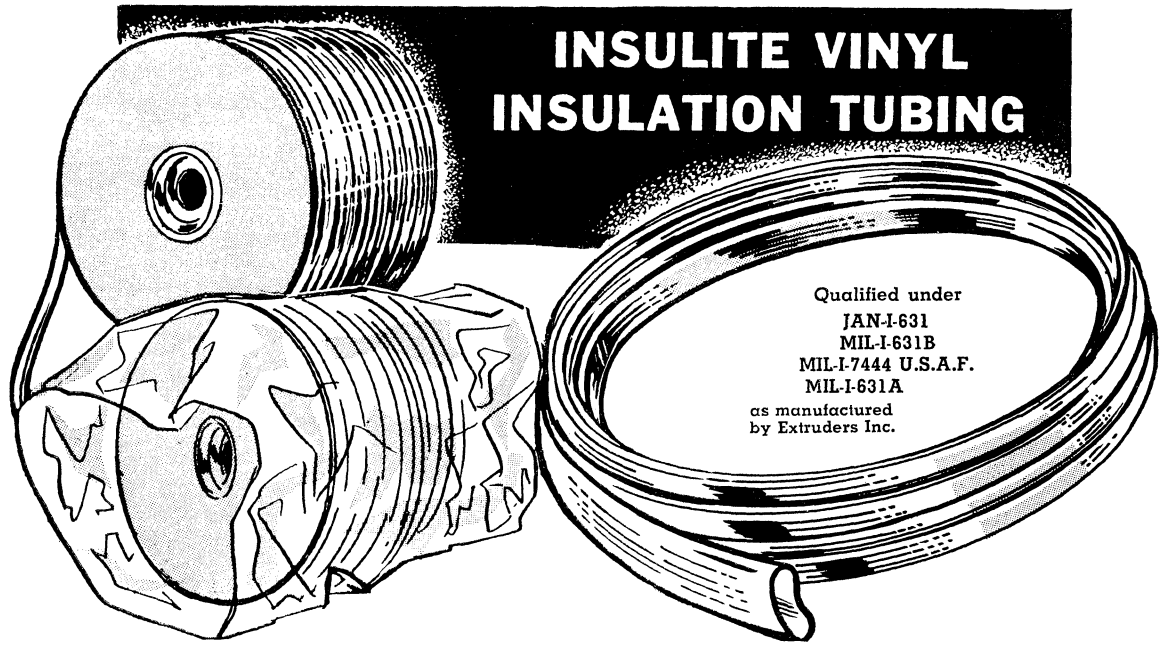
IMMEDIATE DELIVERY FROM WAREHOUSE STOCKS



Sizes 24 thru 3/8 on spools completely enclosed in plastic wrapping. Sizes 7/16" thru 2½" in coils. GP—general purpose Insulite qualified under spec. MIL-I-631B, Type F, Form U, Grade A, Classes I and II, Categories 1 and 2.

ABOUT INSULITE

Insulite, commercial and specification grade Vinyl tubing is manufactured from only the highest quality materials. Extreme care in preparing the compound formulations assures product uniformity. The most modern of plants, complete with compounding facilities and controlled extrusion techniques, together with modern inspection equipment, provides rigid physical and visual inspection on each length of tubing, assuring a finished product fully guaranteed against defective workmanship and materials. A product development laboratory is engaged in constant research to provide you with the finest in tubing.

PHYSICAL PROPERTIES

Property	MIL-I-7444	MIL-I-631A
Secific Gravity	1.21	1.23
Tensile Strength	2800 PSI	2700 PSI
Ultimate Elongation	350%	340%
Water Absorption*	0.2%	——
Cold Bend	—55°C	—30°C
Dielectric Strength (.025 wall)	875 V.P.M.	1032 V.P.M.
Flame Resistance	**	**
Approx. Durometer Hardness (Shore "A")	66	86

*Weight increase after 24 hours at 77° F.
**Self-Extinguishing

IMMEDIATE DELIVERY

AT STANDARD MILL PRICES

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"ALL-STAR" Quality-Controlled Television Lead-ins

Wires and Cables for Every AV Application — Home, Motel, Hotel and Community TV Systems

These types are outstanding examples of the quality, ruggedness, efficiency and long life built into every foot of Federal Cable. Whatever the run requirements or local weather conditions the Federal "All Stars" will score high in satisfaction.

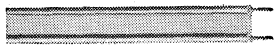
TV 1182

HEAVY DUTY LEAD-IN

Conductors (2): 7 strands #28 AWG soft copper
Jacket: Silver or Brown Polyethylene
90 Mil-Web

Nom. Ohms: 300
Nom. OD: .405x, .098
Std. Spools (ft.) 100, 500, 1000
Net Wgt. (lbs.): 2, 10, 20

TV 1184

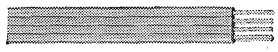


STANDARD LEAD-IN

Conductors (2): 7 strands #28 AWG soft copper
Jacket: Brown Polyethylene
65 Mil-Web

Nom. Ohms: 300
Nom. OD: .405x, .065
Std. Spools (ft.) 100, 500, 1000
Net Wgt. (lbs.): 2, 10, 20

TV 1188



ROTOR ANTENNA LEAD-IN

Conductors (4): 3—7 strands .0211 AWG soft copper 1—7 strands .0121 AWG tinned copper
Jacket: Silver Vinyl
65 Mil-Web

Nom. Ohms: 300
Nom. OD: .390x, .065
Std. Spools (ft.) 100, 500, 1000
Net Wgt. (lbs.): 2, 11, 22

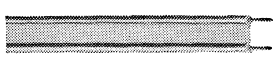
TV 1190

STANDARD LEAD-IN

Conductors (2): 7 strands #28 AWG soft copper
Jacket: Silver or Brown Polyethylene
90 Mil-Web

Nom. Ohms: 300
Nom. OD: .365x, .090
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 19

TV 2000



STANDARD LEAD-IN

Conductors (2): 7 strands #30 AWG soft copper
Jacket: Brown Polyethylene
55 Mil-Web

Nom. Ohms: 300
Nom. OD: .335x, .055
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 11

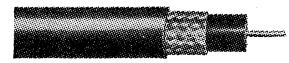
K 111

SINGLE SHIELD LEAD-IN FOR VHF

Conductors (2): #26 AWG hard drawn silver plated 'Hitenso'
Dielectric: Polyethylene
Shield: #34 AWG soft copper
Jacket: Black Vinyl

Nom. Cap. (mmf/ft): 42
Nom. Ohms: 300
Nom. OD: .480x, .290
Std. Spools (ft.): 500, 1000
Net Wgt. (lbs.): 34, 68

K 14



COMMUNITY TV PRIMARY LEAD-IN

Conductor: #9 AWG soft copper
Dielectric: Polyethylene
Braid: #30 AWG soft copper
Jacket: Grey Vinyl

Nom. Cap. (mmf/ft): 21
Nom. Ohms: 71
Nom. OD: .870
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 487

K 125

NON-RADIATING, DOUBLE SHIELDED RG 11/U

Conductor: 7 strands .0159 tinned copper
Dielectric: Polyethylene
Braid: #33 AWG soft copper
Separator: Polyethylene
Braid: #33 AWG soft copper
Jacket: Black Vinyl

Nom. Cap. (mmf/ft): 20
Nom. Ohms: 75
Nom. OD: .460
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 157

K 126

NON-RADIATING DOUBLE SHIELDED RG 59/U

Conductor: #22 AWG H.S. copperweld, 30% conductivity
Dielectric: Polyethylene
Braid: #34 AWG soft copper
Separator: Polyethylene
Braid: #34 AWG soft copper
Jacket: Black Vinyl

Nom. Cap. (mmf/ft): 21
Nom. Ohms: 73
Nom. OD: .315
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 62

K 133

SIVER JACKET LONG LIFE RG 59/U

Conductor: #22 AWG H.S. copperweld, 30% conductivity
Dielectric: Polyethylene
Braid: #34 AWG soft copper
Jacket: Silver Polyethylene

Nom. Cap. (mmf/ft): 21
Nom. Ohms: 73
Nom. OD: .242
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 40

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"ALL-STAR" Quality-Controlled

Television Lead-ins

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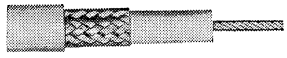
Wherever There Are TV Customers . . . Federal Lead-in Wires and Cables Can Be Depended Upon to Deliver TOP Performance

Only the finest materials — quality-controlled throughout the entire manufacturing process — are used in Federal cables. You can reply completely on "America's leading producer of solid dielectric cables" to provide a superior cable for every communication need.

K 134



SILVER JACKET LONG LIFE RG 11/U

Conductor: 7 strands .0159 tinned copper
Dielectric: Polyethylene
Braid: #33 AWG soft copper
Jacket: Silver Polyethylene

Nom. Cap. (mmf/ft.): 20
Nom. Ohms: 75
Nom. OD: .405
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 103

K 135

SILVER JACKET LONG LIFE NON-RADIATING RG 11/U

Conductor: 7 strands .0159 tinned copper
Dielectric: Polyethylene
Braid: #33 AWG soft copper
Separator: Polyethylene
Braid: #33 AWG soft copper
Jacket: Silver Polyethylene

Nom. Cap. (mmf/ft.): 20
Nom. Ohms: 75
Nom. OD: .460
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 148

K 136

SILVER JACKET LONG LIFE NON-RADIATING RG 59/U

Conductor: #22 AWG H.S. copperweld 30% conductivity
Dielectric: Polyethylene
Braid: #34 AWG soft ocpper
Separator: Polyethylene
Braid: #34 AWG soft ocpper
Jacket: Silver Polyethylene

Nom. Cap. (mmf/ft): 21
Nom. Ohms: 73
Nom. OD: .315
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 80

K 137

SILVER JACKET LONG LIFE SOLID CONDUCTOR RG 11/U

Conductor: #17 AWG copperweld 30% conductivity
Dielectric: Polyethylene
Braid: #33 AWG soft copper
Jacket: Silver Polyethylene

Nom. Cap. (mmf/ft.): 20
Nom. Ohms: 75
Nom. OD: .405
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 109

K 139

SILVER JACKET LONG LIFE NON-RADIATING SOLID CONDUCTOR RG 11/U

Conductor: #17 AWG copperweld 30% conductivity
Dielectric: Polyethylene
Braid: #33 AWG soft copper
Separator: Polyethylene
Braid: #33 AWG soft copper
Jacket: Silver Polyethylene

Nom. Cap. (mmf/ft.): 20
Nom. Ohms: 75
Nom. OD: .460
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 148

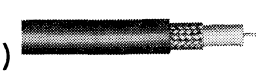
K 200

HEAVY DUTY LEAD-IN

Condctors (2): 7 strands #21 AWG soft copper 7 strands #21 AWG soft copper (one strand tinned for identification)
Jacket: Polyethylene

Nom. Ohms: 200
Nom. OD: .650x, .285
Std. Spools (ft.): 100, 500, 1000
Net Wgt. (lbs.): 12, 61, 122

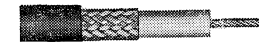
K 276 (59/U)



Conductor: #22 AWG H.S. copperweld 30% conductivity
Dielectric: Polyethylene
Braid: #34 AWG soft copper
Jacket: Black Vinyl

Nom. Cap. (mmf/ft): 21
Nom. Ohms: 73
Nom. OD: .242
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 37

RG 11/U



COMMUNITY TV PRIMARY OR SECONDARY LEAD-IN

Conductor: 7 strands .0159 tinned copper
Dielectric: Polyethylene
Braid: #33 AWG soft copper
Jacket: Black Vinyl

Nom. Cap. (mmf/ft.): 20
Nom. Ohms: 75
Nom. OD: .405
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 108

RG 59/U

COMMUNITY TV SECONDARY OR TAP-OFF LEAD-IN

Conductor: #22 AWG H.S. copperweld 30% conductivity
Dielectric: Polyethylene
Braid: #34 AWG soft copper
Jacket: Black Vinyl

Nom. Cap. (mmf/ft): 21
Nom. Ohms: 73
Nom. OD: .242
Std. Spools (ft.): 1000
Net Wgt. (lbs.): 42

PROMPT DELIVERY

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CONSOLIDATED

Military Types . . . . A ROME CABLE PRODUCT

Thermoplastic Insulated Military Type Hook-up Wire

Comply to Joint Army-Navy Specification JAN-C-76 and manufactured under specific approval of the Armed Services Electro Standards Agency (ASESA). Impervious to oils, acids, alkalies, moisture and flame and possessing unusually high dielectric strength.

ALL OTHER SIZES CAN BE SUPPLIED PER JAN-C-76 SPECIFICATIONS

TYPE SRIR — PER JAN-C-76 SPECIFICATIONS

CAT. No.	JAN-C-76 TYPE DESIGNATION	SIZE	STRANDING	LENGTH	INSULATION THICKNESS	DIAMETER (INCHES) No Outer Covering	DIAMETER (INCHES) Lacquered Glass Braid	LIST PRICE EACH
707	SRIR-3/5(1)-22	No. 22	Solid	1000 ft. spool	.017"	.066	.081	$ 9.75
717	SRIR-1(1)-20	No. 20	Solid	1000 ft. spool	.017"	.073	.088	10.35
727	SRIR-1½(1)-18	No. 18	Solid	1000 ft. spool	.017"	.081	.096	14.65
737	SRIR-3/5(7)-22	No. 22	7x30	1000 ft. spool	.017"	.071	.086	10.25
747	SRIR-1(7)-20	No. 20	10x30	1000 ft. spool	0.17"	.079	.094	12.45
757	SRIR-1½(7)-18	No. 18	16x30	1000 ft. spool	0.17"	.088	.103	15.45

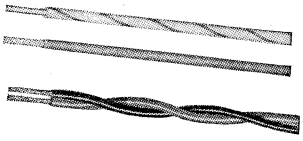
TYPE SRHV — PER JAN-C-76 SPECIFICATIONS

637	SRHV-3/5(1)-22	No. 22	Solid	1000 ft. spool	.033	.100	.115	$13.30
642	SRHV-1(1)-20	No. 20	Solid	1000 ft. spool	.033	.107	.122	15.35
647	SRHV-1½(1)-18	No. 18	Solid	1000 ft. spool	.033	.115	.130	20.00
667	SRHV-3/5(7)-22	No. 22	7x.30	1000 ft. spool	.033	.105	.120	15.75
672	SRHV-1(7)-20	No. 20	10x.30	1000 ft. spool	.033	.113	.128	17.50
677	SRHV-1½(7)-18	No. 18	16x.30	1000 ft. spool	.033	.122	.137	21.60

COLORS: Black, Brown, Dark Blue, Green, Light Blue, Orange, Pink, Purple, Red, Slate, Tan, White, Yellow.

Rome Synthinol . . . . A ROME CABLE PRODUCT

THERMOPLASTIC INSULATED HOOK-UP WIRE



U/L Voltage Rating—300 Volts Max. Single and Two-Conductor Twisted Cable: Color Coded

Rome Synthinol is a polyvinyl chloride type of thermoplastic insulation impervious to oils, acids, alkalies, moisture and flame, and possessing unusually high dielectric strength. Colors are of gem-like permanency. Approved by Underwriters' Laboratories where exposed to temperatures not exceeding 80° Centigrade or where exposed to oil at temperatures not exceeding 60° Centigrade with ratings at 300 and 600 volts as indicated below. The Underwriters' approval seal appears on every factory length reel of Rome Synthinol.

Rome Synthinol is specially designed for the chassis and sub-chassis wiring of radio and television receivers and transmitters as well as all other types of electronic equipment. It has physical and electrical characteristics of unusual permanency.

SPECIFICATIONS

Conductors: Annealed tinned solid or stranded copper conforming to A.S.T.M. Specification B 33 and/or Underwriters' Standards.
In order to provide maximum flexibility and prevent unraveling of the strands, a short lay stranding is used as follows:
No. 22 Awg. .33" max. No. 30 Awg. .50" max.
Insulation: Rome Synthinol—Approved by and conforming to Underwriters' requirements and the performance specifications of A.S.T.M. D 734. Available in solid colors or with a surface applied contrasting colored spiral stripe.

Typical Test Results

Breakdown Voltage:
1/64" Synthinol .....over 10000 volts
1/32" Synthinol .....over 18000 volts
Insulation Resistance:
1/32" Synthinol .....over 5000 megohms feet

Cat. No.	Size Awg.	Stranding	Nom. Ins. Thickness	Volts	Max. Dia. Inches	Length	List Price
801	22	Solid	1/64	300	.065	25' Carton	$ 0.39
803	22	Solid	1/64	300	.065	100' Carton	1.39
805	22	Solid	1/64	300	.065	500' Spool	5.95
807	22	Solid	1/64	300	.065	1000' Spool	10.15
811	20	Solid	1/64	300	.071	25' Carton	.45
813	20	Solid	1/64	300	.071	100' Carton	2.00
815	20	Solid	1/64	300	.071	500' Spool	6.65
817	20	Solid	1/64	300	.071	1000' Spool	13.18
841	18	Solid	1/64	300	.080	25' Carton	.57
842	18	Solid	1/64	300	.080	100' Carton	2.04
843	18	Solid	1/64	300	.080	500' Spool	9.22
844	18	Solid	1/64	300	.080	1000' Spool	17.37
821	22	7 x No. 30	1/64	300	.069	25' Carton	.45
823	22	7 x No. 30	1/64	300	.069	100' Carton	2.00
825	22	7 x No. 30	1/64	300	.069	500' Spool	6.65
827	22	7 x No. 30	1/64	300	.069	1000' Spool	13.18
831	20	10 x No. 30	1/64	300	.078	25' Carton	.55
833	20	10 x No. 30	1/64	300	.078	100' Carton	1.84
835	20	10 x No. 30	1/64	300	.078	500' Spool	8.48
837	20	10 x No. 30	1/64	300	.078	1000' Spool	15.44
846	18	16 x No. 30	1/64	300	.085	25' Carton	.61
847	18	16 x No. 30	1/64	300	.085	100' Carton	2.15
848	18	16 x No. 30	1/64	300	.085	500' Spool	9.72
849	18	16 x No. 30	1/64	300	.085	1000' Spool	18.59
851	22	Solid	1/32	600	.097	25' Carton	.51
852	22	Solid	1/32	600	.097	100' Carton	$51.84
853	22	Solid	1/32	600	.097	500' Spool	8.18
854	22	Solid	1/32	600	.097	1000' Spool	15.77
856	20	Solid	1/32	600	.104	25' Carton	.73
857	20	Solid	1/32	600	.104	100' Carton	2.35
858	20	Solid	1/32	600	.104	500' Spool	9.40
859	20	Solid	1/32	600	.104	1000' Spool	17.87
861	18	Solid	1/32	600	.112	25' Carton	.72
862	18	Solid	1/32	600	.112	100' Carton	2.66
863	18	Solid	1/32	600	.112	500' Spool	12.27
864	18	Solid	1/32	600	.112	1000' Spool	23.52
866	22	7 x No. 30	1/32	600	.102	25' Carton	.66
867	22	7 x No. 30	1/32	600	.102	100' Carton	3.07
868	22	7 x No. 30	1/32	600	.102	500' Spool	9.41
869	22	7 x No. 30	1/32	600	.102	1000' Spool	17.88
871	20	10 x No. 30	1/32	600	.110	25' Carton	.76
872	20	10 x No. 30	1/32	600	.110	100' Carton	2.72
873	20	10 x No. 30	1/32	600	.110	500' Spool	10.84
874	20	10 x No. 30	1/32	600	.110	1000' Spool	20.95
876	18	16 x No. 30	1/32	600	.119	25' Carton	.87
877	18	16 x No. 30	1/32	600	.119	100' Carton	3.15
878	18	16 x No. 30	1/32	600	.119	500' Spool	13.08
879	18	16 x No. 30	1/32	600	.119	1000' Spool	23.38
881	20 2 condr.	10 x No. 30	.025	300	.170	100' Coil	3.86
882	20 2 condr.	10 x No. 30	.025	300	.170	500' Spool	17.79
883	20 2 condr.	10 x No. 30	.025	300	.170	1000' Spool	35 26

COLORS: Black, Brown, Light Blue, Dark Blue, Green, Orange, Pink, Purple, Red, Slate, Tan, White, Yellow.

Rome Hi-Temp . . . . A ROME CABLE PRODUCT

RUBBER INSULATED HOOK-UP WIRE

Underwriters' approved and labeled* for 75°C.—300 volts

The result of extensive laboratory development and proved by a decade of service—Rome Hi-Temp is offered for radio and electronic circuits where resistance to moisture and heat is required.

SPECIFICATIONS

Conductors: Annealed tinned, solid or stranded copper conforming to A.S.T.M. Specification B 33 and/or Underwriters' Standards.
In order to provide maximum flexibility and prevent unraveling of the strands a short lay stranding is used as follows:
No. 22 Awg. .33 inch max.
No. 20 Awg. .50 inch. max.
Insulation: Rome Hi-Temp—a high quality, free-stripping heat-resistant rubber insulation approved by Underwriters' Laboratories.

Typical Test Results

Breakdown Voltage (1/32" Hi-Temp).....10500 volts
Insulation Resistance.....Over 10000 megohms feet
*Only factory length reels are furnished with U/L's labels.

Cat. No.	Size No.	Stranding No.	Length	Insulation Thickness	Diameter	List Price Each
901	22	Solid	25 ft. carton	1/32"	.075"	$0.44
903	22	Solid	100 ft. carton	1/32"		1.65
905	22	Solid	500 ft. spool	1/32"		6.56
907	22	Solid	1000 ft. spool	1/32"		12.70
911	20	Solid	25 ft. carton	1/32"	.086"	.50
913	20	Solid	100 ft. carton	1/32"		1.79
915	20	Solid	500 ft. spool	1/32"		7.40
917	20	Solid	1000 ft. spool	1/32"		14.30
921	22	7 x 30	25 ft. carton	1/32"	.085"	.50
923	22	7 x 30	100 ft. carton	1/32"		1.79
925	22	7 x 30	500 ft. spool	1/32"		7.40
927	22	7 x 30	1000 ft. spool	1/32"		14.30
931	20	10 x 30	25 ft. carton	1/32"	.090"	.62
933	20	10 x 30	100 ft. carton	1/32"		2.04
935	20	10 x 30	500 ft. spool	1/32"		9.07
937	20	10 x 30	1000 ft. spool	1/32"		16.95

U/L Voltage Rating—300 Volts Maximum
Colors: Black, Blue, Brown, Green, Orange, Pink, Red, Slate, White, Yellow

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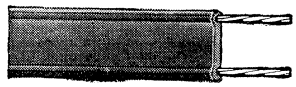
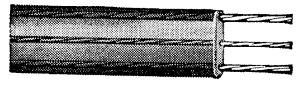
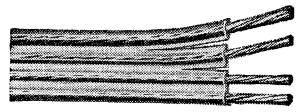
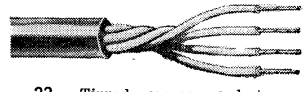
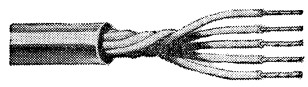
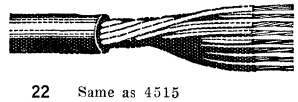
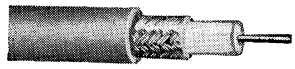
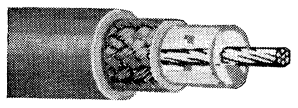
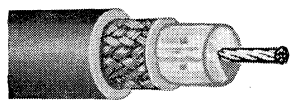
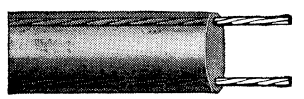
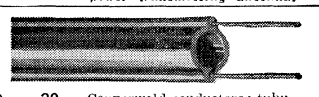
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

No.	Type	Length	Size & Strand-ing	Specifications and General Applications	Nom-inal Diam. (in.)	List Price Each
						
4500	2 condr.	500 ft. Spool	22 —— 7x30	Both conductors bare copper; flexible stranding; conductors parallel; insulated with polyethylene. **USE: Receiving antenna at high frequencies.**	.055 x .400	$82.00
4503	2 condr.	500 ft. Spool	20 —— 7x28	Same as 4500	.072 x .400	28.50
4504	2 condr.	500 ft. Spool	20 —— 7x28	Same as 4500	.080 x .400	31.50
4506	2 condr.	500 ft. Spool	20 —— 7x28	Same as 4500	.100 x .400	34.50
						
4507	3 condr.	500 ft. Spool	20 —— 7x28	Two bare, one tinned copper conductor; flexible stranding; conductors parallel; polyethylene insulation. **USE: Same as 4501, but third conductor may be used for ground or other purposes.**	.072 x .400	32.25
						
4508	4 condr.	500 ft. Spool	22 —— 7x30	Same as 4503 except three conductors bare copper, one conductor tinned. Amber polyethylene plastic insulation overall is semi-transparent for easy conductor identification and is grooved between conductors for ease of separation and stripping. **USE: Rotor Aerials.**	.072 x .345	30.75
4509	4 condr.	500 ft. Spool	20 —— 7x28	Same as 4508	.072 x .400	33.00
4516	5 condr.	500 ft. Spool	20 —— 7x28	Same as 4508 except four conductors bare copper, one conductor tinned copper. **USE: Rotor Aerials.**	.072 x .355	40.90
4517	5 condr.	500 ft. Spool	20 —— 7x28	Same as 4516	.090 x .400	44.00
						
4515	4 condr.	500 ft. Spool	22 —— 7x30	Tinned copper conductors. .010 thermoplastic insulation over each conductor with jacket overall. **USE: Rotor Aerials.**	.160	36.85
						
4518	5 condr.	500 ft. Spool	22 —— 7x30	Same as 4515	.170	45.00
						
4521	8 condr.	500 ft. Spool	22 —— 7x30	Same as 4515	.205	45.00

No.	Type	Length	Size & Strand-ing	Specifications and General Applications	Nom-inal Diam. (in.)	List Price Each
						
4401	1 condr.	100 ft. Spool	22 solid	Bare copper, solid; black vinyl plastic jacket; bare copper braid shield; polyethylene plastic insulation.	.242	$ 7.65
4403	1 condr.	500 ft. Spool	22 solid	Same as 4401	.242	71.50
4405	1 condr.	100 ft. Spool	20 solid	Bare copper, solid; black vinyl plastic jacket; tinned copper braid shield; polyethylene plastic insulation.	.195	7.35
4407	1 condr.	500 ft. Spool	20 solid	Same as 4405	.195	59.35
						
4415	1 condr.	100 ft. Spool	13 —— 7x21	Bare copper; flexible stranding; black vinyl plastic jacket; bare copper braid shield; polyethylene plastic insulation.	.405	18.50
4417	1 condr.	500 ft. Spool	13 —— 7x21	Same as 4415	.405	173.75
						
4419	1 condr.	100 ft. Spool	18 —— 7x26	Tinned copper; flexible stranding; bare copper braid shield; black vinyl plastic jacket; polyethylene plastic insulation.	.405	17.35
4421	1 condr.	500 ft. Spool	18 —— 7x26	Same as 4419	.405	163.75
						
4523	2 condr. Heavy	500 ft. Spool	18 —— 7x26	Conductors bare copper; flexible stranding; conductors run parallel; polyethylene insulation. **USE: TV and FM receiving antenna. Especially designed for use in TV fringe areas. Also adapted to use with low-power transmitting antenna.**	.350	48.00
						
4527	2 condr. round	500 ft. Spool	20 —— 7x28	Copperweld conductors; tubular design protects against exterior hazards. **USE: For UHF and VHF.**		
4529	2 condr. oval	500 ft. Spool	20 —— 7x28	Same as 4527	.200 x .400	48.00

PHONOGRAPH PICK-UP-ARM CABLE

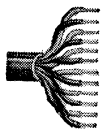
TYPE NO. 1470

Copyright by U. C. P., Inc.

INTERCOMMUNICATING AND SOUND SYSTEM CABLES

PAIRED CONDUCTORS

Size and Stranding: 22 Solid. Specifications and General Applications: Cabled .020" gray vinyl plastic jacket overall.



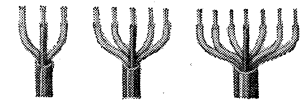
No.	Type Condr.	Length Spool	Nominal Diam. (in.)	List Price
5201	1 Pr. - 2	100 ft.	.145	$ 2.50 Ea.
5202	1 Pr. - 2	500 ft.	.145	25.00 M
5205	2 Pr. - 4	100 ft.	.190	4.65 Ea.
5206	2 Pr. - 4	500 ft.	.190	46.50 M
5211	3 Pr. - 6	100 ft.	.230	5.90 Ea.
5212	3 Pr. - 6	500 ft.	.230	59.00 M
5221	5 Pr. - 10	100 ft.	.250	8.80 Ea.
5222	5 Pr. - 10	500 ft.	.250	88.00 M
5226	6 Pr. - 12	100 ft.	.265	9.25 Ea.
5227	6 Pr. - 12	500 ft.	.265	92.50 M
5231	7 Pr. - 14	100 ft.	.280	13.30 Ea.
5232	7 Pr. - 14	500 ft.	.280	133.00 M
5236	8 Pr. - 16	100 ft.	.300	13.80 Ea.
5237	8 Pr. - 16	500 ft.	.300	138.00 M
5241	9 Pr. - 18	100 ft.	.320	14.15 Ea.
5242	9 Pr. - 18	500 ft.	.320	141.50 M
5251	11 Pr. - 22	100 ft.	.360	16.50 Ea.
5252	11 Pr. - 22	500 ft.	.360	165.00 M
5271	15 Pr. - 30	100 ft.	.390	22.00 Ea.
5272	15 Pr. - 30	500 ft.	.390	220.00 M
5286	27 Pr. - 54	100 ft.	.510	36.00 Ea.
5287	27 Pr. - 54	500 ft.	.510	360.00 M

PAIRED INTERCOMMUNICATING CABLES FOR COLOR CODING

Identification is simple with Consolidated Intercom Cables because they are all color coded. See chart in next column.

MULTIPLE CONDUCTORS

Size and Stranding: 22 - 7 x 30. Specifications and General Applications: Cable, .020". Gray Only. Plastic jacket overall.



No.	Type Condr.	Length ft. (Spool)	Nom. Diam. (In.)	Color	List Price
5401	3	100	.140	Black, green, red	$ 3.00
5402	3	500	.140	Same as 5401	30.00
5406	4	100	.158	Black, green, red, white	3.70
5407	4	500	.158	Same as 5407	37.00
5411	5	100	.170	Black, brown, green, red, white	4.50
5412	5	500	.170	Same as 5411	45.00
5416	6	100	.212	Black, blue, brown, green, red, white	7.15
5417	6	500	.212	Same as 5416	71.50
5421	7	100	.230	Black, blue, brown, green, orange, red, white	7.70
5422	7	500	.230	Same as 5421	77.00
5426	8	100	.235	Black, blue, brown, green, orange, red, white, yellow	8.25
5427	8	500	.235	Same as 5426	82.50
5431	9	100	.245	Black, blue, brown, green, orange, purple, red, white, yellow	9.00
5432	9	500	.245	Same as 5431	90.00

MICROPHONE CABLE

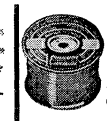
On 100 ft. spools—Conductor color chart: 1—Black; 2—White; 3—Red; 4—Green; 5—Yellow; 6—Blue; 7—Brown.

SHIELDED; Weatherproof rubber jacket for all microphone or weatherproof extension work. (Longer continuous lengths if desired.)

TYPE No.	TYPE	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)	LIST PRICE
1458	2 conductor	22	All low impedance microphones	Tinned copper .020" polyethylene insulation, two conductors cabled with fillers, rayon braid with a tinned copper braid shield and chrome vinyl plastic jacket.	16 x 34	.231	$0.00 each
1459	1 conductor	20	Lapel microphone	Tinned copper wire; covered with cotton serve and wall of live colored rubber insulation, then covered with second cotton serve, closely woven tinned copper shield, another cotton serve, and a heavy live rubber overall jacket.	26 x 34	.175	10.15 each
1460	1 conductor	20	Crystal microphone	Tinned copper, glass yarn serve; wall of live rubber; tinned copper braid shield; rubber jacket overall.	26 x 34	.240	10.50 each
1461	1 conductor	22	Lapel microphone	Tinned copper .020" polyethylene insulation with a closely woven tinned copper shield. Gray vinyl plastic jacket.	16 x 34	.135	$0.00 each
1462	2 conductor	20	Carbon microphones	Same as 1459; color coded.	26 x 34	.280	11.35 each
1456	2 conductor	18	Heavy duty Studio type	Same as 1459, color coded.	41 x 34	.295	17.50 each
1463	3 conductor	20	Carbon microphones	Same as 1459; color coded.	26 x 34	.290	12.75 each
1464	4 conductor	20	Carbon microphones	Same as 1459; color coded.	26 x 34	.300	16.85 each
1465	5 conductor	20	Carbon microphones	Same as 1459; color coded.	26 x 34	.340	19.00 each
1466	6 conductor	20	Carbon microphones	Same as 1459; color coded.	26 x 34	.350	24.70 each
1467	7 conductor	20	Carbon microphones	Same as 1459; color coded.	26 x 34	.370	25.90 each

PHONOGRAPH MULTIPLE CABLE

TYPE No.	LENGTH	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)	LIST PRICE EACH
5030	500 ft.	2-16 28-22	Connections between commercial electric phonographs (juke boxes) and record selectors.	1 condr. No. 16 gauge bare copper wire with 1/64" black vinylite insulation. 1 condr. No. 16 gauge solid bare copper wire with 1/64" red vinylite insulation. 14 condrs. No. 22 gauge solid bare copper wire with .010" vinylite insulation, all individually color coded. 14 condrs. No. 22 gauge tinned copper wire with a .010" vinylite insulation, all individually color coded. All condrs. grouped into cable form with a tight, spiral cotton wrapping and with a heavy black vinylite jacket over-all.	Solid		$382.00
5103	1,000 ft.	3-22	Connections for commercial electric phonographs and record selectors.	3 condrs. No. 22 with 1/64" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with a treated cotton braid overall lacquered.	7 x 30	.125	44.25
5113	1,000 ft.	2-16 1-18	Connections for commercial electric phonographs and record selectors.	2 condrs. No. 16 1/32" thermoplastic insulation. 1 condr. No. 18 1/32" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with a treated brown cotton braid overall lacquered.	2-26 x 30 1-16 x 30	.165	105.70
5123	1000 ft.	2-16 1-18	Same as 5030	Same as 5113, but with silver plastic jacket.	2-26 x 30 1-16 x 30	.165	77.75
5135	1000 ft.	22 5 condr.	Same as 5030	5 condr. No. 22 with 1/64" thermoplastic insulation; 3 condr. twisted together with a braided tinned copper shield; 2 condr. twisted; all condr. grouped into cable form with a brown cotton braid overall.	5-7 x 30	.225	99.75



MULTI-COLOR CABLES

. . . for intercom and p.a. systems

CONDUCTOR COLOR CHART (colored rubber): 1st — Red; 2nd — Black; 3rd — Blue; 4th — Green; 5th — Brown; 6th — Yellow; 7th — White; 8th — Tan; 9th — Pink; 10th — Gray; 11th — Purple; 12th — Orange.

AERIAL WIRE
Copper and Bronze

Special, attractive three-color cartons help to make this wire easier for customers to buy, easier for your dealers to sell. Supplied at slight additional cost.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

CONSOLIDATED

CATHODE-RAY TUBE LEAD CABLE

For high voltage leads to cathode-ray tubes in television receivers, oscilloscopes, power supplies and other uses requiring a high-voltage cable. Special features: minimum surface leakage, corona resistance and high dielectric strength. Size: 20, Stranding 7 x 28.

No.	Length Package & Color	Specifications	Insulation Thickness	Finished O.D. (Inches)	List Price Each
4601	100 ft. Spool Red with two white tracers	Extra flexible tinned copper wire; red cellulose acetate yarn braid with 2 white tracers; lacquer coating.	.035″	.136	$2.80
4611	100 ft. Spool Red	Same as No. 4601 except heavier insulation; solid red braid.	.065″	.198	$4.80
4616	100 ft. Spool White	Extra flexible tinned copper wire; flame retardant polyethylene plastic insulation; working voltage 10,000 volts.	.035″	.108	$2.75
4621	100 ft. Spool White with red stripe	Same as No. 4616 except working voltage 20,000 volts.	.065″	.168	$4.60

ANALYZER CABLE

SPECIFICATIONS: Extra flexible tinned copper; rubber covered; color coded; Brown cotton braid overall.

1501	8 condr.	100 ft.	2-14 6-18	41 x 30 16 x 30	1/64	.300	$26.30
1502	9 condr.	100 ft.	2-14 7-18	41 x 30 16 x 30	1/64	.320	27.50

TINNED COPPER SHIELDED

For radio, auto and electrical work.

SPECIFICATIONS: Extra flexible; tinned copper stranded; cotton serve; live color-coded rubber insulation; cotton serve over all conductors; tinned shielded overall braid.

1471	1 condr.	100 ft.	18	16 x 30	1/64	.110	$ 6.60
1472	2 condr.	100 ft.	20	10 x 30	1/64	.190	8.50
1473	3 condr.	100 ft.	20	10 x 30	1/64	.200	11.00
1474	4 condr.	100 ft.	20	10 x 30	1/64	.220	14.45
1475	5 condr.	100 ft.	20	10 x 30	1/64	.235	17.05
1476	6 condr.	100 ft.	20	10 x 30	1/64	.250	21.00
1477	7 condr.	100 ft.	20	10 x 30	1/64	.265	25.30

MAGNET WIRE

Popular, profitable specialty wire packaged for easy selling in radio - electrical, department, specialty and hardware stores.

Wide variety of sizes and insulations.

Keeps stock in perfect order, always saleable.

For all wire pages S-49 to 56.

Supplied on Spool as Shown and in Heavier Weights.

Here is a handy and convenient way to stock small quantities of wire. It prevents wire from matting or tangling. The sleeve is accurately made and can be readily slipped out of the way when any length of wire is desired.

	DOUBLE COTTON COVERED			PLAIN ENAMEL			
Size	¼ lb.	½ lb.	1 lb.	Size	¼ lb.	½ lb.	1 lb.
14	$0.55	$0.95	$1.87	14	$0.45	$0.75	$1.39
15	.58	.98	1.90	15	.45	.80	1.40
16	.60	1.00	1.95	16	.50	.84	1.42
17	.60	1.05	2.00	17	.50	.87	1.44
18	.60	1.10	2.05	18	.50	.89	1.45
19	.65	1.15	2.28	19	.55	.92	1.49
20	.65	1.25	2.34	20	.55	.94	1.50
21	.77	1.34	2.50	21	.55	.95	1.59
22	.82	1.39	2.64	22	.55	.97	1.70
23	.88	1.50	2.75	23	.58	.99	1.75
24	.94	1.60	3.00	24	.60	1.00	1.87
25	.95	1.65	3.14	25	.65	1.10	1.95
26	1.00	1.75	3.39	26	.65	1.10	2.03
27	1.15	1.89	3.64	27	.70	1.15	2.14
28	1.20	2.14	4.00	28	.73	1.20	2.25
29	1.30	2.39	4.50	29	.75	1.25	2.30
30	1.32	2.50	4.75	30	.80	1.30	2.35
31	1.50	2.75	5.00	31	.89	1.35	2.45
32	1.75	3.00	5.64	32	.90	1.40	2.50
33	1.89	3.37	6.25	33	.95	1.50	2.65
34	2.14	3.89	7.00	34	1.00	1.70	2.75
35	2.39	4.25	7.50	35	1.09	1.84	3.14
36	2.75	4.89	8.65	36	1.29	2.00	3.50
37	2.25	6.25	11.40	37	1.45	2.25	4.00
38	4.75	8.65	16.50	38	1.70	2.50	4.50
39	6.00	11.50	20.00	39	1.87	3.00	5.00
40	8.00	15.00	28.15	40	2.50	3.75	6.00

FORMVAR WIRE—No. 2000

	SINGLE FORMVAR MAGNET WIRE				HEAVY FORMVAR MAGNET WIRE		
Size	¼ lb.	½ lb.	1 lb.	Size	¼ lb.	½ lb.	1 lb.
14	$0.66	$1.12	$2.07	14	$0.73	$1.24	$2.27
15	.66	1.20	2.10	15	.73	1.34	2.33
16	.75	1.25	2.14	16	.84	1.39	2.35
17	.75	1.30	2.15	17	.84	1.44	2.37
18	.75	1.34	2.17	18	.84	1.47	2.39
19	.83	1.39	2.23	19	.92	1.52	2.45
20	.83	1.40	2.25	20	.92	1.54	2.51
21	.83	1.42	2.37	21	.92	1.55	2.61
22	.83	1.45	2.56	22	.92	1.60	2.80
23	.89	1.49	2.62	23	.97	1.64	2.87
24	.90	1.50	2.80	24	1.00	1.65	3.07
25	.97	1.65	2.92	25	1.15	1.97	3.50
26	.99	1.65	3.05	26	1.19	1.98	3.64
27	1.05	1.74	3.20	27	1.25	2.07	3.84
28	1.10	1.80	3.37	28	1.34	2.15	4.04
29	1.14	1.87	3.46	29	1.37	2.24	4.14
30	1.20	1.95	3.52	30	1.44	2.34	4.22
31	1.34	2.02	3.67	31	1.67	2.52	4.58
32	1.35	2.10	3.75	32	1.69	2.63	4.67
33	1.42	2.25	3.95	33	1.77	2.81	4.94
34	1.50	2.55	4.12	34	1.87	3.19	5.16
35	1.64	2.81	4.70	35	2.04	3.46	5.88
36	1.92	3.00	5.26	36	2.39	3.75	6.58
37	2.17	3.37	6.00	37	2.72	4.20	7.50
38	2.55	3.75	6.76	38	3.17	4.69	8.45
39	2.80	4.50	7.50	39	3.50	5.64	9.38
40	3.75	5.64	9.00	40	4.69	7.04	11.27

TEST PROD WIRE

A specially constructed high grade wire for use on laboratory test equipment, bench analyzers, etc. Nos. 1001, 1002, 1003; Size 20, Stranding 41x36, Insulation Thickness .043″. Nos. 1006, 1007, 1008, 1009; Size 18, Stranding 65x36, Insulation Thickness .088″, Finished O.D. .230″.

No.	Length Package & Color	Specifications	List Price Each
1001	100 ft. Spool Black Red	Extra flexible tinned copper wire with red or black live rubber insulation 5000 Volts	$2.25
1002	250 ft. Spool Black Red	Same as No. 1001 5000 Volts	5.60
1003	1000 ft. Spool Black Red	Same as No. 1001 5000 Volts	21.00
1006	100 ft. Spool Black Red	Same as No. 1001 10,000 Volts	$4.30
1007	250 ft. Spool Black Red	Same as No. 1001 10,000 Volts	10.75
1008	500 ft. Spool Black Red	Same as No. 1001 10,000 Volts	20.00
1009	1000 ft. Spool Black Red	Same as No. 1001 10,000 Volts	40.00

COPPER WIRE—No. 2000

	BARE COPPER WIRE				TINNED COPPER WIRE		
Size	¼ lb.	½ lb.	1 lb.	Size	¼ lb.	½ lb.	1 lb.
14	$0.53	$0.97	$1.54	14	$0.67	$1.13	$1.75
15	.57	1.00	1.60	15	.73	1.27	1.92
16	.60	1.10	1.83	16	.80	1.40	2.00
17	.52	1.12	1.87	17	.84	1.44	2.03
18	.63	1.14	1.90	18	.87	1.47	2.08
19	.65	1.17	1.95	19	.90	1.50	2.12
20	.67	1.20	2.00	20	.94	1.53	2.17
21	.68	1.20	2.07	21	.95	1.53	2.24
22	.70	1.24	2.14	22	.97	1.57	2.30
23	.70	1.27	2.17	23	.98	1.58	2.34
24	.70	1.30	2.20	24	1.00	1.60	2.37
25	.72	1.30	2.20	25	1.00	1.60	2.37
26	.73	1.34	2.27	26	1.00	1.60	2.37
27	.75	1.37	2.30	27	1.05	1.67	2.64
28	.77	1.40	2.40	28	1.10	1.75	2.90
29	.77	1.42	2.47	29	1.13	1.84	2.94
30	.77	1.42	2.47	30	1.17	1.92	2.97
31	.77	1.44	2.53	31	1.20	2.00	3.04
32	.77	1.44	2.60	32	1.24	2.09	3.10
33	.78	1.47	2.68	33	1.27	2.17	3.19
34	.80	1.50	2.77	34	1.30	2.25	3.27
35	.82	1.55	2.90	35	1.32	2.30	3.40
36	.84	1.60	3.04	36	1.34	2.34	3.54
37	.92	1.75	3.22	37	1.36	2.42	3.72
38	1.00	1.90	3.40	38	1.38	2.50	3.90
39	1.02	1.97	3.45	39	1.39	2.50	3.95
40	1.04	2.04	3.50	40	1.40	2.67	4.00

FLEXIBLE COTTON BRAIDED

For speakers, testers, battery hook-up, etc. (longer continuous lengths if desired).

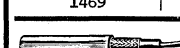
SPECIFICATION: Tinned flexible copper; cotton sleeve; live colored rubber insulation; bunched individual conductors; heavy brown cotton braid overall; color coded. Length 100 ft.; Size 20; Stranding 10x30; Insulation Thickness 1/64″.

Type No.	Type	Finished O.D. (Inches)	List Price Each	Type No.	Type	Finished O.D. (Inches)	List Price Each
1481	1 condr.	.150	$ 4.15	1487	7 condr.	.275	$16.60
1482	2 condr.	.175	5.60	1488	8 condr.	.300	22.45
1483	3 condr.	.200	7.75	1489	9 condr.	.310	23.25
1484	4 condr.	.275	9.65	1490	10 condr.	.325	25.30
1485	5 condr.	.250	11.60	1494	11 condr.	.335	27.20
1486	6 condr.	.260	14.45	1495	12 condr.	.350	33.80

CONTROL PANEL INTERCOM CABLE

SPECIFICATIONS: Tinned copper; vinylite plastic insulation; wire twisted together; closely woven braided tinned copper shield. Length: 100 ft.; Size 22; Stranding: Solid; Insulation Thickness: .010″.

Type No.	Type	Finished O.D. (Inches)	List Price Each
1468	2 conductors	.110	$ 5.25
1469	3 conductors	.145	6.70



LEAD COVERED CABLE

For freedom from interference, corrosion and dampness.

SPECIFICATIONS: Tinned copper wire; heavy rubber insulation and cotton braid; heavy lead sheath. Length: 100 ft.; Size: 18; Stranding: Solid; Insulation Thickness 1/32″.

1453	2 conductors	.240 x .200	$21.50
1454	3 conductors	.420	37.50

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Columbia

PERMALINE TV TRANSMISSION LINES

COLUMBIA is first to offer a television transmission line with an insulation so good that it can be GUARANTEED IN WRITING to give a service life far beyond the normal life of brown Polyethylene television lines. PERMALINE is a high molecular weight Polyethylene containing carbon black for maximum resistance to sunlight, which has been proven the chief factor in deterioration of ordinary television lines. The insulation value of 50 Mils of PERMALINE is equal to over 150 Mils of conventional brown Polyethylene.

Electrical characteristics of PERMALINE are very similar to Brown Polyethylene television lines but as there is no deterioration attenuation remains constant instead of increasing as is the case with brown Polyethylene, which becomes brittle and cracks. This is truly the first new development in television transmission lines in ten years.

25 YEAR WARRANTY

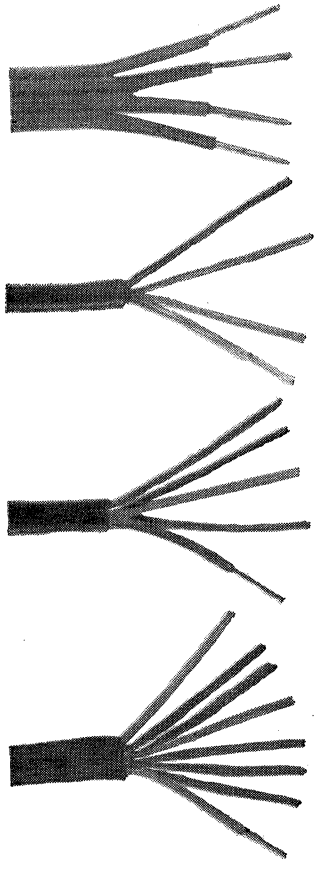
80 Mil 20 Ga. Str. PERMALINE — TV Transmission Line
.080 x .395

Cat. No.	
5050	1,000 Ft. Metal Spool
5052	500 Ft. Metal Spool
5053	100 Ft. Coil in Transparent Bag
5055	75 Ft. Coil in Transparent Bag
5057	50 Ft. Coil in Transparent Bag

15 YEAR WARRANTY

50 Mil 20 Ga. Str. PERMALINE — TV Transmission Line
.050 x .385

5150	1,000 Ft. Metal Spool
5158	500 Ft. Metal Spool
5152	100 Ft. Coil in Transparent Bag
5154	75 Ft. Coil in Transparent Bag
5156	50 Ft. Coil in Transparent Bag



20 Ga. Str. 4 Cond.
7/28 Flat Rotor Cable
PERMALINE INSULATION
One tinned copper conductor for easy identification.

Cat. No.	
5062	250 FT. SPOOL
5064	500 FT. SPOOL
5066	1000 FT. SPOOL

22 Ga. Str. 4 Cond.
Round Rotor Cable
Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

Cat. No.	
5072	250 FT. SPOOL
5074	500 FT. SPOOL
5076	1000 FT. SPOOL

22 Ga. Str. 5 Cond.
Round Rotor Cable
Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

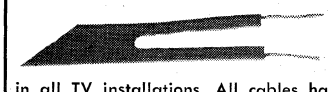
Cat. No.	
5082	250 FT. SPOOL
5084	500 FT. SPOOL
5086	1000 FT. SPOOL

22 Ga. Str. 8 Cond.
Round Rotor Cable
Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

Cat. No.	
5092	250 FT. SPOOL
5094	500 FT. SPOOL
5096	1000 FT. SPOOL

SPECIAL CABLES WITH THE INSULATION DESCRIBED ON THIS PAGE CAN BE MADE TO SPECIFICATION.

COLUMBIA TELEVISION TRANSMISSION LINES



Columbia now offers several types of exceptional quality TV lines at moderate prices. Virgin Polyethylene and clean bright conductors assure best results in all TV installations. All cables have a smooth polished finish that will effectively shed dirt and moisture.

45 MIL 22 GA. 7/30 TELEVISION LINE
.045 x .350

Cat. No.	
1008	100 Ft. Coil
1010	1000 Ft. Metal Spool

55 MIL 22 GA. 7/30 TELEVISION LINE
.055 x .380

1012	100 Ft. Coil
1014	1000 Ft. Metal Spool

55 MIL 20 GA. 7/28 TELEVISION LINE
.055 x .385

1053	100 Ft. Coil
1055	1000 Ft. Metal Spool

70 MIL 20 GA. 7/28 TELEVISION LINE
.070 x .385

1070	1000 Ft. Metal Spool

70 MIL 20 GA. 7/28 TELEVISION LINE
.070 x .385
High Strength Copperweld Conductors

3068	100 Ft. Coil
3070	1000 Ft. Metal Spool

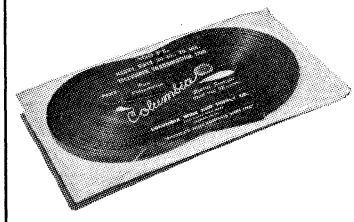
80 MIL 20 GA. 7/28 TELEVISION LINE
.080 x .395

1078	100 Ft. Coil
1080	1000 Ft. Metal Spool

100 MIL 20 GA. 7/28 TELEVISION LINE
.100 x .430

1002	100 Ft. Coil
1004	1000 Ft. Metal Spool

To save time and effort for the Serviceman, there is now available high quality, packaged television transmission line, featuring brass treminals securely attached to one end of line, **plus** 2 loose terminals for use at set end. This means perfect connections at all times with no signal loss because of improper connections. Line is neatly coiled and enclosed in a heat-sealed transparent Polyethylene bag for protection against dust and moisture, insuring a clean, fresh item at all times.



70 Mil 20 Ga. Str. 7/28 Television Transmission Line
.070 x .385

Cat. No.	
1068	100 Ft. Coil with brass terminals in Polyethylene Bag
1074	75 Ft. Coil with brass terminals in Polyethylene Bag
1072	60 Ft. Coil with brass terminals in Polyethylene Bag

WRITE FOR COMPLETELY ILLUSTRATED CATALOG TO COLUMBIA WIRE & SUPPLY CO., CHICAGO 18, ILL.

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Columbia

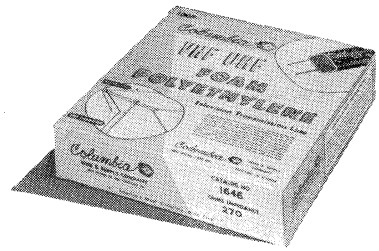
HOOKUP WIRE DISPLAY

This good looking compact display stand holds 18 spools of hook up wire for practically every use. Miniature metal spools are all one cost, no matter what gauge or voltage rating. Complete description of spools and wire will be found on page 16 of our Catalog 104. Display stand included at no charge with each order for 50 spools of hook up wire. Please state selection as to gauge, voltage rating and color.

Cat. No.
1935 ..... HOOKUP WIRE DISPLAY

COLUMBIA UHF-VHF FOAM POLYETHYLENE TRANSMISSION LINES

New additions are a heavier type of Foamline and new packaging on both types of Columbia Foam Polyethylene Transmission Lines. Attractive 3 color carton for 100 ft. coils will enable the distributor and serviceman to handle this quality item with a minimum investment.



HEAVY DUTY FOAM POLYETHYLENE TRANSMISSION LINE

.450 x .350
Cat. No.
1748 ..... 100 FT. CARTON
20 GA. 7/28 STR.

1750 ..... 500 FT. SPOOL
20 GA. 7/28 STR.
IMPEDANCE 270 OHMS

STANDARD FOAM POLYETHYLENE TRANSMISSION LINE

.380 x .205
Cat. No.
1646—100 FT. CARTON ..... 20 GA. 7/28 STR.
IMPEDANCE 270 OHMS

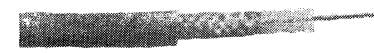
PLASTIC MICROPHONE CABLES

Low capacitance cables with durable Flexlife plastic insulation provides resistance to abrasion, moisture and aging. Low loss polyethylene insulation over flexible stranded copper conductors. Grey plastic jacket overall.

LAPEL MICROPHONE CABLE .130 O.D.

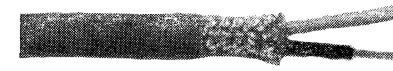
Cat. No. 1315.....100 Ft. Spool.....25 Ga.....7/33 Stranding
Cat. No. 1316.....500 Ft. Spool.....25 Ga.....7/33 Stranding
NOMINAL CAPACITANCE 33 MMF PER FT.

CRYSTAL MICROPHONE CABLE .190 O.D.



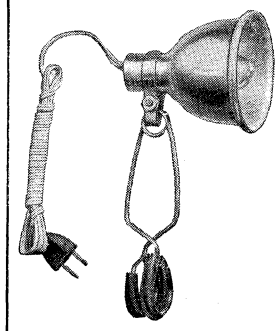
Cat. No. 1317.....100 Ft. Spool.....25 Ga.....7/33 Stranding
Cat. No. 1318.....500 Ft. Spool.....25 Ga.....7/33 Stranding
NOMINAL CAPACITANCE 24 MMF PER FT.

TWO CONDUCTOR PLASTIC MICROPHONE CABLE .230 O.D.



.230 O.D.
Cat. No. 1321.....100 Ft. Spool.....22 Ga.....16/34 Stranding
Cat. No. 1322.....500 Ft. Spool.....22 Ga.....16/34 Stranding
NOMINAL CAPACITANCE 30 MMF PER FT. BETWEEN 1 COND. AND REMAINING COND. CONNECTED TO SHIELD.

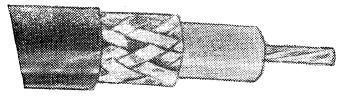
DELUXE TELEVISION SERVICE LITE



This newly designed service lite is one of the finest items in our entire line of television service accessories. Has a 2¼ inch highly polished aluminum reflector and wide opening spring clamp that will permit this lite to be attached almost anywhere inside the television cabinet leaving both hands free to work. Lower part of clamp has rubber covering that will hold firmly wherever it is placed. Comes complete with 7½ watt 110 volt bulb and six foot parallel plastic cord with unbreakable male plug for attaching to baseboard or into service block on our all purpose Television Service Cord. Display card furnished with orders for 25 or more lites.

Cat. No. 185 ..... DELUXE TELEVISION SERVICE LITE

COLUMBIA COAXIAL CABLES



R G No.	Nominal Impedance	Nominal MMFD. Ft.	Wire Size	Overall Jacket	Spool Size	Cat. No.
RG 59 U	73.0	21.0	22 C Weld	Black Vinyl .240 O.D.	100 Ft.	1100
					500 Ft.	1102
					1000 Ft.	1104
RG 8 U	52.0	29.5	7/21	Black Vinyl .405 O.D.	100 Ft.	1150
					500 Ft.	1152
					1000 Ft.	1154
RG 11 U	75.0	20.5	7/26	Black Vinyl .405 O.D.	100 Ft.	1156
					500 Ft.	1158
					1000 Ft.	1160
RG 58 U	53.5	28.5	20 Ga.	Black Vinyl .195 O.D.	100 Ft.	1162
					500 Ft.	1164
					1000 Ft.	1166
RG 58 A/U	50.0	29.0	19/.0068	Black Vinyl .159 O.D.	100 Ft.	1174
					500 Ft.	1176
					1000 Ft.	1178

WRITE FOR COMPLETELY ILLUSTRATED CATALOG TO COLUMBIA WIRE & SUPPLY CO., CHICAGO 18, ILL.

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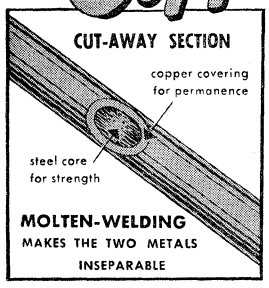
Net

PROVED DEPENDABILITY

Copperweld NON-RUSTING GROUND RODS and CLAMPS

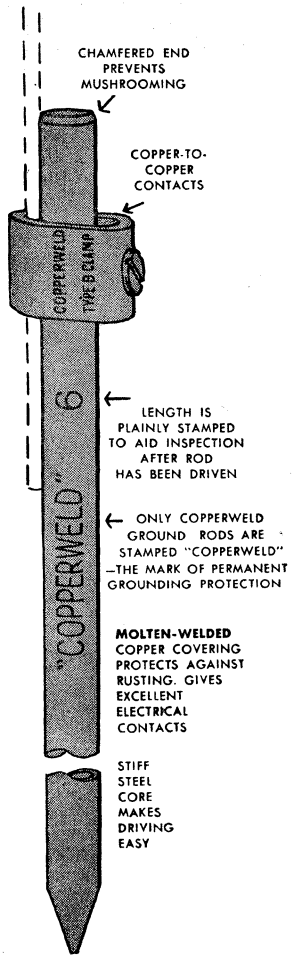
TRADE MARK

FOR RADIO AND TELEVISION

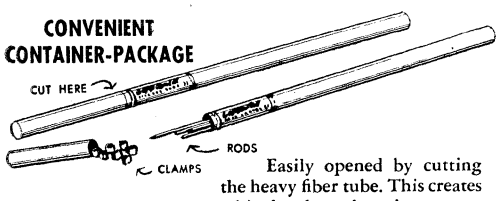


Copperweld Ground Rods and Clamps provide the reliable grounding protection necessary for successful performance, elimination of interference and safe operation of radio and television equipment. The rugged steel core gives the stiffness you need for easy driving. High conductance and lasting protection against corrosion are provided by the heavy molten-welded copper covering.

Millions of Copperweld Ground Rods are rendering permanent grounding protection. You're SAFE when you use Copperweld — the only Molten-Welded Ground Rods. They give you PROVED dependability — PROVED economy — PROVED longer service.



CONVENIENT CONTAINER-PACKAGE



Easily opened by cutting the heavy fiber tube. This creates a bin for the rods and a convenient container for the clamps.

SPECIFICATIONS

Catalog Number	Size	Pounds Per 100 Pcs.	Pcs. Per Package
*RT 24P	.258" x 4'	92	50
RT 34	3/8" x 4'	142	25
RT 36	3/8" x 6'	212	25
RT 38	3/8" x 8'	277	20
RT 45	1/2" x 5'	320	10
RT 46	1/2" x 6'	385	10
RT 48	1/2" x 8'	505	10

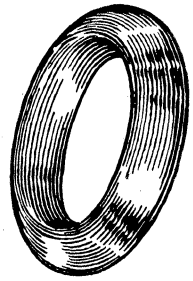
*Copperweld Radio and Television Economy Ground Rods With Copperweld Annealed 60" Pigtail (No Clamp Needed).

COPPERWELD GUY STRAND

Now handles better than ever because of shorter lay and different stranding practice.

Size	Strength
2 No. 18	350#
3 No. 18	550#
2 No. 14	650#
3 No. 14	1000#

Thick welded-on covering protects against rust.



COPPERWELD ANTENNA WIRE

Preferred for many years by professionals and amateurs. Because of its high strength, it maintains a fixed length. Furnished bare in 4 sizes. No. 10 Awg, No. 12 Awg, and No. 14 Awg are available in 100', 150', 250', 500' and 1,000' coil lengths. No. 14 is also coiled in 2,500' lengths. Size No. 18 Awg is put up in 3,000-ft. spools.

SELL a GOOD job

The extra cost of a Copperweld ground rod, Copperweld grounding wire and Copperweld guy wire is about 75 cents per job. Give your customer the choice of paying more for quality. He probably will if you give him a chance.

SOFT COPPERWELD GROUNDING WIRE

Now available in 5 sizes, No. 8, 10, 12, 14, 16 AWG in lengths of 50 ft. to 2000 ft. depending on size. All sizes are approved by Underwriters Code. Copper to copper connections stay good.

CROWN METAL PRODUCTS CO.

WYANO, PA.

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Saxton TV TRANSMISSION WIRE & ACCESSORIES

Lightweight, pliable plastic covered flat or round cables specifically designed for antenna rotor work.

ROTOR CABLES

Identifying No. RC-4F

Four conductor, parallel, flat ribbon type, rotor cable. Each conductor consists of seven strands of number 30 bare copper, total number 22 AWG. One outside conductor tinned to indicate polarity. Brown polyethylene plastic insulation. 500 foot and 1000 foot spools

Identifying No. RC-4R

Four No. 20 AWG conductor, color coded, round rotor cable. Each conductor consists of seven No. 28 bunched copper strands in plastic vinyl jacket. External jacket of brown vinyl. Diameter .165". 500 foot and 1000 foot spools.

Identifying No. RC-8R

Eight No. 20 AWG conductors, color coded, round rotor cables. Each conductor consists of seven No. 28 bunched copper strands in plastic vinyl jacket. External jacket of black vinyl. Diameter .219". 500 and 1000 foot spools.

PLASTIC INSULATED INTERCOMMUNICATION CABLES

Sturdy, pliable, lightweight, plastic multi-wire cables. Small diameter and extreme flexibility. Recommended for control, communications, and annunciator circuits.

Identifying No. IC-420

Four color coded conductors No. 20 AWG. Each conductor consists of seven No. 29 bunched copper strands in a plastic jacket. External jacket of brown vinyl, diameter .160". 500 foot and 1000 foot spools.

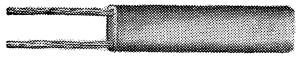
Identifying No. IC-820

Eight color coded conductors of No. 20 AWG. Each conductor consists of seven No. 28 bunched copper strands in a plastic vinyl insulating jacket. Outer jacket black vinyl. Diameter .215". 500 and 1000 foot spools.

Note: Prices quoted on request on cables, up to and including 64 conductors (32 pair). All special cables unshielded and with grey vinyl jackets.

TWIN LEAD TRANSMISSION WIRE

First quality standard gauge 300 ohm twin lead transmission wire.



Identifying No. *TL55

55 mil polyethylene — No. 22 AWG copper strand 1000 foot spools—brown.

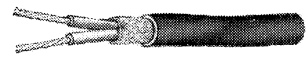
Identifying No. *TL100

In brown or silver—100 mil polyethylene, No. 20 AWG copper strand. 1000 foot spool.

*Also available with clear polyethylene jacket on special order.

SHIELDED INTERCOMMUNICATION CABLES

Sturdy, pliable two wire shielded cables especially designed for intercom work. Easily handled, easily and quickly stripped.



Identifying No. ICX

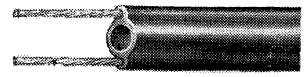
Dual conductor No. 20 AWG. Each conductor consists of 10 No. 30 tinned copper strands, polyethylene insulated. Outside jacket brown vinyl. Diameter .195". Tinned copper braid shield. 500 foot and 1000 foot spools.

Identifying No. ICF

Dual conductor No. 20 AWG. Each conductor consists of 10 No. 30 twisted and tinned copper strands, P.V.C. insulated and color coded. Shield is twisted, spiral aluminum shield. Outside jacket black vinyl. Diameter .198". 500 or 1000 foot spools. (A new type of construction, the large advantage of which is the ease with which it can be worked. After removing the outside jacket, twist the tinned spiral aluminum shield for ground, instead of pigtailing, as with copper shields.)

TUBULAR TWIN LEAD TRANSMISSION WIRE

Saxton 300 ohm Tubular Twin Lead lo-loss lead-in wire is virtually unaffected by weather or physical handling due to the tough outer concentrated polyethylene wall.

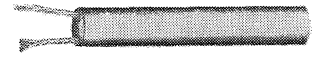


Identifying No. TU-20

Seven strands of No. 28 gauge (No. 20 AWG) pure copper wire imbedded in pure polyethylene. In 500 or 1000 foot coils. Capacitance 4.0 mmf per foot. Primarily used in uhf applications.

"SPONGEE" AIR FOAM 300 OHM UHF/VHF WEATHERPROOF LEAD-IN TRANSMISSION WIRE

Saxton "Spongee" foam polyethylene hi-gain lead-in owes its efficiency to the unique arrangement whereby the sponge-like arrangement of the plastic fibers provides thousands of individual but connected cells so arranged that all possible moisture is eliminated between the conductors. This results in the maintenance of a constant impedance and negates the necessity for the scaling or draining of the terminal points. Abrasion and damage from sun or rain are eliminated by the tough outer concentrated polyethylene wall.



Identifying No. FRC300

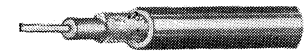
No. 20 AWG conductors. Each conductor consisting of 7 strands of 28 gauge pure copper. Conductors are imbedded in a foam-like sponge arrangement of brown polyethylene with heavy brown polyethylene outer layer. Outside diameter .297". Impedance 300 ohm. Velocity of propagation 82%. Capacitance 4.5 MMF per foot. 500 and 1000 foot coils.

Identifying No. FRC301

Same as above with non-contaminating jacket for coastal use.

COAXIAL CABLES TRANSMISSION WIRES

Saxton coaxial cables are made to conform with JAN specs and are ideally suited for use with receiver, transmitter, or community installations. All Saxton coaxial cables are made with non-contaminating "Lifetime" jackets.



Identifying No. RG59U

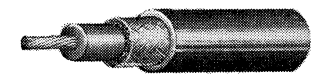
Solid bare copperweld No. 22 AWG conductor, pure polyethylene insulation. Bare copper braid shield. Black external non-contaminating "Lifetime" jacket. Diameter .242".

Atten. at 100 MC.....3.74 db per 100 ft.
Atten. at 200 MC.....5.60 db per 100 ft.
Atten. at 500 MC.....9.40 db per 100 ft.
Impedance .....72 ohms
Velocity of Propagation.....67%
Capacitance.....20 mmf per ft.
500 or 1000 foot spools.

Identifying No. RG8U

7 No. 21 stranded, bare copper conductors (No. 13 AWG). Pure polyethylene insulation. Bare copper braid shield. Black external non-contaminating "Lifetime" jacket. Diameter .405".

Atten. at 100 MC.....2.08 db per 100 ft.
Atten. at 200 MC.....3.27 db per 100 ft.
Atten. at 500 MC.....4.75 db per 100 ft.
Impedance .....52 ohms
Velocity of Propagation.....67%
Capacitance.....28.3 mmf per ft.
500 or 1000 foot spools.



Identifying No. RG11U

7 No. 26 stranded, tinned copper conductors (No. 18 AWG). Pure polyethylene insulation. Bare copper braided shield. Black external non-contaminating "Lifetime" jacket. Diameter .405".

Atten. at 100 MC.....1.90 db per 100 ft.
Atten. at 200 MC.....2.84 db per 100 ft.
Atten. at 500 MC.....4.98 db per 100 ft.
Impedance .....73 ohms
Velocity of Propagation.....67%
Capacitance.....20 mmf per ft.
500 or 1000 foot spools.

GROUND RODS BY SAXTON

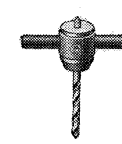
Saxton ground rods are made in a variety of types and sizes to conform with local regulations and to fulfill the requirements of a particular job.

Identifying No.'s CGR-4, CGR-6, CGR-8

Triple copper plated steel, ⅜" diameter, hand rubbed oil finish. In 4', 6', or 8' lengths as required. Complete with clamp for securing ground wire. Standard package of 25 rods of size designated.

Identifying No.'s ALGR-4, ALGR-6, ALGR-8

Solid hard drawn aluminum, ⅜" diameter, special alloy, in 4', 6', or 8' lengths as required. Complete with clamp for securing ground wire, standard package of 25 of size designated.



REAMER FOR COAXIAL CABLE

Identifying No. CR

A reaming device for quickly preparing Spirafil or coaxial cables for Tee Tap connection.

PHONOGRAPH WIRE

Identifying No. PW — For use as pickup arm lead. No. 22 stranded with braided copper shield. 500 or 1000 foot spools.

Identifying No. PWW — Same as above with spirally wound, tinned copper wrap around shield and protective vinyl covering. 500 or 1000 foot spools.

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Saxton TV TRANSMISSION WIRE & ACCESSORIES

GENERAL DESCRIPTION

Saxton lo-loss open wire transmission line is made for maximum uhf, vhf, or color reception. Signal loss under any weather conditions is the lowest of any wire made by any manufacturer. Copperweld (40% copper — 60% steel) is recommended for general use. Copperweld formvar covered for special conditions such as humid, coastal areas. For the few who prefer aluminum, pure copper, or pure copper formvar covered, Saxton also offers a quality product with these same specifications.

SAXTON OPEN LINE SPECIFICATIONS

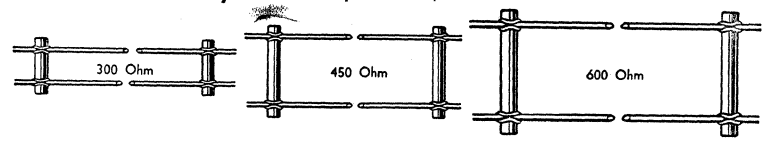
1. INSULATORS — Polystyrene — molded, slip proof.
2. SPACING — 6" or 12" on 450 Ohm, 6" on 300 Ohm, random spacing on 600 Ohm.
3. MATERIALS USED — No. 18 gauge wire (40% Copperweld). Copperweld formvar coated, Pure copper, Pure copper formvar coated, aluminum. (No. 12 gauge for 600 ohm open line.)
4. TENSILE STRENGTH — 400 pounds.
5. CAPACITANCE — negligible.

SAXTON OPEN LINE PRODUCTS are spooled on 100, 250, 500, and 1000 foot identified reels. The reels are so made that it is possible to determine the wire still remaining on the reel at all times.

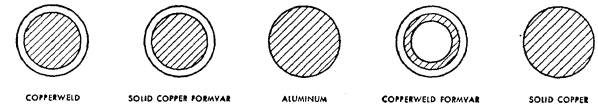
ALL SAXTON PRODUCTS are made under carefully supervised, rigidly engineered specifications. Truly the antenna and the product are a "PERFECT MATCH" and "MADE FOR EACH OTHER."

LO-LOSS OPEN WIRE GIVES MAXIMUM RECEPTION

The truly all-weather, all-area, transmission line.



AVAILABLE IN 5 TYPES ILLUSTRATED



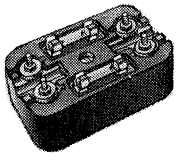
CHARACTERISTIC CHART—TRANSMISSION LINE LOSS—DB LOSS PER 100 FEET

Type	100 MC Wet	100 MC Dry	500 MC Wet	500 MC Dry	1000 MC Wet	1000 MC Dry
*300 Ohm Open Wire	1.20	0.40	2.30	.80	1.9	1.8
300 Ohm Tubular	2.8	1.1	6.8	3.1	10.2	4.8
300 Ohm Flat	7.6	1.5	20.0	3.2	30.0	5.0
RG-59U	—	3.8	—	9.4	—	14.2
RG-11U	—	1.8	—	5.0	—	7.6

TRANSMISSION LINE LOSS DB LOSS PER 100 FEET

Type	100 MC Wet	100 MC Dry	500 MC Wet	500 MC Dry	1000 MC Wet	1000 MC Dry
450 Ohm Open Wire	—	0.35	—	.78	—	1.1
300 Ohm Tubular	2.5	1.1	6.8	3.0	10.0	4.6
300 Ohm Flat	7.3	1.2	20.0	3.2	30.0	5.0
RG-59U	—	3.8	—	9.4	—	14.2
RG-11U	—	1.8	—	5.0	—	7.6

*300 Ohm Open Wire Transmission Line available in 3" insulated spacing for additional rigidity and ease of handling at a small additional charge. For further information ask your distributor salesman.

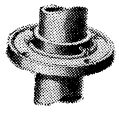


SAXTON LIGHTNING ARRESTOR

Identifying No. LA6

A highly efficient arrestor and static eliminator made of glazed reinforced porcelain for UHF and VHF applications.

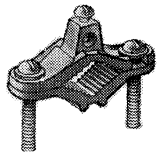
Positive protection is obtained by externally fusing both sides of line so that the circuit is broken prior to damage. Built-in compensating inductor improves reception by maintaining constant line impedance. Resistor network drains off static impulses and prevents dangerous potentials across the set terminals.



FLOATING GUY RING

Identifying No. FG

Cast aluminum, 2-piece floating guy ring (see illustration) fits masts up to 1½" in diameter. Available with 3, 4, or 6 holes. Standard 4-hole units will be shipped unless otherwise stipulated. Individually packed, complete with set screw hardware in individual plastic bags. 50 to the master carton.



GROUND MAST CLAMP

Identifying No. GMC

Brass alloy mast clamp for use in grounding masts or for effecting ground connection on cold water systems. Ridged tooth inner section makes for good, solid, effective ground. Complete with set screw. (See illustration.) 100 to carton.

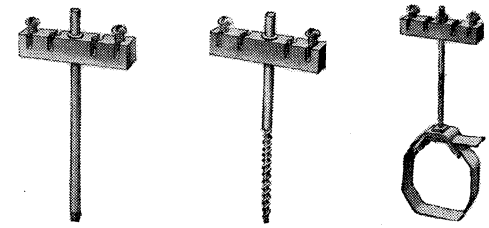
STAND OFF INSULATOR

Identifying No. "Tappee"

A standoff which is especially designed for use with open line transmission wire installations. To take up slack in line, tighten screws in slots after pulling taut. For use as ordinary spacer—partially tighten set screws (see illustrations). This will permit free movement of wire in the slots, thereby doing away with potential wire breaks due to backward and forward motion caused by wind. Ideal also for use as anchor point or spacer for "Fence Wire" installations.

For use in 600 ohm installation, use outside two slots. Particularly good for community installations, where random spacing of open lines is desirable to avoid tuned circuits created by regular spacing. Permits inexpensive, efficient, time-saving, trouble-free installations. For use with wire gauges from No. 12 to No. 18.

Molded polystyrene standoff with proper spacing for either 300 ohm, 450 ohm, or 600 ohm installations. 100 to box. 1000 to master carton.



SPIRAFIL CABLE

Information on Foamflex also available on request.

Spirafil is a semi-flexible, aluminum sheathed coaxial cable which is ideal for community antenna, broadcast, communications, or microwave work. A product of the Phelps Dodge Copper Products Corporation, it is impervious to migratory losses or variation of electrical value caused by chemical reaction, weather aging, or other influences commonly creating this condition. For use in underground or underwater applications, it is also obtainable with a high molecular weight polyethylene habirlene jacket which will allow such installations to be made without fear of corrosion for the life of the installation. Spirafil is made with an impedance of either 50 ohms or 70 ohms, and in either ⅜" or ½" diameters.

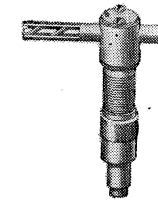
Identifying No. SP50-A ⅜" 50 ohm Spirafil
SP50-B ½" 50 ohm Spirafil
SP70-3 ⅜" 70 ohm Spirafil
SP70-B ½" 70 ohm Spirafil

For habirlene covering add H — i.e., SP 50-H is ⅜" Spirafil, 50 ohms impedance, habirlene covering. Spirafil must be ordered in units of 2000'. The unique construction of Spirafil, whereby the center solid copper conductor is centered in the solid, tubular aluminum sheath by means of a spirally wound polyethylene spacer, creates some very interesting features. Some of these features are no radiation, low attenuation, excellent frequency response, uniform electrical properties over wide temperature variations, and unlimited operating life. Additional information and specifications available on request.

TEE TAP CONNECTOR

Identifying No.

TTC—for coaxial cables
TTS—for Spirafil or Foamflex cables



The Saxton Tee Tap allows quick, electrically perfect connection to Spirafil or coaxial cables without cutting the distribution lines and without necessity for reinsulation.

The tapping arrangement also provides proper impedance match from the distribution line to the service line.

Identifying No.

TTC 59—from RG59 to RG59U

TTC 11—from RG11U to RG59U

TTC SP—from Spirafil or Foamflex to RG59U

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Saxton TV TRANSMISSION WIRE & ACCESSORIES

PLASTIC COVERED MICROPHONE CABLES

Saxton microphone cables will provide long, trouble-free service, and will withstand aging, moisture, and physical handling. Saxton cables have high insulation characteristics, low capacitance, and minimum attenuation at audio frequencies.

Identifying No. MCL

Single 25 AWG conductor, stranded and tinned, consisting of three No. 33 copper and four No. 33 steel strands. Cellulose yarn braid. Polyethylene plastic insulation. Tinned copper braided shield. Outside diameter .140". Capacitance 33 mmf per foot. Especially suitable for use with hi-impedance lapel type microphones. Grey vinyl plastic jacket. 500 or 1000 foot spools.

Identifying No. MCU

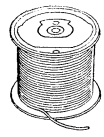
Single 25 AWG conductor, stranded and tinned, consisting of three No. 33 copper strands and four No. 33 steel strands. Cellulose yarn braid. Polyethylene plastic insulation. Tinned copper braided shield. Outside diameter .200". Capacitance 26 mmf per foot. Especially suited for use with hi-impedance microphones of all types. Grey vinyl plastic jacket. 500 foot or 1000 foot spools.

Identifying No. MCX

Dual conductor No. 22 AWG, each conductor consisting of 16 No. 34 tinned copper strands. Polyethylene plastic insulation. Tinned copper braided shield. Grey vinyl plastic jacket. Outside diameter .230". Capacitance with one conductor grounded to shield—31 mmf per foot. Especially recommended for use with all types of low impedance microphones. 500 or 1000 foot spools.

ELECTRIC FENCE WIRE CABLE

Unannealed No. 18 copperweld (40%) wire; hard drawn and shiny, wound on metal spools. Widely used as either electric fence wire, antenna wire, or as replacement for open line transmission wire. Also used in No. 12 and No. 14 gauges with Saxton 600 ohm spacers (See page 6-7) for installations requiring 600 ohm transmission line. The No. 18 gauge wire is wound in either 1000 foot or ½ mile lengths; the No. 12 and No. 14 wire, in 1000 foot lengths only.

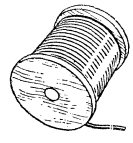


Identifying No.'s

EF-18—1000.....1000 foot spool, 18 gauge
EF-18—2500.....½ mile spool, 18 gauge
EF-12—1000.....1000 foot spool, 12 gauge
EF-14—1000.....1000 foot spool, 14 gauge

LAMP CORD CABLE

Saxton lamp cord is made for long, trouble-free usage in a multiplicity of applications where efficient transfer of power is necessary.

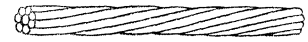


Identifying No. POT

41 strands of No. 31 bare copper conductor in each of 2 (No. 18 AWG) parallel wires in a plastic vinyl jacket. Colors: Brown or White. Dia. 114" x .230". 250 foot spools.

MESSENGER CABLE

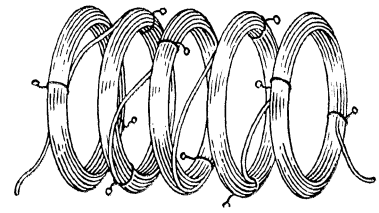
Saxton messenger cables are made for long service life, excellent weatherability, and of uniform quality. Also used as a guy wire in installations where quality rather than minimum requirement is a factor.



Identifying No. MC

Six strands of .0525" Aluminum wire concentrically wound around two .0525" steel centers. Total diameter of cable .1675", breaking strength 855 lbs. 500 or 1000 ft. coils. (100 feet interconnected.)

ALUMINUM GROUND WIRE



Identifying No.'s

AGS—8 gauge. AG6—6 gauge. AG11—11 gauge. Dead soft annealed aluminum wire in No. 6 AWG, No. 8 AWG, or No. 11 AWG. (See illustration.) Put up in 1000 foot continuous coils tied off at every 50 or 100 feet, as specified. Also wound on metal spools in 500 or 1000 foot continuous lengths. Conforms with all local regulations. Also available in 50 and 100 foot containers, for efficient self-service sales.

HIGH TENSION CATHODE RAY TUBE LEAD CABLES

Cables which are used in applications where high voltage is present, i.e., in cathode ray leads in television sets and oscilloscopes, power supply applications, etc. Saxton high tension cables have high dielectric strength, minimum leakage, and large corona resistance.

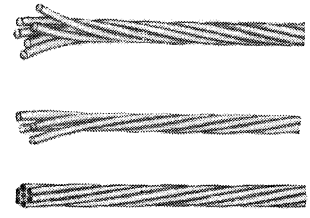
Identifying No. H.T. 1

Stranded, tinned No. 20 AWG tinned copper conductor. Conductor consists of 7 No. 28 tinned copper strands. Insulating flame retardant polyethylene plastic insulation. External jacket pliable brown vinyl, diameter .115". Puncture voltage 31,000 volts—suggested working voltage 10,500 volts. 500 and 1000 foot spools.

Identifying No. H.T. 2

Stranded, tinned No. 20 AWG tinned copper conductor. Conductor consists of 7 No. 28 tinned copper strands. Extra heavy insulating flame retardant polyethylene plastic insulation. External jacket red plastic vinyl, diameter .167". Puncture voltage 35,000 volts. Suggested working voltage up to 21,000 volts. 500 and 1000 foot spools.

GUY WIRE



All of the guy wire items also available in 50 foot coils, 500 foot metal spools, or 1000 foot wooden reels, at a small additional charge.

Specify type of coils or spools when ordering.

	Iden. No.	Description	No Strands	Gauge	Standard Packing	Strength Test	Strength Yield
428	GW 4/20	Heavy galvanized steel, half hard temper.	4	20	10-100 ft. coils 1-1000 ft. spool	300 lbs. p.s.i.	4% per C ft.
429	GW 6/20	Heavy galvanized steel, half hard temper.	6	20	10-100 ft. coils 1-1000 ft. spool	465 lbs. p.s.i.	3.6% per C ft.
430	GW 6/18	Heavy galvanized steel, half hard temper.	6	18	10-100 ft. coils 1-1000 ft. spool	675 lbs. p.s.i.	3% per C ft.
431	AL 7/16	EC quality aluminum, aircraft temper.	7	16	10-100 ft. coils 1-1000 ft. spool	640 lbs. p.s.i.	4.5% per C ft.
432	ASL 7/16	EC quality aluminum, aircraft temper with triple coated single steel core.	6 alum 1 steel	16 17	10-100 ft. coils 1-1000 ft. spool	703 lbs. p.s.i.	3.5% per C ft.
433	CO 6/20	Copperweld — 30% copper over steel core, non-rust, half hard temper.	6	20	10-100 ft. coils 1-1000 ft. spool	600 lbs. p.s.i.	2.7% per C ft.
434	CO 6/18	Copperweld — 30% copper over steel core, non-rust, half hard temper.	6	18	10-100 ft. coils 1-1000 ft. spool	1100 lbs. p.s.i.	2.5% per C ft.
435	CO 3/18	Copperweld — 30% copper over steel core, non-rust, half hard temper.	3	18	10-100 ft. coils 1-1000 ft. spool	550 lbs. p.s.i.	2.5% per C ft.

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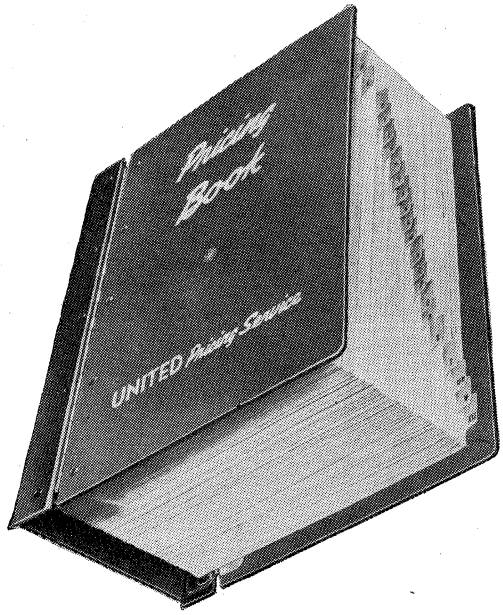

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DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

TACO ANTENNAS

SPECIALIZED ANTENNA SYSTEMS

Supplementing our line of Special Purpose antennas embracing the frequencies of 50 MC through 4000 MC, our engineering design and production facilities have been expanded by the addition of dishes and multi-driven element antennas for all communication purposes. **IN SPECIALIZING ON ANTENNAS WITHIN THE FREQUENCY RANGE OF 50 THROUGH 4000 MC, TACO MAINTAINS A HOLD ON TOP PLACE WITHIN THIS PORTION OF THE SPECTRUM.**

TACO developed and built the special Mini-Track antenna design for tracking the earth satellite in the Vanguard project.

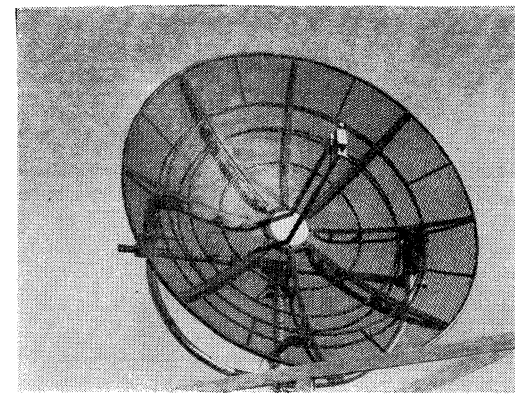
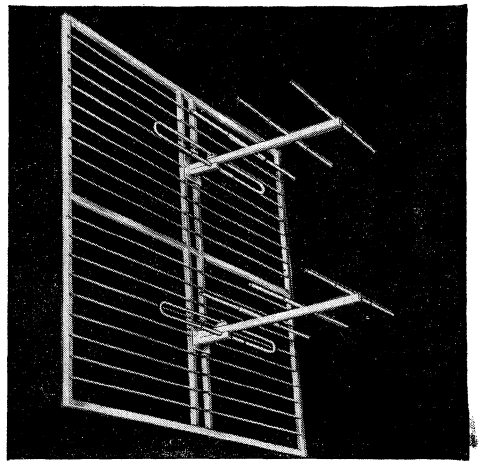


Illustration shows a TACO eight foot dish in a typical installation.

RUGGEDIZED COMMUNICATIONS ANTENNAS



TACO's antenna development department is available for the design of antennas to meet any communication requirement.

Illustrated is one of the fully welded broadband communications antennas designed and built by TACO. Extensively used in communications, these ruggedized antennas provide day in and day out uninterrupted service so vital in the communications field.

TACO's communication antennas embrace sixty-three (63) models, each having a specific application within the frequency range of 50 to 4000 MC. Binder containing descriptive sheets available on request. *When requesting catalogs, it will help if you specify your application and the frequency range.*

VHF AND UHF TELEVISION ANTENNAS

TACO's reputation for quality has been earned through the years and is based on the use of top quality materials, sound engineering design and top quality workmanship.

Whether for VHF or for UHF, black and white or color, TACO antennas continue to rate the installers vote for performance, appearance, quality, ease of installation, ruggedness, and stability under all conditions.

TACO distributors located in every part of the country have full particulars in catalog sheets showing mechanical and electrical details.

TACO

TECHNICAL APPLIANCE CORPORATION
Sherburne, N. Y.
In Canada: Hackbusch Electronics Ltd., Toronto 4, Ont.

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WARD Auto Aerials

CHROME MODELS

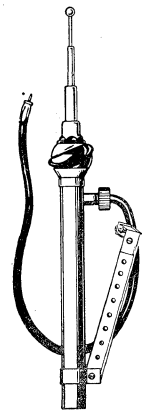
FRONT MOUNTS

EIGHT BALL

World's most popular universal split-ball design. Installed completely from outside in 5 minutes. Adjusts to any desired angle. Smart, rugged, rattle-proof.

- 3 Sections
- Adjustable from 56″ to 22″.
- 54″ Elektran lead cable.
- Triple chrome plated brass tubing. MODEL TCF-3C.

12 to carton: 12 lbs.; 1 lb. each.



PHANTOM DISAPPEARING TYPE

Water sealed and 100 per cent shielded against engine noises. Has 8-ball mount for easy installation. Smart built-in appearance. Sturdy universal bracket.

- 3 sections: 56″ to 4½″ when collapsed.
- Triple chrome plated.
- 54″ Elektran lead cable MODEL DCF-3A.

12-carton: 24 lbs., 2 lbs. each.

MAJORETTE

Junior partner to 8-ball economy model top cowl or top fender mount. Has all major features of 8-ball, mounting from outside. Highest quality antenna for its price. Very popular.

- 3 Sections
- Extends to 56″ from 22″.
- 54″ Elektran lead cable.
- Triple chrome plated brass tubing. MODEL TB-3.

12-carton: 11¼ lbs., 14 oz. each.

SIDE MOUNTS

SKY QUEEN

Neatly styled. Two stanchions assure sturdy mounting. Rugged and rattle-proof. Permanent trouble-free service.

- 3 sections extend to 66″.
- 36″ Elektran lead cable.
- Triple chrome plated brass. MODEL SC-6.

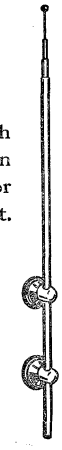
12-carton: 12¾ lbs., 1 lb. each.

LONG RANGER

Four section—2 stanchion with extra length for more pull in low signal areas. Perfect for over-the-road truck equipment.

- 4 sections extend to 100″.
- 36″ Elektran lead cable.
- Triple chrome plated brass. MODEL SC-8.

12-carton: 21 lbs., 1½ lbs. each.

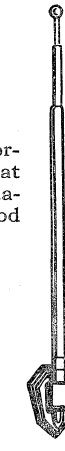


CONTINENTAL (Flex-angle)

Adaptable to car bodies of foreign make. The only aerial that fits Volkswagen. Easy installation. Flexible adjustment so rod can lock in vertical position.

- 3 sections, to 56″.
- 36″ Elektran lead cable.
- Triple chrome plated brass. MODEL CF-6.

12-carton: 15 lbs., 1¼ lbs. each.



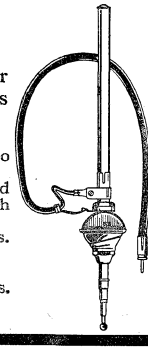
REAR MOUNTS

MIDGET 8-BALL

New styling with WARD'S short twin rear mounts. Same quality as famous 8-Ball.

- 3 sections extend 11½″ to 27″.
- One 12″ lead, one 6′ lead and 12′ lead extension with built-in capacitors.
- "Y" connector and 5 clips. MODEL TCT-2.

Twins in carton: 13¼ lbs.

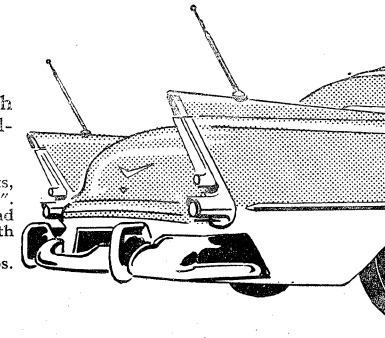


MIDGET "PHANTOM" DISAPPEARING

Short Twin Rear Mounts. Smart built-in appearance with same dependable WARD quality.

- 3 section telescopic masts, extended from 1¾″ to 24″.
- One 12″ lead, one 6′ lead and 12′ lead extension with built-in capacitors.
- "Y" connector and 5 clips. MODEL TDT-2.

Twins in carton: 13½ lbs.



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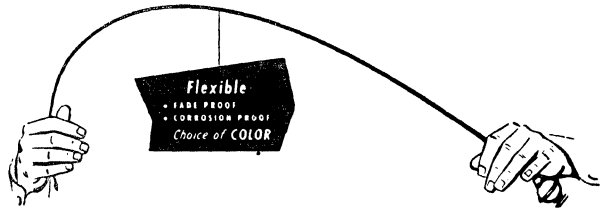
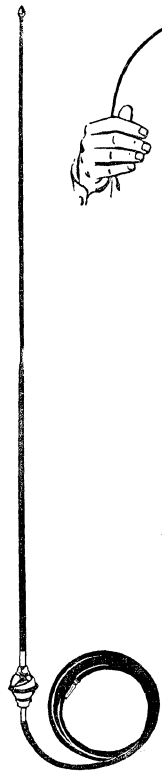
WARD Duraramic AUTO AERIALS



The original FIBERGLAS AUTO AERIAL IN COLOR

YELLOW BLUE
GREEN WHITE
RED TAN

WARD produced the first and original Fiberglas auto aerial. Woven fibers of glass impregnated with resin completely protect the 4 imbedded electronic wires from bad weather. They're corrosion proof, fade-proof, flexible. Made in 6 colors, the Fiberglas is actually impregnated with color—cannot fade, rust or wear off. Can bend almost double without damage. Thoroughly field tested and proved.



FRONT MOUNT
Model TGF-1

Dura-ramic aerial 38″ long.
8-ball mount. 54″ lead cable.
Available in all six colors.
Order by Model No.; specify color.
Carton of six: 6 lbs.

TWIN REAR MOUNT
Model TGT-1

Twin Dura-ramic Fiberglas aerials, 38″ long with 8-ball mounts.
One 12″ lead, one 6′ lead and 12′ lead extension. "Y" connector clips. Available in all six colors, Order by Model No.; specify color. 2 aerials in each carton.
Minimum order: 6 twins in case.
Shipping weight: 15 lbs., 6 oz.

REAR MOUNT
Model TGR-1

Single Dura-ramic aerial 38″ long with 8-ball mount. Has 12″ lead cable with 12-ft. lead extension. All six colors.
Order by Model No.; specify color.
Carton of six: shipping weight: 9 lbs.

"SHORT" TWIN REAR MOUNTS
Model TGT-4

Same as TGT-1 except Fiberglas mast is shorter: 20″ long. In same six colors; same leads and parts. Two aerials packaged in each "twin" display carton.
Minimum order: 6 twins in case.
Shipping weight: 13¾ lbs.

NOW — *SILVERAMIC* the new and exciting CHROME-FINISH FIBERGLAS AERIAL

with all the durable and flexible advantages of Fiberglas . . . yet LOOKS like chrome, FEELS like chrome, SOUNDS like chrome.
MODEL TGF-1 CHROME — 38″ long, 54″ lead-in, 8-ball mount. Carton of six: 6 lbs.

EACH WARD AERIAL IS COMPLETE WITH WARD ELEKTRAN LEAD CABLE

Made of finest insulating materials: polyethylene, foil shield, oil and abrasion-proof vinylite. Exclusive lead connector fitting provides an easy coaxial connection 100% shielded.

REPLACEMENT LEADS:
Part No. 15-289 — 36″
Part No. 15-290 — 54″

LEAD EXTENSIONS:

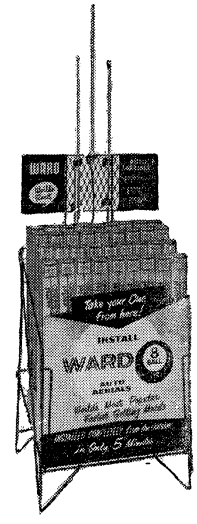
Gives added length for fender or rear installations. Fully patented.

Model C-8: 12″, 24 per box: 1½ lbs.
Model C-9: 18″, 24 per box, 2½ lbs.
Model C-12: 24″, 24 per box, 3 lbs.
Model C-41: 9′ with built-in capacitor, 12 per box, 6 lbs.
Model C-42: 15′ with built-in capacitor, 12 per box, 8¾ lbs.

MERCHANDISING Aids

DURARAMIC DEALER DISPLAY RACK

New rack with eye-catching, colorful panel that shows the features of Fiberglas aerials. Display rack is free with purchase of the six assorted color aerials it contains.
MODEL WDD-7. Holds 6 TGF-1 aerials, one each color.



JOBBER DISPLAY RACK

For chrome aerials, a wrought-iron floor rack that gets attention!
Needs only 2 sq. ft. of floor space.
Holds 36 TCF-3C chrome aerials.
Model WJD-2.

DEALER DISPLAY RACK

Colorful, compact, and mounts a single aerial on the side for customers to examine. Rack is FREE with purchase of 6 aerials.

Model WDD-2.

Holds 6 TCF-3C chrome aerials.

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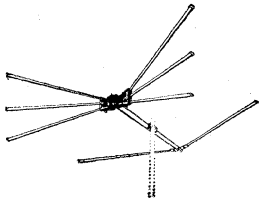
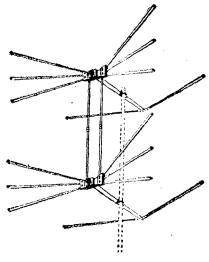
TV Antennas by WARD

For sharp reception a model for every requirement





CONICALS

WARRIOR—First Quality

Preferred conical for metropolitan areas, WARRIOR has all-aluminum construction, new fold-up design, completely pre-assembled.

WARRIOR Model TV-240 (single bay) has 8 elements. Just unfold and install. Individual shipping weight: 4 lbs.

WARRIOR Model TVS-241 (stacked — 2 bay) gives higher gain for suburban and semi-fringe areas. Same pre-assembled construction. Stacking kit included (no mast). Individual shipping weight: 7½ lbs.

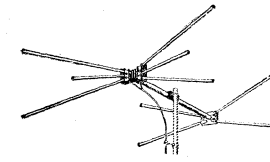
Popular SCOUT Series

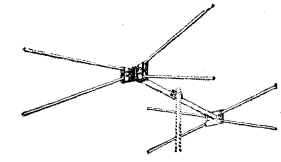
All-aluminum rigid design using parabolic principle in elements. Best for metropolitan good signal areas.

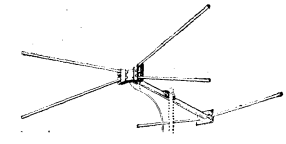
SCOUT "10", Model TV-257 is a 10 element conical with 2 extra elements for extra gain. Individual shipping weight: 3¼ lbs.

SCOUT "8", Model TV-255 features the same construction, 8 elements. Shipping weight: 3¼ lbs.

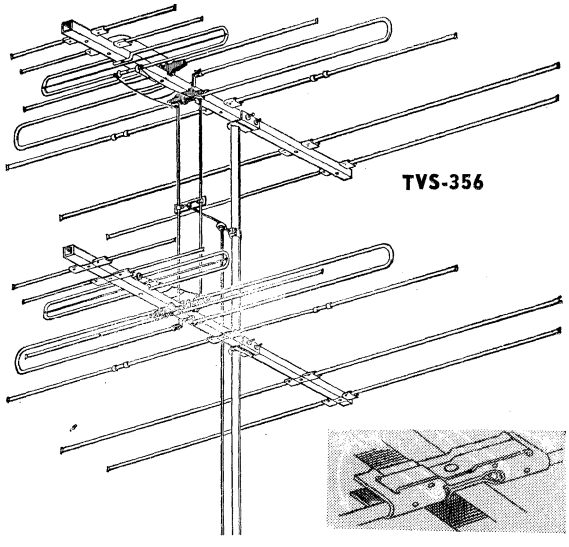
SCOUT "6" Model TV-275, has WARD'S quality construction, 6 elements. Shipping weight: 2¾ lbs.







WARD'S Great *INVADER* Series — Fringe Antenna



TVS-356

New snap lock design cuts installation costs. All-aluminum . . . completely pre-assembled.

Designed for the high gain, flat response needed for good black and white and Color reception. Gain variation across any VHF channel less than 1 db.

INVADER is designed to bring in reliable TV reception to areas otherwise inaccessible. Cuts ghosts and co-channel interference.

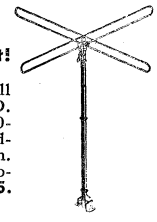
Close stacking (29") makes the INVADER a neat, compact installation and is particularly adapted for a rotator.

STANDARD INVADER, Model TVS-356 has 2 single bays with stacking harness. Shipping weight: 13 lbs.

SINGLE BAY INVADER, Model TV-355 for intermediate areas. Individual shipping weight: 7 lbs.

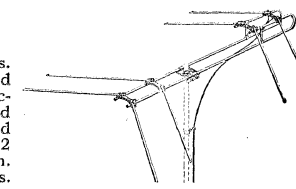
WARD FM TURNSTILE

to catch the Hi-Fi market!



Completely pre-assembled, ready to install with ⅜" aluminum elements. 5' 1¼" O.D. Permatube Mast, Self-supporting base. 60-ft. transmission line and necessary hardware. No orienting needed. Fine reception. Standard Packing: 6 units. Individual shipping weight: 7¾ lbs. **Model FMT-65.**

WARD'S TROMBONE VHF-UHF



Designed for high gain on all channels. 8 elements properly spaced, streamlined in design. Engineered for sharp directivity. 300 ohm impedance match and low VSWR. Completely pre-assembled and individually packed. Model TV-132 —Single bay, weight: 5¾ lbs. each. Model TVS-142 — Double bay: 11 lbs. each.

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WARD

QUALITY-BUILT
Communication Antennas

Replacement Antennas for Emergency Communications with Original Equipment Quality

HEAVY DUTY ANTENNA MASTS

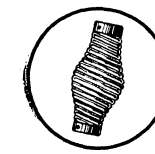
Made from highest grade stainless steel: 17-7 P.H. Exceptionally high strength and corrosion resistance for heavy duty service. 84½" mast can be bent to bring tip and base 30" apart without distortion. Taper ground. Base stud ⅜-24 threads.

Model	Length
WCA-109	96"
WCA-3B	84½"
WCA-117	80"
WCA-38	79"
WCA-39	73½"
WCA-78	72"
WCA-40	68"
WCA-116	65"
WCA-41	62"
WCA-42	57"

Antennas built for hardest mobile use. Separate components may be combined to meet any and all requirements. Ward-built antennas have given years of satisfactory trouble-free service to millions! WARD is the ideal replacement because it is also the original.

WCA-3 HEAVY DUTY ANTENNA BASE

Obtains any vertical position from adjustable swivel ball design . . for positive positioning of antenna even under most severe vibration and shock. Parts plated and painted for double protection against corrosion. High "Q" bakelite insulator; metal back-up plate; rubber waterproofing washers. Allen wrenches, ground and solder lugs included. ⅜-24 threaded mounting hole. Weight: 1 lb., 10 oz. individually packed.



WCA-3A HEAVY DUTY SPRING

Barrel type — proved best construction for added strength and long life. Eliminates sliding friction between turns of spring. Bends 100° without damage. Heavy cadmium plating and non-corroding center conductor for rust protection. ⅜-24 tapped hole for antenna whip rod. ⅜-24 stud for antenna base; overall height: 5". Wrenches are supplied. Shipping weight: 2 lbs., 12 oz. Individually packed.

DISGUISE ANTENNAS

Look like regular automobile antennas, but transmit and receive clearly, at:
30-50 Mcs.
and 144-174 Mcs.

Famous WARD 8-Ball type mount, with 55½" mast. One-hole installation.

Available in 4 models:

WCAB-71

Looks exactly like ordinary 3-section car radio antenna, but length is fixed at 55½" by permanent connections at the telescopic joints. Uses triple-chrome plated brass tubing & stainless steel tip rod. Model includes mast and base only.

WCA-143

Same as WCAB-71 except mast is made of 55½" type 17-7 P.H. stainless steel tapered rod. Use this model where exceptionally high strength is a necessity. Model includes mast and base only.

WCA-248

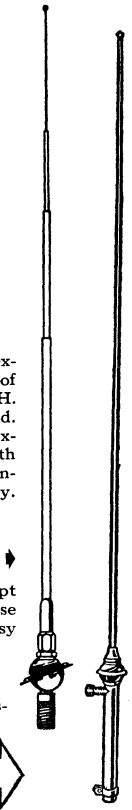
Same as WCAB-71 except uses standard 8-ball base to simplify mounting. Same quality manufacture and performance.

WCA-249

Same as WCA-143 except uses standard 8-ball base to simplify mounting. Easy 1-hole installation.

WCAB-71 completely disguised mast and base.

Model WCAB-71



WCA-143 partially disguised mast and base.

Model WCA-143

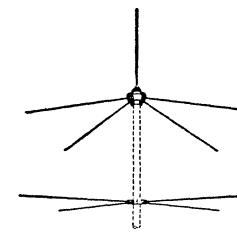
NEW ROOF TOP ANTENNAS

WCA-250	WCA-251
144-174 Mcs.	450-470 Mcs.

These are easily installed from outside. Mount in ⅜" hole. 12-foot RG-58 A/U cable included. Individually packed. Approximate weight: 1 lb. Whip rod is replaceable.

GROUND PLANE ANTENNAS

Non-directional. Unity gain 3000 watts capacity 144-174 M C range.



WCA-94 Ground Plane Antenna gives good impedance match to 50 or 64 ohm coaxial cable. Base threaded to fit 1¼" IPS. Cable adapter not included.

WCA-95 — Extra set of ground radials. Gives better coverage by lowering the vertical angle of radiation.

WCA-100 — For ⅞" air dielectric coaxial cable.

ADAPTERS
(All have built-in lightning arrestor)

WCA-96 — For use with RG-58/U and RG-8/U cables.

WCA-97 — For use with RG-17/U cable.

Write or see your distributor for catalog

WARD PRODUCTS CORPORATION
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Asbury Park

Telrex LABS. TV & COMMUNICATION ANTENNAS

ANTENNA DESIGN ENGINEERS SINCE 1921
New Jersey

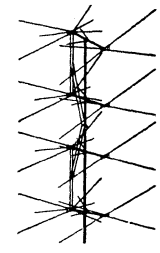
VHF-COMPLETE SPECTRUM ANTENNAS

"CONICAL V-BEAMS"

ALL-ALUMINUM CONSTRUCTION

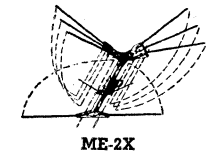
MODEL NO.		Units in St'd. Carton	Ship. Wt. Lbs.	List Price
METEOR "E-Z-RIG" SERIES				
ME-2X	Single bay	2	8	12.60
ME-4X	Two bay stack	1	8.5	25.21
ME-8X	Four bay stack	1	19	53.11
QUICKIE - "QUICK-RIG" SERIES				
Tubular Elements				
Q2X-TV	Tubular Elements Single Bay	2	7	8.19
Q4X-TV	Tubular Elements Two Bay Stack	1	7.5	17.08
Q8X-TV	Tubular Elements Four Bay Stack	1	18	37.90
UNIVERSAL SERIES				
U2X-TV	Single bay	2	7.5	9.30
U4X-TV	Two bay stack	1 or 3	8;22	19.94
U8X-TV	Four bay stack	1	18	43.89
De Luxe Hi Fi Conical-V-Beam				
4X-TVS		1	9	28.80
VANGUARD SERIES				
4 Element Radiator; 2 El. Reflector				
VU2X-6	Single bay	3	9.5	7.22
VU4X-12	Two bay stack	4	20	15.28
6 Element Radiator; 2 El. Reflector				
VU2X-8	Single bay	3	10	7.92
VU4X-16	Two bay stack	4	22	16.83
4 Element Radiator; 4 El. Reflector				
CH2X-8	Single bay	3	10.5	7.22
CH4X-16	Two bay stack	3	21	15.28
CH8X-32	Four bay stack	1	14	34.03
"CLOVER-V-BEAM" SERIES				
CLV	E-Z-Rig Clover	4	5	5.95

DESCRIPTIVE NOTES



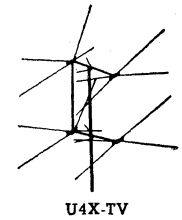
U-8X

Has "Hi-V" reflector. Specify whether solid or doweled tubular elements preferred. Eight plug-in rods and two stubs per bay permit multiplicity of radiator and reflector configurations. Quality of workmanship and rugged construction is second to none—finest Conical-V Beam built. "If the U-8X-TV does not provide a usable signal, TV reception is impossible or impractical."



ME-2X

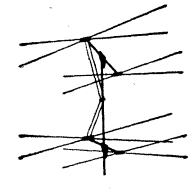
Has "Hi-V" reflector. All elements are hardware factory mounted and captivated. Combines hurricane design and high-speed-assembly. Solid rod elements insure low wind resistance and long life. Has cylindrical dipole reflector.



U4X-TV

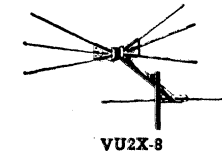
With "Hi-V" reflector. Specify whether solid or doweled tubular elements preferred. Shipped with 8 plug-in rods per multi-arrangement bay. This, and completely aluminum construction, makes the "Universal" an outstanding value.

Receive all channels. Same antenna as "Universal" except center elements cut to peak at any channel specified, without destroying the antenna's broad band characteristics. Has "Hi-V" reflector.

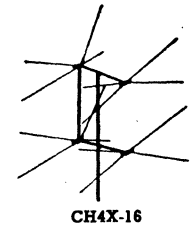


4X-TVS

Special ½-wave stacking and other design details gives this antenna optimum performance on channel 2 to 13 with exceptional low S/W/R. Eight solid or doweled tubular elements. All-aluminum construction.

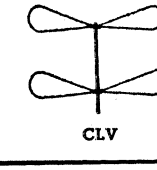


VU2X-8



CH4X-16

7/32" D. solid duraluminum rod, or doweled tubular elements. Six supplied in the 2X-6 type; eight elements, in the 2X-8 type. Both types feature "Universal" style "butterfly" element brackets, at each end of the crossarm, facilitating several radiator and reflector arrangements.



CLV

Requires no rotator to pick up signal from front or back. Transposition bar stacking gives vertically narrow, noise-free reception lobes. Tough closed loops yield lightly in high winds, but have no tendency to snap off.

"Conical-V-Beams" are produced under re-issue Pat. No. 23,346, and Canadian Pat. No. 500436 and in England Pat. No. 691485.

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Asbury Park

Telrex LABS. TV & COMMUNICATION ANTENNAS

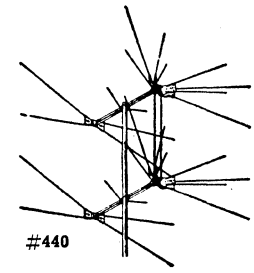
ANTENNA DESIGN ENGINEERS SINCE 1921
New Jersey

UHF-VHF ANTENNAS

ALL-ALUMINUM CONSTRUCTION

MODEL NO.		Units in St'd. Carton	Ship. Wt. Lbs.	List Price
DUO-BAND (UNIVERSAL) "CONICAL-V-BEAM"				
#420	Single bay	2	10	12.08
#440	Two bay stack	1	10.5	25.50
"BAT WING" Indoor				
BW-1		24	35	5.95

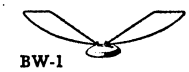
DESCRIPTIVE NOTES



#440

UHF-VHF at same cone apex. No filter losses. Electronic and mechanical excellence equal to the "Meteor Duo-Band." Solid or tubular elements, with famous Telrex plug-in design. **All** aluminum.

Single lead-in. Practical Channel 2 to 83 performance at lowest cost. Solid or tubular elements. **All** aluminum.



BW-1

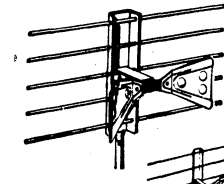
Top-of-set. "Conical-V-Beam" type wings are adjustable so that their forward tilt gives maximum signal. Excellent for UHF, too.

COMMERCIAL & UHF ANTENNAS

MODEL NO.		Units in St'd. Carton	Ship. Wt. Lbs.	List Price
SERIES 70 "BOW TIE"				
#71	Single bay Bow-Tie on 5-spline reflector	1	2.5	5.75
#72	Two bay stacked Bow-Tie on 10-spline reflector	1	3.5	10.75
"BOW TIE"				
#750	Single bay	1 or 2	2;4	7.50
#755	Two bay stack	1	3.5	15.00
SERIES 80 ULTRA-HI "CONICAL-V-BEAM"				
#81	Single bay on 5-spline reflector	1	2	4.25
#82	Two bay stack on 10-spline reflector	1	3	7.95
#84	Four bay stack on 17-spline reflector	1	5	14.95
#89	CORNER REFLECTOR	1	3	12.95

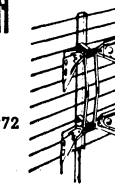
DESCRIPTIVE NOTES

Superior performance of Telrex Bow-Ties is due to their forward, "Conical-V-Beam"-type, tilt. Has pre-assembled spline reflector for maximum signal pick-up.



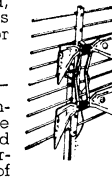
#71

Full-wave Stacked "Bow-Ties" provide Lo-angle concentrated vertical lobe for peak sensitivity, fidelity and ghost-free reception with highest signal-to-noise ratio. A practical solution to your UHF problem.



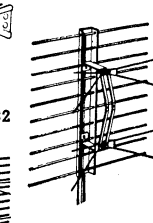
#72

Superior performance of Telrex Bow-Ties is due to their forward, "Conical-V-Beam"-type, tilt. Has pre-assembled spline reflector for maximum signal pick-up.



#755

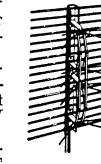
Lightweight, ruggedized construction . . . withstands gale winds. This series has solid rod spline reflector elements permanently mounted by means of a special clamping process which eliminates screws and nuts.



#82

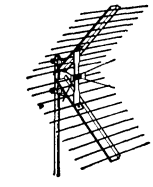
Ultra sensitive stacked array with excellent directivity for clean, snowfree, ghost-free reception.

Compacted, lightweight unit covers full UHF range at highest signal-to-noise ratio! — AT LOW COST!



#84

Designed for all channel UHF reception. Precision built — yet reasonable in price. Provides high gain, sharp directivity, easy installation, excellent over-all performance.



#89

COMMERCIAL ANTENNAS BUILT TO THE CUSTOMERS SPECIFICATIONS

Broad-band or single-frequency arrays for communication, fixed or rotary, point-to-point, FM, TV-relaying, scatter-propagation, etc.

Antenna accessories: Broadband baluns, monopoles, antenna rotators and indicators, etc.

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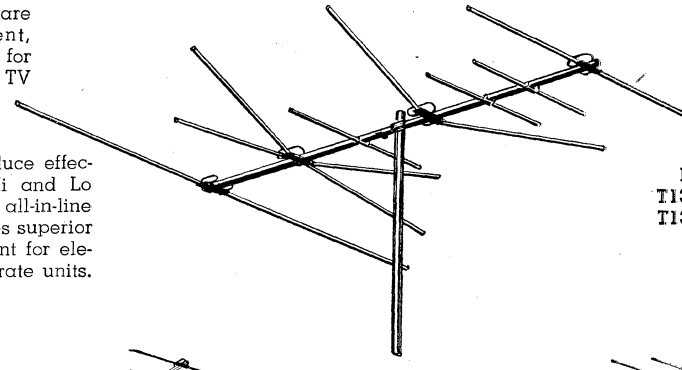
New Jersey

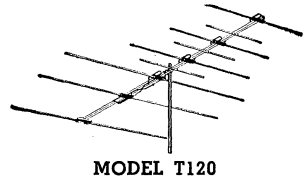
VHF-YAGI ANTENNAS ALL-ALUMINUM CONSTRUCTION

NEW "THUNDER BIRD" "BEAMED POWER" ARRAYS FOR ALL-CHANNEL TV

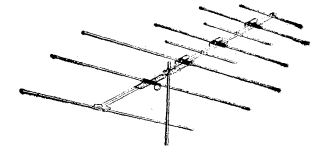
"THUNDER BIRD" Antennas are loop phased, multi-element, "Beamed Power" Arrays for fringe and "sub-fringe" area TV reception. Element functions are duplexed by means of variable impedance phasing loops to produce effective high gain Yagis for Hi and Lo channel VHF Bands in an all-in-line array which actually produces superior gain and directivity — element for element — than equivalent separate units.



MODEL T130
T130 — List 16.53
T132 — List 34.46

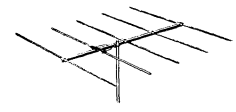


MODEL T120
T120 — List 23.60
T122 — List 48.60



MODEL T110
T110 — List 17.75
T112 — List 36.90

MODEL NO.	Units in St'd. Carton	Ship. Wt. Lbs.	List Price
5 ELEMENT YAGI			
Precision Cut for Single Channel Emphasis			
Single bay:			
Y5X-1 for Ch. 2 or 3	1	8	16.19
Y5X-1 for Ch. 4, 5, 6	1	7	15.28
Y5X-1 for Ch. 7 to 13	2	6	7.63
Two bay stacks:			
Y5X-2 for Ch. 2 or 3	1	17	37.08
Y5X-2 for Ch. 4, 5, 6	1	15	35.25
Y5X2 for Ch. 7 to 13	1	6	16.10
OPTIMUM YAGI SERIES			
Wide Spaced-Broad Band-Hi Gain			
Y7X-1 Covers Channels 7-8-9	1	9	11.50
Y8X-1 Covers Channels 10-11	1	9	12.50
Y8X-1 Covers Channels 12-13	1	9	11.90
FM and HI-FI SERIES			
FMT-3	1	4	9.03
FMT-3-S	1	8	20.92
FMT-6	1	8	17.75
FMT-6-S	1	15	38.31

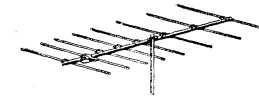


Y5X1

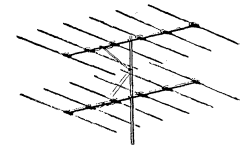
5 elements, single driven for creditable performance with outstanding economy. High impedance stub-matched dipoles found on all Telrex Yagis result in perfect 300 ohm impedance match. No standing waves.

Specify channel when ordering.

7 or 8 elements widely spaced so as to result in maximum gain for the number of elements employed. A stub-matched driven element results in an excellent match to 300-ohm line. The high gain combined with the sharp directivity provides excellent protection against interferences. Specify channel when ordering.



Y8X1



FMT-6S

Broad-band gain and impedance characteristics make these beams ideal where extremely high fidelity, high-sensitivity antennas are required. All models of this series provide an excellent match to a 300-ohm characteristic impedance line (common TV lead). Specify channel when ordering.

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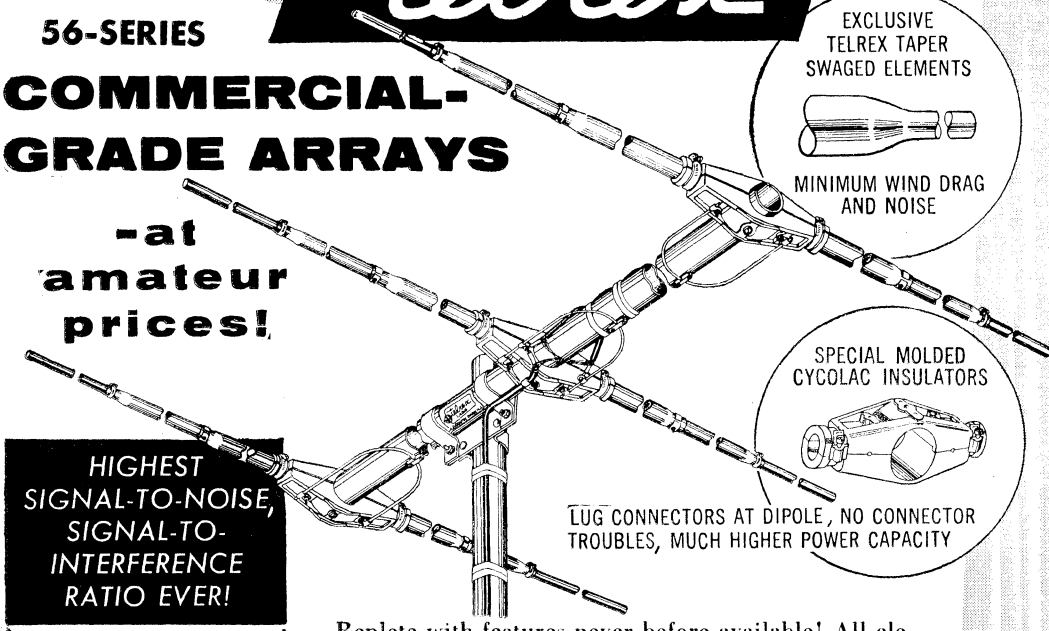
NOW! FOR THE FIRST TIME!

FAMOUS **telrex**

56-SERIES COMMERCIAL-GRADE ARRAYS

-at amateur prices!



HIGHEST SIGNAL-TO-NOISE, SIGNAL-TO-INTERFERENCE RATIO EVER!

- Gusset plate mounting
- Hair-pin resonated
- Wind drag reduced 55%
- Rugged, lightweight aluminum construction
- All stainless steel hardware

ASK THE AMATEUR WHO OWNS ONE!

Whether you are limited for space or money, or whether money is no problem, Telrex has the best suitable array for you. Every Telrex array is fully integrated mechanically and electrically to provide outstanding performance per element. The unsurpassed superiority of Telrex arrays is why the most outstanding radio amateurs, including the world's champion DX'er, use Telrex.

Replete with features never before available! All elements are insulated from the boom by a sturdy molded phenolic element support. Each element is taper-swaged and hair-pin resonated. Every model equipped with the famous Telrex balun match for balanced pattern and minimum TVI. All models are precision tuned and matched, then calibrated for easy assembly and duplication of our laboratory specifications at your site. No experimenting required!

Arrays come fully equipped with an extra heavy-duty gusset-plate mounting for easy attachment to a 2-inch OD support mast. No masting holes are required. The reduced wind drag and gusset-plate mounting make multi-band "christmas tree" installations (best, for outstanding, clean cut patterns on more than one band) much more practical and less costly!

The variety of models available in this series enable the amateur to dominate one or more bands from 3/4 meters through 80 meters. In fact, Telrex "Big Bertha" rotating masts can be equipped with arrays with gains exceeding many commercial service installations.

In service in all 48 states, on every continent and 78 foreign countries!

ASBURY PARK, NEW JERSEY

THE STANDARD OF COMPARISON

Telrex LABS.
TV & COMMUNICATION ANTENNAS

When writing for catalog specify Bands or Models you are interested in.

Medium-Duty Rotator	Model R-100	$ 99.75	Heavy-Duty Rotator	Model R-200	$225.00
Direction-Control Indicator Box	Model B	$ 36.50	Direction-Control Indicator Box	Model A	$ 99.50
Combination of both units	Set R-100B	$136.25	Combination of both units	Set R-200A	$324.50

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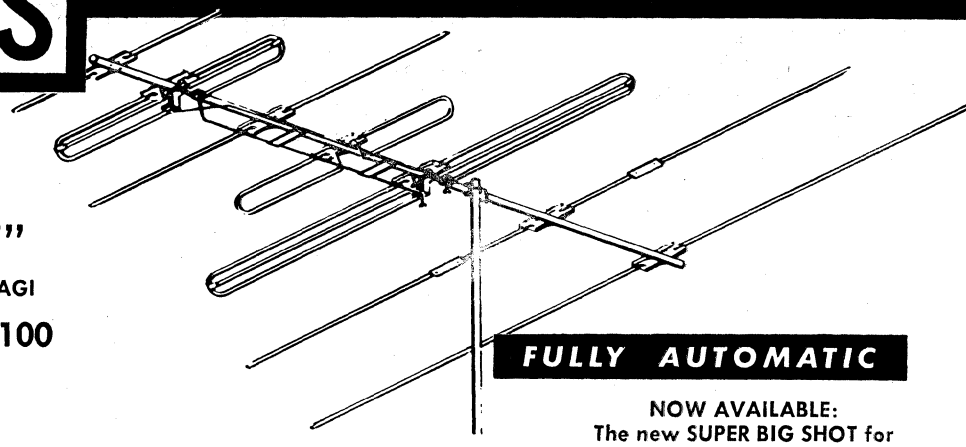
RMS

World's Most Complete Line of Quality



the "BIG SHOT"

ALL-CHANNEL YAGI

Model BIG-100
List $15.97

Model BIG-200 (stacked) List $32.72

Industry's most talked about antenna. Produces the gain of 3 broad band Yagis . . . features a low silhouette that reduces wind drag . . . eliminates complicated phasing networks.

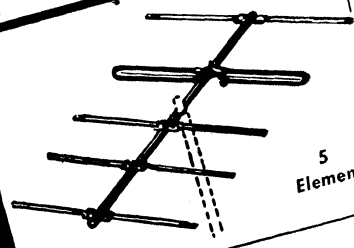
FULLY AUTOMATIC

NOW AVAILABLE:
The new SUPER BIG SHOT for deep fringe areas.

FULLY AUTOMATIC

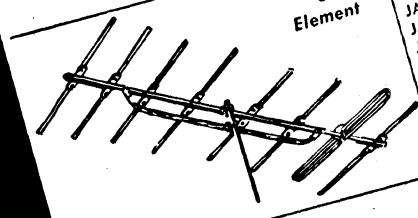
JACKNIFE Series VHF YAGI Antennas

No loose parts or hardware; 3/8" butt seamed aluminum elements with pinched ends; 1" aluminum crossarm dowel-reinforced at the U-bolt; step-up type of transformer element. Features new SPEE-D-LOK bracket.



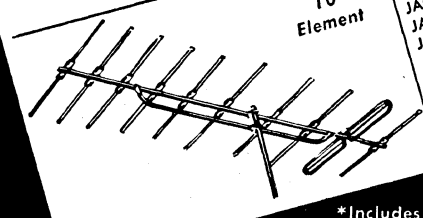
5 Element

Mod. No.	Chan. No.	List Price
JAC-2	2	$14.66
JAC-3	3	13.27
JAC-4	4	12.50
JAC-5	5	11.88
JAC-6	6	11.41
JAC-7	7	6.48
JAC-8	8	6.48
JAC-9	9	6.48
JAC-10	10	6.48
JAC-11	11	6.48
JAC-12	12	6.48
JAC-13	13	6.48



8 Element

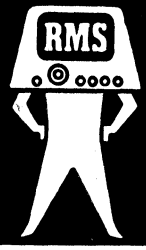
JAC 8-2**	2	$24.38
JAC 8-3*	3	22.06
JAC 8-4*	4	21.29
JAC 8-5*	5	20.52
JAC 8-6*	6	19.90
JAC 8-7	7	9.25
JAC 8-8	8	9.25
JAC 8-9	9	9.25
JAC 8-10	10	9.25
JAC 8-11	11	9.25
JAC 8-12	12	9.25
JAC 8-13	13	9.25



10 Element

JAC 10-2**	2	$27.77
JAC 10-3**	3	25.61
JAC 10-4**	4	24.84
JAC 10-5**	5	23.91
JAC 10-6*	6	23.14
JAC 10-7	7	10.83
JAC 10-8	8	10.83
JAC 10-9	9	10.83
JAC 10-10	10	10.83
JAC 10-11	11	10.83
JAC 10-12	12	10.83
JAC 10-13	13	10.83

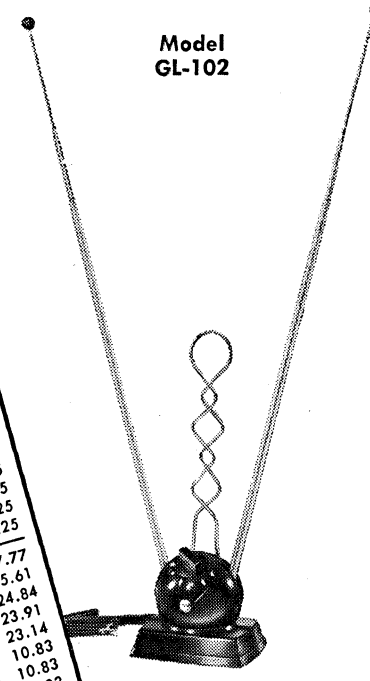
*Includes RMS model 1-8 brace
**Includes RMS model L-10 brace



GLAMORAMIC UHF-VHF

Indoor Antennas List $9.95

Model GL-102



3 Decorator Colors

- IVORY
- EBONY
- MAHOGANY

Unequaled for beauty and performance. Features 6-position switch, 3 section brass dipoles, matching gold twin lead, felt cushion base.

Also avail. for VHF, without phasing bar and switch.

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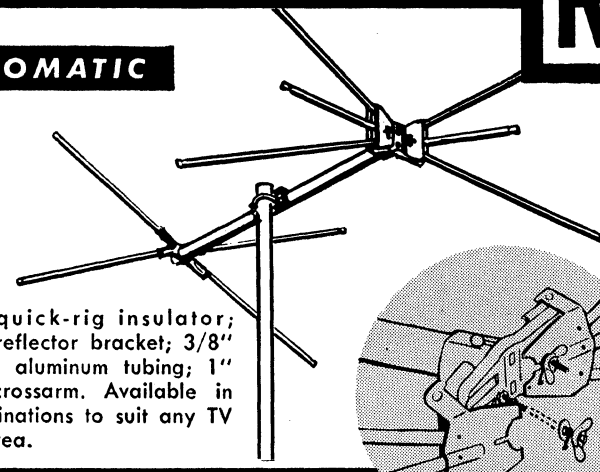
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Antennas and Antenna Accessories

RMS

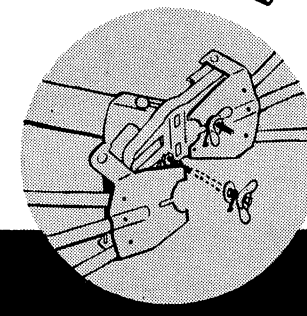
FULLY AUTOMATIC

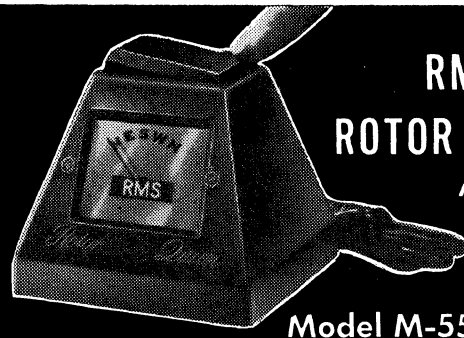
RMS MONITOR SERIES OF CONICALS



Model MO-54
List $5.70

Features quick-rig insulator; snap-open reflector bracket; 3/8" butt-seamed aluminum tubing; 1" aluminum crossarm. Available in many combinations to suit any TV reception area.



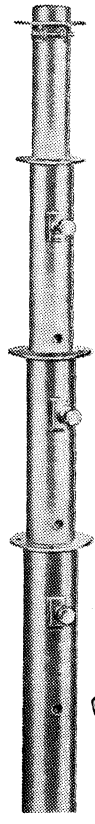


RMS ROTOR QUEEN Antenna Rotator

QUALITY ENGINEERED . . . PRICED TO SELL! Compact control, 3¾" x 3¾" x 3⅜". Directional meter indicator; die-cast zinc weather-sealed housing; flagpole type base; direct gear drive; step-down transformer; oilite bronze side thrust bearing; guy wire supports; instant braking action; full 370 degree rotation left and right.

Model M-55
List $28.85

ECONOMY MODEL R-55 List $22.20 *(without Direction Indicator)*



TELESCOPING ANTENNA MASTS and GUYING ACCESSORIES

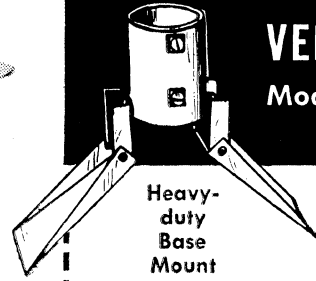
(complete with guy rings and hardware)

Model	Description	List
M-20	2-10 ft. sections, 18 gauge	$10.42
M-30	3-10 ft. sections, 18 gauge	16.25
M-40	4-10 ft. sections, 18 gauge	23.06

HARDWARE:

VERSI-MOUNT

Model VM-2 List $2.25



Heavy-duty Base Mount

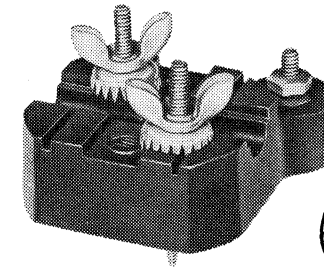
SN-350
10¢ List

MC-3
20¢ List

Universal

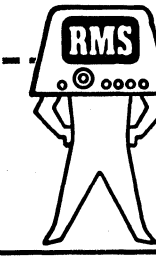
LIGHTNING ARRESTOR

Model UL-5



HIGH PERFORMANCE . . . LOW PRICE! Takes oval, tubular, open or twin lead lines. Self-tapping screw; brass wing nuts; piercing-type contacts; solid brass components.

List 75¢



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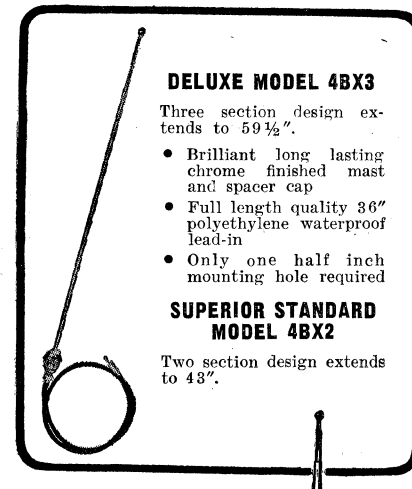
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

AUTO AERIALS

- Exclusive "Static Muffler" Ball
- 18-8 Stainless Steel Rod
- "Super-Chrome" Finish On High Tensile Strength Brass Mast
- SPEE-DEE ASSEMBLY
- Extra Long Fill 42" Polyethylene Lead-In

Here is the outstanding new auto aerial that has everything. Full 30 degree mast adjustment so that it fits all body and fender contours. And the new installation design makes it a snappy 1, 2, 3 assembly without even looking under the fender.

MODEL 8 BE
SPEE-DEE



DELUXE MODEL 4BX3

Three section design extends to 59½".

- Brilliant long lasting chrome finished mast and spacer cap
- Full length quality 36" polyethylene waterproof lead-in
- Only one half inch mounting hole required

SUPERIOR STANDARD MODEL 4BX2

Two section design extends to 43".

TWO INSULATOR SIDE MOUNT TYPES

Sturdy high quality construction throughout. Brilliant chromed brass masts with stainless steel rods. Wedge type adaptor furnished, with 36" polyethylene lead-in.

MODEL 2S, 43" extended, 2 sections. 10 per master carton, 9 pounds

MODEL 3S, 63" extended, 3 sections. 10 per master carton, 13¼ pounds

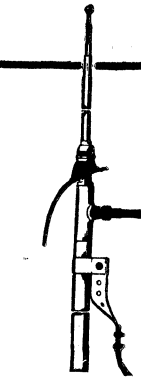
MODEL 4S, 92" extended, 3 sections. 10 per master carton, 17½ pounds

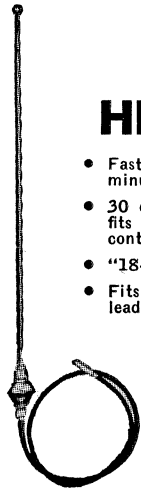
DISAPPEARING MOUNT

A handsome addition to any car. Collapses to 6 inches and extends to 60 inches. Fits either fender or cowl and features the exclusive "O" ring seal around the mast that prevents water from entering inside the aerial. Only one $\frac{9}{16}$" mounting hole required.

MODEL 3D, 60" extended. 3 sections, 2 pounds each

10 per master carton weighing 19 pounds.





MODEL 8 BD
HI • BALL

- Fast installation . . 5 minutes
- 30 degree mast adjustment fits all body and fender contours
- "18-8" Stainless steel rod
- Fits any car radio, bayonet lead-in adaptor included

A favorite with dealers and service-men everywhere. Fast assembly and outstanding performance make it a great value.

Also Model 8BDL with 48" lead-in.

BATRY POWER

Here is the ideal compact, efficient unit for testing and demonstrating auto radios. Smooth DC power, 6 or 12 volts, from the 110 volt 60 cycle AC line.

Model	Output	Class
110B6	6A at 12V or 10A at 6V	H
110B12	10A at 12V or 20A at 6V	H

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- ROTATORS
- VIBRATORS
- AUTO AERIALS
- TV ANTENNAS
- POWER SUPPLIES

THE RADIART CORPORATION
CLEVELAND 2, OHIO

RADIART TV ANTENNAS

VHF ANTENNAS

the "ULTAMATIC"
TV Antenna
UM 213

Perfectly synchronized for both monochromatic and color TV. The best performing antenna on the market.

the true conical
Model K-8
TV Antenna

Rugged and sturdy beyond any ordinary requirement, available in single or double bays.

the popular
Model V-8
TV Antenna

Here is the most economical 4 stacked antenna for all channel reception.

the "LAZY X"
Conical
TV Antennas

Uniformly good all channel reception. LZX, single, LZX-2, double stacked, LZX-4 with four bays.

the famous
SUPER-VEE
TV Antenna

Here is the only all channel antenna with sharp directivity on all channels.

t h e
10 YG YAGI

A ten element yagi for any channel . . . the best performing antenna of its type.

combination
UHF and VHF
TV Antenna
UVS-6

A new antenna of conical design for all channel reception, requires no network.

the budget antenna
Model S-6

Here is a conical antenna . . . the best budget conical to be had.

UHF ANTENNAS

UW-2
UW-4
and
UW-8

Three models, single, double or quadruple stacked designs for peak UHF reception.

indoor
UHF antennas
the UW-1-2
and UW-1-3

The same fine principle adapted for indoor use.

the UC-1
and UC-2

The new corner reflector type UHF antenna.

the UBT-1

An improved version of the "bow-tie" antenna . . . for UHF TV reception.

the original
Model U-4
TV Antenna

Here is the original design . . . often copied but never duplicated.

the YAGI
for UHF
6YGU

Here is a yagi type antenna for UHF reception . . . for all channels.

for FM reception
92 FM and 93 FM

Two superior quality antennas for truest high fidelity FM reception.

ACCESSORIES

AK-85 Chimney Mount
The famous "Spee-Dee" chimney mount, faster and sturdier.

TA-5 Lightning Arrestor
Here is the midget that does the work of a giant. Many features of superiority.

Model UAK-4 Filter Network
Here is the most efficient network . . . not just a circuit . . . but an electronic device.

the new
VU-1
TV Antenna
Combination

For peak performance on all channels . . . both UHF and VHF.

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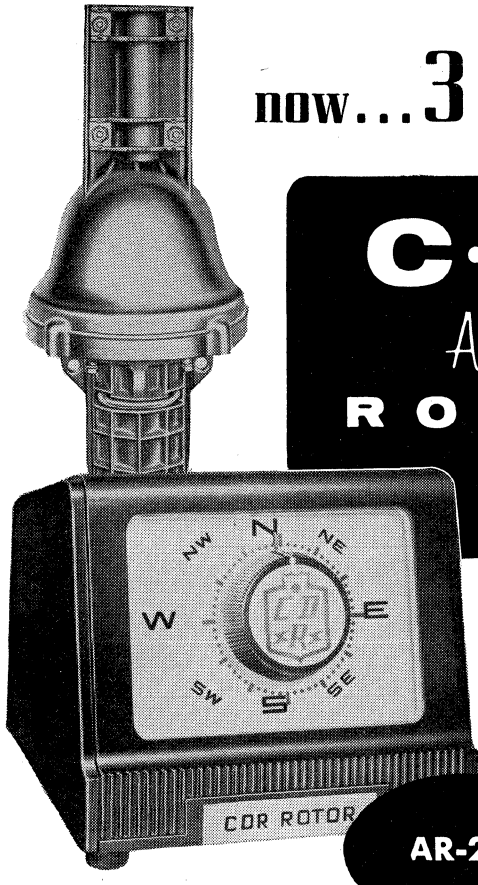
CORNELL-DUBILIER
SOUTH PLAINFIELD, N. J.

THE **RADIART** CORP.
CLEVELAND 13, OHIO

now...3 models to choose from

C·D·R Automatic ROTORS

a type for every need . . . ALL 40% sharper tuning than any other automatic rotor.



AR-22

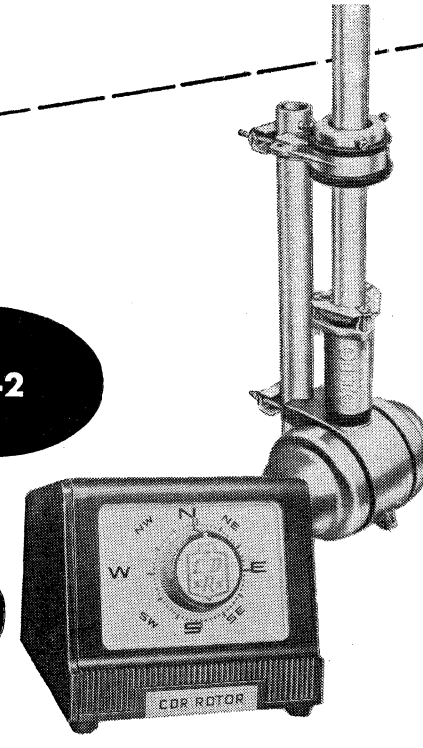
Here is the HEAVY DUTY rotor that is so popular everywhere . . . NOW COMPLETELY AUTOMATIC! Powerful beyond any TV need . . . it is proven and tested as the giant of the industry. Uses 4 wire cable.

AR-2

The complete, AUTOMATIC rotor with THRUST BEARING. Handsome, modern design cabinet, uses 4 wire cable. Proven and tested by thousands and thousands of satisfied users, it has everything that could be asked for in a popular rotor.

AR-1

The complete, AUTOMATIC rotor. Handsome, modern design cabinet, uses 4 wire cable. Proven and tested by thousands and thousands of satisfied users, it has everything that could be asked for in a popular rotor.



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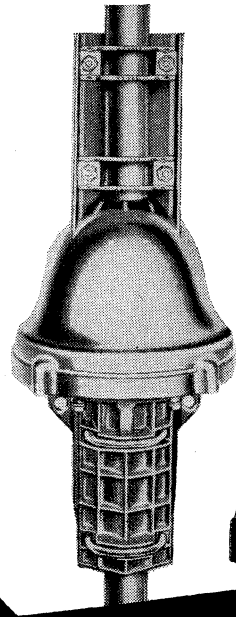
CORNELL-DUBILIER

SOUTH PLAINFIELD, N. J.

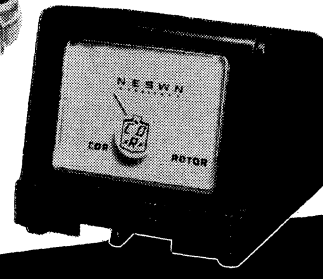
THE **RADIART** CORP.

CLEVELAND 13, OHIO



TR-4

The HEAVY DUTY rotor, complete with new handsome modern cabinet with METER control dial, uses 4 wire cable.

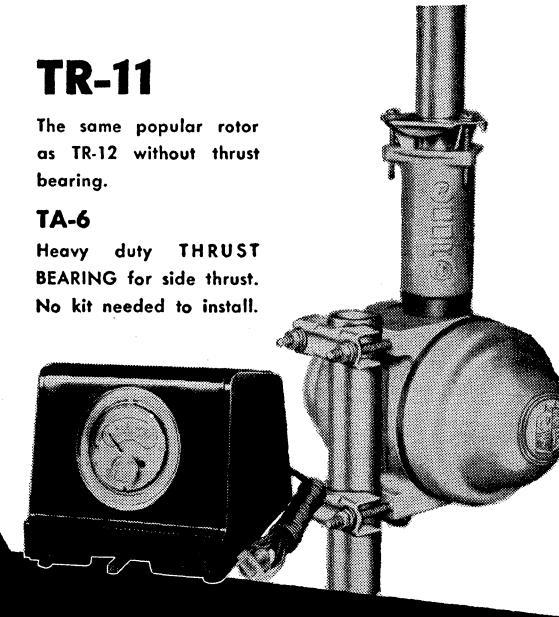


TR-11

The same popular rotor as TR-12 without thrust bearing.

TA-6

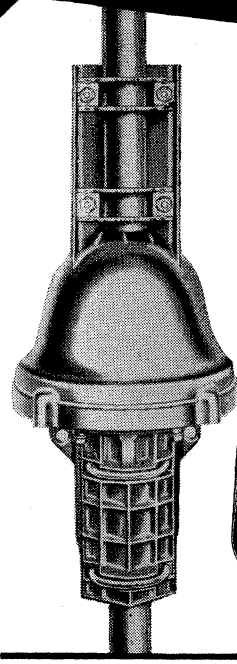
Heavy duty THRUST BEARING for side thrust. No kit needed to install.



C·D·R ROTORS

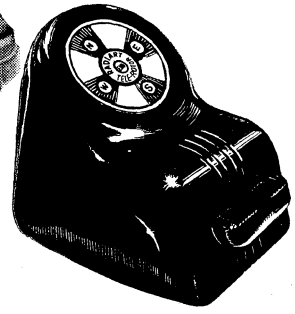
Powerful • Dependable

Here is the ONE line that has everything . . . a model for every need! AND POWERFUL EVEN BEYOND ANY ORDINARY NEED! Skillfully engineered . . . ALL FIELD TESTED AND PROVEN by thousands and thousands of satisfied users from coast to coast.



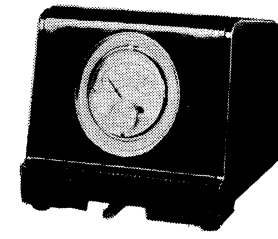
TR-2

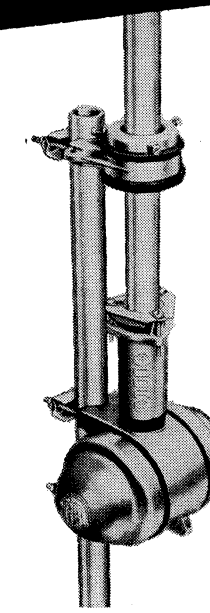
The HEAVY DUTY rotor with plastic cabinet featuring "Compass Control" illuminated perfect-pattern dial, uses 8 wire cable.



TR-12

A special combination value consisting of complete rotor including thrust bearing. Meter control dial, handsome cabinet, uses 4 wire cable.





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SPIRLING PRODUCTS CO. INC.

SPICO'S MOST MODERN ADVANCES IN INDOOR TV ANTENNAS

the GOLDEN LINE for '56

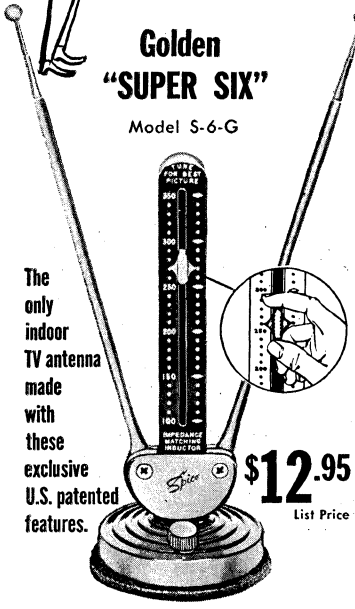
the GOLD RUSH of '56

SPICO INDOOR TV ANTENNAS HAVE BEEN SOLD TO OVER 3,500,000 SATISFIED CUSTOMERS FROM COAST TO COAST.
The most advertised Indoor TV Antenna by leading stores throughout the country.
The only Indoor TV Antenna with a sales record of over $1,000,000.00 spent for direct national consumer advertising.
Spico's are handled by all merchandising and profit minded dealers.
No gimmicks—truly an electronic achievement.

SPICO ANTENNAS ARE MORE POWERFUL THAN ANY OTHER INDOOR TV ANTENNAS MADE!

Golden "SUPER SIX"

Model S-6-G



The only indoor TV antenna made with these exclusive U.S. patented features.

$12.95 List Price

New, Exclusive Selectronic TUNING

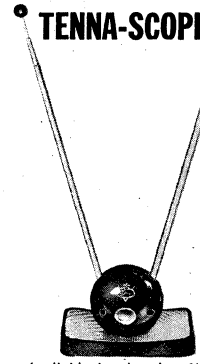
A tunable impedance matching device that gives clear, sharp pictures on each individual channel.

EXCLUSIVE "ADJUSTA-KNOB" at BASE for MICRO-FINE ADJUSTMENT

U. S. PAT. NO. 2,608,657

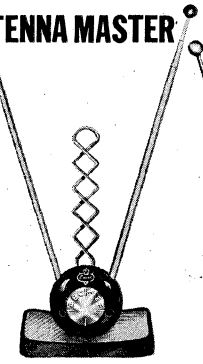
ALL MODELS COMPETITIVELY PRICED FOR VOLUME SALES!
Combine the latest durable features with the most advanced modern styling!

TENNA-SCOPE



Available in gleaming Silver or Gold finish. Embossed inlaid base with matching dipoles.
Model B-5G (Gold)
Model B-5S (Silver)
$7.95 List Price

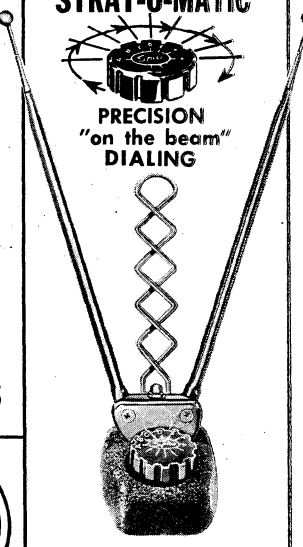
TENNA MASTER



Available in gleaming Silver or Gold finish, featuring 6 point selector switch for best reception.
Model B-92-G (Gold)
Model B-92S (Silver)
$10.95 List Price

STRAT-O-MATIC

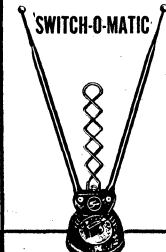
PRECISION "on the beam" DIALING



New GOLDEN Automatic 6-position selector switch

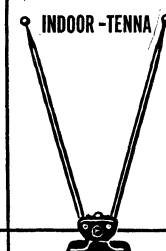
UNCONDITIONALLY GUARANTEED!
Unbreakable Rustproof Tiltproof
$10.95 List Price
Model S-7G

SWITCH-O-MATIC



Unconditional Guarantee
Model S-9-A (aluminum)
Model S-9 (brass).
Unbreakable Rustproof Tiltproof
$9.95 List Price

INDOOR-TENNA



Unconditional Guarantee
Unbreakable Rustproof Tiltproof
MODEL TV-8 Brass
Model TV-8A Alum
$6.95 List Price

TARGET

For UHF only Model U-83
Unbreakable Rustproof Tiltproof
$4.95 List Price

Self Selling Packaging . . .

All models beautifully packaged in distinctive individual cartons.

SPIRLING PRODUCTS CO., INC. HICKSVILLE, L. I., N. Y.

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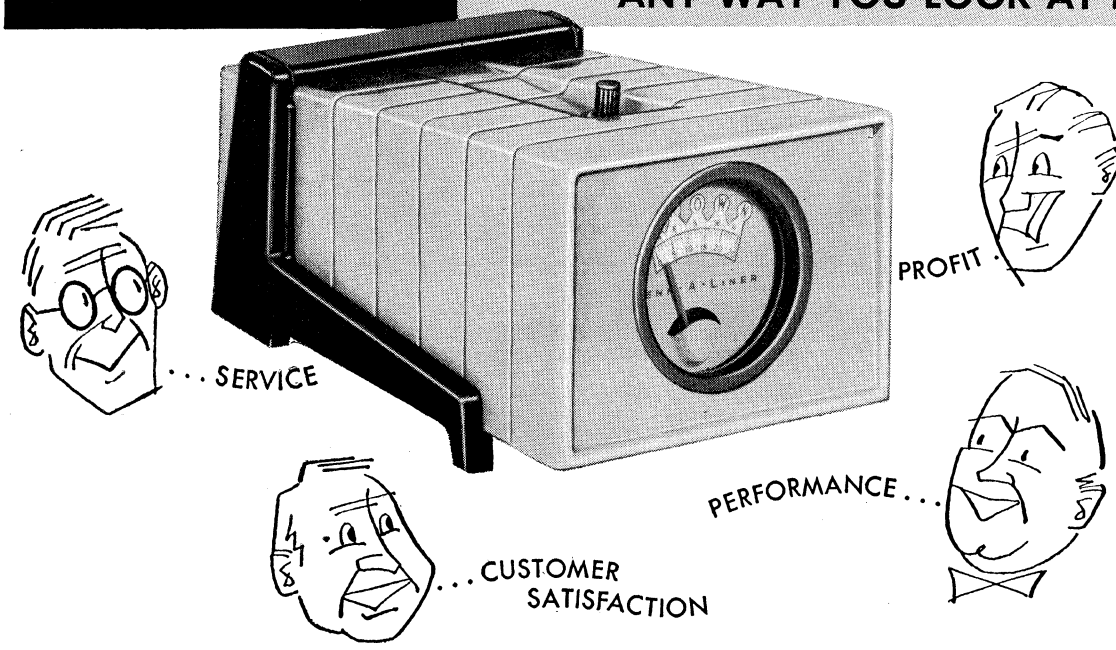
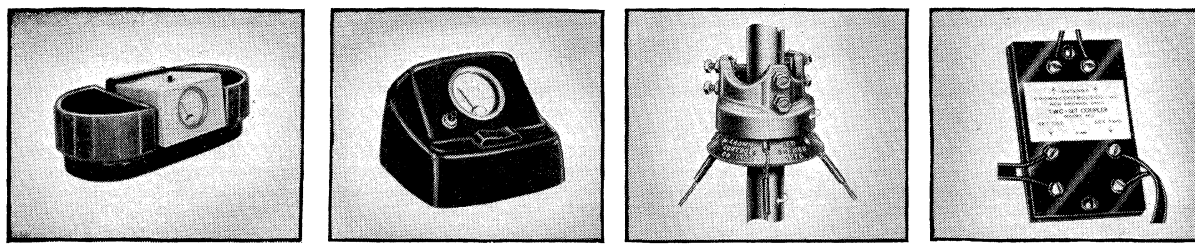
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

CROWN TENN-A-LINER ROTATORS

BEST

IN ANTENNA ROTATION ANY WAY YOU LOOK AT IT!





The complete line of Crown Tenn-A-Liner Rotators and TV accessories will put extra dollars in your pocket. Act now! Get the full story on the bigger profits possible with Crown Tenn-A-Liner Rotators and accessories. Available in two decorator-styled models, Crown Tenn-A-Liners give you the highest profits in the TV antenna rotator field. Crown's ruggedness and dependability increase customer satisfaction and reduce profit-consuming call backs . . .in fact, only 1.06% of all Crown units sold require service. A guaranteed product, Crown's exclusive replacement policy keeps customers happy.

Crown also provides a complete line of TV accessories—the Crown TV Planter for use with CAR6B Tenn-A-Liner, the Roller Bearing Guy Ring, and the Two-Set Coupler—sure ways to make those extra sales that come from impulse buying.

For bigger profits this year . . . SELL WITH CONFIDENCE, SELL CROWN!

CROWN CONTROLS Co., Inc. NEW BREMEN, OHIO

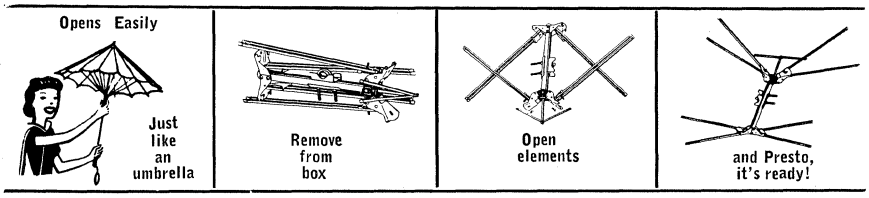
Canadian Subsidiary Crown Controls Mfg. Ltd. Export Division, 15 Moore St., New York, N. Y., Cable-"Minthorne"

Copyright by U. C. P., Inc.

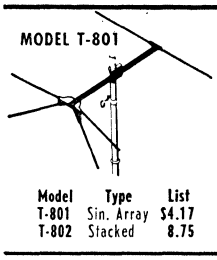
TENNA TV ANTENNAS AND ACCESSORIES

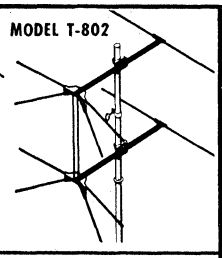
with the New and Amazing "PRESTO" INSTANT MOUNT ASSEMBLY

Truly, the King of all Conicals!

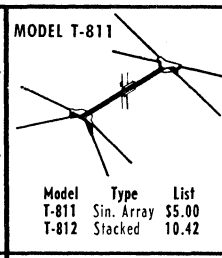


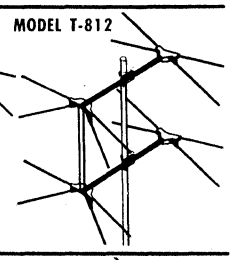
Complete line of 14 full size, all aluminum conicals to fill every installation need. Completely pre-assembled and ready for the mast. Molded plastic insulator of high impact polystyrene. Seamless aluminum boom. Doweled elements.



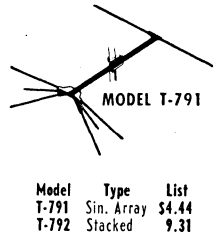


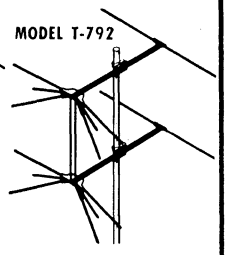
Model	Type	List
T-801	Sin. Array	$4.17
T-802	Stacked	8.75



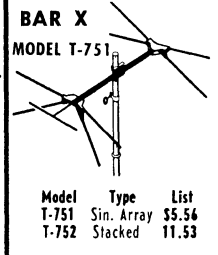


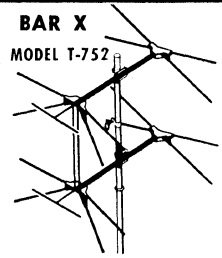
Model	Type	List
T-811	Sin. Array	$5.00
T-812	Stacked	10.42



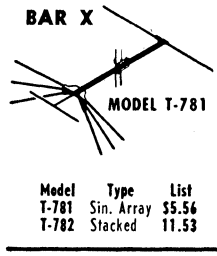


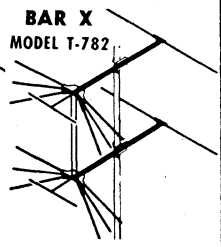
Model	Type	List
T-791	Sin. Array	$4.44
T-792	Stacked	9.31



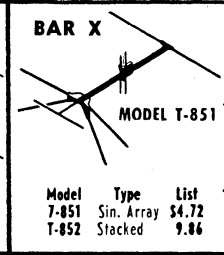


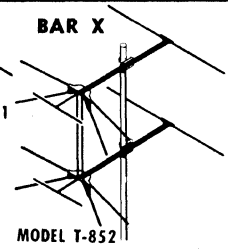
Model	Type	List
T-751	Sin. Array	$5.56
T-752	Stacked	11.53



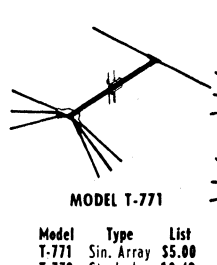


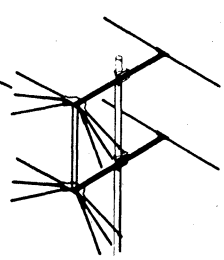
Model	Type	List
T-781	Sin. Array	$5.56
T-782	Stacked	11.53





Model	Type	List
T-851	Sin. Array	$4.72
T-852	Stacked	9.86



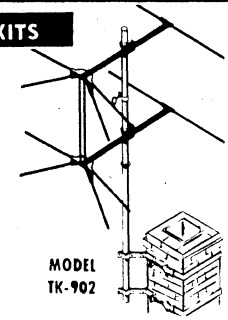


Model	Type	List
T-771	Sin. Array	$5.00
T-772	Stacked	10.42

CONICAL KITS

Complete With All Accessories.

With Chimney Mount and elements as shown



Model	Type	List
TK-901	Sin. Array	$10.23
TK-902	Stacked	16.28

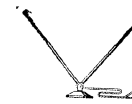
UHF-VHF COM.

TWIN-V ALL CHANNEL ANTENNA

Model	Description	List
US-102	Bulk Pack	$3.89
US-102A	Single Pack	4.35
US-104	Quad Stack	8.19

INDOOR ANTENNA

INDOOR ALL CHANNEL ANTENNA



Model	Description	List
VT-3A	3 Sec.	$5.75

ARRESTOR

ALL UHF CHANNELS

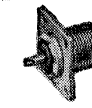
UNDER-WRITERS LISTED UHF-VHF LIGHTNING ARRESTOR

Takes Flat, Oval, Round and Open Cables!

Model	Description	List
R-122	Ind. Boxed	$ .90

CONNECTORS

COAXIAL CONNECTORS



Meet JAN and Signal Corps specifications

Model	Packed	List
PL-258	50	$1.50
PL-259	50	1.10
UG-175U	50	.25
UG-176U	50	.25
SO-239	50	1.05
UG-106U	50	.40

TV MASTING

Tenna Tube is for banded inside and out to prevent rusting and internal locking device and 16 gauge cold rolled strip steel. Baked plastic coal enamel gives tough, mirror smooth appearance. 1¼" O.D.

Model	Length	List
FJ-5	5 ft.	$1.83
FJ-10	10 ft.	3.33

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

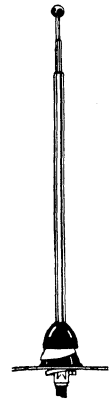
TENNA Manufacturing Co. CLEVELAND 25, OHIO

AUTO ANTENNAS

NAUTILUS
Cowl - Fender

Tear-drop mounting base matches the streamlined beauty of the modern car. Available in two models for either front or rear installation. Model NT-3 is for front with 4′ lead-in cable. Model NT3-15 is for rear with 15′ lead-in cable and 75 MMF Ceramic Condenser.

Model	List
NT-3	$4.70
Sec.-Lth. 3-57″	
NT3-15	7.25
Sec.-Lth. 3-57″	



SCREW-BALL
Cowl - Fender

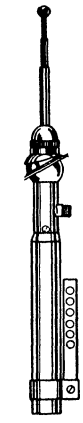
Entire mounting job is done from the top . . . only **one man** is needed. **Easiest,** quickest of all **antennas** to **install.** Nothing like **it on** the market.

Model	Sec.-Lth.	List
EZ-2	2-49″	$3.79
EZ-3	3-57″	4.70

ROTO-LOK
Cowl - Fender

Easy Mounting, all tightening outside. Half inch mounting hole. Chrome plated mounting base. Exclusive Vise-Lock eliminates clumsy braces. Fits any fender or top cowl. 36″ Radar type cable.

Model	Sec.-Lth.	List
CO-3A	3-57″	$4.70



CONCEALED
Cowl - Fender

Completely new design in a concealed type aerial. Ball-joint metal mounting base, adjustable flat to 30°. Waterproof construction. Large seamless shield tube reduces capacity losses. 48″ Radar type cable.

Model	Sec.-Lth.	List
FD-3	3-55″	$6.40
FD-3A	3-68″	6.98

New MONARCH
Cowl - Fender

Mounts from outsid. Ball-joint metal mounting base, adjustable from flat to 30°. Base sufficiently large to cover largest holes. Lovely chrome finish. Holds angular adjustment permanently. 36″ cable.

Model	Sec. Lth.	List
MH-3B	3-57″	$5.48
MH-3C	3-70″	6.85

DELUXE
Side Cowl

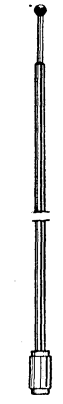
Finest quality side cowl aerials. Sparkling chrome-plated brass tubing. **Lifetime anti-rattle** construction. **36″** Radar type cable with speedy screw fittings.

Model	List
RAD-4	$7.09
Sec.-Lth. 4-92″	
RAD-5	8.19
Sec.-Lth. 5-112″	

CHAMPION
Side Cowl

A competitively priced aerial built to RADELCO's high quality standard. Chrome-plated tubing. Shielded polyethylene cable with black cover. Screw-on connector and chrome capped insulators.

Model	Sec.-Lth.	List
CS-3	3-66″	$4.45



REPLACEMENT MASTS

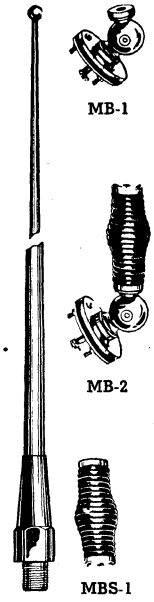
BUICK: Mast for roof aerials all Buicks 1940 thru 1953.

Model	Sec.-Lth.	List
B-448	4-45″	$3.05

FORD: For 1941, 42, 46, 47 Ford-Mercury Roof Antennas that operate behind wind-shield center post.

Model	Sec.-Lth.	List
F-254	2-53″	$2.47

COMMUNICATION ANTENNAS



MB-1

SWIVEL BASE: Has adjustable split-ball with positive locking feature.

Model MB-1 ..... List $4.87

SWIVEL BASE AND SPRING: Spring is of oil-tempered heavy spring steel.

Model MB-2 —Standard ..... List $7.08

Model MB-2H—Heavy Duty ..... List 8.19

MB-2

STAINLESS STEEL MASTS: Exceptionally high tensile strength. Fit either MB-1 or MB-2 or any standard base.

Model MM-40F—(Motorcycle)	..... List	$5.76
Model MM-60	60″ ..... List	5.76
Model MM-72	72″ ..... List	5.76
Model MM-84	84″ ..... List	6.06
Model MM-96	96″ ..... List	6.85

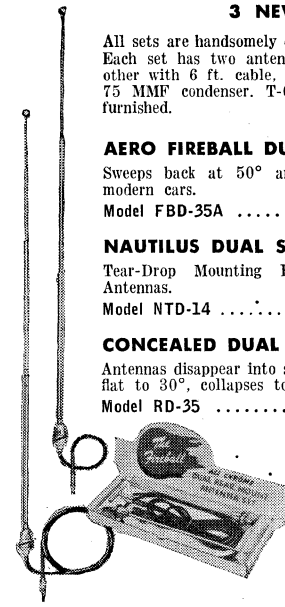
MBS-1

BASE SPRINGS: Flexible cable thru center of springs maintains constant electrical impedance.

Model MBS-1—Standard ..... List $2.47

Model MBS-2—Heavy Duty ..... List 3.52

DUAL REAR MOUNT ANTENNA SETS



3 NEW MODELS

All sets are handsomely chrome plated from base to tip. Each set has two antennas: one with 1 ft. cable and other with 6 ft. cable, plus 15 ft. cable with built-in 75 MMF condenser. T-Connector and cable clips also furnished.

AERO FIREBALL DUAL SET

Sweeps back at 50° angle to match speed lines of modern cars.

Model FBD-35A ..... List $12.50

NAUTILUS DUAL SET

Tear-Drop Mounting Base with 25° Sweep Back Antennas.

Model NTD-14 ..... List $12.80

CONCEALED DUAL SET

Antennas disappear into seamless shield tube. Adjustable flat to 30°, collapses to 3″.

Model RD-35 ..... List $13.50

Each set is individually boxed and packed 10 boxes to a master carton.

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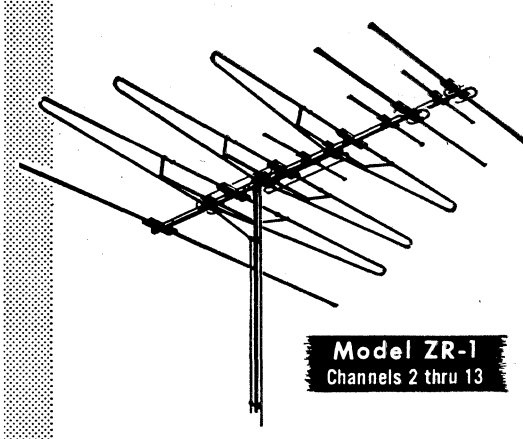
America's NEW Favorites

TRIO Zephyr Royal

Highest Performance Ever Achieved in a TV Antenna

The Sensational New TRIO ZEPHYR ROYAL provides higher gain, sharper directivity and more freedom from interference than any other single bay antenna! This performance on ALL CHANNELS 2 thru 13 is miraculous, thanks to the revolutionary new WING DIPOLE SYSTEM and STAGGER TUNING developed by TRIO.

The ZEPHYR ROYAL is pre-assembled — uses Instalok Clamps — fiberglass insulators and riveted construction. It is lightweight yet extremely rugged and ONE BAY DOES IT ALL!

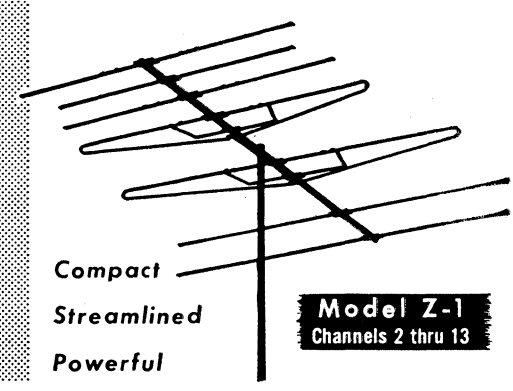


Model ZR-1
Channels 2 thru 13

TRIO Zephyr

More Performance Per Dollar Than Any Other Antenna!

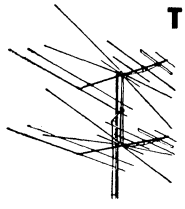
The TRIO ZEPHYR is only slightly less sensitive than the famous ZEPHYR ROYAL. Employs two of the revolutionary new patented WING DIPOLES with integrated directors. Outperforms multiple stacked arrays. Rugged, high quality construction, yet compact and lightweight.



Compact
Streamlined
Powerful

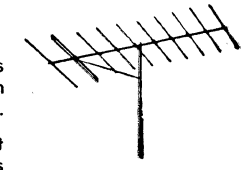
Model Z-1
Channels 2 thru 13

THE TRIO "88"



Uses famous TRIO "Conical" head and Instalok clamps. High gain per dollar cost! Completely pre-assembled, ready to unfold and install. Highest quality throughout. Available in single or two bay models.

TRIO "Sharpshooter" YAGIS

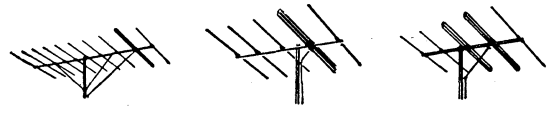


America's No.1 Yagi Values! Models for every channel and power gain required. Completely pre-assembled.

5 element, 10 element and broadband models

TRIO DOUBLE DIPOLE YAGIS

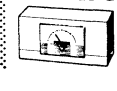
Superior quality for rugged service. Series 50 and 100 models for single channel low band operation. Series 500 and 1000 for multi-channel low band operation. All use famous TRIO double-folded dipoles.



TRIO "Sharpshooter" CONICALS

America's No.1 Conical Values! Highest quality. 12 popular models. Completely pre-assembled.

TRIO Aristocrat



America's FINEST TV Rotator

TRIO Model UBT-4 UHF ANTENNA

TRIO MANUFACTURING CO.

GRIGGSVILLE, ILLINOIS

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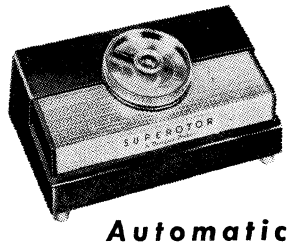
Thompson Products Superotor® antenna rotators



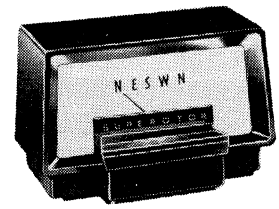
Automatic ELECTRONIC MODEL with VP* Tuning

Most accurate, easiest to tune. Low silhouette, styling in blond or mahogany; gold finished metal trim. Automatically illuminated dial tells when rotator is operating.

MODEL A-100 (MAH.)
MODEL A-100 B (BLOND)
MODEL A-500 (MAH.)
MODEL A-500 B (BLOND)

Finest heavy duty rotator at any price, for large antenna requirements. Exclusive removable power drive unit; built-in vertical and horizontal thrust bearings; built-in mast aligner. Used in 100 Series units.

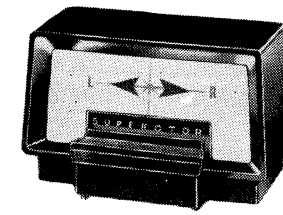
*Vernier Precision



CUSTOM METER MODEL with VP* Tuning

A touch of the finger rotates antenna to right or left, as indicated by the pointer. Dial lights automatically when antenna rotates. Mahogany or blond cabinet.

MODEL M-100 (MAH.)
MODEL M-100 B (BLOND)
MODEL M-500 (MAH.)
MODEL M-500 B (BLOND)

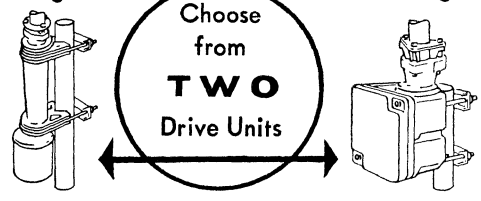


DELUXE MODEL with VP* Tuning

Press tuning bar to right or left, and arrow lights, showing direction of rotation. Economical, but highly effective. Blond or mahogany cabinet.

MODEL L-100 (MAH.)
MODEL L-100 B (BLOND)
MODEL L-500 (MAH.)
MODEL L-500 B (BLOND)

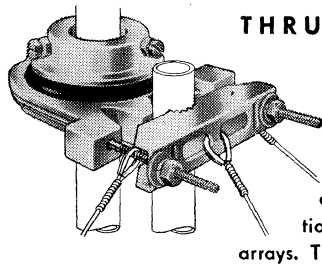
Rugged, economical unit for average antenna requirements. Outperforms other higher priced units. Easily serviced motor mechanism; all cut steel gears. Used in 500 Series units.



Model 100 Model 500

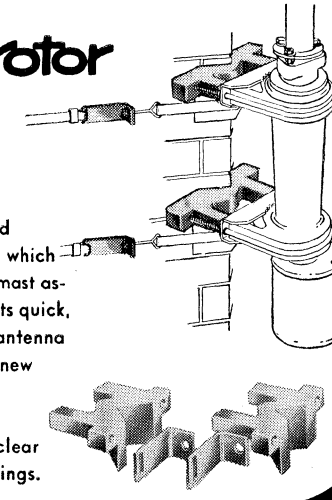
....Two Superotor Accessories....

Superotor THRUST BEARING Model BA-10



For use with M-500 and L-500 Superotors on heavy duty installations with large antenna arrays. This rugged aluminum thrust bearing is the only one fitted with permanently lubricated steel ball bearings riding on a brass race and protected by a Neoprene shield, insuring long life and trouble-free operation under all conditions.

Superotor CHIMNEY MOUNT Model AK-1



New and improved mounting adaptor which eliminates a stub mast assembly and permits quick, sturdy Superotor antenna installations. This new mount has enough offset to permit antenna masts to clear most chimney copings.

ELECTRONICS DIVISION
Thompson Products, Inc. Cleveland, Ohio

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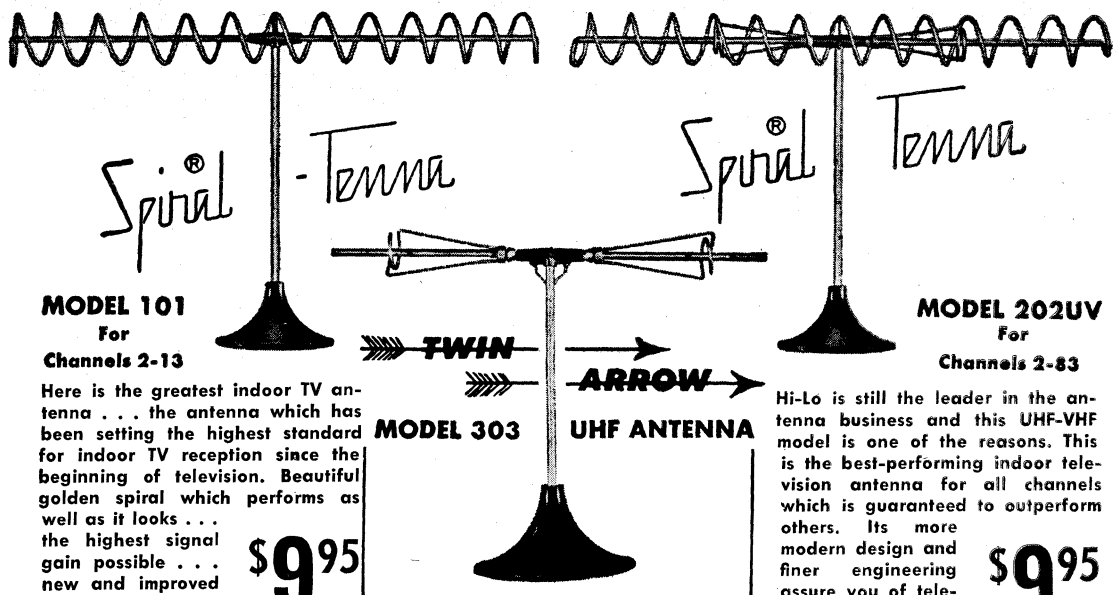
HI-LO TV ANTENNAS are BEST



MODEL 101
For
Channels 2-13

Here is the greatest indoor TV antenna . . . the antenna which has been setting the highest standard for indoor TV reception since the beginning of television. Beautiful golden spiral which performs as well as it looks . . . the highest signal gain possible . . . new and improved for better television pictures. Shipping weight: 2 lbs.

$9.95 list price

HI-LO TV ANTENNAS ARE BETTER FOR UHF, VHF, AND COLOR

MODEL 303
UHF ANTENNA

Unsurpassed reception in UHF areas with this proven and accepted indoor antenna which works better in tough areas. Shipping weight: 1½ lbs. list price **$5.95**

MODEL 202UV
For
Channels 2-83

Hi-Lo is still the leader in the antenna business and this UHF-VHF model is one of the reasons. This is the best-performing indoor television antenna for all channels which is guaranteed to outperform others. Its more modern design and finer engineering assure you of television reception at its highest peak. Shipping wt.: 2 lbs.

$9.95 list price

You will obtain the sharpest, clearest TV pictures with HI-LO

HI-LO *Wrought Iron* TV STANDS

MODEL 600
$14.95
list price

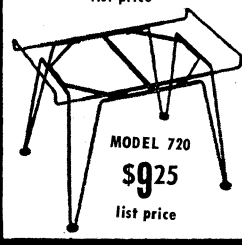
Heavy Duty TV Stand with Swivel and Extension Arms

This finer stand is unequalled for utility and beauty. Designed with the latest engineering techniques, it is stronger than any other wrought iron stand . . . turntable supported on easy roll rollers spaced 16" on centers for greater stability . . . is guaranteed to support even the heaviest television sets, with no wobble, no shimmey and complete safety. Has so many exclusive features that you must see it to believe it. Shipping weight: 18 lbs.

MODEL 700
$11.50
list price

Swivel TV Stand with Extension Arms

Here is the Cadillac of the line at Chevrolet prices because this versatile television stand has everything. The best engineering makes Model 700 a guaranteed seller and one that will bring back more satisfied customers than you dreamed possible. Most durable, yet light weight, rollers spaced 16" on centers for better stability and rubber feet to really prevent marring of any floors. Shipping weight: 13 lbs.



MODEL 720
$9.25
list price

TV Stand with Extension Arms

This is the finest TV stand; one you'll be prouder to own. Made to fit practically any television set regardless of size and weight. Like all other Hi-Lo TV Stands, this no-wobble, no-shimmey stand will provide one of the nicest pieces of furniture. Has many exclusive features including sturdier design, more durable and much more attractive appearance. Shipping wt.: 11 lbs.

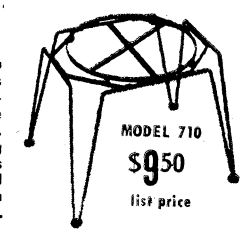
Heavy Duty Stand

From the fine rubber feet which prevent marring of floors to the durable, streamlined wrought iron frame, this is a better stand for the money than any other on the market. You get the finest wrought iron, the smartest design, the most durable legs. Shipping weight: 12 lbs.

MODEL 650
$8.75
list price

TV Stand with Swivel

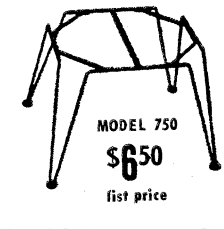
The best viewing is yours as you turn this better table because its rotating feature is designed to provide smoothest operation . . . the easiest, most convenient turntable. Stronger than TV stands costing much more, with a design that is second to none, thtis better stand is designed to blend better with furniture. Shipping weight 10 lbs.



MODEL 710
$9.50
list price

TV Stand

We defy anyone to equal this because here is the greatest TV stand value in the world. Imagine, you get highest quality engineering, finest streamlined design and durability that is tops AND at such a low, low price . . . will suit any person . . . fit any purse. Shipping weight: 8 lbs.



MODEL 750
$6.50
list price

U.S. Pat. No. 2,495,579
Canadian Pats. 1951
Other Pats. Pending

Mfd. By *Hi-Lo* TV Antenna Corporation
Chicago 13, Illinois

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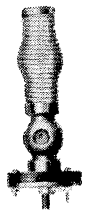
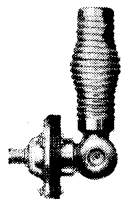
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

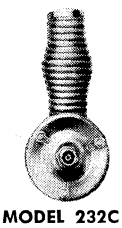
ANTENNAS *Master Mobile* MOUNTS



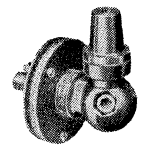
MODEL 132



MODEL 132C (COAXIAL TYPE)
(Coaxial Type Body Mounts Optional)

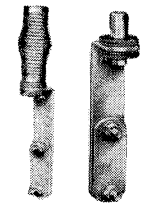


MODEL 232C



MODEL 321C

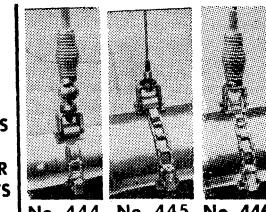
232 SERIES



MODEL 140 MODEL 142

100 SERIES SEPARATE SPRINGS FOR BUMPER MOUNTS

100W SERIES



No. 444 Bumper Mount W/132XB $17.80

No. 445 Mount $7.95

No. 446 Mount $13.45

MOUNT SPECIFICATIONS

(All types are tapped for 3/8" Stud Fitting on Antenna End. Shipping Weight Approx. 3 lbs.)

132	or 132C*	Body Mount—Double Tapered—Spring Swivel Base	8.75
132X	or 132XC*	Body Mount—Heavy Duty—Double Tapered—Spring Swivel Base	9.85
132XX		Body Mount—Extra Heavy Duty—Double Tapered—Spring Swivel Base	10.85
132XXC*		Body Mount—Coaxial Type—Extra Heavy Duty—Double Tapered—Spring Swivel Base	10.85
132SS*	or 132SSC*	Body Mount—Special Stainless	12.95
132XSS*	or 132XSSC*	Body Mount—H.D. Special Stainless	14.95
132XXSS		Body Mount—Extra Heavy Duty—Stainless Steel	15.95
132XXSSC		Body Mount—Extra Heavy Duty Coax—Stainless Steel	15.95
321	or 321C*	Body Mount—Where no spring desired—with spec. rigid type ball joint	7.95
232		Body Mount	8.75
232C*		Body Mount—Coax Connection on Base	8.75
232SS		Body Mount—Special Stainless	12.95
232SSC*		Body Mount—Special Stainless Coax Conn.	12.95
232X		Body Mount—Heavy Duty	9.85
232XC		Body Mount—Heavy Duty Coax Conn.	9.85
232XSSC*		Body Mount—Heavy Duty Special Stainless Coax Conn.	14.95
232XSS		Body Mount—Heavy Duty Special Stainless	14.95
232XXC*		Body Mount—Extra Heavy Duty—Coax Conn.	10.85
232XXSS		Body Mount—Extra Heavy Duty Special Stainless	15.95
232XXSSC		Body Mount—Extra Heavy Duty Special Stainless Coax Conn.	15.95
140		Bumper Mount—Double Tapered Spring	6.95
140X		Bumper Mount—Heavy Duty—Double Tapered Spring	7.95
140SS		Bumper Mount—Special Stainless	9.65
140XSS		Bumper Mount—Special Heavy Duty Stainless	10.95
140XX		Bumper Mount—Extra Heavy Duty—Double Tapered Spring	8.95
140XXSS		Bumper Mount—Extra Heavy Duty—Stainless Steel	11.95
142		Bumper Mount—Less Spring, with Insulators for Direct Mounting by Series 100 Ant. or 92 Ext. and 106 Antenna	3.95
446SS		Bumper Mount—Special Stainless—Chain Mount	14.90
446XSS		Bumper Mount—Heavy Duty—Special Stainless—Chain Mount	15.90
446XXSS		Bumper Mount—Extra Heavy Duty—Special Stainless — Chain Mount	16.90
446		Bumper Mount—Heavy Duty Spring—Chain Mount	13.45
446L		Bumper Mount—Double Tapered Spring—Chain Mount	12.45
446XX		Bumper Mount—Extra Heavy Duty Doubled Tapered Spring—Chain Mount	14.45
444		Bumper Mount—Heavy Duty Spring—Swivel Base—Chain Mount	17.80
444L		Bumper Mount—Double Tapered Spring—Swivel Base—Chain Mount	16.70
444XX		Bumper Mount—Extra Heavy Duty Spring—Swivel Base—Chain Mount	18.80
444SS		Bumper Mount—Special Stainless—Swivel Base—Double Tap. Sp.—Chain Mt.	20.90
444XSS		Bumper Mount—Special Stainless—Heavy Duty—Swivel Base—Chain Mount	22.90
444XXSS		Bumper Mount—Extra Heavy Duty Special Stain.—Swivel Base—Chain Mount	23.90
445		Bumper Mount—Threaded, 3/8"-24—Chain Mount	7.95

SEPARATE SPRINGS FOR BUMPER MOUNTS

	Net
100—Regular	$4.50
100-X—Heavy Duty	5.50
100SS—Stainless Steel	6.95
100XSS—Heavy Duty Stain. Steel	7.95
100WX	5.50
100XX—Extra Heavy Duty Spring	6.50
100WXX—Extra Heavy Duty Spring —Male Stud on one end	6.50
100XXSS—Extra Heavy Duty Spring —Stainless Steel	8.95

M SERIES		C.A.P. COILS	
M-75	$3.95	M-2374KC	$6.75
M-40	3.95	M-2738KC	6.75
M-20	3.95	M-2768KC	6.75
M-160	7.95	M-4325KC	5.75
61-Shield	2.25	M-4507.5KC	5.75
		M-4585KC	5.75
		65-Shield	2.62

To Complete All-Band Antennas add—Shield No. 61, Whip 100-60S, Base Section No. 88.

*Coax Type
X—Heavy Duty
XX—Extra Heavy Duty
SS—Special Stainless
XC—Heavy Duty Coax
XSS—Heavy Duty Special Stainless
XSSC—Heavy Duty Special Stainless Coax

ORDER FROM YOUR JOBBER TODAY!

Master Mobile Mounts, Inc.
LOS ANGELES, CALIFORNIA

Copyright by U. C. P., Inc.

Net

ANTENNAS *Master Mobile* MOUNTS

SILICON-CHROME WHIP ANT.

New 9 Series—with 3/8" Thru Studs		
Model No.	Overall Length	Net Price
9-60T	60"	$2.97
9-72T	72"	3.24
9-84T	84"	3.30
9-86T	86"	3.60
9-96T	96"	3.75
New 8 Series—without Studs		
Model No.	Overall Length	Net Price
8-60	60"	$2.82
8-72	72"	3.07
8-84	84"	3.13
8-86	86"	3.42
8-96	96"	3.55

WHIP ANTENNA SPECIFICATIONS

MODEL Stain.	Overall Length	Base Specifications	Net Price
100-60S	60"	Threaded 3/8" Stud to fit all Mounts...	$4.95
100-72S	72"	Threaded 3/8" Stud to fit all Mounts...	4.95
100-78S	78"	Threaded 3/8" Stud to fit all Mounts...	5.00
100-86S	86"	Threaded 3/8" Stud to fit all Mounts...	5.15
100-90S	90"	Threaded 3/8" Stud to fit all Mounts...	5.20
100-96S	96"	Threaded 3/8" Stud to fit all Mounts...	5.25
100-104S	104"	Threaded 3/8" Stud to fit all Mounts...	6.25
106-60S		Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.15
106-72S	72"	Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.15
106-78S	78"	Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.20
106-86S	86"	Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.35
106-90S	90"	Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.40
106-96S	96"	Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.50

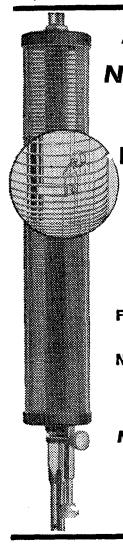
New Model No. 132-J Junior Body Mount—Same design as standard No. 132 Master Mount but smaller size. Built to approved Master spec. for quality, workmanship and finish.
Attractively priced at only **$4.17**
Model No. 132-JC—Same as above with Coax Connector ..... **Only $5.17**
New Model No. 140-J Junior Bumper Mount—Same design as our standard No. 140 Master Mount but smaller size yet of same high quality spring construction and finish. Competitively priced at an attractive **Net of only** **$4.17**
Coaxial Conversion Kit—No. 118 fits No. 132 and No. 118J fits No. 132J Models. **Net $1.00**

NEW

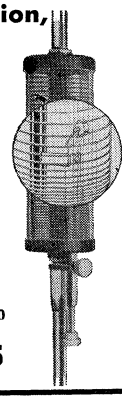
INCREASE YOUR QSO AND DX QUOTAS WITH . . .

HY "Q" ANTENNA COILS

ANTENNA COILS



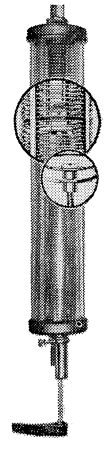
New! . . .
Silver-Plated Roller with Positive Action, Stay-Put Contact



No. 666
MASTER ALL-BANDER
For 10-11-15-20-40-75 Meters
Net **$14.95**

No. 333
MASTER MIGHTY MIDGET
For 40-20-15-11-10 Meters
Net **$9.95**

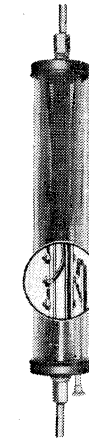
THE GREAT NEW ADVANCEMENT IN VARIABLE ANTENNA COILS!



HY "Q" construction with wider spacing of turns for high frequency bands. Use as center or base loaded antenna with 60" whip.

No. 750 — MASTER DELUXE ALL-BANDER
- Covers 10 thru 75 and all intermediate frequencies.
- Silverplated single turn contact, positive spring.
- Eccentric cam contact, easy selection of turn.
- Automatic lock prevents damage to coil.

No. 775 — MASTER MULTIBANDER
- Covers all amateur bands thru 75. Select band with slide contact switch to preset taps.
- Seven silverplated contacts on heavy duty slide switch.
- Taps easily set with Grid Dip Oscillator.
- Bandspreader BS-195 furnished with coil for 100 KC QSY.



No. 750 **$14.95** No. 775 Comp. **$12.95**

Size — Both — 2 3/8" Dia. x 13 3/4" Long

NEW HY "Q" COILS

75 Meter 40 Meter 20 Meter

AIR-WOUND
- Air Spaced Coil Winding
- Protective Coated Coils
- Highest "Q" Possible
- Weather Sealed
- Extremely Lightweight

Net Ea. **$6.95**

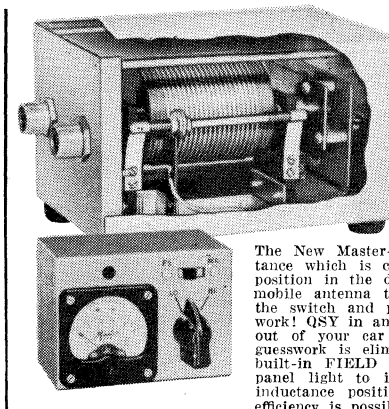
NOTE—Suggested Mounting:
No. 100-60S—Stainless Steel Whip $4.95
No. 88—Lower Section (baked enamel) 36" 4.95

MASTER HY "Q" COILS

HY "Q" C75	$6.95
HY "Q" C40	6.95
HY "Q" C20	6.95
HY "Q" C15	6.95

To Complete HY "Q" Antenna Add—Whip 100-60S, Base Section Model No. 88.

HY "Q" C.A.P. COILS		Net
HY "Q" 2374 KC.	Additional HY "Q" C.A.P. Coils to be used with HY "Q" C.A.P. Antennas according to frequency desired. These coils are interchangeable. Other freq. coils priced upon request.	$ 8.95
HY "Q" 2738 KC.		8.95
HY "Q" 2768 KC.		8.95
HY "Q" 4507.5 KC.		7.95
HY "Q" 4585 KC.		7.95
HY "Q" 4325 KC.		7.95
HY "Q" 160 Meters		12.95
HY "Q" 2251 KC.		12.95



Available in 6 (2495-6) and 12 (2495-12) volt models.

NEW!...

MASTER MATCHER
WITH BUILT-IN FIELD STRENGTH METER

No. 2495-6 and No. 2495-12

REMOTELY TUNES THE ANTENNA OVER THE ENTIRE BAND FROM THE DRIVER'S SEAT! . . .

The New Master-Matcher, a motor driven variable inductance which is controlled by a switch from the operating position in the driver's seat enabling him to tune in the mobile antenna to the exact resonant frequency. Just flip the switch and presto! . . . the Master-Matcher goes to work! QSY in any **particular** band without jumping in and out of your car to adjust the antenna loading coil. All guesswork is eliminated with the Master-Matcher and the built-in FIELD STRENGTH METER with the automatic panel light to indicate when the roller is at minimum inductance position. With the Master-Matcher, maximum efficiency is possible with a minimum of time and effort.

Complete **$24.95** Amateur Net

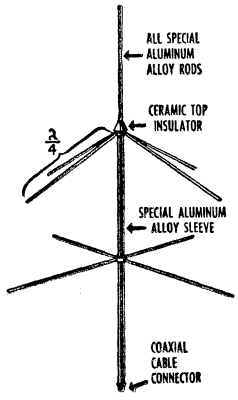
Master Mobile Mounts, Inc.
LOS ANGELES, CALIFORNIA

ANTENNAS *Master Mobile* MOUNTS

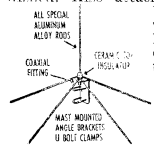
2 METER ANTENNAS — FIXED • MOBILE

GROUND PLANE ANTENNA

Model 300—Master DeLuxe . . . NEW! . . . brings in that DX. Outperforms any type of vertical dipole. "Drooping" Type Ground Plane plus four straight radials to give a low angle of radiation for general coverage, an almost perfect circle radiation pattern. Ideal for CD and defense nets. Covers complete Amateur and with Broad Band char. Matches 52 ohm coax cable through threaded coax fitting at end. Straight radials are adjustable (up or down) to eliminate standing waves on trans. lines. For medium or low-powered trans. Sturdily built of finest alloys to withstand corrosion, high winds and extreme icing. With 36" length of ¾" pipe for mounting purposes.
Model 300 Amateur's . . Net $12.95
MB-1—Mounting Bracket Net 1.00



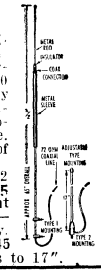
Model GP-4 — Four "Drooping" Radials for perfect match to 52 ohm coax cable. Complete amateur band coverage. Specify other frequencies. Attaches to Mast with U-Bolts. (U-Bolts and Mounting Brackets furnished. Also attachable to side of building. Sturdy, with special alloys, to withstand corrosion and extreme weather.



MODEL GP-4
Amateur's Net $5.95

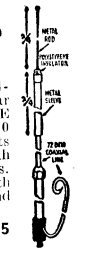
TWO METER COAX ANTENNAS

No. 214—MASTER DE-LUXE . . . ruggedly constructed, vertically polarized, frequency range 140 to 170 MC. Completely waterproofed. Highly polished chrome enhances appearance of any vehicle. Furnished with 10 ft. of 72 Ohm Coax Cable.
Type 1—On side with 2 brackets furnished. **$15.95**
Type 2 — Master Mount (No. 132X or 140X)—Mounts sold separately.
Complete $17.45
Adjustable mtg.—adjusts to 17".



2 METER STANDARD MODEL

No. 114 COAX VHF ANTENNA — At a popular price! For OPEN TYPE VEHICLES using 140 MC to 165 MC. Mounts any convenient place with standard Master Mounts. Baked enamel finish. With 10 ft. Coax Cable and 18" Adjustable Section.
Net, Only $9.95



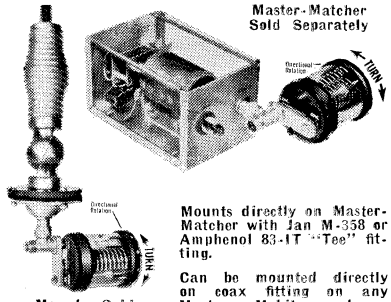
HY	"Q"	AB	132X
			Sugg'd Mtg.

No. 613—NEW IMPROVED MASTER VHF ROOF TOP ANTENNA. This new high performance antenna features an improved type positive-lock coaxial connector. Designed for police, fire, taxi cabs and amateurs using 140 MC to 165 MC. Stainless steel wire with threaded fitting. Easily changed without disturbing mounting. Comes with 10 ft. coax cable.....**Net $4.95**

No. 113—MOBILE ROOF TOP ANTENNA without De Luxe Connections .....**Net 3.96**

No. 117—Extra Antenna for No. 113 and No. 114....**Net .97**

No. 116—Extra Antenna for No. 214 and No. 613....**Net 1.70**



Mounts Sold Separately

Mounts directly on Master-Matcher with Jan M-358 or Amphenol 83-1T "Tee" fitting.

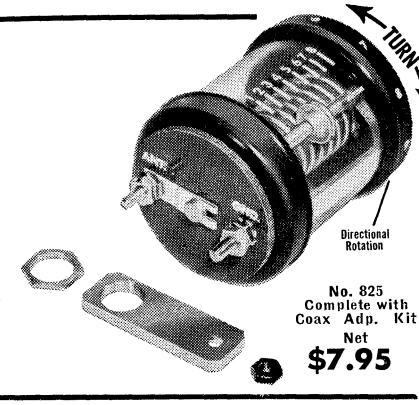
Can be mounted directly on coax fitting on any Master Mobile antenna mount.

MICRO-Z-MATCH

MICROMETER IMPEDANCE MATCHING INDUCTANCE for MOBILE ANTENNAS

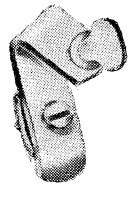
- Used on all bands with any type coaxial cable to match any mobile antenna.
- Roller coil construction with rear cap rotating the inductance within the case. 4 microhenries maximum inductance.
- Silver plated coil and roller contacts for low loss.
- Micrometer type calibration permits infinite adjustment and positive resetting.
- Adjustability — Easily adjustable for minimum standing wave ratio (1:1).

Without coax adapter kit Micro-Z-Match may be connected between antenna connetor and ground connection.

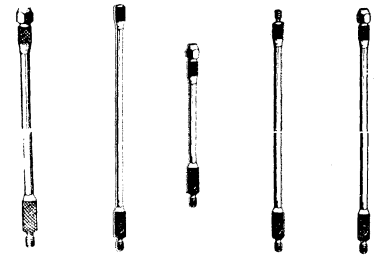


No. 825 Complete with Coax Adp. Kit
Net
$7.95

EXTENSIONS — with ⅜"-24 thread, fits all mounts and coils



No. 10-H Tenahold
Net $1.00



EXTENSIONS			Net
88	36"	Lower Section for all Band Antennas	$4.95
88C		In Chrome Plate	5.25
90	26"	Extension for 100 Series Whips	3.95
92	18¼"	Extension for 106 Series Whips	3.50
94	36¼"	Extension for 106 Series Whips	4.95
99	8"	Tennajuster—Whip Adj. on AB/W Ant.	1.95
115	36"	Extension for Models No. 114 and No. 214	4.25
12*	12"	Base Section for AB Antenna (baked enamel)	2.95
12C*	12"	Chrome Base Section for AB Antenna	3.50
18*	18"	Base Section for AB Antenna (baked enamel)	3.25
18C*	18"	Chrome Base Section for AB Antenna	3.75
24*	24"	Base Section for AB Antenna (baked enamel)	3.95
24C*	24"	Chrome Base Section for AB Antenna	4.50
88*	36"	Base Section for AB Antenna (baked enamel)	4.95
88C*	36"	Chrome Base Section for AB Antenna	5.25

*NOTE: Base Sections for use with ALL-BANDER Antenna Coils.

THE NEW MASTER-FLEX-'R

Now at last! . . . here is a must for all mobile hams! . . . the new heavy-duty **Master-Flex-'R**, designed to relieve the stress and strain and prevent damage that could be transmitted to the loading coil. The **Master-Flex-'R** protects the whip and prevents the loading coil from injury and detuning while driving at high speed, or from overhanging limbs and driving into the garage. It also allows the whip to be fastened down to the front of car, where there is a bumper mount installation on late cars.

- Sturdy spring steel yet flexible enough to absorb all the shock.
- Heavy cadmium finish to withstand all elements.
- Very easy to attach.
- Size—4½" long x ⅞" dia.
- Weight—approx. 7 oz.
- Takes standard ⅜"-24 thread.

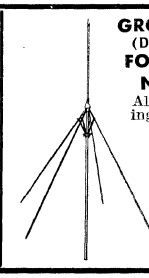
Amateur Net $1.95

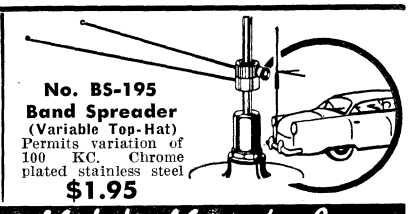
GROUND PLANE (Drooping Type) FOR 6 METERS

No. MGP-6

Aluminum alloy tubing, coax cable connector. For medium or low powered trans.

$14.95





No. BS-195 Band Spreader
(Variable Top-Hat)
Permits variation of 100 KC. Chrome plated stainless steel

$1.95

Master Mobile Mounts, Inc.
LOS ANGELES, CALIFORNIA

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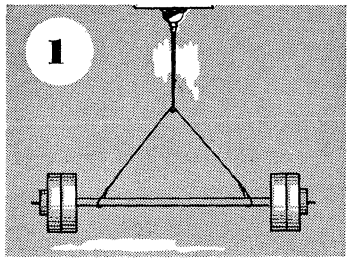
Net

the antenna specialists co.

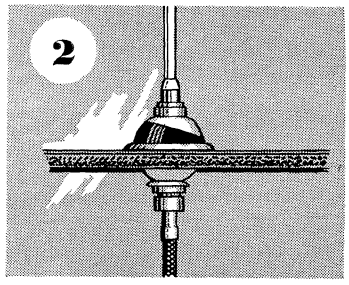
MANUFACTURERS OF RADIO COMMUNICATIONS ANTENNAS

NEW ⅝ BASEBALL ANTENNA IS THE FIRST TO PASS ALL 5 KILLER TESTS!



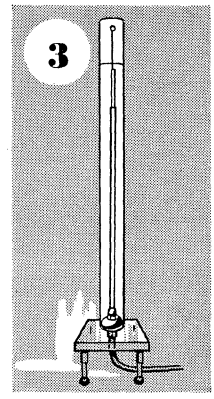
PULL TEST

From standard mounting, the "Baseball" antenna withstood 600 lbs. pull without separation at the telescopic joints!



GROUNDING TEST

With regular installation pressure, the "Baseball" antenna grounded to bare metal through 10 layers of undercoating.

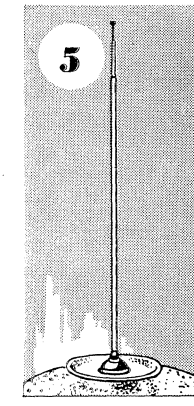


SUBMERSION TEST

Though completely submerged in water, the "Baseball" antenna operated successfully with no water shorts!

IMPACT & BREAK-OFF TEST

With low clearance, the "Baseball" antenna withstood impact and break-off test with no impairment of reception, or damage to antenna!



RUST RESISTANCE TEST

After 400 hours of salt spray testing, the "Baseball" antenna had no plating breakdown!

Antenna Specialists Offer a Complete Line of Automotive Antennas!

MODEL	DESCRIPTION	WEIGHT
AS-1	"Baseball" Antenna, Triple-plated Chrome, 3-Section Telescopic 56" Tube Assembly, 36" Lead	1 lb., 1 oz.
AS-1 (Color)	Same as above, in Color*	1-1
ASA-1	AS-1, with 54" Lead	1-1
ASA1 (Color)	Same as above, in Color*	1-1
DB-12	Display 6 Chrome and 6 Color	
AS-2	Side Cowl Antenna, 3-Section Tube Assembly, 66" Extended Length with 36" Lead	1-2
ASA2	Same as above, with 54" lead	1-3
AS-3	Side Cowl Antenna, 4-Section Tube Assembly, 100" Extended Length with 36" Lead	1-7
ASA3	Same as AS-3, with 54" lead	1-8
AS-5	"Texas Leaguer", 3-Section Telescopic Triple-plated Chrome Tube Assembly, 96" Extended Length, with 54" lead	2-1
AS-6	"Double-Header", Twin "Baseball" Antennas for Rear Fender Mounting, Complete with 15 ft. Lead Cable "T" Connector, 6 ft. and 1 ft. Leads to Antennas, 3-Section, 26½" Extended Chrome Tube Assemblies	1-14
AS-6 (Color)	Same as above, in Color*	1-14
ASB6	Same in Chrome, less leads	1-0
ASB6 (Color)	Same in Color*, less leads	1-0
AS-7	"Minor Leaguer" Antenna, Triple Chrome 3-Section Telescopic 56" (Extended) Tube Assembly, 1" Stackup. 36" Fixed Lead.	1-1
ASA7	Same as above, with 54" lead	1-1
AS-8	"International Leaguer" Antenna, 3-Section Triple-Plated Chrome, Telescopic Tube Assembly, 56" Extended Length, 5" Stackup.	1-1
ASA8	Same as above, with 54" Fixed Lead	1-1
EC-1	3-Section, Telescopic Antenna, 56" Extended Length, 22½" Collapsed Length with 1" Stackup. Chrome Plated Finish Only	1-1
ECA1	Same with 54" Lead (Replaceable)	1-1
EC-6	Twin Rear Fender Antennas, Extended Lengths 26½", Replaceable Leads, with 22 ft. Lead-in Cable and fixed "T" Connector. Chrome.	1-14
EC-7	Similar to EC-1, with fixed 36" lead	1-1
ECA7	Same as above, with 54" non-replaceable lead	1-1
EC-8	Similiar to EC-7, but with 5" Stackup	1-1
ECA8	Same as above, with fixed 54" lead	1-1
ECD9	Top Cowl 48" Non-Removable Lead	
ECD10	Same as above	

* Colors: Red, Green, Yellow, Blue, White, Brown
All single antennas are individually boxed, 12 boxes to master shipping carton. EC-line also available in paper sleeves, packed 25 to a carton for bulk orders. All twin antennas packed in display boxes, 6 boxes to a shipping carton.

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the antenna specialists co.

MANUFACTURERS OF RADIO COMMUNICATIONS ANTENNAS

MOBILE COMMUNICATIONS ANTENNAS

America's most complete line; a model for every operating need and weather condition. **For 24-50 Mc.**

UNIVERSAL SWIVEL BASE — Mounts on any surface. **ASP-3:** Painted copper-plated aluminum balls. **ASP-81:** All external hardware stainless steel.

SHOCK MOUNTING SPRINGS — Fits on Swivel Base, absorbs blows, prevents damage to antenna rod. **ASP-3A:** Cadmium plated. **ASP-93:** 3 times heavier cadmium plated for salt water areas. **ASP-70:** Stainless steel, for salt water areas.

BASE LOADING COILS — Fits on Shock Spring; reduces length of antenna rod without sacrificing performance. **ASP-87:** 3-Turn. **ASPA-87:** 4-Turn. **ASPB-87:** 5-Turn. **ASPC-87:** 6-Turn.

ANTENNA RODS — Special stainless steel; 3/8-24 thread mounting adapters. **ASP-3B:** with pressed-on chrome-plated brass adapter. **ASP-3BL:** With setscrew-type plated steel adaptors, standard replacement for: Motorola Series P-9553 and P7253; Philco Series 76-3664; Western Electric Series KS-15526; General Electric Series M-7483915; RCA Series MI-31427. **ASP-66 to 69** are standard replacement for Link and DuMont mountings. **ASP-59.** 2-section telescopic rod, adjustable from 85" to 103", with special locking adjustment.

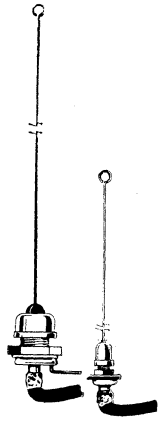
NOTE: When ordering, specify model and length.

TRANSMITTING ANTENNAS

"Disguised" antennas designed to look and mount like ordinary car aerials, on fenders, cowl or rear deck. For detectives, cab spotters, utilities, etc. **25-50 Mc., 144-174 Mc.** Exclusive cable receptacle design eliminates electrical discontinuity, corrosion problems, water shorts. Order cable and plug separately.

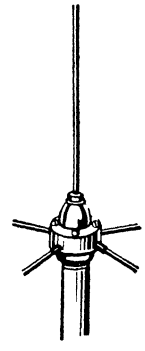
ASP-80: With 56" chrome-plated pseudo-telescopic whip. (Joints permanently connected).

ASP-85: With tapered 56" stainless steel whip.



ROOF TOP ANTENNAS

Small, inconspicuous, economical. Mounts from outside without disturbing upholstery. For **144-174 Mc.** or **450-470 Mc.** Whip lengths from 16" to 23¼" depending on frequency. Specify when ordering. Coaxial lead soldered to antenna. **ASP-1:** For ¾" mounting hole. Positive 4-point grounding. **ASP-75:** For ⅜" mounting hole. New miniature design provides highest performance in smallest size.



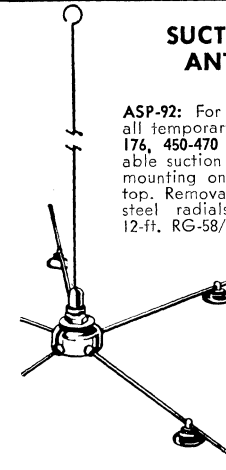
GROUND PLANE ANTENNAS

All the advantages of high-priced units at almost half the cost. Impedance matched; weather-tight fittings; minimum line loss.

ASP-11: For all **144-176 Mc.** transmitting; up to 3 KW. Vertically polarized. Plated steel radials. **ASP-12:** Skirt used with ASP-11 to modify vertical field pattern.

ASPA-11: For **30-50 Mc.** transmitting. Stainless steel radials. **ASP-38:** For **30-176 Mc.** general monitoring. 12-ft. telescoping antenna.

ASP-13, 14, 15: Adaptors. See price list.



SUCTION CUP ANTENNAS

ASP-92: For civil defense and all temporary installations. **120-176, 450-470 Mc.** Three adjustable suction cups permit quick mounting on any vehicle rooftop. Removable 15¾" stainless steel radials. Complete with 12-ft. RG-58/U coaxial lead.

NOTE:

When ordering, specify frequency.

THE ANTENNA SPECIALISTS COMPANY COMMUNICATIONS ANTENNA PRICE LIST

Model	Freq. Mc.	Description	Wt. Lb.-Oz.	Std. Pkg.	Suggested List	Suggested Dealer
ASP-1	144-470	¾" Hole Rooftop	0-12	12	$ 8.50	$ 5.10*
ASP-3	24-50	Univ. Swivel Mount	3-4	12	13.25	7.95*
ASP-3A	24-50	Shock Mounting Spring	2-12	12	7.90	4.74*
ASP-3B	24-50	Stainless Steel Whip	1-6	12	11.50	6.90*
ASP-3BL	24-50	Stainless Steel Whip	1-6	12	11.50	6.90*
ASPA10	144-174	Insulated Pack Set Whip	0-8	1	5.75	3.45
ASP-11	144-174	Ground Plane Antenna	3-0	1	19.90	11.90
ASPA11	30-50	Ground Plane Antenna	10-0	1	77.40	46.40
ASP-12	144-174	Isolating Skirt for ASP-11	2-0	1	9.75	5.85
ASP-13	—	RG-8/U or RG-58/U Adaptor	1-0	1	6.60	3.96
ASP-14	—	RP-17/U Adaptor	1-8	1	29.00	17.40
ASP-15	—	⅞" Airline Adaptor	4-0	1	On Application	
ASP-16	162 -	Railroad Antenna	5-4	1	69.00	46.00
ASP-19 (120")	144-174	RG-58/U Lead, PL-259 Each End	0-12	1	5.90	3.54*
ASP-20 (72")	25-50	RG-58/U Base Loaded Lead	0-8	1	22.50	13.50*
ASP-33 (120")	144-174	RG-8/U Lead, PL-259 Each End	1-8	1	16.00	9.60*
ASP-34 (72")	25-50	RG-8/U Base Loaded Lead	1-0	1	22.50	13.50*
ASP-38	25-174	12 ft. Monitor Antenna	4-0	1	34.00	20.25
ASP-50	25-50	Low Band Industrial Antenna	1-5	1	30.00	18.00*
ASP-58	25-50	Spec. Port. Stnls. Whip	0-5	1	11.50	6.90
ASP-59	25-50	2 Sec. Telescopic Whip	2-0	1	22.50	13.50*
ASP-63	25-50	Base Loaded Port. Whip	1-4	1	12.00	7.20*
ASP-66	25-50	Spec. Stnls. Whip (5')	1-6	1	$13.75	$ 8.25*
ASP-67	25-50	Spec. Stnls. Whip (6')	1-6	1	15.00	9.00*
ASP-68	25-50	Spec. Stnls. Whip (7')	1-6	1	16.25	9.75*
ASP-69	25-50	Spec. Stnls. Whip (8')	1-6	1	17.50	10.50*
ASP-70	25-50	Stnls. Shock Mtg. Spring	2-12	1	20.00	12.00*
ASP-73	25-50	Rooftop Mount	3-0	1	12.50	7.50*
ASP-74	25-50	Base Loaded Rooftop	1-6	1	75.00	45.00*
ASP-75	144-470	⅜" Hole Rooftop	0-10	1	8.50	5.10*
ASP-77	144-174	Spring Base Pack Set Antenna	0-10	1	21.00	13.95
ASP-78	144-174	ASP-1 Mnt.	0-14	1	25.00	15.00*
ASP-80	25-174	Pseudo Telescopic Disguise Antenna	1-8	12	22.50	13.50*
ASP-81	25-50	Univ. Base, Stainless Hardware	3-4	12	19.10	10.45*
ASP-85	25-174	Stnls. Whip Disguise Antenna	1-8	12	22.50	13.50*
ASP-87	25-50	3 Turn Loading Coil	0-8	1	13.00	7.80*
ASPA87	25-50	4 Turn Loading Coil	0-8	1	13.00	7.80*
ASPB87	25-50	5 Turn Loading Coil	0-8	1	13.00	7.80*
ASPC87	25-50	6 Turn Loading Coil	0-8	1	13.00	7.80*
ASP-91	450-470	Special Rooftop Ant.	0-11	1	27.00	16.25*
ASP-92	144-174	Suction Cup Rooftop	1-0	1	13.25	7.95*
ASP-93	25-50	Special Plated Spring	2-12	12	10.50	6.30*
19B115		Replacement Whip for ASP-80	1-6	1	11.50	6.90*
19B116		Replacement Whip for ASP-85	1-6	1	11.50	6.90*

**** Indicates 8% Federal Tax Applicable***

TERMS: 30 Days Net, 2% 10th Prox., F.O.B. Our Plant on Orders Less Than 100#. Freight Prepaid on Orders for 100# or More. PRICES SUBJECT TO CHANGE WITHOUT NOTICE. INDIVIDUAL CATALOG SHEETS ON REQUEST.

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PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

PREMAX ALUMINUM ANTENNAS

Premax Telescoping Adjustable Aluminum Antennas for marine, mobile, amateur and commercial installations are built up of specially-drawn, seamless, tempered aluminum tubing, engineered to withstand wind velocities up to 60 m.p.h. Secure collet locking device. Polished finish.

No.	Description	Ext'd Lgth.	Col'd Lgth.	Base O.D.	Base I.D.	Wgt. Lbs.
AL-312	2-Sec. Tele.	12'4"	6'4"	.500"	.334"	1½
AL-518	3-Sec. Tele.	18'5"	6'4"	.750"	.584"	3
AL-324	4-Sec. Tele.	24'4"	6'4"	1.000"	.834"	5
AL-530	5-Sec. Tele.	30'0"	6'5"	1.250"	1.084"	7
AL-535	6-Sec. Tele.	35'8"	6'5"	1.500"	1.310"	12

PREMAX STEEL ANTENNAS

These are low-cost, adjustable Antennas for amateur, commercial, municipal, Civil Defense and other installations. Made of high-tensile, copper-nickel steel tubing, heavily cadmium plated and resistant to corrosion. Fully telescoping and adjustable. In 5 lengths.

No.	Description	Ext'd Lgth.	Col'd Lgth.	Base O.D.	Base I.D.	Wgt. Lbs.
112-M	2-Sec. Tele.	11'8"	6'0"	.656"	.556"	4
318-M	3-Sec. Tele.	17'3"	6'2"	.875"	.775"	7
224-M	4-Sec. Tele.	22'9"	6'3"	1.063"	.963"	11
130-M	5-Sec. Tele.	28'3"	6'4"	1.250"	1.150"	15
136-M	6-Sec. Tele.	33'9"	6'5"	1.500"	1.400"	20

STAINLESS STEEL ANTENNAS

Stainless Steel Antennas made of a special grade of tubing, hard-drawn for tensile and yield strength. Fully telescoping and adjustable. Polished finish. Secure locking device. Fine for marine use.

No.	Description	Ext'd Lgth.	Col'd Lgth.	Base O.D.	Base I.D.	Wgt. Lbs.
SS-1118	3-Sec.	18'4"	6'3"	.750"	.680"	6
SS-1124	4-Sec.	24'3"	6'3"	1.000"	.900"	9
SS-1130	5-Sec.	30'0"	6'4"	1.250"	1.120"	13
SS-1135	6-Sec.	35'7"	6'4"	1.500"	1.370"	19

TAPER WHIP ANTENNAS

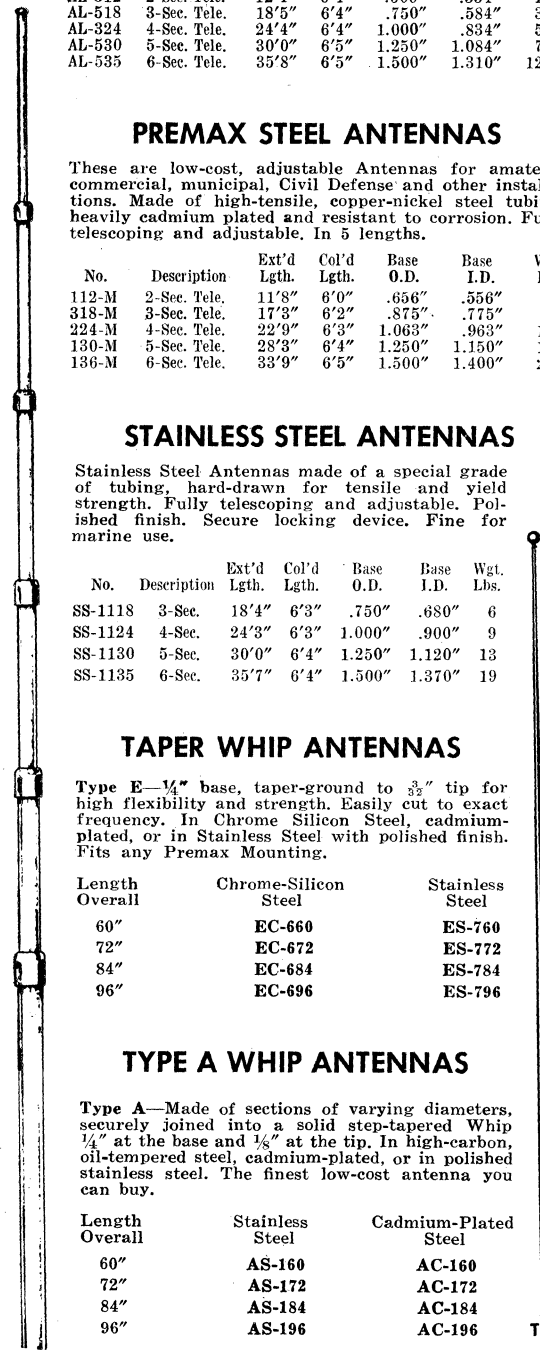
Type E—¼" base, taper-ground to $\frac{3}{32}$" tip for high flexibility and strength. Easily cut to exact frequency. In Chrome Silicon Steel, cadmium-plated, or in Stainless Steel with polished finish. Fits any Premax Mounting.

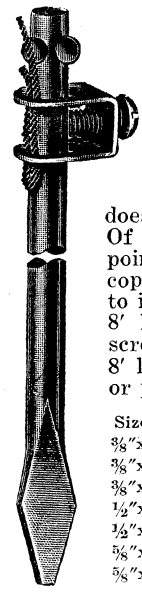
Length Overall	Chrome-Silicon Steel	Stainless Steel
60"	**EC-660**	**ES-760**
72"	**EC-672**	**ES-772**
84"	**EC-684**	**ES-784**
96"	**EC-696**	**ES-796**

TYPE A WHIP ANTENNAS

Type A—Made of sections of varying diameters, securely joined into a solid step-tapered Whip ¼" at the base and ⅛" at the tip. In high-carbon, oil-tempered steel, cadmium-plated, or in polished stainless steel. The finest low-cost antenna you can buy.

Length Overall	Stainless Steel	Cadmium-Plated Steel
60"	**AS-160**	**AC-160**
72"	**AS-172**	**AC-172**
84"	**AS-184**	**AC-184**
96"	**AS-196**	**AC-196**





GROUND RODS

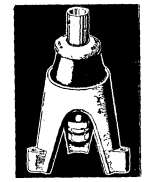
For All Radio and Television Installations

Practical and efficient Ground Rods, costing so little that it doesn't pay to fuss with makeshifts! Of smooth, hard-drawn steel, chisel-pointed for easy driving and heavily copper-plated for rust prevention and to insure clean electrical contact. 4' to 8' lengths in ⅜", ½" and ⅝" with screw clamp (illustrated) or in 6' and 8' lengths in pigtail wire, drilled hole or plain style, ½" and ⅝" only.

Size	Screw Clamp	Hole	Pigtail	Plain
⅜"x4'	**J-64**	....	....	....
⅜"x6'	**J-66**	....	....	....
⅜"x8'	**J-68**	....	....	....
½"x6'	**G-86**	**H-86**	**P-86**	**X-86**
½"x8'	**G-88**	**H-88**	**P-88**	**X-88**
⅝"x6'	**G-106**	**H-106**	**P-106**	**X-106**
⅝"x8'	**G-108**	**H-108**	**P-108**	**X-108**

PREMAX MOUNTINGS

BASE MOUNTINGS



Type 1—Galvanized malleable iron or chrome plated brass hardware with heavy-duty porcelain cones. 7" to 9" height to post base. Wt. 8 lbs. Available for all Premax Vertical Antennas. Specify antenna number or post diameter. This is also available in hinge post type.

Type 2—Light design with brown glazed porcelain and removable top post. In steel only. Height to post base 6". For Premax Antennas up to 24'. Specify Antenna number or post diameter.

DECK OR ROOF MOUNTING

Type 6—6" flange in galvanized malleable iron with studs and bolts for ½" to 6" deck. Lead-thru construction permits connections below roof or deck. Height to post base 3" to 5". Weight 11½ lbs. Available for all Premax Antennas. Specify Antenna number or post diameter.

TYPE 10-S STANDOFF INSULATOR

Type 10-S is a heavy-duty insulator in chrome-plated bronze with brown glazed porcelain. Solid or hinged clamp. Height to center about 4½". Wt. 3 lbs. Available in sizes to fit ⅞" to 1½" tube diameter.

TYPE 13-S STANDOFF INSULATOR

Type 13-S—In heavy cast alumium or brass, plain or chrome-plated, with brown glazed porcelain, 3" diameter. Height to center 4¾". Wt. 2 lbs. In sizes to fit ¾" to 1½". Specify size and material; also whether solid or hinge cap.

PREMAX PRODUCTS Div. Chisholm-Ryder Co. Inc., Niagara Falls, N. Y.

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PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

SERIES C CENTER-LOADED MARINE ANTENNAS

Center-Loaded Collapsible Marine Antenna for 2 to 3 mc. with power gain of 6 db. Two telescoping base sections with top whip. Extended length 17 ft., collapsing to 7 ft. In aluminum, monel and stainless. Fits standard Premax Mountings shown on preceding page.

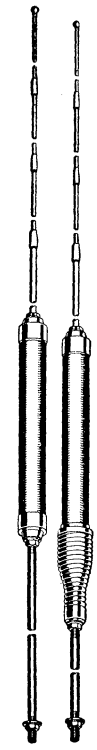
No.	Type	Base O.D.	Base I.D.	Wt. Lbs.
CLA-619	Aluminum	1.000"	.834"	5
CLM-519	Monel	.893"	.799"	7
CLS-1119	Stainless	1.000"	.902"	7

SERIES C

SERIES B LOW-COST CENTER-LOADED ANTENNAS FOR MOBILE AND MARINE

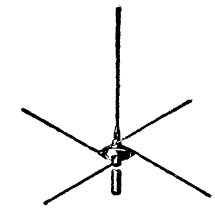
Center-Loaded Whip-Type Antennas consist of a standard base section or spring-type on which is mounted a special Premax coil. The top is a taper-ground stainless steel whip 6 ft. in length, giving a total overall height of 9 ft. Various coils are available or the standard 75-meter coil can be adapted by shorting out turns on the coil. Antennas can be used with any of the Standard Premax Mountings shown below, or will fit any ⅜"x24-thread mounting.

Frequency	Type BX Less Spring	Type BS With Spring	Coil Only
14,000 kc. (20M.)	**BXS-14**	**BSS-14**	**B-14**
2374 kc. (CAP)	**BXS-23**	**BSS-23**	**B-23**
3105 kc. (APT)	**BXS-31**	**BSS-31**	**B-31**
3800 kc. (76M)	**BXS-38**	**BSS-38**	**B-38**
4325 kc. (CAP)	**BXS-43**	**BSS-43**	**B-43**
4585 kc. (CAP)	**BXS-46**	**BSS-46**	**B-46**
2000 to 3000 kc. (Marine)	**BXM-25**	**BSM-25**	**B-25**


TYPE BX TYPE BS

CIVIL DEFENSE, PUBLIC SERVICE, FIRE, POLICE ANTENNAS 100 TO 162 MEGACYCLES

FCDA is insisting on adequate communications in Civil Defense and cities everywhere are installing RACES equipment that calls for outstanding ground plane and UHF Antennas. Premax meets this need with several profitable numbers to cover this new market.


GP-314

GROUND PLANE ANTENNAS

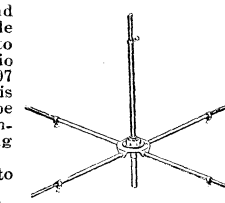
For point-to-point installations, Premax has two VHF Antennas: The Style GP-3 which has elements of heavily-plated spring steel with skirt wires that can be bent down to any angle to match coax cable. Mounting is within a water-proof housing that fits standard ½" pipe. Cable carries down thru pipe.

Style GP-314 for 144 Mc. For 2 meter and CD.
Style GP-312 for 108 to 120 Mc. For aircraft and CAP.
Style GP-315 for 152 to 162 Mc. For police and taxi.

ADJUSTABLE GROUND PLANE ANTENNAS

Another low-cost type Ground Plane Antenna is adjustable from 20 to 40 mc. or 40 to 60 mc. Standing wave ratio matching to 52-ohm line is 1.07 to 1.13 and to 72-ohm line is 1.27 to 1.23 depending on type of transformer cable. All-aluminum construction employing adjustable tubular elements.

Style GP-430—Adjustable 20 to 40 Mc.
Style GP-450—Adjustable 40 to 60 Mc.


GP-430

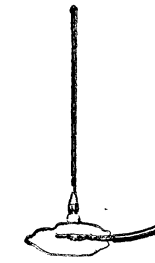
CAR-TOP OR MOBILE ANTENNAS

Premax Mobile or Car-Top Antennas are made of heavily-plated, highly-tempered spring steel wire in elements of precise diameters and lengths. Mountings are well insulated and so designed that one man can install them through a single small hole in a car roof.

STYLE CD-114 for 144 mc. For 2-meter amateur and CD. Porcelain insulator. One man installation thru ½" rooftop hole.

STYLE CD-112 for 108 to 120 mc. For aircraft and CAP. Similar to CD-114.

STYLE CD-115 for 152 to 162 mc. For police and taxi. Similar to CD-114.

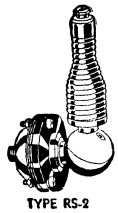

CD-114

MOBILE

For ¼" Diam. Whips

TYPE R-2

TYPE R-2 — Universal Mounting. Solid aluminum split-ball can be adjusted to any angle. Has shielded coax connection.


TYPE RS-2

TYPE RS-2—Similar to the above except has spring as shown under Type SA-1.

TYPE S-1 — Spring Mounting, heavy-duty spring, phenolic insulation with rubber gasket and steel back-plate with shielded co-ax fitting. Ht. 5".

TYPE S-1

TYPE SA-1 — Spring Adaptor (similar to Type S-1 and RS-2 which can be attached to Type K, L, TA, CA or NA Mounting. Ht. 4¾", Dia. 1⅝".

TYPE F—30° Adjustable Mounting for fender, cowl or gravel pan. Chrome-plated brass with phenolic insulation.

MOUNTINGS

For Any ⅜" - 24 Male Thread

TYPE SA-1

TYPE NA-1 — Bumper Mounting with ceramic cone insulator and steel bracket.

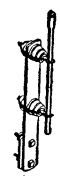
TYPE F

TYPE L-1 — Bumper Mounting, 2 pairs ceramic cone insulators with steel bracket. 10" adjustment.

TYPE NA-1

TYPE XL — Panel Mounting, similar to L-1 less bumper bracket.

TYPE K-1 — Bumper Mounting, ceramic cone insulators, cadmium-plated brackets; 10" height adjustment.


TYPE L-1

TYPE CA — "Chain Style" Bumper Mounting. Clamps on any bumper with 1" clearance; no drilling; theft-proof.

TYPE K-1

TYPE CA

TYPE XLX — Panel mounting similar to L-1 less bumper bracket and mounting tube. Recommended for marine installation.

EMERGENCY TYPE

CD-214

STYLE CD-214 for 144 mc. Emergency type with rubber suction cup base. No hole required. Can be installed in matter of seconds. Ideal for CD.

STYLE CD-215 for 152 to 162 mc. For police and taxi. Similar to CD-214.

STYLE CD-212 for 108 to 120 mc. For aircraft and CAP. Similar to CD-214.

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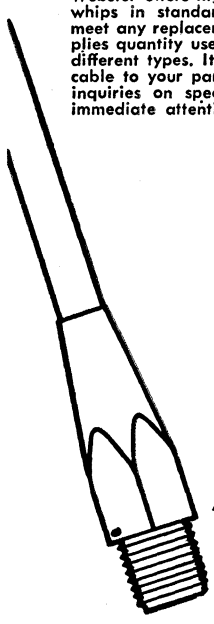
WEBSTER Web Wip®

MOBILE ANTENNAS

STAINLESS STEEL WHIPS

STAINLESS STEEL WHIPS

Webster offers high quality, long life, solid stainless steel whips in standard and custom-manufactured lengths to meet any replacement requirement. Webster regularly supplies quantity users with whips and base fittings of many different types. It is therefore possible that designs applicable to your particular purpose may already exist. Your inquiries on special lengths and mounts will be given immediate attention.



STANDARD MODELS
(net prices)

Lengths,	Prices
36" - 46"	4.25
46" - 56"	4.35
56" - 66"	4.45
66" - 76"	4.55
76" - 86"	4.65
86" - 96"	4.75

All prices f.o.b. factory Mill Valley, Calif.

Quantity discounts.

All listed whips have male-type base fittings threaded 3/8-24 SAE.

MARINE ANTENNAS

Webster Standard "Tiare"...

Webster Standard Marine, center loaded antenna is widely accepted as the standard of comparison. This highly effective antenna operates in conjunction with any standard radiotelephone to provide high performance over the marine range of 2000 to 3000 kcs. Completely weatherproof including fiberglass covered top whip, center loading section fully sealed . . . permanent . . . weatherproof. Support column is aircraft-type aluminum tubing, anodized and coated for maximum corrosion resistance. Antenna height, (overall) 23½ feet. Whip only, 8½ feet.

Less mounts and hardware 52.52
With standard AM-6 mounts and hardware 54.50

Webster "Junior" marine....

Performance characteristics identical to Webster Standard, the Junior has a chrome-plated brass support column that telescopes to a fraction of the full extended height. (from 18'3" to 7'8"). It is beautifully built, weatherproof.

Webster Junior . . . less mounts and hardware 57.50
With standard AM-6A mounts and hardware 60.00

Webster Model "2700".....

Webster Model 2700 is the ideal, center-loaded antenna for the smaller power cruiser, where streamlining is essential and where space limitations impose definite restrictions on the type of antenna which may be installed practically. Highly effective, Model 2700 covers the range of 2000 to 3000 kcs. It has an overall height of 12½ feet, is completely weatherproof and corrosion proof. Fiberglass top whip is removable, brass fittings are chrome plated.

Less insulated base mounting 30.00

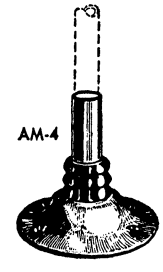
BANDSPANNER

multi-band mobile antenna.

An effective antenna for operation on 80-40-20-15 and 10 meter amateur bands. This is an effective, streamlined, center-loaded antenna with loading inductor wound directly on upper portion of the fiber glass support column. Moving top whip in or out, plunger fashion, makes possible exact resonance on these amateur bands. Light weight, sturdy, has stainless steel top whip, fiber glass support column and loading section.

Amateur net price 24.75

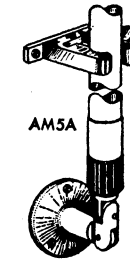
ANTENNA MOUNTS for Model 2700...



AM-4

Insulated deck mount for Model 2700. Combines excellent insulation with high mechanical strength. Thoroughly weatherproof, beautifully finished in polished chrome.

AM-4 ..... 20.00

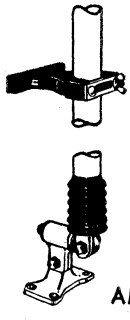


AM5A

A truly universal mount permitting full 90° movement of antenna in all directions. Also includes upper bracket for quick lock up and release of support column. Chrome plated brass parts.

AM5A, AM5B 25.00

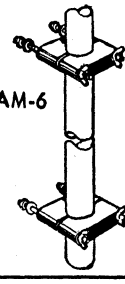
ANTENNA MOUNTS for Junior and Standard models



AM-1B

A truly universal antenna mounting with every desirable feature. High polished Chrome plated brass fittings, excellent, long leakage path, phenolic base insulator.

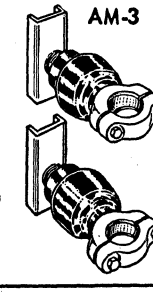
AM1-B 35.00



AM-6

Webster standard mounts. High impact phenolic with brass hardware. Simple, strong, sturdy. (AM-6A mounts have chrome plated hardware.)

AM-6 .....(Set).... 6.00
AM-6A .....(Set).... 8.00



AM-3

Ceramic insulated mounts for high power and severe operating conditions. Long leakage path, high strength glazed ceramic. Anodized aluminum castings, holding bolts of stainless steel, brass fittings.

AM3 (Set) 18.00

WEBSTER MANUFACTURING CO.

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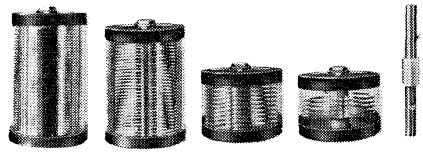
THIS YEAR LOOK TO

DAVIS ELECTRONICS

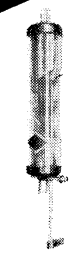
FOR THE GREATEST ADVANCES
IN MOBILE EQUIPMENT



NEW! 500 "HI-Q" COILS

"Q" Over 400! Highest known "Q" in mobile coil to date. 1 coil per band (80, 40, 20, 15) plus new attachment for quick conversion to 10 meters. You choose the band you want with maximum efficiency. Coil peaked at factory. Use with 36" base section, 60" whip. No pruning necessary due to advanced tuning method. Color coded for fast selection. Mount coil in 10 seconds.

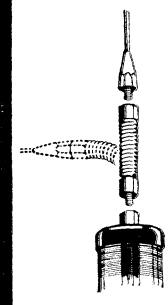
Amateur Net: $6.25 ea. coil
$3.95 ea. shorting bar • Complete set: **$26.95**



NEW! DAVIS IMPROVED ALL-BAND HIGH-Q MOBILE COIL

All bands 10 through 80 meters. New tuning shaft and silvered tuning contact give you positive, long-wearing action. Select band quickly and lock in position. Maximum efficiency under all road and weather conditions. Tough tenite, solid brass fittings. Standard ¾"-24 thread.

Model V102 **Amateur net: $14.95**

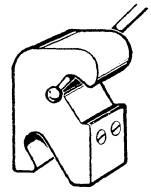


IN-LINE WHIP FLEXOR

Keeps base section rigid by eliminating base section spring. Whip stays upright. Bends for storage, passing under trees.

No. V-110S (Standard Model)
Amateur net: $1.95

No. V-110D (Deluxe Model)
Amateur net: $2.95



NEW! CONTOUR WHIP CLAMP

Another Davis advancement. This whip clamp fits the natural bending angle of the whip. Protects whip, gives long life. Clamps onto rain drain of any car. Rustproof.

No. VD-109 **Amateur net: $1.25**

Other Davis Mobile Products
Fibreglass Whips
Base Sections *Body Mount*

KWIK-ON CONNECTOR

Set up or take down antenna in seconds (one for whip, one for antenna and coil). Ideal for use with new "Hi-Q" coils! Protect against theft. Rustproof.

Amateur net: $3.95

Mast Sections with Permanent Kwik-On Attached

No. KO-24C (24")
Amateur net: $5.95

No. KO-36C (36")
Amateur net: $6.45

Get Davis Communications Equipment from your amateur or electronics distributor. Literature available.

DAVIS ELECTRONICS
Burbank, California

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Shakespeare **WONDEROD**

FIBERGLASS whip antenna

Excellent Insulation
—Even at High Frequencies. Reduces Hazards of Operating Under Live Wires, Around Sub Stations, etc.

Shorter Resonant Length
—The Best Impedence Match Requires a Somewhat Shorter Wonderod Antenna Than Is Required With Steel.

Will Not Corrode
—Even When Exposed to Salt Water, etc.

Will Not Take a Set

High Flexural Strength

Light Weight
—Reduces Road Noises

High Impact Strength

This Wonderod is a reinforced fiberglass antenna for mobile radio equipment . . . for commercial and private installations. Made by the pioneer manfacturers of fiberglass fishing rods. Thoroughly tested under extreme conditions. Standard prices are for white fiberglass whips with 3/8"—24 thread chrome plated brass fittings at base. Special rod colors on request on quantity orders. We solicit orders for custom-built antenna for industrial applications. Prices for special lengths and special base fittings on request.

Standard Whips-54"— 60", $5.75 - 61"—90", $6.95
Base Extensions-18"—.350" dia., $3.95 - .500" dia., $4.80
-36"—.350" dia., $4.70 - .500" dia., $5.82—prices amateur net

patent pending

COLUMBIA PRODUCTS COMPANY
COLUMBIA, SOUTH CAROLINA, SUBSIDIARY OF SHAKESPEARE CO.

Net
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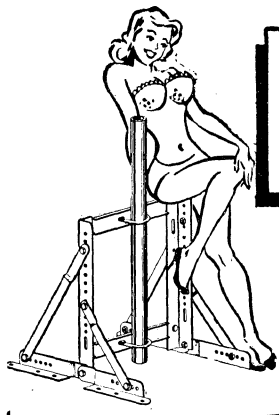
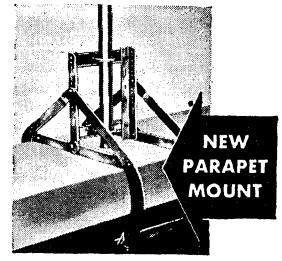


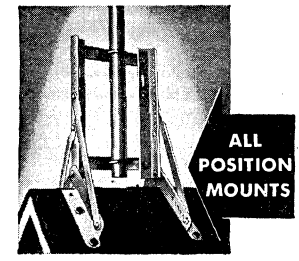
KENCO

TELEVISION ANTENNA MOUNTS AND ACCESSORIES



Gives positive anchorage to apartment house walls without damage to building. Shipped assembled. Hot dip galvanized.

Model	List
106	$10.75

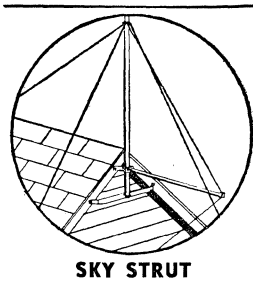


A strong, self supporting mount for peak, slope, sidewall corner or flat mountings. Heavy zinc plate.

Model		List
105	Masts up to 1½″ o.d.	$5.26
101	Masts up to 2″ o.d.	7.20

Easily mounted on hanging rafters or trim boards of eave. Ideal for buildings with extended roofs. Hot dip galvanized. Available in 3 sizes

Model		List
122	22″ eave mount	$3.15
128	28″ eave mount	3.84
148	48″ eave mount	4.05



SKY STRUT

Made of tubular steel—welded construction, 40″ long. Built-in cable clamp on outer end of strut locks guy wire in place giving rigid support to mast. Weather resistant finish.

Model 40S.....List $3.55

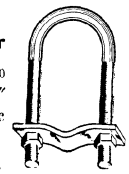
SPECIAL TV LAG SCREWS

Full thread, hex-head lag screws, can be run in with any standard ratchet or speed wrench. Full thread for extra holding power. Heavy bright zinc plate. Available in all standard sizes. Special low prices on request.

EXPANSION SHIELD

Dia. of Lag	List
¼″	$15.00 per 100
5/16″	18.00 per 100

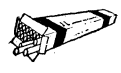
U-BOLT Mast Joiner



Easily joins two masts up to 1½″ O.D. Heavy zinc plate.

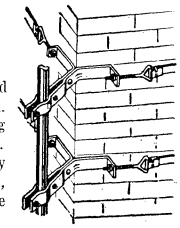
List $0.25 ea.

J & L PERMA TUBE Fitted Joints



1¼″ O.D. x .035 (20 gage) 5′ and 10′ lengths
1¼″ O.D. x .049 (18 gage) 10′ lengths
1¼″ O.D. x .065 (16 gage) 5′ and 10′ lengths
1½″ O.D. x .065 (16 gage) 10′ lengths

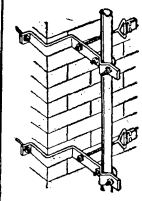
SNAP-IN CHIMNEY MOUNTS



Heavy duty Y mount, pre-assembled with solid rivets, hot dip galvanized. Snap-in feature eliminates holding of mast while applying hardware. Front locking carriage bolts for easy one hand tightening. Non-spiralling, straight opening, 12′ heavy gage bands.

Model		List
4C	Zinc coated bands, E-Z Seals	$2.65
4CG	Hot dip galvanized bands, KENCO Quick Seals	2.99
4C-SS	Stainless steel bands, KENCO Quick Seals	3.99

CHIMNEY MOUNT (Z TYPE)

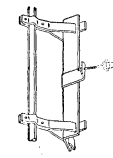


Made of heavy gage steel. One piece construction. Heavy zinc plate. Square corners provide snug fit. Non-spiralling, straight opening, heavy gage bands.

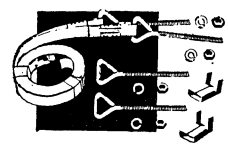
Model		List
3C	Zinc coated bands E-Z Seals	$1.99
3C-SS	Stainless steel bands KENCO Quick Seals	3.20

MINUTE MOUNT

ONE PIECE CHIMNEY MOUNT



Exclusive Y construction on offsets for maximum strength. Bearing feet top and bottom prevent rocking on irregular chimneys. Snap-in feature holds mast while applying hardware. Carriage bolts throughout. One piece welded construction. Heavy gage steel, hot dipped galvanized. 12 ft. stainless steel band and stainless steel seals. 3-Easy-slide corner guards for uniform tightening and protection of bands. Model 5C-SS List $4.95



REPLACEMENT KIT

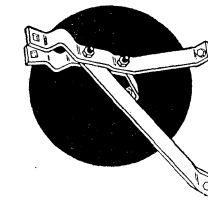
Stainless Steel Strap

You get: 2-12 ft. stainless steel straps, 2 stainless steel seals, 2 stainless E-Z seals, 4 heavily plated triangular eyebolts, lockwashers & nuts.

Model 1RK List $2.75

SNAP-IN WALL BRACKETS

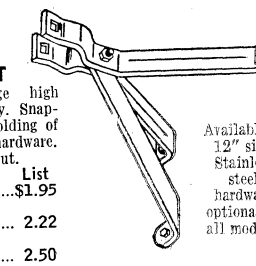
Available in 7″ - 12″ - 18″ - 24″ Sizes



Snap-in feature eliminates holding of mast while applying hardware. Carriage bolts throughout. Heavy gage steel, zinc plated.

Model	List
7W—7″ (less tripod legs)	$1.95
7W-1—7″ (1 tripod leg)	2.22
7W-2—7″ (2 tripod legs)	2.49
12W-1—12″ (1 tripod leg)	3.50
12W-2—12″ (2 tripod legs)	$4.17
18W-1—18″ (1 tripod leg)	4.73
18W-2—18″ (2 tripod legs)	5.54
24W-2—24″ (2 tripod legs)	6.25

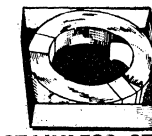
Aluminum SNAP-IN WALL BRACKET



Made of heavy gage high strength aluminum alloy. Snap-in feature eliminates holding of mast while applying hardware. Carriage bolts throughout.

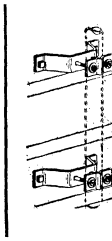
Model	List
6W-AL—6″ (less tripod leg)	$1.95
6W1-AL—6″ (1 tripod leg)	2.22
6W2-AL—6″ (2 tripod legs)	2.50

Available in 12″ size. Stainless steel hardware optional on all models.



STAINLESS STEEL STRAPPING

Heavy ¾″ stainless steel strapping. 100 ft. lengths. (Ind. boxed) List $9.00



2″ WALL BRACKET

Heaviest bracket made, 3/16″ x 1¼″ steel. Locking nuts in front of bracket for easy installation. Hot dip galvanized.

Model	List
2W	$1.67

ALL KENCO ITEMS AVAILABLE AT COMPETITIVE PRICES!

KENWOOD ENGINEERING CO., INC.

KENILWORTH, NEW JERSEY

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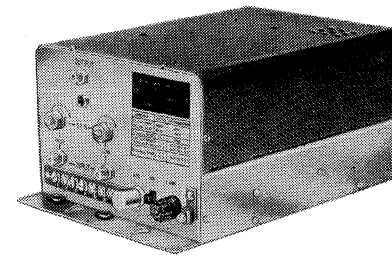
JERROLD

TV MULTI-OUTLET AMPLIFIERS

MODEL 2300



The new JERROLD high gain, high output distribution amplifier for large motels, hotels, apartment buildings and Community antenna systems. This amplifier contains the latest circuit refinements for easy installation, easy adjustment, easy maintenance and long-life trouble-free operation.

Hi and Lo band locking gain controls.

Hi and Lo band "tilt" controls for cable compensation. No external line equalizers needed.

Provision for optional external Automatic Overload Control. (AOC).

Ground clamp for lightning protection.

New "Positive Matched" JERROLD "F" connectors.

Flat for color.

GAIN: 38 db min.

GAIN CONTROLS: Hi and Lo, 16 db range

TILT CONTROLS: Hi and Lo

RATED OUTPUT (MAX.): .3v/channel for 9 channel operation

RATED INPUT (MAX.): 26000 μv

TUBE COMPLEMENT: 4-6BQ7A, 2-12BY7A, 1-6CB6

CABLE FITTINGS: 72Ω (3) F-61, 300Ω, screw terminals

FUSES: Primary — 1 amp.

FINISH: Gray hammertone

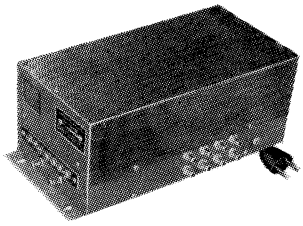
DIMENSIONS: 11" x 7¼" x 5¼"

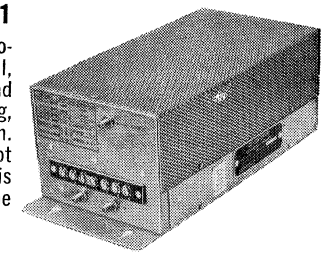
SHIPPING WEIGHT: 10 lbs.

POWER REQUIREMENTS: 117 volts AC .58a; 63 watts

Model 2300 **$164.00 List**

MODEL ABD-8 MODEL ABD-1





High gain, low noise distribution amplifiers, channels 2-13. Provide the key to superior television distribution for small, economical systems. Combining latest cascode circuitry and superior mechanical design, these amplifiers deliver strong, snow-free pictures and keep installation costs to a minimum. Flat for Color. ABD-1 is ideal for any system which does not require the full gain and output of the Model 2300. ABD-8 is especially suited to garden court and multi-set individual home installations.

SPECIFICATIONS; ABD-1

GAIN: 25db

IMPEDANCE: IN 72 ohms or 300 ohms; OUT 72 ohms

RATED OUTPUT (MAX.): 0.1 v/channel (7 channel operation)

RATED INPUT (MAX.): 5500 μv

NOISE FIGURE: 6 db low band, 7.5 db high band

TUBE COMPLEMENT: 3-6BQ7A, 1-6AK5, 1-6CB6

CABLE FITTINGS: 72 ohms (3) C-61, 300 ohms, screw terminals

FUSES: B+, 1/10 amp. Slo Blo; Pri. ½ amp. Slo Blo

DIMENSIONS: 11" x 4" x 5"

SHIPPING WEIGHT: 7 lbs., 7 ozs.

POWER REQUIREMENTS: 117v AC, 50-60 cps, 35 watts

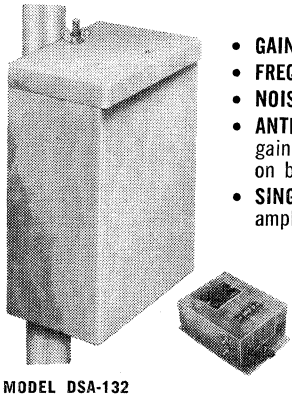
Model ABD-1 **$99.50 List**

SPECIFICATIONS; ABD-8

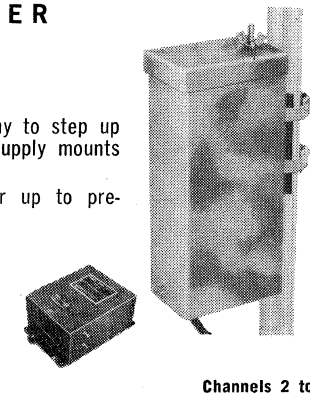
Same circuitry as ABD-1 except output circuit, which delivers 15db gain to each of eight C-61 output terminals.

Model ABD-8 **$99.50 List**

THE DE-SNOWER PREAMPLIFIER



- **GAIN:** 25 db Channels 2 to 13.
- **FREQUENCY RESPONSE:** ±1 db Channels 2 to 13. Flat for COLOR!
- **NOISE FIGURE:** 6 db Channels 2 to 6, 7.5 db Channels 7 to 13.
- **ANTENNA MOUNTED:** Brings your tuner to the antenna! The only way to step up gain of modern cascode tuners without stepping up snow! Power supply mounts on back of receiver.
- **SINGLE CABLE OPERATION:** One coax cable carries 24 volt power up to preamplifier, signal down to receiver.
- **BUILT TO PROFESSIONAL STANDARDS:** Automatic ON-OFF switch or continuous 24-hour operation.
- **POWER SUPPLY:** Input, 117 Volts 60 Cycles. Output to preamplifier, 24-28 Volts.
- **"IRIDITE"** weatherproof finish on preamplifier.



MODEL DSA-132 **Channels 2 to 13**

INPUTS: One 2 to 6 and one 7 to 13 antenna or one 2 to 13 antenna, 72 Ω or 300 Ω

OUTPUT: 72 Ω or 300 Ω. 0.1 volt/channel, 0.5 composite

TUBE COMPLEMENT: 3-6BQ7-A, 1-6AK5, 1-6CB6

SIZE: Preamplifier 5" x 5" x 10¼" overall
Power Supply 2½" x 5½" x 7¼" overall

SHIPPING WEIGHT: 12¾ lbs.

Model DSA-132 **$109.50 List**

MODEL DSA-62 **Channels 2 to 6**

INPUTS: One 2 to 6 antenna, 72 Ω or 300 Ω

OUTPUTS: 72 Ω or 300 Ω 0.1 volt/channel, 0.5 composite

TUBE COMPLEMENT: 1-6BQ7-A, 1-6CB6

SIZE: Preamplifier 2½" x 5" x 10¼" overall
Power Supply 2½" x 5½" x 7¼" overall

SHIPPING WEIGHT: 8¼ lbs.

Model DSA-62 **$90.00 List**

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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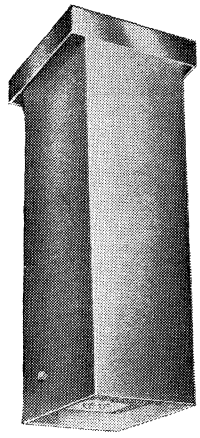
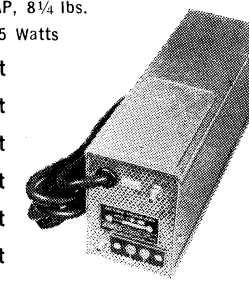
JERROLD

SINGLE CHANNEL PREAMPLIFIERS

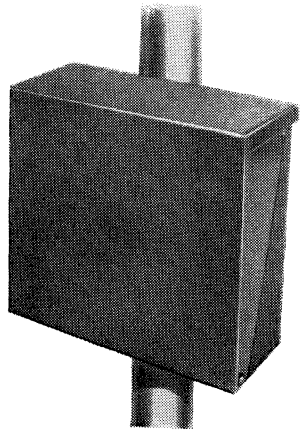


GAIN: 30 db
BANDWIDTH: 6 mc. ±½ db
RATED OUTPUT (MAX.): .6v RMS Lo band, .5v RMS Hi band
NOISE: FIGURE: 6 db Lo band, 8 db Hi band
INPUT IMPEDANCE: 72 Ω or 300 Ω
OUTPUT IMPEDANCE: 72 Ω
TUBE COMPLEMENT: Lo band, 1-6BQ7A, 1-6CB6. Hi band, 1-6BQ7A, 1-6AK5

HOUSING: 401-A, 403-A, Weatherproof cabinet, Iridite finish.
406-A, Ventilated cabinet, gray hammertone finish
DIMENSIONS: 401-A, 403-A, 2½" x 5" x 10¼" overall
406-A, 3" x 4" x 10½" overall
SHIPPING WEIGHT: 401-A, 403-A, 406-A, 4¼ lbs.
501-AP, 8¼ lbs.
POWER CONSUMPTION: 15 Watts



401-A	Mast Mounting, 24 volts A.C. (Specify channel)	**$64.25 List**
403-A	Mast Mounting, 117 volts A.C. (Specify channel)	**$64.25 List**
406-A	Indoor Mounting, 117 volts A.C. (Specify channel)	**$64.25 List**
404-P	24 volt A.C. remote power supply for 401-A or DSA-62	**$28.25 List**
405-P	32 volt A.C. remote power supply for 401-A or DSA-132	**$35.00 List**
501-AP	Combination of 401-A and 404-P (Specify Channel)	**$90.00 List**



ANTENNA MIXING NETWORKS

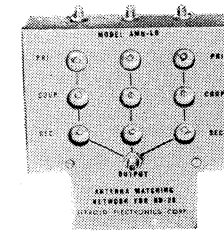
For mixing single channel antennas or amplifiers into a common line. Provide individual channel control by permitting insertion of pads at the inputs. May be used in reverse as channel splitters. AMN series has C-61 connectors. DMN series has terminal strips for 300 Ω line.

DMN-HI Mast mounting, Iridite finish, 300 Ω input and output. For four channels, 7-13 ..... **$42.50 List**

DMN-LO Mast mounting, Iridite finish, 300 Ω input and output. Includes Hi-Lo mixer for combining with DMN-HI. For three channels, 2-6 ..... **$42.50 List**

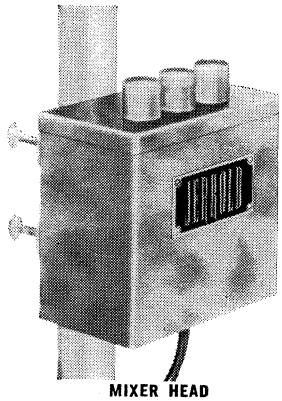
AMN-HI Indoor mounting, gray hammertone finish, 72 Ω input and output. For four channels, 7-13 ..... **$27.50 List**

AMN-LO Indoor mounting, gray hammertone finish, 72 Ω input and output. For three channels, 2-6 ..... **$27.50 List**



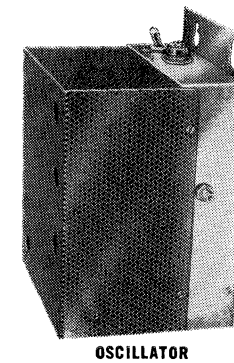
MODEL U2V, UHF CONVERTER

Pulling UHF pictures out of the snow where other converters haven't a chance, the U2V top mounted mixer head converts right at the antenna. The UHF oscillator is mounted at the amplifier location (or at the TV receiver for individual home installations) and feeds signals for conversion up to the mixer (a technique developed in radar installations). Signals leave the mixer as VHF so coaxial cable may be used. The U2V will convert any UHF channel to any VHF channel. Order by specifying UHF channel to be converted to a specific VHF channel.



MIXER HEAD

MIXER HEAD	OSCILLATOR
UHF INPUT: Double cavity tuned, 10 mc bandwidth, 72 ohms	**TUBE COMPLEMENT:** 1-6AF4, 1-0B2
VHF OUTPUT: 72 ohms	**OSCILLATOR OUTPUT:** 1.0 v. RMS
MIXER CRYSTAL: CK 710 or CK 731	**POWER REQUIREMENTS:** 117 v AC, 50-60 cps, 25 watts
DIMENSIONS: 4¼" x 4⅝" x 2⅝"	**DIMENSIONS:** 4½" x 5½" x 7"
WEIGHT: 1 lb., 13 oz.	**WEIGHT:** 3½ lbs.
MOUNTING: Mast mounted, brackets and straps supplied	**MOUNTING:** May be mounted either horizontally on a shelf or vertically on a wall.



OSCILLATOR

SHIPPING WT.: 7 lbs. (Head and Oscillator) **$124.50 List**

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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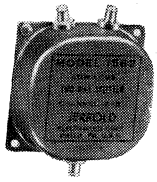
PRICES SLIGHTLY HIGHER IN WEST AND SOUTHWEST

TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

JERROLD

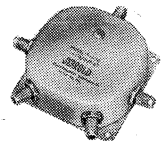
DISTRIBUTION ACCESSORIES

SPLITTERS

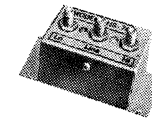


MODEL 1562. Hybrid two way splitter with only 3 db forward loss in each leg. Isolation between outputs is 15-20 db. B-59 coax bushings do not require cable connectors. **$7.50 List**

MODEL 1602. Resistive version of Model 1562. 6 db loss and 6 db isolation. **$7.00 List**

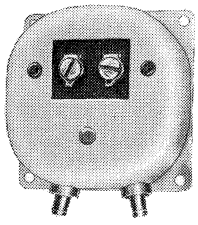


MODEL T-1604. Four way reactive splitter with only 6 db forward loss to each output. Isolation between outputs, 12 db. Complete with five C-52 cable connectors. (Unused outputs must be terminated with TR-72 terminating resistors.) **$14.50 List**



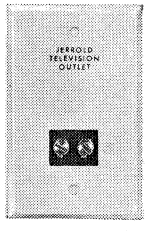
MODEL LHS-76. Hi-Lo splitter-mixer. Band pass filter with low insertion loss (0.4 db max.), flat response and sharp cut-off) down 35 db from desired frequency). For mixing or splitting Lo and Hi VHF bands. C-61 chassis connectors. Complete with three C-52 cable connectors. **$24.17 List**

LINE TAPS



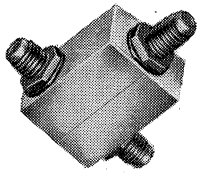
MODEL LT-310. Taps RG-59/U line to 300 Ω receivers. Full RF and AC isolation. B-59 coax bushings do not require cable connectors. Surface mounting, ivory radiation-proof steel case. Four color coded attenuation values (specify W, R, Y or G). **$5.00 List**

MODEL LT-310T. Terminating unit for use as the last tap on a feeder line. Has built-in 72 Ω line termination. **$5.00 List**

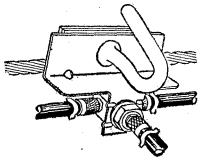


MODEL 1431. For flush mounting. Electrically identical to Model LT-310. Mounts in 2″ x 4″ electrical outlet box or 4″ x 4″ outlet box with single gang plaster ring or one half of 4″ x 4″ box. Specify W, R, Y or G. **$5.00 List**

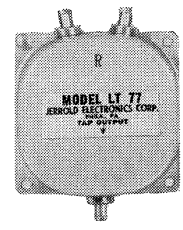
MODEL 1431T. Terminating unit for use as the last tap on a feeder line. Has built-in 72 Ω line termination. **$5.00 List**



MODEL 1401. Surface mounting non-resistive line tap for single or double jacketed RG-59/U type feeders. Seven color coded attenuation values permit use with highest gain amplifiers. Specify GD, W, R, Y, GR, B or BK. Complete with mounting bracket and three C-52 cable connectors. (Use C-56 connectors for RG-6/U type feeders). **$7.50 List**

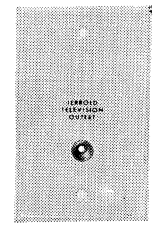


MODEL W-1401. For messenger strand mounting in Community systems. Electrically identical to Model 1401. Complete with messenger clamp, service drop messenger hook and three C-52 cable connectors. (Specify GD, W, R, Y, GR, B or BK). (Use C-56 connectors for RG-6/U type feeders). **$8.25 List**



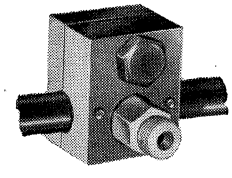
MODEL LT-77. Taps RG-59/U line to 72 Ω receiver or to 72 Ω in direct pick-up locations. Full RF and AC isolation. B-59 coax bushings do not require cable connectors. Surface mounting, ivory radiation-proof steel case. Four color coded attenuation values (specify W, R, Y or G). **$5.00 List**

MODEL LT-77T. Terminating unit for use as the last tap on a feeder line. Has built-in 72 Ω termination. **$5.00 List**



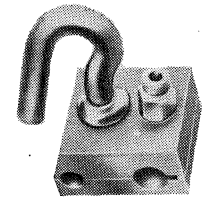
MODEL 1477. For flush mounting. Electrically identical to Model LT-77. Mounts in 2″ x 4″ electrical outlet box or 4″ x 4″ outlet box with single gang plaster ring or one half of 4″ x 4″ box. Specify W, R, Y or G. Complete with 72 Ω output plug. **$5.00 List**

MODEL 1477T. Terminating unit for use as the last tap on a feeder line. Has built-in 72 Ω line termination. **$5.00 List**



MODEL PT-1461. Pressure tap for RG-11/U type feeders. Surface mounting. Removable color coded isolation units. (Specify GD, W, R, Y, GR or B). Unique design minimizes shunt capacity. Complete with one F-59 cable connector. (Requires use of CD-11 Cutting Punch). **$7.50 List**

MOD9L PT-1462. Same as above but for use with double shielded, double jacketed RG-11/U type feeders. **$7.50 List**



MODEL PT-1451. For messenger strand mounting in Community systems, RG-11/U type feeders. Electrically identical to Model PT-1461. Built-in messenger clamp. Complete with service drop messenger hook and one F-59 cable connector. Specify GD, W, R, Y, GR. (Requires use of CD-11 Cutting Punch.) **$8.25 List**

MODEL PT-1452. Same as above but for use with RG-11/U type feeders. **$825 List**

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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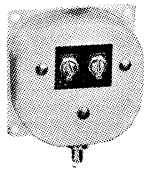
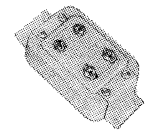
JERROLD

WALL TERMINAL UNITS

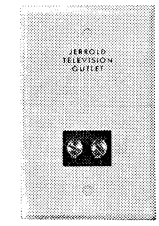


MODEL ST-1601. Matches receiver to 72 Ω line. Terminates line. Isolates line from AC-DC receivers. Metal construction minimizes radiation.
$3.75 List

MODEL 1201. Matches receiver to 72 Ω line. Terminates line. Isolates line from AC-DC receivers. Molded plastic economy model. Surface mounting. **$2.08 List**

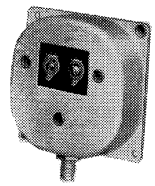


MODEL 1202. Same as Model 1201 but mounts flush in 2 x 4 electric outlet box. Requires one Model 1202-P Cover Plate.
1202 **$2.08 List**
1202-P **.25 List**



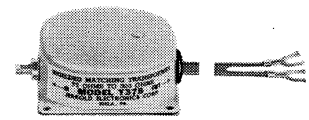
MODEL T-373. Transformer type terminal unit. Mounts flush in 2 x 4 electric outlet box. Steps up signal 6 db between 72 Ω line and 300 Ω output. Isolates line from AC-DC receivers.
$6.00 List

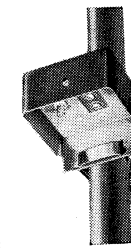
MATCHING TRANSFORMERS



MODEL T-372. 6 db gain between 72 Ω line and 300 Ω line. Flat response 50-250 mc. V.S.W.R. 1.26. Isolates line from AC-DC receivers. C-52 male connector included. **$6.00 List**

MODEL T-375. Economy version of T-372. Has B-59 crimp-on bushing in place of C-61 female 72 Ω connector, preconnected 6" 300 Ω lead instead of terminal strip.
$4.85 List

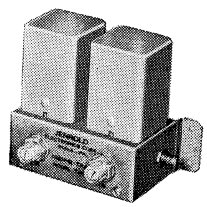




MODEL TO-374. Outdoor version of T-372. Bypasses A.C. for using open line in long runs between De-Snower preamplifier and power supply. Matches 300 Ω broad band or yagi antennas to 72 Ω line. Complete with mounting strap and C-52 cable connector.
Model TO-374
$10.00 List

HIGH Q TRAPS

High rejection of adjacent channel or FM interference coupled with extreme stability make JERROLD High Q Traps the standard in TV distribution system head ends and other highly critical VHF applications.

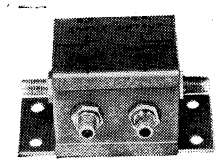


Each trap consists of two tunable L-C circuits in a modified bridged-Tee network. Tuning is by Teflon-dielectric trimmers with screwdriver adjustment. With both circuits tuned to an interfering signal, rejection is **40 db minimum** with insertion loss only 1 db at 1 mc off the interfering frequency. Complete with two C-52 connectors for RG-59/U cable.

Model TLB-1	59.75-83.75 mc	**$58.50 List**
Model TFM-1	88-108 mc	**$58.50 List**
Model THB-1	179.75-211.25 mc	**$58.50 List**

SPLIT RF DETECTOR, MODEL D-85

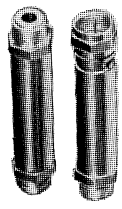
Model D-85 detector removes the modulation envelope from an RF carrier and applies it to the vertical input of an oscilloscope. Terminals are "RF Input", "RF Output", "Scope", and "External Marker Input".



Incorporates germanium diode and voltage doubler circuit permitting output up to 1 volt D.C. For testing and alignment of RF amplifiers, V.S.W.R. measurements, checking impedance and impedance match of RF devices. Complete with four C-52 connectors for RG-59/U.

FREQUENCY RESPONSE: Flat within 1 db, 0.5-250 mc
PERCENT REFLECTION: Less than 3%
INPUT IMPEDANCE: 72 Ω (1.06 V.S.W.R.)
VOLTAGE OUTPUT: 1.0 V.D.C. Max.
Model D-85 **$20.00 Net**

FIXED RF PADS

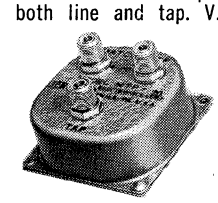


MODEL PDC. Coaxial chassis mounting pads. F-59 connector on one end mates with F-61 connector on chassis. F-61 connector at other end mates with F-59 male cable connector. Available in attenuation values of 3, 6, 10 and 20 db. Specify value desired.
Model PDC-3, 6, 10 or 20 **$5.85 List**
MODEL PDL. Identical with PDC except that both ends have F-61 female connectors to mate with F-59 cable connectors.
Model PDL-3, 6, 10 or 20 **$5.85 List**

MATCHED T PADS

MODEL MTP

Model MTP is a T pad presenting outstanding 72 Ω match to both line and tap. V.S.W.R. is better than 1.2. Available in attenuation values of 8, 10, 12, 14, 17, and 20 db. (Insertion loss varies inversely with tap attenuation, 5.5, 5.0, 4.5, 3.3, 2.5 and 2.0 db.) Specify value desired. Complete with three F-59 cable connectors for RG-59/U cable.



Model MTP-8, 10, 12, 14, 17 or 20
$10.83 List

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PRICES SLIGHTLY HIGHER IN WEST AND SOUTHWEST

TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

JERROLD

TEST EQUIPMENT

VHF FIELD STRENGTH METER MODEL 704B

A Calibrated Direct Reading Instrument For TV and FM Signal Measurements — A Must For Color!

The JERROLD Model 704B Field Strength Meter is a portable, inexpensive service instrument designed and built to precision standards normally found only in laboratory equipment at three to four times the price.

SENSITIVE: Reads down to 5 microvolts and up to 3 volts.

SELECTIVE: 0.6 MC band width. Separates color subcarrier from audio carrier—audio from adjacent video.

ACCURATE: Precise readings in db or microvolts ±0.8 db over entire range.

VERSATILE: Reads % modulation of FM carriers, % AM distortion of FM amplifiers, % AM of RF generators. Output jack to phones or scope. Video output.

PORTABLE: Only 19 pounds. Operates from either AC or 6V battery.

Model 704B. VHF Field Strength Meter (with A.C. power supply) **$365.00 Net**

Model 704A-6V. 6 volt vibrator pack for 704A and 704B meters. (including cables) **$47.50 Net**

APPLICATIONS

1. Field intensity surveys.
2. Balancing Television Distribution Systems.
3. Testing color response of antenna systems.
4. Determining overload (sync clipping) in RF amplifiers.
5. Checking % AM distortion of FM amplifiers.
6. Checking % modulation of FM carriers.
7. Checking % AM of RF signal generators.
8. Studying antenna patterns.
9. Measuring radiation.
10. Measuring attenuation of coaxial cables.
11. Checking random noise levels.
12. Locating and orienting antennas.
13. Measuring and locating interference.
14. Measuring individual video and audio carrier levels.
15. Checking output of signal generators.
16. Comparative testing of antennas or boosters.
17. Adjusting traps or filters.

SPECIFICATIONS

FREQUENCY RANGE: 54 to 220 mc/sec covered in one band.

ACCURACY: ±0.8 db over entire range.

SENSITIVITY: 5 microvolts.

RANGES: 6 fundamental ranges —0-100 μv, 0-300 μv, 0-1000 μv, 0-3000 μv, 0-10,000 μv, 0-30,000 μv.

4 additional ranges through the use of the built-in precision attenuator—0-100,000 μv, 0-300,000 μv, 0-1 volt, 0-3.0 volt.

SELECTIVITY: Band width at 3 db down is 0.6 mc.

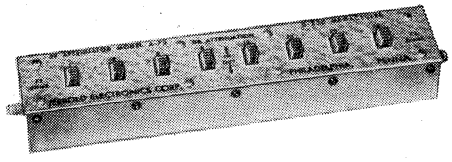
IMAGE REJECTION: 90 db below signal level.

POWER REQUIREMENT: AC: 55 watts, 105-125 volts, 50/60 cycles. DC: 30 watts (5 amp.) 5.5-6.5 volts (with 704-A-6V power supply).

TUBE COMPLEMENT: 2—5654, 1—6AB4, 1—6T8, 1—0D3(VR150), 3—5749, 1—5V4, 1—12AU7.

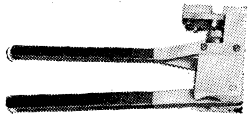
PHYSICAL SPECIFICATIONS: Height — 12". Width — 12¾". Depth—8". Shipping weight—24 lbs. Finish—gray crackle finish on sturdy aluminum case.

PRECISION-BUILT VARIABLE RF ATTENUATORS



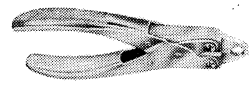
The A-72 provides precise attenuation from 0 to 82 db by simple "IN" and "OUT" switches. Designed for use with RG-59/U cable, the attenuator is linear over a range of frequencies from 0 to 250 MC. It has a V.S.W.R. less than 1.05 when properly terminated. Accuracy is ±1.0 db at maximum (82 db) attenuation. The insertion loss is less than 0.5 db at 200 MC. It is capable of handling 500 milliwatts CW.

Model A-72 **$54.50 Net**



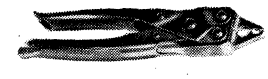
ASSEMBLY TOOL PL-701

Bonds F-11 and F-11S connectors to single shielded RG-11/U type cables. Does not distort cable or cause impedance mismatches. Hardened steel. **$22.50 List**



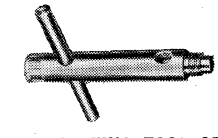
CRIMPING TOOL PL-601

Crimps type 1051 ferrules. For F-59 and C-52 connectors and B-59 bushings. Does not distort cable or cause impedance mismatches. Made of hardened steel. **$6.50 List**



CRIMPING TOOL PL-602

Crimps type 1051 and 1095 ferrules. For F-59, C-52, F101-59, AF-101 and B-59 bushings. Does not distort cable or cause impedance mismatches. Made of hardened steel. **$8.17 List**



CABLE CUTTING TOOL CD-11

Cuts attenuator opening in cable for all JERROLD PT pressure taps. Made of hardened steel. **$3.25 List**

CT-1. Replacement cutting tip for CD-11 **$1.66 List**

PL-52. Economy model of PL-601. For 1051 and 1026 ferrules..... **$2.92 List**
330. Vinyl tape for cable splices..... **Per roll $3.17 List**
331. Poly tape for cable splices..... **Per roll $2.50 List**
3100-D. Weatherproof compound for protection of taps, connectors, etc. (Dux Seal)..... **Per 5 lb. bag $4.25**

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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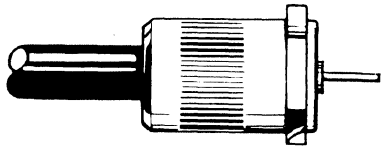
JERROLD

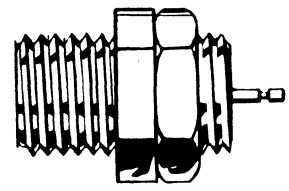
SOLDERLESS COAXIAL CABLE CONNECTORS

All JERROLD solderless connectors are carefully machined of brass. All exposed surfaces are heavily silver plated. All JERROLD connectors can be permanently bonded to all types of RG-11/U, RG-59/U and RG-6/U cables with simple crimping tools.
All new JERROLD "F" series connectors are accurately matched to 72 Ω (except F-11S). V.S.W.R. is less than 1.05 up to 200 mc. "F" connectors can be wrench tightened.

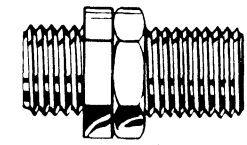
FOR SINGLE SHIELDED RG-11/U TYPE CABLES



F-11 MALE CONNECTOR. Mates with F-82, F-1159 and F-21. Requires Assembly Tool PL-701. **$1.25 List**

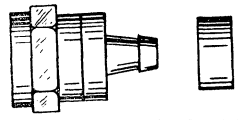


F-21 FEMALE CHASSIS FITTING mates with F-11. Mounts in 5/8" diameter chassis hole. **$2.08 List**

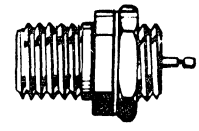


F-82 FEMALE COUPLING. Mates with two F-11. Mounts in 5/8" diameter panel hole as a feed-thru. **$2.50 List**

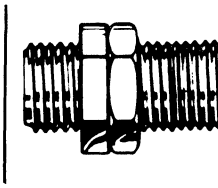
FOR ALL RG-59/U AND RG-6/U TYPE CABLES



F-59 MALE CONNECTOR. Mates with F-81, F-1159, A-61 and F-61. For RG- 59/U type cables. Requires Crimping Tool PL-601 or PL-602. **$.80 List**
F-56 MALE CONNECTOR. Same as F-59 but for RG-6/U type cables.

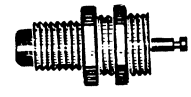


F-61 FEMALE CHASSIS FITTING. Mates with F-59, F-56 and TR-72F. Mounts in 3/8" diameter chassis hole. **$.92 List**

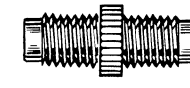


F-81 FEMALE COUPLING. Mates with two F-59 or F-56. Mounts in 3/8" diameter panel hole as a feed-thru. **$1.25 List**

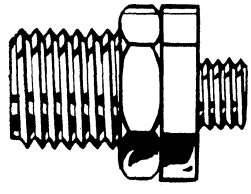
A-61 ADAPTER. Mates F-59 or F-56 male connectors to C-61 type female fittings. **Per 25 $2.00 List**



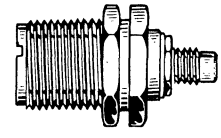
C-61 FEMALE CHASSIS FITTING. Mates with C-52, C-56 or A-61. Mounts in 5/16" diameter chassis hole. **$.80 List**



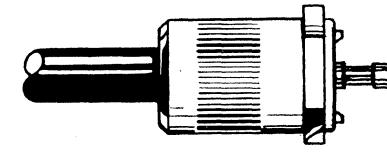
C-81 FEMALE COUPLING. Mates with two C-52, C-56 or A-61. Mounts in 1/4" diameter panel hole as a feed-thru. **$1.00 List**



F-1159 FEMALE COUPLING ADAPTER. Mates F-11 with F-59, F-56 or TR-72F. Mounts in 5/8" panel as a feed-thru. **$2.92 List**



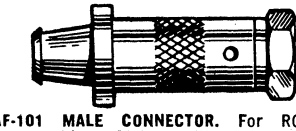
C-5911 FEMALE COUPLING ADAPTER. Mates F-11S (or PL-259) with C-52, C-56 or A-61. Mounts in 5/8" panel hole as a feed-thru. **$3.50 List**



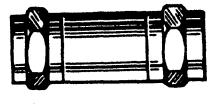
F-11S MALE CONNECTOR. Mates with 50 Ω fittings such as SO-239 and C-5911. Requires Assembly Tool PL-701. **$1.50 List**

F-101-59 ADAPTER ASSEMBLY. Connects RG-11/U type cables to F-59, F-56 or TR-72F. Requires Crimping Tool PL-602. **$2.43 List**

C-52 MALE CONNECTOR. Mates with C-61 or C-5911. For RG-59/U type cables requires Crimping Tool PL-601 or PL-602. **$.80 List**
C-56 MALE CONNECTOR. Same as C-52 but for RG-6/U type cables. **$1.03 List**

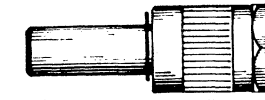


AF-101 MALE CONNECTOR. For RG-11/U type cables. Mates with F-81, F-1159, F-61, F-101-59 and A-61. Requires Crimping Tool PL-602. **$2.10 List**



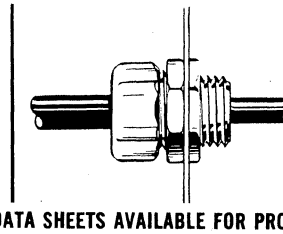
F-71 MALE COUPLING ADAPTER. Mates two F-81, F-1159, F-101-59, F-61 and A-61. **$1.60 List**

TR-72 TERMINATING RESISTOR. Close tolerance 72 Ω resistor for line or equipment termination. Mates with C-61, C-81 or C-5911. **$1.50 List**



TR-72F TERMINATING RESISTOR. Similar to TR-72. Mates with F-61, F-81, A-61 or F-101-59. **$1.50 List**

C-41 "T" JUNCTION. Permits "T splice" of RG-59/U or RG-6/U type cables with negligible attenuation. Complete with mounting bracket and three C-52 cable connectors. May be used with C-56 connectors or F-59 and F-56 with A-61 adapters. **$7.50 List**



BRX RADIATION REDUCING FEED-THRU BUSHING. Grounds outer shield of double - shielded, double - jacketed cables to panel or cabinet. Allows inner shield and jacket to feed through to equipment. Keeps out moisture.

BRX-1. For DSDJ RG-11/U types. Mounts in 1 1/16" diameter panel hole. **$2.83 List**
BRX-2. For DSDJ RG-59/U types. Mounts in 7/8" diameter panel hole. **$2.75 List**
BRX-3. For DSDJ RG-6/U types. Mounts in 7/8" diameter panel hole. **$2.75 List**
1026 FERRULE. For use with RG-6/U type cables. Per hundred $3.00 List
1051 FERRULE. For use with RG-59/U type cables. Per hundred $2.00 List
1095 FERRULE. For use with RG-11/U type cables. Per hundred $6.00 List

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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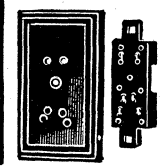
PRICES SLIGHTLY HIGHER IN WEST AND SOUTHWEST

TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Mosley Electronics

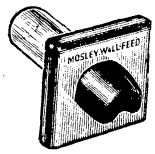
COMB. FLUSH SOCKETS



Comb. Rotator Cable & TV Lead-in Flush Sockets. Provides plug-in termination for lead-ins plus polarized connection of rotator cable. Multi-wire socket takes appropriate line plug, preceeding. page.

F-115 Dual Lead-in & 5-wire Socket	List price $2.09	F-14 Comb. Socket for 4-wire cable	List price $2.09
F-115PK Above with Plug & Hdwe.	List price $3.51	F14PK Above with Plug & Hdwe.	List price $3.51
F-18 Comb. Socket for 4-wire cable	List price $2.25	F-114 Dual Lead-in & 4-wire Socket	List price $2.09
F-18PK Above with Plug & Hdwe.	List price $3.60	F-114PK Above with Plug & Hdwe.	List price $3.51
F-118 Dual Lead-in & 8-wire Socket	List price $2.25	F-15 Comb. Socket for 5-wire cable	List price $2.09
F-118PK Above with Plug & Hdwe.	List price $3.60	F-15PK Above with Plug & Hdwe.	List price $3.51

WALL-FEED

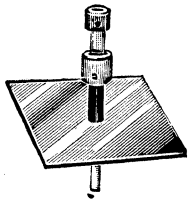


Installs under eve of house to bring lead-in into attic. Completely weather proof. For any popular 300 ohm line. Also ideal for use in house trailers. Supplied with neoprene gasket & wood screws. Brown, Ivory.

626 Wall-Feed List price $1.26

626-PK Above, with TV Socket & Plug List price $2.31

ROOF-THRU

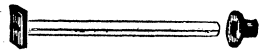


Polystyrene bushing and copper flashing provides direct roof entrance of TV transmission line. Permits shorter lead-in, protects line from exposure to weather and eliminates wires on side of house. Model 624 also accommodates rotator cable.

624 Roof-Thru for flat line List price $5.84

623 Roof-Thru for tubular line List price $5.84

WALL-THRU

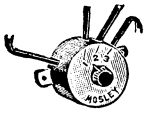


For walls up to 13" thick. Weather-proof polystyrene bushing for all popular type lines. Outside plate provides anchor point for open-wire line. Rubber grommet supplied for an all weather seal. Universal TV socket may be mounted on inside plate. In Brown or Ivory.

625 Wall-Thru List price $1.95

625-PK Above, with TV Socket & Plug List price $3.00

TV ANTENNA SWITCHES



Efficient UHF/VHF antenna selector switch. Low loss rotary type making silver-to-silver contacts. In Ivory or Brown polystyrene case. Easy to install. Solderless with knob for easy access when used behind set.

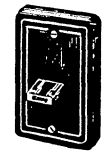
F-20 3-Way TV Antenna Switch	List price $3.75
F-40 2-Way TV Antenna Switch	List price $1.95
F-10 Socket Switch	List price $3.75
F-10PK Above, with Plug & Brackets	List price $4.40

INPUT ADAPTER

Ideal plug-in connection for TV/FM sets, boosters, etc. Attaches to screws on antenna terminal strip of set. Mates with Cat. 311 Line Socket. Solderless.

304 Input Adapter List price $ .30

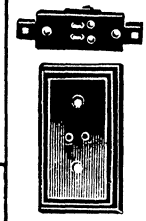
SURFACE MOUNTING SOCKETS



No wall opening needed to install this attractive TV lead-in socket. Mount on wall or baseboard with wood screws supplied. In Brown or Ivory polystyrene.

SM-1 Wall Plate Socket	List price $1.35
SM-1PK Above with Plug	List price $1.65
SM-11 Dual Surface Mount Socket	List price $1.84
SM-11PK Above with Plug	List price $2.14
SM-111 Triple Surface Mount Socket	List price $2.09
SM-111PK Above with Plug	List price $2.39
SM-14 Single Lead-in & 4-wire Socket	List price $2.09
SM-14PK Above with Plug	List price $3.51
SM-114 Dual Lead-in & 4-wire Socket	List price $2.09
SM-114PK Above with Plug	List price $3.14
SM-15 Single Lead-in & 5-wire Sovket	List price $2.09
SM-15PK Above with Plug	List price $3.51
SM-115 Dual Lead-in & 5-wire Socket	List price $2.09
SM-115PK Above with Plug	List price $3.20
SM-18 Single Lead-in & 8-wire Socket	List price $2.25
SM-18PK Above with Plug	List price $3.60
SM-118 Dual Lead-in & 8-wire Socket	List price $2.25
SM-118PK Above with Plug	List price $3.55

FLUSH TV SOCKETS



Single Lead-In. For installations requiring single line and not utilizing rotator. Low loss, constant impedance socket with attractive Ivory or Brown wall plate. Solderless. Install with Cat. F-9, Mounting Bracket, Cat. F-8 Plaster Ring, or standard outlet box.

F-1 Single Flush Socket List price $1.67

F-1PK Above with Plug & Mount Brackets List price $1.95

Multiple Sockets (not illus.) Similar to F-1, above but provides termination for more than one separate lead-in line.

F-11 Dual Flush Socket	List price $2.09
F-11PK Above with Plug & Mount Brackets	List price $2.67
F-111 Triple Flush Socket	List price $2.09
F-111PK Above with Plug & Mount Bracket	List price $2.67

Demand the BEST!

Demand MOSLEY...

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

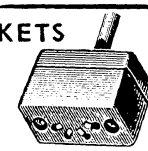
Mosley Electronics

MULTI-WIRE LINE PLUGS

Compact, polarized molded polystyrene plugs for many low voltage uses. Mates with appropriate Flush, Line or Base Socket. No individual set screws. Solderless. Plated brass pins. For flat or round cable. Brown or Ivory.

374	4-Wire Plug	List price $ .75
375	5-Wire Plug	List price $ .81
378	8-Wire Plug	List price $1.00

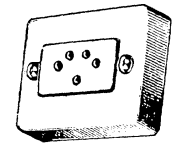
MULTI-WIRE LINE SOCKETS



Polarized Line Sockets to mate with above plugs. Solderless. No individual set screws. Phosphor bronze contact strips. In Brown or Ivory.

364	4-Wire Line Socket	List price $ .96
364- PK	above with Plug	List price $1.71
365	5-Wire Line Socket	List price $1.03
365- PK	above with Plug	List price $1.84
368	8-Wire Line Socket	List price $1.25
368- PK	above with Plug	List price $2.25

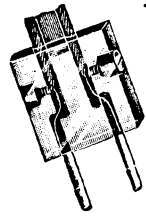
MULTI-WIRE BASE SOCKETS



Compact, sturdy polarized sockets for mounting on wall, baseboard or metal chassis, Highest quality construction molded polystyrene. Phosphor bronze contacts. Brown or Ivory with screws.

354	4-Wire Base Socket	List price $1.37
354 PK	above, with Plug	List price $2.12
355	5-Wire Base Socket	List price $1.50
355 PK	above, with Plug	List price $2.31
358	8-Wire Base Socket	List price $1.75
358 PK	above, with Plug	List price $2.75

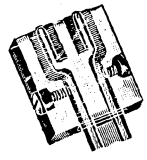
TRANSMISSION LINE PLUG



Solderless constant impedance 300 ohm transmission line plug. Mates with all MOSLEY Transmission Line Sockets. Precision molded polystyrene. Plated brass pins, set screws. Phosphor bronze contact strips.

301 List price $ .30

TRANSMISSION LINE SOCKET



Constant impedance 300 ohm transmission line socket for use where mounted socket not feasible. Made of same low loss materials as plug above. Mates with 301 Plug, 304 Input Adapter and 344 TV Receptacle. Solderless.

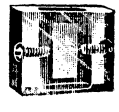
311 List price $ .30

UNIVERSAL TV SOCKET

Compact molded polystyrene terminal socket or line tap for single TV lead-in. Mounts on wall, baseboard, metal chassis or direct on Wall-Thru. Constant impedance, low loss. Brown or Ivory. Wood screws included.

343	Universal TV Socket	List price $ .80
343 PK	above, with Plug	List price $1.05
344	With male pins	List price $ .80
344 PK	above, with Socket	List price $1.05

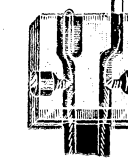
FLAT LINE SPLICER



Low loss, constant impedance splicer for joining sections of 300 ohm flat transmission line. Molded polystyrene with non-ferrous set screws. Solderless.

27-S Flat Line Splicer List price $ .18

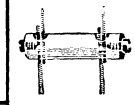
POLARIZED TRANSMISSION LINE CONNECTOR



Maintains impedance and polarity when used to connect 300 ohm transmission line. made of low loss materials. Use in pairs. Solderless.

321 List price (per pair) $ .60

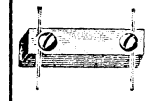
OPEN-WIRE SPLICER



Ideal 1" splicer for joining 450 ohm open-wire line sections. Also 300 ohm flat line to open-wire line. Low loss polystyrene.

450-1 List price $ .16

OPEN-WIRE SPACER BARS



Acrylic Plastic spacer bars assure proper spacing of open-wire lines. Sturdy.

450-3	1" size	List price $ .10
450-32	2" size	List price $ .28
450-34	4" size	List price $ .37
450-36	6" size	List price $ .42

TUBULAR TO FLAT TRANSMISSION LINE SPLICER

Solderless, constant impedance splicer for connecting round or oval 300 ohm line to standard flat line. Slot in splicer wall permits moisture to escape eliminating drip loop in tubular line. Molded polystyrene with non-ferrous set secrews.

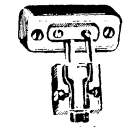
29-S List price $ .20

2-SET COUPLERS

Efficient, compact bridging-pad coupler permits 2-set operation from one TV antenna without interaction. May be installed outside in semi-protected area. Solderless connections to 300 ohm line. Polystyrene.

902 List price $3.95

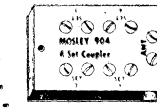
MOSLEY "TINY-MITE" TV COUPLER AND SOCKET



Multiple TV Set Coupler and Plug-in Socket. A compact, easily installed unit, "Tiny-Mite" reduces set interaction and radiation. Will operate 2 TV sets from one antenna and under suitable conditions several couplers may be used to operate up to five sets. Polystyrene with mating solderless plug and wood screws. Brown or Ivory.

912 List price $1.75

4-SET COUPLER



Mosley 4-Set Coupler is especially designed for metropolition TV areas. Distributes signal equally and eliminates interaction. Constant impedance design. Brown or Ivory polystyrene case. Solderless.

904 List price $6.25

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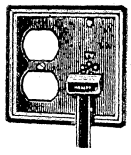
Mosley Electronics

COMB. AC/TV WALL PLATE SOCKETS

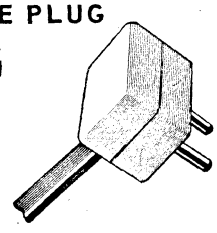


Ideal plug-in connection for 300 ohm TV lead-in lines and multi-wire rotor cables. Can be used in present dwellings or new construction. Fits standard electrical boxes. A metal barrier plate is supplied for separation of TV and AC services. Meets existing electrical codes. Packaged complete with mating plugs, plated machine screws and metal barrier. Comes in Brown and Ivory.

AC-1 PK	Single Lead-in Socket	$1.87
AC-11 PK	Dual Lead-in Socket	2.49
AC-111 PK	Triple Lead-in Socket	3.31
AC-14 PK	Single Lead-in and 4 Wire Socket	3.31
AC-15 PK	Single Lead-in and 5 Wire Socket	3.31
AC-18 PK	Single Lead-in and 8 Wire Socket	3.69
AC-114 PK	Dual Lead-in and 4 Wire Socket	3.98
AC-115 PK	Dual Lead-in and 5 Wire Socket	4.12
AC-118 PK	Dual Lead-in and 8 Wire Socket	4.36

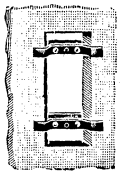
WALL RECEPTACLE PLUG

A neat and compact unit made of molded polystyrene. Supplied with three pins in polarizing arrangement to mate with the MOSLEY AC series sockets (middle pin may be removed). Constant impedance design. Low loss. Solderless. Comes in Brown or Ivory.

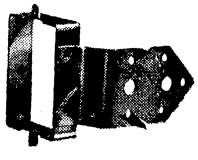


Cat. No. 312 List price $.30

FLUSH MOUNTING HARDWEAR



Heavy gauge mounting brackets for all "F" series socket installation. Installed on any frame wall construction. Requires 1¾"x4" opening. F-9 List price $.35



Plaster Ring of heavy plate steel for installing "F" series Sockets in new construction. Mounts perfectly to wood studding and is adjustable for plaster thickness up to 1½". F-8 List price $.40

ANTENNA COAT

Protects antennas, masts & hardwear from corrosive atmospheric fumes, salt spray, weather. Applied with spray or brush to form tough protective film. Makes ½ pint compound when mixed. E-101 List price $3.24

ANTENNA COAT SOLVENT

Antenna Coat Solvent, in ½ pint cans.

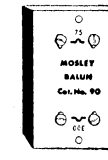
(Use No. E-46 Antenna Coat Solvent to clean spray or brush.) E-46 List price $1.15

CONDUIT

Ideal polystyrene conduit specially suited for TV lead-in. Extreme flexibility permits easy rough-in. ¾" inside dia. fits snugly to Roof-Thru or Wall-Thru.

80-25 25' coil $6.25
80-50 50' coil $12.50
80-100 100' coil $25.00

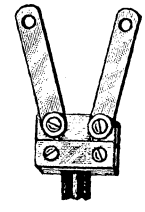
BALUN



300 ohm to 72 ohm matching transformer. Adapts sets with 72 ohm input to 300 ohm lead-in or 72 ohm line to 300 ohm sets.

Cat. 90 List price $3.59

MOSLEY "Y-TY"

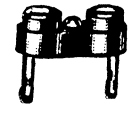


Unique strain relief connector stops lead-in breakage at line to TV antenna elements. Sturdy clamping member grips line insulation securely.

Cat. 263-S "Y-TY" for all antennas with 4" or less space between terminals List price $.80

Cat. 263-L "Y-TY" for all antennas with 4" to 6" between terminals. List price $.80

CRYSTAL HOLDER SOCKETS AND ADAPTERS



Single Crystal Holder Socket takes .095" dia. pins spaced ½". Molded polystyrene with phosphor bronze one piece contacts and solder lugs. Mounts behind chassis or panel up to 1/8" thick. Template and mounting brass screws supplied.

		Amateur Net.
Cat. 500	Crystal Holder Socket	$ .21
Cat. 53	3-Gang Socket	$ .65
Cat. 56	6- Gang Socket	$1.25

Crystal Holder Adapter takes small pin ½" spaced holder and plugs into ¾" spaced sockets or in any 5 or 6 prong sockets. Cat. 5-75 $.35

Crystal Holder Adapter recieves pin spaced ¾" and plugs into standard ½" spaced sockets or octal sockets. Cat. 75-5 $.35

DISTRIBUTION TERMINAL FLUSH SOCKETS

Mosley Distribution Terminal Wall-Plate Sockets provide excellent plug-in connection of TV sets to coax line. Mating plug and plate provided for connection to set with 300 ohm line. Brown and Ivory.
F-3PK 300 ohm line with plug $2.50

Distribution Flush Terminal Socket Outlet with MC-type coax fitting. For use where it is desired to run coax line from outlet to TV set. 72 ohm output. In Brown or Ivory polystyrene.
F-3CPK Complete with plug $4.50

Distribution Terminal Flush Socket with Balun coil. Matches 72 ohm to 300 ohm TV set input. Brown and Ivory; plug and plate included. F-3BPK similar to F-3PK $4.50

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"VEST POCKET" BEAMS

Mosley Electronics

3 ELEMENT, 20 METER ROTARY ANTENNA

"Vest Pocket" design gives excellent performance with elements ½ normal length. 7.5Db gain. Heavy duty construction. 12' x 1½" dia. aluminum boom. 7/8" & 3/4" alum. elements. Coils wound on ceramic forms with acrylic weather shield. Rated to 1 KW. Link on radiator coil matches 52 ohm line. Easy to assemble with color- coded, pre-drilled components. Pre-tuned, complete with hdwe. & instructions. 43lb.

VPA-20-3 Less rotor & mast Amateur Net. $66.37

2 ELEMENT, 20 METER "VP" ROTARY BEAM ANTENNA

MOSLEY "Vest Pocket" 2 element 20 meter Rotary Beam has the same sturdy construction as VPA20-3 above. The 2 elements are correctly proportioned to practically eliminate end-fire. Pre-tuned to 3 frequencies,14., 14.1, & 14.2mc 5Db forward gain over dipole. 20 Db Front to Back ratio. 1.2/1 swr at resonant frequency. VPA-20-2 Less coax, rotor & mast

Amateur Net. $44.73

2 ELEMENT, 40 METER "VP" ROTARY BEAM ANTENNA

MOSLEY "Vest Pocket" 2 element 40 meter Rotary Beam provides outstanding 40 meter beam performance. Heavy duty construction assures years of reliable operation. Steel element supports are factory welded to steel boom. Loading coils are precision wound and driven element coil matches 52 ohm coax line. Pre-tuned to three frequencies, 7., 7.1, 7.2 mc. 5Db forward gain over dipole. 19 Db Front to Back ratio. 1.1/1 swr at resonant freauency.

VPA-40-2 Less coax, rotor & mast Amateur Net. $74.95

"VEST POCKET" 15 & 20 METER ROTARY BEAM ANTENNA

Similar to Model VPA1020. Has 7.5Db gain on both 15 & 20 meter bands. Requires just one 52 ohm coax line. Rated to 1 KW. Easy to assemble with pre-drilled, color-coded elements. Pre-tuned. 65 lb. complete.

VPA-1520 Less coax, rotor & mast Amateur Net. $129.50

MOSLEY "TRIBANDER"

Sturdy, Efficient. Peak performance is found in this MOSLEY "TRIBANDER". Consisting of four elements, two for 20 and two for 15 & 40 meters. Pre-tuned to 7., 7.1, 7.2, 14., 14.1. & 14.2mc. Fed by one 52 ohm line, coils are precesion wound on ceramic forms and will handle a full KW. 5Db forward gain, 20Db Front to Back, 1.1/1 swr at resonant frequency. With 15' steel boom, 36' max. element lenght. Only 75 lbs. assembled.

VPA-3B Less coax, rotor & mast Amateur Net. $135.00

LOADING COILS FOR 40, 75 & 80 METER "VP" DIPOLE

Sturdy "Vest Pocket" loading coils make a high performance dipole antenna at half the length of full sized dipole. One coil for each antenna. Use 52 or 75 ohm coax. Wound with no. 12 wire on strong acrylic plastic center support bar.

40-D Amateur Net. $7.95
75/80-D Amateur Net. $7.95

3 ELEMENT, 10–15 METER "VP" ROTARY BEAM ANTENNA

A "Vest Pocket" Beam with element sections calibrated and pre-drilled so that beam can be assembled for operation on anyone of 3 bands. Easy to reset for another band. 7.5Db gain. 10' alum. boom, 13' 11½" max. element length. Mounting plate fits mast up to 2" dia. Rated 1 KW. Matches 52 ohm line. Just 24 lb. Complete with coils, hardware & instructions.

VPA-1015-3 Less coax, rotor & mast Amateur Net. $59.68

2 ELEMENT, 10–15 METER "VP" ROTARY BEAM ANTENNA

Similar in construction to above but with a 4'6" boom. 5Db gain Shpg. wt., 21 lb.

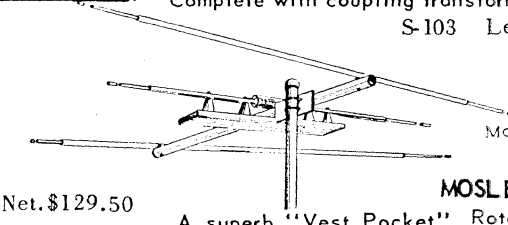
VPA-1015-2 Less coax, rotor & mast Amateur Net. $39.89

MOSLEY "SUPER-TEN"

A 3 Element, 10 Meter Rotary Beam Antenna featuring full length reflector and director parasatic elements. Radiator element shortened to permit use of transformer coupling. Provides perfect match to 52 ohm coax line. 7.9Db gain. 8'4" alum. boom, 17'3" max. element length. Weighs just 20 lb. Steel mounting plate fits mast up to 1½" OD. Rated 1 KW. Easily assembeled; pre-drilled, pre-tuned & color-coded. Complete with coupling transformer and hardware.

S-103 Less coax, rotor & mast

Amateur Net. $39.50



Model S-103

MOSLEY "TEN–TWENTY"

A superb "Vest Pocket" Rotary Beam Antenna. 2 complete 3 element beams, for 10 and 20 meter bands mounted on one 12' Aluminum boom. Both beams fed with one 52 ohm coax line. 7.5 Db gain both bands. Pre-tuned, pre-drilled, color-coded. All components calibrated. Easily assembled. Weighs only 57 lbs. Rated to 1 KW. Complete with coils & instructions.

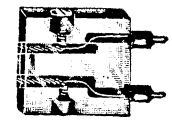
VPA-1020-2 Less, coax rotor & mast Amateur Net. $120.79

TILTING HEAD

The new MOSLEY Tilting Head permits boom to tilt into a vertical position. Fits all MOSLEY "VP" Beams and most others. Available separately or with any "Vest Pocket" beam. To order beam with Tilting Head, add (T) to model nos.

10-T Amateur Net $13.36

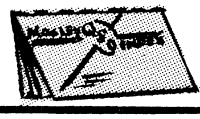
SPECIAL SMALL PIN PLUG



A handy solderless male connector to be used on Viking 11 transmitters. Plated brass pins, spaced .486" are .050" dia. Solderless with large head plated brass screws and clear polystyrene body.

301-S Amateur Net $ .18

MOSLEY " QSO" INDEX



Easy to use index for recording call letters of stations worked and their operators names. 20 pages provides space for recording thousands of stations in all U.S. call areas. Plastic ring binding, attractive cover. Full instructions for use.

Mosley QSO Index Amateur Net. $1.00

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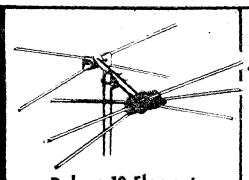
Net

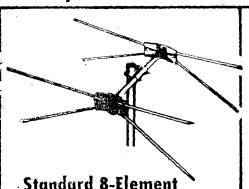
TELCO TELEVISION HARDWARE

The Most Complete Line of TV Antennas and Hardware in the Industry

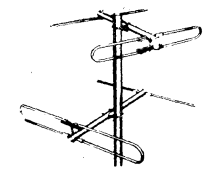
TELCO UHF-VHF TELEVISION ANTENNAS



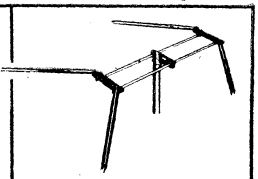
Deluxe 10-Element Conical
No. A-220 List $9.25



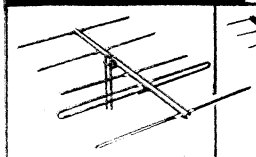
Standard 8-Element Conical
No. A-150 List $6.60



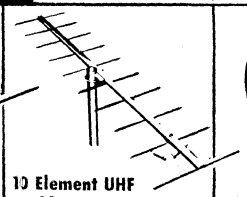
Hi-Low Dipole
No. A-250 List $8.70



Flying V
No. A-260 List $5.25

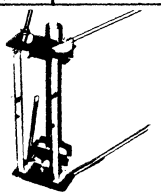


5 Element VHF Yagi
No. A-302 List $12.50

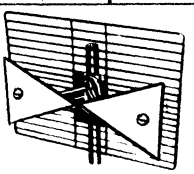


10 Element UHF Golden Yagi
No. A-320 List $5.50

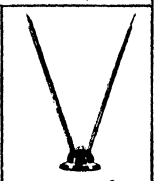
King Size Golden Halo
No. A-9020 List $8.95



Double V
No. A-9010 List $6.25



Golden Grid UHF Butterfly
No. A-8965 List $4.95



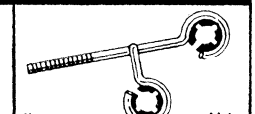
UHF-VHF Indoor RO-TO
No. A-8161 List $8.25

TELCO UHF-VHF TELEVISION STAND-OFFS

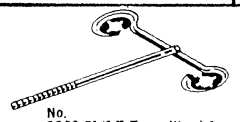
No.		List
8027	3½" Wood Screw...	$4.17C
8028	5½" Wood Screw...	8.06C
8029	7½" Wood Screw...	8.89C

No.		List
8031	3½" Machine Screw	$6.09C
8032	5½" Machine Screw	8.00C
8035	7½" Machine Screw	9.00C

No.		List
8253	3½" Kant-Strip, Mast	$0.17
8254	5½" Kant-Strip, Mast	.22
8257	7½" Kant-Strip, Mast	.23

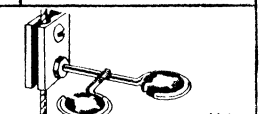


No.		List
8225	7½" Duplex Wood Screw.....	$0.25
8226	7½" Duplex, Machine Screw	.25



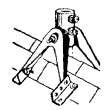
No.		List
8809	7½" T-Type, Wood Screw....	$0.29
8810	7½" T-Type, Machine Screw	.29

No.		List
8797	"Snap-On," for 1" Masts.....	$0.10
8798	"Snap-On," for 1¼" Masts...	.10



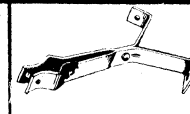
No.		List
8255	3½" Single, Guy "Wire-Grip"	$.019
8256	7½" Duplex, Guy "Wire-Grip"	.30

TELCO TELEVISION MOUNTS (Roof—Wall Chimney—Vent)

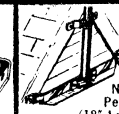


No. 9060 No-Guy Roof Mount
List $3.95

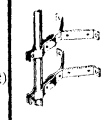
No. 8005 Chimney Quick Mount
List $2.40



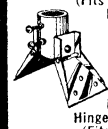
No. 8930 Snap-In Chimney Mount
List $4.25



No. **8624** Peak Mount (18" Lower Bracket) List $2.95
No. **8625** Peak Mount (30" Lower Bracket) List $3.95



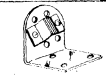
No. **8306** 6" Snap-In Wall Mount List $2.00
No. **8308** 8" Snap-In Wall Mount List $3.25



No. **9021** Hinged Ridge Mount (Fits Masts to 1½") List $1.95
No. **9022** Hinged Ridge Mount (Fits Masts to 2") List $2.75

No. 8575 All-Purpose Mast Bracket
List $2.75

No. 8800 Swing-Up Mast Mount
List $0.55

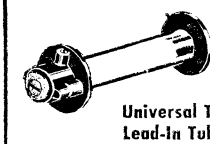


No. 8620 Any-Angle Mast Mount
List $0.55

No. 8622 Pivot Swing-Up Mount
List $0.55

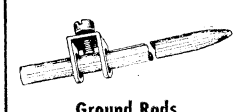
TELCO TELEVISION INSTALLATION ACCESSORIES

Universal UHF-VHF Lightning Arrestor
No. 8642 List $1.25



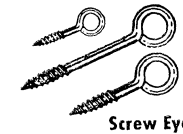
Universal TV Lead-In Tube

No.	List
8958—Brown	$1.95
8958-1—Ivory	1.95



Ground Rods

No.		List
8929	4' l. x ⅜" dia.	$1.00
9016	6' l. x ⅜" dia.	1.50
9017	8' l. x ½" dia.	3.00



Screw Eyes

No. 8078	1" long	List $0.05
No. 8342	3" long	List .10
No. 8486	5" long	List .11
No. 9027	7" long	List .15

TELEVISION HARDWARE MFG. CO. ROCKFORD, ILL., U.S.A.
DIVISION OF GENERAL CEMENT MFG. CO., ROCKFORD, ILL., U.S.A.

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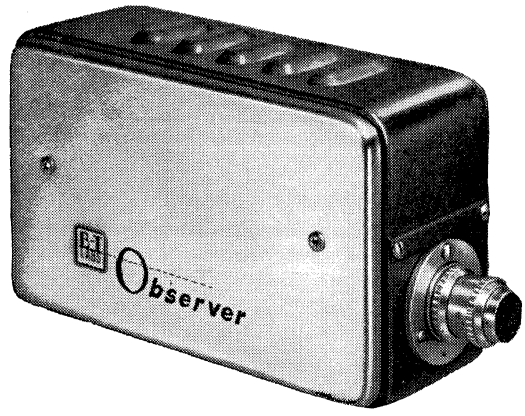
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

B-T LABS products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., Westfield, N. J.



OBSERVER

Model TVC-1

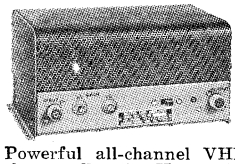
Industrial TV Camera

A new crystal-controlled camera for use in industry, education, science and other closed circuit applications. Complete unit includes Vidicon tube, coated fl.9 lens, control generator and 25 feet of control cable. The control generator may be located up to 500 feet from the camera. It provides two RF outputs and one high definition video output.

Image may be viewed on standard TV sets located up to 1/2 mile from the camera, before preamplification is required. The camera uses fully interlaced, 525-line scanning for maximum resolution. Traverse control permits camera to be focused from 2 inches to infinity.

Complete $1995.00 list

MASTERLINE TV SYSTEM COMPONENTS

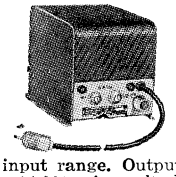


VHF AMPLIFIER

Model MLA

Powerful all-channel VHF cascode amplifier with more than 37 db gain. Has variable gain controls for equalizing high and low bands. Output on each band: 1.25 volts RMS, flat to within 2 db. Self-powered. Input and output 75-ohm coax fittings. When used with MAGC maintains constant output level.

$124.00 list

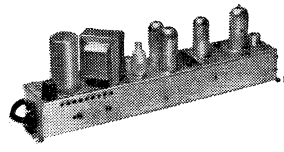


AUTOMATIC GAIN CONTROL

Model MAGC

A plug-in unit for use with MLA amplifier to maintain constant output level over 20 db input range. Output flat within 1.5 db. Effective with over 14,000 microvolts MLA input signal. Compensates for AC line variations. Input and output 75-ohm coax fittings. Obtains power from MLA.

$71.00 list



VHF SINGLE CHANNEL AMPLIFIER with AGC

Model MCS: Gain in excess of 38 db on low band and in excess of 35 db on high band. Features automatic level and manual gain controls. Has high rejection of adjacent channels. Input and output 75-ohm coax fittings. Two outputs and all-channel mixing network. Self-powered.

(specify VHF channel)

$117.50 list

VHF CONVERTER-AMPLIFIER

Model MVC: Converts a specified VHF 'high' channel to a specified VHF 'low' channel. Crystal controlled. Gain: in excess of 33 db ±½ db. Input and output 75-ohm coax fittings. Two outputs and all-channel mixing networks. Self-powered. Available on special order only.

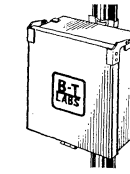
(specify input and output channels) **$300.00 list**

RADIATION-PROOF HOUSING

Model MRH-A

Weatherproof and radiationproof outdoor enclosure for master TV equipment. Has perforated mounting surface and adjustable support bracket. Maximum ventilation, front-opening sealed door and sturdy hasp. Iridite-finished, cadmium-plated steel.

$49.50 list



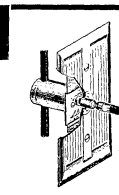
SPLICELESS CABLE TAP-OFFS

OUTDOOR TAP-OFF

Model MTO-11

Spliceless, weatherproof tap from RG-11/U cable. Uniform 17 db resistive isolation with only 0.6 db insertion loss. Lowest shunt capacity. Positive electrical protection thru blocking condenser. Supplied with installation tool.

$7.50 list



INDOOR TAP-OFF

Model MTO-59

Spliceless tap from RG-59/U cable. Uniform 17 db isolation with only 0.6 db insertion loss. All-channel reception outlet for apartments, hotels, motels, etc. Supplied with wall plate and installation tool.

$7.50 list

ISOLATED TAP-OFFS

ISOTAP PLATE

Model ISO-1B

Basic isolation network of RO1-B less plastic box. For use in standard electrical box. Supplied with wall plate.

$4.00 list

FOUR SET TAP-OFF

Model MIT-4

17 db isolation and only 0.3 db insertion loss at each outlet. Coax fittings and weatherproof housing.

$29.00 list

RESISTOR OUTLET BOX

Model RO1-B

Indoor tap-off from RG-11/U or RG-59/U line. Coax jack and plug supplied for RG-59/U TV cable. VHF and UHF isolation: 17 db with only 0.6 db loss.

$5.00 list

LINE SPLITTERS Model LS4-1, 2, 3 and 4

Model LS4-1	Four 75-ohm lines from one 75-ohm line.
Model LS4-2	Four 75-ohm lines from one 300-ohm line.
Model LS4-3	Four 300-ohm lines from one 75-ohm line.
Model LS4-4	Four 300-ohm lines from one 300-ohm line.

each $9.50 list

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B-T LABS products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., Westfield, N. J.

VHF FIELD STRENGTH METER

Model FSM-1 **54mc to 216mc**

A portable, precision instrument for accurate measurement of RF signal strength. Measures signal levels from 10 microvolts to 3.0 volts—in 10 full-scale ranges—with an accuracy of ±1.5 db. When used with B-T UHF convertor, range includes entire UHF band. Also measures percentage of AM modulation and IM distortion.

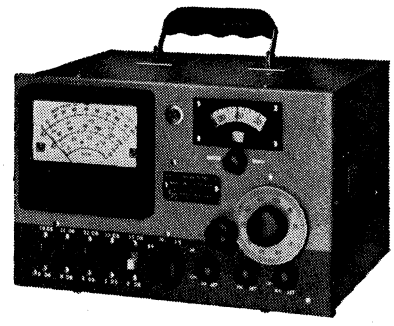
- Built-in carrying handle and special strap for field use.

Features include:

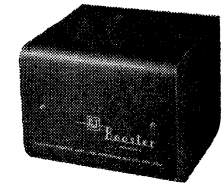
- Continuous tuning from 54mc to 216mc.
- Unaffected by temperature changes from 0° through 120° F.

Dimensions: 11¼ x 9¼ x 7¾ inches
Input Impedance: 75 ohms

$240.00 net

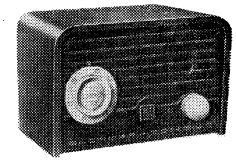


FAMOUS LINE OF ALL-CHANNEL UHF CONVERTERS AND VHF AMPLIFIERS



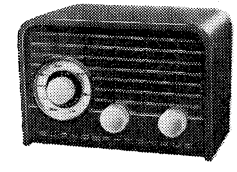
HOME BOOSTER
Model HA-3

Provides more than 16 db gain. Automatic 'on-off' operates thru TV set. No tuning. Features low-noise, push-pull, broadband circuits. Self-powered. **$47.00 list**



CLASS A Model 99

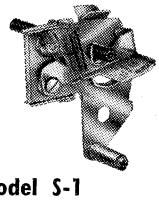
Ideal all-channel UHF converter for 'Class A' signal areas. Direct-drive ganged tuning provides precise tracking of input and oscillator. VHF output on channel 4, 5 or 6. Precise, 300-ohm impedance match. **$19.95 list**



ULTRAVERTER
Model BTU-2

Tunable, all-channel UHF converter—the most powerful in the field — with high-gain, low-noise triode amplifier. Has dual-speed channel selector. VHF output on channel 5 or 6. Automatic 'on-off' with TV. **$39.95 list**

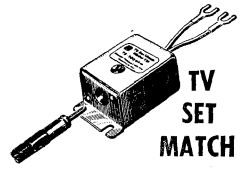
CONVENIENT EFFECTIVE TV INSTALLATION TOOLS



ROTARY CABLE STRIPPER
Model S-1

A rotary cutter and stripper of coax cable and non-metallic tubing up to ½" in diameter. Calibrated for measuring lead and shield length required. Ideal for use with B-T Cable Connectors.

$3.75 list



TV SET MATCH
Model TM

An impedance-matching transformer designed for use at the TV set to match 75-ohm cable to 300-ohm TV input. Cable plug supplied to fit jack permits easy connect and disconnect. Heavy duty output leads with spade lugs.

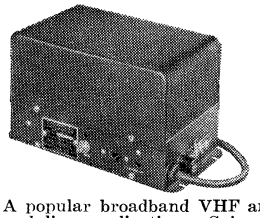
$3.25 list

2-SET COUPLER
Model TV-42

Resistive network provides 12 db isolation between two TV or FM sets fed from a single antenna. Also mixes two amplifiers or antennas. Response from 0 to 900mc.

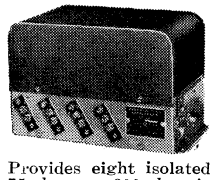
$2.95 list

ADD-A-UNIT TV SYSTEM COMPONENTS



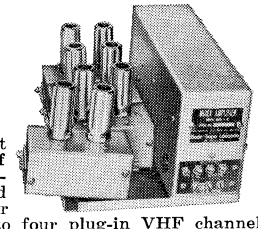
COMMERCIAL ANTENSIFIER
Model CA-1

A popular broadband VHF amplifier for antenna and line applications. Gain: 26 db on low band and 24 db on high band. Low noise circuit. 75 ohms and 300 ohms at input and output. Gain control. Self-powered. **$79.50 list**



DISTRIBUTION AMPLIFIER
Model DA8-B

Provides eight isolated TV set outlets from one 75-ohm or 300-ohm input. Each outlet handles 75-ohm or 300-ohm line, and delivers 10 db gain on all VHF channels. Gain control covers 20 db range. Self-powered. **$89.50 list**



MIXER AMPLIFIER
Model MA4-1

A versatile unit consisting of broadband mixing circuits and built-in power supply for up to four plug-in VHF channel strips or two UHF converter strips (see CS-1 and UC-1). Precise 75-ohm and 300-ohm impedance match at all terminals. May be used in series. **$64.15 list**

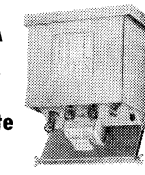
VHF CHANNEL STRIP
Model CS-1

Single channel amplifier strip for MA4-1. Gain: 20 db on low channels and 17 db on high channels. Input terminals for 75-ohm or 300-ohm line. Draws power from MA4-1.

(specify VHF channel) **$27.00 list**

UHF CONVERTER STRIP
Model UC-1

Designed for use with MA4-1. Converts a specified UHF channel to a specified VHF channel. Gain: more than 15 db. 300-ohm input. Draws power from MA4-1. **$90.00 list**



ANTENNA BOOSTER
Model AB with Remote Control

More than 25 db gain. Broadband antenna amplifier in weatherproof housing with mast-mounting bracket. Remote control power supply may be located near set. Furnishes either 24 or 110 volts to amplifier, as desired. Matched 300-ohm input and output terminals on both units. Single line carries power 'up' and signal 'down'. 'On-off' is automatic with TV set.

$95.00 list

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B-T LABS products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., Westfield, N. J.

'EXACT-MATCH' TV ACCESSORIES

BALUN

Model MB

Precise impedance match between 75-ohm coax and 300-ohm antenna line. Has 75-ohm coax fitting and 300-ohm screw terminals. Weather-protected.

$8.00 list

DUPLEXERS

Pair remotely controls TV amplifiers or permits two-way audio or AM transmission. One line for VHF TV, plus AC, AM or audio (0 to 2 mc). Weather-protected.

Model MDX-300 (300 ohms) pair **$22.50 list**

Model MDX-75 (75 ohms) pair **$25.00 list**

LOW-BAND EQUALIZER

Model ME-2

Graduated attenuation from 9 db on Channel 2 to less than 1 db on Channel 6. Balances signals through 2000 ft. of RG-11/U or 1000 ft. of RG-59/U. 75-ohm coax fittings, in and out. Weather-protected.

$15.00 list

DIRECTIONAL COUPLER

Model MDC-2

Two isolated outlets for TV sets or branch lines. Only 3 db forward loss. Minimum isolation: 14 db. One 75-ohm input and two 75-ohm output fittings. Weather-protected.

$13.00 list

FM WAVE TRAP

Model MWT-1

Eliminates FM interference at the antenna, in the line or at the TV set. Attenuates any FM channel more than 25 db. 75-ohm coax fittings. Weather-protected.

$23.00 list

POWER LINE FILTER

Model MLF

Provides 60 db RF isolation between amplifier and power line. Two AC power outlets, one power cable input connector. Mounts in MRH-A.

$16.65 list

DIRECTIONAL COUPLER

Model MDC-4

Four isolated outlets for TV sets or branch lines. Only 6 db forward loss. Minimum isolation: 20 db. One 75-ohm input and four 75-ohm output fittings. Weather-protected.

$26.00 list

ALL-CHANNEL EQUALIZER

Model ME-1

Graduated attenuation from 17 db on Channel 2 to 1 db on Channel 13. Balances signals through 1000 ft. of RG-11/U or 500 ft. of RG-59/U. 75-ohm coax fittings, in and out. Weather-protected.

$15.50 list

VHF ATTENUATOR

Model MAT

Uniform all-channel attenuation from 0 to 45 db in steps of 3 db. 75-ohm coax fittings, in and out.

$22.50 list

B-T LABS CABLE CONNECTORS

CABLE COUPLER

Model MC

Correct 75-ohm match in splicing, adapting or terminating RG-11/U and/or RG-59/U cable. Thru-connection for Model MRH-A. Used with B-T Connectors and Terminating Plug. **$2.50 list**

TERMINATING PLUG

Model MTP-75

Correctly terminates cable fitted with Model MC Cable Coupler. **$2.50 list**

NEW SOLDERLESS CONNECTORS

Model P-11S

Matched 75-ohm male fitting for use with RG-11/U size cable. **each $1.30 list**

Model P-59S

Matched 75-ohm male fitting for use with RG-59/U size cable. **each $1.30 list**

COMING SOON

A Complete Line of Closed Circuit TV, Master TV and Industrial TV Equipment . . . including:

PROJECTION TV

VIDEO MONITORS

Write for detailed information on B-T products — or for free, expert sales engineering services to assist you in planning any master TV or industrial TV system.

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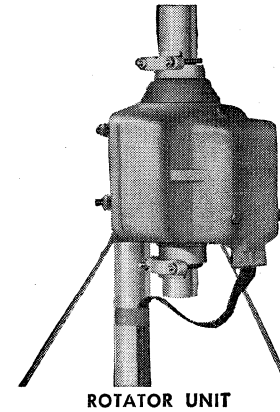
ALLIANCE TV PRODUCTS

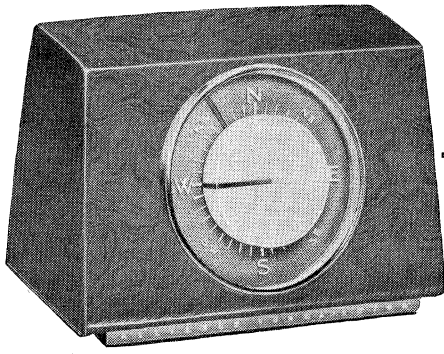
ALLIANCE TENNA-ROTORS

ALLIANCE TENNA-ROTOR

The Alliance Tenna-Rotor, available in three models illustrated below, is a TV or FM antenna rotator. Designed to rotate all conventional type antennas. It consists of a fully enclosed electrically driven rotor into which the antenna center-post is clamped. Four-conductor "zip" cable connects rotator with plastic control case placed near receiver, which plugs into any 60 cycle 110-volt AC house circuit. A selector switch controls rotation clockwise or counter-clockwise to point antenna in any direction for optimum reception.



ROTATOR UNIT



Most Widely Advertised Rotator on the Market

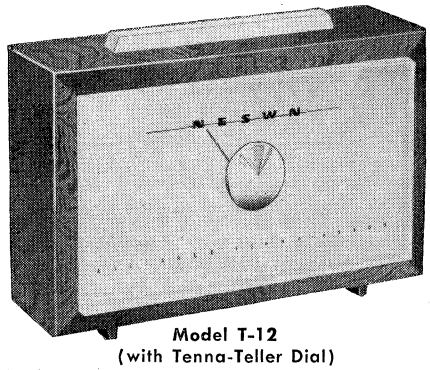
Model U-98 Automatic
Available in Forest Green, Ivory and Mahogany Grain. **List Price** **$39.95**

FULLY AUTOMATIC MODEL U-98

"SET IT AND FORGET IT"

The first and finest fully automatic rotator on the market.
BEAUTIFUL NEW DECORATOR MODELS!
New Colors—Forest Green, Ivory, as well as Standard Mahogany.

Simply set the pointer—antenna automatically turns by itself and stops at the direction shown on the indicator dial. New styling plus the exclusive automatic feature makes Model U-98 the ultimate in rotators!



Model T-12
(with Tenna-Teller Dial)
Available in Forest Green, Ivory and Mahogany Grain. **List Price** **$29.95**

MODEL T-12

WITH EXCLUSIVE TENNA-TELLER DIRECTION INDICATOR

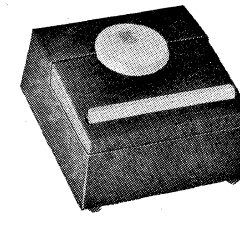
This finger-tip electrically driven and manually operated Alliance Tenna-Rotor is noted for extreme accuracy, compactness and smart styling. The "Tenna-Teller" indicator dial shows the exact compass direction to which the antenna is pointed and gives a constant reading.

Both new model Alliance Tenna-Rotors, the U-98 automatic and the T-12 have many new and advanced features of design which include increased speed of rotation and incorporate 32 distinct improvements.

The new rotator unit has double-action, magnetic anti-drift brake, plus smoother synchronization with control units. All Alliance Tenna-Rotors are pre-sold through television advertising, which is continuous and nationwide!

MODEL K22

New, lowest-priced rotator in the field, Alliance Model K-22 Tenna-Rotor features a fingertip control bar. When pressed on one end the antenna rotates in one direction, reverses when other end is depressed. Center disc signal light indicates when limit of travel is reached. Neat, compact, modern design; product of Alliance high-standard precision manufacturing. Fully guaranteed.



Model K-22
Standard Color Only
List Price **$19.95**

THE ALLIANCE MANUFACTURING COMPANY, INC. • Alliance, Ohio

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ALLIANCE TV AND ELECTRONIC PRODUCTS

ALLIANCE TENNA-ROTORS • ALLIANCE LIFT-A-DOR GARAGE DOOR OPERATOR

ALLIANCE LIFT-A-DOR

Radio-Controlled Garage Door Operators

The first quality, low-cost, automatic garage door operator!

Alliance Lift-A-Dor opens, closes, locks garage door, turns light on and off automatically! Now available in radio-controlled models (fully automatic), and key-lock switch models (semi-automatic).

Alliance Lift-A-Dors operate on all standard one-piece and sectional overhead garage doors. The "Genie" radio models are activated from the car dash and by a radio transmitter installed under the car hood.

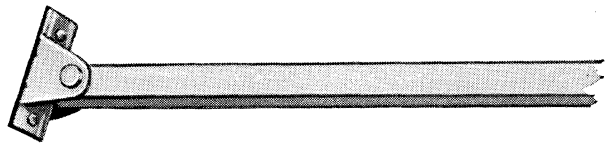
"Genie" key lock models are operated by turning a key mounted in a lock-switch installed along the driveway.

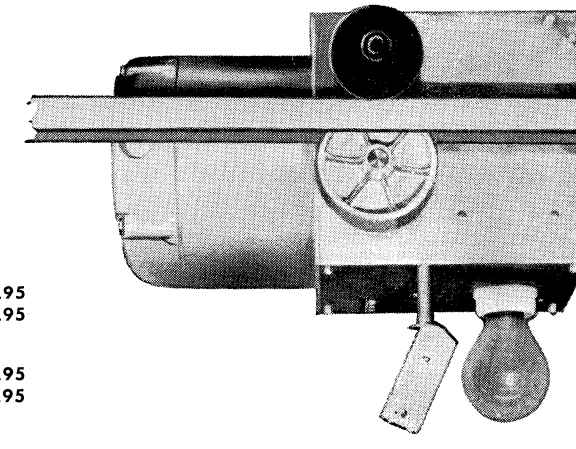
Alliance Lift-A-Dors incorporate special safety features — a safety clutch which automatically stops the door if it strikes an object while operating and which automatically reverses direction of door's travel the next time operator is activated.

Special Alliance "wobbulator" assures instant stop and saves motor wear.

Alliance Lift-A-Dor is easily and quickly installed. Comes complete with necessary mounting brackets. Works on standard house circuits.

ADVERTISED NATIONALLY ON TELEVISION and in LIFE, SATURDAY EVENING POST, BETTER HOMES & GARDENS AND HOUSE BEAUTIFUL.





"Genie" LIFT-A-DOR

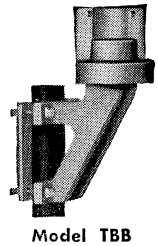
RADIO CONTROLLED MODELS

"Genie" RCST-1 (solid doors)	$179.95
"Genie" RCCT-1 (sectional doors)	$189.95

KEY LOCK MODELS

"Genie" KST-1 (solid doors)	$79.95
"Genie" KCT-1 (sectional doors)	$89.95

ALL PRICES PLUS INSTALLATION



Model TBB
List Price...$4.95

ALLIANCE THRUST BEARING BRACKET

The Alliance Thrust Bearing Bracket, accessory to Alliance Tenna-Rotor, is made to provide added support for all heavier conventional type antennas. Used with Alliance Tenna-Rotor, it makes an ideal installation. Especially suited for multibay and stacked array antenna types. The Thrust Bearing takes the weight off the rotor unit and transfers it to the ground. It assures extra rigid support and maximum resistance to high winds.

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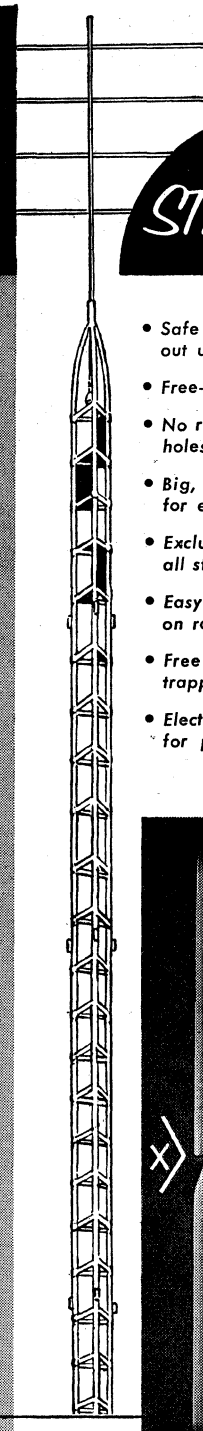
Kuehne
RADIO-TV TOWERS

A TOWER OF *STRENGTH*



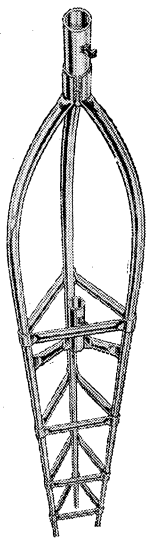
- *Safe in gales up to 80 mph without ugly, hazardous guy wires.*
- *Free-standing to 50 feet high.*
- *No rusting, ripping or weakening holes . . . safest by far!*
- *Big, husky, steel gird-around ties for extra strength.*
- *Exclusive lateral load bearers take all strain off joints.*
- *Easy installation and dismantling on roof or ground.*
- *Free-drainage joints prevent trapped moisture and corrosion.*
- *Electro-plated with durable zinc for permanent high-luster finish.*

2 GREAT PACKAGES

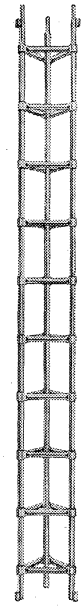
40 ft. Tower *Includes:* 1 #750-J; 1 #751-H; 2 #760-H tower sections and all connecting hardware. Shipping wt. 126 lbs. Order concrete base or roof mount separately.

50 ft. Tower *Includes:* 1 #750-J; 1 #751-H; 2 #760-H and 1 #761-H tower sections; all connecting hardware. Shipping wt. 164 lbs. Order concrete base or roof mount separately.

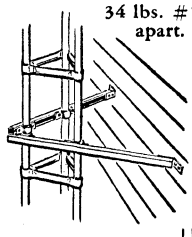
. . plus sections and accessories as you need 'em



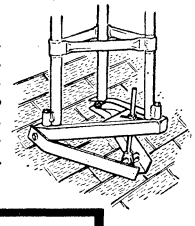
#750-J Top Section. Equipped with 21" spaced mast socket rings to take 1½" dia. mast. Threaded external receptacle securely welded to each ring gives extra bearing for 2" x ½" set screw. Hi-tensile bolts, washers, hex nuts and set screws furnished. Over-all length 10 ft. Wt. 28 lbs.



#761-H Straight Section. Used as bottom of free-standing 50 ft. tower and in other applications. Legs of 16 ga. cold rolled steel triangularly spaced on 10⅞" centers. Gird-around cross ties spaced at 12" intervals. Over-all length 10 ft. Complete with hardware 38 lbs. *#760-H.* Same quality, but cross ties are spaced at 15" intervals. Wt. 34 lbs. *#751-H.* Cross ties spaced 20" apart. Wt. 30 lbs.



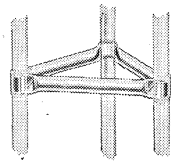
#764-H Wall or Roof Bracket. Adjustable to 20". Thick live-rubber cushions inside heavy steel U-straps grip tower legs firmly. Wt. per pair 9 lbs.



#763-H Roof Mount. Assures a strong, accurately vertical installation of one or more tower sections. Adjusts up to 45° roof pitch. Takes full advantage of Kuehne's lateral load support. Wt. 8 lbs.

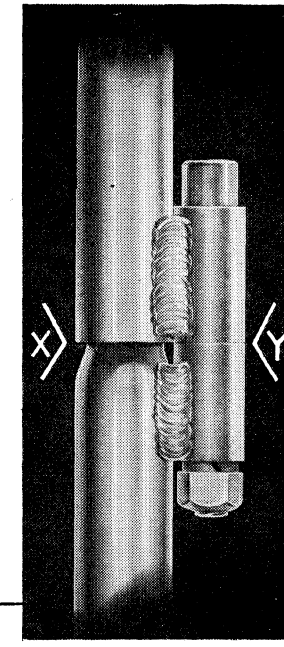
#752 "Gin Pole". For easy tower assembly. Has 1¼" heavy-duty steel tubing with powerful strap-steel grab brackets. Fits all tower sections. With forged ring and iron pulley. Length 12 ft. Wt.. 18 lbs.

Gird-Around Cross Ties Originated by KUEHNE



Bigger, safer, stronger. Actually *grip around* vertical tubing. Take all outward strain. The tower itself takes none. Pioneered by Kuehne!

#762-H. Concrete base mount. The recommended installation.
#757-F. Mast 10 ft. x 1¼" O. D.
#759-F. Mast 14 ft. x 1¼" O. D.
#765-H. Rotor post brackets—adjustable.
#766-H. Tower mast bushing. 1¼" I. D. 1½" O. D.
#767-H. Base plate for drive-in base.



Exclusive! LATERAL LOAD BEARERS

No dangerous rust. Arrow (X) shows open joint section. Assures free drainage and ventilation, less corrosion. * * * *No hazardous holes.* Arrow (Y) shows lateral load bearers lifetime welded to side of each section leg with twin 1⅛" fillets. Sections are bolted vertically. Bear 100% of the load. No load on joints. No horizontal bolts to tear through. Nothing safer. Only Kuehne has it!

KUEHNE MFG. CO. • TOWER DIVISION • MATTOON, ILLINOIS

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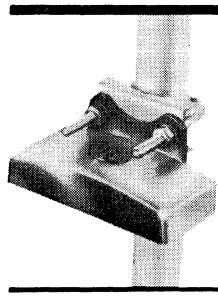
JFD SERVICE SAVERS

Save Servicemen Time and Money! Insure Customer Satisfaction!

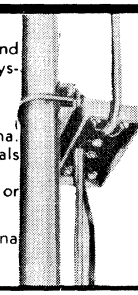


OUTDOOR ANTENNA COUPLERS

No. **AC10** Joins any **High** and **Low** band **VHF** antenna into a single system using one down-lead.

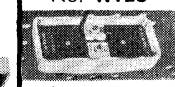
No. **AC20** Joins any all-channel **VHF** antenna to any **UHF** antenna. DIVIDES VHF and UHF signals where individual terminals are provided at the TV set or converter.

No. **AC30** Joins any **Hi-Lo VHF** antenna to any **UHF** antenna.



INTERFERENCE ELIMINATORS

No. **WT26**



Eliminates interference caused by adjacent channel "spill-over," "ham," etc. on channels **2 to 6.**

No. **WT713**

Gets rid of **interference** caused by adjacent channel "spill-over," "ham," diathermy, etc. on **channels 7 to 13.**

No. **HP50 LO-FREQ.**

Filters out all TV interference below **50 mc,** caused by "hams," diathermy, industry, etc. Mounts back of set.

No. **AC40 OUTDOOR 2-SET TV COUPLER**

Completely weather-proofed. Encapsulated in water-proof col-plast. Joins **2 sets** to any 300 ohm antenna.

No. **AC60 OUTDOOR 3-SET TV COUPLER**

Completely weather-proofed. Encapsulated in water-proof col-plast. Joins **3 sets** to any 300 ohm antenna.

No. **AC70 OUTDOOR 4-SET TV COUPLER**

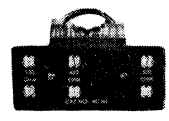
Low-loss balanced resistance network. Joins **4 sets** to any 300 ohm antenna.

OUTDOOR IMPEDANCE MATCHING TRANSFORMERS

No. **AC50**

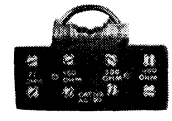
Matches **72** ohm to **300** ohm impedance. Sealed in water-proof col-plast. Maximum signal transfer.

No. **AC80**



Matches **150-300-450** ohm impedances. Encapsulated in water-proof col-plast. Maximum signal transfer.

No. **AC90**



Matches **72-150-300-450** ohm impedances. Encapsulated in water-proof col-plast. Ultra low-loss design.

LINE VOLTAGE REGULATORS

Minimizes 110 AC or DC line **voltage fluctuations.** Protects picture tube and other tubes from damage. Recommended for use with all TV set makes.

JFD TV LINE VOLTAGE REGULATORS

No.	WATTS	SIZE TV TUBE
94-4	200	7"
94-5	250	9" - 10"
93-7	300	12" - 16"
93-8	375	16" - 24"

OTHER JFD LINE VOLTAGE REGULATORS FOR 110V AC-DC RADIO AND ELECTRICAL APPLIANCES

No.	WATTS
93-1	50
93-2	100
93-3	150
93-4	175
93-6	100 (220 V)

No. **TT2 TELE-TWIN 2-SET COUPLER**

Distributes signals from **one** 300 ohm antenna to **two** 300 ohm **sets** or four 72 ohm antenna.

No. **SC2 UHF-VHF 2- SET COUPLER**

Joins **two** 300 ohm receivers to **one** 300 ohm antenna array.

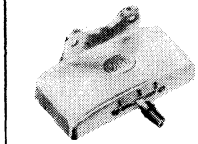
No. **TC2 2-SET COUPLER WITH UL ARRESTER**

Couples **two** 300 ohm receivers to **one** 300 ohm antenna. Complete with JFD UL-approved No. AT105 Lightning Arrester.

No. **RA2 TELE-PLEX 2-SET COUPLER**

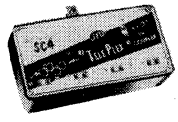
Joins any **2** TV sets to **1** antenna. Accommodates any flat or tubular lead-in for 300 ohm impedance match.

AS1 BAT-HANDLE ANTENNA SWITCH



Switches your set to any one of **3 antennas,** quick as a wink. Mounts out of sight on back of set.

No. **SC4 UHF-VHF 4- SET COUPLER**

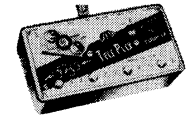


Operates **three** or **four** 300 ohm sets from one 300 ohm antenna. Low-loss bifilar coil internal cross-over network.

No. **TC4 4-SET COUPLER WITH UL ARRESTER**

Joins **three** or **four** 300 ohm receivers to one 300 ohm antenna. Includes built-in JFD UL-approved No. AT105 Lightning Arrester.

No. **TC4-72 4-SET 72 OHM COUPLER WITH UL ARRESTER**



4-set coupler for 300 ohm antenna and 72 ohm receivers. Complete with JFD UL No. AT105 Lightning Arrester.

AS3 3-WAY ANTENNA SWITCH

Provides instant low-loss **switching** to desired antenna in **2** and **3** antenna installation.

AS4 4-WAY ANTENNA SWITCH

Quick, low-loss **switching** to any antenna in multiple **4**-array installation.

Write for your free copy of the 40 page Television Accessory Almanac No. 600.

JFD MANUFACTURING CO., Inc. • Brooklyn 4, N. Y.

JFD INTERNATIONAL DIVISION: 15 Moore Street, N.Y.C.

JFD CANADIAN DIVISION: 51 McCormack Street, Toronto 14, Ontario

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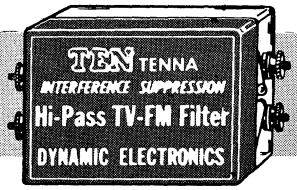
PRECISION ENGINEERED BY

Dynamic ELECTRONICS

FOR BETTER RECEPTION

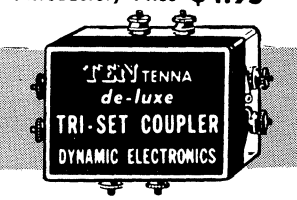
TELEVISION & FM ACCESSORIES
Tested and specifications certified by New York Testing Laboratories, Inc.



Guaranteed complete suppression and elimination of disturbances in antenna system caused by ignition, diathermy, X-ray, industrial RF. appliances, fluorescence, neon, and transmitters.

- Passes all frequencies above 40 mc.
- Rejects all frequencies below 40 mc.

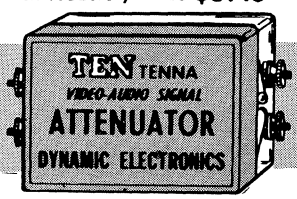
Model No. T121 List $6.00
Introductory Price $4.95



For highly efficient operation of any combination of 2 or 3 TV sets or FM Receivers from 1 Antenna of any type absolutely no interaction.

- Less than 6 db insertion loss
- 40 to 50 db rejection ratio

Model No T130 List $7.50
Introductory Price $5.45



Assures removal of overload in strong signal areas . . . will improve and remedy faulty AGC circuits in TV and FM Receivers regardless of cause

- Eliminates ghosts and image tearing
- Reduces audio and video distortion.

Model No. T115 List $6.00
Introductory Price $4.95

Designed especially for use with Tape, Wire and Disc Recorders & Play Backs, HIGH FIDELITY, PHONOS, AMPLIFIERS, FM & AM TUNERS and TELEVISION RECEIVERS
Guaranteed elimination of noise picked up thru the line caused by motors, ignition, neon, diathermy, lighting & heating equipment, transmitters and electrical appliances.

- **DUAL FILTER ACTION**
- **PASSES ALL FREQUENCIES ABOVE 10 KC**
- **AUTOMATIC ATTENUATION ABOVE 10 KC**

Model No. DF200 List $9.50
Introductory Price $6.95

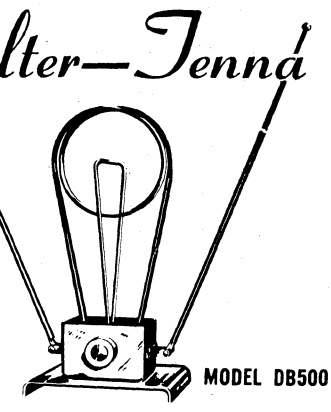
TELEVISION • FM • HI-FI • ACCESSORIES

The DYNAMIC Filter—Tenna

DECORATOR DESIGNED
- **SATIN BRASS FINISH**
- **SATIN COPPER FINISH**
- **SATIN CHROME FINISH**

HIGHLY POLISHED . . WEIGHTED TIP PROOF & SCRATCHPROOF BASE

THE ONLY ANTENNA WITH THIS BUILT-IN HI-PASS FILTER . . . COMPLETE INTERFERENCE SUPPRESSION — REJECTS ELECTRICAL DISTURBANCES. STRONGEST POSSIBLE SIGNAL STRENGTH

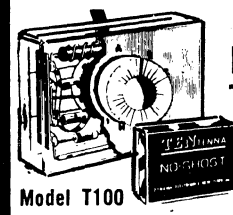


MODEL DB500

THE MOST BEAUTIFUL INDOOR ANTENNA EVER DEVELOPED

- **ELIMINATES GHOSTS & FUZZ**
- **SHARP FOCUS RECEPTION**
- **EXCELLENT FOR FM & HI-FI**
- **FOR BLK. & WHITE AND COLOR TV**
- **VARIABLE ATTENUATION CONTROL**
- **HIGH GAIN PHASING ELEMENTS**
- **HI-PASS FILTERED SIGNAL**
- **ALL CHANNELS 2-83, VHF-UHF**

GUARANTEED TO OUTPERFORM ALL OTHERS OR MONEY BACK: LIST **$18.95**



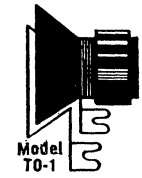
NO GHOST ELECTRONIC TV ANTENNA

FOR VHF — UHF COLOR TV AND AM-FM RADIO

Model T100

Eliminates Ghosts — Snow — Drift — Fuzz — Flutter and Interference. Contains variable tuning circuits with calibrated visual indicator Its ten position circuit is intended by a process of matching, mismatching or damping to serve to resonate the impact circuit to bring in the strongest, clearest signal and to trap out unwanted electrical interferences. Eliminates rabbit ear antennas. Operates independently as an indoor antenna; in conjunction with roof antennas or any existing antennas. Concealed anywhere.

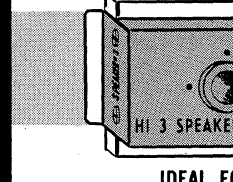
List $7.95 **PROMOTIONAL PRICE $4.95**



Model TO-1

TWIN OGYRO INVISIBLE INDOOR ANTENNA

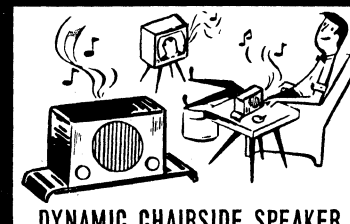
A REMARKABLE **ECONOMY** INDOOR ANTENNA FOR ANY TV OR FM RADIO
Invisible Twin Ogyro is designed for indoor use, has twin dipoles of "CEROC" specially processed Hi gain wire. Blister-Pak on 4 color display card — 12 cards to a pkg., 8 dz. to a master carton.
Self Service Display Rack Free List **$1.00**



IDEAL FOR TEMPORARY OR PERMANENT SPEAKER COUPLING AND COMPARISON CHECKS AN UNUSUALLY DESIRABLE ACCESSORY
Designed in a precise compact unit to permit the coupling of up to 3 speakers from a single audio or amplifier output.

- **VARIABLE SELECTOR SWITCH**
- **CHOICE OF ANY SPEAKER**
- **IMPEDANCE MATCHING INSTRUCTIONS**

Model DS77 List $5.00
Introductory Price $3.95



DYNAMIC CHAIRSIDE SPEAKER

The most beautiful remote speaker and sound control combination unit ever manufactured—this miniaturized speaker and enclosure can be extended to any point of convenience . Easy to install . . becomes your own personal speaker . . . with selector switch to choose either speaker or both . . Self contained volume control.
Designed for use with any TV, Hi-Fi, phono, amplifier or radio.

- **Excellent Tone with Hi-Fi Presence**
- **Eliminates Disturbing Others**
- **Control Volume & Select Speaker from Your Chair**
- **Blasting Commercials Controlled**

Equipped with 20 Ft. of Connecting Cable

- **Satin Brass, Satin Copper or Satin Chrome Finish**

Model DS90 List $14.95

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ENGINEERS-MANUFACTURERS-OF QUALITY IN ELECTRONICS

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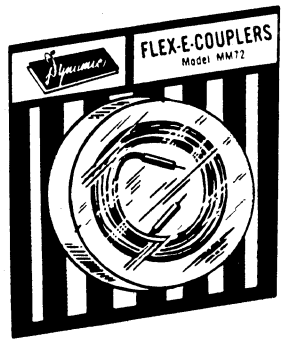
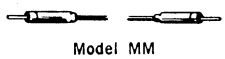
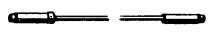
ELECTRONIC COMPONENTS · HARDWARE

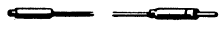


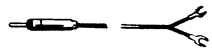
DYNAMIC "GOLD-DOT" FLEX-E-COUPLERS

Stock and display the finest and most distinctive line of shielded and insulated connecting cables, jumper cords and feed thru couplers. . . .
Engineered for fast temporary or permanent noise free and positive couplings for audio amplifiers, pre-amps, phonos, records changers, recorders, radios, tuners and all Hi-Fi requirements.
Precision made of the finest shielded low-capacity cable with insulated shield covered connectors finished in our polished "Gold-Dot" plate . . . individually mounted on beautiful transparent blister-pak 3 color 5" x 6" cards and handsome self service counter racks.


Model MM


Model FF


Model FM


Model MS

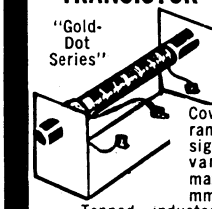
Model	Description	List
MM18–18"	Cable-Pin Plug Both Ends	$1.25
MM36–36"	Cable-Pin Plug Both Ends	1.50
MM72–72"	Cable-Pin Plug Both Ends	1.75
FF18 –18"	Cable-Pin Jack Both Ends	1.50
FF36 –36"	Cable-Pin Jack Both Ends	1.75
FF72 –72"	Cable-Pin Jack Both Ends	2.00
FM18 –18"	Cable-Pin Jack One End, Pin Plug Other End	1.40
FM36 –36"	Cable-Pin Jack One End, Pin Plug Other End	1.65
FM72 –72"	Cable-Pin Jack One End, Pin Plug Other End	1.90
MS18 –18"	Cable-Pin Plug One End, 2 Spade Lugs Other End	1.50
MS36 –36"	Cable-Pin Plug One End, 2 Spade Lugs Other End	1.75
MS72 –72"	Cable-Pin Plug One End, 2 Spade Lugs Other End	2.00

PRECISION ENGINEERED BY

Dynamic ELECTRONICS

FOR BETTER RECEPTION

TRANSISTOR LOOP ANTENNA



Specifically Engineered Fixed Inductance Loop. Powerful Signal Strength to First Stage. Heavy ½" Ferrite Rod

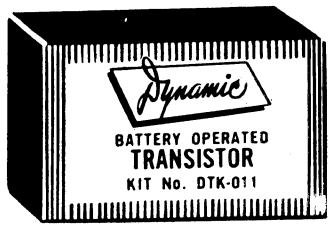
Covers complete broadcast range 540-1650 kc — Designed to be used with variable condenser with maximum capacity of 365 mmfd. — .... Tapped inductor to match input impedance of 600 ohm. Individually boxed complete with mount only 4½" long

FOR ENGINEERS — EXPERIMENTERS KIT BUILDERS **Model DTL700** **List $2.50**

ANTENNA MATCHING "BALUN" COILS

Dual wound — for matching impedance raio of 4:1 — Can be used to match 75 to 300 ohms — Replacement for RCA, Philco, Motorola and others — For use in all types of multiple set couplers. Must be used in sets of 2 for each network.

GREEN PLASTIC COIL FORM "GOLD-DOT SERIES" Model DC20 List **$1.95** per pair



DYNAMIC TRANSISTOR KITS

MINIATURIZED EXPERIMENTAL BATTERY OPERATED TRANSISTOR KITS

Complete with Transistor, Germanium Diode, Amplifier, Tuner, Hi-Gain Transistor Ferrite Loop, Power Supply and Miniature Crystal Earphone . . . the ultimate in low drain, long life battery circuit with maximum efficiency. . . . Simple instructions complete with all hardware and accessories.

Model DTK-011
List $19.95
Model DTK-020
Includes Plus Power Dynamic Earphone and Metal Cabinet
List $29.95

KITS TO YOUR SPECIFICATIONS

We are prepared to design, fabricate and assemble kits for any purpose, such as receivers, amplifiers, test equipment, etc., on a quantity basis to fit your requirements. — For schools, institutions, industrial and distributor trade.

COMPLETELY INSULATED ALLIGATOR CLIP

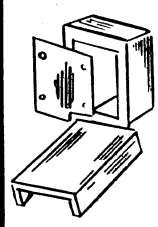
Model TE-911 **List 80¢ ea.**
AVAILABLE IN RED & BLACK "GOLD-DOT SERIES"

A precision designed Alligator Clip for the exacting engineer or technician — Ideal for the shop or lab . . . Fully insulated with molded plastic—positive protection against shock.
No soldering required, simply insert standard test lead prod into spring in neck of clip for positive connection.

SPECIAL ENGINEERING SERVICES DIVISIONS

METAL FABRICATION

TO YOUR SPECIFICATIONS



Our complete metal department including design and production engineers are at your disposal — for sub-contract orders — industrial or military.

All Metals Gauges and Finishes

Estimates Given on Large or Small Runs
Racks - Panels
Cabinets - Tops
Chassis - Bases
Plates - Shock Mounts
Drawers - Boxes
Cases - Handles
Grilles - Cans
Flanges - Angles -
Brackets - Shelves
Sub-Assemblies
Component Parts

PRECISION RF FILTERS

Low Pass - High Pass - Band Pass

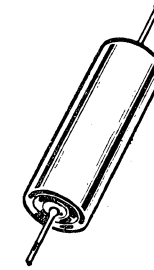
HF, VHF, UHF and Microwave
TO YOUR SPECIFICATIONS
- **MINIATURIZED**
- **HIGH TEMP.**
- **PASS ALL MILITARY ENVIRONMENTS**

NOISE SUPPRESSON FILTERS

To Enable Your Equipment to Meet MIL and FCC Specifications

Our engineering, design and manufacturing facilities can solve your filter problems. Noise measurement facilities and staff available at our plant on daily basis — also field engineering services.

DELAY LINES



Fixed and Variable Custom Designed for Your Special Application for Industrial, Military and Laboratory Use.

- **LUMPED CONSTANT**
- **DISTRIBUTED**
- **MINIATURIZED**

To Your Specifications For Computers — Radar — Color TV
Sub-Contract Facilities Available
Study Contracts Accepted
Your Inquiry for Estimates Invited

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RESEARCH-DEVELOPMENT AND METAL FABRICATION

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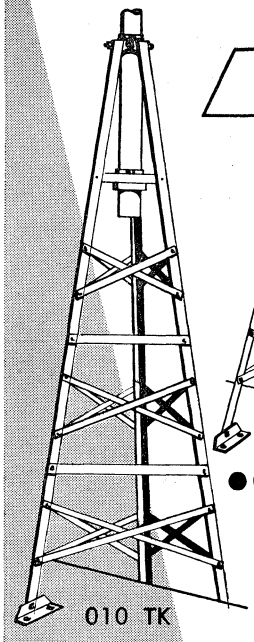
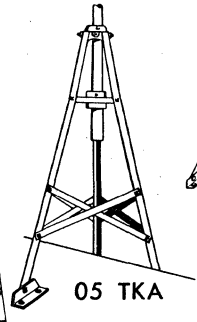
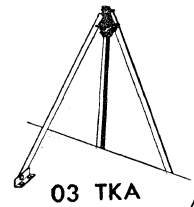
BAKER *TV Towers-Masts-Roof Mounts*

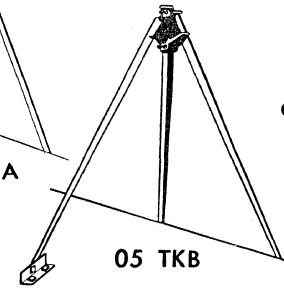


TOWERS

All steel parts heavily galvanized. Major assembly done at factory. Folded flat for shipment and convenient storage. Fit any pitch roof.

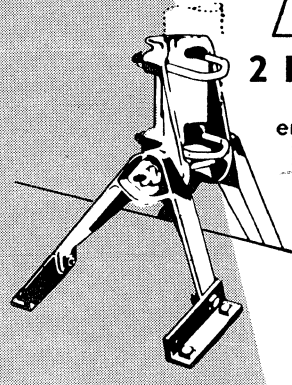






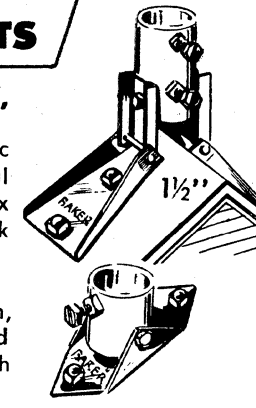
No.	Height	Rafter Spacing	Spread	Wt.
010 TK	10′	16″	29″	47
05 TKA	5′	16″	32″	25
05 TKB	5′	12″, 16″ or 24″	48″	25
03 TKA	3′	16″	32″	12

ROOF MOUNTS



2 FM Fits any pitch roof Double rock-up makes erection easy—one man job. Snaps into vertical position. Holds up to 1¾″ mast.

LOW COST ROOF MOUNTS



11 FM 2″ & 12 FM 1½″
Heavy construction, zinc plated. Locks into vertical position. Slotted-hex headed bolts with lock nuts.

10 FM Heavy construction, zinc plated. Slotted hex-headed bolts with lock nut.

No.	Mast Size	Wt. Lbs.
2 FM	1¾″	67 (15 per ctn.)
10 FM	1½″	40 (50 per ctn.)
11 FM	2″	51 (25 per ctn.)
12 FM	1½″	43 (25 per ctn.)

PLATED GUY WASHERS

110 AM - 1¼″
120 AM - 1½″
Heavy duty guy washers for 3 or 4 guys. Zinc plated. Can be used with standard thimbles.

FITTED END MASTS

Constructed of GENUINE long lasting J & L Perma-tube. Light, strong and rigid. For masts over 10′ high the J & L Fitted Joint takes only a few seconds to join.

No.	Wt.	
15 AM	120 (14 per ctn.)	1¼″ x 10′ 16 gauge
19 AM	107 (10 per ctn.)	1½″ x 10′ 16 gauge
7 AM	90 (28 per ctn.)	1¼″ x 5′ 18 gauge
16 AM	90 (14 per ctn.)	1¼″ x 10′ 18 gauge

Television EVANSVILLE BAKER WISCONSIN *Products*

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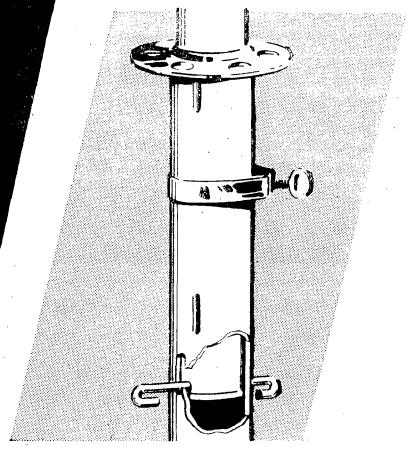
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

BAKER TV Towers-Masts-Roof Mounts

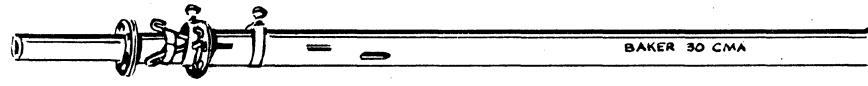


TELESCOPING MASTS

Constructed of 16 gauge high strength tubing for lasting service and strength. Strong vibration free 6" joint. Sections stop automatically when fully extended and will not pull out. Large free-floating guy washer does not bind during installation. Positioning pin prevents sections from slipping or turning in wind. Stainless steel mast clamps hold section in any position.

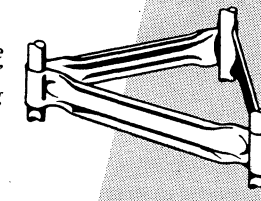
Completely assembled for immediate installation.

No.	Height	Wt.
20 CMA	20'	19 lbs.
30 CMA	30'	31 lbs.
40 CMA	40'	41 lbs.



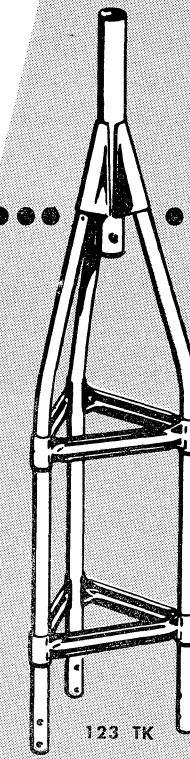
SELF SUPPORTING TOWER

Features the "Magic Triangle" for outstanding strength.



120 TK Heavy Duty All Steel construction completely hot dipped galvanized. Self supporting to 50' or guyed to 120' Inter-locking joints. Easy to climb.

No.	Description	Wt.
121 TK	Section 10' length	35 lbs.
122 TK	Top Section 10' length	36 lbs.
123 TK	Top Section 5' length	15 lbs.
124 TK	Short Base Section 3½' length	11 lbs.



120 TK TOWER ACCESSORIES

TK 701	Rotor Post
TK 702	Erection Fixture
TK 703	Erection Fixture—Alum. Fits all models with 1" side rails.
TK 704	Flat Roof Mount
TK 705	Peak Roof Mount
TK 706	Adjustable house bracket—up to 15"
TK 707	Adjustable house bracket—15" to 24"
TK 708	Adjustable house bracket—24" to 36"
TK 709	Eave bracket—15"
TK 710	Eave bracket—24"
TK 711	Base plate
TK 712	4' Drive rods—set of 3
TK 713	Driving tool
TK 714	Cantilever Guy Bracket
TK 715	Guy Bracket assembly
TK 716	Torque Bar for Guy Bracket
TK 717	Side Arm Mount
TK 718	Tower Bushing 1¼" I.D. x 2" O.D.
TK 719	Set (6) Assembly Bolts (for attaching tower sections together)

Television EVANSVILLE BAKER WISCONSIN Products

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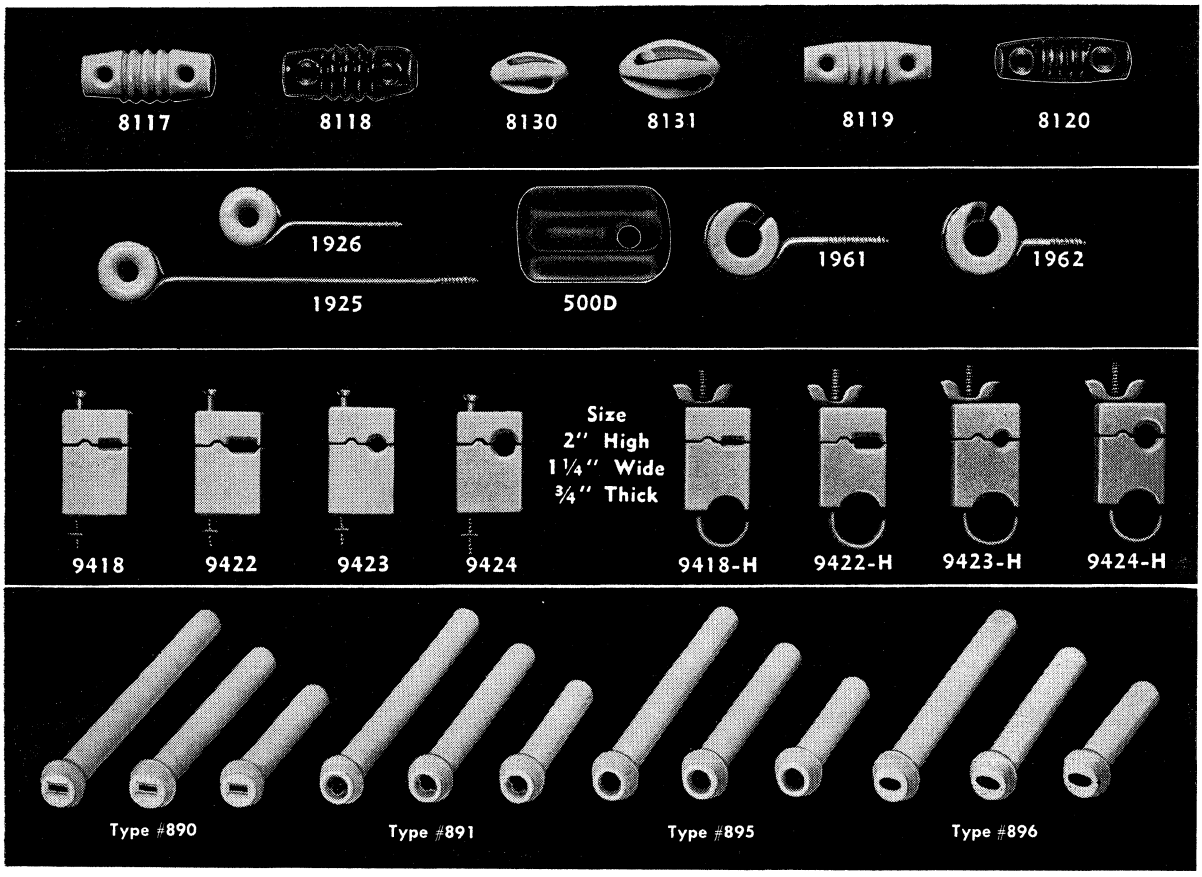
Porcelain Product's TELEVISION & RADIO INSULATORS



TV-FM LEAD-IN TUBES

Provide essential insulation and neatness of appearance for lead-ins going through walls, partitions, etc.

Type #890 Tubes —
Handles the conventional 3/8" wide 300 Ohm common flat lead-ins. Outside diameter 11/16": use a 3/4" drill.

Type #891 Tubes —
UHF Tubes with the round holes, two slots or key-ways, for Amphenol Cable #14-271 or equivalent. Outside diameter 11/16": use a 3/4" drill.

Type #895 Tubes —
For the round (but hollow) UHF cable equivalent to Federal's Rand Tubular UHF. Outside diameter 11/16": use a 3/4" drill.

Type #896 Tubes —
For oval UHF cable made under many trade names and numbers. Examples: Belden #8235. The wide oval hole requires a larger outside diameter. Outside diameter 3/4": use 13/16" drill.

Length	Wt. per M	Length	Wt. per M
4"	143 Lbs.	8"	275 Lbs.
5"	175 Lbs.	10"	330 Lbs.
6"	210 Lbs.		

TV-FM LEAD-IN SUPPORTS

The perfect insulator. Easy to install. Holds lead-in positively and rigidly. Size — 2" high, 1-1/4" wide, 3/4" wide. Supports lead-in 1-7/16" from surface. Weight 170 lbs. per M.

SCREW TYPE	HOOK TYPE
No. 9418	**No. 9418-H**
For light-weight 3/8" wide flat 300 Ohm twin lead-in.	
No. 9422	**No. 9422-H**
For heavy-weight 1/2" wide oval 300 Ohm twin lead-in.	
No. 9423	**No. 9423-H**
For 1/4" round 72 Ohm Coaxial Cable.	
No. 9424	**No. 9424-H**
For 3/8" round Coaxial Cable	

ANTENNA INSULATORS

Made of highest quality electrical Porcelain. Pressure molded to assure dense strong body. Glazed.

No. 8117 — Round, White glaze. Size 2-1/2" long, 1" diameter, 1/4" holes. Weight 146 Lbs. per M.

No. 8118 — Same as No. 8117 but brown glaze. **Weight 146 Lbs.** per M.

No. 8119 — Oval, White glaze. Size 2-1/2" long, 1" diameter, 1/4" holes. Weight 130 Lbs. per M.

No. 8120 — Same as No. 8119 but brown glaze. **Weight 130 Lbs.** per M.

No. 8130 — Small airplane type, oval, white glaze. Size 1-1/2" long, 3/4" diameter, 7/32" holes. Weight 60 Lbs. per M.

No. 8131 — Large airplane type, oval, white, glaze. Size 2" long, 7/8" diameter, 9/32" holes. Weight 90 Lbs. per M.

No. 500D — Strain type, brown glaze. Size 2-1/8" long, 1-9/16" diameter, 3/8 holes. Weight 235 Lbs. per M.

INSULATED SCREW EYES

No. 1925 — Seven and one-quarter inches long over-all. White glaze insulator with 3/8" hole. Weight 110 Lbs. per M.

No. 1926 — Same as No. 1925 but 3" long over-all. **Weight 90** Lbs. per M.

No. 1961 — Split bridle-ring type. Insulator has diagonal slot 1/4" wide to facilitate quick threading of conductor. Over-all length 3-7/16". White glaze insulator has 5/8" hole. **Weight 100 Lbs. per M.**

No. 1962 — Same as No. 1961 but 2-7/8" long over-all. Weight 90 Lbs. per M.

PORCELAIN PRODUCTS, INC. • **FINDLAY, OHIO**

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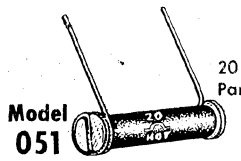
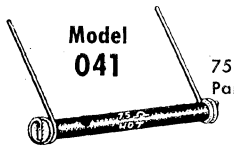


GLOBAR RESISTOR

20 Ohms HOT-600ma. replaces G.E. Part #RRW051

Model **051** LIST **1.35**

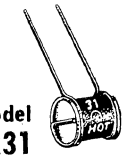


Model **041**

GLOBAR RESISTOR

75 Ohms HOT-300ma. replaces G.E. Part #RRW041

LIST **1.35**



GLOBAR RESISTOR

31 Ohms HOT-300ma. replaces G.E. Part #RRW097

Model **FR31** LIST **1.43**

GLOBAR RESISTOR

35 Ohms HOT-600ma. replaces G.E. Part #RRW054

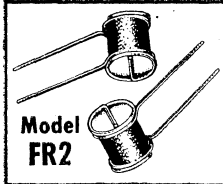
Model **FR35** LIST **1.43**

GLOBAR RESISTOR

43 Ohms HOT-600ma.

Replacement for Crosley

Model **FR43** LIST **1.70**



GLOBAR KIT (2 RESISTORS)

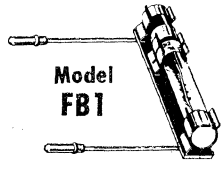
100% replacement all G.E. filament resistors. Also for Crosley, Motorola, Sears, Hoffman, Pathe, Teletone.

Model **FR2** LIST **2.40**

GLOBAR RESISTOR

9 Ohms HOT-600ma. Replacement for RCA Part # 100118

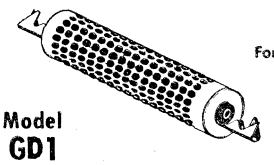
Model **FR9** LIST **1.85**



FUSED THERMISTOR

Universal replacement for ANY type of fused resistor.

Model **FB1** LIST **1.65**



GLO-DROP

For 6 volt Radios and Equipment in 12 volt systems.

Model **GD1** LIST **4.50**

"WISSH" CONTACT CLEANER

THE MODERN HANDY AEROSOL SPRAY APPLICATOR

Pin-point control of spray from this dispenser

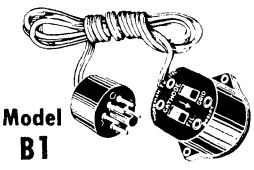
6 oz. can

Model **H6** LIST **1.65**

"WISSH" CONTACT CLEANER

A kit consisting of quart can and three (FREE) refillable dispensers. Cleans and lubricates TV tuners, contact points, band switches and carbon controls.

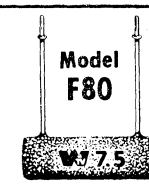
Model **H32** LIST **4.80**



BOSIPT

Repairs grid to cathode and cathode to filament shorts in picture tubes in a jiffy.

Model **B1** LIST **5.95**



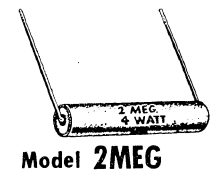
Exactohm

FUSED RESISTOR

7.5 Ohms—3 Amperes.

Universal, used by 20 Major Manufacturers

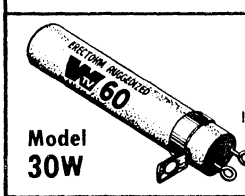
Model **F80** LIST **.65**



HIGH VOLTAGE FILTER RESISTOR FOR DOUBLER CIRCUITS

Long life composition carbon bar—not a carbon film—non inductive. 2 megohms. 4 watts.

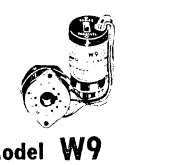
Model **2MEG** LIST **.95**



ERECTOHM

Direct replacement 30 watt, wire wound, filament resistors. 18 values listed cover 95% of present TV receivers.

Model **30W** LIST **1.60**



PICTURE TUBE BRIGHTENER

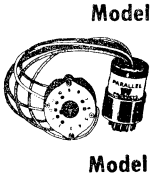
Use slide switch to operate on *series* or *parallel*. Isolation transformer. Corrects low emission and cathode to filament short. Full socket with six leads.

Model **W9** LIST **4.15**

PICTURE TUBE BRIGHTENER

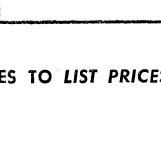
Corrects low emission and cathode to filament short in *parallel* circuit. Isolation transformer. Full socket with six leads.

Model **W4** LIST **3.70**



Model **W3** Corrects low emission in *series* circuit. Auto transformer. Full socket with six leads.

LIST **2.90**



Corrects low emission in *parallel* circuit. Auto transformer. Full socket with six leads.

Model **W2** LIST **2.65**

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Do it safely...do it RIGHT

ALPAR ALUMINUM "Crank-up" TOWERS

FOR MOBILE BASE STATIONS — FIELD STRENGTH SURVEYS — WEATHER RESEARCH INSTRUMENTS

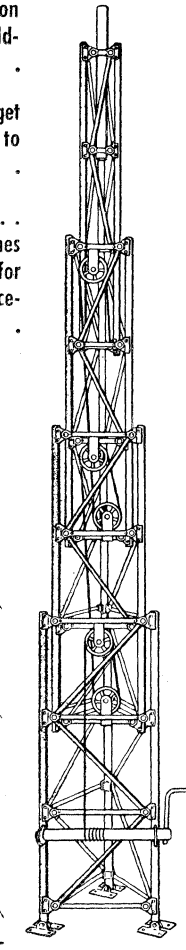
A COMPLETELY UNIQUE DESIGN . . .

the first aluminum crank-up tower wherein the outer tower sections move up first — the only, "Guy as you go" crank-up tower which makes it easy for one man to erect a tall tower—unassisted—with complete safety.

LIGHT IN WEIGHT . . .

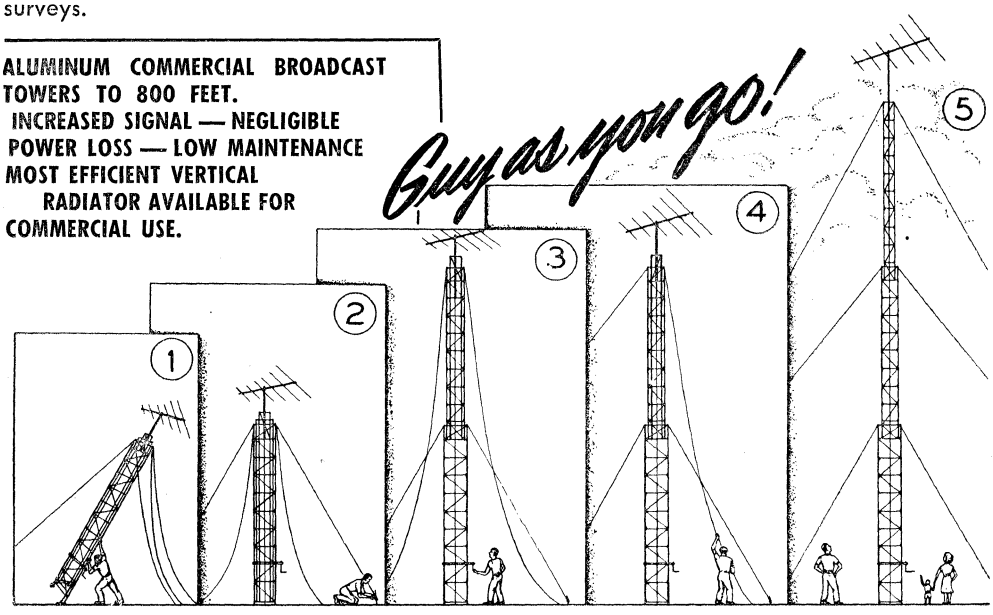
approximately one quarter that of steel towers of equal height yet — STRONG ! ! !
Capable of withstanding gale winds in excess of 100 miles per hour—with top antenna loads of 100 pounds ! !
Widely used for commercial and TV field-strength surveys.

- WON'T RUST . . CORROSION RESISTANT, no rust streaks on tower or on adjacent buildings. . . . . .
- AUTOMATIC LOCK-UP, can't get out of control . . . easy to crank up to full height. . .
- MAY BE LOWERED QUICKLY . . . for extra safety in hurricanes or unusual weather . . . for antenna adjustment or replacement. . . . . .



ALUMINUM COMMERCIAL BROADCAST TOWERS TO 800 FEET.
INCREASED SIGNAL — NEGLIGIBLE POWER LOSS — LOW MAINTENANCE
MOST EFFICIENT VERTICAL RADIATOR AVAILABLE FOR COMMERCIAL USE.

Guy as you go!



(1)—Anchor hinged feet, push up into vertical position. It's light . . . about 1 pound per foot.
(2)—Secure guys on lowest section. .....
(3)—Crank up next section. .....
(4)—Secure guys. Repeat steps 3-4 until tower is at its full height. .....
(5)—Stand back and admire your ALPAR tower. .....

You do not have to crank up the entire tower before you can secure the guys . . . simply, "Guy as you go" . . . a completely safe, sure and simple procedure.

Model of Crank-up Tower

ALPAR MANUFACTURING CORP.
REDWOOD CITY, CALIF.

Copyright by U. C. P., Inc

POLYSTYRENE ROD — TUBING — SHEET

For radio and electronic applications, because of its very low loss factor at ultra high frequencies, Polystyrene is the ideal material for insulators, coil forms, shields, etc. It has excellent arc resistance, is non-tracking and has splendid insulating properties. Because its water absorption is practically zero it has excellent dimensional stability.

POLYSTYRENE ROD — Transparent

Available in 12" or 48" lengths

Catalog Number	Diameter	Net Price 12" lgth.	Net Price 48" lgth.
JB-100	1/8"	$ .03	$ .12
JB-101	3/16"	.07	.28
JB-102	1/4"	.12	.48
JB-103	5/16"	.18	.72
JB-104	3/8"	.26	1.04
JB-105	7/16"	.36	1.44
JB-106	1/2"	.48	1.92
JB-107	5/8"	.72	2.88
JB-108	3/4"	1.00	4.00
JB-109	7/8"	1.42	5.68
JB-110	1"	1.90	7.60
JB-111	1 1/8"	2.50	10.00
JB-112	1 1/4"	3.00	12.00
JB-113	1 3/8"	3.60	14.40
JB-114	1 1/2"	4.30	17.20
JB-116	1 3/4"	6.00	24.00
JB-118	2"	7.50	30.00

POLYSTYRENE TUBING — Satin Finish

Available in 12" or 48" lengths.

Catalog Number	O.D.	I.D.	Net Price 12" lgth.	Net Price 48" lgth.
JB-201	1/4"	1/8"	$ .10	$ .40
JB-202	5/16"	3/16"	.14	.56
JB-203	3/8"	1/4"	.18	.72
JB-205	1/2"	3/8"	.26	1.04
JB-206	5/8"	1/2"	.32	1.28
JB-207	3/4"	5/8"	.40	1.60
JB-208	1"	7/8"	.56	2.24
JB-220	1 1/2"	1 1/4"	1.50	6.00
JB-222	2"	1 3/4"	2.20	8.80

POLYSTYRENE SHEET

The following sheets are all crystal clear with smooth surfaces fully protected against abrasion by masking paper on both sides.

Catalog Number	Thickness	Sheet Size	Net Price
JB-125	1/16"	12" x 12"	$4.15
JB-126	3/32"	12" x 12"	4.80
JB-127	1/8"	12" x 12"	5.50
JB-128	3/16"	12" x 12"	7.15
JB-129	1/4"	12" x 12"	8.15
JB-245	1/16"	12" x 24"	7.80
JB-246	3/32"	12" x 24"	9.15
JB-247	1/8"	12" x 24"	10.50
JB-248	3/16"	12" x 24"	13.15
JB-249	1/4"	12" x 24"	15.65
*JB-300	1/32"	20" x 20"	9.20
JB-315	1/32"	24" x 24"	9.65
JB-301	1/16"	24" x 24"	11.15
JB-302	3/32"	24" x 24"	13.00
JB-303	1/8"	24" x 24"	14.80
JB-304	3/16"	24" x 24"	18.75
JB-305	1/4"	24" x 24"	23.00
*JB-306	5/16"	20" x 20"	16.85
JB-316	5/16"	24" x 24"	27.65
*JB-308	3/8"	20" x 20"	18.75
JB-309	3/8"	24" x 24"	31.25
*JB-310	1/2"	20" x 20"	25.00
JB-311	1/2"	24" x 24"	38.65
*JB-312	5/8"	20" x 20"	40.00
JB-317	5/8"	24" x 24"	50.00
*JB-313	3/4"	20" x 20"	47.75
JB-318	3/4"	24" x 24"	69.25
*JB-314	1"	20" x 20"	64.75
JB-319	1"	24" x 24"	94.15

*We have discontinued the manufacture of polystyrene sheets 20" x 20". While stock quantities last we will be able to supply this size of sheet in the thicknesses listed above at the prices indicated.

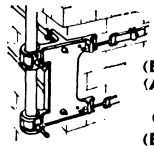
JULIUS BLUM & CO., INC.
CARLSTADT, N. J.

Serving Industry Since 1910

South River — THE COMPLETE QUALITY LINE OF ANTENNA MOUNTING ACCESSORIES

CHIMNEY MOUNTS

U.S. Pat. #2482575, Can. Pat. #463261

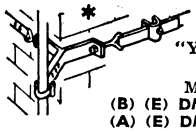


CAST ALUMINUM

MODEL	LIST
(B) (E) SR-10A	$7.55
(A) (E) SR-10A-ST	9.50

(D) TWO PIECE TYPE

(B) (E) SP-12A	7.55
(A) (E) SP-12A-ST	9.50

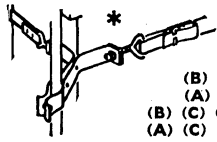


"Y" TYPE HOT DIP GALV. STEEL

MODEL	LIST
(B) (E) DM-36	$3.95
(A) (E) DM-36-ST	5.25
(B) DMLKK	3.50
(A) DMLKK-ST	4.90
(B) (C) "Y" Special	2.90
(A) (C) "Y" ST Special	3.65

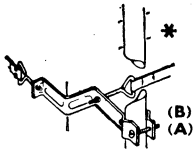
COMPLETELY ALL STAINLESSS

(A) ST-DM	7.50



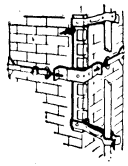
SNAP-IN TYPE

MODEL	LIST
(B) SN-50	$3.35
(A) SN-50-ST	4.60
(B) (C) CM-20	2.90
(A) (C) CM-20-ST	3.75



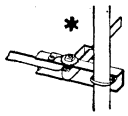
"Z" TYPE

MODEL	LIST
(B) T-15	$2.75
(A) T-15-ST	4.20
(B) (C) ZM	2.50
(A) (C) ZM-ST	3.65



ONE PIECE TYPE

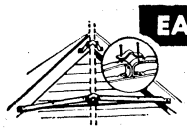
MODEL	LIST
(E) (A) (One Strap) UM-1	$6.75
(E) (A) (D) (Two Straps) UM-2	7.25



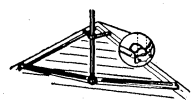
RATCHET TYPE

MODEL	LIST
(B) RT	$4.50
(A) RT-ST	5.35

EAVE MOUNTS



MODEL	LIST
EM-1	$4.90



MODEL	LIST
30" EM-30	$4.20
48" EM-48	5.85
60" EM-60	7.25

(D) GROUND UP TYPE

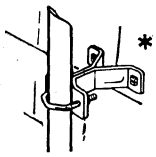
MODEL	LIST
30" EM-30-GU	$4.70
48" EM-48-GU	6.30
60" EM-60-GU	7.80

CODE:

* TWO TO A SET

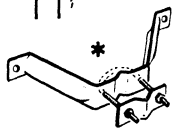
(A) Stainless Steel Banding
(B) Galv. Steel Banding
(C) Economy Model
(D) Not Illustrated
(E) With Kwik Klip
(F) U.S. Pat. # 2734708
(G) Fits Masts Up To 1½"
(H) Fits Masts Up To 2"

WALL BRACKETS

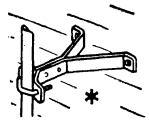


"U" BOLT TYPE

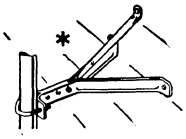
MODEL	LIST
3" Alum. WB-3	$2.00



MODEL	LIST
3" NT-3	$1.35
4" NT-4	1.50



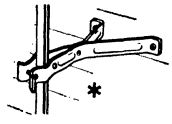
MODEL	LIST
6" WB-6	$2.30

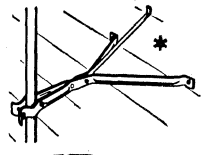


MODEL	LIST
9" WB-9	$3.50
12" WB-12	4.15
15" WB-15	4.90
18" WB-18	5.50
24" WB-24	6.85

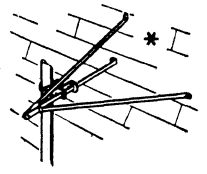
SNAP-IN TYPE

MODEL	LIST
6" SN-6	$2.30



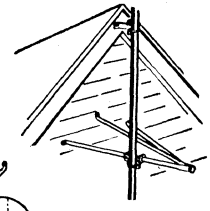


MODEL	LIST
9" SN-9	$3.50
12" SN-12	4.15
15" SN-15	4.90
18" SN-18	5.50
24" SN-24	6.85

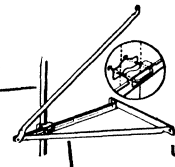


ADJUSTABLE

MODEL	LIST
18" Alum. WB-18A	$6.75



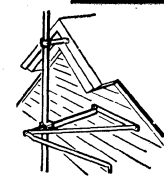
MODEL	LIST
Combination WB-3-18A	$4.90



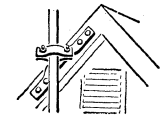
MODEL	LIST
ST-18A	$8.30
Unassembled ADJ-18	6.45

Complete descriptions and list of South River Products available in latest catalog. Write for your copy.

WALL BRACKETS



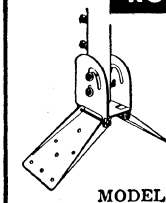
MODEL	LIST
Combination ST-3-18A	$5.20
Unassembled ADJ-3-18A	4.90



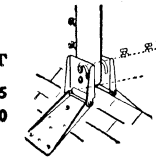
EXTRA HEAVY GROUND UP TYPE (Fits Masts Up To 3⅜" O.D.)

MODEL	LIST
GU-3	$2.95 ea.

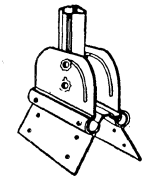
ROOF MOUNTS



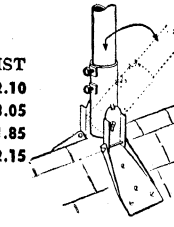
MODEL	LIST
(F) (G) PFM-1	$3.50
(F) (H) PFM-1-LM	4.25



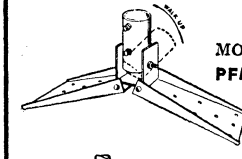
MODEL	LIST
(F) (G) PFM-30	$3.25
(F) (H) PFM-30-LM	4.00



MODEL	LIST
(F) (G) All Alum. PFM-2	$6.40

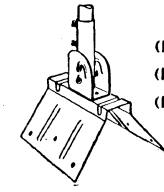


MODEL	LIST
(G) PFM-90	$2.10
(H) PFM-90-LM	3.05
(C) (D) (G) SPF-9	$1.85
(C) (D) (H) SPF-9-LM	2.15



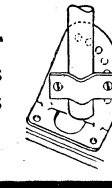
MODEL	LIST
PFM-XL	$5.45

(Fits Masts Up to 2¼" O. D.)



MODEL	LIST
(F) (G) PM-10	$4.45
(F) (H) PM-10-LM	5.05
(D) (G) PM-12	2.75

(Without Patented Walk-Up - Drop-Lock Feature)



MODEL	LIST
(G) UR-1	$.65
(G) (D) UR-2	.65

(Holes replaced by continuous slot)

SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey

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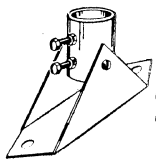
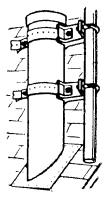
ROOF MOUNTS



	MODEL	LIST
(G)	RM-80	$1.25
(H)	RM-80-LM	2.20
(C) (G)	SRM-8	1.00
(C) (H)	SRM-8-LM	1.40
(D)	RM-XL*	3.40

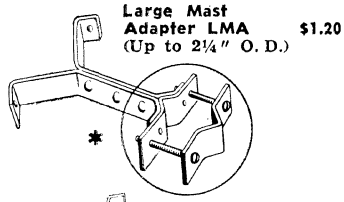
*(Fits Masts Up To 2¼" O.D.)

PIPE MOUNT



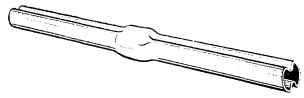
MODEL	LIST
(B) P-1	$2.70
(A) P-1-ST	3.05

ACCESSORIES

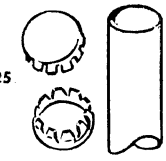


Large Mast Adapter LMA $1.20
(Up to 2¼" O. D.)

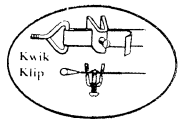
Extension Adapter EXT-A 1.55
(Extends Mast 3")



Mast Coupler MC .85



Mast Plug MP .25



KWIK KLIP

MODEL	LIST
KK	$.25

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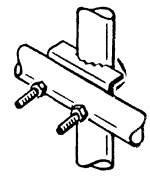
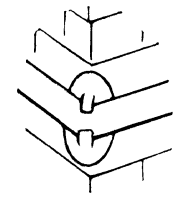
ACCESSORIES



MODEL	LIST
"U" Bolt & Saddle UBS	$.50

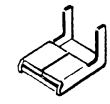
CORNER GUARD

MODEL	LIST
CG	$.49

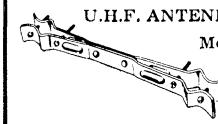


STRAP CLAMPS

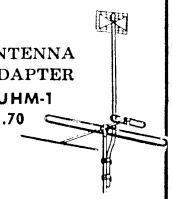
MODEL	LIST
(C)-Q Galv. Steel	$.08
(C)-QS Stainless Steel	.15

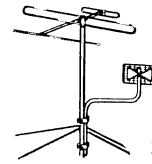


U.H.F. ANTENNA MAST ADAPTERS
Model UHB-15
List $2.25



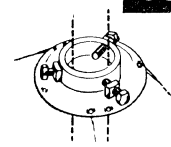
U.H.L. ANTENNA MAST ADAPTER
Model UHM-1
List $3.70





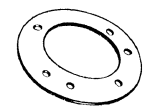
U.H.F. ANTENNA MAST ADAPTER
Model UHM-2 List $3.70

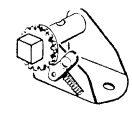
GUY RINGS



(Universal Type Fits Masts up to 2")
Model GR-1
List $1.45

MODEL	LIST
1¼" MASTS GR-5	$.17
1⅜" MASTS GR-6	.27
1½" MASTS GR-7	.27
(D) Guy Ring Support RS-5 (For 1¼" Masts)	.21



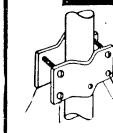


RATCHET GUY WIRE TIGHTENER
Model GW-RT
List $.70

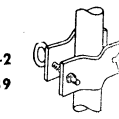
GROUND RODS

MODEL	LIST
(D) 4 Ft. GND-4 CP	$1.25
(D) 6 Ft. GND-6 CP	1.75
(D) Gnd. Rod GRC Clamp	.30

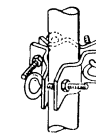
GUY WIRE CLAMPS



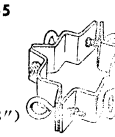
(G) Model GC-1 List $.35



(G) Model GC-2
List $.39



(H) Model GC-3
List $.55



Model GC-4
List $.70
(For Masts Up to 3")

MAST TUBING

ALUMINUM
1¼" - 1⅜" - 1½" O.D., .058 W
5' - 10' - 12' LENGTHS

STEEL HOT DIP GALV.
1¼" O.D. - 10' Lengths
20, 18 and 16 Gauge

GUY WIRE

STEEL HOT DIP GALV.
20 and 18 Gauge
4 and 6 Strand (50' Interconnected Coils 1,000' continuous lengths)

STRANDED ALUMINUM
500# TEST - 7 STRAND 17 Gauge
100' INTERCONNECTED COILS,
1000' CONTINUOUS LENGTHS

REPLACEMENT BANDING KITS

MODEL	LIST
(B) "A" Kit	$1.75
(A) "C" Kit	3.05

SOUTH RIVER SUPERLIGHT MAGNESIUM LADDERS

Magnesium: 1/3 Lighter than Aluminum, Strongest Metal Lb. for Lb. in existence.

EXTENSION LADDERS

Size	Weight	List Price
40'	57 Lbs.	$138.00
36'	51 "	124.20
32'	46 "	110.40
30'	43 "	103.50
28'	32 "	85.40
24'	28 "	73.20
20'	23 "	61.00
Rubber Safety Feet		3.65

STRAIGHT LADDERS

Size	Weight	List Price
16'	18 Lbs.	45.15
12'	13 "	33.85
10'	11 "	28.20
Roof Hooks		3.65

STEPLADDERS

Size	Weight	List Price
8'	16 Lbs.	38.00
6'	11½ "	27.10
4'	8½ "	20.85
26"	3¾ "	10.40

These ladders furnished immediately from complete warehouse stocks in South River, N. J.

SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey

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RCA ELECTRONIC COMPONENTS

TELEVISION PARTS

DEFLECTING YOKES (For Use with Picture Tubes)

Horizontal Coil Inductance mh	Vertical Coil DC Resistance ohms	Deflection Angle degrees	RCA Type	List Price*
8.3	64.6	57	201D12	$9.00
10.3	48.7	70	206D1	9.00
12	42	90	237D1†	10.00
12.5	68.8	57	205D1	10.00
13.3	48	70	209D1	10.00
13.3	48	70	211D2*	8.75
18.5	44	90	235D1*	11.25
18.5	48	70	222D1*	10.00
20	42	90	236D1*	11.00
28.5	3.3	70	214D1*	9.80

† Supplied with damping and neutralizing elements.

* Supplied with color-coded leads, damping and neutral. elements.

WIDTH CONTROLS

INDUCTANCE RANGE Minimum mh	INDUCTANCE RANGE Maximum mh	RCA Type	List Price*
0.054	0.245	201R1	$1.00
0.085	0.24	201R2	2.30
0.17	0.61	201R4	1.00
0.47	1.7	206R1	1.25
0.5	1.7	208R1	1.05
1.65	9.2	211R1	1.50
1.75	10.5	214R1*	1.75
2.9	16	212R1	1.50
3.9	22	215R1	1.25

* AGC control tapped off-center.

HORIZONTAL-OUTPUT AND HIGH-VOLTAGE TRANSFORMERS

FOR TYPICAL YOKE

DC Output (No Load) Kv	Deflection Angle degrees	Horizontal Coil Inductance mh	RCA Type	List Price*
8.75	57	8.3	211T3*	$10.00
9	57	8.3	211T1*	10.00
14	70	13.3	224T1†	10.00
10 to 15	50-70	8 to 30	231T1*	9.30
10 to 16	50-70	8 to 30	232T1†	9.75
18	70	13.3	230T1†	10.00
18	90	12	235T1†	11.50

* Isolated Secondary Type.
† Auto Transformer Type.

DEFLECTING YOKES (For Use with Camera Tubes)

Horizontal Coil Inductance mh	Typical Tube Type	RCA Type	List Price*
0.9	6198, 6326	216D1	—

HORIZONTAL LINEARITY CONTROLS

INDUCTANCE RANGE Minimum mh	INDUCTANCE RANGE Maximum mh	RCA Type	List Price*
0.55	2.3	201R5	$1.25
1.3	4.1	209R1	1.25
1.5	8.3	213R1	1.25

HORIZONTAL-OUTPUT TRANSFORMER

For Camera Tube Types	RCA Type	List Price*
6198, 6326	233T1	—

VERTICAL-BLOCKING-OSCILLATOR TRANSFORMERS

Turns Ratio Primary to Secondary	DC RESISTANCE Primary ohms	DC RESISTANCE Secondary ohms	RCA Type	List Price*
1:4.2	244	1310	208T2	$3.25
1:4.2	244	1310	208T9	4.00
1:4.2	208	1060	209T1	2.75

HORIZONTAL-BLOCKING-OSCILLATOR TRANSFORMER

Turns Ratio Primary to Secondary	DC RESISTANCE Primary ohms	DC RESISTANCE Secondary ohms	RCA Type	List Price*
2:2	3.5	8.5	208T1	$4.35

VERTICAL-OUTPUT TRANSFORMERS

Turns Ratio Primary to Secondary	DC Resistance Primary Ohms	RCA Type	List Price*
3:1	700	234T1	—
10:1	521	204T9	$5.50
11.4:1	1200	222T1	4.25
18:1	1600	226T1	5.75

POWER TRANSFORMERS (117 VOLTS, 60 CPS)

Secondary Windings

Plate Winding			Filament No. 1		Filament No. 2		Filament No. 3			
Primary Winding Current amps	Full-Load Voltage volts	Max. DC Current amps	Voltage volts	Current amps	Voltage volts	Current amps	Voltage volts	Current amps	RCA Type	List Price*
2.20	770/385	0.230	5	3	6.3	9.0	5.0	2.0	201T7	$23.35
2.18	720/360	0.250	5	3	6.3	8.0	5.0	2.0	201T8*	21.10
2.48	730/365	0.260	5	6	6.3	8.85	5.0	2.0	201T9	23.35
2.48	730/365	0.260	5	6	6.3	8.85	6.3	1.2	201T10	23.35

* Type 201T8 has an additional filament winding: 6.3 volt @ 0.6 ampere.

FOCUSING AND ALIGNMENT COILS

For Kinescopes or Camera Tubes

DC Resistance ohms	DC Current ma	Typical Types	RCA Type	List Price*
140	40	6198, 6326	218D1*	
247	120	10BP4-A, 12LP4-A	202D1	$8.35
385	60	6198	217D1	

HORIZONTAL-OSCILLATOR AND SYNC-STABILIZER COILS

Description	RCA Type	List Price*
6-terminal phase discriminator for 630-type receivers	208T8	$2.45
3-terminal center-tapped oscillator coil for syncro-guide circuits	203R1	1.90

ION-TRAP MAGNETS

Description	RCA Type	List Price*
Double-pole, field-coil type. DC current rating, 200 ma.	203D1	$6.50
"Universal" Double/Single pole permanent-magnet type. Employs 3 ring-shaped magnets for use in double-pole applications. Can be used in single-pole applications by removing the small ring-shaped magnet. Field strength; large magnet, 55 gausses; small magnet, 15 gausses.	203D3	2.10

Optional. Prices Higher in Alaska and Hawaii.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

RCA ELECTRONIC COMPONENTS
SELENIUM RECTIFIERS

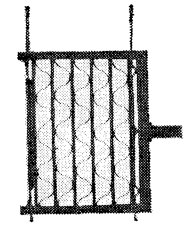
Advanced Design for Dependable Performance and Long Life

RCA Type	Current Rating millamperes	Voltage Rating	List Price Each *
205G1	65	130	$1.40
200G1	75	130	1.60
206G1	100	130	1.95
201G1	150	130	2.10
207G1	200	130	2.80
208G1	250	130	2.85
202G1	300	130	2.90
209G1	350	130	3.30
203G1	400	130	3.65
210G1**	400	130	4.00
204G1	500	130	3.65
211G1**	500	130	4.00

** Special thin types for use where available space will not permit the use of type 203G1 or 204G1.
* Optional. Prices higher in Alaska and Hawaii.

RCA's top-grade line of selenium rectifiers meet virtually all replacement requirements in TV, radio receivers, and phonographs. Advanced design, select raw materials, and superior workmanship give you a **dependable line** of selenium rectifiers for **all** service jobs.

Wide-open plate spacing eliminates solid center "hot spot." Design utilizes corrugated spacers for **excellent heat dissipation and rigid construction for rugged service.**



NEW—smaller size . . . for any given current, they are smaller than other types.

NEW—quicker installation . . . integral mounting stud.

NEW—wide-open design . . . insures maximum heat dissipation, cooler operation . . . no center "hot spots."

NEW—rigid construction . . . for rugged service.

For consistently good performance, easier installation, longer-life, and customer satisfaction, order a supply from your RCA Distributor today!

RCA ANTENNA ACCESSORIES

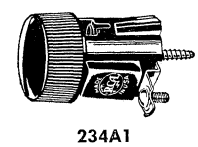
ANTENNA ACCESSORIES

UHF LIGHTNING ARRESTERS (UL Approved)

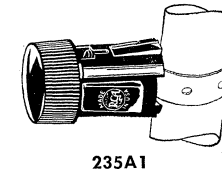
• Ultra Low Loss • For Popular Type Transmission Lines

Standing-wave ratio less than 2:1 at 800 Mc. Low-capacitance design. Low loss . . . approximately 1 db at 800 Mc. Will accommodate most of the tubular round and over UHF transmission lines without the need of splicing or baring conductors. Resistance elements are made of a conductive rubber that is non-corrosive and impervious to moisture.

Screw Type 234A1 ..... List Price*: $1.53
Strap Type 235A1 ..... List Price*: $1.40



234A1



235A1

VHF LIGHTNING ARRESTERS (UL Approved)

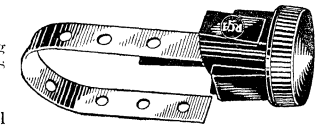
• For 300-Ohm Ribbon-type Line • Simple to Install

Strap Type for use with FM and TV antennas. Easy to install — no cutting or stripping of transmission line. Fits any ½"-2" pipe. Continually dissipates static surges. Does not unbalance line.

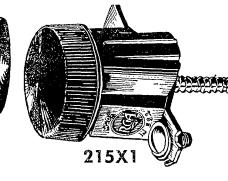
Type 214X1 ..... List Price*: $1.10

Screw Type Arrester — wood screw firmly secured in body — no special tools needed. No cutting or stripping of transmission line.

Type 215X1 ..... List Price*: $1.25



214X1



215X1

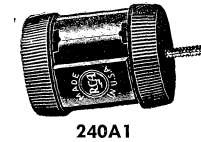
TV SET COUPLER (UL Approved)

• For 300-Ohm Ribbon-type Line • Easy to Install • Economical

The RCA-240A1 TV Set Coupler permits simultaneous operation of two TV receivers from a common antenna. Can also be used in combinations of two to four units for simultaneous operation of two to four TV receivers from a common antenna. The 240A1 reduces oscillator radiation between sets and has a flat bandpass response over the VHF bands. No cutting, splicing, or soldering necessary. Self-contained wood screw, no special tools needed.

Type 240A1 ..... List Price*: $1.95 each

* Optional. Prices higher in Alaska and Hawaii.



240A1

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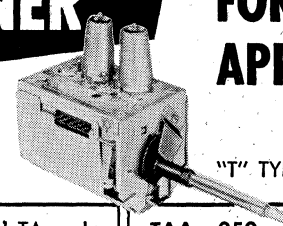
The STANDARD TUNER



REFERENCE DATA FOR REPLACEMENT APPLICATIONS

Column 1 (see Note "A") BASIC STANDARD TUNER TYPES REPLACEABLE BY "T" TYPE IN Col. 2	Column 2 (see Note "B") "T" TYPE APPROVED REPLACEMENT TUNERS
TV - 100 - 200/300 - 1200 - 1300 - 1500 and TA and TAA Replaceable by →	**TAA - 050** 21 MC PENTODE
TV - 2000 - 2200/2300 - 4200 and TC and TCA Replaceable by →	**TCA - 050** 21 MC CASCODE
TV - 9000 and TB Replaceable by →	**TB - 050** 41 MC PENTODE
TV - 3000 - 3100 - 4000 - 4400 - 6000 - 6500 - 8000 8500 and TD Replaceable by →	**TD - 050** 41 MC CASCODE

NOTE "A"

Tuners listed in Col. 1 are basic types supplied to television set manufacturers for original equipment.

Frequently the receiver manufacturer assigns his own type number to the tuner — however, in all cases the **Standard** Coil basic types TV - 100 - TV - 2200, etc., etc., always appears on the tuner chassis.

Note that TV - 1501 or TV - 1526, etc., etc., falls under the category of the TV - 1500 type and that TV - 2201 or TV - 2246, etc., etc., would come under the TV - 2200 type and so on.

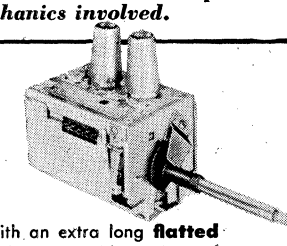
NOTE "B"

The "T" Type approved replacement tuners listed in Col. 2 are **NOT** manufactured with sound traps as integral parts for split sound I.F. systems.

For those systems which previously required the use of a 21.25 MC I.F. sound "take off" coil connected to the tuner converter plate circuit, we have developed our sound "take off" coil part XM752. This coil can be mounted in a suitable location on the TV chassis. Detailed instructions are packed with each coil.

The various tuner types (TV200 - TV2200 - TV6500, etc.) were brought about by the rapid development in the art of tuner design and development and, to enable Standard Coil to keep pace with the set makers' changes in circuitry, cabinet design and the mechanics involved.

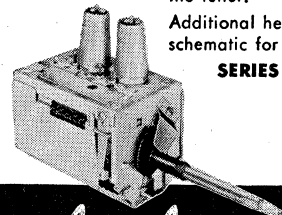
IMPORTANT INFORMATION FOR REPLACEMENT APPLICATIONS



SHAFT LENGTHS (1) Each approved replacement tuner in Col. 2 is equipped with an extra long **flatted** shaft extending 10-11/32" from front of tuner chassis making it interchangeable mechanically in a wide variety of applications. Installation instructions, including proper circuit diagrams and detailed data on how to cut shafts to proper length included with each tuner.

MOUNTING DIMENSIONS (2) Mounting dimensions are standard for almost all applications.

I.F. CIRCUITRY (3) The I.F. output of the approved replacement tuners in Col. 2 will match the input of the I.F. amplifier in many cases. However, some applications may require a modification of the coupling networks **i.e.** low side capacitive coupling or two-or-three turn link, wound over the B+ end of the I.F. Coil in the tuner.



Additional helpful information can be secured by referring directly, to the TV receiver manufacturer's schematic for the proper type of tuner output circuitry, necessary for optimum receiver performance.

SERIES HEATER DATA (4) The "T" types listed in Col. 2 are not available at present for replacing series heater type tuners (with 600 mil. tubes) requiring insulated shafts or any other tuners with insulated shafts or special applications requiring rear shaft extensions.

Standard COIL PRODUCTS CO., INC.

CHICAGO • LOS ANGELES • BANGOR, MICH. • NO. DIGHTON, MASS. • TORONTO, CANADA

Export Agent: Scheel International, Inc., Chicago, Ill.

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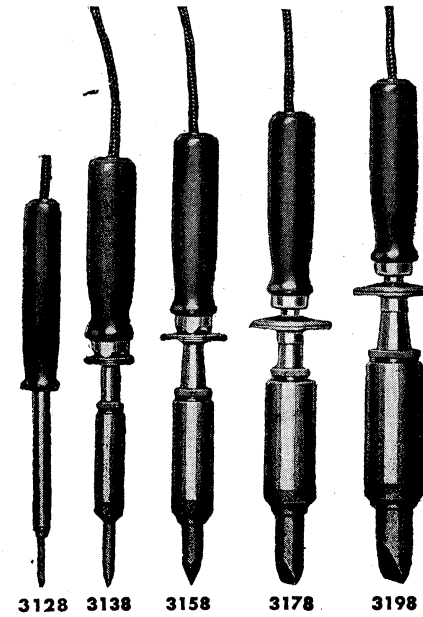
American Beauty
ELECTRIC SOLDERING IRONS

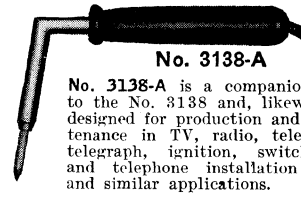
Embodied in these Electric Soldering Irons are features of construction and design that specialized experience—since 1894—has demonstrated to be desirable for efficient and lasting service. Hundreds of thousands are in use throughout the world in a wide variety of manufacturing plants; in service, maintenance and repair shops; Army and Navy Services; in telephone, telegraph, radio and TV stations. Because of their proven efficiency and durability, they are preferred by those who measure the value of a tool by the service it renders.

No. 3128 For Servicing TV, electronic and radio equipment and similar light work.
No. 3138 Designed primarily for production and maintenance in radio, telephone, telegraph, ignition, switchboard and telephone installation work and similar industrial applications.
No. 3138A Similar in appearance to the No. 3128-A except that it is equipped with a heat-shield near the handle (like the No. 3138) and the top is ⅜″ diameter instead of ¼″ as is true of the No. 3128-A.
No. 3158 For the same purpose as the No. 3138 but for work requiring an iron of greater capacity.
No. 3178 For use on still heavier work; for light commutators, service and production work. A very useful iron for general purposes.
No. 3198 For heavy work of all kinds. Supplies a large volume of heat at high temperature. Used in many different lines; for shop, service, production work, etc.


3128 3138 3158 3178 3198

No. 3128-A

No. 3128A A campanion iron to No. 3128—the angle shape permits easy application to soldering operations difficult to accomplish with the conventional straight No. 3128.



No. 3138-A

No. 3138-A is a companion iron to the No. 3138 and, likewise, is designed for production and maintenance in TV, radio, telephone, telegraph, ignition, switchboard and telephone installation work and similar applications.

SPECIFICATIONS: Available in standard voltages and for 32 volts. No. 3138 also made for 6, 12, 24 and 64 volts. All irons can be equipped with three-conductor cord; one wire grounded, at slight additional charge. Separate heat-insulating stand supplied with each iron except the No. 3138-A.

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Casing Diameter	Approx. Ship. Wt.	List Price Each	Net Price Each (Less than 6)	Net Price Each (6 or more)
3128	¼″	60	7½ oz.	12¼″	9/16″	1 lb.	$5.80	$3.86	$3.70
3128-A	¼″	60	10 oz.	——	9/16″	1 lb.	6.30	4.20	4.02
3138	⅜″	100	16 oz.	12⅞″	⅞″	1 lbs.	9.20	6.13	5.87
			(3138 is made also in 130- and 150-watt input.)						
3138-A	⅜″	100	16 oz.	——	⅞″	2 lbs.	9.20	6.13	5.87
			(3138-A is made also in 150-watt input.)						
3158	⅝″	200	28 oz.	13⅝″	1¼″	3 lbs.	10.75	7.16	6.86
3178	⅞″	300	42 oz.	14⅜″	1 1/16″	4 lbs.	14.20	9.46	9.06
3198	1⅛″	550	60 oz.	15″	1¾″	5¾ lbs.	18.40	12.25	11.74

American Beauty BANTAM SOLDERING IRONS

Small, compact and lightweight as they are, American Beauty Bantams — like every other model of our line of electric soldering irons — are built to American Beauty traditional quality standards and designed especially for the electronic trade.

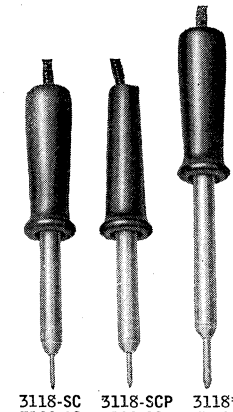
They are instantly ready for use; on the other hand, they can be idled for as much as twenty-four hours a day without damage to iron or tip. Their 30-watt input (40-watt also available) provides ample heat for fine and medium-fine soldering jobs of all kinds.

The six models of American Beauty Bantams are the same in design and construction except for the length of casing, tip size and shape of handle.

Handles of our Bantams are flared to protect hand of user from coming in contact with casing of hot iron.

As an added safeguard, a special fibre disc shield is available. Mounted between a welded retainer ring and the handle, it provides additional protection. When ordering, specify "with shield." A small additional charge applies.

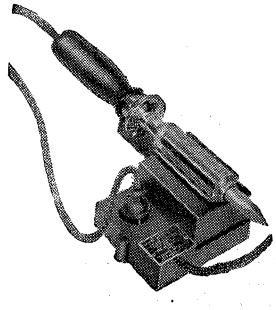
*Also available with angle-type casing covered by Catalog Nos. 3118-A, 3120-A.


3118-SC 3118-SCP 3118*
3120-SC 3120-SCP 3120*

RELATIVE SIZES AND SPECIFICATIONS

CATALOG NUMBER	DIAMETER OF TIP	WATTS	LENGTH OVERALL	NET WEIGHT
3118-SC	⅛″	30	8″	6 oz.
3120-SC	3/16″	30	8¼″	6 oz.
3118-SCP	⅛″	30	8″	6 oz.
3120-SCP	3/16″	30	8¼″	6 oz.
3118	⅛″	30	9¼″	6¼ oz.
3120	3/16″	30	9¼″	6½ oz.
	(ALL are made also in 40-watt input.)			

American Beauty TEMPERATURE REGULATING STAND



An automatic device for regulation of the tip temperature of an electric soldering iron while connected to current and not in use. Prevents overheating of the iron and helps to eliminate frequent retinning of tip while at the same time maintaining it at full working temperature or lower if desirable or necessary. (Simple adjustment in base.)

The base of stand is plastic; cradle is copper; equipped with receptacle in base for connection of iron and cord with plug-cap for connection to service outlet.

Cat. No.	Watts (Max.)	Length Over-all	W.	H.	Net Wt.
475	660	6½″	5⅝″	3⅜″	1¾ lbs.

STANDARD COPPER TIPS

DIAMOND POINT

CHISEL POINT

American Beauty copper tips, both standard and special, are made from commercially pure drawn copper rod — heavily nickeled to resist corrosion and oxidation. All are plug type. All tip lengths are proportioned to size of the iron for which they are intended, allowing full insertion into element-core while at the same time permitting sufficient extension from casing of iron for proper soldering. All are available in either diamond or chisel point.

SPECIFICATIONS

Cat. No.	Dia.	Lgth.	Cat. No.	Dia.	Lgth.
3718	⅛″	3″	3738-S	⅜″	4½″
3720	3/16″	3¼″	3748	½″	4½″
3728	¼″	3¾″	3758	⅝″	4 11/16″
3728-S	¼″	3¾″	3778	⅞″	5 5/32″
3738	⅜″	4⅜″	3798	1⅛″	5⅞″

In addition to our standard tips (listed above), many special shapes and sizes are available in shank diameters from ⅛″ to 1⅛″. Let us know your requirements.

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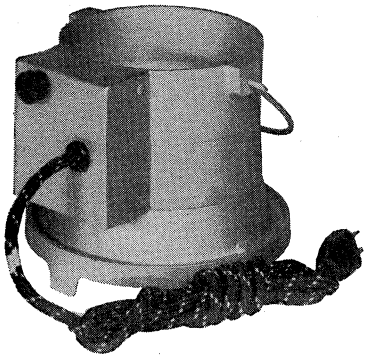
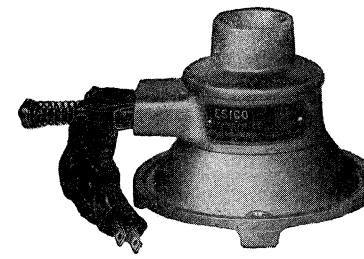
Net

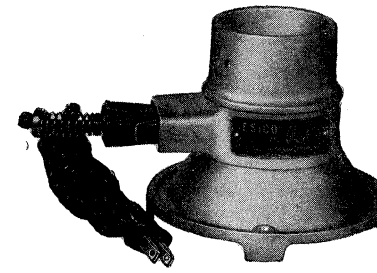
ESICO Electric Solder Pots



This small pot is used largely for individual dipping of small parts and reaches a temperature of approximately 750°. For higher temperatures, it is possible to use either a #36 or a #60 element. See table below for details. **No. 12** →

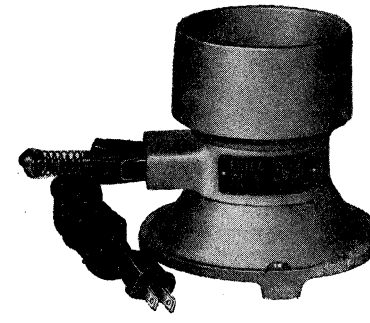


No. 70T ← This is a thermostatically controlled pot, maintaining a temperature of 400/600° to within plus or minus 4°. Adjustable control permits the pot to be used anywhere between these two temperatures. See table below for details.

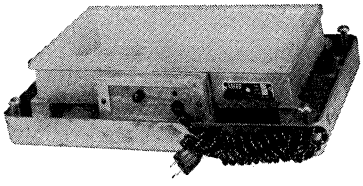


This pot is used for dip soldering of bundles of lead wires and where a slightly hotter pot is required than the #12. It operates at approximately 750°. If a higher temperature is required, a #60 element may be used. See table below for details. **No. 36** →

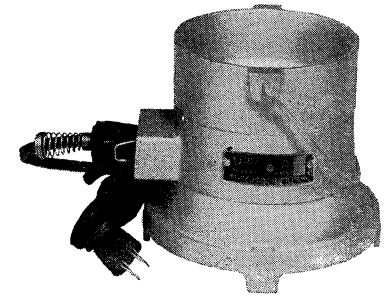
No. 75T ← This pot is similar in operation to the #70T, but is intended for the dipping of small panels which cannot be accommodated in a round pot. Temperature range is 400/600° plus or minus 4°. The pot is also available without a thermostat but is then catalogued as #75. Without a thermostat, the pot reaches a temperature of 850°. See table below for details.



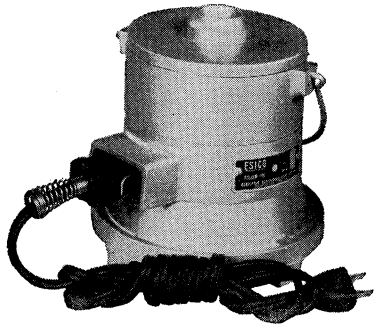
This pot is used for volume tinning and operates at a temperature of 800°. On occasion where production requires greater heat drain capacity, elements of a higher wattage than the standard 325 watt have been supplied. However, we recommend the use of the #70 600W Pot for this greater heat requirement and higher temperature. See table below for details. **No. 60** →



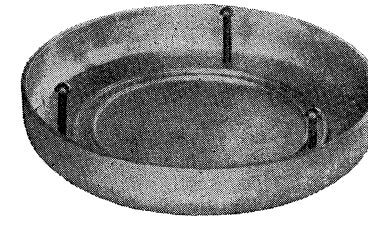
No. 80 ← This pot is intended for printed circuit panels and is thermostatically controlled. Temperature range is 400/600°. The pot stands on 4 corner posts in a sand tray, which has screws for leveling. See table below for details.



This is a high heat pot reaching a temperature of approximately 900°, and has considerable heat drain capacity. Where pots are required for 220V operation, longer element life will be secured than in the case of the #60. See table below for details. **No. 70** →



No. 90 ← This is a high temperature pot intended for silver soldering, and will maintain a temperature of 1300/1500°. See table below for details.



This sand tray will accommodate all of the round base solder pots shown on this sheet. The tray is fitted with leveling screws. See table below for details. **No. 1270** →

CAT. NO.	WATTS	DIA.	DEPTH	WIDTH	LENGTH	HEIGHT	THERMO-STAT	SOLDER CAP. LBS.	SHIPPING WEIGHT LBS.
12	200	1½"	1½"	—	—	4½"	No	¾	3¾
36	250	2½"	1¾"	—	—	4¾"	No	2¼	4
60	325	3½"	1⅛"	—	—	4¾"	No	3¾	5¼
70	600	4¾"	1⅝"	—	—	5½"	No	9	6¾
70T	600	4¾"	1⅝"	—	—	5½"	Yes	9	8
75	600	—	1¾"	4¾"	4¾"	5½"	No	11¾	8
75T	600	—	1¾"	4¾"	4¾"	5½"	Yes	11¾	9¾
80	1200	—	2"	6"	12"	3¾"	Yes	15	28
90	550	1⅛"	2⅞"	—	—	5½"	No	¾	8
1270	—	9¼"	1½"	—	—	—	—	—	2

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ESICO

REG. U. S. PAT. OFF.

ELECTRIC SOLDERING IRONS FOR HOME, PROFESSIONAL MECHANIC AND FACTORY

● GREEN LABEL LINE

For intermittent duty. Meets all requirements of the home craftsman.

No. 415—List $2.48—3/8" Tip—55 Watts

No. 416—List $3.75—1/4" Tip—60 Watts

No. 417—List $5.00—3/8" Tip—100 Watts

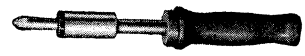
No. 418—List $6.28—1/2" Tip—130 Watts

● ORANGE LABEL LINE

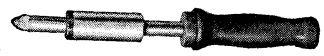
For Professional Mechanics — light or heavy soldering where iron must withstand operation for eight hour periods or more on frequent occasions.

No. 62—List $6.26—1/4" Tip—60 Watts

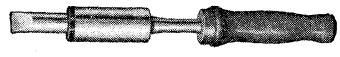
No. 63—List $7.53—3/8" Tip—100 Watts



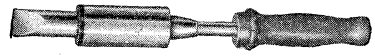
No. 64—List $8.81—1/2" Tip—130 Watts



No. 65—List $10.08—5/8" Tip—200 Watts



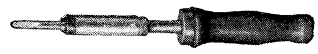
No. 67—List $11.30—7/8" Tip—300 Watts



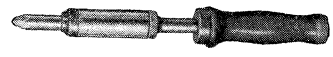
No. 69—List $13.83—1 1/8" Tip—500 Watts

● RED LABEL LINE

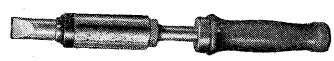
For Production Line Continuous Operations. These Irons are of most rugged construction.



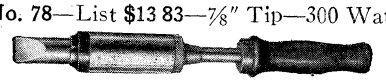
No. 38—List $8.81—3/8" Tip—100 Watts



No. 58—List $11.30—5/8" Tip—200 Watts



No. 78—List $13 83—7/8" Tip—300 Watts



No. 98—List $16.36—1 1/8" Tip—550 Watts

ESICO Luger Gun

HANDIEST YOU'VE EVER SEEN!

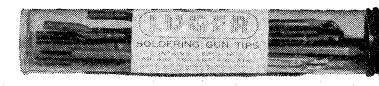
- Perfectly balanced — speeds work, lessens fatigue
- Quick-heating, long-life, 4 1/2" narrow loop-type tip, easily reaches narrow, deep spaces
- Easy trigger action . . . with one, two or three fingers
- Rugged, Luger style . . . no stand needed
- Dual or single heat — single 100 watts; dual 100/135 watts
- Twin lights eliminate shadows
- Compact, fits in pocket

MODEL A—Single Heat **List Price $9.95**

MODEL B—Dual Heat **List Price $11.95**

The Luger's light, evenly distributed weight makes spot soldering a pleasure. It feels "natural" . . . fits the hand comfortably. The handsome red, molded housing stands rough treatment. It rests on its side. No stand needed. Order now for new soldering efficiency.

Kit of Tips



This assortment in a plastic vial, includes tips that are long and short, narrow and broad, straight and bent—for all soldering jobs. They will not anneal, bend, or develop residue, even if left on the circuit beyond the operating cycle.

List Price $5.75

ELECTRIC SOLDERING IRON CO., INC. • Deep River, Conn.

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HEXACON ELECTRIC SOLDERING IRONS

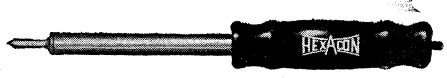
VOLTAGE RANGE: 6 to 250 OPERATES IDENTICALLY ON A.C. OR D.C., ANY CYCLE
STANDARD VOLTAGES 110/120, 121/130, 220/250 SPECIFY VOLTAGE ON ORDER

Equipped with flexible 6-ft. approved Neoprene rubber heater cord, which is water-proof, kink-free, and resistant to oil, abrasion and heat. Nickel-chromium replaceable heating elements; insulated with finest mica, protected by rugged outer housing. Replaceable tips.

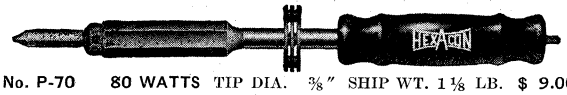
PLUG-TIP IRONS

No. P-25A 25 WATTS TIP DIA. 1/8" SHIP WT. 1/2 LB. **$6.00**
SMALLEST FULL-FLEDGED INDUSTRIAL IRON. Weight (less cord) only 3 oz. Length only 8". For extremely light soldering on finest wires, delicate instruments, jewelry, etc. Can also be furnished in higher wattages.

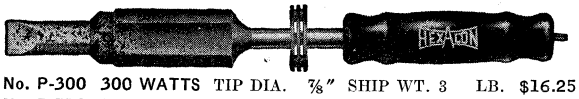
No. P-26 30 WATTS TIP DIA. 3/16" SHIP WT. 1/2 LB. **$6.00**
Same size and for same work as P-25A, but where larger tip is required. Can be furnished in higher wattages.



No. P-30 40 WATTS TIP DIA. 1/4" SHIP WT. 7/8 LB. **$6.25**
Very light soldering on fine wire and delicate instruments. Extra 1/8" dia. tip furnished with each iron. Also available in **50** or **60 watts.** Specify watts when ordering.



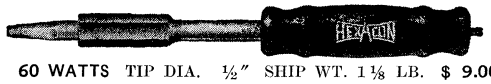
No. P-70	**80 WATTS**	TIP DIA.	3/8"	SHIP WT. 1 1/8 LB.	**$ 9.00**
No. P-100	**100 WATTS**	TIP DIA	3/8"	SHIP WT. 1 3/8 LB.	**$10.00**
No. P-125	**130 WATTS**	TIP DIA.	5/8"	SHIP WT. 1 5/8 LB.	**$11.75**
No. P-150	**150 WATTS**	TIP DIA.	3/8"	SHIP WT. 1 1/2 LB.	**$10.75**
No. P-151	**175 WATTS**	TIP DIA.	1/2"	SHIP WT. 1 5/8 LB.	**$11.50**
No. P-200	**200 WATTS**	TIP DIA.	5/8"	SHIP WT. 2 3/8 LB.	**$12.00**
No. P-250	**250 WATTS**	TIP DIA.	5/8"	SHIP WT. 2 3/8 LB.	**$13.75**



No. P-300	**300 WATTS**	TIP DIA.	7/8"	SHIP WT. 3 LB.	**$16.25**
No. P-550	**550 WATTS**	TIP DIA.	1 1/8"	SHIP WT. 4 3/8 LB.	**$21.75**

SCREW TIP IRONS

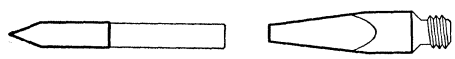
No. 50 50 WATTS TIP DIA. 7/16" SHIP WT. 1 LB. **$ 6.50**



No. 60	**60 WATTS**	TIP DIA.	1/2"	SHIP WT. 1 1/8 LB.	**$ 9.00**
No. 85	**90 WATTS**	TIP DIA.	1/2"	SHIP WT. 1 1/8 LB.	**$ 9.75**
No. 120	**120 WATTS**	TIP DIA.	5/8"	SHIP WT. 1 3/8 LB.	**$10.75**
No. 130	**130 WATTS**	TIP DIA.	7/8"	SHIP WT. 1 1/2 LB.	**$12.25**
No. 170	**175 WATTS**	TIP DIA.	1"	SHIP WT. 2 1/4 LB.	**$13.75**

No. 225	**250 WATTS**	TIP DIA.	1 1/8"	SHIP WT. 2 3/4 LB.	**$16.25**
No. 350	**350 WATTS**	TIP DIA.	1 3/8"	SHIP WT. 3 1/2 LB.	**$18.75**
No. 500	**500 WATTS**	TIP DIA.	1 5/8"	SHIP WT. 4 3/8 LB.	**$21.50**
No. 700	**700 WATTS**	TIP DIA.	1 3/4"	SHIP WT. 5 5/8 LB.	**$39.25**

NEW LONG-LIFE HEXCLAD TIPS



Last 10 times or more as long as copper tips with normal use and save maintenance cost. Have a durable coating of Iron Alloy over copper base on all surfaces for long wear. Do not erode or pit and thus deliver uniform heat. Available in all plug and screw tip sizes and shapes. Can also furnish special HEXCLAD tips made to your order.

Ask for Bulletin HT for Further Details and Prices

HEXACON SPECIAL-PURPOSE FAST-PRODUCTION-LINE SOLDERING IRONS

TYPES LISTED BELOW HAVE BEEN DEVELOPED SPECIFICALLY FOR SOLDERING OF TV SETS, ELECTRONIC AND COMMUNICATION EQUIPMENT, INSTRUMENTS, ETC. — AND ARE POPULAR ON PRODUCTION LINES OF LEADING PRODUCERS (BOTH CONVEYOR BELT LINES AND SUB-ASSEMBLIES).

SUPER-PENCIL IRONS

HOT TIP (Weighs only 2 oz.) COOL HANDLE

Length 7 3/4" Ship Wt. 1/2 lb.

No. 25S	**25 Watts**	(higher wattages	1/8" Tip	**$6.00**
No. 26S	**30 Watts**	are available)	3/16" Tip	**$6.00**

All the advantages of a Soldering Pencil, but a full-fledged industrial soldering iron with nickel-chromium mica-wound element. Tiny tips outperform irons with larger tips and higher wattages.
See Bulletin 25S for Further Details

BANTAMWEIGHT HATCHET IRONS

(Weighs only 3 oz.)

Smallest Hatchet Soldering Iron. Perfect balance gives effortless soldering at its best. Tiny tips outperform irons with larger tips and higher wattages.
Ship Wt. 1/2 lb. **See Bulletin 25H for Further Details.**

No. 25H	**25 Watts**	(higher wattages	1/8" Tip	**$6.50**
No. 26H	**30 Watts**	are available)	3/16" Tip	**$6.50**

FEATHERWEIGHT HATCHET IRON

(Weighs only 5 oz.)

More powerful than wattage rating indicates. Hatchet design makes iron effortless to use. Ship Wt. 7/8 lb. **See Bulletin 30H for Further Details.**

No. 30H 40, 50 or 60 Watts 1/4" Tip **$6.75**
Extra 1/8" dia. tip furnished with each iron.

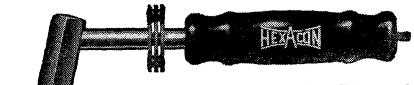
SUPER-POWERED IRONS

HIGHER SPEED SMALLER TIPS

Tip Dia.	Watts	Cat. No.	Ship Wt.	Price
1/4"	100	P-114	1 3/8 lbs.	$10.00
1/4"	150	P-154	1 1/2 lbs.	$10.75
1/4"	200	P-214 (shown)	2 1/8 lbs.	$12.00
3/8"	200	P-238	2 1/4 lbs.	$12.00
1/2"	200	P-212	2 1/4 lbs.	$12.00
5/8"	300	P-338A	2 3/4 lbs.	$16.25

SOLDER FASTER WITH LOWER TIP COST! For example, Cat. No. P-214 has more speed than conventional 200 watt iron, but takes 1/4" tip instead of 5/8" (saves 84% of tip copper). Widely used on production line soldering of TV sets, etc. **See Bulletin P-154 for Further Details.**

HATCHET TYPE IRONS



Perfect Balance
Less Fatigue
See What You Solder

Cat. No.	Watts	Tip Dia.	Ship Wt.	Price
70H	80	3/8"	1 3/8 lbs.	$11.00
100H	100	3/8"	1 1/2 lbs.	$12.00
150H	150	3/8"	1 5/8 lbs.	$12.75
151H	175	1/2"	1 5/8 lbs.	$13.50
200H	200	5/8"	2 1/4 lbs.	$14.00
300H	300	7/8"	3 lbs.	$18.25

Hatchet Iron gives perfect balance—"cradles" in operator's hand. Solder in natural position, relieving arm and back fatigue resulting in better soldered joints. For inaccessible places. **See Bulletin 70-H for Further Details.**

HEXACON ELECTRIC COMPANY • ROSELLE PARK, N. J.
In Canada: Adlam Tool & Supply Co., 1015 St. Alexander St., Montreal. Export Division: 36 Pearl St., New York 4, N. Y.

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

HEXACON INSTANT SOLDER GUNS

Featuring a new concept in solder gun design. Elimination of transformer reduces weight and lifetime tip assures long trouble-free service. Fully guaranteed; underwriters' approved.

FEATHERWEIGHT SOLDER GUN

instantaneous, Power Packed — 150 watts

- **SOLDERS IN SECONDS** No waiting for warm-up
- **WEIGHS ONLY 8 OZ.** No heavy transformer
- **HEAT RIGHT IN TIP** Exclusive Hexacon design
- **LIFETIME TIP** No wire to bend

The ideal handy soldering tool for hundreds of uses. Just the tool for radio, TV, motors, autos, labs, electronic and telephone equipment, industrial electrical maintenance, hobbies and general home use. Saves space and weight in tool boxes.

OPERATES ON D.C. AS WELL AS A.C. —ANY CYCLE

Model G14 with ¼" Dia. Tip. Ship. Wt. 1¼ lbs. **Price $7.95**

Hexacon Guns are compact, light-weight. Hexacon Lifetime Tips require no maintenance, cannot bend or wear and permit longer, thinner reach. Heater-tip assembly and lamp are replaceable; handle is shock-resistant plastic.

Hexacon Guns solder in only seconds. Just press the switch trigger and solder instantly. Trigger control gives any degree of heat required, without danger of overheating. Tiny tips perform finest soldering.

ALSO AVAILABLE WITH ⅛" DIA. TIP

150-watt gun with ⅛" diameter tip for smaller joints and confined spaces. Same as Model G14 except for tip. **Model G14S,** 120 volts AC-DC. Ship. Wt. 1¼ lbs. **Price $7.95**

PATENT PENDING

COMPLETE "DO-IT-YOURSELF" KIT G14K

- 150-WATT HEAVY DUTY SOLDER GUN
- CUTTING TIP AND SMOOTHING TIP
- KESTER TV-RADIO RESIN-CORE SOLDER
- SANDPAPER FOR CLEANING JOINT

Model G14K — Solder Gun Kit. Ship. Wt. 1¼ lbs. **Price $8.95**

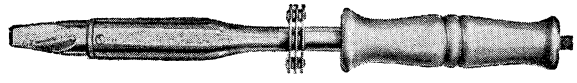
Popular SOLDERMASTER ELECTRIC SOLDERING IRONS

Solder Master ROYAL BLUE LINE

VOLTAGE RANGE: 6 to 250 OPERATES IDENTICALLY ON A.C. OR D.C., ANY CYCLE
STANDARD VOLTAGES 110/120, 121/130, 220/250 SPECIFY VOLTAGE ON ORDER

Equipped with 6 ft. approved heater cord with rubber plug. Nickel-chromium replaceable heating elements. All one-piece swaged cases chrome finished. Insulated with finest mica, protected by rugged outer housing. Replaceable tips.

SCREW TIP IRONS



No. 55B — For light soldering, radio apparatus, etc. 55 Watts. Tip dia. 1/16". Ship. wt., 13 oz. ..... **each $3.95**

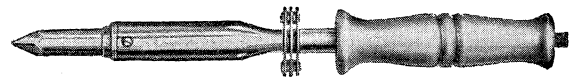
No. 76B — For light work, electrical instruments, etc. 75 Watts. Tip dia., ½". Ship. wt., 15 oz. ..... **each $6.00**

No. 100B — Same as No. 76B except used where more speed is required and heavier work is done. For home use. 90 Watts. Tip dia., ½". Ship. wt., 16 oz. ..... **each $6.50**

No. 150B — Ideal size for garage and repair work. For home use. 170 Watts. Tip. dia., ⅞". Ship. wt., 24 oz. ..... **each $9.75**

No. 300B — For heavy steel metal, auto radiators, etc. 275 Watts. Tip dia., 1⅛". Ship. wt., 38 oz. ..... **each $13.00**

PLUG TIP IRONS



No. 71B — For light work, radio repairs, etc. 80 Watts. Tip dia., ⅜". Ship. wt., 16 oz. ..... **each $6.00**

No. 101B — For same work as No. 71B, but where more speed is required or heavier work is done. For home use. 100 Watts. Tip dia., ⅜" Ship. wt., 18 oz. ..... **each $6.50**

No. 121B — High speed iron for radio and electrical repairs. 125 Watts. Tip dia., ⅜". Ship. wt., 1¾ lbs. ..... **each $7.75**

No. 201B — For same work as No. 150B, except where plug tip is desired. 200 Watts. Tip dia., ⅝". Ship. wt., 34 oz. ..... **each $10.75**

No. 301B — For same work as No. 300B, except where plug tip is desired. 300 Watts. Tip dia., ⅞". Ship. wt., 46 oz. ..... **each $13.00**

DISPLAYS

Increase your sales with silent salesmen. Irons securely mounted, but readily removable for sale. Individually packed in cartons ready for shipment. Catalog number and wattage shown on front of display. Complete catalog information and price list on back.

SCROLL TYPE DISPLAY

Striking, Modernistic
All Metal Panel

No. 1B — Nine Iron with Nos. 55B, 76B, 100B, 150B, 300B, 71B, 101B, 201B, 301B. Ship. Wt. 20 lbs. **Price $75.45**

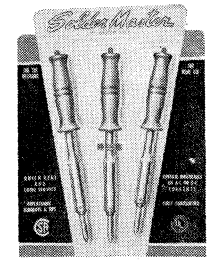
No. 2B — Seven Iron with Nos. 55B, 76B, 100B, 150B, 300B, 71B, 101B. Ship. Wt. 17 lbs. **Price $51.70**

No. 3B — Five Iron with Nos. 55B, 76B, 100B, 150B, 300B. Ship. Wt. 15 lbs. **Price $39.20**

No. 4B — Five Iron with Nos. 71B, 101B, 121B, 201B, 301B. Ship. Wt. 16 lbs. **Price $44.00**

No. 1B DISPLAY Illustrated — Size 15" x 17½" (Nos. 1B, 2B, 3B and 4B also same size).

ATTRACTIVE THREE COLOR CARDBOARD DISPLAY



No. 5B — Three Iron with Nos. 55B, 76B, 100B. Ship. wt., 4 lbs. **Price $16.45**

No. 5DB — Three Iron with Nos. 55B, 100B, 150B, on display and 2 No. 55B and 1 No. 100B for stock. Ship. wt., 8 lbs. **Price $34.60**

No. 6B — Three Iron with Nos. 71B, 101B, 121B. Ship. wt., 5 lbs. **Price $20.25**

No. 6B DISPLAY Illustrated — Size 12" x 16½". (Nos. 5B, 5DB also same size).

HEXACON ELECTRIC COMPANY • ROSELLE PARK, N. J.
In Canada: Adlam Tool & Supply Co., 1015 St. Alexander St., Montreal. Export Division: 36 Pearl St., New York 4, N. Y.

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SOLDERING IRONS

Equipped with Quick, Long-life Heaters

FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT

ASK YOUR G-E DISTRIBUTOR FOR A COPY OF BULLETIN GEC-1318.

● **HIGH-SPEED SOLDERING.** You can solder as fast and continuously as the nature of the work will allow.

● **UNIFORM PERFORMANCE.** Operating characteristics remain constant day after day. No appreciable decrease in efficiency, even after months of service.

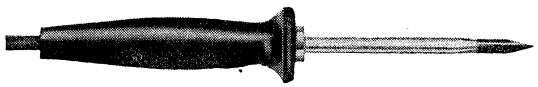
● **EASY, LOW-COST REPAIR.** Assembling and disassembling are easy.

● **LONG LIFE AND LOW MAINTENANCE.** Life is lengthened, and over-all costs are kept low because sturdy construction eliminates need for frequent repairs.

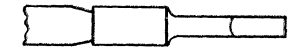
● **THEY NEED NOT BE RETURNED TO THE FACTORY FOR REPAIR.** Irons can be repaired on the job without special tools or skill.

LIGHTWEIGHT INDUSTRIAL IRONS

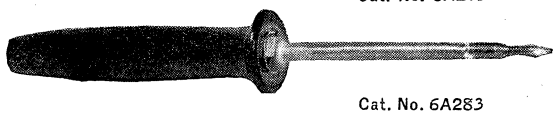
(Listed by Underwriters' Laboratories)



Cat. No. 6A273



3/16-in. Chisel



Cat. No. 6A283

3/16-in. Pyramid

Disassembled View

Soldering Iron, Including Ironclad Tip and Heater Assembly						Tip and Heater		Tip Only*		
Cat. No.	Rating		Tip Dia, Inches	List Price, Each†	Standard Package Quantity	Cat. No.	List Price, Each†	Cat. No.	Size, Inches	List Price, Each†
	Volts	Watts								
6A273	120	60	¼ Chisel	$12.55	6	6A300	$6.15	326A964P21	¼ Chisel	$1.75
6A283	120	60	3/16 Pyramid	12.55	6	6A301	6.15	326A964P22	3/16 Pyramid	1.75
6A283G23	120	60	3/16 Chisel	12.55	6	6A301G4	6.15	116V707P21	3/16 Chisel	1.75

*Tips must be brazed on. See instructions included with irons.
†Mfgr's suggested resale price.

INDUSTRIAL SOLDERING IRONS

(Listed by Underwriters' Laboratories)

For light, high-speed soldering, such as assembly of radios, telephones, switchboards, appliances, meters, and instruments, and installation and repair of wiring and wiring devices and ignition. Also, for medium, intermittent soldering on tinware, wiring, plumbing, and tinsmithing. Excellent general-purpose iron for service and repairmen, for shop and farm.

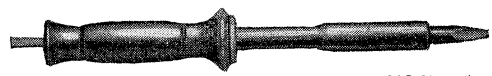


Fig. 1. Industrial soldering iron, 6A161 and 6A162 series

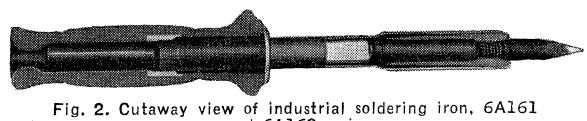
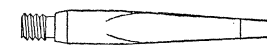


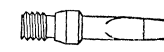
Fig. 2. Cutaway view of industrial soldering iron, 6A161 and 6A162 series

CHISEL TIPS

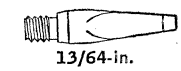
½-in. Short



½-in. Long



⅜-in.



13/64-in.

Soldering Iron, Less Tip					Renewal Heater		Interchangeable Tips			
Cat. No.	Rating		List Price, Each†	Standard Package Quantity	Cat. No.	List Price, Each†	Cat. No.	Size, Inches	Type	List Price, Each†
	Volts	Watts								
6A161 and 6A162 Series (Fig. 1 and 2)										
6A161	115	75	$13.20	6	6A31	$4.05	Note: All of the interchangeable tips listed below will fit any iron in the 6A161 and 6A162 series.			
6A162	115	100	13.20	6	6A32	4.05	6851732P21	⅜	Calorized	$0.90
6A162G6	115	110	13.20	6	7C342	4.05	6851732P22	⅜	Ironclad	1.65
6A162G3	115	125	13.20	6	8A88	4.05	6808345AAP2	½ short	Calorized	0.90
							6851775P21	½ short	Ironclad	1.65
							6808345AAP3	½ long	Calorized	1.55
							6851775P22	½ long	Ironclad	3.15
							9817171P22	13/64	Ironclad	1.65

†Mfgr's suggested resale price.

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SOLDERING IRONS

Equipped with Quick, Long-life Heaters

FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT

ASK YOUR G-E DISTRIBUTOR FOR A COPY OF BULLETIN GEC-1318.

MIDGET SOLDERING IRONS

APPLICATION

This 8-inch, 1¾-ounce featherweight iron for close-quarter soldering with pin-point precision is used where conventional irons might cause damage . . . be clumsy to handle . . . be more expensive to operate. The Midget literally goes places with greater efficiency and less power . . . with no sacrifice in heat or speed. With its fingertip operation, this iron will help make an expert out of any solderer in a short time.

The Midget has Ironclad copper tips either ¼-, 3/16- or ⅛-inch diameter, as desired.

Disassembled view of Midget soldering iron

¼-in. dia tip, Cat. No. 6A210

THIS MIDGET DOES A BIG JOB IN

- Boosting Production Rates
- Increasing Operator Efficiency
- Cutting Down Employee Fatigue
- Saving on Repair and Maintenance
- Reducing Rejects
- Manufacturing and Repairing:
  - Radios and other electronic equipment
  - Meters
  - Instruments
  - Jewelry
  - Appliances

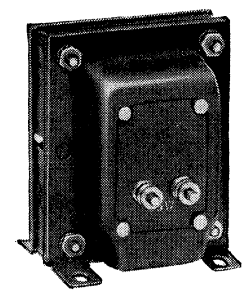
. . . and many other products requiring precision soldering

RATING: 6 VOLTS, 25-35 WATTS

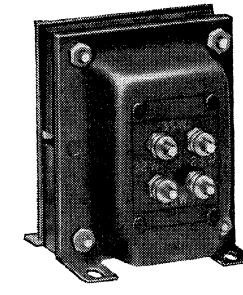
Soldering Iron (Complete)		List Price, Each*	Renewal Tip and Heater Assembly		List Price, Each*
Cat. No.	Tip Dia, Inches		Cat. No.	Tip Dia, Inches	
6A210	¼ Chisel	$6.90	6A211	¼ Chisel	$3.60
6A212	⅛ Pyramid	6.90	6A213	⅛ Pyramid	3.60
6A214	3/16 Pyramid	6.90	6A215	3/16 Pyramid	3.60
6A216	3/16 Chisel	6.90	6A217	3/16 Chisel	3.60

All tips are Ironclad copper.
Net weight, iron less cord, 1¾ oz.
Net weight, iron including cord, 5 oz.
Shipping weight, complete iron, 8 oz.
Standard package consists of 6 irons of one tip size. Tip and heater assemblies can be purchased in any quantities.

SPECIAL TRANSFORMERS (OPTIONAL) FOR G-E MIDGET SOLDERING IRONS



Single-tap



Four-tap

Specially designed transformers are available as optional equipment in two types:

1. Single-tap, 115- or 230-volt primary—for use where only one soldering heat (25 watts) is required
2. Four-tap, 115- or 230-volt primary—gives wide range of heats (from 25 to 35 watts) for close temperature control of tips

Transformers are small, lightweight, but sturdy. Their 6-foot extension cords can be plugged in any 115- or 230-volt outlet.

Description	Cat. No. 115-volt Primary	Price*	Cat. No. 230-volt Primary	Price*
Single-tap	6A362G2	$6.30	6A362G22	$11.20
Four-tap	6A364G2	8.35	6A364G22	11.75

Publication Reference GEC-1318

THE MIDGET OFFERS MAJOR ADVANTAGES

Low-cost soldering—Solders more efficiently, using only approximately one-fourth wattage normally used.

Fingertip operation—Only 8 inches long, weighs but 1¾ ounces. Styled for fingertip grip.

Quick, continuous heat—Famous G-E heater built into Ironclad copper tip for rapid heat transfer and tip temperature recovery.

Easy renewal—Ironclad tip and heater assembly are replaced as a unit merely by unscrewing from handle.

Long life, low maintenance—Low voltage permits use of heavy, long-lasting nickel-chromium resistance wire. Less maintenance is required with long-lasting Ironclad copper tip.

*Manufacturer's suggested resale price.

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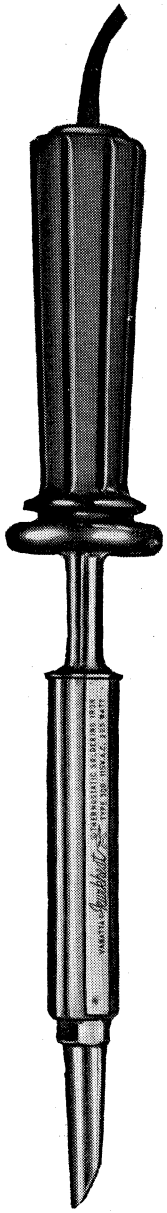
KWIKHEAT THERMOSTATIC SOLDERING IRONS

Built-in Vanatta Automatic Thermostat

KWIKHEAT TYPE NO. 200



HOT IN 80 SECONDS
150 Watts—115 Volts AC Only

Weight of Iron with Tip.....7½ oz.
Shipping Weight per Iron with ⅜" x ¼" Dia. Tip and resting stand .....1 lb. 2 oz.
Length of Iron with ⅜" x ¼" Dia. Tip .....12¾"
Length of Heater Cord.....6 ft.

HOT IN 80 SECONDS
List Price

Iron complete with tip..... **$8.50**
Replacement Elements **5.25**
Tip ⅜" x ¼" Dia. Pyramid Point ..... **.90**

CHECK THESE ADVANTAGES

KWIKHEAT JR. has been designed to meet the demand by the electronics industry for a lighter and smaller **PRODUCTION** tool. The element is readily replaced in the field by use of screwdriver, pliers, and small punch or nail.

CORROSION RESISTANT

Core assembly and outer shell are made of **STAINLESS STEEL.**

HOT IN 80 SECONDS

The watt density of the heating element is very high and completely controlled by the thermostat.

TEMPERATURE

While the thermostat is preset at the factory, two standard temperatures are available—Standby Irons, used for intermittent bench work, servicing, and engineering, set at 700°F; **PRODUCTION** Irons, used for constant high speed soldering, set at 800°F.

TIPS

Tips, plunger type ⅜" x ¼" diameter x 4" long, plated to reduce corrosion. It is advisable to keep tips inserted completely in the cavity of the element for complete temperature control.

Tip 2051..... .90 Tip 2052..... .65
Tip 2053..... .75

KWIKHEAT TYPE NO. 300

HOT IN 90 SECONDS
225 Watts—115 or 230 Volts AC Only

Weight of Iron with Standard No. 1 Tip .....14 oz.
Shipping Weight per Iron with No. 1 Tip and resting stand ....1½ lb.
Length of Iron with No. 1 Tip...13"
Length of Heater Cord .....6 ft.

HOT IN 90 SECONDS
List Price

Iron complete with tip **$13.25**
Available in other AC Voltages
Available with 3 Conductor Cord add **2.50**
Replacement Elements **9.00**
Tips, any style .....**$1.60** to **$2.35**

TEMPERATURE

The Kwikheat Element can be set at the factory to any desired tip temperature between 275° and 875° F. Additional charges for this service:

1 to 49 .....$1.00 ea.
50 to 99 ..... .50 ea.
100 or more .....standard price

CORROSION RESISTANT

Tips and core are forged of tellurium copper alloy and plated for resistance to corrosion.

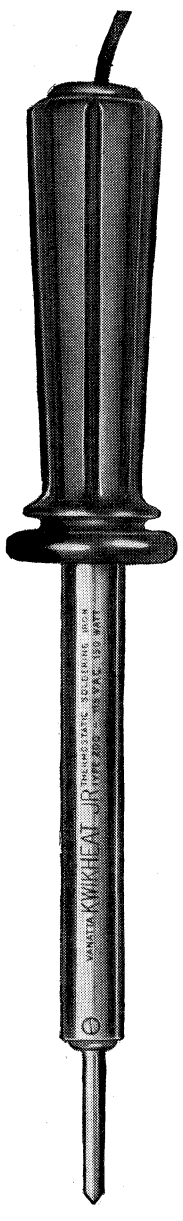
HOT IN 90 SECONDS

Kwikheat Thermostatically controlled soldering irons are the only irons containing built-in thermostats, allowing a much greater watt density with less radiation of heat.

TEMPERATURES ARE PRE-SET

The use of recently developed alloys have permitted the increase of thermostat temperatures with reduced creep.

WHEN IRONS ARE TO BE USED FOR HEAVY OR HIGH SPEED SOLDERING — SPECIFY A PRODUCTION IRON.

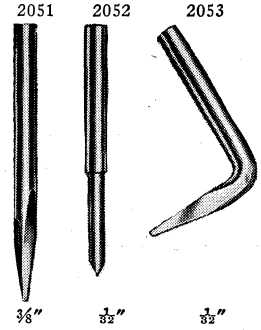


#20 ANTIFREEZE COMPOUND

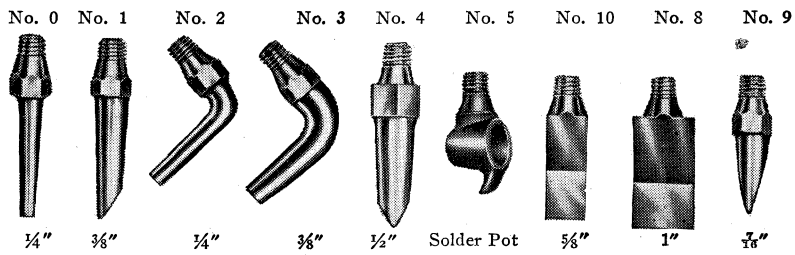
A lubricant for all soldering iron tips. Prevent sticking, increases conductivity between tip and core.

Please contact your jobber for trade discounts.

TYPE 200 TIPS



9 INTERCHANGEABLE TIPS FOR TYPE 300



KWIKHEAT MFG. CO. **Glendale 4, California**

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Weller SOLDERING GUNS AND KITS

Easton, Penna.

4 MODELS FOR PROFESSIONAL USERS

Weller soldering guns save time and current on every job and pay for themselves in a few months.

Instant Heat — Full capacity heat in 5 seconds.

Exclusive Tip Grip — Assures full, constant heat.

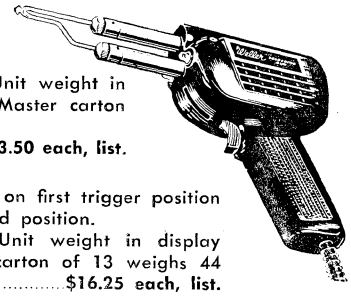
Shatterproof Housing — Rugged plastic.

Longer Reach — Fits easily into tight places, speeds work and prevents damage to insulation.

Dual Spotlights — Prefocussed to give maximum light for work.

Guaranteed — Registered and guaranteed for 1 year.

HEAVY-DUTY MODELS



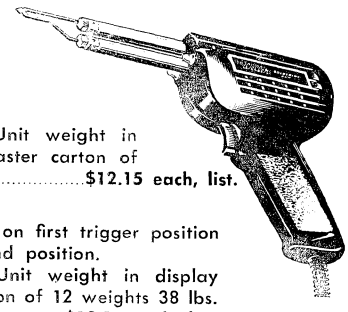
Model S-500

Single heat, 250 watts.
Individually Packaged. Unit weight in display carton 3½ lbs. Master carton of 12 weighs 44 lbs.
PRICE.....$13.50 each, list.

Model D-550

Dual heat — 200 watts on first trigger position and 275 watts on second position.
Individually Packaged. Unit weight in display carton 3½ lbs. Master carton of 13 weighs 44 lbs. **PRICE.....$16.25 each, list.**

LIGHT-DUTY MODELS



Model S-400

Single heat, 135 watts.
Individually Packaged. Unit weight in display carton 3 lbs. Master carton of 12 weighs 38 lbs. **PRICE.....$12.15 each, list.**

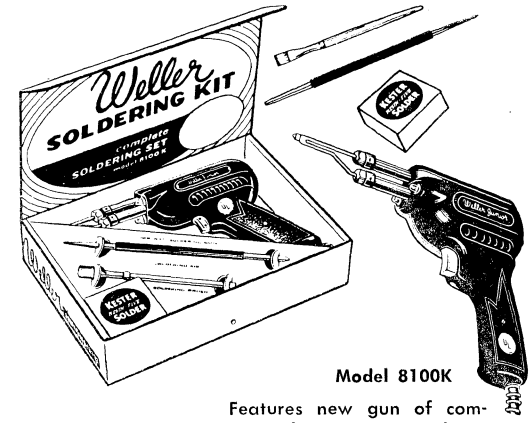
Model D-440

Duel heat — 100 watts on first trigger position and 150 watts on second position.
Individually Packaged. Unit weight in display carton 3 lbs. Master carton of 12 weights 38 lbs.
PRICE..... $12.15 each, list.

WELLERTIPS FOR ALL MODELS

For Gun Models 8100, S-400 and D-440	For Gun Models 8250A, S500 and D-550
Soldering tip	Soldering tip
No. 7135, pkg. of 2....35c list	No. 7250, pkg. of 2....50c list
Smoothing tip	Smoothing tip
No. 6120, with nuts....50c list	No. 6140, with nuts....50c list
Cutting tip	Cutting tip
No. 6110, with nuts....50c list	No. 6130, with nuts....50c list

COMPLETE SOLDERING SET



Model 8100K

Features new gun of compact design. Instant heat, dual spotlights, "triggermatic" control for instant on-off heat. Accommodates smoothing and cutting tips which are available at extra cost. Kit also contains a supply of famous Kester Solder, Wire-Bristle Soldering Brush, Weller Soldering Aid for holding down and twisting wires.

Single heat, over 100 watts — 120V., 60 cy., AC only.
Guaranteed for 1 year — Registered, UL approved.
Individually packaged in self-display case weighing 3 lbs. Standard carton of 6 weighs 19 lbs.

SPECIAL LOW PRICE.....$7.95 each, list. ($8.95 value)

HEAVY-DUTY SOLDERING KIT

Model 8250AK

Kit includes 250-watt **Soldering Gun** 8250A for heavy-duty work; **famous Kester Solder** — ample supply, general-purpose type; long-life **Soldering Tip** and special **Cutting Tip** and **Smoothing Tip**; in all-metal carrying case.

Sturdy Metal Case

Cutting Tip — For cutting plastic tile, removing hard putty, etc.

Smoothing Tip — For heat-sealing and mending plastics, etc.

Tip Interchange Wrench

Two Instruction Booklets — Give valuable soldering details.
Individually packaged — 6½ lbs. Master carton of 3 weighs 21 lbs.

PRICE.....$14.95 each, list. ($17.00 value)

WELLER SOLDERING AID

New soldering aid is useful for opening old joints, holding down and twisting wires, etc. — always handy.

PRICE .....50c each, list

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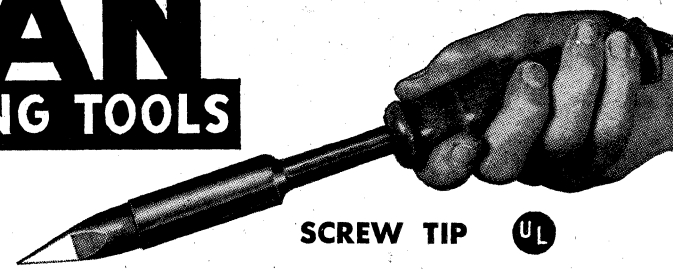
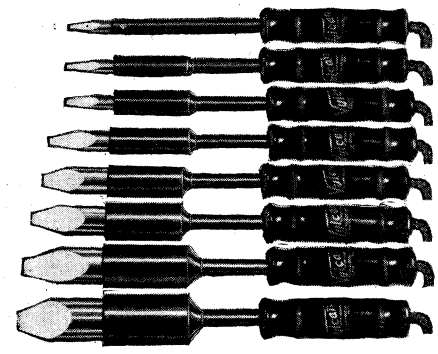
VULCAN
ELECTRIC SOLDERING TOOLS



High-powered Soldering Tools, designed for fast soldering, with low operating cost.
Tips are of finest forged copper.
The "Hang" or balance good mechanics appreciate, plus light weight.
Cool handles of selected birch, shaped to fit the hand.
6 ft. heater cord, with unbreakable rubber plug.
Fireproof terminals.
Heating elements easily replaced.
Operate equally well on AC or DC.

SCREW TIP (UL)

CAT. No.	WATTS	TIP	LIST
20	50	7/16"	$6.25
30	60	1/2"	8.15
40	90	1/2"	8.90
50	130	7/8"	10.60
60	175	1"	12.15
70	220	1 1/8"	14.10
80	310	1 3/8"	16.10
90	430	1 5/8"	18.30
900	700	1 3/4"	33.90



Pygmy PENCIL TYPE

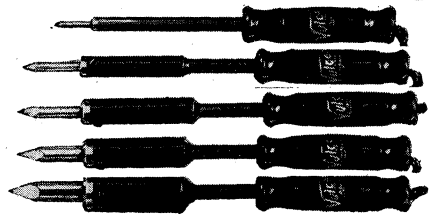
A very efficient tool for fine soldering of instruments, meters, gauges, small radios, etc. or any spots where space is cramped or there is little clearance. The cool, tapering wood handle permits "writing grip." Flexible coil also assures coolness. Equipped with approved cord and unbreakable rubber plug. Standard tip is 1/4" but 3/16" or 1/8" tips are available, as well as special tips, bent to any angle or in various shapes.

Cat. No.	Watts	Tip	Weight	Length	List
Pygmy	25	1/4"	7 oz.	8 1/4"	$5.10

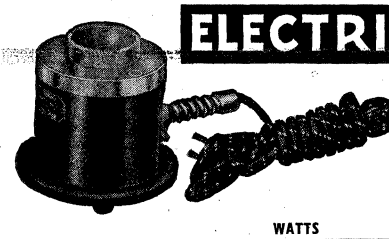
PLUG TIP — All parts replaceable (UL)

CAT No.	WATTS	TIP	LIST
* 25	50	1/4"	$5.70
35	100	3/8"	8.90
453	150	3/8"	9.65
45	150	1/2"	10.15
55	200	5/8"	10.50
* 75	300	7/8"	13.75

*Heating element replaceable at Factory only.



ELECTRIC SOLDER POTS

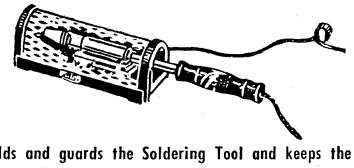


Both single and three-temperature Pots in a variety of sizes and wattages, all with cord and plug approved at Underwriters' Laboratories.

CAT. No.	WATTS HIGH	WATTS MEDIUM	WATTS LOW	CAPACITY SOLDER APPROXIMATE	LIST
1700	200	120	80	1 1/4 lbs.	$23.00
1702	250	150	100	5 lbs.	26.60
1704	500	250	125	10 lbs.	30.60
1600	150	Single Heat		14 oz.	8.40
1606	350	Single Heat		3 lbs.	9.30
1701	250	Single Heat		4 lbs.	17.90
1703	200	Single Heat		1 1/2 lbs.	13.05

Other sizes up to 6000 watts, single heat.

SOLDERING TOOL HOLDER



Holds and guards the Soldering Tool and keeps the tip at soldering temperature as long as it remains in the holder. Has a cord and attached plug cap for connection to current and a receptacle for plugging in the Tool. A convenient adjusting screw sets the Holder thermostat to maintain proper temperature. AC only

No. 2100 without thermostat .....**$4.50 list**
No. 2100T with thermostat .....**$7.30 list.**

"DUREVER" Soldering Tips are pure forged copper, shaped to your favorite style, with a special metal coating that will preserve the original shape of the tip by protecting the copper from corrosion and oxidation. Will outlast copper tips, cannot amalgamate with solder, do away with the necessity for dressing or filing. Can be readily tinned without filing and hold their original shape. Circular on request.

VULCAN ELECTRIC CO

ELECTRIC SOLDERING TOOLS · SOLDER POTS · GLUE POTS · BRANDING IRONS · HEATING UNITS

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

VULCAN ELECTRIC SOLDERING TOOLS

LOW PRICE LONG DISCOUNT JACKSON

Jackson "Standard" Electric Soldering Irons are scientifically designed for that "balanced feel" which reduces fatigue. All elements used in Jackson Standard Irons are made of the finest quality nichrome wire, wound on heat conductive cores and insulated with selected high grade amber mica. Equipped with 6 ft. approved heater cords and plugs. Stand included with every iron.

STANDARD SCREW TYPE — Gun Metal Finish (UL)

CAT. No.	WATTS	TIP	LIST
141	85	7/16"	$4.35
142	100	5/8"	5.70
0142	125	5/8"	6.45
144	150	3/4"	7.75
143	225	7/8"	9.30
210	350	1 1/8"	10.05

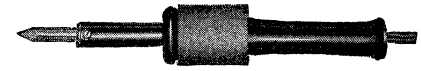
STANDARD PLUNGER TYPE (Plug Tip) — Gun Metal Finish (UL)

CAT. No.	WATTS	TIP	LIST
149	85	5/16"	$4.35
145	100	3/8"	5.70
0145	125	3/8"	6.45
146	150	1/2"	7.75
147	225	5/8"	9.30
148	350	7/8"	10.05

DE-LUXE ELECTRIC SOLDERING PENCIL

A soldering pencil for all light work such as Radio, Television, Jewelry, Instruments and Electronics. Handle is cork-filled composition, 100% air cooled: 1/2" steel tubing, perforated for air cooling. Element is wound on a heat conductive core, for efficient heating. High grade mica and nichrome wire. Underwriters approved 6 ft. rubber cord and plug.

CAT. No.	WATTS	VOLTS	TIP	LENGTH	WEIGHT	LIST
230D	25	115	1/4"	7"	3 oz.	$2.75



STANDARD ELECTRIC SOLDERING PENCIL

Wood handle, rich black finish with cork sleeve. 1/2" steel tubing gun metal finish. Element is wound on heat conductive core. High grade mica and nichrome wire. 6 ft. rubber cord and plug.

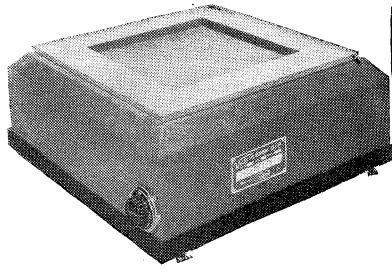
CAT. No.	WATTS	VOLTS	TIP	LENGTH	WEIGHT	LIST
230	25	115	1/4"	7"	3 oz.	$2.30
231	40	115	3/8"	8"	4 oz.	4.10

COMET — SCREW TIP

COMET — PLUNGER (PLUG) TIP

Comet Irons are equipped with a 6 ft. approved Heater Cord and Plug. Heating element is made of high quality Nichrome Wire, wound with mica on a core. Handles are black finish. All irons are packed one in a box, stand included. 50 to a standard shipping container. All irons are made for 115 volts. If higher voltage is desired, there will be a slight extra charge.

CAT. No.	WATTS	TIP	LIST	CAT. No.	WATTS	TIP	LIST
65 S	65	1/2"	$3.10	65 P	65	1/4"	$2.30
85 S	85	5/8"	3.60	85 P	85	5/16"	2.70
100 S	100	3/4"	4.10	100 P	100	3/8"	3.35
125 S	125	7/8"	4.90	125 P	125	7/16"	4.10



VULCAN "EVEN-DIP" SOLDER POTS

DESIGNED AND DEVELOPED BY SPECIALISTS FOR PRINTED CIRCUIT SOLDER OPERATIONS

- 16 Crucible Sizes.
- High Fidelity thermostat control—Adjustable 150-600° F.
- Surface Temperature does not vary beyond ± 2° F.
- Localized "hot spots" completely eliminated.
- Replaceable heavy-duty heating elements.

Send for free, detailed specifications.

VULCAN ELECTRIC CO

ELECTRIC SOLDERING TOOLS · SOLDER POTS · GLUE POTS · BRANDING IRONS · HEATING UNITS

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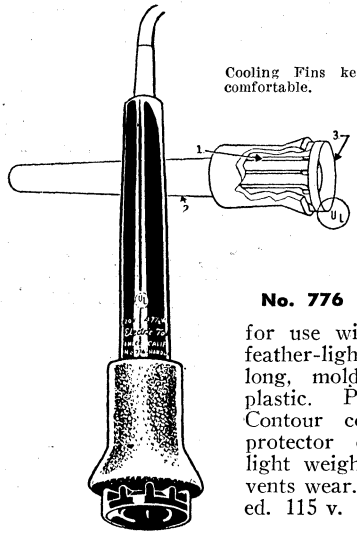
Ungar

heavy duty soldering iron

WITH INTERCHANGEABLE TIPS AND TIPLETS

The world's most complete line of pencil soldering irons with its series of interchangeable soldering tips has been designed to speed soldering production — reach into those hard-to-get-at soldering points and replace the big bulky irons that promote fatigue and add costly man hours and overhead.



Cooling Fins keep cork grip cool and comfortable.

2. Heavier Wall Sections for extra durability, longer life.
3. NEW HEAT DEFLECTOR HEAD reflects heat **away** from handle.

No. 776 Handle with Cord

for use with all Ungar tips, feather-light, less than 5 inches long, molded of tough red plastic. Perfectly balanced. Contour cork grip. Molded protector on extra flexible, light weight tensile cord prevents wear. Underwriters' listed. 115 v.

$1.40 ea.

1200 HI-HEAT SERIES - 750° to 800° F. - 37½ Watts
For general service and light production soldering

No. 1236 Pyramid Tip
37½ Watts - 800° F.

Solid Armco pure iron, silver plated. 1⅛" long, 5/16" dia. 115 v. **$1.50 ea.**

No. 1239 Chisel Tip
37½ Watts - 800° F.

1⅛" long, ⅜" dia. Requires minimum maintenance. Solid Armco pure iron, silver plated. 115 v. **$1.50 ea.**

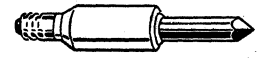
***No. 1235 Heating Unit**
37½ Watts - 750° F.

For use with No. 300 series (Elkaloy) and PL 300 series (iron plated) tiplets. Also used for printed circuit repair. Tiplet ⅛" dia., 1" long, threads into heating unit. 115 v. **$1.50 ea.**

SUPER HI-HEAT TIPS
No. 4000 SERIES
850° - 900° - 1000°
for Heavy Duty-47½ Watts

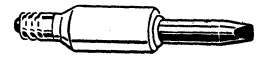
No. 4033 Chisel Tip
900° F. - 47½ Watts

For large metal parts such as chassis. 1⅝" long - ¼" wide - copper base plated with iron and pure silver. 115 v. **$3.00 ea.**



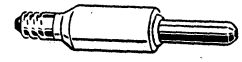
No. 4036 Pyramid Tip
47½ Watts - 1000° F.

Iron and silver plated for long life. For heavy duty soldering. 1⅛" long, ⅜" dia. 115 v. **$3.00 ea.**



No. 4039 Heavy Chisel Tip
47½ Watts - 1000° F.

Plated with iron and silver. Needs no filing or grinding. 1⅛" long, ⅜" dia. 115 v. **$3.00 ea.**



***No. 4035 Heating Unit**
47½ Watts - 850° F.

For use with No. 300 series tiplets (Elkaloy) and PL 300 series (iron plated). Tiplets 1" long, ⅛" dia. Screw into threaded heating unit. 115 v. **$3.00 ea.**

UNGAR No. 500 SERIES
23½ Watts-650° to 700° F.
for Printed Circuits

No. 536 Pyramid Tip
23½ Watts - 700° F.

For use in instrument repair, general purpose repair and maintenance. 1⅛" long, 5/16" dia. 115 v. **$1.25 ea.**

No. 539 Chisel Tip
23½ Watts - 700° F.

For small, broad surface joints. 1⅛" long, ⅜" dia. 115 v. **$1.25 ea.**

***No. 535 Threaded Heating Unit - 23½ Watts-650° F.**

For use with tiplets No. 300 series (Elkaloy) and PL 300 series (iron plated), for smallest miniaturized components. A must for printed circuit repair. 1⅛" long, 5/16" dia. Delivers 650° to each of 3 tiplets. **$1.25 ea.**

No. 331 No. 332 No. 333

***No. 300 Series**
Elkaloy "A" Tiplets

Designed especially for use with heating units No. 535, 1235 and 4035, for fine precision work. Made of Elkaloy "A" P. R. Mallory's high temperature copper alloy for perfect tinning. Each tiplet interchangeable, making a single heating unit do the work of 3. ⅛" dia. x 1" long. **20c ea.**

New Iron-Plated Tiplets — *No. PL 300 Series

Tiplets similar to above but iron and silver plated for longer life. Will last ten times as long. PL331 — PL332 — PL333. 60c ea.

All tips and tiplets come packed in plastic vials for ease of handling and cleanliness.

HEAVY DUTY—PRECISION SOLDERING AND ELECTRICAL KIT

No. 507—Contains UNGAR Heavy Duty Handle, Heavy Duty Soldering Tip, Precision Heating Unit with tiplet, circuit tester, trouble and test light, resin core solder, terminal connectors and tape. Beautifully packed in an easel, blister package. An ideal kit for the electronic trade.

$4.95 each

Ungar ELECTRIC TOOLS, INC.

LOS ANGELES 66, CALIF.

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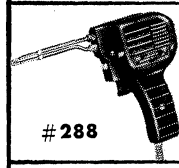
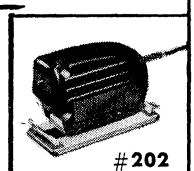
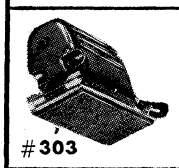
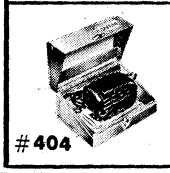
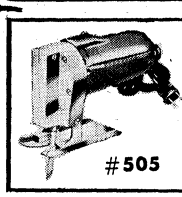
BEST FOR SERVICE—FASTEST SELLING

the WEN PRODUCTS, INC.

complete line of handy, low cost, electric power tools.

		FEATURES	USES	PRICES (LIST)
"Quick-Hot" ELECTRONIC SOLDERING GUNS	#199	Smaller and lighter. (Weighs but 1½ lbs.) Has new type long nose, long life tips. Hot in 2½ seconds. Automatically spotlights work. Beautifully balanced. Handle and case strong, heat and shock resisting lustrous black plastic.	Ideal for soldering wires, light gauge metals, general utility work. With special tips cuts plastic tile, heatseals, removes dents, scratches from wood surfaces, etc.	$7.95 In Kit with solder, special tips $9.95
	 #288	Delivers heat to tip in 5 seconds for in excess of 200 Watt rated capacity. Light, weighs only 2¼ lbs. Has longer reach, longer life tips, automatic spotlight, better handle and balance, stronger shatterproof case.	Handles all soldering requirements 50 to 200 Watts. With special tips cuts plastic tile, removes scratches or dents in wood surfaces, etc.	$9.95
	#250	Famous WEN 250 Watt Heavy Duty Model that set records and standards for the industry. Working hot in 5 seconds. Spotlights work. 567 hours continuous operation. Comes in self-display carton.	Heavy Duty. Greater volume of heat delivered enables it to solder relatively heavy materials, handle production jobs as well as intermittent service and repairs.	$12.95
ELECTRIC SANDERS-POLISHERS	 #202	Small, light, handy and quiet — but same powerful motor as in Model No. 303. Straight line action, 14,400 strokes per minute. Strong black plastic case. Comes in attractive Display Carton with 6 assorted abrasives and 2 polishing pads. Shipg. wgt. 3½ lbs.	Ideal for fine finishing and polishing. Sands wood satin smooth, scours rust off metal, polishes wood, metal, glass, leather, plastics, your car — anything. Even gives a good massage.	$13.95
	 #303	Has great power for its weight (2½ lbs.). Drives 2½" x 5½" sanding pad 14,400 strokes per minute. Straight line action. Case compact, handy, strong molded cherry red plastic. Comes in sturdy "gold" metal Kit box with 12 abrasives, 2 polishing cloths.	General utility. Sands or polishes practically any surface same as Model No. 202 but comes with more extras to make up a complete and handy Kit.	$16.95
	 #404	Has special motor, amazing power, larger sanding pad (3¼" x 6⅛"), 14,400 strokes per minute. Straight line action. Ebony black shatter, shock and heat resistant case. In metal Kit Box with 15 abrasives, 2 polishing pads and instruction book.	Handles any home workshop sanding or polishing requirement and many production jobs in woodworking plants. Favorite of Rental Services because of sturdy construction, simplicity.	$19.95
Rotary Motor POWER SAWS	 #505	Powered by 115 Volt AC/DC — 1.8 amp. motor, it delivers 2650 — ⅝" strokes per minute under load. Cuts 2 x 4 in 14 seconds. Motor fan keeps guideline free from sawdust. 3 blades included. Achieves its economy thru ingenious simplified design.	Does work of 7 saws — rip, jig, crosscut, band, hack, coping, scroll and keyhole. Cuts wood, plastic, metals, compositions, hard rubber, leather, stone, etc. more swiftly, smoothly and safely.	$29.95

THEY'RE "NATURALS" for professional Service, Repair and Maintenance men and for the tremendous "Do-It-Yourself" market. They make top-notch gift items. Operating on 110-120 V AC—60 cycle, they give speedier, better performance and have longer effective life than similar tools costing much more. Fully guaranteed.

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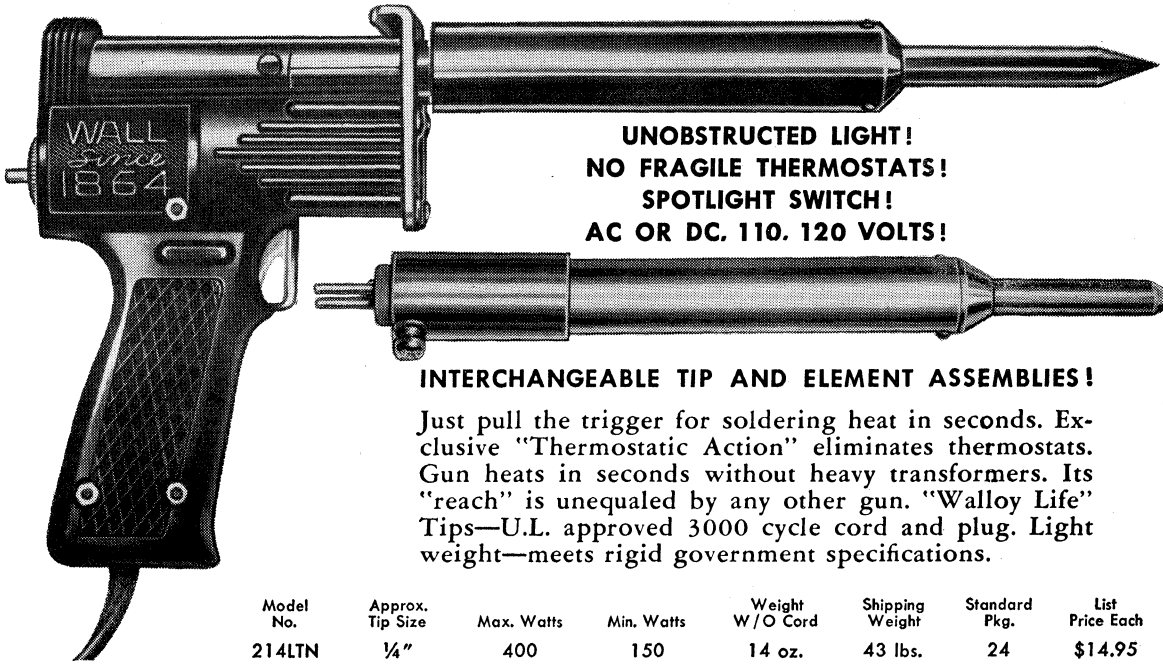
SOLDERING PRODUCTS
WALL
The Safety Line
SINCE 1864

"TRIG-R-HEAT"

Instant Electric

SOLDERING GUNS

with "Thermostatic Action"



UNOBSTRUCTED LIGHT!
NO FRAGILE THERMOSTATS!
SPOTLIGHT SWITCH!
AC OR DC. 110. 120 VOLTS!

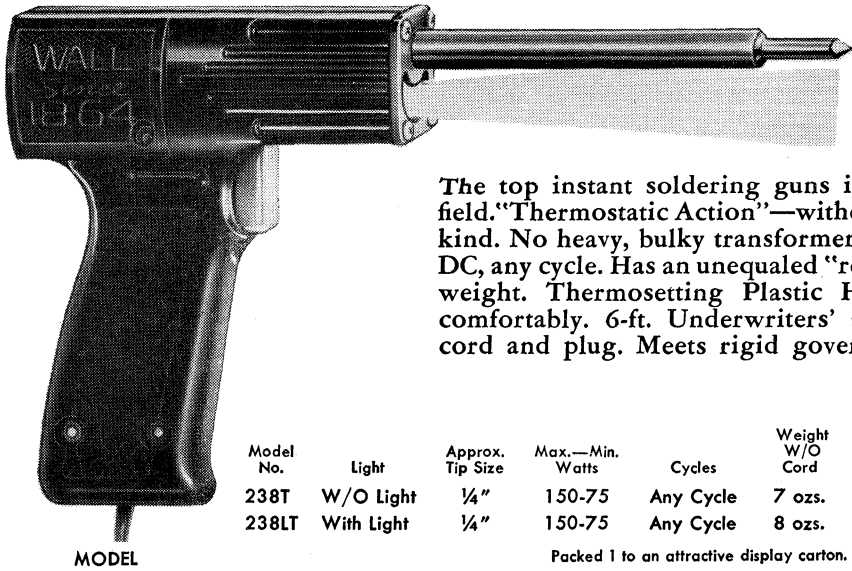
INTERCHANGEABLE TIP AND ELEMENT ASSEMBLIES!

Just pull the trigger for soldering heat in seconds. Exclusive "Thermostatic Action" eliminates thermostats. Gun heats in seconds without heavy transformers. Its "reach" is unequaled by any other gun. "Walloy Life" Tips—U.L. approved 3000 cycle cord and plug. Light weight—meets rigid government specifications.

Model No.	Approx. Tip Size	Max. Watts	Min. Watts	Weight W/O Cord	Shipping Weight	Standard Pkg.	List Price Each
214LTN	¼"	400	150	14 oz.	43 lbs.	24	$14.95
212LT	½"	650	300	24 oz.	57 lbs.	24	16.95

Attractively packed 1 to a display carton.

MODEL NO. 212LT



MODEL NO. 238LT

POPULAR PRICED MODEL

The top instant soldering guns in the popular priced field."Thermostatic Action"—without thermostats of any kind. No heavy, bulky transformers. Operates on AC or DC, any cycle. Has an unequaled "reach." Extremely light weight. Thermosetting Plastic Handle fits the hand comfortably. 6-ft. Underwriters' approved 3000 cycle cord and plug. Meets rigid government specifications.

Model No.	Light	Approx. Tip Size	Max.—Min. Watts	Cycles	Weight W/O Cord	Standard Package	Shipping Weight	List Price Each
238T	W/O Light	¼"	150-75	Any Cycle	7 ozs.	50	50 lbs.	6.49
238LT	With Light	¼"	150-75	Any Cycle	8 ozs.	50	50 lbs.	6.98

Packed 1 to an attractive display carton.

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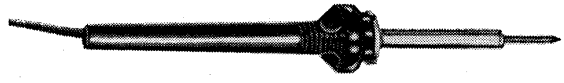
WALL SOLDERING PRODUCTS — The Safety Line — SINCE 1864

Industrial SOLDERING IRONS with "Thermostatic Brain"

BUILT WITH TRIPLE LIFE, PRECISION-WOUND ELEMENTS

Precision-built to withstand "production-line punishment!" "Thermostatic Action" provides controlled heat without fragile or moving parts to wear out. "Thermostatic Action" is guaranteed for the life of the iron.

1. Built to withstand "Production-Line Punishment"!
2. "Thermostatic Action" prevents tip burning!
3. Heats 4 times faster than most other industrial irons!
4. No radionic interference while iron is in use!
5. Underwriters' Laboratories and Canadian Standards approved!
6. Successfully passed the 65° below zero test!
7. Precision wound on pure mica sheet!
8. More economical in use than others of like wattage!
9. Operates on 110-120 volts, AC or DC!
10. Meets all rigid government specifications!



No. 18 Series—1 ounce*

No. 14 Series—2 ounces*

PENCIL TYPES

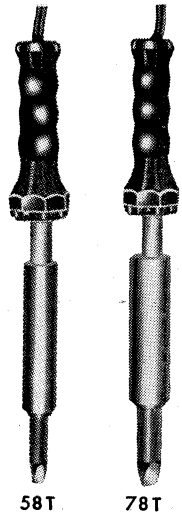
Ideal for Printed Circuits

For delicate, precision work on radio, TV, electronics, small metals, jewelry, light or intricate electrical connections. Recovers faster and reduces fatigue on the production line.

Cat. No.	Max.—Min. Watt Input	Type	Tip Metal	Volts AC-DC	Tip Size	Overall Length	Shipping Case Quantity	Shipping Case Weight
18T	90-25	Regular	Copper	110-120	1/8"	7 1/2"	50	17 lbs.
18TW	90-25	Regular	Walloy	110-120	1/8"	7 1/2"	50	17 lbs.
18HD	25	Heavy Duty	Copper	110-120	1/8"	7 1/2"	50	17 lbs.
18HDW	25	Heavy Duty	Walloy	110-120	1/8"	7 1/2"	50	17 lbs.
14T	125-40	Regular	Copper	110-120	1/4"	8"	50	19 lbs.
14TW	125-40	Regular	Walloy	110-120	1/4"	8"	50	19 lbs.
14HD	40	Heavy Duty	Copper	110-120	1/4"	8"	50	19 lbs.
14HDW	40	Heavy Duty	Walloy	110-120	1/4"	8"	50	19 lbs.

*Wt. without cord

Packed 1 to a box.



58T 78T

EXTRA HEAVY DUTY PRODUCTION IRONS

Made to withstand uninterrupted soldering service of medium and medium heavy metals. Heavy metal electrical connections. Heavy duty . . . but light in weight.

Cat. No.	Max.—Min. Watt Input	Type	Tip Metal	Volts AC-DC	Tip Size	Overall Length	Shipping Quantity	Case Wt.
38T	225-80	Regular	Copper	110-120	3/8"	12 1/2"	50	61 lbs.
38TW	225-80	Regular	Walloy	110-120	3/8"	12 1/2"	50	61 lbs.
38HD	80	Heavy Duty	Copper	110-120	3/8"	12 1/2"	50	61 lbs.
38HDW	80	Heavy Duty	Walloy	110-120	3/8"	12 1/2"	50	61 lbs.
12T	300-125	Regular	Copper	110-120	1/2"	13"	50	73 lbs.
12TW	300-125	Regular	Walloy	110-120	1/2"	13"	50	73 lbs.
12HD	125	Heavy Duty	Copper	110-120	1/2"	13"	50	73 lbs.
12HDW	125	Heavy Duty	Walloy	110-120	1/2"	13"	50	73 lbs.
58T	500-200	Regular	Copper	110-120	5/8"	13 1/2"	25	50 lbs.
58TW	500-200	Regular	Walloy	110-120	5/8"	13 1/2"	25	50 lbs.
58HD	200	Heavy Duty	Copper	110-120	5/8"	13 1/2"	25	50 lbs.
58HDW	200	Heavy Duty	Walloy	110-120	5/8"	13 1/2"	25	50 lbs.
78T	750-300	Regular	Copper	110-120	7/8"	14"	25	70 lbs.
78TW	750-300	Regular	Walloy	110-120	7/8"	14"	25	70 lbs.
78HD	300	Heavy Duty	Copper	110-120	7/8"	14"	25	70 lbs.
78HDW	300	Heavy Duty	Walloy	110-120	7/8"	14"	25	70 lbs.

Packed 1 to a box.

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A Product of the World-Famous
ORYX ELECTRICAL LABORATORIES
London, England

ORYX

¼ Ounce PRECISION SOLDERING INSTRUMENTS

Model 6

The smallest, lightest ORYX soldering instrument. Its precision tip greatly simplifies the manufacture and service of electrical measuring instruments, hairspring movements, r.f. coils, and fine subassemblies of all kinds. Particularly recommended for soldering to transistors and diodes!

Model 6A

The most popular ORYX soldering instrument. Model 6A combines the light weight advantages of Model 6 with the convenience of inexpensive, replaceable tips. Widely used on hearing aids, tuners, printed circuits, and transistor amplifiers.

Model 9

An outstanding recent development! Model 9 is unequaled for use on complex circuitry; radar, color television, missile subassemblies, electromedical devices, all applications calling for a precision tool with generous heat capacity.

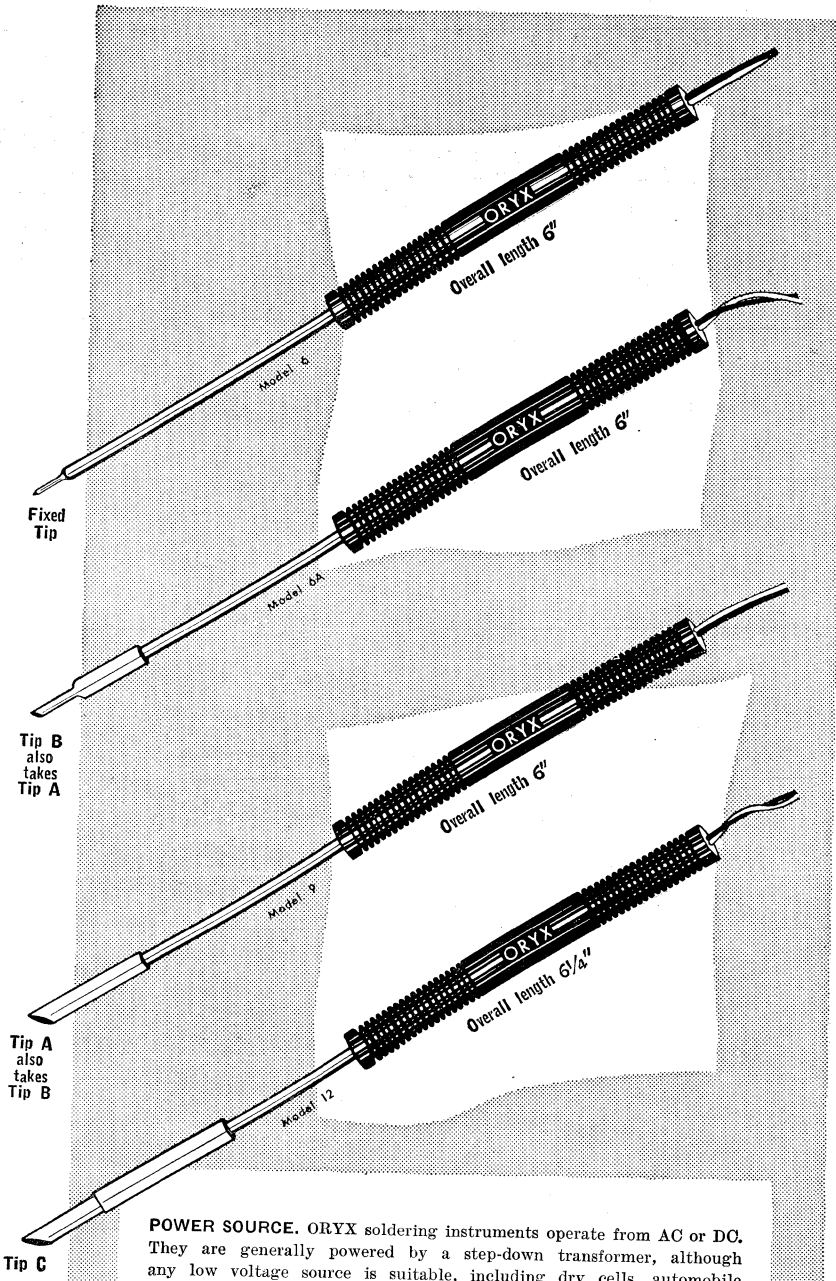
Model 11

NEW! This special high-temperature model develops a searing 400 degrees C. Specifically designed for high-temperature solder alloys and applications requiring a hotter iron. Uses pure nickel tip.

Model 12

The standard ORYX instrument for radio and television service and manufacture. Model 12 has unbelievable heat capacity and is widely used by production departments, service shops, and radio amateurs.

	Net Price Each
Model 11—1 to 11	$6.95
(12 or more)	6.45
Other Models 1 to 11	4.95
(12 or more)	4.45
Tips A and B	.50
Tip C	.50
Tip D (Solid Nickel)	1.80
Tip E (Solid Nickel)	2.00



POWER SOURCE. ORYX soldering instruments operate from AC or DC. They are generally powered by a step-down transformer, although any low voltage source is suitable, including dry cells, automobile battery, filament transformer, or laboratory power supply.

SPARE TIPS. Replacement tips are available for all ORYX soldering instruments except Model 6. They are formed of a special copper alloy and are heavily nickel plated to minimize the need for tinning and dressing.

Cat. No.	Volts	Watts	Length	Tip	Dia.	Also Takes	
6	6	6	6"	fixed	1/16"		
6A	6	6	6"	B	3/32"	A	5/32"
9-6	6	8.3	6"	A	5/32"	B	3/32"
9-12	12	8.3	6"	A	5/32"	B	3/32"
9-24	24	8.3	6"	A	5/32"	B	3/32"
11	6	10	6"	D	5/32"	E	3/32"
12-6	6	12	6¼"	C	3/16"		
12-12	12	12	6¼"	C	3/16"		
12-24	24	12	6¼"	C	3/16"		
12-50	50	12	6¼"	C	3/16"		

SPECIAL TRANSFORMER T54202A with AC Cord. 6 volt, 12 watt, 2 amps. Available at.....each **$4.45**

ORYX Company
National Sales Agency
Beverly Hills, California

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TECHNICAL ADVANTAGES

ERSIN FLUX

Ersin Flux is exclusive to Multicore and will not be found in any other solder. It is a high grade, water white rosin, homogeneously activated.

Ersin Flux has a vigorous fluxing action and possesses the non-corrosive and protective features of the original rosin. Soldered joints made with Ersin Flux do not corrode even after prolonged exposure to any degree of humidity. Ersin Flux reduces the surface tension of molten solder, causing it to wet metals rapidly, increasing speed of operation with resultant production economies.

Free from objectionable odor. Non-toxic in use.

Leaves nothing but pure rosin on the work after soldering, and may be used wherever plain rosin is specified.

ONLY SOLDER MADE WITH NON-CORROSIVE, EXTRA-ACTIVE ERSIN FLUX!

MULTICORE SOLDER

Five separate cores of flux eliminate possibility of no flux in a portion of the wire, which may occur in single cored solder. Guaranteed continuity of the flux stream prevents "dry" joints, i.e., those having high electrical resistance.

Although there are five cores of flux in Multicore, the total percentage of flux to solder is less than many single cored solders.

Very rapid melting results from the multiple core construction which provides thinner walls of solder than are found in the same gauge single cored solder. Multicore's unique properties make perfect joints possible on difficult metals and alloys, even if oxidized.

Ability to tin rapidly produces perfect joints with less solder. Greater coverage per pound.

Standard Wire Gauge	Diam. in Inches	Diam. in M/ms.	Approximate Number of Feet per lb. ALLOY Tin content is shown first					
			60/40	50/50	45/55	40/60	30/70	20/80
10	.128	3.251	24.5	23.6	23.3	22.7	21.6	20.8
12	.104	2.642	37.2	35.7	35.2	34.6	32.7	31.5
13	.092	2.337	47.5	45.6	45	44	41.9	40.4
*14	.080	2.032	62.8	60.2	59.4	58	55.2	53.2
*16	.064	1.626	98	94.3	93	91	86.5	83.4
*18	.048	1.219	174.5	167	165	161	154	148
19	.040	1.016	251	241	238	232	221	212
20	.036	.914	310	298	294	287	273	263
22	.028	.711	512	492	486	474	452	436

ALLOY Tin/Lead	B.S. Grade	MULTICORE Color Code	MELTING TEMPERATURES Solidus of all these alloys is 183° C.–361° F. Liquidus		Recommended bit temperature	
			° C.	° F.	° C.	° F.
*60/40	K	Red	189	372	229	444
*50/50	F	Yellow	214	417	254	489
*45/55	(M)	Crimson/Buff	225	437	265	509
*40/60	G	Green	232	450	272	522
30/70 (Special Order)	J	White	255	491	295	563
20/80 (Special Order)	—	Purple	275	527	315	599

*Standard stock items. Other diameters and gauges on special order.

"GENALEX"
Finest Audio Tubes Ever Made

"GENALEX" Z729 TUBE

A low hum low microphonic, voltage amplifying Audio Pentode expressly designed for use in high quality, high gain audio pre-amplifier and equalizer stages. Fits standard 9 pin miniature socket.

"Genalex" KT66 power tetrode may be used in the output stage of an audio-frequency power amplifier, tetrode or triode-connected; or in transmitting circuits using frequencies up to 30 Mc/s as an oscillator or radio frequency amplifier.

A high slope, indirectly heated beam tetrode suitable for either single or push-pull audio operation. May be employed as a beam tetrode with aligned grids.

S. G. BROWN
HI-FI HEADPHONES

Type K—Hi-Fi Headphones of the very highest quality. Available with binaural wiring. Response —From 50 to over 10,000 cycles. Moving Coil type motor assemblies. Bakelized conical diaphragm. 6,000 lines flux density. 2 standard impedances—52 ohms and 600 ohms. 6½ ft. cord. Rugged construction. Complete with foam rubber ear cushions. Highly polished headband and cases.

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Two famous KESTER FLUX-CORE SOLDERS

KESTER "RESIN-FIVE" CORE SOLDER

Formulated especially for Radio and TV; will easily solder such metals as brass, zinc and ferrous alloys. It is non-corrosive and non-conductive.

KESTER PLASTIC ROSIN-CORE SOLDER

The most widely used solder in the TV and radio field. All Kester Solders are made from the finest tin and lead available.

- ★ Kester Plastic Rosin-Core Solder
- ★ Kester "Resin-Five" Core Solder
- ★ Kester "44" Resin-Core Solder
- ★ Kester TV-Radio Solder
- ★ Kester Acid-Core Solder
- ★ Kester "A" Flux-Core Solder
- ★ Kester Nosput Flux-Core Solder
- ★ Kester Knorust Flux-Core Solder
- ★ Specialized Flux-Core Solders
- ★ Solid Wire and Bar Solders
- ★ Kester "Solderforms," Rings, Pellets, Washers, Unusual Shapes
- ★ External Rosin Soldering Fluxes
- ★ Other Fluxes
- ★ Kester Soldering Iron Brackets

For Peak Soldering Efficiency, It's Kester!

Kester offers every conceivable type of Solder product. Strand sizes as small as .008" diameter in Flux-Core Solder, unusual alloys and varying Flux contents or Core sizes.

A Technical Service for Manufacturers

If you are not getting peak efficiency or have a specific problem in your soldering operations, take advantage of the facilities of Kester's Technical Department. . . . It costs you nothing.

STANDARD FOR THE TV AND RADIO FIELD

KESTER SOLDER

KESTER SOLDER COMPANY

Chicago 39, Illinois • Factories Also at Newark, New Jersey - Brantford, Canada

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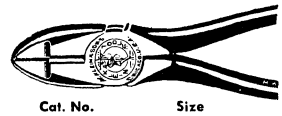
Klein Side-Cutting Pliers

The famous Klein side-cutting plier that has been the standard in the electrical industry from the start. Handles are shaped to the curvature of the hand for added comfort. Powerful leverage and keen reinforced cutting knives make this plier adaptable for every job.

Cat. No.	Size
201-5	5 in.
201-6	6 in.
201-7	7 in.
201-8	8 in.
201-9	9 in.

Klein Side-Cutting Plier N.E. Type (Streamlined)

Similar to the 201 shown above except that the nose is rounded to permit working in confined space. All edges are also rounded to prevent any danger of nicking wire.



Cat. No.	Size
201-5 N. E.	5 in.
201-6 N. E.	6 in.
201-7 N. E.	7 in.
201-8 N. E.	8 in.
201-9 N. E.	9 in.

Klein Kut High-Leverage Plier

A quality plier that will cut regular wire and also provide easy cutting of weatherproof hard-drawn copper wire up to No. 2. Can be used for A. C. S. R.

Gives necessary high leverage without extra hinging or uncomfortable widespread handles. Weighs no more than regular side-cutting pliers.

Cat. No.	Size
213-9	9 in.

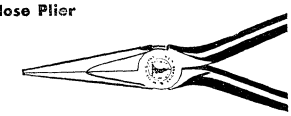
Klein Kut High-Leverage Plier N. E. Type (Streamlined)

The same as 213-9 shown above, but with the rounded nose and edges characteristic of all Klein N. E. Streamlined side-cutting pliers. Like the 213-9 this N. E. type has the unique high-leverage characteristics that permit cutting through heavy-duty wire with one-hand operation.

Cat. No.	Size
213-9 N. E.	9 in.

Klein Long-Nose Plier

The famous Klein long-nose plier that has become the standard for electricians and general mechanics. The extra-long range of the jaws permits getting into small, difficult places. Ideal for television, radio, telephone work, armature winding, etc. Specially hardened and tempered to assure positive grip at point of nose when pressure is applied. Point 3/32 in. round.



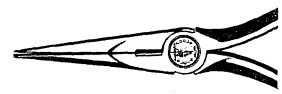
Cat. No.	Size
301-5	5 in.
301-6	6 in.
*301-7	7 in.

*This plier has extra-long nose measuring 2¾ inches from center of hinge to point.

Klein Long-Nose Side-Cutting Plier

This plier has the same features as the No. 301 series shown above but in addition, cutting knives are provided at the hinge. These knives are carefully sharpened, hardened, and tempered, assuring true cutting. Point 3/32 in. round.

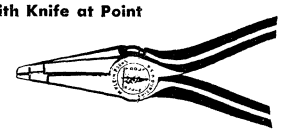
*This plier has extra-long nose measuring 2¾ inches from center of hinge to point.



Cat. No.	Size
203-5	5 in.
203-6	6 in.
*203-7	7 in.

Klein Long-Nose Plier with Knife at Point

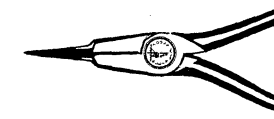
This plier is designed to permit cutting light wires where it is necessary to reach into confined spaces such as in radio and TV sets. Largely used in manufacturing and servicing radios and TV sets.



Cat. No.	Size
301-6P	6 in.

Klein Special Needle-Nose Plier

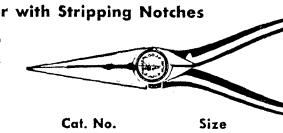
This needle-nose plier is designed to reach into extremely small spaces. Tip of nose measures less than 1/16 in. Nose of plier specially tempered to prevent distortion.



Cat. No.	Size
301-6-SCP	6 in.
203-6-SCP with cutters	6 in.

Klein Needle-Nose Plier with Stripping Notches

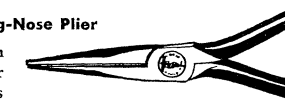
A needle-nose plier similar to 203 but with two stripping holes in the cutting blades. Designed to strip insulated wire, gauge 19 and 22. Used extensively in telephone and electronics fields.



Cat. No.	Size
203-6-H2	6 in.

Klein Long-Nose Plier

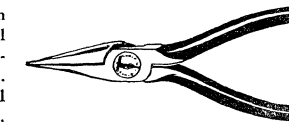
A newly designed plier with an extremely slim nose suitable for working in confined places. Jaws are knurled to assure a positive grip.



Cat. No.	Size
307-5½	5½ in.

Klein Chain-Nose Plier

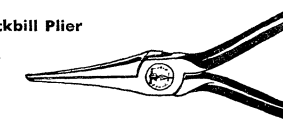
Suitable for all types of precision work in close quarters—over-all dimensions smaller than standard Klein chain-nose pliers. Furnished with a very fine knurl that will not damage soft wire. Can be supplied without knurl to order.



Cat. No.	Size
317-5	5 in.

Klein Duckbill Plier

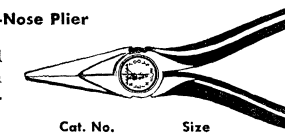
A new, small plier with duckbill jaws sufficient width to hold small springs, yet small enough to form wire in confined places. Furnished standard without knurl.



Cat. No.	Size
306-5½	5½ in.

Klein Chain-Nose Plier

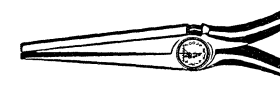
This plier is intended for general use where a shorter nose than that provided in the Klein long-nose plier is desired.



Cat. No.	Size
317-6	6 in.
217-6	6 in. with cutters

Klein Long Flat-Nose Plier

The long, flat nose of this plier makes it particularly adaptable to switchboard work, telephone and telegraph work, armature winding, etc. Hardened and tempered so that the jaw will not spring when pressure is applied. Ideal for spring adjusting. Usually furnished with knurled jaws but inside of jaws may be left smooth if desired. With or without cutting knives.



Cat. No.	Size
305-6 without cutting knives	6 in.
206-6 with cutting knives	6 in.

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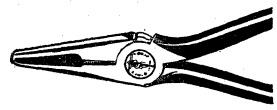
Klein Traverse End-Cutting Plier

This is a long-nose plier for reaching into confined spaces with keen-cutting knives at the end. Ideal for switchboard or TV wiring, wherever it is necessary to work in confined space. Particularly useful in precision work where ordinary oblique or end cutters are too large.



Cat. No.	Size
204-6	6 in.

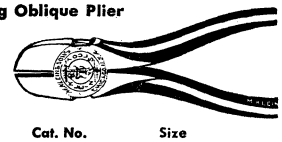
Klein "Auto" Oblique-Cutting Plier "Handform" Handles

Made especially for mechanics who want a high-quality oblique cutter. Knives are close cutting and carefully matched their full length. Useful for pulling cotter pins, etc. "Handform" handles assure greater comfort.

Cat. No.	Size
220-7	7 in.

Klein Heavy-Cutting Oblique Plier

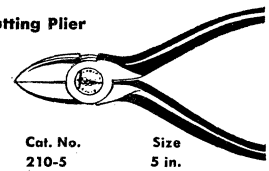
Similar to 220-7 shown above but with ⅝-in. jaw for ease in heavier cutting. This short-nosed plier is particularly useful where extra leverage is required.



Cat. No.	Size
220-7 SN	7 in.

Klein Oblique-Cutting Plier

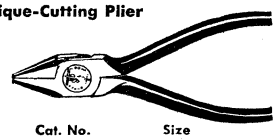
For cutting small wires or trimming plastic. Entire length of cutting knives works flush against cutting surface, giving a close, clean trim.



Cat. No.	Size
210-5	5 in.
210-6	6 in.

Klein Lightweight Oblique-Cutting Plier

Smaller than 210-5 shown above with an extremely narrow head for cutting in confined places.

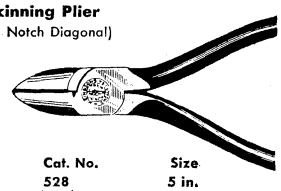


Cat. No.	Size
209-5	5 in.

Klein Oblique Skinning Plier

(Bell System Type; "V" Notch Diagonal)

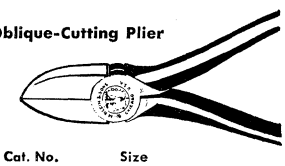
A special plier designed for work on switchboards, amplifiers or wherever small wire must be skinned. "W" Notch is provided to slit acetate. An additional "V" notch is provided at the hinge to crush insulation.



Cat. No.	Size
528	5 in.

Klein Narrow-Nosed Oblique-Cutting Plier

A handy tool designed to get into confined places. Cuts close. Knives are fitted to meet accurately at all points.

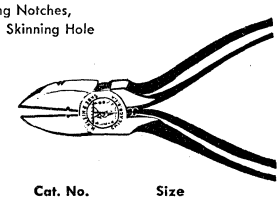


Cat. No.	Size	Cat. No.	Size
202-5	5 in.	202-6	6 in.

Klein Oblique-Cutting Plier

With "W" Stripping Notches, Sleeve Openings, and Skinning Hole

An all-purpose tool for telephone installation and maintenance work. The "W" notches will slit cellulose acetate and other insulations from wires up to .58 O.D. A stripping hole, .052 diameter, is provided in blades. Sleeve openings in handles.



Cat. No.	Size
202-5-SW	5 ½ in.

Klein Coil Spring

The pliers listed below may be had with a coil spring to hold the jaws in open position for immediate use. The sturdy spring is guaranteed for the life of the plier. With this new spring, inside of handles is unobstructed and may be had with Klein dipped-on plastic coated handles.

OBLIQUE CUTTERS

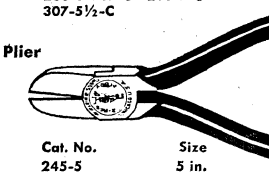
Cat. No.	Cat. No.
210-5-C	202-5-C
210-6-C	202-6-C
209-5-C	245-5-C

LONG NOSE

Cat. No.	Cat. No.
301-5-C	317-5-C
301-6-C	306-5½-C
301-7-C	204-6-C
301-6PC	203-5-C
301-6-SCP-C	203-6-C
203-6-SCP-C	203-7-C
307-5½-C	

Klein Oblique-Cutting Plier

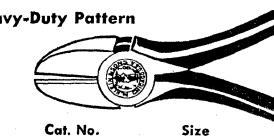
This plier measures exactly 5 in. in length and is slightly smaller in all dimensions than the 202-5 shown above.



Cat. No.	Size
245-5	5 in.

Klein Oblique-Cutting Plier Heavy-Duty Pattern

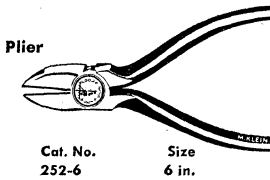
Similar in construction to No. 202 but made heavier to meet the requirements of those desiring a stronger plier for general work.



Cat. No.	Size
242-6	6 in.

Klein Oblique-Cutting Plier

Sturdy oblique-cutting plier that is an all-purpose tool for production telephone installation, and maintenance work.

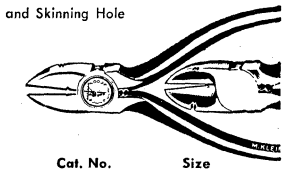


Cat. No.	Size
252-6	6 in.

Klein Oblique-Cutting Plier

With Stripping Notches, Sleeve Opening and Skinning Hole (Bell System Type)

Similar to the 252-6 shown above, but with "W" notches to slit cellulose acetate and other insulation from wires up to .058 O.D. Stripping hole, .052 diameter, is provided in blades. Sleeve openings in handles.

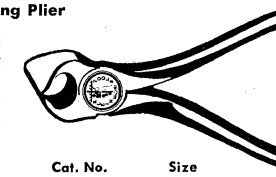


Cat. No.	Size
252-6-SW	6 in.

Klein End-Cutting Plier

A very useful tool for electricians and mechanics. Permits cutting wire or nails close to the work. Stout jaws and broad, keen-cutting knives. Ample room is provided in the throat of pliers for unusual conditions.

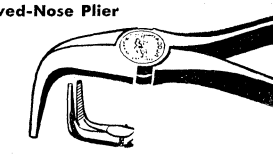
*The 7-in. size has "handform" handles as used on our side-cutting pliers.



Cat. No.	Size
232-5½	5½ in.
*232-7	7 in.

Klein Long Curved-Nose Plier

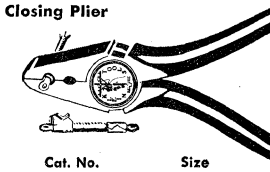
The curved nose of this plier is ideal for working in confined space. The angle is designed to give full clearance and prevents skinning of knuckles. The jaws will not lose their shape or set when pressure is applied.



Cat. No.	Size
302-6	6 in.

Klein Cord-Tip Closing Plier

The sturdy jaws permit using this plier as a press for closing cord tips such as W. E. 101 and 102 (new nos. 120 and 121). The circular openings are correctly sized to insure perfect connections. Diameter of holes are .129 in. and .156 in., respectively.



Cat. No.	Size
039	5 in.

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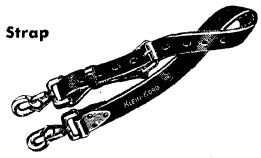
"Klein-Kord" Nylon Safety Strap

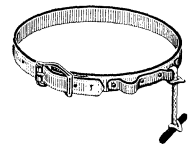
A strong, high quality safety strap, "Klein-Kord" Nylon possessing excellent dielectric characteristics. Klein Red Center for safety.



Cat. No.	Snaps	Size	Av. Wgt. Per Doz.
5294	Standard	1¾" x 5'⅛"	34 lb.
KL5294	"Klein-Lok"	1¾" x 5'⅛"	34 lb.
5294-7	Standard	1¾" x 7'	38 lb.
KL5294	"Klein-Lok"	1¾" x 7'	38 lb.

Klein Electrician's Waist Belt

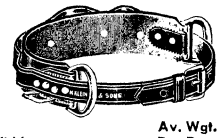
A lightweight belt of genuine harness leather with tool loops and tape thong. May be used with Klein Tool Pockets. Handy for electrician's use. Sizes: 36", 38", 40", 42", 44" and 46".



Cat. No.	Size—Adjustable
5207M	32 to 40 in.
5207L	38 to 46 in.

Leather Tool Belt

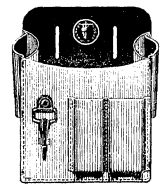
Made of first quality harness leather. "D" rings are solid drop steel forgings tested to 1,500 lb. All rivets are solid copper and sewing is with hot waxed linen thread, lock stitched.



Cat. No.	Width	Av. Wgt. Per Doz.
5204	3½"	34 lb.

Klein Combination Tool Pocket

A high-quality pocket specially designed for electricians and maintenance men. Has large utility pocket, two screw driver pockets, two plier pockets and a handy knife snap. Made of high-grade leather to give finest service. Size overall, 8½ in. high; width, 6½ in. Many other types available.



Cat. No. 5126

Klein-Koat Plastic Cover for Plier Handles

These plastic covers provide a non-skid grip and assure greater comfort when used on Klein Pliers.

Made of transparent plastic in a bright maroon. Simple to apply in a matter of seconds to conform to the shape of the handle assuring a tight grip. Does away with the practice of taping handles.

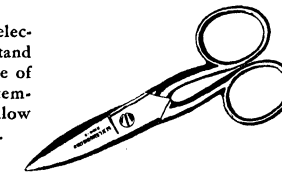
Cat. No.
60 to fit 6-in. pliers
70 to fit 7-in. pliers
89 to fit 8- and 9-in. pliers

Dipped Handles

Klein Pliers may now be ordered with dipped-on plastic coating. This provides a heavy, comfortable, plastic coating that cannot come off, and yet may be removed if desired. Prices on request.

Klein "Xela" Electricians' Scissors

A scissor designed for the electrician and mechanic. Will stand continued hard service. Made of high-grade steel carefully tempered. Has screw hinge to allow for adjustment. Nickel plated.

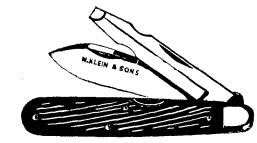


Cat. No.	Size
2100-5	5 in.

Klein "XELA" Electrician's Knife

This knife is designed especially for the electrician and maintenance man. Has a sharp general utility blade and a screw driver blade which locks automatically in open position.

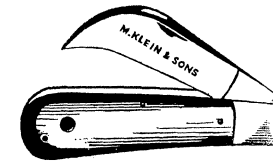
The blades are of high-grade cutlery steel carefully tempered. Fitted with wrought shackle riveted in handle.



Cat. No.	Length Closed
1550-2	4 in.

Klein "XELA" Lineman's Knife

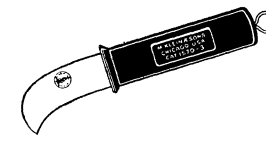
A sturdily construced knife designed for long, hard service. Single 3-in. blade is of high-grade, carefully tempered cutlery steel. Blade locks automatically in open position. Hard wood handle is rounded and designed for firm, comfortable grip. Fitted with spring shackle.



Cat. No.	Length Closed
1550-4	4 in.

Klein Plastic Handle Skinning Knife

A high-quality skinning knife with plastic insulated handle. Handle is red and provides excellent insulation and comfortable grip. Back of blade ground flat for scraping. Handy ring in handle for fastening to snap.



Cat. No.	Length Overall	Blade
1570-3	8 in.	3 in.

Klein "XELA" Skinning Knife

A high-quality knife designed for skinning. Particularly used in the telephone field. Hard wood handle with ring for attaching to snap.

Cat. No.	Size
1550-5	5 in.

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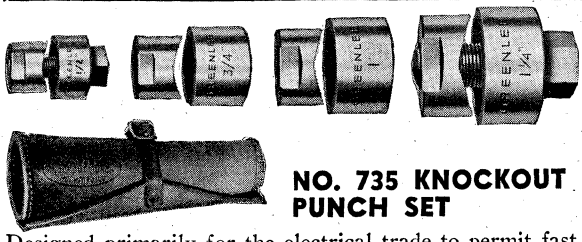
TOOLS FOR CRAFTSMEN

GREENLEE

KNOCKOUT PUNCHES AND CUTTERS

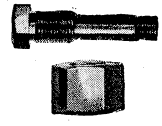
Greenlee Tool Co., Rockford, Illinois



NO. 735 KNOCKOUT PUNCH SET

Designed primarily for the electrical trade to permit fast, easy enlarging of knockouts and cutting of holes for conduit in metal boxes and cabinets. Also excellent for automobile work where holes are needed for heater pipes and other accessories. Simply insert the tool in a knockout or small drilled hole and give the screw a few turns with an ordinary wrench. No. 735 set has four punches for cutting 7/8, 1 3/32, 1 11/32, 1 11/16-inch holes for 1/2, 3/4, 1, 1 1/4-inch conduit. Set is neatly packed in leather case illustrated. The 1/2-inch punch will cut a 7/8-inch hole for 1/2-inch conduit where no standard knockout is provided when a 7/16" hole is drilled.

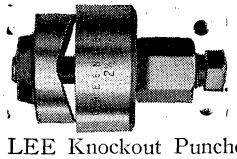
Heavy Duty Drive for 1/2" Punch



To increase length of service of the 1/2-inch Knockout Punch in cutting 7/8-inch holes in heavier-gauge sheet metals, the No. KR5 Drive Screw with No. KR4 Drive Nut illustrated is recommended.

NO. 737 KNOCKOUT PUNCH SET

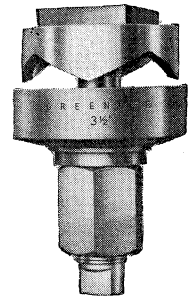
Similar to the No. 735 set, but consists of only two punches for cutting holes to accommodate 1 1/2" and 2" conduit. Packed in leather case.



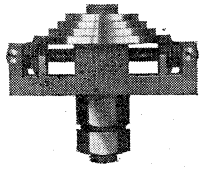
NOS. 738 AND 739 KNOCKOUT PUNCHES

For cutting holes to accommodate 2 1/2" and 3" conduit. Design is similar to that of smaller GREENLEE Knockout Punches: insert in a knockout or drilled hole and turn drive nut with an ordinary wrench. Packed and sold individually.

NOS. 741 AND 742 KNOCKOUT PUNCHES

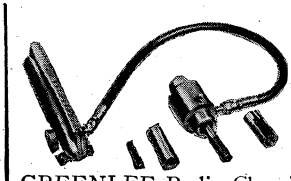


For quickly making smooth openings for 3 1/2" and 4" conduit. Hole is clean, no filing of burrs necessary. Operation is similar to that of other GREENLEE Knockout Punches. Simply insert in hole for 1" conduit and turn drive nut with an ordinary wrench.



No. 740 Knockout Cutter

Companion tool to GREENLEE Knockout Punches. Enlarges knockouts to take 1 1/2, 2, 2 1/2 and 3-inch conduit. Operation is simple since an ordinary wrench drives the tool. Cutting is done by the drive action of two wheel cutters. Special discs can be furnished for cutting odd sizes of holes from 1 15/16 to 3 1/2-inch diameter. Packed in leather case.



NO. 7646 HYDRAULIC KNOCKOUT PUNCH DRIVER

A powerful portable hydraulic unit for driving all GREENLEE Knockout Punches. Also drives GREENLEE Radio Chassis Punches using 3/8" or larger drive screws. Quickly, easily cuts holes in 10-gauge metal. Excellent for use in tight places. Packed in metal case. List price complete, $96.00. Weight, 20 lbs.

KNOCKOUT PUNCHES — LIST PRICES AND WEIGHTS (WTS. IN LBS.)

		Hole Size	*Price*	*Weight*
No. 735	Knockout Punch Set		$11.00	2 1/2
KR1	1/2" Conduit Punch	7/8"	1.40	1/16
KR2	1/2" Conduit Die	7/8"	.70	1/16
KR3	3/8" x 1 1/2" Drive Screw		.30	1/16
K11	3/4" Conduit Punch	1 3/32"	1.60	1/8
K12	3/4" Conduit Die	1 3/32"	.90	3/16
K13	1" Conduit Punch	1-11/32"	1.85	3/16
K14	1" Conduit Die	1-11/32"	1.05	3/8
K15	1 1/4" Conduit Punch	1 11/16"	2.10	5/16
K16	1 1/4" Conduit Die	1 11/16"	1.15	9/16
KR17	3/4" x 2 1/4" Drive Screw		.40	3/8
KR4	Heavy Duty Drive Nut		.40	1/8
KR5	Heavy Duty Drive Screw		.85	1/8
No. 737	Knockout Punch Set Complete		$11.00	3 1/2
K21	1 1/2" Conduit Punch	1 15/16"	2.55	1/2
K22	1 1/2" Conduit Die	1 15/16"	2.20	5/8
K23	2" Conduit Punch	2 3/8"	3.50	7/8
K24	2" Conduit Die	2 3/8"	2.75	1
KR25	3/4" x 3" Drive Screw		.55	7/16
No. 738	Knockout Punch Complete		$15.50	4 1/2
K31	2 1/2" Conduit Punch	2 7/8"	6.00	1 3/4
K32	2 1/2" Conduit Die	2 7/8"	5.50	1 1/2
K34	Drive Nut		1.50	1/2
K35	3/4" x 5 3/8" Drive Screw		3.00	7/8
No. 739	Knockout Punch Complete		$21.00	6 1/2
K34	Drive Nut		1.50	1/2
K35	3/4" x 5 3/8" Drive Screw		3.00	7/8
K37	3" Conduit Punch	3 1/2"	8.90	2 1/2
K38	3" Conduit Die	3 1/2"	8.25	2 1/2
No. 741	Knockout Punch Complete		$43.00	10 3/4
K41	3 1/2" Conduit Die	4"	15.50	3 1/4
K42	3 1/2" Conduit Punch	4"	20.00	3
K44	Drive Nut		2.20	1 1/4
K45	1 1/8" x 6 3/4" Drive Screw		6.60	2 1/4
K46	Bushing		2.50	5/8
No. 742	Knockout Punch Complete		$53.00	12 1/8
K44	Drive Nut		2.20	1 1/4
K45	1 1/8" x 6 3/4" Drive Screw		6.60	2 1/4
K46	Bushing		2.50	5/8
K47	4" Conduit Punch	4 1/2"	26.50	4 1/2
K48	4" Conduit Die	4 1/2"	20.00	3 1/2
No. 740	Knockout Cutter Complete		$16.50	4 3/4
K51	Lock Screw (2)		.35	1/32
K52	Wheel Cutter (2)		.60	1/32
K53	Feed Nut		.30	5/16
K54	1 15/16" dia. Disc		.75	3/16
K55	2 3/8" dia. Disc		.90	9/16
K56	2 7/8" dia. Disc		1.10	5/16
K57	3 1/2" dia. Disc		1.30	1/2
K58	Body		6.00	1 3/8
K59	Center Shaft		.90	1/2
K60	Drive Nut		.90	5/16
K61	Retainer Screw (2)		.50	3/16
K62	Cutter Bushing (2)		.30	1/32
K63	Cutter Support (2)		.70	1/16
K64	Key Washer		.30	1/32
K65	Woodruff Key		.10	1/32

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

TOOLS FOR CRAFTSMEN

GREENLEE

RADIO CHASSIS PUNCHES

ROUND, SQUARE, "KEY" AND "D" TYPES

Greenlee Tool Co., Rockford, Illinois

No. 730

No. 730 ROUND PUNCH

Swiftly cuts clean, accurate holes in radio chassis for sockets, switches, controls and other equipment. Operates simply with an ordinary wrench for drive power . . . just insert in a small drilled hole and turn drive screw. No reaming or filing . . . hole is smooth, perfect. Twenty sizes from ½ to 2-25/32" diameter.

No. 732 "KEY" PUNCH

Quickly, easily cuts holes for keyed radio sockets. Operates on same principle as other Greenlee Radio Chassis Punches . . . an ordinary wrench supplies the drive power. In five sizes to make openings of 15/32", 15/16", 1-11/64", 1-17/64", 1-21/64". Drive screw fits into ½" hole. Individually packed.

No. 732

No. 731

No. 731 SQUARE PUNCH

Cuts square or oblong openings as desired. Available in four sizes for making ½", ⅝", ¾" and 1" square holes. Drive screw fits into ½" hole, which can be drilled or made with ½" No. 730 Greenlee Round Punch. Operates with an ordinary wrench for drive power. Individually packed.

No. 733 "D" PUNCH

Simplifies and speeds the work of making "D" shaped openings for high-frequency, miniature tube sockets and other equipment using this type opening. Available in ½" and ⅝" sizes. Operates on same principle as other Greenlee Radio Chassis Punches with an ordinary wrench supplying the drive power. Drive screw fits into ⅜" drilled hole. Individually packed.

No. 733

NO. 730 ROUND RADIO PUNCHES — LIST PRICES

		Price
½" Punch Complete		$2.40
R1	½" Punch	1.40
R2	½" Die	.70
R3	¼" Screw	.30
⅝" Punch Complete		2.40
R5	⅝" Punch	1.40
R6	⅝" Die	.70
R3	¼" Screw	.30
11/16" Punch Complete		2.40
R98	11/16" Punch	1.40
R99	11/16" Die	.70
KR3	⅜" Screw	.30
¾" Punch Complete		2.40
R7	¾" Punch	1.40
R8	¾" Die	.70
KR3	⅜" Screw	.30
13/16" Punch Complete		2.40
R100	13/16" Punch	1.40
R101	13/16" Die	.70
KR3	⅜" Screw	.30
⅞" Punch Complete		2.40
KR1	⅞" Punch	1.40
KR2	⅞" Die	.70
KR3	⅜" Screw	.30
1" Punch Complete		2.60
R11	1" Punch	1.50
R12	1" Die	.80
R13	⅜" Screw	.30
1-1/16" Punch Complete		2.75
R15	1-1/16" Punch	1.60
R16	1-1/16" Die	.85
R13	⅜" Screw	.30
1⅛" Punch Complete		2.75
R17	1⅛" Punch	1.60
R18	1⅛" Die	.85
R13	⅜" Screw	.30
1-5/32" Punch Complete		2.75
R19	1-5/32" Punch	1.60
R20	1-5/32" Die	.85
R13	⅜" Screw	.30
1-3/16" Punch Complete		2.75
R21	1-3/16" Punch	1.60
R22	1-3/16" Die	.85
R13	⅜" Screw	.30

		Price
1¼" Punch Complete		2.75
R23	1¼" Punch	1.60
R24	1¼" Die	.85
R13	⅜" Screw	.30
1⅜" Punch Complete		3.15
R25	1⅜" Punch	1.85
R26	1⅜" Die	1.00
R13	⅜" Screw	.30
1½" Punch Complete		3.55
R27	1½" Punch	2.10
R28	1½" Die	1.15
R13	⅜" Screw	.30
1⅝" Punch Complete		4.10
R29	1⅝" Punch	2.40
R30	1⅝" Die	1.30
KR17	¾"x2¼" Screw	.40
1¾" Punch Complete		4.65
R31	1¾" Punch	2.70
R32	1¾" Die	1.55
KR17	¾"x2¼" Screw	.40
1⅞" Punch Complete		5.80
R33	1⅞" Punch	3.00
R34	1⅞" Die	2.25
KR25	¾"x3" Screw	.55
2" Punch Complete		6.25
R35	2" Punch	3.20
R36	2" Die	2.50
KR25	¾"x3" Screw	.55
2¼" Punch Complete		6.80
R37	2¼" Punch	3.50
R38	2¼" Die	2.75
KR25	¾"x3" Screw	.55

NO. 730-M RADIO METER PUNCH — LIST PRICES

2-25/32" Punch Complete		11.50
R108	2-25/32" Punch	5.95
R109	2-25/32" Die	5.00
KR25	¾"x3" Screw	.55

NO. 731 SQUARE RADIO PUNCHES — LIST PRICES

		Price
½" Punch Complete		3.70
R104	½" Square Punch	1.60
R105	½" Square Die	1.25
R106	⅜" Drive Screw	.65
R107	Drive Nut	.20
⅝" Punch Complete		3.70
R51	⅝" Square Punch	1.60
R52	⅝" Square Die	1.25
R53	31/64" Drive Screw	.65
R54	Drive Nut	.20
¾" Punch Complete		4.30
R55	¾" Square Punch	1.85
R56	¾" Square Die	1.50
R57	31/64" Drive Screw	.75
R54	Drive Nut	.20
1" Punch Complete		5.00
R59	1" Square Punch	2.00
R60	1" Square Die	1.70
R61	31/64" Drive Screw	1.10
R54	Drive Nut	.20

NO. 732 "KEY" RADIO PUNCHES — LIST PRICES

		Price
15/32" Punch Complete		4.60
R110	Key Punch	1.90
R111	Key Die	1.25
R112	¼" Drive Screw	1.25
R107	Drive Nut	.20
15/16" Punch Complete		4.15
R71	15/16" Key Punch	1.70
R72	15/16" Key Die	1.10
R73	31/64" Drive Screw	1.15
R54	Drive Nut	.20
1-11/64" Punch Complete		4.45
R75	1-11/64" Key Punch	1.75
R76	1-11/64" Key Die	1.25
R77	31/64" Drive Screw	1.25
R54	Drive Nut	.20
1-17/64" Punch Complete		4.75
R79	1-17/64" Key Punch	1.90
R80	1-17/64" Key Die	1.30
R81	31/64" Drive Screw	1.35
R54	Drive Nut	.20
1-21/64" Punch Complete		5.00
R83	1-21/64" Key Punch	2.00
R84	1-21/64" Key Die	1.40
R85	31/64" Drive Screw	1.40
R54	Drive Nut	.20

NO. 733 "D" RADIO PUNCHES — LIST PRICES

		Price
½" Punch Complete		3.90
R91	½" "D" Punch	1.70
R92	½" "D" Die	1.10
R93	5/16" Drive Screw	.85
R94	Drive Nut	.25
⅝" Punch Complete		4.15
R95	⅝" "D" Punch	1.75
R96	⅝" "D" Die	1.25
R97	5/16" Drive Screw	.90
R94	Drive Nut	.25

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Utica Tools — ADD POWER TO YOUR HANDS

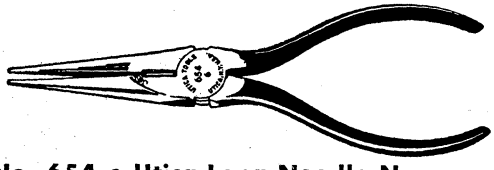
UTICA®

No. 41 • Electricians' Diagonal Pliers —

Hardened in oil and tempered Narrow nose for radio and electrical work.

Size	4 in.	5 in.	6 in.
List Price	$2.34	$2.62	$3.00

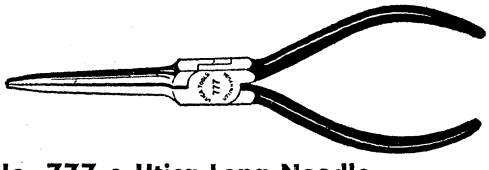
Can be furnished with insulation stripper.



No. 654 • Utica Long Needle Nose Side Cutting Pliers

This is a long, fine, spring-tempered nose, side-cutting pliers, drop forged and with hand-honed cutting knives.

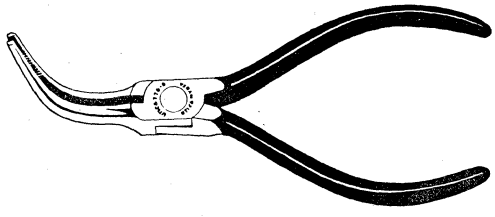
Size	6 in.	7 in.
List Price	$3.00	$3.50



No. 777 • Utica Long Needle Nose Pliers

This pliers has a long, half-round, spring-tempered nose for very fine work in assembling small electrical apparatus.

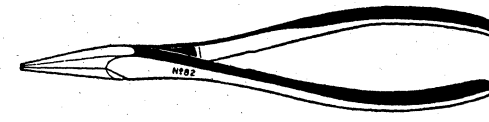
Size	6 inches
List Price	$2.64



No. 776 • Curved Needle Nose Pliers —

This is a long curved spring-tempered Needle Nose Pliers for use in deep and narrow places. It may be used without turning or twisting the hand in the assembling of small fixtures, electrical apparatus, etc.

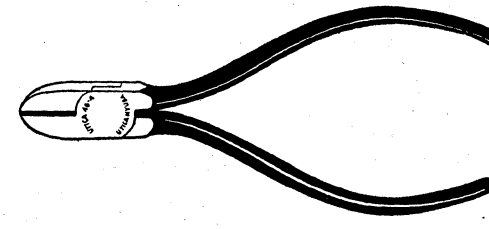
Size	6 inches
List Price	$3.00



No. 82 • Utica Chain Nose Wiring Pliers

This is a special Radio Repair Man's Pliers having a chain nose for those who prefer this type of construction.

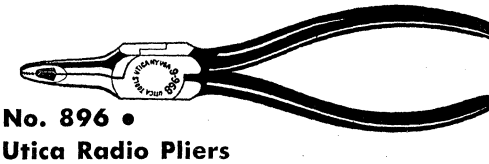
Size	8 inches
List Price	$2.80



No. 46 • Midget Diagonal Pliers

A small Diagonal for radio and electrical work. Hand honed edges with a slim nose for use in cramped quarters.

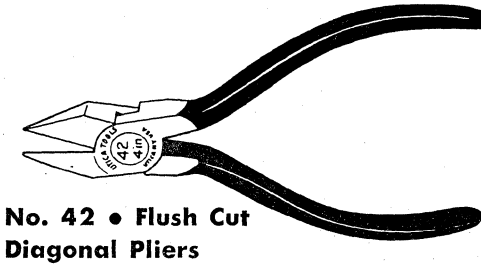
Size	4 inches
List Price	$2.65



No. 896 • Utica Radio Pliers

This is a General Radio Repair Man's Pliers. It has a center cutter and flat scored nose for looping and bending.

Size	6 inches
List Price	$3.60



No. 42 • Flush Cut Diagonal Pliers

This is a Custom-built pliers designed for flush cutting in confined spaces. Can be furnished with spring in handle.

Size	4 inches
List Price	$4.80

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For Starting . . .

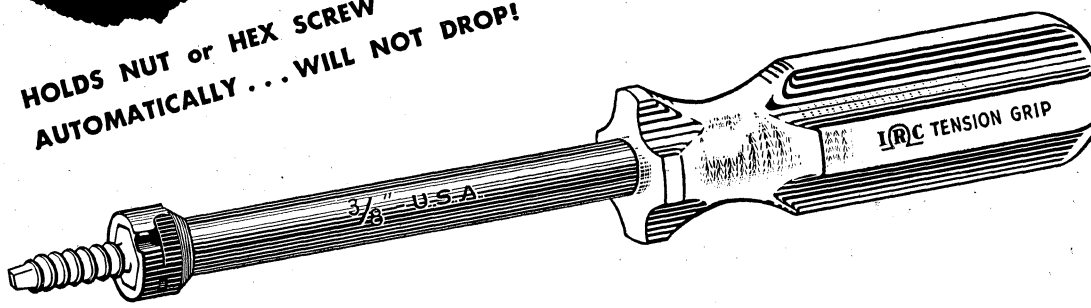
HOLDS and DRIVES IN ONE OPERATION

For Removing . . .

HOLDS NUT or HEX SCREW AUTOMATICALLY . . . WILL NOT DROP!

IRC

TENSION-GRIP Nut Holding NUT DRIVERS



No more fussing or fumbling with small nuts or hex screws. The IRC *Tension-Grip* Nut Driver is ideal for close work in television or radio servicing. The *Tension-Grip* nut holding device is a tempered steel band that grips the nut or hexagon head screw as it enters the socket; it will not drop it! The *Tension-Grip* has a spring action and is non-magnetic; handles brass and stainless steel nuts as well as all regular types. Nut Driver shaft is drilled to a depth of 1 ¼", and securely set in a shock-proof plastic handle.

AVAILABLE FROM YOUR IRC DISTRIBUTOR IN 6 POPULAR SIZES . . .

Stock Number	Size in inches	Dealer Net Cost - each
61	1/4	$ .85
62	5/16	.85
63	11/32	.85
64	3/8	.90
65	7/16	1.05
66	1/2	1.05

IRC

INTERNATIONAL RESISTANCE CO.
401 N. BROAD STREET • PHILADELPHIA 8, PA.

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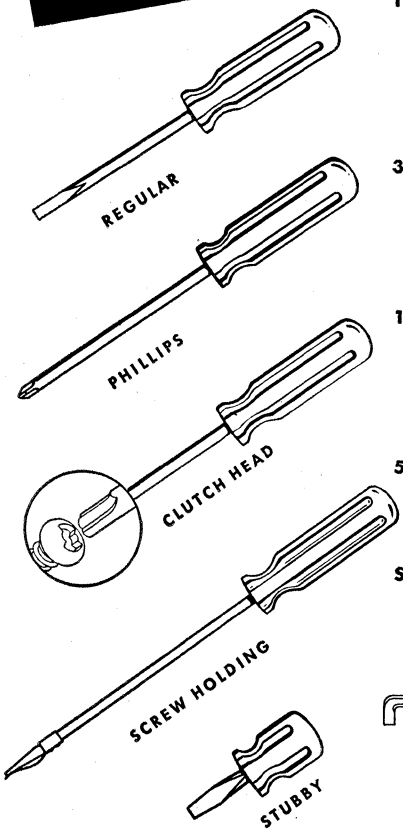
Net

VACO BREAK-PROOF SHOCK-PROOF Screw Drivers

- **Chrome Vanadium Steel Blades**
- **Fire-Safe Amberyl Shock and Break-Proof Handles**

LISTED UNDER REEXAMINATION SERVICE — UL — UNDERWRITERS' LABORATORIES INC.



1/8" Cabinet Style—Round Blades

Stock Number	Blade Diameter and Length
A 216-4	1/8"x4"
A 216-6	1/8"x6"
A 216-8	1/8"x8"
A 216-10	1/8"x10"

3/16" Cabinet Style—Round Blades

A 316-4	3/16"x4"
A 316-5	3/16"x5"
A 316-6	3/16"x6"
A 316-8	3/16"x8"
A 316-10	3/16"x10"

1/4" General Service—Round Blades

A 416-4	1/4"x4"
A 416-5	1/4"x5"
A 416-6	1/4"x6"
A 416-8	1/4"x8"
A 416-10	1/4"x10"

5/16" Heavy Duty—Round Blades

A 516-6	5/16"x6"
A 516-8	5/16"x8"
A 516-10	5/16"x10"

Stubbys

A 132	1/4"x1-1/4"
A 135	5/16"x1-3/4"

Phillips Drivers

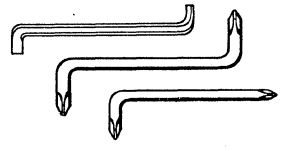
Stock Number	Point No.	Blade Diam. and Length
P 01	0	1/8"x2-1/2"
P 1	1	3/16"x3"
P 2	2	1/4"x4"
P 3	3	5/16"x6"
P 5 (Stub)	2	1/4"x1-3/4"
P 6 (Stub)	1	3/16"x1-1/4"
P 12 (Pocket Clip)	1	1/8"x2-1/2"

Clutch Head Drivers

Stock Number	Bit Point Diameter and Blade Length
CH 43	1/8"x3"
CH 54	5/32"x4-1/4"
CH 64	3/16"x4-1/4"
CH 86	1/4"x6"
CH 106	5/16"x6"
Stub Styles	
CH 51	5/32"x1-1/2"
CH 61	3/16"x1-1/2"

Screw Holding Drivers

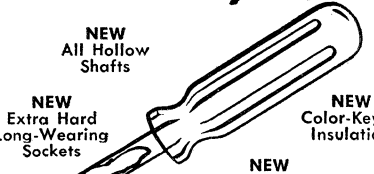
Stock Number	Blade Diam. & Length
OK 23	1/8"x3"
OK 24	1/8"x4"
OK 26	1/8"x6"
OK 28	1/8"x8"
OK 34	3/16"x4"
OK 36	3/16"x6"
OK 38	3/16"x8"



Offset Screw Drivers

Stock No.	Type	Blade
VO 1	Regular	5/32"x3"
VO 2	Regular	1/4"x4"
P 120	Phillips	#1 point one end, #2 point other end
P 111	Phillips	#1 point both ends
P 222	Phillips	#2 point both ends

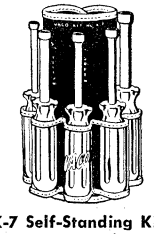
Color-Keyed, Insulated, Hollow Shaft NUT DRIVERS



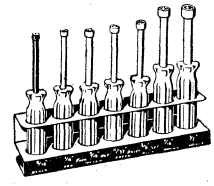
Standard (3") Lengths

Stock No.	Hex Size	Overall Length	Color Key
N 6-3	3/16"	6 5/8"	Black
N 8-3	1/4"	6 5/8"	Red
N 10-3	5/16"	6 5/8"	Yellow
N 11-3	11/32"	6 5/8"	Green
N 12-3	3/8"	6 5/8"	Blue
N 14-3	7/16"	7"	Brown
N 16-3	1/2"	7"	Orange

ALSO AVAILABLE
Stubby 1½" out of handle N 6-1 thru N 16-1. **Long** 5½" out of handle N 6-6 thru N 16-6. **Extra Long** 8¼" out of handle N 6-8 thru N 16-8.



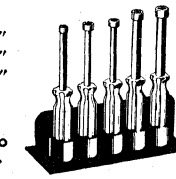
K-7 Self-Standing Kit
Includes 7 nut drivers (3" lengths) each in own holder marked for size and color.



N-700 Bench Stand
All metal for permanent attachment to bench or wall. 7 drivers.

Hollow Shaft (Standard Line) Nut Drivers — No Insulation

Stock No.	Hex Size	Overall Length
HS 5	5/32"	6¾"
HS 6	3/16"	6¾"
HS 7	7/32"	6¾"
HS 8	1/4"	6¾"
HS 9	9/32"	6¾"
HS 10	5/16"	6¾"
HS 11	11/32"	6¾"
HS 12	3/8"	6¾"
HS 14	7/16"	6⅞"
HS 16	1/2"	6⅞"
HS 18	9/16"	8"
HS 20	5/8"	8"
Stubby Sizes		
HSS 8	1/4"	3¼"
HSS 10	5/16"	3¼"
HSS 12	3/8"	3¼"



HS-500 Bench Stand
All metal for attaching to bench or wall. 5 drivers.

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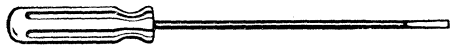
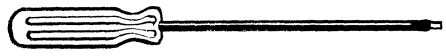
Beryllium Copper Drivers



Round Blade, Non-Spark, Non-Magnetic

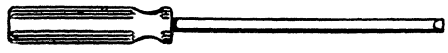
Stock Number	Blade Diameter and Length
VB 26	1/8″x6″
VB 210	1/8″x10″
VB 38	3/16″x8″
VB 46	1/4″x6″
VB 48	1/4″x8″

Insulated Blade Screw Drivers



VR 241	1/8″x4″
VR 261	1/8″x6″
VR 281	1/8″x8″
VR 361	3/16″x6″
VR 381	3/16″x8″

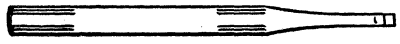
Non-Metallic Radio and TV Aligners



Bone Fiber Blade

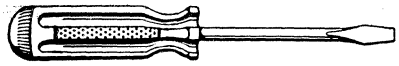
AT 55	5/32″x5″
AT 510	5/32″x10″

Non-Magnetic *Metal Tip* Radio and TV Aligner



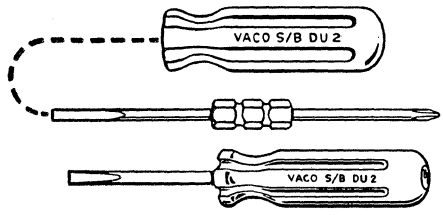
Stock Number	Body Size	Bit Diameter	Capacitance
AT 45	3/8″x5-1/2″	3/16″	Slight

Neon Light Screw Drivers



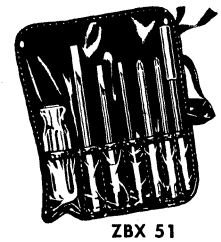
Stock Number	Blade Diameter and Length
AN 44	1/4″x4″
AN 2 (Pocket Clip)	1/8″x3″

Duplex "*Reversible*" Drivers



Stock Number	Blade Size and Type
DU 2	No. 1 Phillips, One End 3/16″ Regular, Other End
DUH 4	No. 2 Phillips, One End 1/4″ Regular, Other End
DUP 12	No. 1 Phillips, One End No. 2 Phillips, Other End

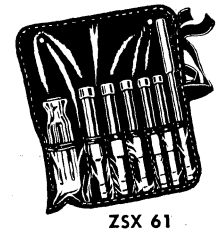
VACO RADIO and TV KITS



ZBX 51

ZBX 51 Screw Driver Kit

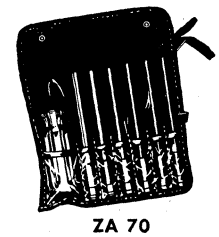
A fine, all-purpose kit of interchangeable regular and Phillips blades that fit same handle. 6″ extension makes 10 combinations possible. In durable leatherette bag.



ZSX 61

ZSX 61 Nut Driver Kit

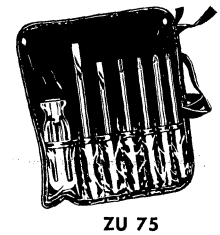
A most versatile and complete hexagon wrench kit for radio, television or any other work requiring speedy nut setting. All sockets are super hard for maximum utility and long life. 6″ extension makes 10 blade lengths possible. In handy leatherette tool roll.



ZA 70

ZA 70 Allen Driver Kit

This useful kit consists of 6 hexagon drivers, handle and bag. Will service hexagon recessed opening screws Nos. 4, 5, 6, 8, 10, 1/4″, 5/16″ and 3/8″. Each bit is extra long and may ground back as wear occurs.



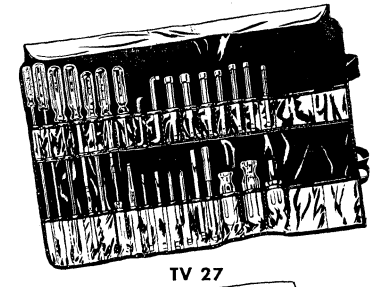
ZU 75

ZU 75 Universal Driver Kit

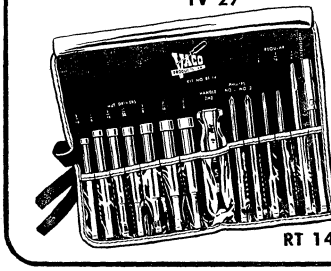
Here is a kit that is universal in its applications since it will serve all three types of the most popular screws in use today—regular slotted, Phillips, and clutch head. All popular size blades are included—3/16″ and 1/4″ for regular slotted screws; No. 1 and No. 2 Phillips; 5/32″ x 3/16″ clutch head.

27-Piece TV and Radio Kit

NO. TV 27 KIT—Contains practically every hand tool necessary for television and radio work, *plus* extra pockets for pliers and other personal tools according to individual preferences. Contains one each of the following: ZH 1 medium duty handle; ZH 2 heavy duty handle; ZX 56 extension; A 132 1/4″ stub; 1/4″, 3/16″, 1/8″ regular bits; No. 1 Phillips and No. 2 Phillips bits; 3/16″, 1/4″, 5/16″, 11/32″, 3/8″, 7/16″ and 1/2″ hex. wrenches; AT 45 metal tip aligner; A 116-2 3/32″ pocket clip; P 01 #0 Phillips thin blade; OK 24 1/8″ screw holding; VR 261 1/8″ insulated blade; OK 38 3/16″ screw holding; VR 381 3/16″ insulated blade; VB 210 1/8″ x 10″ non-magnetic adjuster; AT 510 5/32″ fiber aligner; VO 2 medium offset; VO 1 small offset.



TV 27



RT 14

14-Piece TV and Radio Kit

NO. RT 14 KIT—Here's a handy, convenient kit for radio and TV service men. Contains nut drivers, Phillips and regular drivers, plus ZH 2 heavy duty handle and famous Vaco 6″ extension which doubles the usefulness of each driver. In durable leatherette tool roll.

VACO PRODUCTS CO., Chicago 11, Illinois

In Canada: Vaco-Lynn Products (of Canada) Ltd.

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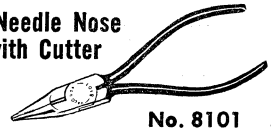
NEW VACO Individually Tested PLIERS

- **Milled jaws for sure grip**
- **Hand honed side cutters**
- **Fitted grip handles**
- **Unconditional factory guarantee**

24 Popular Styles from Which to Choose

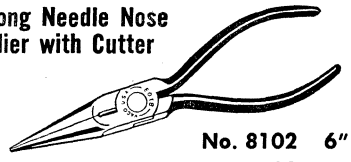
Short Needle Nose Plier with Cutter



No. 8101 5"

This plier is intended for general use where a short nose is desired for getting into difficult places.

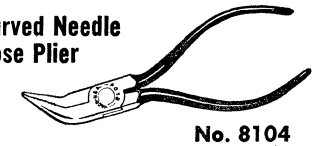
Long Needle Nose Plier with Cutter



No. 8102 6"
No. 8103 7"

An exceptional handy and useful plier, well proportioned with long thin nose, designed for reaching into tight places.

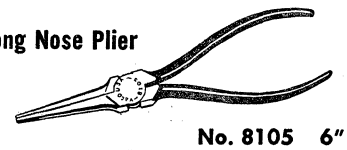
Curved Needle Nose Plier



No. 8104 6"

A long, bent, thin nose plier. The angle is arranged to give full clearance and prevent skinning of knuckles.

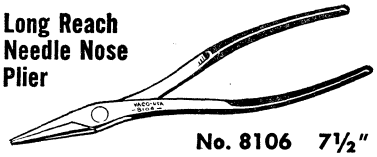
Long Nose Plier



No. 8105 6"

Newly designed long nose plier suitable for working in confined places.

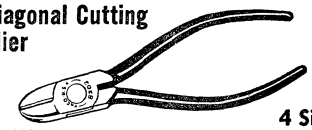
Long Reach Needle Nose Plier



No. 8106 7½"

Has long, thin, sure-grip jaws to reach into places where fingers and ordinary pliers will not go.

Diagonal Cutting Plier

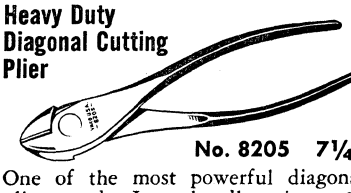


4 Sizes

No. 8201 4½" **No. 8203 6"**
No. 8202 5" **No. 8204 7½"**

Specially designed for electricians, radio and TV service men and automotive mechanics. Powerful jaws cut close and quickly.

Heavy Duty Diagonal Cutting Plier



No. 8205 7¼"

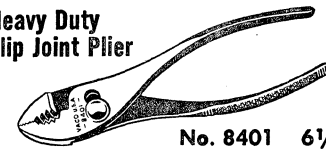
One of the most powerful diagonal pliers made. Long handles give a 20 to 1 ratio of leverage to cut with minimum effort.

Heavy Duty Linemen's Side Cutting Plier

No. 8301 6¼"
No. 8302 7½" **No. 8303 8¾"**

One of the most popular pliers in use today. Has extra powerful leverage and reinforced cutting knives.

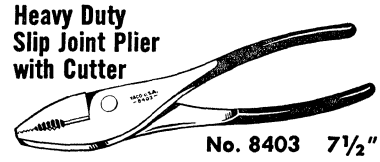
Heavy Duty Slip Joint Plier



No. 8401 6½"
No. 8402 8"

A top quality slip joint combination plier. Has all the quality features of higher priced cutting pliers at modest cost.

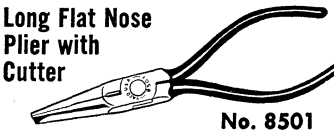
Heavy Duty Slip Joint Plier with Cutter



No. 8403 7½"

This plier incorporates the best features of a regular side cutter with the versatility of a slip joint combination plier.

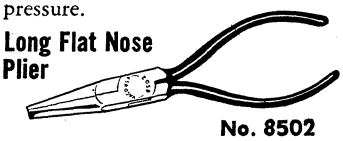
Long Flat Nose Plier with Cutter



No. 8501 6"

Extra long, wide, flat nose makes this an especially useful tool. Plier is tempered so jaw will not spring under pressure.

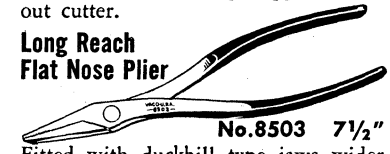
Long Flat Nose Plier



No. 8502 6"

Same as No. 8501 except supplied without cutter.

Long Reach Flat Nose Plier



No.8503 7½"

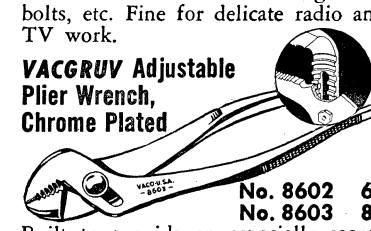
Fitted with duckbill type jaws wider and heavier than those of the ordinary flat nose for firmer gripping service.

VACGRUV Adjustable Ignition Plier Wrench, Chrome Plated

No. 8601 5"

Especially designed 3-position jaws accommodate small to medium large nuts, bolts, etc. Fine for delicate radio and TV work.

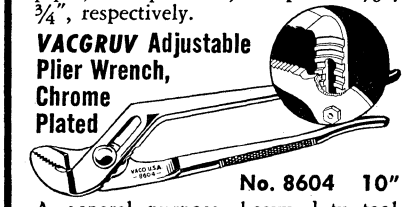
VACGRUV Adjustable Plier Wrench, Chrome Plated



No. 8602 6"
No. 8603 8"

Built to provide an especially secure grip on medium to large bolts, nuts, pipes, etc. 3-position jaws open to–⅝", ¾", respectively.

VACGRUV Adjustable Plier Wrench, Chrome Plated



No. 8604 10"

A general purpose, heavy duty tool with 5-position jaws that open to 1⅛". Doubles as pipe wrench, gripping plier and hand vise.

VACO PRODUCTS CO., Chicago 11, Illinois
In Canada: Vaco-Lynn Products (of Canada) Ltd.

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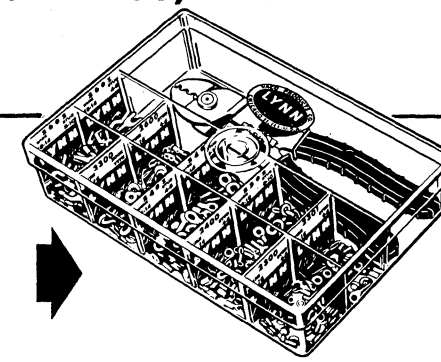
LYNN Lightning Solderless Terminals by VACO

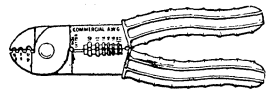
Wide Assortment of Solderless Terminals for General Use, Radio and TV



No. 2195 Service Kit

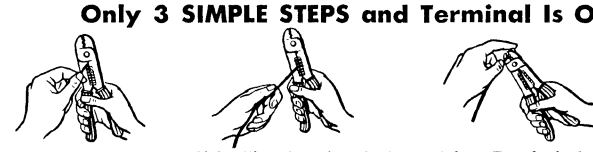
A GENERAL PURPOSE ELECTRICAL, RADIO AND TV KIT containing everything needed for making clean, fast, trouble-free electrical connections. No soldering! No fuss or muss! Kit includes . . . No. 1900 Crimping Tool and Terminals Nos. 2300, 2301, 2302, 2400, 2401, 2402, 2600, 2601, 2602, and 3300 . . . all in a clear plastic box with tight-fitting lid. Individual bins marked with terminal stock number cards.

No. 1900 Crimping Tool



No solder... no iron... no heating... a perfect connection every time with this tool and Lynn Lightning Solderless Terminals by Vaco! Crimping tool has wire cutters, indenting die, wire-stripping die, shock-proof, slip-proof plastic handle sleeves. For No. 22 to No. 10 gauge wire.

Only 3 SIMPLE STEPS and Terminal Is On



1. Cut Wire. Use the wire cutter built into the crimping tool to cut wire proper length.

2. Strip Wire. Insert end of wire into proper wire stripping opening, close jaws, rotate tool one-half turn, then pull insulation off wire.

3. Crimp Terminal. Insert stripped portion of wire into terminal barrel, place barrel in proper crimping nest with seam directly opposite crimping tooth and close tool like pliers.

Extra long barrel on terminal provides easy crimp and perfect contact. Only ONE crimp necessary. Barrel *always* remains round.

Quick Reference Chart for Easy Terminal Identification

RING TONGUE TERMINALS

No. 2300
Hole Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 22 - 16

No. 2301
Hole Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 22 - 16

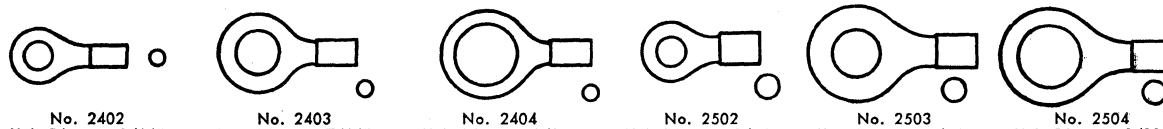
No. 2302
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 22 - 16

No. 2303
Hole Dia. — 17/64"
Stud Size — 12 - 1/4
Wire Size — 22 - 16

No. 2304
Hole Dia. — 13/32"
Stud Size — 3/8
Wire Size — 22 - 16

No. 2400
Hole Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 16 - 14

No. 2401
Hole Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 16 - 14



No. 2402
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 16 - 14

No. 2403
Hole Dia. — 17/64"
Stud Size — 12 - 1/4
Wire Size — 16 - 14

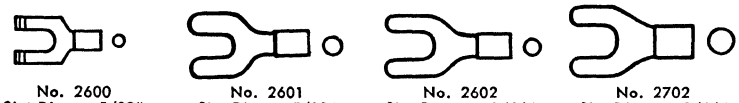
No. 2404
Hole Dia. — 13/32"
Stud Size — 3/8
Wire Size — 16 - 14

No. 2502
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 12 - 10

No. 2503
Hole Dia. — 17/64"
Stud Size — 12 - 1/4
Wire Size — 12 - 10

No. 2504
Hole Dia. — 13/32"
Stud Size — 3/8
Wire Size — 12 - 10

SPADE TONGUE TERMINALS



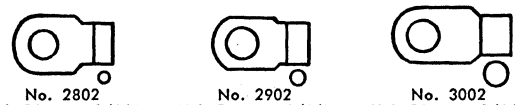
No. 2600
Slot Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 22 - 16

No. 2601
Slot Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 16 - 14

No. 2602
Slot Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 16 - 14

No. 2702
Slot Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 12 - 10

FLAG TYPE TERMINALS



No. 2802
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 22 - 16

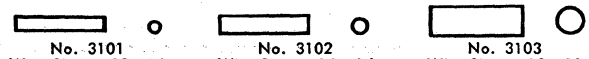
No. 2902
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 16 - 14

No. 3002
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 12 - 10

HOOK TYPE TERMINAL

No. 3300
Slot Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 22 - 16

BUTT CONNECTORS



No. 3101
Wire Size — 22 - 16

No. 3102
Wire Size — 16 - 14

No. 3103
Wire Size — 12 - 10

CONVENIENT $ PAK

All Lynn Lightning Terminals are available in convenient $ Paks. When any of the "bins" of the service kit are empty, user merely purchases a refill just right for replacing stock. Refill Paks are well marked for trouble-free handling, and designed with "window" for easy identification.

BULK PAK

Also available in bulk—packed 250 pieces to a package, 4 packages to master carton of 1,000.

VACO PRODUCTS CO. • Chicago 11, Illinois, U.S.A.

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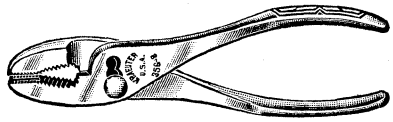
KRAEUTER

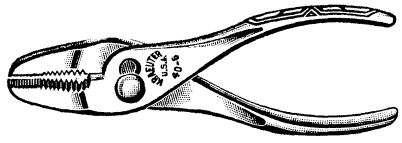
The choice of skilled mechanics



"GRIPTITE" COMBINATION PLIERS

Finest quality, heavy duty, with wire cutting notch.

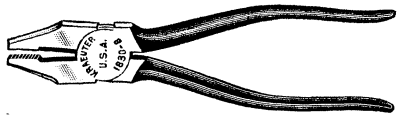
356	5½"	Chrome Plated	List **$2.05**
356	6 "	Chrome Plated	**2.30**
356	8 "	Chrome Plated	**2.90**
356	10 "	Chrome Plated	**3.45**



THIN NOSE COMBINATION PLIERS

Tapered thin jaws for confined areas.

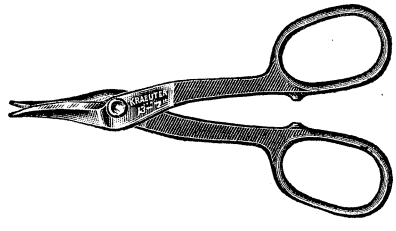
40 6" Chrome Plated ..... List **$1.75**



ELECTRICIANS' SIDE CUTTING PLIERS

For electric wiring and repair work.

1830	4 "	Polished Head, Blued Handles	List **$2.45**
1830	5 "	Polished Head, Blued Handles	**2.65**
1830	6½"	Polished Head, Blued Handles	**2.90**
1830	7 "	Polished Head, Blued Handles	**3.20**
1830	8 "	Polished Head, Blued Handles	**3.65**



COMBINATION PATTERN SNIP

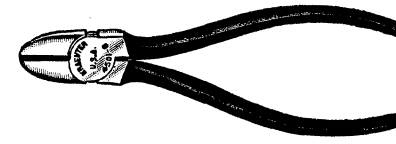
Cuts straight, curved shapes in metal, etc.

K13 7" Pocket Size, Cut 1⅝" ..... List **$1.90**

TONGUE-N-GROOVE JOINT PLIERS

Five parallel adjustments from closed to 1⅝".

710 10" Polished ..... List **$3.00**



DIAGONAL "OBLIQUE" CUTTING PLIERS

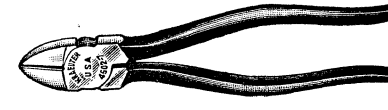
For close cutting in radio, TV, telephone work.

4501	4½"	Polished Head, Blued Handles	List **$2.50**
4501	5 "	Polished Head, Blued Handles	**2.75**
4501	6 "	Polished Head, Blued Handles	**3.10**

"HIGH POWER" DIAGONAL CUTTING PLIERS

Added leverage for easier cutting.

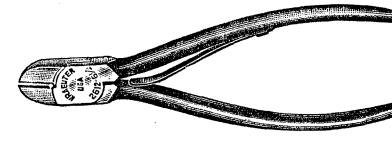
4610 7" Polished Head, Blued Handles ....List **$3.10**



7-IN. DIAGONAL CUTTING PLIERS WITH FULL-FASHIONED HANDLES

High leverage and comfort for continuous cutting.

4502 7" Polished Head, Blued Handles ....List **$3.45**



WIRE STRIPPING DIAGONAL CUTTING PLIERS

Strips fine wire. Spring return handles.

2612 6½" Polished Head, Blued Handles ....List **$3.50**

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS . . . . SEND FOR CATALOG

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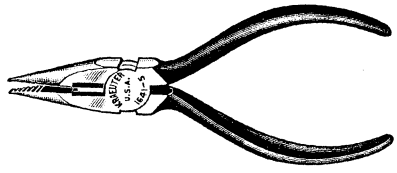
KRAEUTER

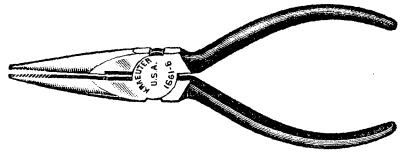
The choice of skilled mechanics



SHORT CHAIN NEEDLE NOSE PLIERS

Short nose, extra leverage, for open wiring.

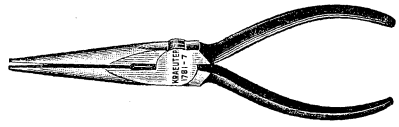
1641 5″ Polished Head, Blued Handles ....List $2.75
1643 5″ Same without cutters 2.40



LONG CHAIN NEEDLE NOSE PLIERS

Radio and TV's most extensively-used pliers.

1661 6″ Polished Head, Blued Handles ....List $3.15
1671 6″ Same without cutters 2.50



EXTRA LONG CHAIN NOSE PLIERS

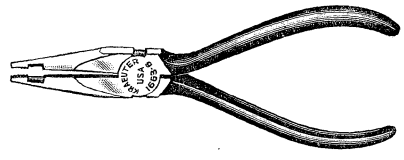
Jaw length reaches 2¾″, narrow pointed nose.

1781 7″ Polished Heads, Blued Handles ....List $3.60
1771 7″ Same without cutters 2.90

WITH CUTTERS AT TIP OF JAWS

Extra long, narrow handles, cutters in nose.

71 8″ Polished Head Blued Handles ....List $3.95



RADIO AND IGNITION NOSE CUTTING PLIERS

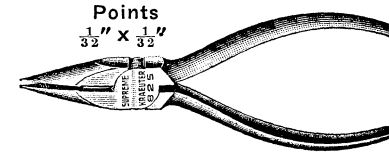
Grips at tip of nose, cutters ¼″ back.

1663 6″ Polished Heads, Blued Handles ....List $3.25

PROFESSIONAL LINE

SPECIAL NEEDLE POINT PLIERS

Needle Points $\frac{1}{32}$″ x $\frac{1}{32}$″



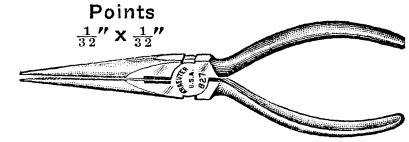
MEDIUM NOSE NEEDLE POINT PLIERS

825 5″ Full Polished .....List $3.50
835 5″ Same without cutters 3.00

LONG NOSE NEEDLE POINT PLIERS

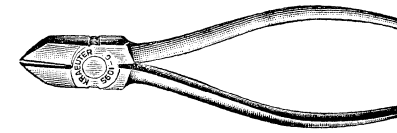
826 6″ Full Polished .....List $3.65
836 6″ Same without cutters 3.15

Needle Points $\frac{1}{32}$″ x $\frac{1}{32}$″



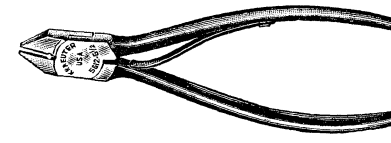
EXTRA LONG NOSE NEEDLE POINT PLIERS

827 7″ Full Polished .....List $4.10
837 7″ Same without cutters 3.60



NEEDLE POINT DIAGONAL CUTTING PLIERS

5601 4½″ Full Polished .....List $3.20
5601 5 ″ Full Polished 3.40
5601 6 ″ Full Polished 3.75



NEEDLE POINT DIAGONAL CUTTING PLIERS

Wire stripping notch, spring return handles.

5612 6½″ Full Polished .....List $4.00

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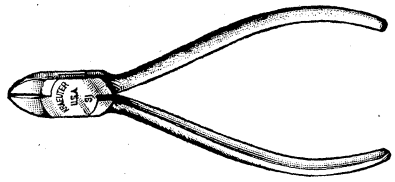
KRAEUTER

The choice of skilled mechanics

CHROME PLATED PLIERS

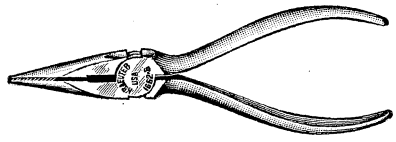
These standard types and sizes used by the electronics technician are heavy chrome plated for lasting beauty and protection against rust.



JEWELERS' DIAGONAL CUTTING PLIERS

Midget cutters for close, fine work.

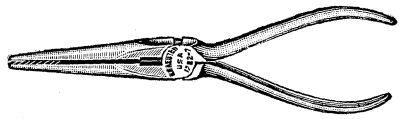
91 4½" Chrome Plated .....List **$3.00**



LONG CHAIN NOSE PLIERS

Accurately fitted cutting knives.
Milled jaws taper to $\frac{1}{16}$" points.

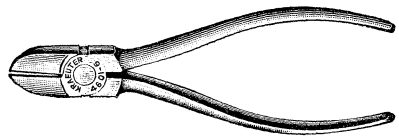
1662 6" Chrome Plated .....List **$3.35**
1672 6" Same, no cutters **2.70**



EXTRA LONG CHAIN NOSE PLIERS

Added reach for confined areas.
Milled jaws, with cutting knives.

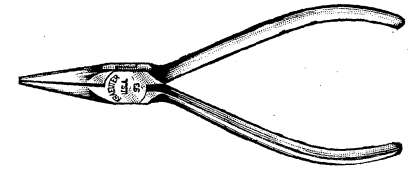
1782 7" Chrome Plated .....List **$3.85**
1772 7" Same, no cutters **3.10**



DIAGONAL CUTTING PLIERS

Narrow head, with keen edges for close cutting.

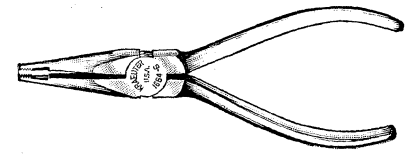
4601 5" Chrome Plated .....List **$2.95**
4601 6" Chrome Plated **3.30**



JEWELERS' NEEDLE NOSE PLIERS

Slender midget jaws taper to $\frac{1}{32}$" points.

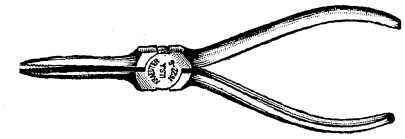
93 4½" Chrome Plated .....List **$2.90**



NOSE CUTTING PLIERS

Grips at tip of nose, cutters ¼" back.

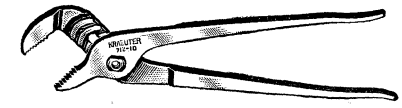
1664 6" Chrome Plated .....List **$3.45**



LONG SNIPE NOSE PLIERS

For positive gripping in confined areas.

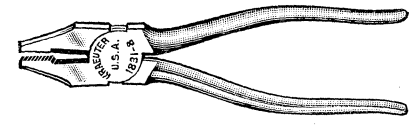
1622 6" Chrome Plated .....List **$3.00**



TONGUE-N-GROOVE JOINT PLIERS

Five parallel adjustments, from closed to 1⅝".

712 10" Chrome Plated .....List **$3.35**



ELECTRICIANS' SIDE CUTTING PLIERS

For general wiring and repair work.

1831 6½" Chrome Plated .....List **$3.15**

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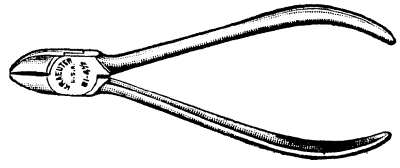
KRAEUTER

The choice of skilled mechanics

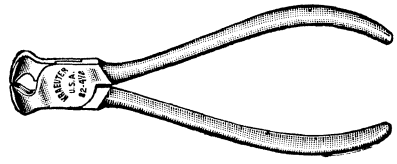
PRECISION LINE

Fine, small jewelers pliers, matched in size and handle shape for accurate and exacting work. Drop forged from selected tool steel, accurately machined, and carefully heat treated. Extensively used in the manufacture and repair of radio, TV, instruments, etc. FULL POLISHED FINISH.



JEWELERS' DIAGONAL CUTTING PLIERS

81 4½" Full Polished .....List **$3.00**



JEWELERS' END CUTTING NIPPERS

82 4½" Full Polished .....List **$3.60**

PLIERS SETS, IN BLACK ZIPPER CASES

90 One each Nos. 81, 82, 83, 84, 85.....List ea. **$18.25**
89 One each Nos. 81, 83, 84 ..... **10.90**

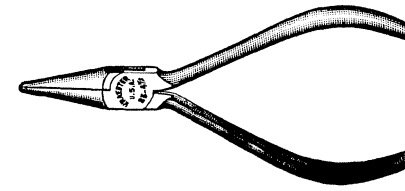
PLIERS WITH SPRING IN HANDLE

Available for most pliers, replaceable leaf spring keeps pliers in open position, ready to work. Can be provided separately or in combination with cushion grips described at right. Effectively used to increase efficiency and reduce wrist fatigue on the production line. Additional, List each **$0.30**

ALLOY STEEL ADJUSTABLE WRENCH

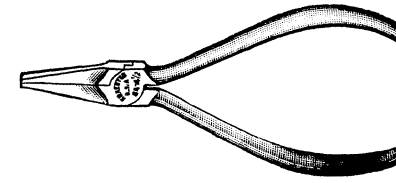
THIN PATTERN — SMOOTH ACTION

No.	Length	CHROME PLATED Cap.	Wt. per doz.	List Each
31	4"	½"	1¼ lbs.	$2.10
31	6"	¾"	3½ lbs.	2.10
31	8"	15/16"	6½ lbs.	2.45
31	10"	1⅛"	11 lbs.	3.10
31	12"	1 5/16"	18 lbs.	4.50
31	15"	1¾"	42 lbs.	6.80



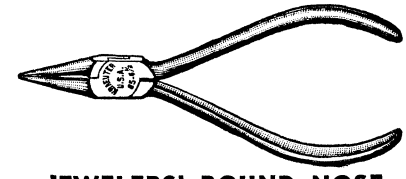
JEWELERS' CHAIN NOSE PLIERS

83 4½" Full Polished .....List **$2.90**



JEWELERS' FLAT NOSE PLIERS

84 4½" Full Polished .....List **$3.00**



JEWELERS' ROUND NOSE ROUND JAW PLIERS

85 4½" Full Polished .....List **$3.00**

"CG" PLIERS (Cushion Grip), with Molded Red Plastic Handles for Extra Comfort

CG-81	$3.00	CG-825	$3.50	CG-837	$3.60
CG-82	3.60	CG-826	3.65	CG-5601-4½"	3.20
CG-83	2.90	CG-827	4.10	CG-5601-5"	3.40
CG-84	3.00	CG-835	3.00	CG-5601-6"	3.75
CG-85	3.00	CG-836	3.15	CG-5612-6½"	4.00

OTHER PLIERS (Industrial Line only), add **$0.40** ea. pr.

SAFETY GRIPS

Available to fit most pliers. Knurled, easily applied, non-explosive, molded to snugly fit handles.
List Each Pair for 6" **.65**, for 7" **.70**, for 8" **.75**

LEATHER TOOL POUCHES

Five pockets, with tape holder. Stitched with 7-cord top quality linen hot wax thread, locked to solid leather back with steel rivets. Pockets made of pliable form-fitting Russet Leather. Designed for the radio and TV serviceman to carry pliers, screwdrivers, tape, and other small tools.
711 Tool Holster .....List each **$4.65**

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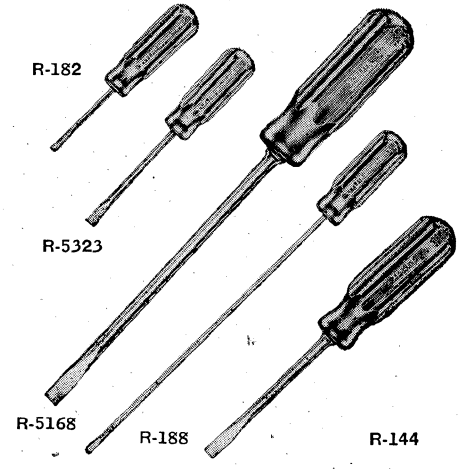
SCREWDRIVERS

Blades of SAE6150 Chrome Vanadium Electric Furnace Steel

ROUND BLADES

Number	Size Blade	List	Number	Size Blade	List
R-3322	3/32" x 2"	$0.30	R-5328	5/32" x 8"	.90
R-3323	3/32" x 3"	.45	R-3163	3/16" x 3"	.85
R-3324	3/32" x 4"	.45	R-3164	3/16" x 4"	.90
R-181	1/8" x 2"	.30	R-3166	3/16" x 6"	1.05
R-183	1/8" x 3"	.45	R-3168	3/16" x 8"	1.15
R-184 1/2	1/8" x 4"	.45	R-31610	3/16" x 10"	1.30
R-182	1/8" x 2"	.55	R-142	1/4" x 2"	1.05
R-184	1/8" x 4"	.60	R-144	1/4" x 4"	1.15
R-186	1/8" x 6"	.65	R-146	1/4" x 6"	1.20
R-188	1/8" x 8"	.80	R-148	1/4" x 8"	1.30
R-1810	1/8" x 10"	.90	R-1410	1/4" x 10"	1.35
R-5323	5/32" x 3"	.70	R-5164	5/16" x 4"	1.35
R-5324	5/32" x 4"	.70	R-5166	5/16" x 6"	1.50
R-5325	5/32" x 5"	.70	R-5168	5/16" x 8"	1.60

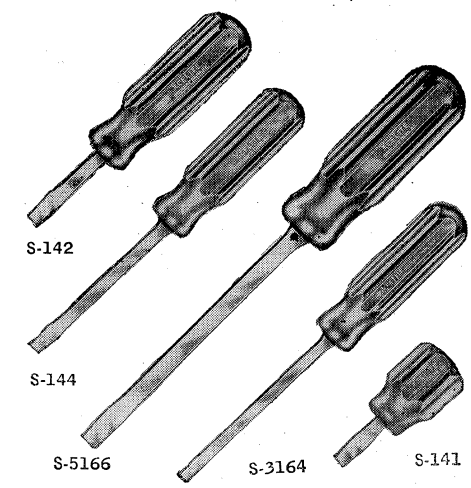


SQUARE BLADES

Number	Size Blade	List	Number	Size Blade	List
S-183	1/8" x 3"	$0.65	S-5168	5/16" x 8"	$1.70
S-184	1/8" x 4"	.65	S-51610	5/16" x 10"	1.90
S-185	1/8" x 5"	.65	S-51612	5/16" x 12"	2.10
S-3163	3/16" x 3"	1.00	S-388	3/8" x 8"	2.10
S-3164	3/16" x 4"	1.05	S-3812	3/8" x 12"	3.05
S-3166	3/16" x 6"	1.20	S-3818	3/8" x 18"	3.30
S-3168	3/16" x 8"	1.30	S-7166	7/16" x 6"	2.45
S-31610	3/16" x 10"	1.50	S-71612	7/16" x 12"	3.05
S-142	1/4" x 2"	1.20	S-71618	7/16" x 18"	3.30
S-144	1/4" x 4"	1.25	S-1424	1/4" x 24"	2.75
S-146	1/4" x 6"	1.30			
S-148	1/4" x 8"	1.50			
S-5162	5/16" x 2"	1.25			
S-5164	5/16" x 4"	1.50			
S-5166	5/16" x 6"	1.60			

Stubbies

Number	Size Blade	List
S-3161	3/16" x 1"	$0.70
S-141	1/4" x 1"	.85
S-5161	5/16" x 1"	.85



BERYLLIUM-COPPER

- non-sparking
- non-magnetic
- better fatigue resistance than steel

Number	Size Blade	List
BR-186	1/8" x 6"	$1.25
BR-1810	1/8" x 10"	1.35
BR-3168	3/16" x 8"	2.20
BR-146	1/4" x 6"	2.75
BR-148	1/4" x 8"	2.95

BR-1410 FC

LIST $3.25
TV FOCALIZER ADJUSTER

Blade	Tip Width	O/A
1/4" x 10"	3/8"	12"

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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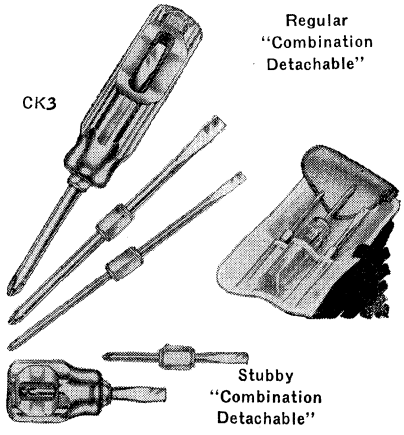
XCELITE QUALITY TOOLS

***Preferred by the* EXPERTS**

SCREWDRIVERS

"COMBINATION—DETACHABLE"



COMPLETE (Regular Type)	List Price
No. CR1	$2.15
No. CR2	2.15
No. CR3	2.15

BLADES ONLY (Regular Type)	List Price
No. RB1	$1.20
No. RB2	1.20
No. RB3	1.20

HANDLES ONLY

	List Price
No. 25—Regular	$0.95

STUBBY SIZE

COMPLETE		BLADES ONLY	
No. CS1	$1.90	No. SB1	$1.05
No. CS2	1.90	No. SB2	1.05

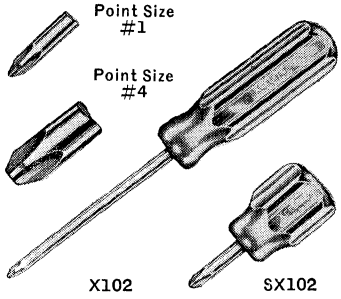
HANDLES ONLY

No. 26—Stubby $0.85

Order by Blade Combinations

No. 1—No. 1 Phillips and $\frac{3}{16}$" Xcelite
No. 2—No. 2 Phillips and $\frac{1}{4}$" Xcelite
No. 3—No. 3 Phillips and $\frac{5}{16}$" Xcelite

PHILLIPS



No.	Point Size	Length Blade	Diameter Blade	List Price
X-100	0	2"	$\frac{1}{8}$"	$ .75
X-108	1	6"	$\frac{5}{16}$"	1.15
X-101	1	3"	$\frac{3}{16}$"	1.05
X-102	2	4"	$\frac{1}{4}$"	1.35
X-103	3	6"	$\frac{5}{16}$"	1.80
X-104	4	8"	$\frac{3}{8}$"	2.25
X-1010	1	10"	$\frac{3}{16}$"	1.60
X-1020	2	10"	$\frac{1}{4}$"	1.80

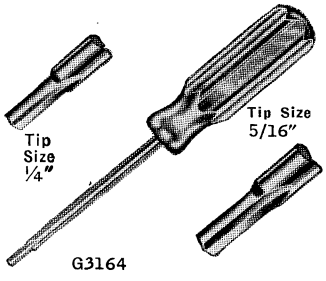
SHORT STUBBY TYPE

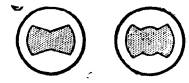
No.	Point Size	Blade	List Price
SX-101	1	$\frac{5}{16}$"x1 $\frac{3}{8}$"	$1.00
SX-102	2	$\frac{1}{4}$"x1 $\frac{3}{8}$"	1.10

POCKET CLIP STYLE

No.	Point Size	Blade	List Price
P12S	0	$\frac{1}{8}$"x2"	$0.65

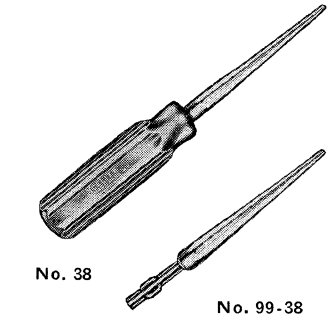
CLUTCH HEAD





Note: Both types are the same size and price. Order by number.

Type G No.	Type A No.	Size	Diameter Blade	Length Blade	List Price Each
G-3324	—	$\frac{3}{32}$"	$\frac{1}{8}$"	4"	$1.20
G-183	A-183	$\frac{1}{8}$"	$\frac{3}{16}$"	3"	1.20
G-5324	A-5324	$\frac{5}{32}$"	$\frac{1}{4}$"	4"	1.35
G-3164	A-3164	$\frac{3}{16}$"	$\frac{1}{4}$"	4"	1.35
G-146	A-146	$\frac{1}{4}$"	$\frac{5}{16}$"	6"	1.75
G-5166	A-5166	$\frac{5}{16}$"	$\frac{3}{8}$"	6"	2.15



ROLL KIT COMBINATIONS—No. CK-3 with RB-1, RB-2 and RB-3 blades and combination handle (see "Combination—Detachable," above for sizes) ..... $5.45 list
No. CK-2 with RB-1 and RB-2 reversible blades and combination handles ..... $4.25 list

NEW! No. 38 & No. 99-38 SUPEREAMER

Larger and with Super Hard Chrome Finish for Rust Protection and Longer Wear. No. 99-38 designed to fit 99-1 & 99-2 handles (see 99PR & 99JR next page). Reams quickly, cleanly, in wood, plastic, sheet metal, from 1/8" - 3/8".

No. 99-38 Reamer only ..... $2.05 list
No. 38 Fixed in Full Man Size Handle ..... $2.35 list

New! $\frac{1}{4}$" to $\frac{1}{2}$" size with a new twist! 3/16" drilled hole thru reamer to give torque of T-Handle type with the compactness of a detachable unit.

No. 99-39 Reamer only ..... $2.60 list
No. 39 Fixed in large handle ..... $2.90 list

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XCELITE QUALITY TOOLS

Preferred by the EXPERTS

NUT DRIVERS

(ALL WITH COLOR-CODED HANDLES)

REGULAR

6″ Overall Length

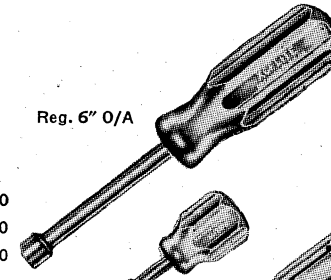
No.	Handle Color	Hex Op'n'g	List
5	Amber	5/32″	$1.10
6	Black	3/16″	1.10
7	Brown	7/32″	1.10
8	Red	1/4″	1.10
9	Orange	9/32″	1.10
10	Yellow	5/16″	1.10
11	Green	11/32″	1.10
12	Blue	3/8″	1.10
14	Brown	7/16″	1.40
16	Red	1/2″	1.40

9″ Overall Length

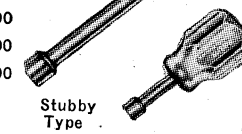
No.	Handle Color	Hex Op'n'g	List
A-6	Black	3/16″	$1.25
A-7	Brown	7/32″	1.25
A-8	Red	1/4″	1.25
A-9	Orange	9/32″	1.25
A-10	Yellow	5/16″	1.25
A-11	Green	11/32″	1.25
A-12	Blue	3/8″	1.25
A-14	Brown	7/16″	1.75
A-16	Red	1/2″	1.75

3 1/4″ Overall Length

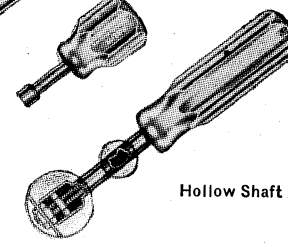
No.	Handle Color	Hex Op'n'g	List
S-8	Red	1/4″	$0.90
S-10	Yellow	5/16″	.90
S-12	Blue	3/8″	.90



Reg. 6″ O/A



Stubby Type



Hollow Shaft

HOLLOW SHAFT

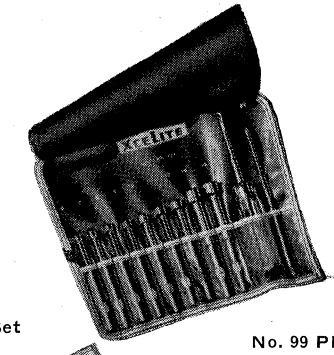
No.	Length Overall	Hex. Open.	Handle Color	Depth of Hole	List	Insulated List
HS-8	6″	1/4″	Red	5″	$1.35	$1.70
HS-10	6″	5/16″	Yellow	5″	1.35	1.70
HS-11	6″	11/32″	Green	5″	1.35	1.70
HS-12	6″	3/8″	Blue	5″	1.35	1.70
HS-14	7″	7/16″	Brown	5″	1.55	1.90
HS-16	7″	1/2″	Red	5″	1.60	1.95
HS-18	7″	9/16″	Orange	5″	1.65	2.00
HS-20	7″	5/8″	Yellow	5″	1.90	2.25

No. 127 Lockable WALL SET

The original "borrow-proof" steel set with Nos. 6, 7, 8, 9, 10, 11 and 12 XCELITE nut drivers with handles colored to flash the size! (See size code, upper left.) Metal holder in red wrinkle finish.

No. 127—Polished finish ..... $8.90 list

No. 127C—Chrome plated blades ..... $9.65 list

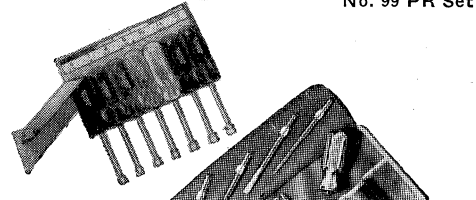


No. 127 Set

No. 99 PR MULTI-PURPOSE SET

Roll plastic kit with 99-1 handle; 99-6, 7, 8, 9, 10, 11, 12, 14 and 16 detachable chrome plated reversible Phillips (Nos. 1 and 2 points) screwdriver; and 99-81 chrome plated reversible slotted (3/16″ and 9/32″) screwdriver.

No. 99 PR—As above ..... $13.65 list



No. 99 PR Set

Accessory Tools for 99-PR and 99-JR:

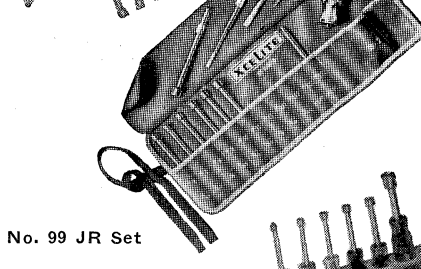
No. 99-38—Reamer ..... $2.05 list

No. 99-83—Reversible 3/16″ and 9/32″ Frearson tip blade ..... $1.40 list

NEW! No. 99-JR

Multi-purpose Set (Pocket Size) 7 Nutdrivers (3/16″ - 3/8″), 2 Phillips and 2 Slotted Screwdrivers with Master Handle, all rolled up in ONE HANDY POCKET KIT — that's the New "99"-JR! Same fine quality as the big "99" Set, but with a smaller handle. You'll want this set that has the tools you need where you need them!

No. 99JR ..... $11.75 list



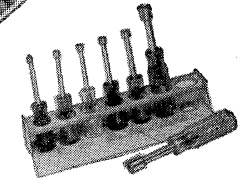
No. 99 JR Set

No. 137 SET

This sturdy metal bench set couldn't be handier. Contains XCELITE Nos. 6, 8, 10, 11, 12, HS-16 and HS-18 (see size-color table above).

No. 137—Polished finish ..... $10.25 list

No. 137C—Chrome plated blades ..... $11.25 list



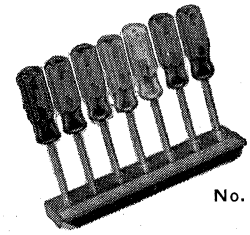
No. 137 Set

No. 17 SET

The popular XCELITE Nos. 6, 7, 8, 9, 10, 11 and 12 nut drivers on non-tipping bench rack — and look at the low prices!

No. 17—Polished finish ..... $8.25 list

No. 17C—Chrome plated blades ..... $9.15 list



No. 17 Set

DEEP PRECISION-FORMED SOCKETS
ALL SHAFTS HIGHLY POLISHED

SUBJECT TO CHANGE WITHOUT NOTICE
TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

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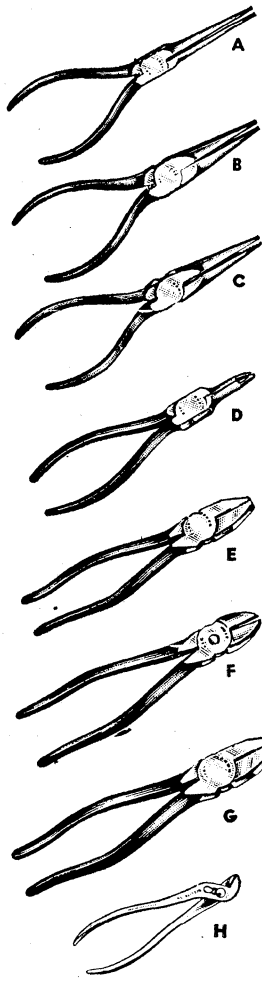
XCELITE QUALITY TOOLS

Preferred by the EXPERTS

PLIERS FOR EVERY JOB
DROP FORGED OF HIGH GRADE TOOL STEEL



(Fig. A)—No. 56 6-in. Needle Nose Plier—Long slim jaws permit entry of this plier where a regular long nose plier won't work. List Price $3.10
No. 56C—Chrome plated $3.60

(Fig. B)—No. 52 Long Nose Plier (Without Side Cutters)—Long perfectly matching tips are ideal for gripping and twisting in awkward places. List Price $2.65
No. 52C—Chrome plated $3.35

(Fig. C)—No. 51 Long Nose Plier (With Side Cutters)—The same rugged strength and long reach as No. 52 Long Nose Plier above plus side cutters. List Price $3.40
No. 51C—Chrome plated $4.15

(Fig. D)—No. 58 Radio and TV Plier—Designed for radio and TV Servicemen. Extreme tip for gripping with sharp cutting edges ¼ in. back from tip. Invaluable in many applications. List Price $4.10
No. 58C—Chrome plated $4.85

(Fig. E)—No. 60 6-in. Side Cutting Plier—This plier has the "just right" size required for most side cutting operations. Serrated upper and lower jaws for gripping and hand honed cutting edges. List Price $3.05
No. 60C—Chrome plated $3.65

(Fig. F)—No. 67 7-in. Diagonal Plier—A rugged plier with all the leverage required for even the heaviest applications. Hand honed cutting edges stand up under tough cutting conditions. List Price $3.75
No. 67C—Chrome plated $4.35

(Fig. G)—No. 68 8-in. Side Cutting Plier—The big brother to No. 60 above. Designed for the man-sized big job where heavy grip and leverage is needed. Ideal for cutting heavy wire. List Price $3.85
No. 68C—Chrome plated $4.55

(Fig. H)—No. 50C 5-in. Ignition Plier—Narrow head. Three slip joint adjustments. Chrome plated. List Price $1.70

(Fig. I)—No. 54 Midget 4-in. Diagonal Plier—The ideal plier for close quarter work. For servicemen, electricians and hobbyists. List Price $3.10
No. 54C—Chrome plated $3.60

(Fig. J)—No. 62 Transverse Cutting Plier—For flush cut-off—Radio & TV Printed Circuits & Miniature Sets.
List Price $4.15
No. 62C $4.65

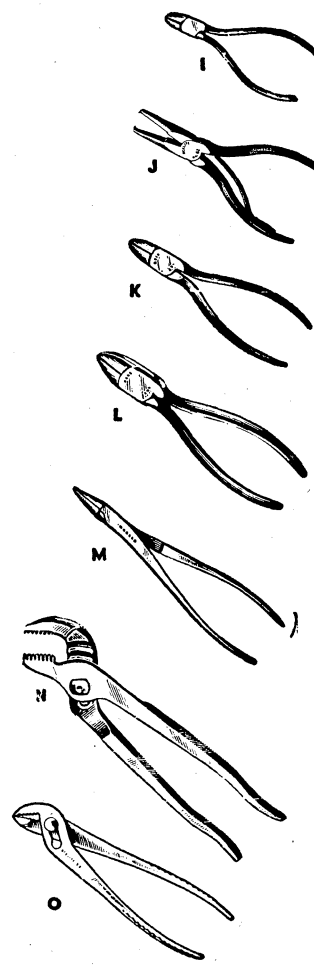
(Fig. K)—No. 55 5-in. Diagonal Plier—Ideal for most cutting needs. Hand honed cutting edges cut through medium wire with ease. List Price $3.10
No. 55C—Chrome plated $3.60

(Fig. L)—No. 66 6-in. Diagonal Plier—An all purpose plier heavier than No. 55 above. Small enough for most jobs, but it has a grip for the tough ones. List Price $3.35
No. 66C—Chrome plated $3.95

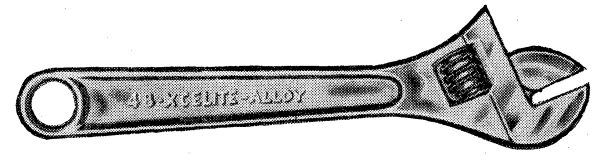
(Fig. M)—No. 59 Chain Nose Electricians Plier—Long reach and high leverage are combined. Slim enough to go into a small space, rugged enough to stand the pressure for tough electrical jobs. List Price $3.25

(Fig. N)—No. 63 10-in. Utility Plier—Forged ribbed lock design for strength plus high leverage. Serrated jaws. List Price $3.15
No. 63C—Chrome plated $3.95

(Fig. O)—No. 53C 6-in. Utility Plier—A husky all purpose plier with three slip joint positions, serrated jaws. Chrome plated. List Price $1.95



ADJUSTABLE WRENCHES



Everything about these XCELITE wrenches is designed from the mechanic's point of view! Extra-wide bearing surface of movable jaws gives better grip. The thin pattern helps you get into close quarters. The adjustment knurl turns EASILY. And it's STRONG, because it's drop forged from chrome alloy steel. Ideal for securing antenna mounts and 1001 other jobs. Order your sizes by number. All in gleaming chrome plated finish.

No.	Size	List
44C	4″	$2.35
46C	6″	2.40
48C	8″	2.75
40-10C	10″	3.55
40-12C	12″	5.15

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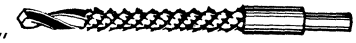
Norseman
ELECTRONIC TOOLS

STICKLE-BACK DRILSAWS

Made in Germany, this tool will drill holes in wood, plaster board, etc. and saw in any direction.

#1 7" x 3/16" dia. $1.60 net
#2 10" x ¼" dia. 2.15 net
#3 13" x 5/16" dia. $2.60 net
#4 15" x ⅜" dia. 2.95 net

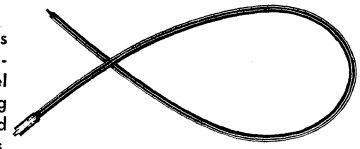
DRILL ROUTERS



Another "Stickle-back" tool, similar to the Drilsaw, but for use in electric drills.

#318-1 2⅜" x ¼" dia. ..... $1.25 net
#318-2 4½" x ¼" dia. ..... 1.40 net

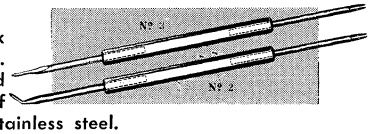
TIPPY STICKS



Flexible alignment tools of tenite II with a non-magnetic stainless steel tip. Permits snaking around obstructions and still turn screws and slugs.

ST-186 6" long ..... .40 net
ST-1810 10" long ..... .45 net
ST-1814 14" long ..... .50 net

SOLDERING AIDS



Handles of 4"x⅜" hex Hi-impact Styrene. Metal ends, separated from each other, of 5/32" non-magnetic stainless steel.

#2 fork and hooked end for circuit tracing ..... .60 net
#3 fork and sharp pointed reamer ..... .60 net

REVERSIBLE RATCHETS

A rugged ratcheting box wrench. No buttons, no levers — just turn it over to reverse the ratchet.

¼" x 5/16" ..... $1.95 net
⅜" x 7/16" ..... 2.10 net
½" x 9/16" ..... 2.35 net
⅝" x 11/16" ..... $2.65 net
⅝" x ¾" ..... 3.00 net
¾" x ⅞" ..... 3.25 net

TOOL POUCHES

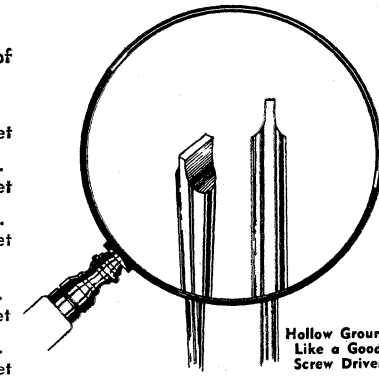
Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 2 smaller ones in front.
#15 5½" x 7¾" ..... $2.75 net

Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 1 smaller one in front.
#16 5" x 8¾" ..... $2.15 net

Bark-tanned top grain cowhide, riveted and stitched with linen thread. 7 pockets, loop for hammer, snap loop for roll of tape.
#17 10" x 9" ..... $4.00 net

Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 2 smaller ones in front.
#19 8" x 10¼" ..... $3.60 net

DIDDLE STICKS

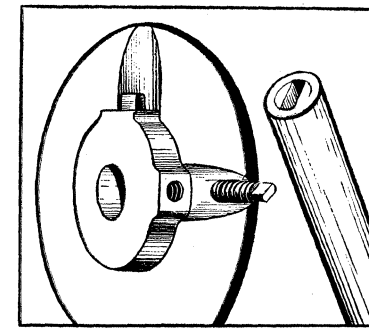


Alignment tools of Lucite 10" long.

LU-1810 ⅛" dia. .25 net
LU-53210 5/32" dia. .25 net
LU-31610 3/16" dia. .25 net

14" long
LU-53214 5/32" dia. .35 net
LU-31614 3/16" dia. .35 net

SLAB-HEAD DRIVERS



Drivers for SLAB-HEAD screws as used in Delco auto radios, Zenith & Arvin TV and 1956 models of Webcor recorders.

246-P .....$1.50 net

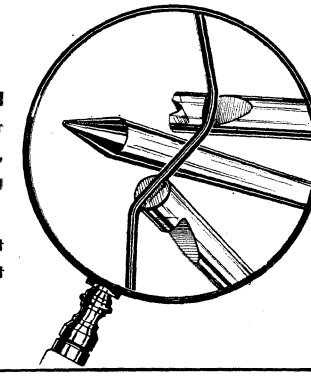
Clutch Head Screw and Driver

TRI-TAPS

The original 3-in-1 tool with 6/32", 8/32" and 10/32" taps to clean or cut three of the most common threads used in electronic work.

T-3 .....$1.95 net T-4 tap only for HT-24 1.45 net
HT-24 with replaceable tap..... 3.20 net

JIGGLE STICKS



Probes of Lucite, 1 end forked for pushing other end pointed for probing, notched on side for pulling wires.

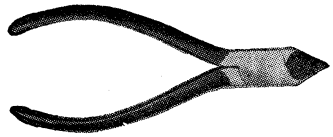
PR 532-6 5/32" dia. .30 net
PR 316-8 3/16" dia. .35 net

Berg SWEDISH STEEL PLIERS

MADE IN ESKILSTUNA, SWEDEN, BY E. A. BERG MFG. CO. LTD. • EST. 1880

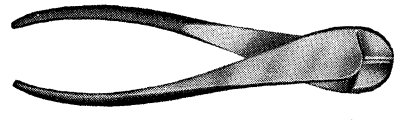
Only the best Swedish Charcoal Steel is used in the manufacture of Berg Pliers. Produced under exacting standards of control, they embody the most modern techniques of heat treatment and manufacture. Each plier is carefully engineered and designed to afford the greatest practical utility; lightness and ease of operation; and strength coupled with durability.

Special Electronic Diagonal Cutting Pliers with extra thin cutting edges, pointed nose and BOX JOINT



No. 525 - 5" 4.40

High Leverage Diagonal Cutting Pliers.



1508 - 7" 2.25

Straight Cutting Pliers with extended jaws

No. 1529 - 6½" 3.25

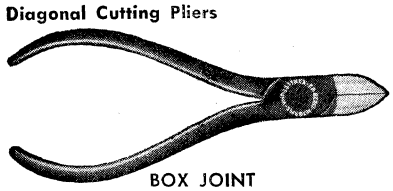
ERIKSON SPECIALIZED TOOL COMPANY

Berg SWEDISH STEEL PLIERS

ALL ITEMS CARRIED IN STOCK ON THE WEST COAST FOR IMMEDIATE SHIPMENT

All pliers packed ½ dozen per box

Diagonal Cutting Pliers



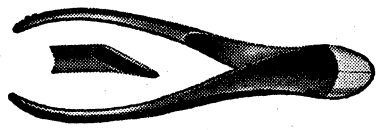
BOX JOINT

No. 526 ..... 5" 3.25 6" 4.15

SINGLE JOINT

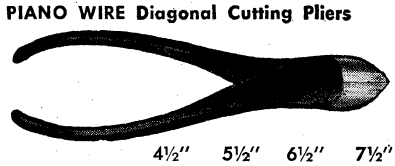
	4½"	5"	5½"	6"
No. 1525	2.40	2.65	2.80	3.25
With wire stripping hole				
1525-STR	4½"	2.65	5"	2.90

ANGLE NOSE Diagonal Cutting Pliers



No. 2528 ..... 6½" 3.60 7½" 4.25

PIANO WIRE Diagonal Cutting Pliers



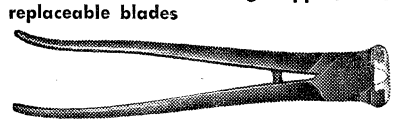
	4½"	5½"	6½"	7½"
No. 1528	2.55	2.95	3.60	4.25

PIANO WIRE Side Cutting Nippers with replaceable blades

No. 1518 ..... 9" 5.15 10" 5.85

Extra Blades .... 9" 1.80 10" 1.85

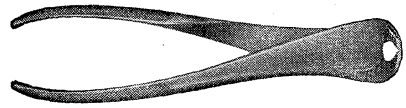
PIANO WIRE End Cutting Nippers with replaceable blades



No. 1519 - 9" 6.40

Extra Blades 2.00

PIANO WIRE End Cutting Nippers

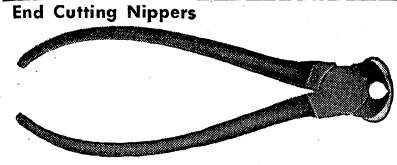


No. 527 ..... 6" 2.65 7" 3.10

Slip Joint Pliers with wire cutters

No. 616 ..... 5½" 2.40 7½" 2.90

End Cutting Nippers



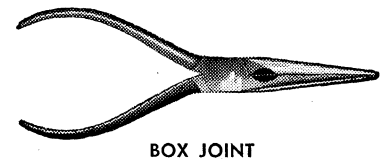
BOX JOINT

No. 522 - 6" 3.75

SINGLE JOINT

No. 523 - 6" 3.10

Long Nose Pliers with cutters



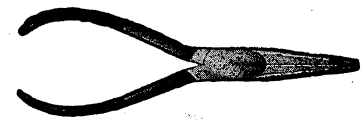
BOX JOINT

No. 590 ..... 6" 3.50 7" 4.05

SINGLE JOINT

No. 1590 5" 2.40 6" 2.85 7" 3.25

Long Nose Pliers



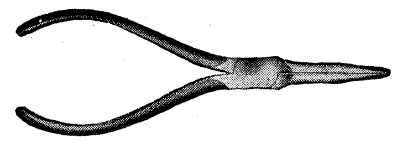
BOX JOINT

No. 533 5" 2.25 6" 2.80 7" 3.35

SINGLE JOINT

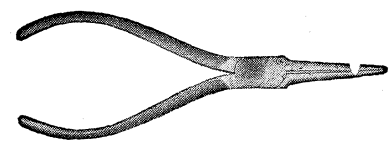
No. 2533 6" 2.10 7" 2.55 8" 3.00

Snipe Nose Pliers



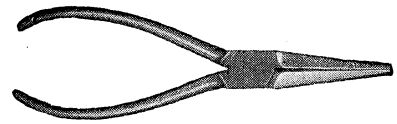
No. 1533 - 6" 2.65

Slender Duck Bill Pliers



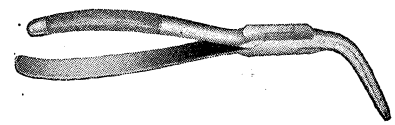
No. 1532 - 6" 2.65

Special Slender Electronic Duck Bill Pliers with BOX JOINT



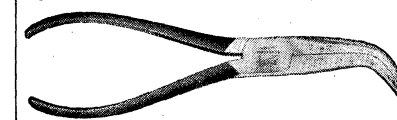
No. 530 ..... 5" 2.50 6" 3.05

Curved Nose Pliers



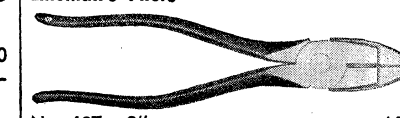
No. 1631 - 5½" 2.65

Special Bent Nose Pliers



No. 2533-B - 8" 3.50

Lineman's Pliers

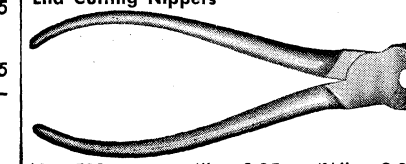


No. 697 - 8" 4.70

INSTRUMENT MAKERS and JEWELERS PLIERS

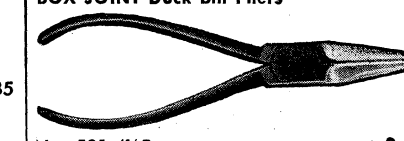
Full Polished

End Cutting Nippers



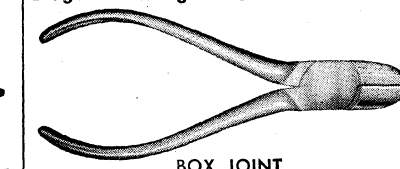
No. 523-P ..... 4" 2.95 4½" 3.25

BOX JOINT Duck Bill Pliers



No. 531-4½P 2.65

Diagonal Cutting Pliers



BOX JOINT

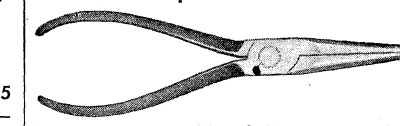
No. 526 - 4½P 3.75

SINGLE JOINT

No. 1526-4P 2.95

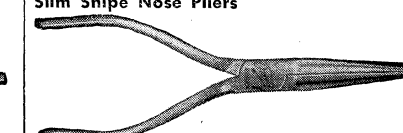
No. 1525-4½P 3.25

BOX JOINT Snipe Nose Pliers



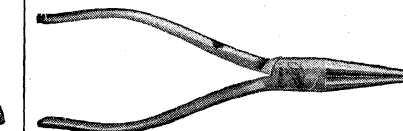
No. 533-P ..... 4" 2.40 4½" 2.65

Slim Snipe Nose Pliers



No. 1520-P ..... 4" 2.95 4½" 3.15

Slim Round Nose Pliers



No. 5020-P .... 4" 2.95 4½" 3.15

ERIKSON SPECIALIZED TOOL COMPANY

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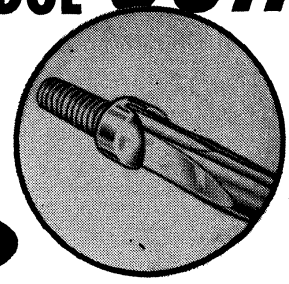
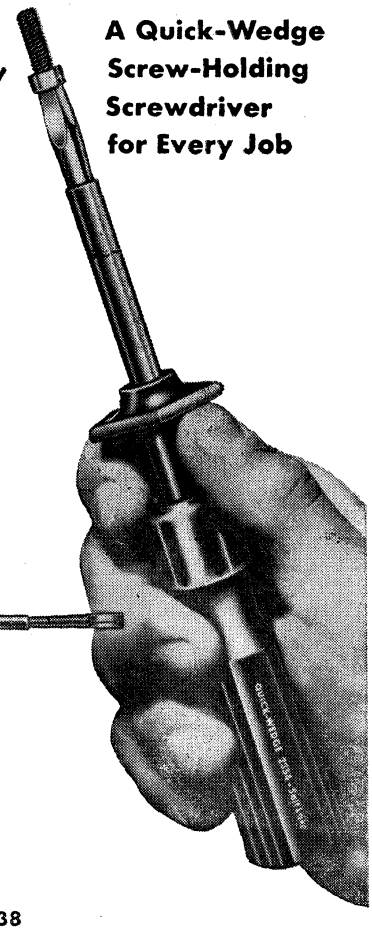
QUICK-WEDGE SCREW-HOLDING SCREWDRIVER



America's Handiest!

A Quick-Wedge Screw-Holding Screwdriver for Every Job



MIDGET SIZES

1253

1258

SMALL SIZES

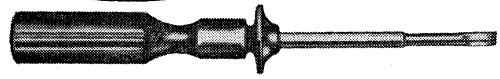
1732

1734

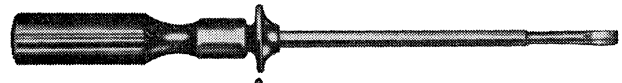
1736

1738

MEDIUM SIZES



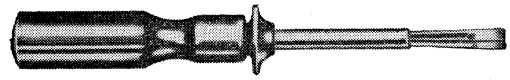
1834



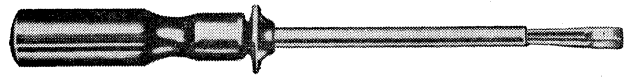
1836

1838

HEAVY DUTY SIZES



2354



2356

2358

23514

Blade length is indicated by last digit of model number. "17312" has a 12 inch blade "23514" has a 14 inch blade.

ELECTRICAL SIZES

Any of the 14 sizes (except No. 1732) available with shockproof, plastic covered tubing at a cost of 15c additional per screwdriver.

KEDMAN COMPANY •

Other Kedman Products--The Famous Huntsman Welding Shields and Kedman Carrying and Sample Cases

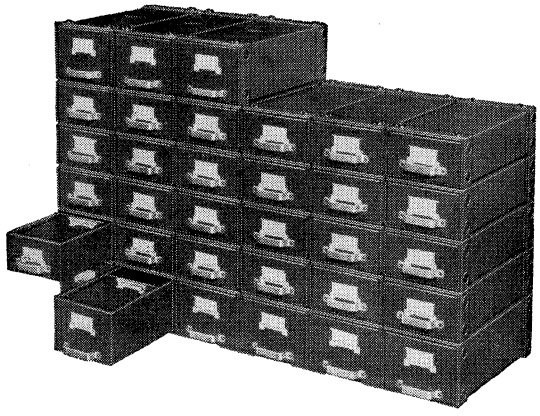
Copyright by U. C. P., Inc.

SNAP-ON DRAWER CO. MORROW, OHIO

YOU make up your own small parts cabinet to exactly fit YOUR NEEDS with . . .

SNAP-ON DRAWERS

THE NAME DESCRIBES THE ACTION • THE DRAWERS SNAP-ON



- **MODERN** Light weight, functional in design.
- **EFFICIENT** Parts are quickly, easily located.
- **PRACTICAL** You build to suit your needs.
- **SELECTIVE** You have a choice of three sizes.
- **ECONOMICAL** You buy only what you actually need.
- **CONVENIENT** When you need more room.
- **SO SIMPLE** Just snap on another SNAP-ON DRAWER.

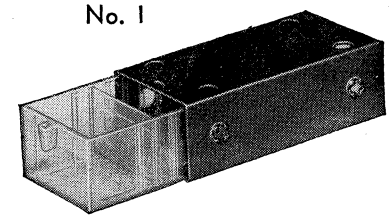
- The sturdy, steel shells of the SNAP-ON DRAWER snap together on sides, top and bottom, with duplicate shells to form a strong metal cabinet. No tools required. Just place the metal buttons of one shell directly over the holes in the adjacent shell and snap the buttons into place, one at a time.

If you wish to change the position of a drawer, the shells can be readily pried apart with a knife blade and rearranged. Finished in GUN-METAL GRAY.

SENIOR—11¾" x 5⅛" x 3½"

No. 3. "SENIOR" Snap-On Drawer, including one No. 3D Divider, net price..... **$3.30**
No. 3D. Divider, net price..... **.15**

No. 1

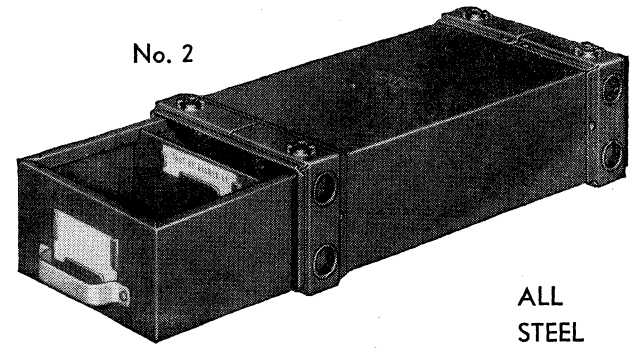


PLASTIC & STEEL

SMALL—6 1/16" x 3⅛" x 1⅞"

No. 1. "SMALL" Snap-On Drawer, including one No. 1D Divider, net price..... **$0.60**
No. 1BP. Base Plate, net price..... **.35**
No. 1D. Divider, net price..... **.03½**

No. 2

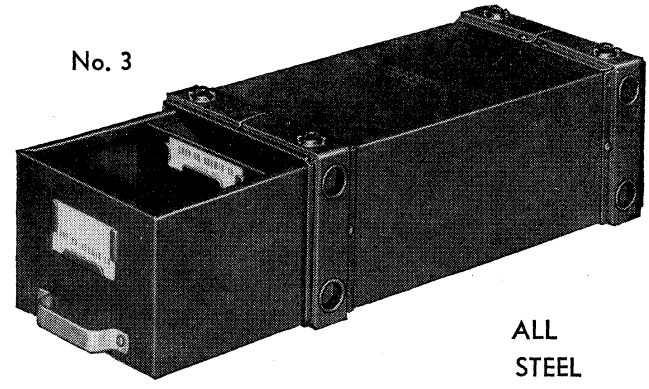


ALL STEEL

JUNIOR—11¾" x 5⅛" x 2½"

No. 2. "JUNIOR" Snap-On Drawer, including one No. 2D Divider, net price..... **$3.00**
No. 2D. Divider, net price..... **.13½**

No. 3



ALL STEEL

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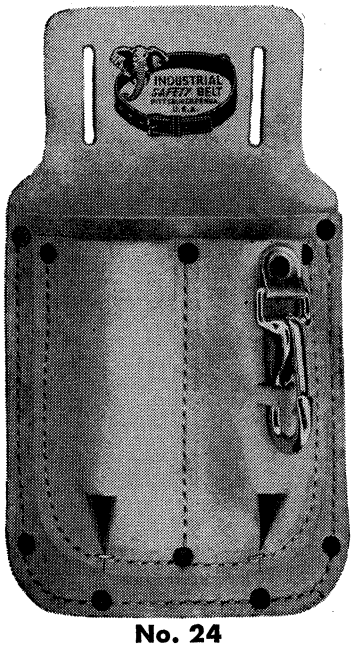
INDUSTRIAL SAFETY BELT

• TOOL HOLSTERS • TOOL BELTS

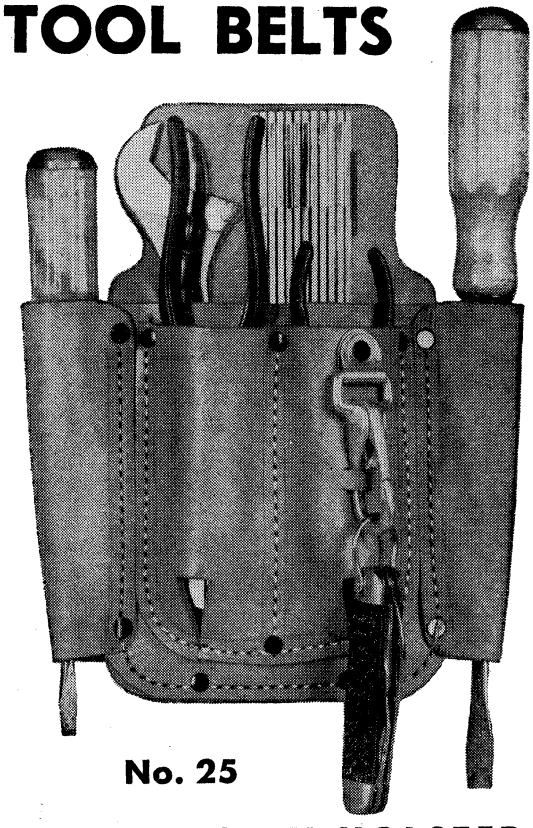


No. 24

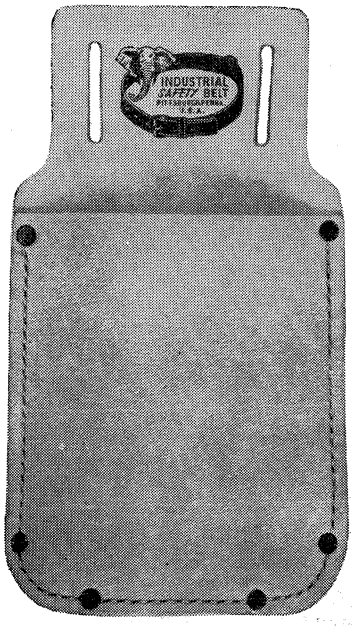
No. 24 TOOL HOLSTER

Similar to electrician holster except side pockets not attached, making the overall dimensions 5 x 9 inches.

No. 24 List $4.00 each



No. 25



No. 23

No. 23

Similar to overall dimensions of tool holster No. 24. One pocket. Dimensions are small enough to insert in pocket of trousers.

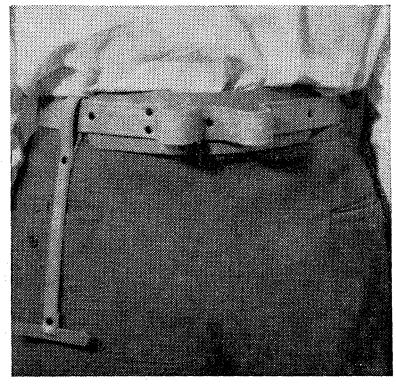
No. 23 List $2.50 each

ELECTRICIAN HOLSTER
5 POCKETS

Stitched with seven cord top quality linen hot wax thread, locked to solid leather back with steel rivets. Pockets made of pliable form fitting Russet Leather.

Special designed snap allows knife to be removed by use of a one hand upward motion. Overall dimensions are: 8 x 9 inches.

No. 25 List Price $5.00 each (Without Tools)



No. 175 TOOL BELT

Extra heavy quality leather. Two *strong loops* formed for heavy tools. *Latigo* thong *tape carrier* attached. *Steel rivets* anchor *tested buckle* to belt. Three sizes, No. 1, 30 to 38; No. 2, 40, to 46; No. 3, 46 to 52.

List Price $3.50

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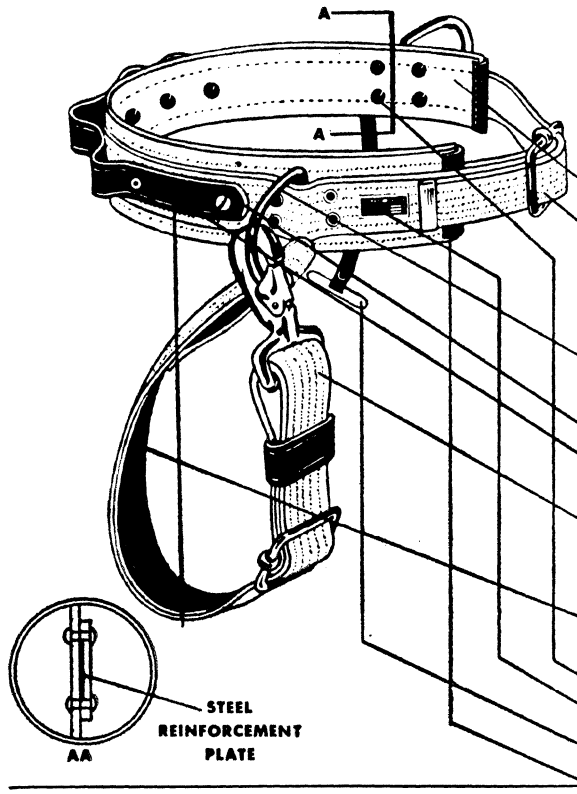
INDUSTRIAL SAFETY BELT



No. 1125

TV-SAFETY-BELT

HAS THESE SAFETY FEATURES

Body Pad, comfortable form fitting, extra strong 6-ply webbing—4" wide.

Body Belt — 5-ply — complete with drop forged, non-slip buckle, positive locking action. Sizes: Small adjust 32 to 36, Medium adjust 36 to 40, Large adjust 40 to 44.

Dee, drop forged, stop type, with steel reinforcing plated, eight solid copper rivets, hand set, attached Dees to Belt and Pad.

4 tool loops securely riveted by solid copper rivets.

Strap for tool pouch, easily and securely arrange with Post Screw.

Pole Strap (Lanyard)—Positive locking adjustable buckle, drop forged, complete with approved drop forged snap.

High tensile strength 5-ply webbing, complete with harness leather wear pad, full length of working area. Extends to 5 feet.

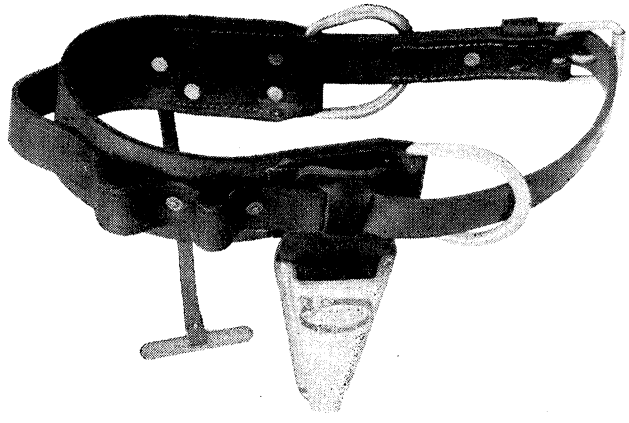
19 Solid Copper Rivets.

Registration Plate on each belt.

Tape holder, latigo leather.

Leather reinforcements at point of wear.

List Price $22.50



No. 401 LINEMAN TOOL BELT

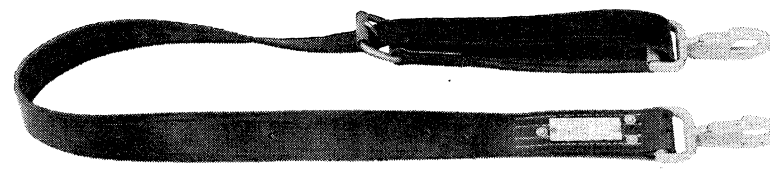
Prime steer harness leather. Drop forged dee rings. Copper rivets handset. Complete with *plier pocket* and *tape holder.* For *correct* and comfortable size, measure the distance around back, from hip bone to hip bone and add 2 inches.

List Price $15.50 each

No. 403 POLE STRAP

Prime steer harness leather, extra heavy 2 *inch wide Drop forged steel snaps,* anchored by lockstitched hot wax *linen thread* and handset *solid copper rivets,* and *steel reinforcing plate.*

List Price $15.50 each



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DECIMETER PRODUCTS COMPANY

DECALS FOR ELECTRONICS

- *TITLE PLATES*
- *DIAL PLATES*
- *CALL LETTERS*
- *HIGH VOLTAGE SIGNS*

For convenience - safety - appearance

The world's largest assortment of Decals for Electronics contains over 200 different title plates, dial plates, alphabets and numerals, high-voltage signs in red, call letters in black and gold. The Decals are printed in neat, opaque letters on a clear, tough backing. Top surface has a tough protective coating which provides high resistance to wear. Superior adhesive qualities of Decimeter Decals, and the toughness of the backing material, bonds the Decal in place so tightly that danger of peeling or chipping is eliminated.

Water-type "slip-off" decals

Adhere to any clean surface

Very economical to use

Improve appearance and safety of equipment

Attractive self service counter display for radio jobbers

Special assortments packed to order

For further information, write for Bulletin RM-1

SILVER Q FLUX

- Especially compounded for radio soldering
- Leaves no gummy residue
- Does not stain the work

Silver Q is a free-flowing flux designed for fine metal soldering. Silver Q is applied with a small brush to the surface to be soldered. When the work is rapidly heated and coreless solder is applied, the solder flows almost instantly over all fluxed surfaces—even into the tightest joints. Excess flux may be wiped off with a damp cloth. Silver Q leaves no stain or gummy deposits on the work.

For further information write for Bulletin RM-1A.

1 oz. bottle.....25¢
24 pack....$6.00 net
Pints $3.60

DECASOL ADHERENT

- Bonds decals permanently
- Improves adherence to rough surfaces

Decasol decal adherent is a permanent bonding medium for attaching decals to paint, plastic, or enamel surfaces, either rough or smooth. Decasol is a solvent which dissolves the back of the decal into the surface to which it is applied. Decasol should be used when decals are subject to extremely hard usage, or prolonged dampness. It is impossible to remove a decal adhered with Decasol without damaging the surface.

For further information write for Bulletin RM-1A.

1 oz. bottle.....25¢
24 pack....$6.00 net
Pints $3.60

DECIMETER **DENVER 4, COLORADO**

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PERMACEL® PLASTIC *Electrical* TAPE

PERMACEL 29A DISPLAY
12 rolls— ½" x 150'

FOR ELECTRICAL REPAIRS

High Dielectric Strength—Flexible—Good Stretch and Conformability—Snug Wrap—Waterproof—Resists Oil, Gasoline, Water, Salt Water, Alkalis and Sunlight. Hundreds of uses!

PERMACEL 29
PLASTIC ELECTRICAL TAPE
TECHNICAL DATA

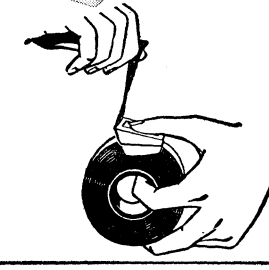
Dielectric Strength	10,000 volts
Thickness	7 mils
Adhesion (oz./inch)	25
Tensile strength (lbs./inch)	20
Elongation	175%

PERMACEL 29D DISPLAY
12 rolls— ¾" x 66'

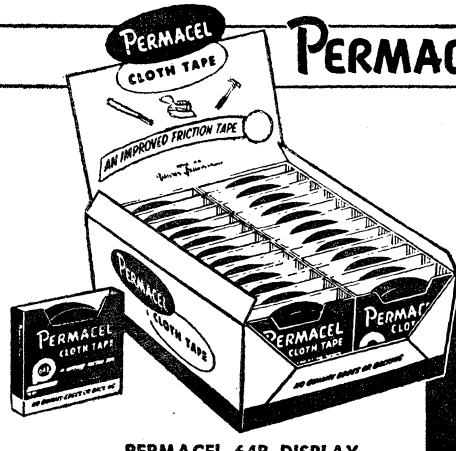
PERMACEL 29C DISPLAY
12 rolls— ¾" x 20'

FREE CUTTER BAR WITH EVERY 66' ROLL!

Eliminates need for scissors, razor blades or penknives. Made of durable plastic—good for thousands of cuts. A non-conductor—safe for all electrical uses. Saves money—prevents tape waste.



PERMACEL® CLOTH TAPE...an improved Friction Tape



PERMACEL 64B DISPLAY
24 rolls— ¾" x 60'

No gummy edges or backing—better adhesion to its own backing and other surfaces—easier unwind—thinner, builds up less bulk—excellent insulation—long-aging.

SELF-STICKING
PERMACEL® TAPE
Permacel Tape Corporation—New Brunswick, New Jersey
a Johnson & Johnson company

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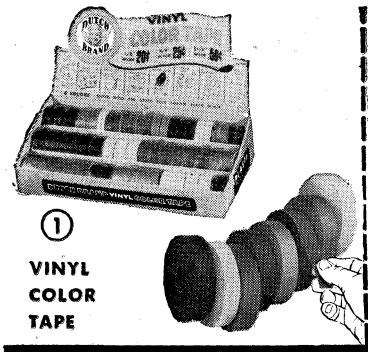
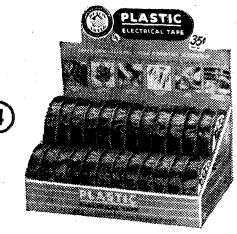


① VINYL COLOR TAPE

② PLASTIC ELECTRICAL TAPE

③



④

⑤

DUTCH BRAND PRODUCTS
for Radio and TV use

① VINYL COLOR TAPE

Nine sparkling colors . . . for use wherever color can help in wiring, indexing, and coding. Oil and acid proof . . . conforms to irregular surfaces . . . high dielectric, exceeds 1000 V/mil . . . U.L. listed . . . Red, yellow, green, blue, brown, black, white, gold and silver. ½", ¾" and 1½" widths in 108 inch long consumer rolls in displays and ⅜", ½", ¾" and 1" wide by 36 yards long for industrial uses.

② PLASTIC ELECTRICAL TAPE

High dielectric where space is limited . . . exceeds 1000 V/mil . . . U.L. listed . . . 150% stretch, conforms to irregular surfaces . . . oil, acid, corrosion and waterproof. No. 120 MASTER SHOP PACKAGE contains 5 rolls—.007" thick, ¾" wide by 44 ft. long.

③ No. 121 JUNIOR SHOP PACKAGE . . . 5 "tool kit" size rolls—.007" thick, ¾" wide by 20 ft. long.

④ No. 125 DISPLAY CARTON . . . 24 "consumer" size rolls . . . convenient for small repair jobs—.007" thick, ½" wide by 150" long.

⑤ No. 126 DISPLAY CARTON . . . 12 "tool kit" size rolls—.007" thick, ¾" wide by 20 ft. long . . . convenient size roll for the home workshop or repair trade.

⑥ No. 130 heavy duty .010" tape industrial size 36 yd. rolls . . . cellophane wrapped . . . in ½", ¾", 1" and 2" widths . . . for heavy duty cables and power driven taping machines.

⑦ No. 166 "Professional" size roll . . . .007" thick Plastic Electrical Tape, ¾" wide by 66 ft. long . . . each roll perfectly protected in its own individual metal can.

⑧ FRICTION TAPE

Long life, dependable, high quality Dutch Brand Friction Tape for "extra service" in any climate and under all conditions . . . each layer resists over 1800 volts . . . each roll cellophane wrapped and boxed. Roll sizes: No. 1, 2, 4, and 8.

⑨ "Jumbo" Shop Package—10 rolls No. 8 Dutch Brand Friction Tape in cost saving, tamper proof shop package . . . perfectly protected . . . extra economy for the larger tape user.

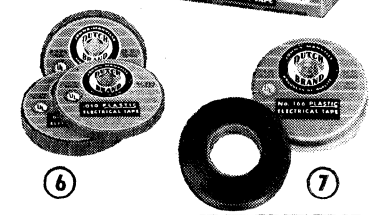
⑩ Dutch Brand 50 series Friction Tape cellophane wrapped and labelled . . . in modern counter display cartons . . . for "supermarket" impulse sales and fast turnover extra profits. Roll sizes: No. 51, 52, 54, and 58.

⑪ "Rhino" Shop Package . . . 10 regular No. 58 rolls Dutch Brand cellophane wrapped friction tape packed in a screw top shop package . . . cost saving economy for industrial users, repair men and electrical contractors.

⑫ RUBBER TAPE

Fuses instantly for perfect insulation . . . extra high dielectric 13,500 V/single thickness . . . U.L. listed . . . non-corrosive to electrical conductors . . . assures positive insulation for high tension lines where highest dielectric resistance is needed. Rolls cellophane wrapped and boxed. Roll sizes: No. 4 and 8.

⑬ "Hippo" Shop Package . . . 10 rolls No. 8 Dutch Brand Rubber Tape . . . each individually cellophane wrapped . . . packed in tamper proof shop package for perfect protection and greater economy . . . the "big user" package for big cost savings.



⑥ ⑦

FRICTION TAPE

⑧ ⑨ ⑩ ⑪

⑫ RUBBER TAPE ⑬

Johns-Manville

DUTCH BRAND PRODUCTS

7800 WOODLAWN AVENUE • CHICAGO 19, ILL.

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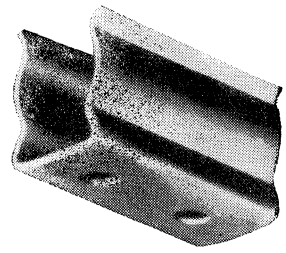
SPECIFY ATLEE PRODUCTS—WHEN YOU WANT THE BEST!

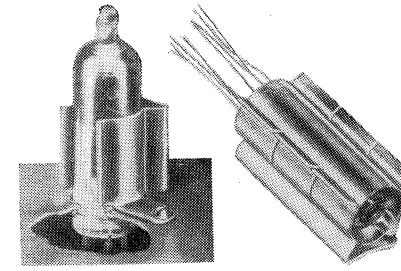


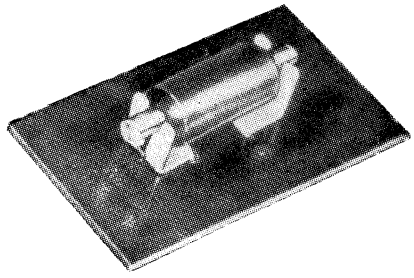
atlee COMPONENT HOLDERS

Provide firm holding under extreme shock and vibration. For capacitors, resistors, relays, wires, cables, tubing, etc. Withstand vibrations of 10 to 500 cycles and 5 to 20 G's for eight hours without resonant frequencies. Structurally designed to derive maximum grip from the component itself. Made of spring steel which flexes under heavy vibration and temperature changes, automatically increasing holding power when most needed. SPECIFICATIONS: SAE #1065 tempered carbon steel, formed in the annealed state, cadmium plated, per QQ-P-416, Class B Type II iridite #4, able to withstand minimum 50-hour salt spray test, per AN-QQ-S-91. SIZES: 0.175 to 1.125. FIL-O-MATIC REFERENCE: section 19, page 4, for more information.

atlee SUBMINIATURE TUBE HOLDERS AND SHIELDS

For conditions of extreme shock and vibration, high-rate heat dissipation and minimum-space mounting. Withstand up to 20 G's at 500 cycles without resonant frequencies; average heat reduction over 50° (tests); low center design for minimum space — maximum holding power. Ultimate in convenience — no wrap-around motions in cramped spaces — just clip in or clip out. Tubes can freely be removed and replaced without loss in Holder performance. Holders available in silver alloy and silver-plated berylium copper as well as cadmium-plated tempered carbon steel. Shields available in silver alloy and silver-plated brass. Vertical and Oval Subminiature Tube Holders available in tempered carbon steel. FIL-O-MATIC REFERENCE: section 19, pages 1 and 2, for more information.



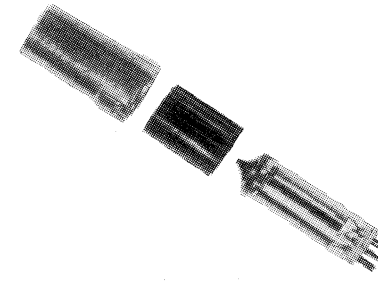


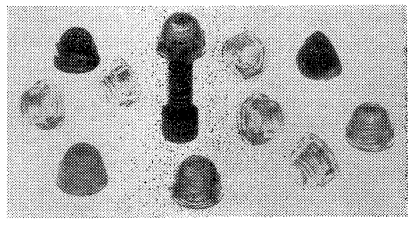
atlee CRYSTAL DIODE CLIPS

For miniature, low-cost support and/or connection of crystal diodes. Tiny, compact, yet strong and durable. Assure positive electrical contact under high shock and vibration. Can be dip-soldered or riveted into printed circuits. Afford convenience as well as diode protection — no solder joints to make or melt, just clip diode in or out. 100 insertions and withdrawals reduce gripping force less than 6 ounces. SPECIFICATIONS: silver-plated phosphor bronze, spring temper, grade A, per MIL-B-892; contact resistance: 0.00075 ohms; capacitance: less than 1 mmf between clips, $\frac{9}{16}$" spacing; insertion or withdrawal force: 2 lbs. (initial). SIZES: 0.065" to 0.085" (terminal pin), for thru-panel, surface-panel or rear-of-panel mounting. FIL-O-MATIC REFERENCE: section 19, page 3, for more information.

atlee JAN SHIELD INSERT

Designed to reduce tube failures, the JAN Shield Insert lowers miniature tube bulb temperatures by as much as 100°C. and provides almost perfect electrostatic shielding. It was developed by the Reliability and Standards Branch of the Navy Electronics Laboratory. The JAN Shield Insert is made of corrugated brass shim stock with Ebonol C finish, to withstand 50-hour salt spray test. Bent into circular shape, with the ends fitted together, it is inserted inside the older JAN Shields in all present equipments. The Insert makes contact with the glass bulb on one side and with the Shield on the other, distributing the hot spot on the tube and conducting the heat to the shield with a greater radiating surface. Available in small, medium and large, for both 7 and 9-pin tubes. Send for bulletin for more information.





atlee LUCITE CAP NUTS

For superior electronic assemblies. Non-corrosive, non-fungi nutrient. Cannot be shaken loose by vibration. Extremely useful as lock nuts over conventional metal nuts. Easy to put on — hard to take off. Due to the microscopic "nap" developed as the Lucite Nut is tightened by hand in one direction, a real force by a wrench is necessary to reverse that "nap" and loosen the Cap Nut. Repeated screwing and unscrewing, however, does not affect this locking quality. Made of clear methyl methacrylate, they are available either clear or dyed. Using standard colors, color coding for circuit identification is possible with dyed Cap Nuts. SIZES: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, $\frac{1}{4}$-20, $\frac{5}{16}$-18. Send for bulletin for more information.

ATLAS E-E CORPORATION

Bedford, Mass.—Los Angeles, California

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BEST YET!!!
FOR ELECTRONIC PARTS STORAGE
... "Swing-Bins"

MODEL SC-6 ILLUST.

PAT. APPLD. FOR

HOLD A LOT IN A LITTLE SPACE IN SIGHT, IN PLACE, WITHIN REACH . . .

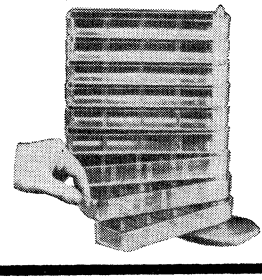
Securely attached to wall, tabletop or ceiling with only two screws, handy "Swing-Bins" make *ORDER* out of the confusion of hundreds of little parts. Screws, nuts, washers, transistors, condensers, jewelry, stamps, coins, model airplane, boat, auto and train parts and dozens of other items can be quickly stored and labeled for instant accessibility. Made of super-strength, crystal-clear plastic, each drawer is 2-1/2" W. x 1-1/16" D. x 9-1/2" L. Stagger drawers for storing tall items. Movable dividers make 1 to 4 compartments per drawer.

DRAWER DIMENSIONS (SAME ON ALL MODELS OF SWING-BINS")
2-1/2" WIDE x 1-1/16" DEEP x 9-1/2" LONG

MODEL	NO. OF DRAWERS	NO. OF COMPARTMTS.	HEIGHT	SHIPPING WEIGHT	PRICE
SC-6-C	6	24	8¼"	2 lbs.	$ 3.98
SC-12	12	48	16"	4 lbs.	7.50
SC-18	18	72	23⅝"	6 lbs.	10.98
SC-24	24	96	31"	7 lbs	14.50
SC-36	36	144	23⅝"	10 lbs.	21.98
SC-48	48	192	31"	12 lbs.	28.98

PEDESTAL BASE "SWING-BINS"

Ideal for desks, tables, dressers, counters, displays, work benches . . . in fact, any flat surface. Drawers revolve 360 degrees. Padded, weighted pedestal base will not tip or scratch any surface.



PEDESTAL BASE MODEL "SWING-BINS"

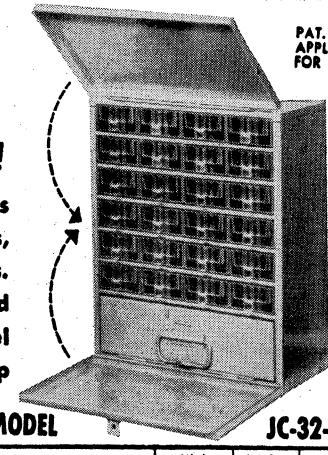
MODEL	NO. OF DRAWERS	NO. OF COMPART-MENTS	HEIGHT	DIAMETER OF BASE	SHIPPING WEIGHT	PRICE
SP-6	6	24	8¾"	5"	5 lbs.	$4.75
SP-9	9	36	12⅛"	6"	6 lbs.	6.50
SP-12	12	48	15½"	8"	7 lbs.	8.50

Portable Cabinets

TAKE CABINETS "RIGHT TO THE JOB" OR WHEREVER NEEDED!

You can be "Johnny-on-the-spot" with everything from screw driver and pliers right down to the tiniest screws, nuts and washers. Carry needed tubes, condensers, transistors and dozens of other parts in one of these handy Portable Cabinets. Welded all-steel cabinet is rigidly constructed and tested to carry a 100 pound load safely. Locking front drawers serve as handy tray. Cabinets have solid steel back with 4 key holes for safe hanging and easy removal. Convenient non-slip handle.

PAT. APPLD. FOR



* *Prices F.O.B. Akron, Ohio*

MODEL JC-16-SD

	High	Wide	Deep
8 Jr. Pls. Drws.	1-7/16"	2¾"	5⅞"
1 Jr. Steel Drwr.	3⅛"	11½"	5⅞"
Cabinet	8⅛"	12½"	6½"

Shipping Wt. 9 lbs.

7.95*

MODEL JC-32-SD

	High	Wide	Deep
24 Jr. Pls. Drws.	1-7 16"	2¾"	5⅞"
1 Jr. Steel Drwr.	3⅛"	11½"	5⅞"
Cabinet	15¼"	12½"	6½"

Shipping Wt. 15 lbs.

15.95*

MODEL JC-32

	High	Wide	Deep
32 Jr. Pls. Drws.	1-7/16"	2¾"	5⅞"
Cabinet	15¼"	12½"	6½"

Shipping Wt. 15 lbs.

15.95*

MODEL JC-32-6

	High	Wide	Deep
8 Jr. Plastic Drawers	1-7/16"	2¾"	5⅞"
2 Jr. Steel Drawers ea.	1-7/16"	5¾"	5⅞"
1 Jr. Steel Drawer	1-7/16"	11½"	5⅞"
2 Jr. Steel Drawers ea.	3⅛"	5¾"	5⅞"
1 Jr. Steel Drawer	3⅛"	11½"	5⅞"
Cabinet	15¼"	12½"	6½"

Shipping Wt. 15 lbs.

16.95*

AKRO-MILS, INC.

BOX 989 RM AKRON 9, OHIO

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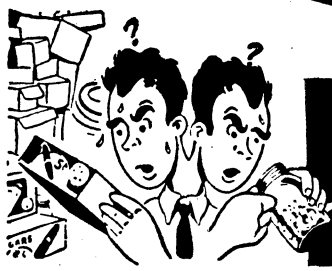
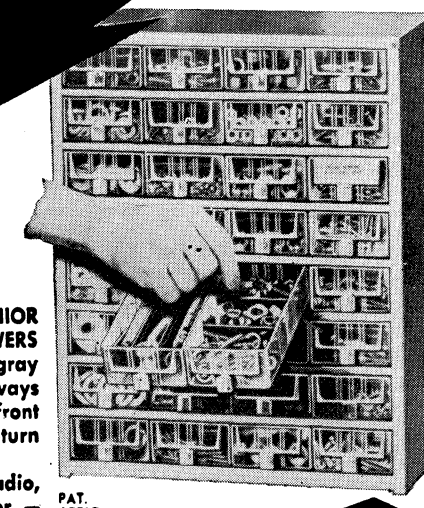
FOR ELECTRONIC PARTS STORAGE



NO MORE FRANTIC SEARCHING FOR MISPLACED ITEMS

MODEL J-32
ILLUSTRATED



PAT. APPLD. FOR

KNOW where things are, with "HAZ-BINS" — the handiest CABINETS ever made for storing small parts.

Molded plastic drawers are crystal clear, lifetime guaranteed, spillproof. JUNIOR DRAWERS divide into 2 or 3 compartments lengthwise or crosswise. SENIOR DRAWERS divide into 2, 3, or 4 crosswise compartments. Welded steel cabinet, baked-on gray finish. Stands on bench, stacks-up or hangs on wall. Saves space, contents always fully visible, dust-proof, orderly, indexed. Price includes complete set of drawer-front index labels, drawer dividers, rubber feet. Unconditional 10 day guarantee, return if you're not delighted.

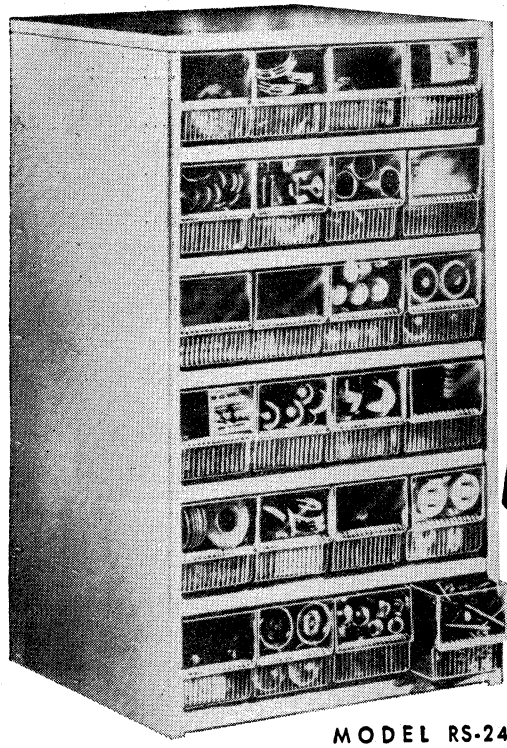
Useful in every shop, lab, office, stockroom, store, home, assembly-line . . . in radio, TV, repair, photographic, hobby or ignition work. provides perfect storage for — small parts, bolts, nuts, drills, tools, carbide tips, buttons, thread, paper clips, labels, pins, rubber bands, stamps, films, photo supplies, negatives, fishing tackle, artist supplies, and anything else you can think of.

"HAZ-BIN" JR. CABINETS

EACH CRYSTAL-CLEAR JR. PLASTIC DRAWER
2-3/4" WIDE, 1-7/16" DEEP, 5-7/8" LONG

All models 6" deep. J-8 thru J-48 12-1/2" Wide, J-64 thru J-128, 25-1/8" Wide

MODEL No.	NO. OF DRAWERS	NO. OF COMPARTMENTS	HEIGHT	SHIPPING WEIGHT	PRICE *
J-128	128	384	30½"	50 lbs.	$55.95
J-96	96	288	22½"	40 lbs.	42.95
J-64	64	192	15¼"	25 lbs.	24.95
J-48	48	144	22½"	19 lbs.	20.95
J-32	32	96	15¼"	13 lbs.	12.95
J-24	24	72	12⅛"	10 lbs.	9.95
J-20	20	60	10⅛"	9 lbs.	7.95
J-16	16	48	8⅛"	8 lbs.	6.95
J-12	12	36	6⅛"	6 lbs.	5.95
J-8	8	24	4"	4 lbs.	4.25



MODEL RS-24
ILLUSTRATED

"HAZ-BIN" SR. CABINETS

EACH CRYSTAL-CLEAR SR. PLASTIC DRAWER
2-7/8" WIDE, 2-3/4" DEEP, 10-3/4" LONG

All models 13-5/16" Wide x 11-1/8" Deep.

MODEL No.	NO. OF DRAWERS	NO. OF COMPARTMENTS	HEIGHT	SHIPPING WEIGHT	PRICE *
RS-32	32	128	28½"	31 lbs.	$42.00
RS-24	24	96	22½"	23 lbs.	32.00
RS-16	16	64	14½"	16 lbs.	21.00
R-12	12	48	11"	12½ lbs.	16.00
RS-8	8	32	8"	9½ lbs.	10.75

** All Prices F.O.B. Akron, Ohio*

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BOX 989 RM AKRON 9, OHIO

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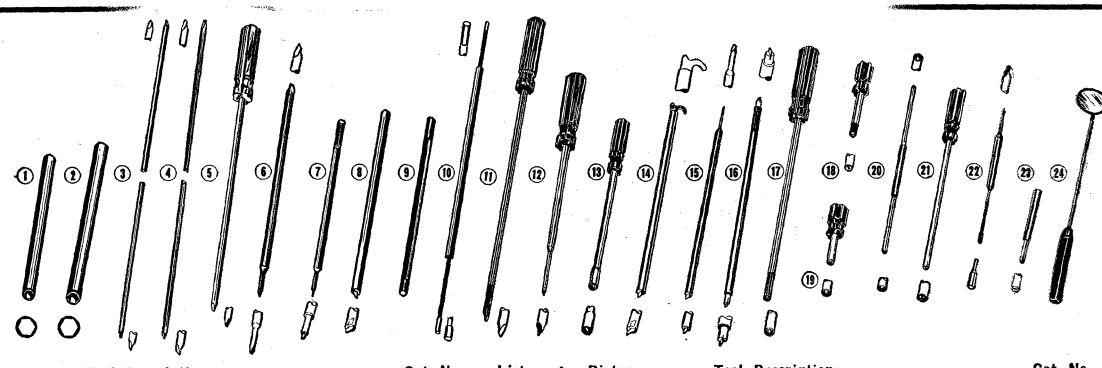
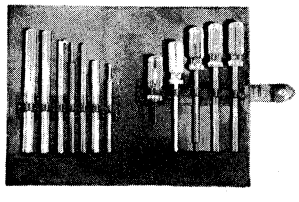
WALSCO ALIGNMENT TOOLS



Picture	Tool Description	Cat. No.	List
1	¼" Hex Neutralizing Wrench Overall length: 7½", ⅜" O.D. rd.	*2503	$0.45
2	5/16" Hex Neutralizing Wrench Overall length: 7½", 5/16" O.D. rd.	*2508	0.45
3	"Slim Sticks" — extra thin — tough plastic — high dielectric strength ⅛" diameter — 12" long	†2531	0.45
	⅛" diameter — 16" long	†2532	0.50
4	"Slim Sticks" — similar to above 3/16" diameter — 12" long	†2534	0.45
	3/16" diameter — 16" long	†2535	0.50
5	"Glas-Sticks" — reinforced fiberglass. Tough, non-metallic 3/16" diameter — 7" blade	†2537	1.20
	3/16" diameter — 14" blade	†2538	1.75
6	Duplex Alignment Screwdriver large end: 3/16", small end: 5/32"	†2520	0.75
7	Alignment Tool for Westinghouse	†2541	0.90
8	Metal Tip Alignment Screwdriver 3/16" diameter blade — 6" long	†2525	0.50
9	Tuning Wand — one brass end, other is filled with powered iron. 6" long	†2540	0.75
10	Double End Nylon HEX IRON CORE TOOLS for .075" - .100" and .125" cores Hex .125" 5" long. Hex handle	†2542	0.75
	Hex .100" 5" long, Hex handle	†2543	0.55
	Hex .100" 11" long, knurled ¼" handle	†2544	1.00
	Hex .100" 11" long, thin, 5/16" handle	†2545	1.00
	Hex .075" 11" long, knurled ¼" handle	†2546	1.00
	Hex .075" 11" long, thin, 3/16" handle	†2547	1.00
11	"The Long Ranger" — insulated tuner alignment tool with molded nylon tip Very slim — 12" overall length	*2523	1.80
	Replacement tip for above tool	†2555	0.30
12	Turret Tuner Tool — for standard coil tuners. Polyester fiberglass	†2522	$1.10
13	Philco Tuner Tool — A special tool for 1946-48 front end tuners	†2518	1.75
14	Wire Dressing and Alignment Tool One end has special wire dressing blade, other is screwdriver tip	†2512	0.70
15	K-Tran Alignment Tool — Fits slots on all K-Tran miniature I.F. xfmrs	†2515	0.95
16	"Slug Saver" Tuner Tool — Ingenious designs prevents losing slugs	†2528	1.05
17	Slotted Stud Driver — Blade fits #6 studs. 8¼" long overall	†2510	1.10
18	I.F. Aligner — for RCA, Zenith and others. Molded styrene, 2½" long	†2527	0.70
19	Stubby Stud Driver — Fits #6 studs. Only 2½" long overall	†2517	0.70
20	Standard Alignment Tool — One end fits #6 stud, other fits #4 stud	†2519	1.05
21	Slotted Screwdriver — Fits #6 studs. For use on older TV sets	†2524	1.10
22	Double Ender—Molded nylon. One end fits hex studs, other is a screwdriver. Overall length 6"	†2526	0.55
23	I.F. Aligner Tool — Molded Nylon. Blade length ¾" — diameter 5/16"	†2521	0.45
24	Inspection Mirror — High visibility in difficult places. Long handle	554	0.60
	Display card of 12 #554	554D	7.20

If tools are desired on display cards, add "D" to the part number. Otherwise tools will be boxed.



ALIGNMENT TOOL KIT

Contains all tools necessary to align any TV or FM set. All are standard Walsco Tuning Tools. Comes in handy Leatherette case or wall rack.

Cat. No. 580 — **List $12.00**
In Leatherette Case

Cat. No. 581 — **List $12.00**
In Wall Rack

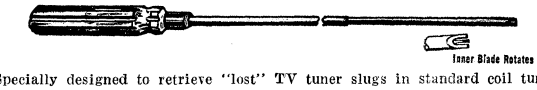
SOLDER EASE TOOLS

Two types. Brush end for general work or curved hook for printed circuit work.

†**Cat. No. 2529** — Brush end type ..... **List $1.65**
†**Cat. No. 2530** — Curved Hook type ..... **List 1.65**

*Standard Pack: 12

SLUG RETRIEVING TOOL



Specially designed to retrieve "lost" TV tuner slugs in standard coil tuners. Precision ground end. Hardened steel.

Cat. No.	Length	List Price
*2565	11"	$3.72 each
**2566	15"	4.95 each
**2567	19"	6.25 each

*Standard Pack: 12 **Standard Pack: 6

SMALL SCREWHOLDING SCREWDRIVER

The only "holding" type screwdriver that fits the very small Nos. 0, 1, 2 and 3 size screws.

Cat. No. 2568 — 4" long (Standard Pack: 10) ..... **List $3.30**
Cat. No. 2569 — 7" long (Standard Pack: 10) ..... **List 3.75**

†Standard Pack: 20

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SUBSIDIARY OF Telautograph CORP.

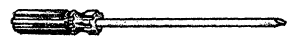
WALSCO SPECIAL TOOLS

WALSCO 3-STEP TAP

Three most popular tap sizes combined in one handy tool. Sizes are 6/32" - 8/32" and 10/32". Oversize, fluted handle is high quality plastic. Overall length: 6".

Cat. No. 2574 — Std. Pack: 12 per card — **Dealer Net $1.95**

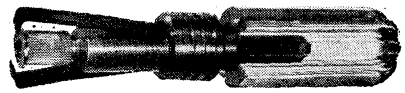
NON-MAGNETIC BERYLLIUM SCREWDRIVER



For use in tuning radio and TV sets where a steel screwdriver cannot be used. Ideal for making adjustments near magnetic fields such as in focalizers of TV sets.

Cat. No.	Blade Dia.	Length	List
2560	1/8"	9"	$1.25
2561	1/8"	13"	1.35
2562	3/16"	9"	2.25
2564	3/16"	13"	2.75

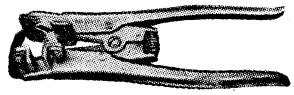
Standard Pack: 12 per display card.



TWISTO WIRE STRIPPER

Designed to strip wire right up next to a solder connection or terminal. Quick micrometer-type adjustment sets instantly for AWG wire sizes 12 to 22. Most compact, precision stripper on the market. Strips plastic, rubber or fabric.

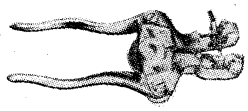
Cat. No.	Description	List
592-00	— Twisto Stripper (Std. Pack: 12)	*$4.50
592-03	— Replacement Blades (Std. Pack: 12)	per set *1.00



ALL-PURPOSE WIRE STRIPPER

With "Stay-open" feature to prevent crushing fine wires. Blades are replaceable. Completely constructed of steel.

Cat. No.	Description	List Price	Dealer's Net
590-00	Electronic type for wire sizes 12 through 20, plus 300 ohm twin lead. Also cuts wire....	$9.25*	5.55
590-01	Replacement Blade set for No. 590.....	2.50*	1.50
591-00	"Wide-Range" Model. Strips wire from #10 through #22. Will not strip twin lead and has not cutter	9.25*	5.55
591-01	Replacement Blade Set for No. 591.....	2.50*	1.50



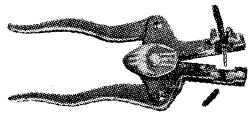
SPEED-O-MATIC WIRE STRIPPERS

Fully automatic, delayed action return prevents crushing fine wires. Interchangeable blades give greater versatility. A time and money saver.

Cat. No.	For wire sizes	List
594-01	#10 to #22	*$8.25
594-02	#10 to #18	*8.25
594-03	#14 to #30	*8.25
594-04	#16 to #22	*8.25

Blades for above—each *$1.65

Note: To order separate blades for above replace letter "O" with letter "B" in catalog number. Example: 594-B1.



TRIG-O-MATIC WIRE STRIPPERS

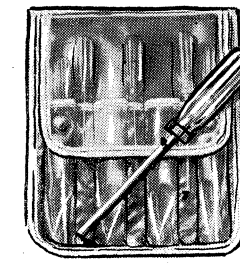
With Trig-O-Matic action that holds jaws open until released. Especially suitable for stripping fine stranded wire.

Cat. No.	For wire sizes	List
593-01	#10 to #22	*$8.25
593-02	#10 to #18	*8.25
593-03	#14 to #30	*8.25
593-04	#16 to #22	*8.25

Extra blades for above — each *$1.65

Note: To order extra blades for above replace letter "O" with letter "B" in catalog number. Example: 593-B1.

HEX DRIVER TOOL KIT



Designed to drive socket head screws in hard-to-reach places. Blades are of high torque, heat treated, alloy steel embedded in shock-proof plastic handles.

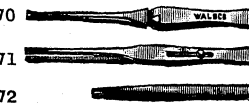
Cat. No.	Size of Hex across flat	Overall Length	List
562-01	.050"	3 3/8"	$0.49
562-02	3/64"	3 5/8"	0.49
562-03	5/64"	4 3/8"	0.49
562-04	3/32"	5 1/8"	0.59
562-05	1/8"	5 5/8"	0.59
562-06	5/32"	6 1/2"	0.75

Standard Pack: 12

COMPLETE KIT containing all six above drivers in attractive plastic case.
563 Standard Pack: 6 $4.50

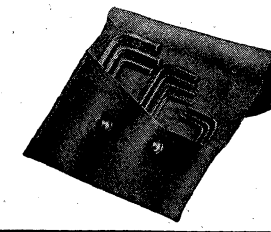
SERVICE TWEEZERS

Precision made of forged steel with polished nickel-plate finish.



Cat. No.	Description	List
570	Self-closing — 6½" long	$1.15
570D	Display card of 10..	11.50
571	Heavy duty with side lock — 6½" long..	1.30
571D	Display card of 10 #571	13.00
572	Precision — narrow points — 4½" long	0.60
572D	Display card of 20 #572	12.00
575	Leatherette Kit with one each above.....	3.55
575D	Display of 12 kits #575	42.60

HEX and SPLINE WRENCH KIT



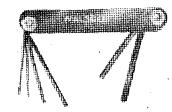
11 popular wrenches in durable plastic case with snap cover.

Cat. No.	Description	List
560	Wrench Kit	$2.25
	Dealer Net $1.35	
560D	Display card of 25	56.25
	Dealer Net $33.75	

KNURL-TITE WRENCH

Tighten or loosen knurled finish nuts quickly, easily. Has collet-type pressure jaws with hollow collet to slip over long shanks. Unbreakable handle. Overall length 6½".

Cat. No.	For Use On	List
2581	3/8" Dia. nut	*$3.25
2582	1/2" Dia. nut	*3.25
2583	5/8" Dia. nut	*3.50
2584	3/4" Dia. nut	*3.50



HEX WRENCH POCKET SET

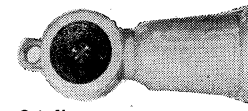
Contains the six most popular size wrenches from .050 to 3/16". In convenient knife-type handle. Made of the finest tool steel.

Cat. No. 564 Complete wrench set **List $2.40**

KEY WRENCHES

In two popular assortments of hex (Allen) and spline (Bristol) wrenches. Precision machined.

Cat. No.	Description	List Price
8600-F	Assortment of 4 small HEX wrenches ..... Fits set screws No. 4 to No. 10 and cap screws No. 2 to 6.	$0.50
8602-F	Assortment of 4 small SPLINE wrenches ..... Fits all set screws up to 1/4" and cap screws up to No. 8.	0.50



STRAIGHT'N PULL

3 tools in one. Pulls the tube and will straighten the pins on 7 and 9 pin miniature tubes. Supplied with handy metal holder.

Cat. No.		List Price
565		$1.40
565D	Display of 24	33.60

*Special Distributor's Discount Applies

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FREE!! Our LATEST CATALOG! 64 PAGES — Fully Illustrated — Showing Entire Walsco Line

WALSCO QUALITY EARNED ITS REPUTATION

LOS ANGELES, CALIF. • CHICAGO, ILLINOIS

Walsco ELECTRONICS CORPORATION
SUBSIDIARY OF Tel-Autograph CORP.

EASY-ON TOOL GRIPS

Made of flexible, elastic plastic to give comfort and protection. For pliers, diagonals, etc.

Cat. No.	Description	Dealer's Net
521	Small Per pair	*$0.20
522	Medium Per pair	*0.25
523	Large Per pair	*0.30

Available in display box of 36. Add suffix D to part number. Also available in assortment of 12 each size — Cat. No. 520-D.

SERVICEMANS TOOL POUCH and BELT

Made of the finest, toughest cowhide available.

Cat. No.	Description	Dealer's Net
510	Pouch	$4.25
512	Belt	3.25

NEW WALSCO VIBRA-PULL

Pulls auto radio vibrators the quick and easy way. The exclusive Walsco design offers absolute protection against damage to vibrator prongs, sockets and other near-by parts. For standard 1½" diameter vibrators.

Cat. No. 566 Standard Pack: 12 **List $2.49**

WALSCO OILETTE

Filled with a high grade Walsco oil. Dispenses accurately one drop at a time. Ideal for electronic devices, clocks, typewriters, camera shutters, etc. Leakproof pocket-clip container.

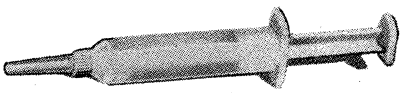
Cat. No.	Description	List
986	Walsco Pocket Oilette	$ 0.99
986-D	Display Card of 12 #986	11.88
986-22	Refill for Oilette (Standard Pack: 12)	0.35

WALSCO CLEAN-O-JET

With this new type, pressure applicator you can clean and lubricate rotary controls without having to disassemble them. Just remove the knob — attach the Clean-O-Jet and apply simple pressure which forces the liquid into the control between the shaft and bushing. Designed for use with Walsco K-T-K.

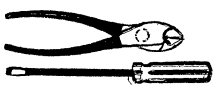
Cat. No.	Description	List
2573	each	$ 2.10
2573-D	Display Card of 10	21.00
2573-22	SPECIAL ADAPTER KIT for Walsco Clean-O-Jet containing 1 each Adapter for ⅛-28 and ¼-28 thread Auto Radio controls, also 1 "extender" for cleaning controls with shaft length up to 7"	2.90

NEW WALSCO CHEM-O-JECTOR



A new type applicator for lubricants, greases, certain adhesives and many cleaning fluids used in electronics and other fields. Uses the hypodermic plunger principal and reaches the hard-to-get-at places with ease. Made of polyethylene plastic with a neoprene plunger and is unaffected by most chemicals except those using fast solvents. Also see pages U-93, U-94.

Cat. No. 987 Standard Pack: 12 **List $0.50 each**



PROTECTO TUBE

Insulates the handles and shanks of your tools. Easy to apply with "expanding solution." Shrinks skin tight, will not crack or peel. Assorted colors.

Cat. No. 18K **List Price $1.80**

WALSCO CEMENTS - CLEANERS - SOLVENTS

RADIO CEMENT

A fast drying, elastic adhesive that will not become brittle with age. Ideal for speaker repair. Vibration proof.

Cat. No.	Description	Std. Pack	List
50-01	1¾ oz. tube	12	$ 0.75
50-02	2 oz. bottle	12	0.75
50-04	4 oz. bottle	12	1.10
50-08	8 oz. bottle	12	1.90
50-16	1 pt. can	3	3.65
50-16	1 pt. can		3.65
50-33	1 gal. can		*13.15
50-34	5 gal. can		*49.30
50-17	In Chem-O-Jector		0.70

VINYLITE CEMENT

Great flexibility with unusually strong adhesive qualities. Ideal for porous and non-porous materials. Air-drying. Amazing thermo-plastic properties.

Cat. No. 55-02 — 2 oz. bottle (Standard Pack: 12) ..... **List $ 0.75**
Cat. No. 55-33 — 1 gallon can ..... **List *20.65**

FABRIC CEMENT

Fast drying, moisture proof. Will not shrink fabric. Ideal for grille cloth, turntable felts, etc.

Cat. No. 53-02 — 2 oz. bottle (Standard Pack: 12) ..... **List $ 0.75**
Cat. No. 53-33 — 1 gallon can ..... **List *17.00**

WOOD GLUE

Latest type, improved adhesive for all wood parts. Excellent for repairing cabinets, new construction, etc.

Cat. No.	Description	List
78-02	2 oz. bottle	$ 0.75
78-04	4 oz. bottle	1.20
78-07	In Chem-O-Jector	0.70

PLASTIC CEMENT

A tough, water-proof, fast drying, universal cement. Especially developed for plastic repair.

Cat. No.	Description	List
40-02	2 oz. bottle	$ 0.75
40-04	4 oz. bottle	1.20
40-08	8 oz. bottle	1.90
	Standard Pack: 12	
40-33	1 gallon can	*16.25

PLIOBOND CEMENT

Adheres permanently, dries rapidly. Perfect for rubber, wood, plastics, glass, metal, fabrics, etc. Made by Goodyear — packaged by Walsco. Tan in color.

Cat. No.	Description	Std. Pack	List
67-02	2 oz. bottle	12	$ 0.75
67-08	8 oz. bottle	12	1.90
67-16	16 oz. bottle	3	3.65
67-33	1 gallon can		*14.85

LUCITE CEMENT

Lucite, plexiglass and any other acrylic article can be "welded" together with this fast drying cement.

Cat. No. 65-02 — 2 oz. bottle (Standard Pack: 12) ..... **List $ 0.75**
Cat. No. 65-33 — 1 gallon can ..... **List *10.95**

POLYSTYRENE CEMENT and COIL DOPE

Makes coils and other parts moisture-proof with just one coating. Shrinks when dry to hold wire firmly. Also the perfect cement for polysteyrene parts.

Cat. No. 57-02 — 2 oz. bottle (Standard Pack: 12) ..... **List $ 0.75**
Cat. No. 57-04 — 4 oz. bottle (Standard Pack: 12) ..... **List 1.20**
Cat. No. 57-33 — 1 gallon can ..... **List *13.75**

POLYSTYRENE SOLVENT

For thinning Polystyrene Cement.

Cat. No.	Description	Std. Pack	List
202-02	2 oz. bottle	12	$ 0.60
202-04	4 oz. bottle	12	0.95
202-33	1 gallon can		*8.10

RUBBER CEMENT

Fastens rubber to wood or metal with a strong bond. Forms a watertight, airtight, resilient joint.

Cat. No. 56-02 — 2 oz. bottle (Standard Pack: 12) ..... **List $ 0.75**
Cat. No. 56-04 — 4 oz. bottle (Standard Pack: 12) ..... **List 1.20**
Cat. No. 56-33 — 1 gallon can ..... **List *14.35**

SPECIAL THINNER

For thinning rubber and fabric cement, wrinkle varnish, etc.

Cat. No.	Description	Stad. Pack	List
204-04	4 oz. bottle	12	$ 0.95
204-33	1 gallon can		*3.75

CEMENT SOLVENT and THINNER

Strong solvent designed to loosen cemented parts such as speaker cones, etc.

Cat. No.	Description	List
201-02	2 oz. bottle	$ 0.60
201-04	4 oz. bottle	0.95
201-08	8 oz. bottle	1.25
201-16	16 oz. bottle	2.00
201-33	1 gallon can	17.20

LACQUER THINNER

For thinning all lacquer type cements, e.g., Radio, Plastic and Vinylite cement, also various lacquers.

Cat. No.	Description	List
203-02	2 oz. bottle	$ 0.60
203-08	8 oz. bottle	1.25
203-33	1 gallon can	*7.40
203-34	5 gallon can	*29.60

***Special Distributor's Discount Applies**

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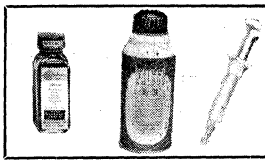


CHEMICALS IN BOTTLES - SPRAY CANS - and SYRINGE TYPE APPLICATORS

Walsco ELECTRONICS CORPORATION
SUBSIDIARY OF TelAutograph CORP.

CEMENTS, CLEANERS, SOLVENTS, etc. (cont'd

ELECTRIC and RESISTOR CEMENT

Replaces or applies a new insulation to such items as wire wound resistors, heating elements, etc. Withstands high temperatures.

Cat. No. 77-02 — 2 oz. bottle (Standard Pack: 12) ..... List $ 0.75

BAKELITE CEMENT

A special adhesive for Phenolics (Bakelite). Excellent also for cementing phenolics to other plastics, wood, metal, etc. Bond will never become brittle and is moisture proof.

Cat. No.	Description	List
66-02	2 oz. bottle (Standard Pack: 12)	$ 0.85
66-16	16 oz. can	4.55
66-33	1 gallon can	*27.00

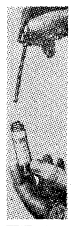
WALSCO CONTACTENE

Lubricates as it cleans, fast acting, quick drying. Eliminates volume control noise. Removes oxide, grease, dirt and corrosion. Absolutely anti-oxidant.

Cat. No.	Description	List
80-02	2 oz. bottle (Standard Pack: 12)	$ 0.75
80-04	4 oz. bottle (Standard Pack: 12)	1.10
80-08	8 oz. bottle (Standard Pack: 12)	1.90
80-16	16 oz. can (Standard Pack: 3)	2.50
80-33	1 gallon can	*6.75
80-34	5 gallon can	*27.00

Now available in handy new spray can.

80-06	6 oz. spray can (Standard Pack: 12)	*1.20
80-12	12 oz. spray can (Standard Pack: 12)	*2.00



CONTACTENE INJECTOR

Designed to be inserted into places where ordinary applicators cannot reach. A fine surgical-grade steel needle. Bulb is oil resistant Neoprene.

Cat. No.	Description	List
989	— Contactene Injector	$0.75
989D	— Display of 12 No. 989	9.00

CARBON TETRACHLORIDE

Top quality, all-purpose cleaning fluid. Non-explosive, non-inflammable.

111-04	4 oz. bottle (Standard Pack: 12)	$ 0.80
111-16	16 oz. bottle (Standard Pack: 12)	1.90
111-33	1 gal. can	*7.45
111-34	5 gal. can	*29.75

CHLOROTHENE

A new chemical, similar to Carbon-Tet, but practically non-toxic. Quickly dissolves grease, dirt, oils, tar and waxes from any electronic component, switch, chassis, etc.

Cat. No.	Description	List
113-04	4 oz. bottle (Standard Pack: 12)	$ 0.80
113-16	16 oz. bottle (Standard Pack: 3)	1.90
113-33	1 gallon can	*7.45
113-34	5 gallon can	*29.75

TUNERCLEAN

The finest U.H.F. and V.H.F. Tuner contact cleaner on the market. It cleans — it prevents corrosion.

Cat. No.	Description	List
105-01	1 oz. bottle (Standard Pack: 12)	$ 0.95
105-02	2 oz. bottle (Standard Pack: 12)	1.60
105-16	1 pint (Standard Pack: 3)	12.50
105-33	1 gallon can	*37.50

WALSCOCLEAR (Formula 91)

Neutralizes static electricity in plastics. Ideal for vinyl plastic recordings, TV lenses, optical systems, etc.

Cat. No.	Description	List
91-04	4 oz. bottle (Standard Pack: 12)	$ 0.55

RH CLEANER

Cleans and protects tape or wire recording heads. Dissolves scum, loosens lint and dirt.

Cat. No.	Description	List
93-01	1 oz. bottle (Standard Pack: 12)	$ 0.95

K-T-K (Kon-Trol-Kleen)

New Walsco formula that protects as it cleans all radio, TV, and similar electronic rotating controls, contacts, switches, etc. For use in Walsco Clean-O-Jet.

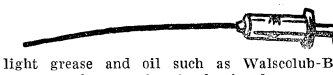
Cat. No.	Description	List
107-04	4 oz. bottle (Standard Pack: 12) ..	$ 1.25
107-16	16 oz. can (Standard Pack: 3) ...	3.25
107-33	1 gallon can	*13.50

WALSCOLUB-B

Electrically neutral lubricant that prevents corrosion, noise-free operation of contacts, controls, tuners, switches, etc. Clings to metal surfaces, reduces wear. Superior to any graphite compound.

Cat. No.	Description	List
22-01	1¾ oz. tube (Standard Pack: 12)	$ 0.75
22-17	1 lb. can	*3.65
22-18	5 lb. can	*12.90
22-07	In Chem-O-Jector	0.70

WALSCO LUBRICATOR



Designed for light grease and oil such as Walsclub-B, Lubriplate, etc. Reaches difficult places. Operates by simple thumb pressure.

Cat. No.	Description	List
988	Lubricator	$ 0.80
988D	Display of 12 — No. 988	9.60

WALSCO "LUBRIPLATE"

A super lubricant, grease type. Reduces friction loss, prevents rust and corrosion. Ideal for motors, record changers, switches, etc.

Cat. No.	Description	List
23-02	2 oz. tube (Standard Pack: 12)	$ 0.75
23-17	1 lb. can	*3.30
23-18	5 lb. can	*11.65

WALSCO DIAL OIL

A light bodied jewelers-quality lubricating oil. For quiet, free-running dial mechanisms. Absolutely safe.

Cat. No.	Description	List
27-02	2 oz. bottle (Standard Pack: 12)	$ 0.60
27-07	In Chem-O-Jector (Standard Pack: 12)	0.70

WALSCO "NO-SLIP"

Stops slippage of pulley belts and cords instantly. Gives added friction.

Cat. No.	Description	List
260-01	1 oz. bottle	$ 0.60
260-02	2 oz. bottle	0.75

WALSCO TUNERLUB

The proper, grease-type lubricant for high frequency contacts particularly T.V. tuners. Gives lasting protection.

Cat. No.	Description	List
26-01	1¾ oz. tube (Standard Pack: 12)	$ 0.75
26-17	1 lb. can	*3.50
26-07	In Chem-O-Jector	0.70

**"NO-OX"

A non-gumming chemical that dissolves corrosion instantly. Lubricates and protects contacts long after application. For all volume, tone and similar controls, also switches, etc.

Cat. No.	Description	List
100-01	1 oz. bottle	$ 0.95
100-02	2 oz. bottle	1.60
100-16	1 pint bottle (Standard Pack: 3)	12.50
100-33	1 gallon can	*49.85
100-34	5 gallon can	*191.50
	Also available in handy spray cans	
100-06	6 oz. spray can	*1.88

**Manufactured under exclusive licensing agreement with NO-OX Laboratories. Trade Mark registered.

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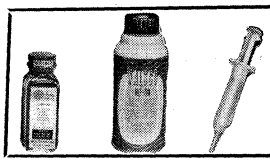

CHEMICALS IN BOTTLES - SPRAY CANS - and SYRINGE TYPE APPLICATORS

Walsco ELECTRONICS CORPORATION
SUBSIDIARY OF Telautograph CORP.

WALSCO POLISH - LACQUER - DOPE

WALSCO SUPER POLISH

A Concentrated white cream wax polish. Rich, durable, lustrous.

Cat. No.	Description	List
230-04	4 oz. bottle (Standard Pack: 12)	$ 0.65
230-08	8 oz. bottle (Standard Pack: 12)	0.90
230-33	1 gallon can	*7.40

SCRATCH-REMOVING POLISH

Simple scratches disappear while you polish. Comes in dark and light shades.

Cat. No.	Description	List
231-04	Dark, 4 oz. bottle (Standard Pack: 12)	$ 0.65
232-04	Light, 4 oz. bottle (Standard Pack: 12)	0.65
231-08	Dark, 8 oz. bottle (Standard Pack: 12)	0.90
232-08	Light, 8 oz. bottle (Standard Pack: 12)	0.90
231-33	Dark, 1 gallon can	*4.80
232-33	Light, 1 gallon can	*4.80

ANTI-CORONA LACQUER

Prevents arcing up to 15,000 volts. Ideal for use in TV and other high-voltage circuits.

Cat No.	Description	List
†195-02	2 oz. bottle	$ 1.20
†195-16	1 pint can	7.50
195-33	1 gallon can	*24.65

Also available in handy Spray Cans.

195-06	6 oz. Spray Can (Standard Pack: 12)	*1.72
195-12	12 oz. Spray Can (Standard Pack: 12)	*3.25

RED CORONA DOPE

Stops high voltage "Corona." Protects against shorts. Dries instantly.

Cat. No.	Description	List
198-02	2 oz. bottle (Standard Pack: 12)	$ 1.20
198-16	1 pint can (Standard Pack: 3)	7.50
198-33	1 gallon can	*39.50

WALSCO GLYPTAL

An overall insulating material. Resists heat, oils and acid. Spray, brush or dip on. Manufactured by G.E. — bottled by Walsco.

Cat. No.	Description	List
134-02	2 oz. bottle (Standard Pack: 12)	$ 0.75
134-08	8 oz. bottle (Standard Pack: 12)	2.25
134-33	1 gallon can	*16.25

CR TUBECOAT

A quick-drying coating for TV picture tubes.

Cat. No.	Description	List
†199-02	2 oz. bottle with brush	$ 1.20
199-33	1 gallon can	*18.25
	Also available in handy spray cans.	
†199-06	6 oz. spray can	*1.72
†199-12	12 oz. spray can	*3.25

INSULATING VARNISH

Resistant to heat, acid, oil and grease.

Cat. No.	Description	List
190-02	2 oz. bottle (Standard Pack: 12)	$ 0.75
190-16	1 pint bottle (Standard Pack: 3)	3.25
190-33	1 gallon can	*19.75

AIR-DRY WRINKLE VARNISH

For wood or metal. A factory-like wrinkle finish without baking.

Cat. No.	Description	S.d. Pack	List
146-02	Gray — 2 oz. jar	12	$ 0.75
146-16	Gray — 16 oz. can	3	3.75
145-02	Black — 2 oz. jar	12	0.75
145-16	Black — 16 oz. can	3	3.75
145-33	Black — 1 gallon can		*21.25
146-33	Gray — 1 gallon can		*21.25

Also available in handy Spray Cans.

145-06	6 oz. can — Black	12	*2.06
146-06	6 oz. can — Gray	12	*2.06
145-12	12 oz. can — Black	12	*2.75
146-12	12 oz. can — Gray	12	*2.75

WALSCO STRIPVAR

Instantly softens Formvar, Formex, and similar insulation

Cat. No.	Description	List
251-02	2 oz. bottle, (Standard Pack: 6)	$ 1.00
251-16	1 pint can	5.50
251-33	1 gallon can	*25.85

HAM-R-TONE LACQUER

Gives a "factory-like" finish to any metal surface. In handy spray can.

Cat. No.	Description	List
148-06	Gray — 6 oz. Spray Can (Standard Pack: 12)	*$ 1.40
149-06	Blue — 6 oz. Spray Can (Standard Pack: 12)	*1.40

FLOCK FINISH SPRAY KIT

Contains brown and ivory felt flock, brown and ivory undercoat, and undercoat thinner and a felt flock spray gun. All the necessary materials to apply a beautiful felt flock finish. Complete instructions supplied.

Cat. No.	Description	List	Net Dealer's
7-K	Complete Flocking Kit	$15.95	$9.57

ANTI-FUNGUS LACQUER

Meets U. S. Government Specifications JAN-C-173.

Cat. No.	Description	List
135-02	2 oz. bottle (Standard Pack: 12)	$ 0.75
135-16	1 pint can (Standard Pack: 3)	3.25
135-33	1 gallon can	*19.75

SILICONE RESIN LACQUER

A special formula resin lacquer designed to protect printed circuits after repair or replacement of parts. Fast air drying.

Cat. No.	Description	List
120-02	2 oz. bottle with brush (Standard Pack: 12)	$ 1.95
120-06	6 oz. spray can (Standard Pack: 12) ....each	*3.25

RESIN LACQUER SOLVENT

Use as a thinner or as a remover.

Cat. No.	Description	List
205-02	2 oz. bottle (Standard Pack: 12) .....each	$ 0.55

ACRY-SPRAY

Weather proofs antenna terminals, lead-in wires, high voltage connections, etc. Excellent for TV masts and towers. Puts rust-resistant finish on all metal surfaces.

Cat. No.	Description	List
140-12	12 oz. spray can, clear	*$ 1.79
141-12	12 oz. spray can, aluminum (Standard Pack: 12)	*1.79

RUST-DE-SOLVE

Acts instantly to remove rust and frees "frozen" bolts, nuts, etc.

Cat. No.	Description	List
109-02	2 oz. bottle (Standard Pack: 12)	$ 0.60
109-07	In Chem-O-Jector (Standard Pack: 12)	0.70

WALSCOFLUX

A non-corrosion, instant-acting soldering flux. Made of pure resin.

Cat. No.	Description	List
220-02	2 oz. bottle with applicator (Standard Pack: 12)	$ 0.75

WALSCO ALUMA-FLUX

Makes aluminum soldering simple, easy and permanent.

Cat. No.	Description	List
221-02	2 oz size (Standard Pack: 12)	$ 2.48

STANDARD SOLDERING PASTE

For use in all electrical work, sheet metal work, etc. Very fast acting.

Cat. No.	Description	List
226-02	2 oz. can (Standard Pack: 12 per display box)	$ 0.45

SPECIAL ELECTRONIC SOLDERING PASTE

Especially designed for use in Electronic work. Pure resin base.

Cat. No.	Description	List
228-01	1¾ oz. can (Standard Pack: 12 per display box)	$ 0.50

†Standard Pack: 12

*Special Disributor's Discount Applies

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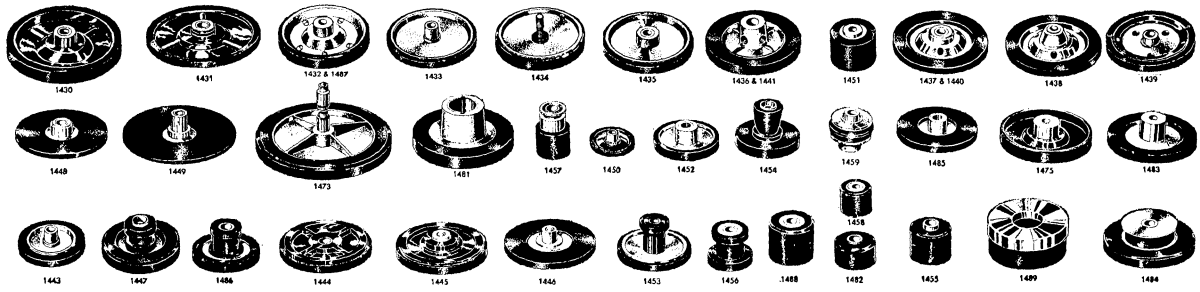
WALSCO QUALITY EARNED ITS REPUTATION

LOS ANGELES, CALIF. • CHICAGO, ILLINOIS

Walsco ELECTRONICS CORPORATION
SUBSIDIARY OF Telautograph CORP.

WALSCO IDLER and DRIVE WHEELS



Cat. No. 1430 — IDLER WHEEL — 2½" O.D. — Replaces G.I. 22076, Seeburg M232038, Zenith 1118. Standard Pack: 6 ..... **List $1.50**

Cat. No. 1431 — IDLER WHEEL — 2½" O.D. — Used on Webcor Model 110 record players. Standard Pack: 3 ..... **List $1.50**

Cat. No. 1432 — IDLER WHEEL — 2" O.D. — Replaces Admiral G400A59 and 279, Crescent 011882, G.E. RMW-043 and 060, RCA 71411 and 76750 ..... **List $0.90**

Cat. No. 1487 — Similar to above but bushing diameter is ⅜". Used on Silvertone, etc. Standard Pack: 3 ..... **List $1.10**

Cat. No. 1433 — IDLER WHEEL — 2" O.D. — Used on V.M. 400D, 402D, 404, 405, 800D, G.E. P-12 and P-13, etc. Standard Pack: 3 **List $1.10**

Cat. No. 1434 — IDLER WHEEL — 2" O.D. — For Admiral G-400A57, Crescent 01189, Philco 76-2374, RCA 78508, V.M. 3481. Standard Pack: 12 ..... **List $1.00**

Cat. No. 1435 — IDLER WHEEL — 2" O.D. — For Milwaukee Stamp Series 10700, Philco M-22, 24A, 26, 28, etc. Standard Pack: 6 **List $1.10**

Cat. No. 1436 — IDLER WHEEL — 2" O.D. — With hub. For Webcor 7, 18, 78, 79, 80, 81, 178, 180, 181, 228, etc. Standard Pack: 3 **List $2.00**

Cat. No. 1437 — IDLER WHEEL — 2¼" O.D. — Replaces G.E. RMW-053, Philco 35-398, Webcor 11X003, 11x366, etc. Standard Pack: 12 **List $1.25**

Cat. No. 1438 — IDLER WHEEL — 2¼" O.D. — Replaces G.E. RMW-056, Webcor 11X368, 11X935, etc. Standard Pack: 12 ..... **List $1.50**

Cat. No. 1439 — IDLER WHEEL — 2" O.D. — With Bushing. For use on Webcor 1134, 1136, 1161, etc. Standard Pack: 12 ..... **List $1.25**

Cat. No. 1440 — IDLER WHEEL — 2" O.D. — With Bushing. For Webcor Model 1135 record changer. Standard Pack: 6 ..... **List $1.25**

Cat. No. 1441 — IDLER WHEEL — 2⅛" O.D. — For most Webcor tape recorders. Standard Pack: 6 ..... **List $1.50**

Cat. No. 1443 — IDLER WHEEL — 1½" O.D. — With Bushing. For Philco M24A, 26, 28, Webcor 135, 136, etc. Standard Pack: 6 **List $0.90**

Cat. No. 1447 — MOLDED IDLER WHEEL — RCA 45 RPM — Molded RCA 74077 for RP-168 and RP-190 Series. Standard Pack: 12 **List $1.10**

Cat. No. 1448 — IDLER WHEEL — 2" O.D. — For Collaro changers. Standard Pack: 3 ..... **List $1.65.**

Cat. No. 1449 — IDLER WHEEL — 2½" O.D. — For use with Collaro changers. Standard Pack: 6 ..... **List $1.65**

Cat. No. 1450 — IDLER WHEEL — 1" O.D. — For use with Crescent. Standard Pack: 6 ..... **List $1.36**

Cat. No. 1452 — IDLER WHEEL — 1⅜" O.D. — For V.M. and Silvertone. Standard Pack: 12 ..... **List $1.00**

Cat. No. 1454 — IDLER WHEEL — 1¾" O.D. — Molded rubber wheel. For use on RCA RP-199 Series. Standard Pack: 6 ..... **List $1.25**

Cat. No. 1459 — IDLER WHEEL — 1" O.D. — Used on Zenith Cobra-Matic record changers, Models S-140-28 thru -64. Standard Pack: 3 **List $1.65**

Cat. No. 1485 — CAPSTAN IDLER — 1¾" O.D. — For use with V.M. tape recorders in 700 Series only. Standard Pack: 3 ..... **List $1.25**

Cat. No. 1475 — IDLER WHEEL — 2" O.D. — Used on Eicor recorders and Silvertone 101.744-2 and 101.744.4. Standard Pack: 3.. **List $1.65**

Cat. No. 1483 — IDLER WHEEL — 2" O.D. — For use with Pentron tape recorders only. Standard Pack: 3 ..... **List $1.50**

Cat. No. 1481 — CLUTCH HOUSING DRIVE — 2⅝" O.D. — For use on Webcor tape recorders 2010, 2030, 2110, 2130, 2131, 2132. **List $2.30**

Cat. No. 1453 — IDLER PULLEY — 1⅝" O.D. — Molded rubber wheel. For use with V.M. 155, 556, 560, 565, 1200-25, -50, -75, -85. Standard Pack: 3. **List $3.05**

Cat. No. 1456 — IDLER PULLEY — 1⅝" O.D. — Molded rubber wheel. Used on V.M. changers with 4-pole motors. Standard Pack: 6. **List $3.05**

Cat. No. 1486 — IDLER PULLEY — 1⅝" O.D. — Molded rubber wheel. Used on V.M. record changers 120, 121, 131, 210 ..... **List $3.05**

Cat. No. 1444 — INTER WHEEL — 2" O.D. — For use with Garrard Model RC-80 record changers. Standard Pack: 6 ..... **List $1.80**

Cat. No. 1445 — INTER WHEEL — 2" O.D. — With ball-bearing hub cap. Used with Garrard T & TA players. Standard Pack: 3.. **List $1.80**

Cat. No. 1446 — INTER WHEEL — 2" O.D. — With ball-bearing hub cap. Used on Garrard Model RC-90 changers. Standard Pack: 3. **List $1.80**

Cat. No. 1473 — DRIVE WHEEL — 3" O.D. — Used on Zenith Cobra-matic changers (Replaces No. 16922, S-21754). Standard Pack: 3. **List $3.50**

Cat. No. 1451 — DRIVE WHEEL — 1" O.D. — For use on Crescent record changers of the 550 Series. Standard Pack: 6 ..... **List $1.40**

Cat. No. 1469 — 3-STEP DRIVE SLEEVE — Used on Webcor Model 135, 136 and other record changers. Standard Pack: 6 ..... **List $1.40**

Cat. No. 1455 — PRESSURE ROLLER — ⅞" O.D. — For use with Webcor 210, 2010, 2030, 2110, 2130, 2131, -32, 2611, -12. Standard Pack: 3 ..... **List $2.30**

Cat. No. 1482 — PRESSURE ROLLER — ⅞" O.D. — Used with Webcor tape recorders only. 220 Series 2614, 2615. Standard Pack: 3. **List $1.65**

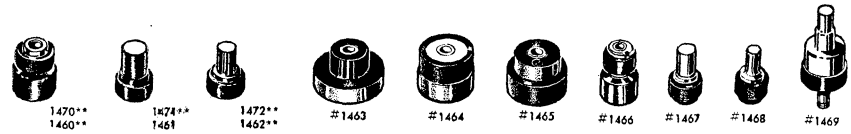
Cat. No. 1458 — PRESSURE ROLLER ¾" O.D. — For use with V.M. Model 700 tape recorders. Standard Pack: 3 ..... **List $1.65**

Cat. No. 1457 — PRESSURE ROLLER ¾" O.D. — For RCA SRT 301, 401, 402, 403, Wilcox-Gay 2A, 3A, 3E, 4A, 4B, 4F and 5 Series. **List $2.25**

Cat. No. 1484 — TAKE-UP DRIVER — For use with V.M. tape recorder Model 700. Standard Pack: 3 ..... **List $2.30**

Cat. No. 1488 — CAPSTAN PRESSURE ROLLER — 1" O.D. — For use on Pentron tape recorders only. Standard Pack: 3 ..... **List $2.00**

DRIVE PULLEYS



Cat. No.	Speed	List
1460-1470	78 rpm	$1.15
1461-1471	45 rpm	1.00
1462-1472	33⅓ rpm	1.00

Cat. No.	Speed	List	Std. Pack
1463	78 rpm	$1.90	12
1464	45 rpm	1.90	6
1465	33⅓ rpm	1.90	6

Cat. No.	Speed	List	Std. Pack
1466	78 rpm	$1.10	12
1467	45 rpm	1.10	12
1468	33⅓ rpm	1.10	12

NOTE: Drives No. 1460, 1461, and 1462 are the same as No. 1470, 1471, and 1472 except that the 1460 series is approximately 1/64" larger in rubber diameter than the 1470 series. Send for FREE Complete Conversion Chart. If model number of changer or manufacturer's part number is not known, use 1460 series. For most purposes, these two series are interchangeable.

1460, 1461 and 1462 are a Turret Drive group that is used on Crescent, G.E., Motorola, RCA, VM and other record changers. Standard Pack: 12. The 1470 Series is used on RCA, VM, and other record changers. Standard Pack: 6.
Cat. Nos. 1463, 1464, and 1465 are turret drives for G.E. and Webcor record changers.

Cat. No 1466, 1467, 1468 for use on Crescent, Motorola, VM, RCA and other record changers.

RECORD ARM SLEEVE

Neoprene rubber. For Garrard record changers. 2 required.
Cat. No. 1412 — Standard Pack: 12 pair .... **List $0.25 pair**

RUBBER BUMPERS

Used on V.M. Record Changers.
Cat. No. 1411 — Standard Pack: 12 pair .... **List $0.30 pair**

INDEX FINGER CUSHION

Used on Webcor 100, 121, 1124, 110 and 114 series.
Cat. No. 1419 — Standard Pack: 6 pair..... **List $0.30 pair**

VELOCITY TRIP

For Webcor record changers. Precision-molded.
Cat. No. 1413 — Standard Pack: 12 pair ..... **List $0.30 pair**

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Walsco ELECTRONICS CORPORATION
SUBSIDIARY OF Telautograph CORP.

WALSCO TIRES and BELTS

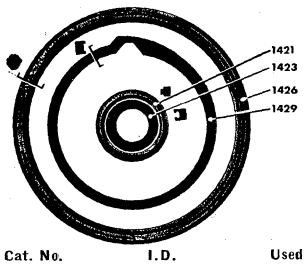
Cat. No.	I.D.	Wall Thickness	Length	Std. Pack:	List
1414	5/8"	1/32"	1/4"	24	$0.25 per pair
1415	11/16"	1/32"	1/4"	24	0.25 per pair
1417	1 1/32"	5/32"	5/16"	12	0.25 each
1418	7/8"	1/8"	3/16"	12	0.20 each
1422	1 7/32"	1/8"	5/16"	6	0.20 each
1424	2 7/8"	1/4"	3/4"	3	0.55 each

RECORDER DRIVE BELTS

Cat. No.	Inside Circumf.	Used On	Std. Pack:	List
1410-06	6.2"	Model VM-700 Tape Recorders	6	$0.60
1410-07	7.4"	RCA SRT 301, 401, 402, 403 Wilcox-Gay 3A10, 3A11	3	0.60
1410-08	8.6"	Pentron, Crestwood and other tape recorders	3	0.70
1410-10	10.6"	Crescent and other tape recorders	6	0.80
1410-12	12.0"	Ampro and most Revere recorders	6	0.80
1410-14	14.5"	Most Revere recorders	3	1.40
1410-15	15.3"	Webcor tape recorders	12	1.50
1410-18	18.1"	Ampro tape recorders	3	1.75
1410-20	20.4"	Ampro tape recorders	3	2.00
1410-21	21.1"	Ampro, Gen. Ind., Webcor and other tape recorders	12	2.00

FABRIC DRIVE BELTS

Cat. No.	Width	Inside Circumf.	Used On	List
1409-02 Standard Pack: 3	5/16"	17"	Pentron Tape Recorders	$2.50
1409-03 Standard Pack: 6	5/16"	12 1/4"	Pentron, Crescent and other tape recorders	$2.50
1409-04 Standard Pack: 3	3/8"	12 1/2"	VM-700 model tape recorders	$2.50

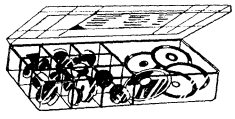


BELTS and CAM TIRES Special Shapes

These Belts and Tires are made of highest quality abrasion-resistant Neoprene rubber. Illustrations show the cross-section of each tire.

Cat. No.	I.D.	Used On	Std. Pack:	List
1421	1 5/8"	Miracord	6	$0.70
1423	11/16"	RCA 176 & 177	3	0.25
1426	4 1/2"	GE & RCA	3	1.10
1429	3 1/4"	RCA Series 178	3	1.10

PHONO DRIVE KITS



JUNIOR PHONO DRIVE KIT

A very convenient and handy kit for the small service shop. Contains 36 of our most popular wheels and drives. Comes in a handy plastic box.

Cat. No. 1401 — Junior Kit. **List $16.62**
Standard Pack: 1

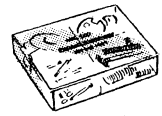
STANDARD PHONO and RECORDER DRIVE KIT

Replacement Drives covering 85% of all record changers and tape recorders.
Cat. No. 1400 — Phono Recorder Drive Kit ..... **List $26.50**
Standard Pack: 1

SENIOR PHONO DRIVE KIT

Contains 71 of the most popular Idler Wheels, Belts, Pulleys and other parts in 18 different varieties. Here is a big money maker for the busy serviceman.
Cat. No. 1402 — Phono Drive Kit ..... **List $56.65**
Standard Pack: 1

PHONO HARDWARE KIT



A wide assortment of the most often needed phono hardware items. Kit contains over 60 parts, including phono jacks and plugs, assorted screws, spacers, and springs, in transparent plastic box.

Cat. No. 1497 — Phono Hardware Kit ..... **List $2.40**
Standard Pack: 6

PHONO MOUNTING SPRING KIT

Assorted conical springs for mounting changers, and turntables. Precision-formed. Selected for uniformity.

Cat. No. 1498 — Phono Mounting Springt Kit.. **List $1.40**
Standard Pack: 6

NYLON DIAL CORDS

Genuine Nylon, braided over a fibre-glass core. Cords listed below cover 80% of the replacement demand.

Cat. No.	Diam.	Breaking Strength	List Prices Feet Per Spool 25	100	500	Bulk 3M to 14,999	15M & Up
		"SPECIAL THIN"					
656-02	.025"	15 lbs.	$1.50				
656-10	.025"	15 lbs.		$4.95			
656-50	.025"	15 lbs.			$14.30		
656-R	.025"					*$14.70	*$11.68
		STANDARD					
654-02	.032"	20 lbs.	$1.50				
654-10	.032"	20 lbs.		$4.95			
654-50	.032"	20 lbs.			$14.30		
654-R	.032"					*$16.30	*$12.98
		MEDIUM					
652-02	.040"	35 lbs.	$1.50				
652-10	.040"	35 lbs.		$4.95			
652-50	.040"	35 lbs.			$17.60		
652-R	.040"					*$22.80	*$18.15
		Also available in 50 line packages.					
		HEAVY (Used on many Philco and Majestic sets)					
650-02	.060"		$1.90				
650-10	.060"			$5.50			
650-R	.060"					*$31.85	*$25.35

BRONZE DIAL CABLES

For control-dial linkage requiring the strength of metal.

CADMIUM BRONZE CABLE

16-strand, .039" O.D., 50 lb. breaking strength. Good flexibility. Will not unravel.

Cat. No.	Description	List Price	LIST per 1000 ft. 3M - 14,999	15M & Up
660-02	25 ft.	$1.80		
660-10	100 ft.	5.00		
660-50	500 ft.	20.00		
660-R	Bulk quantities		*$27.20	*$21.62

PHOSPHOR BRONZE CABLE

42-strand, .032" diameter, 40 lb. breaking strength. Exceptionally strong and flexible.

Cat. No.	Description	List Price	LIST per 1000 ft. 3M - 14,999	15M & Up
662-02	25 ft.	$2.25		
662-10	100 ft.	6.50		
662-50	500 ft.	27.00		
662-R	Bulk quantities		*$42.45	*$33.80

THIN BRONZE CABLE

Only .022" in diameter. Exceptionally strong and flexible. Non-ravelling.

Cat. No.	Description	List Price	LIST per 1000 ft. 3M - 14,999	15M & Up
664-02	25 ft.	$1.80		
664-10	100 ft.	5.00		
664-50	500 ft.	20.00		
664-R	Bulk quantities		*$32.65	*$25.95

FLAT NYLON LACING CORD

For tying harnesses, wrapping coils, etc. Waxed and fungus resistant. Breaking strength 50 lbs., width .085", thickness .0125". Type 18.

Cat. No.	Description	Std. Pack	List (per spool)
666-15	150 ft. spool	12 per box	$ 4.50
666-75	750 ft. spool	1 per box	*13.75

STANDARD LACING CORD

Meets specifications JAN-T-713 — Type N — Class 3. .040" diameter, tensile strength, 32 lbs.

Cat. No.	Description	Std. Pack	List (per spool)
665-10	100 ft. spool	12 per box	$ 1.65
665-45	450 ft. spool		*2.35
665-80	1800 ft. spool		*7.20

DIAL DRIVE BELTS

A selection of 95 different sizes. For any set manufactured since 1930. Walsco guarantees these belts to fit perfectly. Complete reference chart free upon request.

Cat. No.	Description	List Price
1101-1195	Individual Belt (95 sizes available)	$0.50
1195	for RCA TV Tuner	0.50
8-K	KIT of 25 most popular belts	13.50
9-K	KIT of 50 most popular belts	26.00

PHONO KLIP KIT

Assortment of "E" rings, "C" washers, hair pin cotters, retaining rings, etc. A minimum of 54 pieces for any replacement need.

Cat, No. 1496 — Complete Kit (Standard Pack: 6) ..... **List $0.99**

45 RPM RECORD ADAPTER

Made of molded bakelite. Fits all standard 45 RPM records.

Cat. No. 340 — Single Adapter ..... **List $0.25**
Cat. No. 340D — Display ..... **List 5.00**
Standard Pack: 20 per display card

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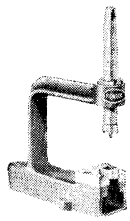


WALSCO HAM-R-PRESS

Ham-R-Press is a precision tool made of strong aluminum alloy and high grade steel. 15 tons of impact pressure may be easily obtained for the punching of chassis, panels or other light sheet metal. Operates simply by striking the ram with a hammer. Punches and dies easily interchanged. Available in 2 models.

Cat. No.	Description	Wt.	Dealer's Net
Model 3007	Depth of throat—7 ½"	9 lbs.	$32.95
Model 3008	Depth of throat—12"	12 lbs.	37.95

HAM-R-PRESS ACCESSORIES

Cat. No. 3009-01 — Shearing Set, 1" lgth. of cut ..... Dlr's Net $3.95
Cat. No. 3009-02 — Die Raiser, 3" high ..... Dlr's Net 3.95
Cat. No. 3009-03 — Adaptor, for dies ½" or under ..... Dlr's Net 1.00

HAM-R-PRESS PUNCH and DIE SETS

ROUND

Cat. No.	Punch Size	Dlr.'s Net Each	Cat. No.	Punch Size	Dlr.'s Net Each
3012-H	⅛"	$1.75	3100-H	1"	$2.25
3025-H	¼"	1.75	3106-H	1 1/16"	2.25
3037-H	3/8"	1.75	3112-H	1⅛"	2.25
3050-H	½"	1.75	3116-H	1 3/16"	2.25
3062-H	5/8"	2.00	3117-H	1-11/64"	2.25
3069-H	11/16"	2.00	3119-H	1 3/16"	2.25
3075-H	¾"	2.00	3125-H	1¼"	2.25
3087-H	7/8"	2.00			

SQUARE

Cat. No.	Punch Size	Dlr.'s Net Each
3062-Q	5/8"	$2.50
3069-Q	11/16"	2.50
3071-Q	23/32"	2.50
3075-Q	¾"	2.95
3087-Q	7/8"	2.95

KEYED and "D"

Cat. No.	Punch Size	Dlr.'s Net Each
3117-U (KEY)	1-11/64"	$2.95
3050-E "D"	½"	2.75

All Items Listed Above Carry Special Distributor's Discount.

WALSCO TEKNI-LABELS

Easily applied Decals for use with electronic equipment, Hi-fi, radio, TV, etc.

Each package has hundreds of electronic terms, symbols, designs, abbreviations and letters for all uses. Unlimited variety to choose from. Gives professional appearance.

TRANSMITTER LABELS

Set contains over 1200 titles including labels ¼" high. For titling stages.
Cat. No. 2100 — White ..... Dealer's Net $1.35
Cat. No. 2108 — Black ..... Dealer's Net 1.35

INSTRUMENT LABELS

For the experimentor and builder. Provides labels for all types of test equipment.
Cat. No. 2101 — White ..... Dealer's Net $1.35
Cat. No. 2109 — Black ..... Dealer's Net 1.35

RECEIVER LABELS

Over 1300 titles, misc. letters, alphabets and marks.
Cat. No. 2102 — White ..... Dealer's Net $1.35
Cat. No. 2112 — Black ..... Dealer's Net 1.35

TV LABELS

Includes special color experimental TV titles and other valuable labels.
Cat. No. 2103 — White ..... Dealer's Net $1.35
Cat. No. 2113 — Black ..... Dealer's Net 1.35

DIAL LABELS

For general use to match titles in other Walsco decal sets.
Cat. No. 2104 — White ..... Dealer's Net $1.35
Cat. No. 2110 — Black ..... Dealer's Net 1.35

AUDIO LABELS

Set contains all necessary titles including recent new Hi-Fi titles for the Audio and Sound enthusiasts.
Cat. No. 2105 — White ..... Dealer's Net $1.35
Cat. No. 2107 — Black ..... Dealer's Net 1.35

RECEIVING TUBE DECALS

For identifying all tube sockets. Over 320 different tube labels included.
Cat. No. 2106 — White ..... Dealer's Net $1.35

PANEL LABELS

For giving the front panel a finished look. Practical as well as attractive.
Cat. No. 2111 — Gold ..... Dealer's Net $1.35

ALPHABETS

Includes 7 complete alphabets in each package of letters from ¾" high to 1/10" high. Has large block letters as well as Greek and Old English. Provides an endless variety of combinations.

Cat. No.	Color	Dlr.'s Net	Cat. No.	Color	Dlr.'s Net
2115	White	$1.35	2135	Gold	$1.35
2125	Black	1.35	2145	Red	1.35

TRADEMARKS

Designed to make possible your own trademark with hundreds of markings of varied designs and shapes.

Cat. No.	Color	Dlr.'s Net	Cat. No.	Color	Dlr.'s Net
2116	White	$1.35	2136	Gold	$1.35
2126	Black	1.35	2146	Red	1.35

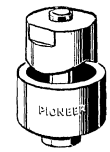
UNIVERSAL DECALS

Large assortment of titles, numerals and designs for radio, TV, etc.

Cat. No.	Description	Dealer's Net
2201	1 package — White	$1.35
2201-D	Display box of 10 packages	13.50
2202	1 package — Black	1.35
2202-D	Display box of 10 packages	13.50
2203	1 package — Gold	1.35
2203-D	Display box of 10 packages	13.50

ROUND PIONEER CHASSIS PUNCHES

Made of specially hardened, precision-ground, tool steel. Quick and easy to operate. Saves hours of hard work.



Cat. No.	Punch Size	Bolt Size	Dlr.'s Net
3050-R	½"	¼"	$2.15
3062-R	5/8"	5/16"	2.15
3069-R	11/16"	5/8"	2.15
3075-R	¾"	5/8"	2.15
3087-R	7/8"	¾"	2.15
3100-R	1"	¾"	2.80
3106-R	1 1/16"	⅞"	2.45
3112-R	1⅛"	⅞"	2.45
3116-R	1 3/16"	⅞"	2.45
3117-R	1-11/64"	⅞"	2.45
3119-R	1 3/16"	⅞"	2.45
3125-R	1¼"	⅞"	2.45
3137-R	1 7/16"	⅞"	2.80
3150-R	1½"	⅞"	3.15
3225-R	2¼"	⅞"	6.15

Standard Pack: 3

SQUAREHOLE PIONEER CHASSIS PUNCHES

Cat. No.	Punch Size	Bolt Size	Dlr.'s Net	Cat. No.	Punch Size	Bolt Size	Dlr.'s Net
3062-S	5/8"	½"	$3.30	3087-S	7/8"	½"	$4.30
3069-S	11/16"	½"	3.70	3100-S	1"	½"	4.45
3075-S	¾"	½"	3.85				

Standard Pack: 3

KEY and "D" CHASSIS PUNCHES

Cat. No.	Punch Size	Bolt Size	Dlr.'s Net
3117-K (KEY)	1-11/64"	7/16"	$3.75
3050-D "D"	½"	5/16"	3.70

Standard Pack: 3

CHASSIS PUNCH KIT

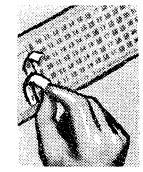
The most economical way to buy the 10 standard size punches. This complete kit includes one each of the following punches: No. 3075-S, No. 3050-D, and Nos. 3050-R, 3062-R, 3075-R, 3100-R, 3112-R, 3116-R, 3125-R, 3137-R.
Cat. No. 3005 ..... Dealer's Net $24.95

BOLT REPLACEMENT KIT

Contains an ample assortment of bolts and nuts for Walsco Pioneer Chassis Punches.
Cat. No. 3010-01 ..... Dealer's Net $26.60

REPLACEMENT BOLTS and NUTS FOR CHASSIS PUNCHES

BOLT Cat. No.	NUT Cat. No.	FOR USE IN PUNCHES NO.	BOLT Dealer's Net	NUT Dealer's Net
3010-02	3011-02	3050-D (OLD #CD-50)	$1.25	$0.20
3010-03	NONE	3050-R (OLD #CR-50)	.25	..
3010-04	NONE	3062-R (OLD #CR-62)	.25	..
3010-05	3011-02	3062-S (OLD #CS-62)	1.25	.20
3010-06	3011-03	3069-R (OLD #CR-69) thru 3150-R (OLD #CR-150)	.25	.20
3010-07	3011-03	3075-S (OLD #CS-75)	1.35	.20
3010-08	3011-03	3087-S (OLD #CS-87)	1.35	.20
3010-09	3011-04	3100-S (OLD #CS-100)	.60	.20
3010-09	3011-04	3117-K (OLD #CKR-117)	.60	.20
3010-10	NONE	3225-R (OLD #CR-225)	.55	..



WIRE MARKERS

Permanent, legible, foolproof. Made of durable, vinyl cloth with plastic coating. Pre-cut to exact size.

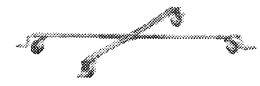
Cat. No.	Description	Dlr.'s Net
2210	Numbers 1 to 33	$0.33
2211	Numbers 34 to 66	.33
2212	Numbers 67 to 99	.33
2213	Letters A to Z	.33

TV RECEIVER DECALS

Contains 2 complete sets of decals providing the proper label for every requirement on a TV chassis or a cabinet.

Cat. No. 2551 — 2 complete sets ..... List $0.45
Cat. No. 2551D — Display of 20 ..... List 9.00

STATIONS	VOLUME	ON	
TV RADIO	PHONO	OFF	
CONTRAST		FINE TUNING	
HORIZONTAL		TONE	FOCUS
PICTURE		CUSTOM MADE	
HORIZ LIN		VERT LIN	
HEIGHT	ON OFF	AM FM	
1 2 3 4 5 6		SYNC	



ROLLABOUT TV CASTERS

Designed for easy installation on any TV set.
Cat. No. 333 ..... List *$7.95

*Special Distributor's Discount Applies

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WALSCO QUALITY EARNED ITS REPUTATION

LOS ANGELES, CALIF. • CHICAGO, ILLINOIS

Walsco
ELECTRONICS CORPORATION
SUBSIDIARY OF Telautograph CORP.

NEW PRINTED CIRCUIT REPAIR KITS

These new Walsco Printed Circuit Repair Kits are designed to enable the service man to handle any repair or replacement job on printed circuits. Each kit contains sufficient materials to complete numerous repair jobs.

STANDARD PRINTED CIRCUIT REPAIR KIT

REPAIR KIT

Contains foil, solder washers, solder wire, 1 solder-ease tool and fibre-glas brush, resin lacquer and solvent, tweezers and complete instructions.

Cat. No. 13-K ..... **List $6.95**

MASTER PRINTED CIRCUIT REPAIR KIT

Contains all items in Standard Kit plus an Ungar soldering iron, a spray can of silicone resin lacquer and a practice wiring board.

Cat. No. 12-K ..... **List $11.95**

PRINTED CIRCUIT ACCESSORIES

PRINTED CIRCUIT REPAIR SOLDER

With special flux core to make quick joints at lower temperatures for PC work.

Cat. No. 649 — Approx. 11 ft. solder..... **List $0.50**
(Standard Pack: 10)

PRINTED CIRCUIT REPAIR FOIL

Copper, with thermo-plastic backing. Bonds permanently to panel with heat of soldering iron.

Cat. No. 647 — Approx. 24 sq. in. ..... **List $0.50**
(Standard Pack: 10)

PRINTED CIRCUIT SOLDER WASHERS

With center layer of special flux for quick bond.

Cat. No. 648 — Box of 60 (Standard Pack: 10)..... **List $0.99**

SILICONE RESIN LACQUER

Fast air drying. Covers repairs or replacements in PC circuits with protective film.

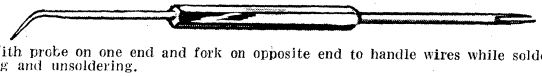
Cat. No. 120-02 — 2 oz. bottle (Standard Pack: 12) ..... **List $1.95**
Cat. No. 120-06 — 6 oz. spray can (Standard Pack: 12) ... **List *3.25 each**

RESIN LACQUER SOLVENT

Acts as a solvent and for removing silicone resin lacquer.

Cat. No. 205-02 — 2 oz. bottle (Standard Pack: 12) ..... **List $0.55 each**

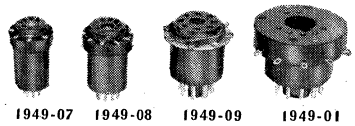
PRINTED CIRCUIT SOLDER-AID TOOL



With probe on one end and fork on opposite end to handle wires while soldering and unsoldering.

Cat. No. 2530 — 8" long plastic handle (Standard Pack: 20) .... **List $1.65**

TEST SOCKET ADAPTERS



1949-07 1949-08 1949-09 1949-01

Permits measurement of voltage, resistance, audio and video with the tube under working conditions in the circuit. Makes testing possible without removing chassis, saving valuable time and work. Handy test tabs are extended for easy use with test prods or alligator clips.

Cat. No.	Description	Dlr.'s Net
1949-07	7-pin miniature	$1.65
1949-08	8-pin octal	1.55
1949-09	9-pin miniature	1.85
1949-01	Duo-Decal for CRT	1.95

Standard Pack: 12 per box

REAR SEAT SPEAKER GRILL KIT

Kit contains stamped metal baffle plate with screening, 15 ft. cable, 3-position cross-over switch and necessary hardware.

Cat. No.	Description	List	Dlr.'s Net
952	5" x 7"	$3.75	$2.25
962	6" x 9"	4.50	2.70
Same as above without cable and switch.			
950	5" x 7"	1.50	0.90
960	6" x 9"	2.22	1.35

WALSCO INSULATING MATERIALS

INSULATING CAMBRIC

Many uses in building transformers, coils, solenoids, etc. Very flexible and durable.

Cat. No.	Description	List Price
645	Roll of approx. 210 sq. in.	$1.00
645D	Display of 10 No. 654 rolls	10.00

SPAGHETTI BARGAIN ASSORTMENT

Each bundle contains 24, 8" pieces in assorted diameters. Durable varnished tubing in a variety of colors.

Cat. No. 644 ..... **List $0.59**
Cat. No. 644D — Display of 25—#644 ..... **List 14.75**

WALSCO FLEXITUBE

Has dielectric strength of 15,000 volts (average) before breakdown. Will stand temperatures from -65° F to 185° F. Meets Specifications MIL-I-631.

List Price per spool (see below) **$1.20**

Cat. No.	Size B&S Gauge No.	Approx. I.D. Inches	Approx. I.D. mm	Quantity per spool
600-(color)	18	.042	1	20 ft.
601-(color)	16	.053	1.4	20 ft.
602-(color)	14	.066	1.6	18 ft.
603-(color)	12	.085	2	16 ft.
604-(color)	10	.106	2.7	14 ft.
605-(color)	8	.133	3.5	12 ft.
606-(color)	6	.166	4	10 ft.
607-(color)	4	.208	5	6 ft.
608-(color)	2	.263	6.5	6 ft.

Standard Pack: 12 Spools per package

AVAILABLE IN CLEAR, GREEN, BLACK, RED. To specify COLOR add suffix to above catalog number as follows:— -01 for Clear, -02 for Green, -03 for Black and -04 for Red. Example 600-01 for 18 gauge, Clear.

BULK and INDUSTRIAL QUANTITIES

Same description as above but requires a different suffix to catalog number when specifying color. Add suffix -R1 for Clear, -R2 for Green, -R3 for Black and -R4 for Red. Example: 600-R1 for 18 gauge, Clear.

Cat. No.		LIST per 1000 ft. 100 to 1999 ft.	2000 ft. & up
600-(color)	(same as above)	*$25.75	*$19.55
601-(color)		*29.25	*20.65
602-(color)		*30.25	*22.00
603-(color)		*33.50	*23.50
604-(color)		*37.00	*26.40
605-(color)		*43.00	*27.75
606-(color)		*52.50	*39.75
607-(color)		*60.25	*45.95
608-(color)		*74.50	*56.60

*Special Distributor's Discount Applies

WALSCO RAYOFLEX

More flexible and less affected by aging than conventional varnished tubing. Has a dielectric strength of 4,000 to 5,000 volts. Meets MIL-I-3190 Specifications.

List Price per spool (see below) **$1.20**

Cat. No.	Size B&S Gauge No.	Approx. I.D. Inches	Approx. I.D. mm	Quantity per spool
630-(color)	18	.042	1	10ft.
631-(color)	15	.059	1.5	8 ft.
632-(color)	12	.085	2	8 ft.
633-(color)	9	.118	3	5 ft.
634-(color)	6	.166	4	5 ft.

Standard Pack: 12 Spools per package

AVAILABLE IN BLACK, RED, BLUE and YELLOW COLORS. To specify COLOR add suffix to above catalog number as follows: -03 for Black, -04 for Red, -05 for Blue and -06 for Yellow. Example: 630-03 is 18 gauge, Black.

BULK and INDUSTRIAL QUANTITIES

Same description as above but requires a different suffix to catalog number when specifying color. Add suffix -R3 for Black, -R4 for Red, -R5 for Blue and -R6 for Yellow. Example: 630-R3 is 18 gauge Black.

Cat. No.		LIST per 1000 ft. 100 to 1999 ft.	2000 ft. & up
630-(color)		*$61.50	*$49.00
631-(color)	Size and	*65.60	*52.25
632-(color)	Dimensions	*71.80	*57.15
633-(color)	same as above	*84.10	*66.95
634-(color)		*102.50	*81.60

DRAWER SLIDES

Heavy-gauge, cold-rolled steel with a corrosion-resistant finish.

Cat. No.	Description	List
331-01	Friction type, 14" long	$2.95/pair
331-03	Ball Bearing type (for heavier equipment or where minimum drag required), 14" long	5.50/pair

*Special Distributor's Discount Applies

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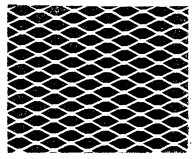
Walsco ELECTRONICS CORPORATION
SUBSIDIARY OF TelAutograph CORP.

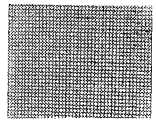
SPEAKER ACCESSORIES



ORNAMENTAL METAL GRILLE

Heavy metal, richly plated semi-gloss gold.

Cat. No.	Size	List Price
382	12″ x 18″	$ 3.00
384	18″ x 24″	5.50
386	24″ x 36″	10.45
387	24″ x 48″	13.75
388	36″ x 48″	19.50



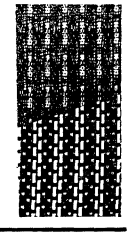
ACOUSTO-GRILLE

Perforated phenolic. Gold finish.

Cat. No.	Size	List Price
390	12″ x 16″	$ 2.50
391	16″ x 24″	5.00
392	24″ x 40″	12.50
393	40″ x 48″	25.00

LUMITE GRILLE CLOTH

Saran plastic fiber. Modern design. Will not discolor, stain or mildew.



Cat. No.	Size	List Price
366	12″ x 18″	$1.65
367	36″ x 36″	9.25

BULK QUANTITIES

Cat. No.	Size	List/yd.
368 —	1 yd. wide (5 to 49 yds.)	*$7.50
368 —	1 yd. wide (50 yds. & up)	*6.35

Add this number to Cat. No. to specify color when ordering	Pattern	Color
	—01	Maroon
	—02	Bronze & Gold
	—03	Ecru (Blonde)

WALSCO GRILLE CLOTH

Specially woven to match — Walnut, Mahogany or light cabinet finishes.

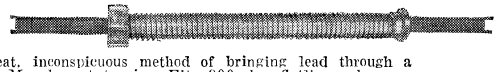
Cat. No.	Size	List Price
360 —	12″ x 12″	$0.80
361 —	18″ x 24″	2.25
362 —	1 yard x 4 feet (packaged)	7.50

BULK QUANTITIES

Cat. No.	Size	list/yd.
363 —	48″ wide (5 to 49 yds.)	*$7.00
363 —	48″ wide (50 yds. & up)	*5.90

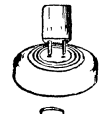
Add these numbers to Cat. No. to specify color when ordering	Color Code	Color
	—01	Walnut
	—04	Mahogany
	—07	Blonde

TWIN-LEAD FEED-THRU BUSHING



A neat, inconspicuous method of bringing lead through a wall. May be cut to size. Fits 300-ohm flatline only.

Cat. No. 1550 — Feed-thru bushing ..... List $1.20
Cat. No. 1550D — Display of 12 bushings ..... List 14.40

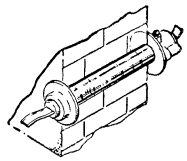


TV LEAD-IN and ROTOR RECEPTACLE

Fits flange of bushing #1551 and may be used as wall outlets for any lead-in.

Cat. No.	Description	List
1552-01 —	2 Cond. Brown, with plug	$1.05
1552-02 —	2 Cond. Ivory, with plug	1.05
1553-01 —	5 Cond. Brown, with plug	1.50
1553-02 —	5 Cond. Ivory, with plug	1.50

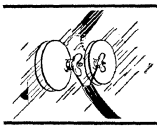
(Standard Pack: 12)



UNIVERSAL FEED-THRU BUSHING

Fits all standard types of co-axial or twin-lead wires. Bushing is 15″ overall length and requires a ¾″ hole. May be trimmed to any length desired.

Cat. No. 1551-01 — Brown ..... List $1.95
Cat. No. 1551-02 — Ivory ..... List 1.95
Standard Pack: 12



WINDOW-THROUGH

Eliminates drilling holes. Capacitor discs cement to each side of glass. Cement included. Practically no signal loss.

Cat. No. 1555 Standard Pack: 20 List $0.99

ROOF PATCHING COMPOUND

Finest quality asphalt and asbestos fibre. Assures weatherproof installations. Applicator included.

Cat. No. 1548 — 16 oz. can (Standard Pack: 24) ..... List $1.10

GLOBAR THERMISTORS

Assortment below covers 95% of replacement of filament resistors in G.E. and many other makes. Made to give dependable long life and maximum efficiency.

Cat. No.	Description	List
1731 —	Hot: 20 ohms — Cold: 250 ohms — 600 ma. Replaces G.E. part #RRW041	$1.35 ea.
1732 —	Hot: 75 ohms @ 300 ma. — Cold: 950 ohms. Replaces G.E. part #RRW041	1.60 ea.
1733 —	Hot: 31 ohms @ 300 ma. — Cold: 260 ohms. Replaces G.E. part #RRW097	1.40 ea.
1734 —	Hot: 35 ohms @ 600 ma. — Cold: 460 ohms no load. Replaces G.E. part #RRW054	1.40 ea.
1735 —	Hot: 43 ohms @ 600 ma. — Replaces part in Crosley, Admiral, CBS, Zenith and others	1.70 ea.

GLOBAR THERMISTOR for RCA

1736 — Hot: 9 ohms. For replacement in RCA models #17-S-450RU, #17-S-451RU, #17-S-453RU, #21-S-500R, #21-S-500RU ..... 1.85 ea.

Note: For display card of 20 thermistors, add suffix "D" to part number.

GLOBAR THERMISTOR KIT

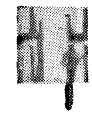
Singly, in parallel, or in series as used in 95% of G.E. T.V. sets and many others.

Cat. No. 1730 — Bag of 2 thermistors ..... List $2.40

FUSIBLE RESISTORS

For TV circuits requiring 7.5 ohm replacement fuse resistors in series wired sets. Comes with or without plug-board on leads.

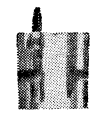
Cat. No. 1726 — Wire and pin leads ..... List $0.55
Cat. No. 1725 — Plugboard leads ..... List 0.72
(Standard Pack: 20)



TWIN-LEAD CONNECTORS

Matches 300 ohm line. Polarized.

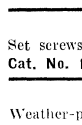
Cat. No. 1584 — Standard Pack: 25 ..... List $0.50 each



TWIN-LEAD CONNECTOR PLUG

For 300 ohm line. Fits Jack 1583.

Cat. No. 1582 — Standard Pack: 25 ..... List $0.50



TWIN-LEAD CONNECTOR JACK

Mates with plug #1582.

Cat. No. 1583 — Standard Pack: 25 ..... List $0.50

TWIN-LEAD JOINER

Set screws hold wires for perfect splice.

Cat. No. 1585 — Standard Pack: 25 ..... List $0.45

TWIN-LEAD FLEXITUBE

Weather-proof. For 300 ohm line. For protection over gutters, etc.

Cat. No. 609-75 — 75 ft. hank ..... List $8.00
(Standard Pack: 12 hanks)

TV ANTENNA WALL PLATE

Fits standard junction boxes. In Brown or Ivory plastic. Takes plug #1582.

Cat. No. 1588 — Brown (Standard Pack: 12) ..... List $1.50 ea.
Cat. No. 1589 — Ivory (Standard Pack: 12) ..... List 1.50 ea.

TWIN-LEAD WIRING NAILS

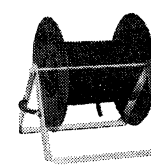
For better antenna installations. Line impedance on 300 ohm lead-in is not affected.

Cat. No. 7565-F — 35 per package ..... List $0.50
Cat. No. 7565-N — 200 per package ..... List 1.99
Cat. No. 7565 — 2500 to 9999 bulk — per 1000 ..... List 3.40
Cat. No. 7565- — 10M and up bulk — per 1000 ..... List 2.70

LEAD-IN WIRING NAILS

For Tubular, Oval, Coax, "Open" line.

Cat. No. 1547-C — 100 per package ..... List $1.65
Cat. No. 1547-M — 1000 per package ..... List 12.40



REEL-EASY

A wire reel holder to carry and install lead-in wires on the job. Weighs 1 lb. Portable.

Cat. No. 503 — (Standard Pack: 6) ... List $4.00

TURNBUCKLES

Steel with galvanized finish. Rust-proof.

Cat. No.	Length Open	Length Closed	List Price
1533	4¼″	3″	$0.30
1535	7½″	5½″	0.40
1537	10½″	7½″	1.10

(Standard Pack: 1 Doz.)

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WALSCO JIFFY COUPLER

Attach two TV sets to one antenna with this small compact coupler.

Cat. No. 1595* — (Standard Pack: 20) .. **List $1.85**

2 and 4 SET COUPLERS

Uses "taper wound coils" for minimum losses and maximum de-coupling.

Cat. No. 1592 — 2-set (Standard Pack: 12) ..... **List $4.75**
Cat. No. 1594 — 4-set (Standard Pack: 12) ..... **List 6.50**

WATERPROOF COUPLERS

Same as above for outdoor installations.

Cat. No. 1597 — 2-set coupler (Standard Pack: 12) ..... **List $5.75**
Cat. No. 1598 — 4-set coupler (Standard Pack: 12) ..... **List 7.50**

HIGH-PASS FILTERS

For use with TV having 300 ohm line. Will suppress signal interference below 55 mc. No tuning necessary.

Cat. No. 1570 — (Standard Pack: 3) ..... **List $4.95**

TV SIGNAL ATTENUATOR

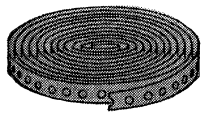
Reduces overloading. Minimizes co-channel interference. For use with 300 ohm twin-lead antenna line.

Cat. No. 1576 — (Standard Pack: 3) ..... **List $4.95**

ANTENNA GUY WIRE

Made of high grade steel, stranded, flexible. Heavily galvanized for rust resistance. In 50 ft. connected coils.

Cat. No. 1510 — 4 Strand No. 20; 5/64" diameter ..... **List $1.45/C ft.**
Cat. No. 1512 — 6 Strand No. 20; 7/64" diameter ..... **List 1.90/C ft.**
(Standard Pack: 1000 ft.)



PERFORATED STEEL STRAP

Thin steel, galvanized. Very strong and flexible. ¼" holes, ¾" apart.

Cat. No. 1518 — 10 ft. coil ..... **List $0.80**
(Standard Pack: 25 coils)

ALUMINUM GROUND WIRE

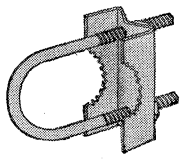
⅛" dia. (#8 B&W gauge) solid, annealed high conductive aluminum. Absolutely rust-proof.

Cat. No. 1500 — 1000 ft. coil (Standard Pack: 12) ..... **List $2.20**
Cat. No. 1505 — 500 ft. coil (Standard Pack: 3) ..... **List 10.00**

GROUND CLAMPS

Adjustable to fit connections from ⅜" to 1¼" in diameter. Absolute contact.

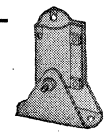
Cat. No. 4005-10 — (Standard Pack: 25) .... **List $0.25 ea.**



U-BOLT BRACKET ASSEMBLY

Cadmium plated steel. Fits masts up to 1½" dia. Weatherproof.

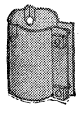
Cat. No. 4005-20 (Standard Pack: 25) **List $0.60**



MAST SWIVEL BASE

Made of aluminum and heavy steel. Permits installations with slope footing up to 180°.

Cat. No. 4005-27 — For 1¼" Diam. Masts ... **List 1.05**
(Standard Pack: 25)



GUY WIRE RING

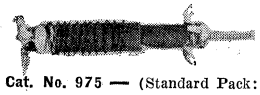
Highly corrosion resistant aluminum alloy. Accommodates 3 guy wires. Easily installed.

Cat. No. 4005-26 — For 1¼" Diam. ..... **List 0.55**
(Standard Pack: 25)

WALSCO PLASTIC BOXES & GLASS JARS

See-thru containers provide efficient method for "filing" small hardware items. Keeps parts clean, rust-free, easy-to-find, ready-for-use.

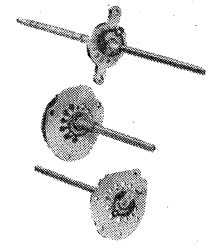
Cat. No. 998-01 — Plastic Box with Sliding Lid (99 Line Size).. **List $0.35**
Cat. No. 998-02 — Plastic Box with Sliding Lid (50 Line Size).. **List 0.12**
Cat. No. 999 — Glass Jar, 2 oz. size (Standard Pack: 36)... **List 0.20**



LOOP ANTENNA

Has 3 times the "Q" of a regular loop. Adjustable ferrite slug. Non-directional.

Cat. No. 975 — (Standard Pack: 50) ..... **List $1.10**



WALSCO TV TUNER DETENTS

Ball bearing suspension. Spring is phosphor bronze. Shaft is machined phenolic. Precise.

Cat. No.	SHAFT LENGTH* Brass	Phenolic
1210	2 13/16"	3 3/4"
1211	3 5/16"	3 3/4"
1212	4 1/2"	3 3/4"

*Measured from "C" Washer

Cat. No.		List Price
1210	— replaces RCA part 71463	$3.20
1211	— replaces RCA part 72743	3.50
1212	— replaces RCA part 201E1 for use with Tuner No. 71531	4.60
1213	— replaces RCA part 73440	5.50
1214	— replaces RCA part 75162	4.60

DeGAUSSING COIL FOR COLOR TV RECEIVERS

Eliminates stray magnetic fields to permit purity adjustment.

Cat. No. 2590 — (Standard Pack: 3) .... **Dlr. Net $16.90**
Cat. No. 2591 — Without switch ..... **Dlr. Net 14.90**

TV INTERLOCK RECEPTACLE

Interchangeable with part in RCA, GE, Philco, Admiral and other sets.

Cat. No. 1650 **List $0.25**
(Standard Pack: 25)

DeLUXE INTERLOCK "CHEATER CORD"

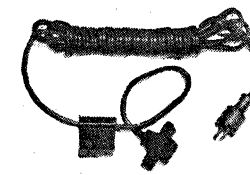
A universal cheater cord with built-in duplex outlet. Provides all necessary connections for TV servicing. UL approved.

Cat. No. 1622 — (Standard Pack: 12)... **List $2.50**

SERVICEMANS CHEATER CORD

With special male plug (instead of appliance plug) to mate with interlock plug and a female plug on other end. Makes it unnecessary to disconnect TV from regular wall outlet. Has special built-in receptacle. U.L. approved.

Cat. No. 1621 **List $1.30**
(Standard Pack: 12)



TV INTERLOCK or CHEATER CORD

Has appliance plug at one end with interlock plug at the other end. May be used as "replacement" or as "Cheater" cord. U.L. approved.

Cat. No. 1620 **List $0.75**
(Standard Pack: 12)

INSULATED GRID CAPS with LEAD

In two sizes ¼" and ⅜" with high voltage, 10" leads attached. Cap is heavy bakelite.

Cat. No. 1630 — ¼" cap (Standard Pack: 25) ..... **List $0.45**
Cat. No. 1631 — ⅜" cap (Standard Pack: 25) ..... **List 0.45**

TV TUBE ANODE LEAD — (Straight type)

Tinned stranded copper conductor covered with insulation to stand up to 20 KV. Lead is 18" long with special rubber cap at terminal.

Cat. No. 1628 — (Standard Pack: 12) ..... **List $0.60**

TV TUBE ANODE LEAD — (Offset type)

Identical to #1628 but terminal end is offset at right angles to lead.

Cat. No. 1629 — (Standard Pack: 12) ..... **List $0.70**

TV TUBE ANODE LEAD EXTENSION CORD

One end has regular anode terminal, the other end is a high voltage plastic receptacle.

Cat. No. 1625 — (Standard Pack: 12) ..... **List $1.65**

DUO-DECAL SOCKET

Replacement for TV picture tube socket. Wired with six 18" leads.

Cat. No. 1627 — (Standard Pack: 12) ..... **List $1.35**

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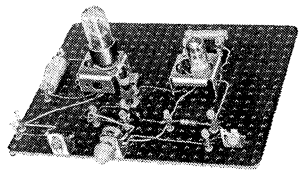
ELECTRONIC BREADBOARD KIT



For the experimentor or amateur. Contains peg board, spring connector terminals, tube and switch mounting brackets, hardware, etc. Invaluable for circuit designing.

Cat. No. 1700 Dlr.'s Net $9.95
Complete Breadboard Kit

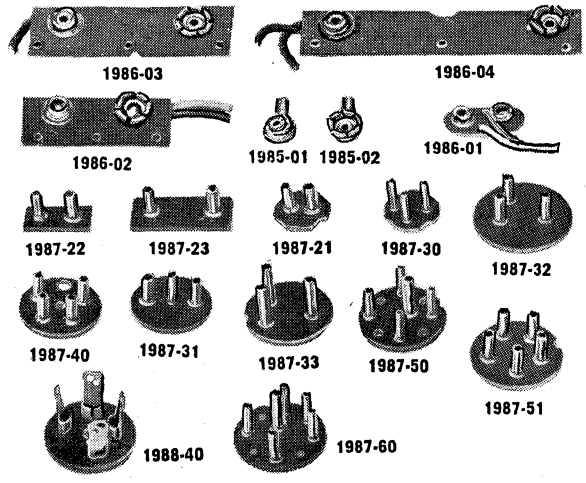
MAGNESIUM LADDERS

Extension type — 20 ft. long but weighs only 23 lbs. Will outlast wooden ladders 3-to-1.

Cat. No.	Length	Description	Dlr's. Net
1600	20 ft.	Extension	*$53.40
1602	28 ft.	Extension	*75.90
1603	40 ft.	Extension	*125.70
1605-01		Pivoted Safety Shoes—small for No. 1600 and 1602	*4.68
1605-02		Pivoted Safety Shoes—large for No. 1603	*4.68

*Special Distributor's Discount Applies

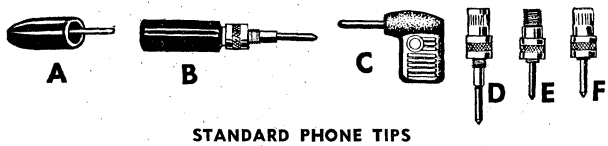
WALSCO BATTERY PLUGS



Plugs for all popular batteries for portable radios, electronic devices, transistor energizers and test equipment.

WALSCO No.	Std. Pack	List Price	WALSCO No.	Std. Pack	List Price
1985-01	100	.06	1987-30	25	.08
1985-02	100	.07	1987-31	25	.10
1986-01	10	.40	1987-32	25	.09
1986-02	10	.35	1987-33	25	.12
1986-03	10	.35	1987-40	25	.12
1986-04	10	.40	1987-50	25	.13
1987-21	25	.07	1987-51	25	.13
1987-22	25	.07	1987-60	25	.15
1987-23	25	.07	1988-40	25	.10

PHONE PLUGS and TIPS



STANDARD PHONE TIPS

Non-insulated. For general purpose use. See listing of part #7645-F in Bulk Hardware section page U-108.

A — INSULATED PHONE TIP PLUG

Streamlined style. High voltage, fine quality Nylon insulation. Fits any standard jack.

Cat. No. 1815-01 — Black (Standard Pack: 25) ..... List $0.30
Cat. No. 1815-02 — Red (Standard Pack: 25) ..... List 0.30
Cat. No. 1815-03 — White (Sandard Pack: 25) ..... List 0.30

B — INSULATED PHONE TIP PLUG

Nickel plated brass tip. Solderless connection. Tough plastic handle. For heavy duty use.

Cat. No. 1819-01 — Black (Standard Pack: 25) ..... List $0.25
Cat. No. 1819-02 — Red (Standard Pack: 25) ..... List 0.25

C — METER TYPE PHONE PLUG

Body molded in two halves. Brass tip, nickel plated. Fits all standard phone tip jacks.

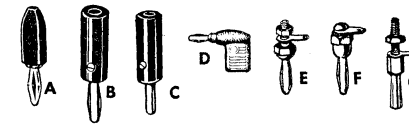
Cat. No. 1817-01 — Black (Standard Pack: 25) ..... List $0.45
Cat. No. 1817-02 — Red (Standard Pack: 25) ..... List 0.45

D - E - F — SOLDERLESS PHONE TIP PLUGS

Nickel-plated brass body. Handles press-fit to #1820 and #1821. Handles screws on #1822.

Cat. No. 1820 — (Standard Pack: 25) D ..... List $0.17
Cat. No. 1821 — (Standard Pack: 25) F ..... List 0.18
Cat. No. 1822 — (Standard Pack: 25) E ..... List 0.19

WALSCO BANANA PLUGS



A — SPRING TYPE BANANA PLUG — INSULATED

Streamline design. Spring type plug is nickel silver. Internal solderless connections. Handle is molded nylon. The finest plug made.

Cat. No. 1800-01 — Black (Standard Pack: 25) ..... List $0.40
Cat. No. 1800-02 — Red (Standard Pack: 25) ..... List 0.40
Cat. No. 1800-03 — White (Standard Pack: 25) ..... List 0.40

B — SPRING TYPE, INSULATED, BANANA PLUG

Spring tip is phosphor bronze, nickel plated. Has external set screw for wire connection.

Cat. No. 1802-01 — Black (Standard Pack: 25) ..... List $0.30
Cat. No. 1802-02 — Red (Standard Pack: 25) ..... List 0.30

C — INSULATED BANANA PLUG SPLIT TYPE

Has external set screw for wire connections. Same as 1802 but with split tip prongs.

Cat. No. 1805-01 — Black (Standard Pack: 25) ..... List $0.30
Cat. No. 1805-02 — Red (Standard Pack: 25) ..... List 0.30

D — METER TYPE BANANA PLUG

Handle is molded in two halves for easy connections. Tip is phosphor bronze, spring type.

Cat. No. 1807-01 — Black (Standard Pack: 25) ..... List $0.60
Cat. No. 1807-02 — Red (Standard Pack: 25) ..... List 0.60

E — BANANA PLUG with STUD — NON-INSULATED

Body is hex brass. Tip is phosphor bronze, nickel plated. Stud has 6-32 thread.

Cat. No. 1810 — (Standard Pack: 25) ..... List $0.25

F — BANANA PLUG with SCREW — NON-INSULATED

Same as 1810 but body is tapped and fitted with 6-32 machine screw.

Cat. No. 1811 — (Standard Pack: 25) ..... List $0.25

G — SPLIT TIP BANANA PLUG with STUD — NON-INSULATED

Same as 1810 but tip is cross slotted instead of spring type. Comes with nut.

Cat. No. 1812 — (Standard Pack: 25) ..... List $0.22

KLIPZON CONNECTOR PLUGS

Famous Klipzon Tip and Prod with unique device that slips on and holds firmly to wires, lugs, terminals, etc. Needle sharp point pierces insulation for testing. Solderless connections. Fits standard phone tip jack.

Cat. No. 1826-01 — Black (Standard Pack: 25) .... List $0.45
Cat. No. 1826-02 — Red (Standard Pack: 25) ..... List 0.45

KLIPZON TEST PROD ADAPTER

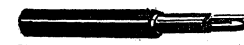
Similar to 1826 but designed to fit phone tip test prods. Has all the Klipzon features.

Cat. No. 1827-01 — Black (Standard Pack: 25) ..... List $0.60
Cat. No. 1827-02 — Red (Standard Pack: 25) ..... List 0.60

KLIPZON LONGIE ADAPTER

For same use as 1827 but has extra long tip to reach difficult places. Has all the Klipzon features.

Cat. No. 1828-01 — Black (Standard Pack: 12) ..... List $0.75
Cat. No. 1828-02 — Red (Standard Pack: 12) ..... List 0.75



KLIPZON JUMBO ADAPTER

Fit on all standard test prods. Designed to "hold" wires up to #4 or lugs and terminals of equivalent size.

Cat. No. 1829-01 — Black (Standard Pack: 12) ..... List $0.75
Cat. No. 1829-02 — Red (Standard Pack: 12) ..... List 0.75

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ALLIGATOR CLIPS (Non-Insulated)

Cat. No. 1860-10 — without screw (Standard Pack: 25) ..... List $0.10 ea.
Cat. No. 1860-11 — with side screw (Standard Pack: 25) .... List 0.11 ea.

INSULATED ALLIGATOR CLIPS

Molded plastic handles.

Cat. No. 1861-01 — Black, no screw (Standard Pack: 25) .... List $0.15 ea.
Cat. No. 1861-02 — Red, no screw (Standard Pack: 25) ..... List 0.15 ea.
Cat. No. 1862-01 — Black, with screw (Standard Pack: 25) .. List 0.18 ea.
Cat. No. 1862-02 — Red, with screw (Standard Pack: 25) ... List 0.18 ea.

ALLIGATOR CLIP to PHONE TIP and BANANA PLUG ADAPTER

Slips on all standard banana plugs and phone tips. Insulated plastic handle.

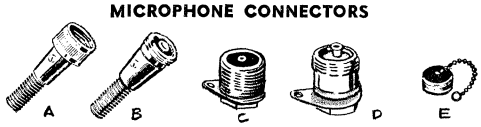
Cat. No. 1864-01 — Black (Standard Pack: 25) ..... List $0.65
Cat. No. 1864-02 — Red (Standard Pack: 25) ..... List 0.65

ALLIGATOR TIP to PHONE TIP ADAPTER

Same as 1864 but takes phone tips only. Insulated molded plastic handle.

Cat. No. 1863-01 — Black (Standard Pack: 25) ..... List $0.55
Cat. No. 1863-02 — Red (Standard Pack: 25) ..... List 0.55

MICROPHONE CONNECTORS



A — Single contact, female type. Made of nickel plated brass. Has set screw in side of barrel. For use with #1881 below.
Cat. No. 1880 — (Standard Pack: 25) ..... List $0.70

B — Single contact, male type. Designed to mate with part #1880 above. Has set screw in side of barrel.
Cat. No. 1881 — (Standard Pack: 25) ..... List $0.50

C — Single contact, male, chassis type. Mates with #1880. Requires ⅜" mounting hole. Comes with washer, lug and nut.
Cat. No. 1882 — (Standard Pack: 25) ..... List $0.45

D — Single contact, male, with "closed circuit" feature. Automatically grounds when disconnected. Similar to #1882.
Cat. No. 1883 — (Standard Pack: 25) ..... List $0.65

E — Cap and Chain for Microphone Connectors — Protects against dust, dirt, corrosion and damage. Fits all above connectors.
Cat. No. 1884 — (Standard Pack: 25) ..... List $0.75

PHONE PLUGS

Fits all standard phone jacks. Available in plastic or metal handles and in 2 or 3 conductor types. Metal handle type has inner insulation sleeve. Nos. 1901 and 1903 require solder connections.

Cat. No.	Conductor	Handle	Length	Barrel Diameter	List
1901	2	Plastic	2 ¾"	½"	$0.80
1902	2	Metal	2 ¾"	½"	1.05
1903	2	Metal	2 ⅜"	½"	1.00
1907	3	Plastic	2 ¾"	½"	1.50
1908	3	Metal	2 ¾"	½"	1.50

SUB-MINIATURE PHONE PLUG — 2 CONDUCTOR

Mates with jacks #1920 and #1922. Insulated type. Length 1 13/16", handle dia., ¼".
Cat. No. 1905 — (Standard Pack: 25) ..... List $0.85

TELEPHONE TYPE JACKS — SUB-MINIATURE

Similar to jacks above but only ⅝" long with ⅜" shank and extending 7/16" behind panel. Requires a ⅜" mounting hole. Takes plug #1905.
Cat. No. 1920 — Open Circuit, 2-Conductor ..... List $0.60
Cat. No. 1922 — Single Closed Circuit, 2-Conductor ..... List 0.60
(Standard Pack: 10)

MINIATURE PLUGS and JACKS — 2 CONDUCTOR

Ideal for use with lapel microphones, hearing aids, etc. #790 and #791 housings cement together. #792 and #793 housings are assembled with screws.

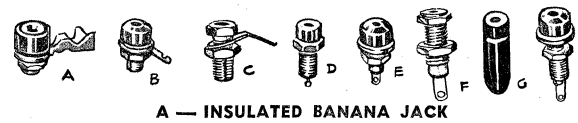
Cat. No.	Description	List
790	Plug (Type PJ291)	$0.80
791	Jack (Type JJ048)	1.10
792	Plug (Type PJ292)	0.80
793	Jack (Type JJ055)	1.35

Standard Pack: 20 per Display Card

BULK, UNASSEMBLED AT DLR. and MFG. NET PRICE

Cat. No.	Description	100 to 999	1M and UP
7670	2-Conductor Plug (Type PJ291)	*$303.05	*$240.35
7671	2-Conductor Jack (Type JJ048)	* 455.30	* 361.10
7672	2-Conductor Plug (PJ292)	* 334.10	* 265.00
7673	2-Conductor Jack (JJ055)	* 674.25	* 534.75

WALSCO BANANA and PHONE TIP JACKS



A — INSULATED BANANA JACK

Nickel plated brass. Takes any standard banana plug. Requires 5/16" mounting hole.
Cat. No. 1832-01 — Black (Standard Pack: 25) ..... List $0.22
Cat. No. 1832-02 — Red (Standard Pack: 25) ..... List 0.22

B — INSULATED BANANA JACK — Heavy Duty Type

Same as #1832 but designed for heavy duty use. Takes 5/16" mounting hole.
Cat. No. 1833-01 — Black (Standard Pack: 25) ..... List $0.25
Cat. No. 1833 02 — Red (Standard Pack: 25) ..... List 0.25

C — BANANA JACK — NON-INSULATED

Made of hex brass, nickel plated. Takes ¼" mounting hole. Has molded plastic head.
Cat. No. 1835 — (Standard Pack: 25) ..... List $0.17

D — INSULATED PHONE TIP JACK

Heavy duty type with molded Nylon head. Beryllium spring contact. Takes all phone tips. The finest jack made.
Cat. No. 1840-01 — Black (Standard Pack: 25) ..... List $0.50
Cat. No. 1840-02 — Red (Standard Pack: 25) ..... List 0.50
Cat. No. 1840-03 — White (Standard Pack: 25) ..... List 0.50

E — INSULATED PHONE TIP JACK

Brass, nickel plated body and molded plastic head. Takes 5/16" mounting hole.
Cat. No. 1841-01 — Black (Standard Pack: 25) ..... List $0.22
Cat. No. 1841-02 — Red (Standard Pack: 25) ..... List 0.22

F — PHONE TIP JACK — NON-INSULATED

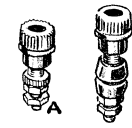
Nickel plated brass body with phosphor bronze spring contact. Requires ¼" hole.
Cat. No. 1842 — (Standard Pack: 25) ..... List $0.17

G — PHONE TIP LINE JACK

For extension or patch cords. Molded Nylon body, beryllium copper contacts. Fully insulated.
Cat. No. 1845-01 — Black (Standard Pack: 25) ..... List $0.65
Cat. No. 1845-02 — Red (Standard Pack: 25) ..... List 0.65

H — INSULATED BANANA PLUG and PHONE JACK COMBINATION

Takes all phone tip jacks or banana plugs. Brass body, molded head.
Cat. No. 1849-01 — Black (Standard Pack: 25) ..... List $0.27
Cat. No. 1849-02 — Red (Standard Pack: 25) ..... List 0.27



5-WAY BINDING POST

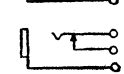
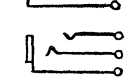
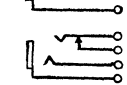
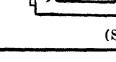
Takes a phone tip, banana plug, alligator clip and wire. Free turning, non-removable head.
Cat. No. 1850-01 — Black ..... List $0.45
Cat. No. 1850-02 — Red ..... List 0.45
(Standard Pack: 25)

INSULATED 5-WAY BINDING POST

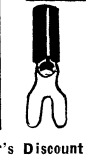
Same as above but has special molded washers to insulate from chassis. Requires 5/16" hole.
Cat. No. 1851-01 — Black (Standard Pack: 25) ..... List $0.55
Cat. No. 1851-02 — Red (Standard Pack: 25) ..... List 0.55

TELEPHONE TYPE JACKS

For chassis or panel mounting. Requires a ⅜" mounting hole. Overall length is 1 3/32" with a ⅜" shank. Jack extends 1" behind panel. Has anti-corrosion, nickel silver spring contacts and nickel plated brass body. Mates with Phone Plugs No. 1901 and No. 1907.

Cat. No.	Schematic	Type	List
1910		Open Circuit 2-conductor	$0.50
1911		Single Closed Circuit 2-conductor	0.60
1915		Open Circuit 3-conductor	0.65
1916		Single Closed Circuit 3-conductor	0.75

(Standard Pack: 10)



INSULATED SPADE LUGS

Tinned steel lug with banana jack built into the plastic handle. May be wired as desired.
Cat. No. 1858-01 — Black (Standard Pack: 25) ..... List $0.18
Cat. No. 1858-02 — Red (Standard Pack: 25) ..... List 0.18

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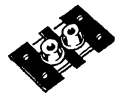
PHONO JACKS

Standard Phono Jacks for use with record players recorders, etc. See complete listing in bulk hardware section — Part Nos. 7664, 7665, 7667. Page U-108.



DOUBLE and TRIPLE PHONO JACKS

For use on amplifiers, recorders, receivers, etc. These jacks mate with Phono Plug No. 7665.

Cat. No. 1990 — Double (Standard Pack: 25) . . **List $0.21**
Cat. No. 1991 — Triple (Standard Pack: 25) . . **List 0.25**

EXTENSION JACK for PHONO PLUG

A metal shell with bakelite insert for solder connection. Provides positive grip contact and excellent insulation. Mates with Phono Plug No. 7665.

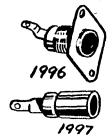
Cat. No. 1992 — (Standard Pack: 25) . . . . . **List $0.32**

AUTO ANTENNA CONNECTOR PLUG

Motorola type plug. For most auto radios. Mates with Antenna Connector Jacks Nos. 1996 and 1997.

Cat. No. 1995 — (Standard Pack: 25) . . . . . **List $0.19**

ANTENNA CONNECTOR JACKS



For antenna plug No. 1995 above. With flange, mount with screws or rivets. Without mounting flange, use with solder

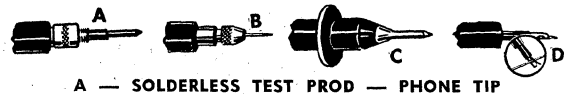
Cat. No. 1996 — With Flange . . . . . **List $0.25**
Cat. No. 1997 — Without Flange . . . . . **List 0.15**
(Standard Pack: 25)

WALSCO FUSE RETAINER

For use with auto radio fuses. 2½" long, ⅜" diameter accepts ¼" fuses. Complete with insulating sleeve, spring, etc.

Cat. No. 1999 — (Standard Pack: 25) . . . . . **List $0.24**

WALSCO TEST PRODS



A — SOLDERLESS TEST PROD — PHONE TIP

Brass tip, nickel plated. Plastic handle.

Cat. No. 1950-01 — Black, Overall Length 5¼" . . . . . **List $0.50**
Cat. No. 1950-02 — Red, Overall Length 5¼" . . . . . **List 0.50**
Cat. No. 1951-01 — Black, Overall Length 6¾" . . . . . **List 0.55**
Cat. No. 1951-02 — Red, Overall Length 6¾" . . . . . **List 0.55**
(Standard Pack: 25)

B — PHONO-NEEDLE TEST PROD

With special chuck in tip to insert Standard Phono Needles. Tip body is brass, nickel plated. Plastic handle.

Cat. No. 1952-01 — Black, Overall Length 5¼" . . . . . **List $0.50**
Cat. No. 1952-02 — Red, Overall Length 5¼" . . . . . **List 0.50**
Cat. No. 1953-01 — Black, Overall Length 6¾" . . . . . **List 0.55**
Cat. No. 1953-02 — Red, Overall Length 6¾" . . . . . **List 0.55**
(Standard Pack: 25)

C — HIGH VOLTAGE TEST PROD

Extra heavy duty, removable tip. Handle I.D. large enough for Coax cable.

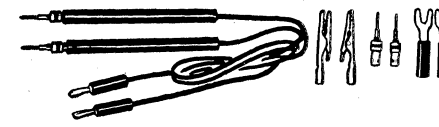
Cat. No. 1955-01 — Black, Overall Length 5¼" . . . . . **List $0.85**
Cat. No. 1955-02 — Red, Overall Length 5¼" . . . . . **List 0.85**
(Standard Pack: 10)

D — KLIPZON TEST PROD

Includes the famous Klipzon wire holding feature. Solderless connection to tip.

Cat. No. 1957-01 — Black (Standard Pack: 10) . . . . . **List $0.85**
Cat. No. 1957-02 — Red (Standard Pack: 10) . . . . . **List 0.85**

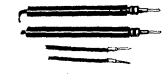
WALSCO TEST LEADS



UNIVERSAL TEST LEAD KIT

Kit includes No. 1950 Solderless Prods, Standard Banana Plug, Phone Tips No. 1821, Spade Lugs No. 1858, and Alligator Clips No. 1860. Heavy duty leads are 50 inches long.

Cat. No. 1974 — (Standard Pack: 6) . . . . . **Per Kit List $3.00**



STANDARD TEST LEADS

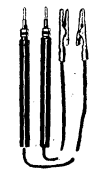
Leads are 50" long with Walsco Solderless Prods No. 1950 and standard phone tips.

Cat. No. 1970 — (Standard Pack: 6) . . **List $1.30 pr.**

NEEDLE PROD TEST LEADS

Heavy duty. Has extra long prod handles, No. 1953 and Phone Tips No. 1819. Leads are 50" long. Needle points in prods.

Cat. No. 1971 — (Standard Pack: 6) . . . . . **List $2.10 pr.**



ALLIGATOR CLIP TEST LEADS

Same leads as No. 1970 with solderless type prods and alligator clips, 50" long.

Cat. No. 1972 — (Standard Pack: 6) . . . . . **List $1.40 pr.**

METER TIP TEST LEADS

Same prods as Item No. 1970 with Walsco Meter Tips No. 1817. 50" long.

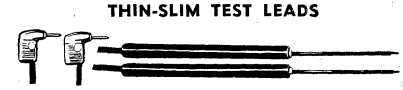
Cat. No. 1973 — (Standard Pack: 6) . . . . . **List $2.20 pr.**

KLIPZON TEST LEADS

With the famous Klipzon wire holding feature on prods and tips.

Cat. No. 1976 — ((Standard Pack: 6) . . . . . **List $3.25 pr.**

THIN-SLIM TEST LEADS



Extra long, thin prods to reach difficult places. Other end is Meter Plug No. 1817.

Cat. No. 1979 — (Standard Pack: 6) . . . . . **List $2.10 pr.**

HIGH TENSION TEST LEADS

For voltage up to 2200 volts. Has probe No. 2957 and tip No. 1819.

Cat. No. 1980 — (Standard Pack: 6) . . **List $3.50 pr.**

SIGNAL and JEWEL LIGHTS

SIGNAL LIGHT ASSEMBLY

1" JEWEL — Available in red or green color. Retainer is chrome-plated brass, jewel is facetted. Requires 1" mounting hole.

Cat. No.	Jewel Color	Description	List
2011-02	Red	Miniature Screw Base	$2.05
2011-04	Green	Miniature Screw Base	2.05
2012-02	Red	Miniature Bayonet Base	2.15
2012-04	Green	Miniature Bayonet Base	2.15
2013-02	Red	110 V Candelabra Base	2.35
2013-04	Green	110 V Candelabra Base	2.35

Standard Pack: 10

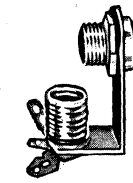
SIGNAL LIGHT JEWELS

In red or green. Facetted. See mounting data below.

Cat. No.	Color	Dia.	Mtg. Hole Size	List Each
2020-02	Red	½"	3/10"	$0.40
2020-04	Green	½"	3/10"	0.40
2021-02	Red	¾"	13/16"	0.75
2021-04	Green	¾"	13/16"	0.75
2022-02	Red	1"	1"	1.75
2022-04	Green	1"	1"	1.75

Standard Pack: 10

SIGNAL LIGHT ASSEMBLY — ½" & ¾"



Retainer is nickel plated brass with red or green jewels. ½" jewel requires 5/16" mounting hole, ¾" requires 11/16" mounting hole.

Cat. No.	Jewel Color	Description	List
2005-02	Red	Miniature Screw Base — ½" Diameter	$0.55
2005-04	Green	Miniature Screw Base — ½" Diameter	0.55
2006-02	Red	Miniature Bayonet Base — ½" Diameter	0.55
2006-04	Green	Miniature Bayonet Base — ½" Diameter	0.55
2007-02	Red	Miniature Candelabra Base — ½" Diameter	0.70
2007-04	Green	Miniature Candelabra Base — ½" Diameter	0.70
2008-02	Red	Miniature Screw Base — ¾" Diameter	1.10
2008-04	Green	Miniature Screw Base — ¾" Diameter	1.10
2009-02	Red	Miniature Bayonet Base — ¾" Diameter	1.25
2009-04	Green	Miniature Bayonet Base — ¾" Diameter	1.25
2010-02	Red	110 V Candelabra Base — ¾" Diameter	1.30
2010-04	Green	110 V Candelabra Base — ¾" Diameter	1.30

Standard Pack: 10

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PILOT LIGHT SOCKETS — Clip-on

Designed to snap on to chassis or panel or the variable condenser as used in radios, tuners and "ham" gear.

Cat. No.	Base Type	Bracket	List Each	List per 100
2030	Min. Screw	Up	$0.17	$15.25
2031	Min. Screw	Down	0.17	15.25
2032	Min. Bayonet	Up	0.20	17.75
2033	Min. Bayonet	Down	0.20	17.75
2034	110V Candelabra	Up	0.20	17.75
2035	110V Candelabra	Down	0.20	17.75

Standard Pack: 25

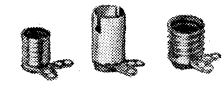
PILOT LIGHT SOCKETS — Bracket Type

Cadmium-plated steel bracket with ready-tinned brass solder lugs for rapid soldering. Sockets available in three styles as listed below.

Cat. No.	Base Type	Bracket	List Each	List per 100
2036	Min. Screw	Up	$0.17	$15.25
2037	Min. Screw	Down	0.17	15.25
2038	Min. Bayonet	Up	0.19	16.25
2039	Min. Bayonet	Down	0.19	16.25
2040	110V Candelabra	Up	0.20	17.25
2041	110V Candelabra	Down	0.20	17.25

Standard Pack: 25

UNMOUNTED PILOT LIGHT SOCKETS



2032 2043 2044

Cat. No.	Base	List Each	List per 100
2042	Miniature Screw	$0.15	$10.50
2043	Miniature Bayonet	0.15	10.50
2044	110V Candelabra	0.15	11.25

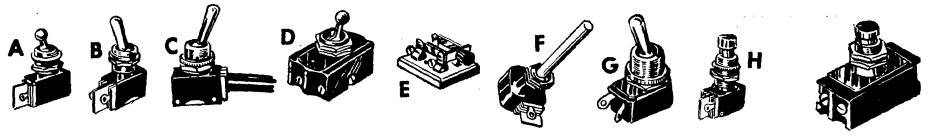
Standard Pack: 25

DIAL LIGHT INSTALLER and REMOVER

Makes installing and removing of all small, miniature and candelabra pilot bulbs easy. Especially handy in hard-to-reach places.

Cat. No. 2050 — Standard Pack: 10 ..... **List $0.70**

WALSCO SWITCHES



A — BALL HANDLE TOGGLE SWITCHES

Rated at 3A at 125V or 1A at 250 V. Have silver-plated contacts, tinned terminals, nickel-plated handles. U.L. approved. Made by A. H. & H.

Cat. No.	Description	Shank Length	List
2300	S.P.S.T.	½″	$1.00
2301	S.P.S.T.	1″	1.25
2302	S.P.D.T.	½″	1.30
2303	S.P.D.T.	1″	1.50
2304	D.P.S.T.	½″	1.80
2305	D.P.S.T.	1″	2.05
2306	D.P.D.T.	½″	2.10
2307	D.P.D.T.	1″	2.30

Standard Pack: 12

B — BAT HANDLE TOGGLE SWITCHES

Similar to Ball Handle Switches above but with Bat Handle design. Rated at 3A at 125V. U.L. approved. Made by A. H. & H.

Cat. No.	Description	Shank Length	List
2330	S.P.S.T.	½″	$1.00
2331	S.P.D.T.	½″	1.30
2332	D.P.S.T.	½″	1.85
2333	D.P.D.T.	½″	2.10

Standard Pack: 12

BAKELITE BAT HANDLE TOGGLE SWITCHES

Has molded bakelite case. Rated at 3A at 250V or at 6A at 125V. Requires a ⅜″ mounting hole. Silver-plated contacts. Similar to B.

Cat. No.	Description	Shank Length	List
2361	S.P.S.T.	⅜″	$1.15
2362	S.P.D.T.	⅜″	1.35
2363	D.P.S.T.	15/32″	1.95
2364	D.P.D.T.	15/32″	2.65

Standard Park: 12

C — BAT HANDLE TOGGLE SWITCH with Wire Leads

Rated at 6A at 125V. Comes with 2 built in 6″ insulated wire leads. U.L. approved. Made by A. H. & H.

Cat. No.	Description	Shank Length	List
2335	S.P.S.T.	½″	$1.45

Standard Pack: 12

D — EXTRA HEAVY DUTY POWER SWITCHES

3 Position. These switches have a safety-off position in center. Rated at 5A at 250V or 10A at 125V. Ball type handle, molded bakelite case. Overall size 2″ by 1″ by 1⅝″.

Cat. No. 2352 — D.P.D.T. (Standard Pack: 3) ..... **List $ 8.25**
Cat. No. 2353 — 3 pole, D.T. (Standard Pack: 3) ..... **List 12.55**
Cat. No. 2354 — 4 pole, D.T. (Standard Pack: 3) ..... **List 17.25**

HEAVY DUTY, BAT HANDLE TOGGLE SWITCH

Rated at 6A at 250V or 12A at 125V. Toggle type bat handle. Molded heavy duty plastic body. Similar to D.

Cat. No. 2350 — D.P.S.T. (Standard Pack: 12) ..... **List $2.25**

ON-OFF PLATE FOR TOGGLE SWITCHES

This nickel-plated marker can be used with any of the toggle switches listed.

Cat. No. 2329 — Standard Pack: 24 ..... **List $0.06**

BALL HANDLE TOGGLE SWITCH with Wire Leads

Rated at 6A at 125V. Comes with 6″ wire leads installed.

Cat. No.	Description	Shank Length	List
2336	S.P.S.T.	⅜″	$1.45

Standard Pack: 12

BAT HANDLE SWITCH — NEUTRAL CENTER

Off when handle is in neutral. Operates 2 separate circuits by advancing either direction. Rated at 10A at 250V or 15A at 125V. Molded plastic body, nickel-plated finish. Similar to G.

Cat. No.	Description	Shank Length	List
2308	S.P.D.T.	15/32″	$1.65
2309	D.P.D.T.	15/32″	2.25

Standard Park: 12

E — MIDGET KNIFE SWITCHES

Standard knife switches with porcelain base. Available in two styles as listed below.

Cat. No.	Description	List	Cat. No.	Description	List
2390	S.P.S.T.	$0.50	2392	D.P.S.T.	$0.80
2391	S.P.D.T.	0.65	2393	D.P.D.T.	1.15

Standard Pack: 12

F — ROTARY SWITCHES

Has silver-plated contacts. Rated at 3A at 125V. Housing is stamped steel, plated. U.L. approved. Made by A. H. & H.

Cat. No.	Description	Shank Length	Shaft Length	List
2320	S.P.S.T.	⅜″		$1.30
2321	S.P.S.T.	1″	1½″	1.50
2322	S.P.D.T.	⅜″		1.55
2323	S.P.D.T.	1″	1½″	1.90
2324	D.P.S.T.	1″	1½″	2.30
2325	D.P.D.T.	⅜″		2.35
2326	D.P.D.T.	1″	1½″	2.50

Standard Pack: 12

G — BAKELITE MOMENTARY SWITCH — Bat Handle

Normally off until handle is operated. Has spring return action. Rated at 6A at 125V or 3A at 250V.

Cat. No. 2365-01 — S.P.S.T. (Standard Pack: 12) ..... **List $1.95**
Cat. No. 2365-02 — S.P.D.T. (Standard Pack: 12) ..... **List 2.50**
Cat. No. 2366 — D.P.D.T. (Standard Pack: 12) ..... **List 2.80**

H — PUSH-ON, PUSH-OFF BUTTON SWITCH

Circuit opens and closes with each button action. Rated at 6A at 125V. U.L. Approved. Made by A. H. & H.

Cat. No. 2338 — S.P.S.T. (Standard Pack: 12) ..... **List $2.20**

PUSH BUTTON DOOR SWITCH

For use in circuits operated by opening or closing a door. Heavy duty type. Rated at 3A at 125V or at 1A at 250 V.

Cat. No. 2372 — Normally on — Shank 35/32″ (Standard Pack: 12) **List $0.90**
Cat. No. 2374 — Normally off — Shank 35/32″ (Standard Pack: 12) **List 0.90**

J — PUSH BUTTON, HEAVY DUTY POWER SWITCHES

For use where heavy current is necessary. Rate at 12A at 125V. Ideal for transmitter or high frequency use.

Cat. No. 2351 — Push Button (Standard Pack: 12) ..... **List $3.00**

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WALSCO SWITCHES (cont'd)

ROTARY CANOPY SWITCHES

Bakelite body, ¾" shank. Rated 6A at 125V, 3A at 250V. With 6" leads.

Cat. No. 2394 — S.P.S.T. (Standard Pack: 12) . . **List $0.50**

PUSH-ON, PUSH-OFF SWITCH

Similar to above but with push-button. Rated 3A at 125V, 1A at 250V. ⅜" shank.

Cat. No. 2395 — S.P. (Standard Pack: 12) . . . . . **List $0.60**

SLIDE SWITCH (STACKPOLE)

For radio, test equipment, phone, and experimental. Rated 5A at 125V. U.L. approved. Standard Pack: 12.

Cat. No.	Type	Mt. Hole Spacing	Width	Length	List
2367	S.P.S.T.	1 1/8"	17/32"	1 3/8"	$0.25
2368	S.P.D.T.	1 1/8"	17/32"	1 3/8"	0.25
2639	D.P.S.T.	1 1/8"	17/32"	1 3/8"	0.35
2370	D.P.D.T.	1 1/8"	17/32"	1 3/8"	0.35

2-CIRCUIT MOMENTARY CONTACT SWITCH

Push button type. One circuit normally on, the other normally off. Reverses when button is pushed and held. Rated 1A at 125V. ⅝" shank. U.L. approved.

Cat. No. 2340 — (Standard Pack: 12) . . . . . **List $1.75**

PLASTIC PUSH BUTTON

Made of molded plastic. Slips on #2340.

Cat. No. 2343-01 — Black (Standard Pack: 12) . . . . . **List $0.40**
Cat. No. 2343-02 — Red (Standard Pack: 12) . . . . . **List 0.40**

WALSCO LOCK-SWITCH

Key is removable in closed position. Rated 3A at 250V or 6A at 125V. S.P.S.T. type. Sleeve diameter is 15/32". Overall size: 1¾" x 1½". Fits panels to ⅜".

Cat. No. 2377 — With One Key (Std. Pack: 12) . **List $3.45**
Cat. No. 2378 — Extra Key . . . . . **List 0.35**

PACKAGED and BULK HARDWARE

"50 LINE" ITEMS MARKED "F" LIST PRICE $0.50 per pkg. • "99 LINE" ITEMS MARKED "N" LIST PRICE $1.99 per pkg. • "BULK PACK" IN QUANTITIES AS SHOWN DEALER AND INDUSTRIAL NET PRICE PER 1000

The "50" LINE

Small quantities of popular hardware items packed in handy re-usable plastic boxes. **List $0.50 per package.**

The "99" LINE

Same items as "50" line but in larger quantities for larger dealers and industrial users. **List $1.99 per pkg.**

BULK PACK

Especially packaged for Industrial and Commercial users. Prices shown are Dealer and Industrial NET.

NOTE: ALL BULK PRICES CARRY SPECIAL DISTRIBUTOR'S DISCOUNT.

PHONO HARDWARE and RUBBER ITEMS

PHONO MOTOR DRIVES

These friction tires form a positive, non-slipping contact with rim of turntable. Made of highly abrasion and oil-resistant synthetic rubber.

	Used on	— DIMENSIONS — I.D.	O.D.	Thick.	50-line Cat. No.	List 50¢/pkg. Quant.
A	Most 2 & 3 speed record changers (VM, GI, etc.)	⅝"	31/32"	¼"	7014-F	4
B	Gen. Indst. Mod. LX & RX	2	2 3/8"	5/32"	7016-F	2
C	Alliance, Seeburg, G.E., VM 400	1 1/2"	1 3/4"	3/16"	7017-F	3
D	Seeburg, RCA, G.E.	⅞"	1 1/4"	5/16"	7018-F	4
E	Philco, RCA, etc.	⅛"	⅜"	¼"	7019-F	4
F	Detrola	5 3/4"	6	3/16"	7020-F	1
	G.I. Recorder/Changer	1 7/32"	1 15/32"	3/16"	7022-F	3

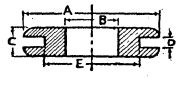
PHONO PICKUP SET SCREWS

Used on	Size	50-line Cat. No.	List 50¢/pkg. Quant.
Various models	Assorted	8550-F	12
Shure and others	2-56 x 3/16"	8552-F	12
Most Astatic & Webster	2-64 x ¾"	8553-F	12
Most RCA, etc.	1-72 x 1"	8555-F	5

PHONO CARTRIDGE MOUNTING SCREWS

	50-line Cat. No.	List 50¢/pkg. Quant.
(not available in "99" line or Bulk)	8560-F	30

VINYL GROMMETS



	— DIMENSIONS — A	B	C	D	E
1	11/32"	⅛"	3/16"	1/16"	¼"
2	7/16"	5/16"	7/32"	1/16"	5/16"
3	5/16"	5/16"	¼"	3/32"	3/8"
4	5/8"	⅜"	¼"	1/16"	1/2"
5	13/16"	½"	9/32"	1/16"	5/8"

	50-line Cat. No.	List 50¢ pkg. Quant.	99-line Cat. No.	List $1.99 pkg. Quant.	Dealer & Indus. Net per 1000 Cat. No.	500 to 9999	10M & Up
1	7030-F	14	7030-N	85	7030	$6.50	$5.20
2	7032-F	12	7032-N	80	7032	8.00	6.30
3	7034-F	12	7034-N	65	7034	8.70	6.90
4	7036-F	10	7036-N	55	7036	9.40	7.50
5	7038-F	8	7038-N	35	7038	21.05	16.70
Asst.	7025-F	12					

RUBBER WASHER and BUMPER ASSORTMENT

Consists of round and square pieces of soft rubber. Ideal padding.

Cat. No. 7083-F — 12 per pkg. . . . . **List $0.50 pkg.**

CABINET FEET

Synthetic rubber. Attach with wood or metal screws.

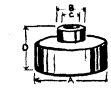
D.	H.	Cat. No.	Approx. Quant. Pkg.	Cat. No.	Approx. Quant. Pkg.	Cat. No.	500 to 9999	10M & Up
⅜"	5/16"	7052-F	8	7052-N	55	7052	$8.60	$6.80
½"	¼"	7054-F	8	7054-N	50	7054	9.80	7.80
⅝"	5/16"	7056-F	8	7056-N	30	7056	14.35	11.40
¾"	⅜"			7058-N	20	7058	18.60	14.75
Asst.		7050-F	8					

TACK TYPE CABINET FEET

⅞"			7071-N	50	7071	15.05	11.95
½"			7072-N	50	7072	15.50	12.30
Asst.		7070-F	8				

50 and 99 Line come with wood screws, Bulk without.

CHASSIS MOUNTS



Resilient, synthetic rubber.

	— DIMENSIONS — A	B	C	D	E	500 to 9999	10M & Up
	¾"	½"	5/16"	⅝"	3/16"		
	7077-F	6	Not in	7077		23.25	18.40
Asst.	7075-F	10-12	99 Line				

DIAL CORD

In small packages. Nylon over fiberglass core. These three sizes will fill 80% of all replacement needs.

Size	Cat. No.	Length
Special Thin	7395-F	10'
Standard Thin	7396-F	10'
Medium	7397-F	10'

See page U56 for standard spools and bulk listing.

METAL WASHERS

For Screw Type	Size	— DIMENSIONS — I.D.	O.D.	Thick	For Screw Type	Size	— DIMENSIONS — I.D.	O.D.	Thick
A	#4	.125"	5/16"	1/32"	D	#10	.203"	7/16"	1/32"
B	#6	.149"	⅜"	1/32"	E	¼"	.265"	½"	1/32"
C	#8	.175"	⅜"	1/32"					

A	7874-F	80				7874	1.35	1.10
B	7876-F	80	7876-N	500		7876	1.50	1.20
C	7878-F	80	7878-N	500		7878	1.50	1.20
D	7880-F	70	7880-N	300		7880	1.75	1.40
E	7882-F	50	7882-N	300		7882	1.85	1.50
Asst.	7870-F	80						

LOCK WASHERS, STEEL, CAD. PLATE

	FOR SCREW Type	Size	O.D.	FOR SCREW Type	Size	O.D.
	A	#2	.180"	F	¼"	.470"
	B	#4	.260"	G	5/16"	.430"
	C	#6	.280"	H	3/8"	.500"
	D	#8	.330"	J	7/16"	.690"
	E	#10	.375"			

A	7922-F	35			7922	3.75	2.95
B	7924-F	50			7924	2.40	1.90
C	7926-F	50	7926-N	300	7926	2.30	1.85
D	7928-F	50	7928-N	275	7928	2.40	1.90
E	7930-F	45	7930-N	230	7930	2.40	1.90
F			7932-N	180	7932	3.05	2.40
G	7933-F	20			7933	4.70	3.70
H	7934-F	20			7934	5.65	4.50
J			7935-N	125	7935	5.30	4.20
K	7920-F	45					

BROWN FELT KNOB WASHERS

Hole is ¼" to fit all standard control and condenser shafts. O.D. approx. ¾", 1/32" thick.

7760-F	40	7760-N	250	7760	3.20	2.55

For PLATING other than specified—Add 10% with $5.00 per item minimum charge.

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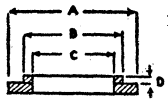
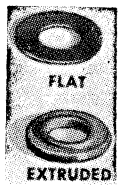
WALSCO INSULATING WASHERS



Flat and extruded. Precision made from vulcanized phenolic fibre.



Fits Screw Size	A	B	C	D
#6	5/16"	3/16"	.136"	1/32"
	1/8"	..	.136"	..
#8	3/8"	1/4"	.165"	1/32"
	3/8"	..	.165"	..
#10	3/8"	.308"	.195"	1/32"
	3/8"	..	.195"	..
1/4"	1/2"	11/32"	.255"	1/32"
	1/2"	..	.255"	..
3/8"	5/8"	1/2"	.380"	1/32"
	5/8"	..	.380"	..

Assorted sizes of Flat and Extruded

	Cat. No.	Approx. Quant. Pkg.	Cat. No.	Approx. Quant. Pkg.	Cat. No.	1000 to 9999	10M & Up
Extruded			7856-N	125	7856	$5.30	$4.20
Flat			7836-N	300	7836	1.10	.85
Fl. & Ex.	7824-F	30					
Extruded			7858-N	125	7858	5.45	4.30
Flat			7838-N	300	7838	1.45	1.15
Fl. & Ex.	7825-F	30					
Extruded			7860-N	100	7860	5.65	4.45
Flat			7840-N	300	7840	1.75	1.40
Fl. & Ex.	7826-F	30					
Extruded			7862-N	100	7862	6.40	5.10
Flat			7842-N	225	7842	2.25	1.80
Fl. & Ex.	7827-F	24					
Extruded			7864-N	85	7864	7.55	6.00
Flat			7844-N	175	7844	2.70	2.15
Fl. & Ex.	7828-F	20					
	7820-F	35					

RETAINING RING and "C" WASHERS

Type	Fits Shaft	A	B	C	Thick
1	3/16"	.174"	1/8"	1/16"	1/32"
2	1/4"	.260"	3/16"	1/16"	1/32"

Type	Cat. No.	Approx. Quant. Pkg.	Cat. No.	Approx. Quant. Pkg.	Cat. No.	1000 to 9999	10M & Up
1	7772-F	15			7772	$5.40	$4.30
2	7774-F	15	Not in		7774	5.95	4.70
Asst.	7770-F	25	99 Line				

SPRING FRICTION WASHERS

Assortment of phosphor bronze and steel.

Type	I.D.	O.D.	Thick
A	1/8"	1/4"	.008"
B	3/16"	3/8"	.008"
C	1/4"	1/2"	.010"

A			7751	$10.90	$8.65
B		Not in	7752	7.25	5.75
C		99 Line	7754	7.00	5.50
Asst.	7750-F	12			

METAL and INSULATING SPACERS

In "50" Line Only — List $0.50 per pkg.
Assorted Metal Spacers — Cat. No. 7620-F — Quant. per pkg. — 12
Assorted Insulating Spacers — Cat. No. 7630-F — Quant. per pkg. — 12

FUSE INSULATORS

Fits all standard 1/4" dia. fuses. Type A — 1 1/8" long. Type B — 5/8" long.

A			7641	$3.50	$2.80
B		Not in	7642	2.60	2.10
Asst.	7640-F	20	99 Line		

FUSE CLIPS

Spring brass, nickel plated. Type A — for 1/4" fuses. Type B — for 13/32" fuses.

				250 to 4999	5M & Up
A			7601	$10.10	$8.00
B		Not in	7602	29.50	23.40
Asst.	7600-F	10	99 Line		

STEEL SET SCREWS

Hardened steel, cadmium plated.

Size No.					500 to 9999	10M & Up
6-32x1/8"						
6-32x3/16"	8623-F	12			8622	$10.45	$8.30
6-32x1/4"					8623	10.90	8.65
8-32x1/8"					8624	13.20	10.50
8-32x3/16"					8632	12.10	9.60
8-32x1/4"	8633-F	12			8633	12.20	9.65
8-32x1/4"	8634-F	12			8634	11.60	9.20
10-32x3/16"					8643	11.10	8.80
10-32x1/4"	8644-F	12			8644	11.25	8.90
Asst.	8605-F	12	8605-N	55			

ORNAMENTAL HEAD SCREWS

Bronze finish with rosette heads.

Size No.					1000 to 9999	10M & Up
6-32x3/4"	8252-F	20	8252-N	125	8252	$5.50	$4.35
6-32x1"	8253-F	20	8252-N	110	8253	5.95	4.70
8-32x1 1/4"	8255-F	12	8255-N	60	8255	12.10	9.60
Asst.	8250-F	20					

SMALL ESCUTCHEON and WOOD SCREW ASSORTMENT

In "50" Line Only — List $0.50 per pkg.
Cat. No. 8500-F — Quant. per pkg. — 25

SMALL MACHINE SCREW and NUT ASSORTMENT

No. 2 and 4 screws available in "50" Line Only — List $0.50 per pkg.
Cat. No. 8002-F — Quant. per pkg. — 35

STANDARD WOOD SCREW ASSORTMENT

Round and flat heads

Type	Size	Head	Finish
A	#2x1/4"	Oval Hd.	Statuary Bronze
B	#2x3/8"	Oval Hd.	Statuary Bronze
C	#2x1/2"	Round Hd.	Statuary Bronze
D	#3x3/4"	Round Hd.	Blued
E	#6x1/2"	Round Hd.	Blued
F	#8x5/8"	Round Hd.	Blued

					1000 to 9999	10M & Up
A					8522	$5.80	$4.60
B					8523	5.90	4.65
C		Not in		Not in	8524	6.15	4.90
D		50 Line		99 Line	8530	4.85	3.85
E					8534	6.10	4.85
F					8545	7.10	5.65
Asst.	8502-F	25					

STEEL MACHINE SCREWS

Top quality, round head, cadmium plated.

Type	Size No.	Type	Size No.	Type	Size No.	Type	Size No.
1	2-56x3/16"	7	4-36x3/8"	13	6-32x3/8"	19	8-32x1/4"
2	2-56x5/16"	8	4-40x1/4"	14	6-32x1/2"	20	8-32x5/8"
3	2-56x5/8"	9	4-40x3/8"	15	6-32x3/4"	21	8-32x1/2"
4	2-56x1/2"	10	4-40x1/2"	16	6-32x1"	22	8-32x3/4"
5	4-36x1/4"	11	4-40x1"	17	6-32x2"	23	8-32x1"
6	4-36x1/2"	12	6-32x1/4"	18	6-32x2 1/2"	24	10-32x1/2"
						25	10-32x3/4"
						26	10-32x1"

Type	Cat. No.	Approx. Quant. Pkg.	Cat. No.	Approx. Quant. Pkg.	Cat. No.	1000 to 9999	10M & Up
1			8021-N	200	8021	$2.80	$2.20
2					8022	2.90	2.30
3	8023-F	40	8023-N	200	8023	2.75	2.20
4	8024-F	40	8024-N	200	8024	2.80	2.20
5	8032-F	40			8032	2.80	2.25
6	8034-F	35			8034	3.05	2.45
7	8036-F	30			8036	3.65	2.90
8	8042-F	40	8042-N	225	8042	2.80	2.25
9			8043-N	200	8043	2.95	2.35
10	8044-F	35	8044-N	200	8044	3.05	2.45
11					8048	4.10	3.25
12	8062-F	40	8062-N	225	8062	3.15	2.50
13	8063-F	30	8063-N	200	8063	3.30	2.60
14	8064-F	30	8064-N	175	8064	3.55	2.80
15	8066-F	30	8066-N	175	8066	4.15	3.30
16			8068-N	135	8068	4.85	3.85
17	8078-F	15			8078	9.45	7.50
18					8079	13.20	10.45
19	8082-F	30	8082-N	175	8082	4.05	3.25
20	8083-F	25	8083-N	150	8083	4.35	3.45
21	8084-F	25	8084-N	150	8084	4.60	3.65
22	8086-F	20	8086-N	125	8086	5.40	4.30
23			8088-N	100	8088	6.25	4.95
24	8104-F	20	8104-N	125	8104	5.70	4.50
25	8106-F	20	8106-N	100	8106	6.60	5.20
26	8108-F	15	8108-N	85	8108	7.30	5.80

ASSORTED STANDARD MACHINE SCREWS — Various sizes, Lengths and styles.

Asst.	8000-F	35	8000-N	200		

SHEET METAL and SELF-TAPPING SCREWS

"TYPE B" — Hardened Steel, Slotted Hex Head, Cadmium Plated.

Type	Size No.	Type	Size No.	Type	Size No.
1	6x1/4"	5	6x1"	10	8x1"
2	6x3/8"	6	8x1/4"	11	10x3/8"
3	6x1/2"	7	8x3/8"	12	10x1/2"
4	6x3/4"	8	8x1/2"	13	10x3/4"
		9	8x3/4"		

1	8362-F	30	8362-N	150	8362	$5.05	$4.00
2	8363-F	25	8363-N	150	8363	5.20	4.15
3	8364-F	25	8364-N	150	8364	5.40	4.30
4	8366-F	20	8366-N	125	8366	5.95	4.70
5	8368-F	20	8368-N	125	8368	6.60	5.25
6	8382-F	20	8382-N	125	8382	5.15	4.10
7	8383-F	20	8383-N	125	8383	5.20	4.15
8	8384-F	20	8384-N	125	8384	6.45	5.10
9	8386-F	15	8386-N	80	8386	7.20	5.70
10	8388-F	15	8388-N	80	8388	8.40	6.65
11	8403-F	15	8403-N	80	8403	7.20	5.70
12	8404-F	15	8404-N	80	8404	7.55	6.00
13	8406-F	12	8406-N	80	8406	8.25	6.55
Asst.	8300-F	25	8300-N	125			

For PLATING other than specified — Add 10% with $5.00 per item minimum charge.

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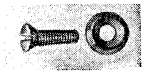
PACKAGED and BULK HARDWARE (cont'd)

"50 LINE" ITEMS MARKED "F" LIST PRICE $0.50 per pkg. • "99 LINE" ITEMS MARKED "N" LIST PRICE $1.99 per pkg. • "BULK PACK" IN QUANTITIES AS SHOWN DEALER AND INDUSTRIAL NET PRICE PER 1000



RACK SCREWS and CUP WASHERS

Nickel-plated.

SCREWS Type	Size	WASHERS Type	Size
A	#6-32x5/8"	E	#6 (7/16" O.D.)
B	#8-32x5/8"	F	#8 (1/2" O.D.)
C	#10-32x3/4"	G	#10 (5/8" O.D.)
D	#12-24x3/4"	H	#12 (5/8" O.D.)

A	8265-F	30	8265-N	160	8265	$4.05	$3.20
B	8269-F	25	8269-N	130	8269	5.55	4.40
C	8273-F	20	8273-N	90	8273	6.65	5.30
D					8278	6.95	5.50
Washers							
E	7806-F	45	7806-N	350	7806	1.60	1.30
F	7808-F	45	7808-N	300	7808	1.90	1.50
G	7810-F	35	7810-N	250	7810	2.25	1.80
H					7812	3.75	3.00
Asst.	8005-F	30					

HEX NUTS — SMALL PATTERN, CAD. PLATED STEEL

Size	Width	Thickness	Size	Width	Thickness
#2-56	3/16"	1/16"	#6-32	1/4"	3/32"
#4-36	1/8"	1/16"	#8-32	5/16"	7/64"
#4-40	1/8"	1/16"	#10-32	5/16"	7/64"

	8802-F	30	8802-N	175	8802	$3.90	$3.10
	8803-F	30			8803	8.00	6.35
	8804-F	30	8804-N	175	8804	3.90	3.10
	8806-F	30	8806-N	180	8806	3.60	2.85
	8808-F	30	8808-N	170	8808	3.90	3.10
	8810-F	25	8810-N	150	8810	4.25	3.40
Asst.	8800-F	30	8800-N	175			

HEX NUTS — STANDARD PATTERN, CAD. PLATED STEEL

Size	Width	Thickness
#6-32	5/16"	7/64"
#8-32	11/32"	1/8"
#10-32	3/8"	1/8"

					8826	$4.35	$3.45
	Not in 50 Line		Not in 99 Line		8828	4.65	3.70
					8830	5.10	4.05

HEX NUTS — BRASS

Size	Width	Thickness	Size	Width	Thickness
#4-40	1/4"	5/64"	#8-32	11/32"	1/8"
#4-36	1/4"	5/64"	#10-32	3/8"	1/8"
#6-32	1/4"	5/64"			

					8844	$5.70	$4.50
					8845	5.70	4.50
	8846-F	20	8846-N	110	8846	5.20	4.15
	8848-F	12	8848-N	65	8848	9.60	7.60
			8850-N	60	8850	10.45	8.30

SPECIAL MOUNTING NUTS

For mounting panel components.

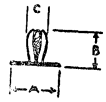
Type	Size	Width	Thick	Description
A	#3/8-32	1/2"	1/8"	Vol. Control Hex Nut—Brass
B	#3/8-32	1/2"	1/8"	Vol. Control Hex Nut—Cad. Plate Steel
C	#15/32-32	9/16"	1/8"	Toggle Switch Hex Nut—Cad. Plate Steel
D	#15/32-32	19/32"	1/8"	Toggle Switch Ring Nut—Nkl. Plate Brass

A					8922	$19.45	$15.40
B	8923-F	12	8923-N	80	8923	8.00	6.35
C	8924-F	8	8924-N	40	8924	17.85	14.15
D	8926-F	8	8926-N	35	8926	23.05	18.25
Asst.	8920-F	12					

SPEED NUTS

Tinnerman-type, self-locking.

#6-32					8963	$6.50	$5.15
#8-32				Not in	8964	6.60	5.25
#10-24				99 Line	8965	7.10	5.65
#1/4-20					8966	9.60	7.66
Asst.	8960-F	30					



SNAP-IN TRIMOUTS

Quickest fastener made.

Type	For Hole	DIMENSIONS A	B	C
1	1/8"	9/32"	13/64"	9/64"
2	5/32"	23/64"	9/32"	3/16"
3	5/32"	3/8"	5/8"	3/16"

1	7373-F	20	7373-N	115	7373	$5.80	$4.60
2	7375-F	18	7375-N	100	7375	7.55	6.00
3	7377-F	15	7377-N	75	7377	9.00	7.15
Asst.	7370-F	18					

RIVET ASSORTMENT

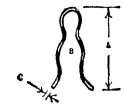
Hollow, Solid, Split, in Brass, Copper, Alum. In sizes from 1/16" to 3/16" diameter and up to 3/4" long.
Cat. No. 7525-F — Quant. per pkg. — 50 ..... List $0.50 per pkg.

TV INTERLOCK CORD RIVET ASSORTMENT

All popular sizes.
Cat. No. 7527-F — Quant. per pkg. — 40 ..... List $0.50 per pkg.

EYELET ASSORTMENT

Brass, in various diameters and lengths.
Cat. No. 7510-F — Quant. per pkg. — 50 ..... List $0.50 per pkg.



SMALL COTTER and HAIR PINS

Nos. 7381 thru 7384 are "hair pins," Nos. 7387 and 7388 are small straight cotter pins.

Type	DIMENSIONS A	B	C	Type	DIMENSIONS A	B	C
1	3/8"	1/16"	.026"	4	5/8"	3/16"	.047"
2	3/8"	3/32"	.026"	5	1/2"	1/16"	st. type
3	1/2"	9/64"	.032"	6	3/4"	1/16"	st. type

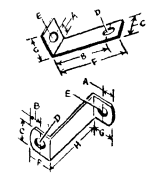
1					7381	$3.15	$2.50
2					7382	3.15	2.50
3			Not in		7383	4.90	3.90
4			99 Line		7384	4.20	3.30
5					7387	1.20	1.00
6					7388	1.45	1.15
Asst.	7380-F	40					

CABLE CLAMPS

For cables from 1/8" to 5/16" diameter. Takes #6, #8 screw.

Type	Cable Dia.
1	1/8" to 3/16"
2	5/16" to 1/4"
3	1/4" to 5/16"

1	7502-F	25	7502-N	125	7502	$5.20	$4.15
2	7503-F	20	7503-N	100	7503	5.75	4.55
3	7505-F	16	7505-N	75	7505	6.65	5.25
Asst.	7500-F	20					

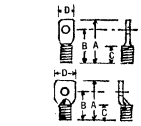


ANGLE BRACKETS

Available in brass and steel and assorted.

	A	B	C	D	E	F	G	H
Type 1 — Brass, cad.-plated	7/32"	1/4"	1/4"	.120"	*	25/64"	11/32"	
Type 2 — Steel, cad.-plated	1/4"	5/8"	5/16"	.144"	.144"	23/32"	3/8"	
Type 3 — Steel, hot-tinned	15/64"	7/32"	5/16"	.144"	.144"	13/32"	1/2"	1/2"
Type 4 — Brass, (one hole tapped 6-32)	15/64"	1/4"	5/16"	6-32"	.144"	27/64"	3/8"	

				500 to 9999	10M & Up
1			7571	$9.45	$7.50
2		Not in	7572	6.00	4.75
3		99 Line	7574	12.95	10.25
4			7575	13.65	10.80
Asst.	7570-F	12			

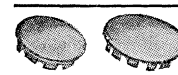


SPADE BOLTS

Type 8572 is straight with 8/32" thread. Type 8573 is offset with 5/32" thread. Both are 3/4" long.

	A	B	C	D	Hole Diam.
Type 1 — Size 6-32 Straight	3/4"	9/16"	9/32"	1/4"	.141
Type 2 — Size 6-32 Offset	3/4"	9/16"	5/16"	15/64"	.141

					1000 to 9999	10M & Up
1			8572-N	75	8572	$7.30	$5.80
2			8573-N	45	8573	16.25	12.90
Asst.	8570-F	15					



SNAP-HOLE PLUGS

Finished in polished nickel-plate.

Fits Hole Diameter					250 to 4999	5M & Up
1/8"					7302	$17.40	$13.80
5/32"					7304	17.40	13.80
1/4"	7306-F	8	7306-N	45	7306	17.40	13.80
5/16"	7308-F	8	7308-N	45	7308	17.40	13.80
1/2"	7310-F	6	7310-N	36	7310	19.25	15.25
5/8"	7312-F	6	7312-N	30	7312	22.35	17.70
3/4"	7314-F	5	7314-N	25	7314	25.00	19.85
7/8"					7315	32.05	25.40
1"	7316-F	4	*7316-N	18	7316	36.85	29.25
1 1/8"					7318	36.85	29.25
1 1/4"					7320	40.90	32.40
Asst.	7306-F	6					

VENTILATING HOLE PLUGS

With spring flange.

Type	Description	Hole Size	Finish
1	Screened, Snap-in	1"	Cadmium Plated
2	Perforated, Snap-in	1"	Polished Chrome
3	Eyelet type—with washers	3/32"	Nickel Plated
4	Eyelet type—with washers	1/4"	Nickel Plated

					100 to 9999	1M & Up
1					7331	$139.20	$110.40
2			Not in		7337	63.80	50.60
3			99 Line		7332	35.55	28.20
4					7333	45.35	35.95
Asst.	7330-F	3					

ESCUTCHEON PIN ASSORTMENT

Brass finish, from 1/4" to 5/8" long.
Cat. No. 7560-F — Quant. per pkg. — 100 ..... List $0.50 per pkg.

For PLATING other than specified — Add 10% with $5.00 per item minimum charge.

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WALSCO QUALITY EARNED ITS REPUTATION

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Walsco ELECTRONICS CORPORATION
SUBSIDIARY OF TelAutograph CORP.

"50 LINE" ITEMS MARKED "F" LIST PRICE $0.50 per pkg. • "99 LINE" ITEMS MARKED "N" LIST PRICE $1.99 per pkg. • "BULK PACK" IN QUANTITIES AS SHOWN DEALER AND INDUSTRIAL NET PRICE PER 1000

PHONO JACKS and PLUGS

Standard RCA-type for single conductor, shielded cable.

Type	Cat. No.	Approx. Quant. Pkg.	Cat. No.	Approx. Quant. Pkg.	Cat. No.	100 to 9999	10M & Up
B-Plugs	7665-F	4			7665	$35.15	$27.90
C-Jacks	7667-F	3	Not in 99 Line		7667	53.65	42.55
A-Jacks					7664	53.65	42.55

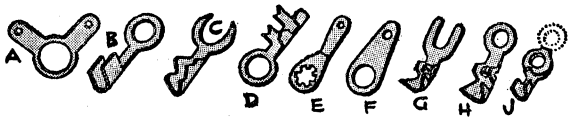
STANDARD PHONE TIPS

Nickel-plated brass. Fits standard jacks.

						250 to 4999	5M & Up
	7645-F	10	7645-N	60	7645	$14.35	$11.40

TERMINAL LUGS

Ready tinned. All popular sizes and types listed. Type "J" is the solderless, fold-over type.



All items with "F" designation are assorted for #6 and #8 screws excepting Types G - H & J.

						1000 to 9999	10M & Up
For Screw Size —							
A	7110-F	20					
A-#6			7116-N	110	7116	$7.85	$6.20
A-#8			7118-N	110	7118	7.75	6.15
B	7120-F	20					
B-#6			7126-N	125	7126	6.20	4.90
B-#8			7128-N	110	7128	7.60	6.05
C	7130-F	25					
C-#6			7136-N	135	7136	5.55	4.40
C-#8			7138-N	135	7138	5.55	4.40
D	7140-F	15					
D-#6			7146-N	85	7146	9.30	7.35
D-#8			7148-N	85	7148	9.30	7.35
D-#10			7149-N	100	7149	9.30	7.35
E	7150-F	15					
E-#6			7156-N	90	7156	8.40	6.65
E-#8			7158-N	90	7158	8.40	6.65
F	7160-F	35					
F-#6			7166-N	225	7166	3.30	2.65
F-#8			7168-N	225	7168	3.55	2.80
F-#10			7169-N	170	7169	5.20	4.15
G-#10	7170-F	25	7179-N	125	7179	4.60	3.65
H-#10	7180-F	15	7189-N	75	7189	10.45	8.30
Asst.	7100-F	30					
						250 to 4999	5M & Up
J-#8 & #10	7190-F	8	7199-N	35	7199	16.70	13.25

SPRING CONNECTOR CLIPS

In plated brass or phosphor bronze.

Type	For Wires	Length	Width	With Hole Size
1	#16 Ga. & Under	11/32"	7/32"	4 & 5
2	#12 to 18 Ga.	13/32"	5/16"	6

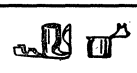
					1000 to 9999	10M & Up
1	7592-F	15		7592	$9.60	$7.60
2	7594-F	12	Not in 99 Line	7594	11.80	9.35
Asst.	7590-F	12				

TERMINAL STRIPS

Solder-coated, riveted to phenolic base.

Cat. No. 7250-F — Quant. per pkg. — 5 assorted.....**List $0.50 per pkg.**

GRID CAPS



Fits all standard metal and glass tubes.

Type	Description	
1	For Glass Tubes	
2	For Metal and "GT" Tubes	
3	For High Voltage TV Rectifier Tube	3/8"
4	For High Voltage TV Rectifier Tube	1/4"
5	Assorted High Voltage TV Clips Only	

					250 to 4999	5M & Up
1				7611	$29.45	$23.35
2				7614	9.60	7.60
3			Not in 99 Line	7616	23.20	18.40
4				7617	34.40	27.25
5	7610-F	5				
Asst.	7609-F	8				

DIAL DRIVE SPRINGS

Rust-proof cadmium plated. All standard sizes.

Type	Overall Length	DIMENSIONS Diam.	Thickness
1	1/2"	1/8"	.016"
2	5/8"	5/32"	.018"
3	9/16"	3/16"	.020"
4	3/4"	1/8"	.016"
5	3/4"	5/32"	.020"
6	1"	13/64"	.022"
7	1-1/4"	13/64"	.022"
8	Assorted Small Springs		
9	Assorted (Large and Small)		

Type	Cat. No.	Approx. Quant. Pkg.	Cat. No.	Approx. Quant. Pkg.	Cat. No.	250 to 4999	5M & Up
1	7404-F	8			7404	$19.50	$15.50
2	7405-F	8			7405	19.50	15.50
3	7407-F	8			7407	18.80	14.90
4	7409-F	6			7409	21.75	17.25
5	7411-F	6			7411	22.05	17.50
6					7413	29.90	23.70
7					7415	29.90	23.70
8	7400-F	8					
9	7401-F	8	7401-N	40			

RADIO KNOB SPRINGS

Made of finest grade tempered steel.

					1000 to 9999	10M & Up
A	7485-F	8		7485	$14.80	$11.75
B	7486-F	8		7486	16.35	12.95
C-TV	7488-F	12		7488	10.00	7.90
D	7490-F	12		7490	10.00	7.90
E	7491-F	20		7491	5.20	4.10
F	7492-F	20	Not in 99 Line	7492	8.50	6.70
G	7493-F	20		7493	5.70	4.50
H	7495-F	15		7495	7.85	6.20
J	7496-F	25		7496	4.05	3.20
K	7497-F	8		7497	21.45	17.00
L	7498-F	8		7498	18.80	14.90
Asst.	7480-F	16				
TV Knob Spring Assortment	7481-F	10				

EXPANSION SPRINGS

For record changers, dial mechanisms, etc. #7420 is small spring assortment. #7441 is large spring assortment.

Cat. No. 7420-F — Quant. per pkg. — 10 .....**List $0.50 per pkg.**

Cat. No. 7421-F — Quant. per pkg. — 10 .....**List 0.50 per pkg.**

COMPRESSION SPRINGS

Handy assortment of hard-to-get types. #7440 is small spring assortment. #7441 is large spring assortment.

Cat. No. 7440-F — Quant. per pkg. — 20 .....**List $0.50 per pkg.**

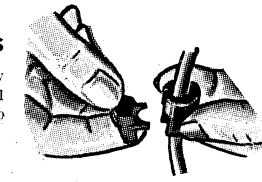
Cat. No. 7441-F — Quant. per pkg. — 15 .....**List 0.50 per pkg.**

WALSCO HARDWARE ASSORTMENT

Contains from 600 to 1000 pieces including nuts, washers, grommets, springs, clamps, eyelets, etc., in handy plastic box. Ideal for "ham" technicians.

Cat. No. 3003 — Complete Assortment.....**Dealer's Net $1.08**

HEYCO STRAIN RELIEF BUSHINGS



For small and medium size power supply cords. Easily snap into chassis or panel hole. Precision made to give non-slip grip and maximum protection.

Cat. No.	Used On Wire Type	Sizes	Hole Size	Descrip.	List	List per 100
1521-R	SP-1, SPT-1 POSJ, POT	0.120" X 0.220"	7/16"	Bag of 4 small, black	$0.50	$7.25
1522-R	SV, Heater Cord SP-2, SPT-2 & HPN-18	1/4" to 3/8" Round & some oval sizes	1/2"	Bag of 3 med., black	0.50	8.50
1523-R	HPN-16 ST-18/2	5/16" to 11/32"	5/8"	Bag of 2 large, black	0.50	14.50

Standard Pack: Display Card of 20 Bags

SELENIUM RECTIFIER MOUNTING KIT

Contains 4, 2½"; 4, 3" and 3, 4½" roundhead machine screws, 12 hex nuts, and 6 brackets.

Cat. No. 1520 — Complete kit .....**List $ 0.99**

Cat. No. 1520-D — Display card of 20 kits .....**List 19.80**

For PLATING other than specified — Add 10% with $5.00 per item minimum charge.

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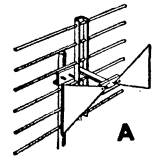
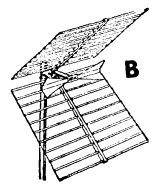




WALSCO REFLECTO FAN (UHF)

Fig. A — The Father of all "Bow-Tie" UHF Antennas, incorporating the exclusive Walsco "hollow tube" insulator. Picks up all UHF channels 14-83.

Cat. No.	Description	List
4400	Single Bay (less mast)	$3.50
4402	Dual Stack (less mast)	7.29
4405-1	Stacking Kit to convert two Model #4400 to one Model #4402	.80
4406	U-Install Kit	12.00

CORNER REFLECTOR (UHF)

Fig. B — The "original" Corner Reflector Antenna for the best in UHF reception. Has 10-14 db gain. Front to back ratio: 15 to 1. Uni-directional. Completely pre-assembled with famous Walsco "Hollow Tube" insulator.

Cat. No.	Description	List
4450-F	(Without Mast)	$ 9.95
4452-F	Dual Stack (no mast)	19.95
4456	U-Install Kit	18.95

WALSCO SCOTTY (UHF-VHF)

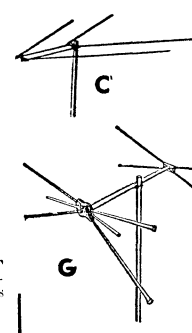
Fig. C — Overall fine performance. Rugged simplicity. Elements reinforced with metal sleeve inserts. Comes completely assembled. 1-year guarantee.

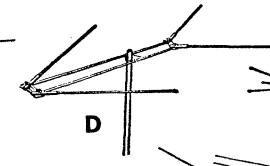
Cat. No.	Description	List
4010	Single Bay (no mast)	$ 3.77
4012	Dual Stack (no mast)	8.54
4010-2	Converts two Single Bays to one Dual Stack	1.25
4016	U-Install Kit (VHF)	9.00
4016-U	U-Install Kit (UHF)	9.50

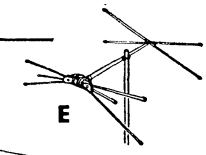
ECONO-VEE ANTENNA

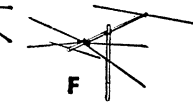
Fig. D — Exceptional versatility by this highly directive design. Elements adjustable to 90° for VHF only, 60° for UHF and VHF. "Twin-tube" elements are double-wall reinforced assuring rigidity.

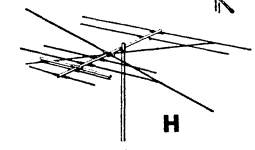
Cat. No.	Description	List
4140	Single Bay	$ 4.65
4142	Dual Stack	10.35
4010-2	2 Bay Stacking Bars	1.25











WALSCO IMPERIAL (VHF)

Fig. E — Unusually high gain with exclusive barrier disc insulation. 2" of air space between terminals. Stainless steel hardware prevents corrosion. 3-year unconditional guarantee.

Cat. No.	Description	List
4060-F	Single Bay	$10.50
4062-F	Dual Stack	22.00
4064-F	Four Bay	49.00
4060-A-1	To Convert two #4060-F to one #4062-F	1.50
4005-5-A	To Convert two #4062-F to one #4064-F	5.60
4066	U-Install Kit	16.95

WALSCO SIGNAL KING (VHF)

Fig. G — The outstanding all-weather, all-location VHF antenna. Design and position of new high frequency director bar gives extremely high gain on all channels. Marine type alloy elements, cadmium plated steel hardware, rugged construction.

Cat. No.	Description	List
4090	Single Bay	$ 9.25
4092	Dual Stack	19.49
4094	4-Bay Stack Complete with Stacking Kit	44.50
4096	U-Install Kit	15.75
4005-7	2-Bay Stacking Kit	1.50
4005-8	4-Bay Stacking Kit	5.60
4096	U-Install Kit	15.75

WALSCO SKY KING

Fig. G — Excellent gain, all-channel VHF reception. Light, strong aluminum alloy construction. Hi-impact styrene insulator. 1-year guarantee.

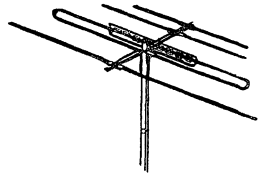
Cat. No.	Description	List
4030-F	Single Bay, 8 elements	$ 4.95
4032-F	Dual Stack, 8 elements	10.80
4040-F	Single Bay, 10 elements	5.50
4042-F	Dual Stack, 10 elements	11.90
4005-7	2-Bay Stacking Kit (for both models)	1.50
4040	U-Install Kit	12.65

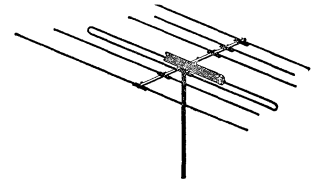
WALSCO OCTOPUS (VHF)

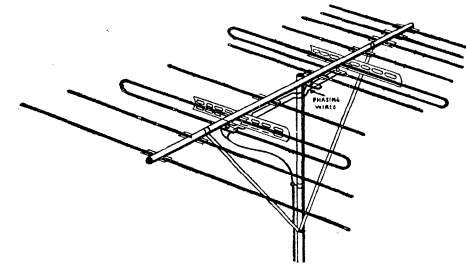
Fig. H — Designed for the most difficult reception areas. Combines features of yagi on channels 7-13 with broad band conical design, tuned director, 2 reflectors for low channels. 1-year guarantee.

Cat. No.	Description	List
4110	Single Bay	$13.75
4112-Q	Dual Stack at Quarter Wave	27.50
4112-H	Dual Stack at Half Wave	29.50
4110-2Q	2-Bay Stacking Bar Quarter Wave	1.00
4112-2H	2-Bay Stacking Bar Half Wave	2.75

WALSCO WIZARD—Super Sensitive, ALL Channel YAGI







3-YEAR UNCONDITIONAL GUARANTEE

WALSCO WIZARDETTE

A new antenna design, featuring the exclusive Walsco "Phase Reverser." Provides higher, more uniform gain than most antennas. Produces sharper, clearer pictures on all channels. Designed for metropolitan, suburban and "problem" reception areas. Features the umbrella lock, quick-rig design. Made of aluminum alloy thruout. Tested and approved for color and black and white TV.

Cat. No.	Description	List
4210	Single Bay	$14.90
4212	Dual Bay	31.43
4216	U-Install Kit, Single Bay	21.35

WALSCO WIZARD

An unusually sensitive antenna incorporating high gain and sharp directivity thru Walsco's exclusive "Phase Reverser" principle. A dual stacked Wizard will outperform almost any other super-fringe, speciality, or yagi-type antenna. Ideally suited for all fringe and difficult areas. Built with the Walsco "lightening fast umbrella lock and quick rig design. Tested and approved for color and black and white TV.

Cat. No.	Description	List
4220	Single Bay	$19.50
4222	Dual Stack	42.46
4226	U-Install Kit, Single Bay	25.90

WALSCO SUPER WIZARD

The Walsco Super Wizard is not only the last word in extreme fringe antennas, but its rugged construction also guarantees continuous performance for years. The extremely high gain, sharp directivity and excellent side rejection of the Super Wizard brings you the clearest picture even under the most adverse conditions. It is made of the finest aluminum alloys, machined to close tolerances and assembled under rigid inspection.

Cat. No.	Description	List
4240	Single Bay	$37.90
4242	Dual Stack	78.30

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35% MORE... AT NO EXTRA COST TO YOU—

KRYLON® CRYSTAL-CLEAR

ACRYLIC SPRAY COATING

for Television, Radio, Electronic Use

- **prevents corona in high voltage sections**
- **keeps lead-in connections tight**
- **prevents rusting and pitting of antennas**

Just spray it on — that's all! No special equipment needed. Krylon dries in a few minutes to form a hard, waterproof coating that seals and lasts. Resists climatic conditions, salt spray, etc. . . . doesn't dry out or crack. Krylon, due to its high dielectric strength, prevents many of the causes of picture fading and high-voltage section losses.

"KRYLON-izing" is standard procedure in TV installations! And for one good reason: it pays off in dollars and cents!

Krylon Characteristics

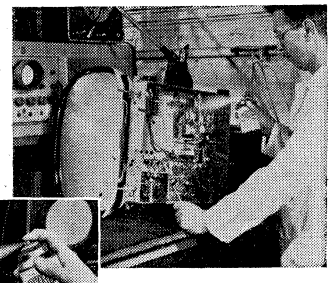
Dielectric constant of 3.2 to 3.7 (1,000 cycles)

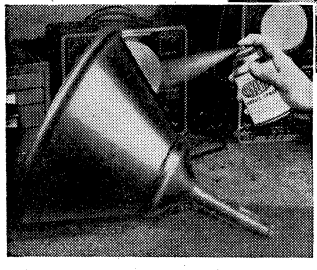
Dielectric strength of 400 to 800 (number of volts necessary to cause an electric arc through a Krylon coat one mil thick)

Electrical resistance of 10^{10} ohms/cm^3.

Cut down contact service calls—easy with Krylon

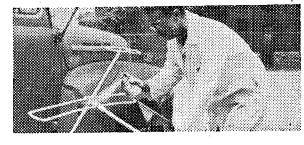
• Spray Krylon Crystal-Clear on high voltage coil and insulation; in socket of high-voltage rectifier; on transformer and other component parts . . . to help prevent corona and arcing . . . protect against dampness . . . minimize wire cover fading.





• Spray Krylon Crystal-Clear or Flat Black on the bell part of metal picture tubes, to repel dust from the tube and prevent arcing.

• Use Krylon Crystal-Clear to spray lead-in connections, antenna mast, turnbuckles, stand-off insulators and other hardware, for dependable trouble-free installation.



• Apply Krylon Bright Silver (Alum.) or Crystal-Clear to entire surface of antenna to prevent rust, corrosion, pitting — causes of poor reception.

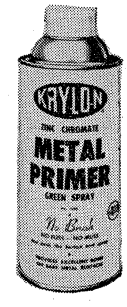
. . . *IN INDUSTRY, TOO!*

• Complete protection against moisture, fumes, dilute acids, fungus, corrosion. Krylon protective properties are superior to conventional coatings . . . enable 1000's of end-uses for preservation and protection.

THEY'RE READY WHEN YOU'RE READY . . .

. . . permanent protection . . . prevents rust, tarnish, corrosion . . . waterproof, weatherproof. Goes on clear —stays clear!

. . . for maintenance and touch-up use . . . wherever paint is required. No fuss, muss, bother . . . dries in minutes. 18 colors.



. . . for metal surfaces where priming is necessary. Spec. Mil-P-6889-A, Type 1; Aviation Supply Stock No. R52 P 20405.

. . . use on cartons, crates, drums . . . mark equipment, tools, textiles, etc. . . . code materials and parts . . . 6 colors.

. . . covers old stencils, crayon markings, etc. . . . excellent hiding power . . . makes containers re-usable . . . dries fast.

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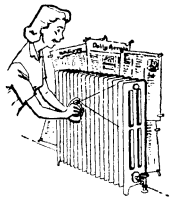
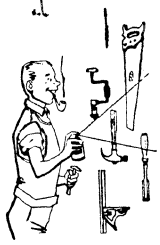
35% MORE... AT NO EXTRA COST TO YOU—

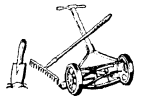
paint it . . . spray it yourself with

KRYLON® SPRAY ENAMELS

. . . the modern, push-button way to paint almost everything!







No Fuss — No Muss — No Lost Time

. . . no paint to mix . . . no mess to clean up . . . just shake the can vigorously, push the button and, presto, the job is done pronto! And so professional, too! Moreover, when you're finished, just store the can away and it's ready for your next touch-up job. Use wherever paint is required — indoors or outdoors.

AVAILABLE in 6-oz. and 16.2-oz. DISPENSERS

6-oz. Order No	16.2-oz. Order No.	COLOR
1300A	1302	CRYSTAL-CLEAR
1401A	1401	Bright Silver (Alum.)
1501A	1501	Glossy White
—	1502	Flat White
1601A	1601	Glossy Black
1602A	1602	Flat Black
1603A	1603	Machine Grey
1604A	1604	Light Grey
1605A	1605	Dove Grey
1701A	1701	Bright Gold
1801A	1801	Chrome Yellow
1901A	1901	Regal Blue
1902A	1902	Baby Blue
2001A	2001	Hunter Green
2101A	2101	Cherry Red
2102A	2102	Baby Pink
2201A	2201	Bright Copper
—	2301	O.D. Khaki
—	2101	Int'l. Orange

LIST PRICES

All 6-oz. colors and Crystal-Clear, ea.

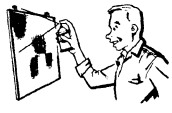
98¢

16.2-oz. Colors, ea.

$1.69

Crystal-Clear, ea. 16.2 oz.

$1.95



around the home - - - in the plant!

. . . a natural for the engineer, foreman, maintenance man, "at home do-it-yourselfer" . . . whatever the color or use . . . he carries it in his pocket or kit . . . ready at a moment's notice for that paint-up, touch-up job. And, just as fast as it's done — just as fast will it dry! . . . with no delay in paint operation or service or home use. (Excellent for color coding and stencilling, too!)

Yes, there are 1000's of practical uses for KRYLON Spray Enamels that will preserve, protect and beautify, so completely, so easily, so economically!

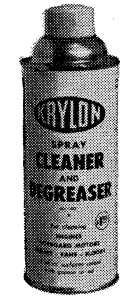
Technical Inquiries Invited ***Krylon, Inc., Norristown, Pa.***

FOR INDUSTRIAL, COMMERCIAL, HOUSEHOLD USE

. . . subdues bothersome highlights . . . standard equipment for TV and movie studios and photographers . . . easy to remove.

. . . protects metals from corrosion for long periods . . . leaves dry waxy film that resists oxidation . . . harmless to surface.

. . . unusual penetrating and solvent properties . . . rusty bolts and nuts and "frozen" parts separate easily, without effort.



. . . dissolves oil and grease deposits . . . very effective in cleaning engines (all types), materials-handling equipment, etc.

. . . forms a continuous film of lubrication under all speeds and loads . . . exceptional adhesiveness . . . will not flake or crack.

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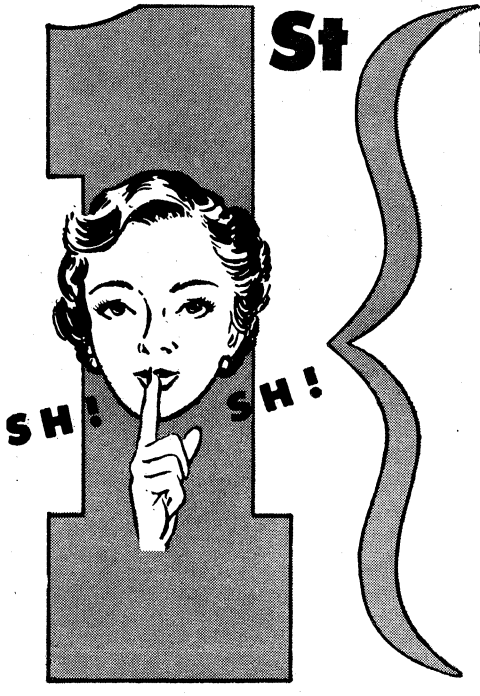
TRADE MARK REG. U.S. PAT. OFF.



1st in the Industry quality merit demand

The original most reliable
LUBRICANT CLEANER
"QUIETROLE" the preferred, standard product of the industry!

Your guarantee for quieting noisy television and radio controls, switches and other moving parts is QUIETROLE. Here is the original, non-inflammable, most reliable lubricant-cleaner on the market today . . . developed through years of factual and authentic research.

There is no substitute for QUALITY . . .
try QUIETROLE TODAY!
Take the noise out of controls and switches with the FIRST . . . the non-conductive, non-inflammable product.

Size	Cat. No.	Min. Order	Min. Re-order	Distr. Net Resale Price
2 oz.	10-2	24	24	$1.69
4 oz.	10-3	16	8	2.54
8 oz.	10-4	8	6	5.07

Save on Gross Lot Purchase — Small Size

Size	Cat. No.	Distr. Resale Net Price
2 oz.	10-2	$1.69

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QUIETROLE COMPANY, INC.
SPARTANBURG, S. C.

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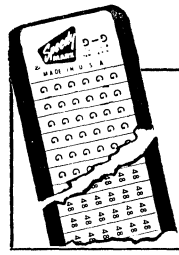
NORTH SHORE NAMEPLATE INC.

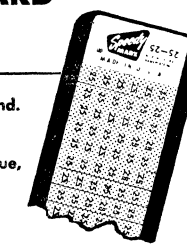
PRESSURE SENSITIVE WIRE MARKERS WITH THE NEW INSTANT RELEASE DISPENSING CARD

STOCK ITEMS



NUMBERS AND LETTERS, printed black on white background. All number and letters are the same on each card.

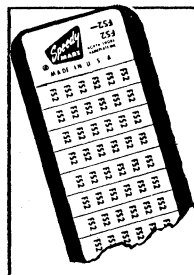
0 to 1000 (1001 different cards)
Capital Letters: A to Z (26 different cards)
Lower Case Letters: a to z (26 different letters)



NUMBERS, printed black on colored background. All numbers are the same on each card.

Background colors: Red, Yellow, Orange, Blue, Green, Brown.

1 to 50 (50 different cards).



SYMBOLS, printed black on white background. All symbols are the same on each card.

A1 to A6	M1 to M6	A+, A–, B+, B–, 2.5V, 3V, 3.8V, 5V, 6V, 6.3V, 7.5V, 10V, 12V, 24V, 27V, 32V, 36V, 48V, 110V, 115V, 120V, 125V, 127V, 180V, 190V, 208V, 220V, 230V, 240V, 250V, 270V, 280V, 308V, 375V, 380V, 440V, 460V, 480V, 500V, 550V, 575V, 600V, 880V, 2200V, 4000V, 4400V, 8000V, 10,000V, 12000V, 25CY, 35CY, 40C, 50CY, 60CY, 400CY, AA, AC, AL1, AL2, AM, ANT, ARM, BAT, BB, BELL, BF1, BF2, BF3, BF4, BIAS, BR1, BR2, BR3, BR4, BUS, CC, CCW, CLOSE, CM, COM, CT, CUR, CW, DC, DD, DR1, DR2, DR3, DR4, FA, FB, FF, FFA, FFB, FIL, FLD, FM, FMM, FS1, FS2, FS3, FWD, GEN, GND, GRID, HOT, IGN, IN, LINE, LOAD, MM, NEG, NEUT, OFF, ON, OPEN, OUT, PHASE*, 1 PHASE*, 2 PHASE*, 3 PHASE*, PHASE A*, PHASE B*, PHASE C*, PHONE, POS, POT, PRI, REV, SEC, SIG, SPARE, SS, TRIP, +, –, ±, ⎓, ∿, ≒, →, ←, ↑, ↓, CD.
B1 to B6	N1 to N4	
C1 to C9	O1 to O4	
D1 to D6	P1 to P6	
E1 to E6	R1 to R10	
F1 to F6	S1 to S6	
G1 to G4	T0 to T10	
H1 to H6	U1 and U2	
J1 to J4	V1 to V4	
K1 to K6	W1 and W2	
L1 to L10	X1 to X4	
	Z1 to Z4	

* These cards supplied in Blue, Red and Yellow backgrounds, specify color desired.

TV MARKERS, printed black on colored background. All markers are the same on each card.

Background colors: Red, Yellow, Orange, Blue, Green, Brown.

+H DRIVE, –H DRIVE, +V DRIVE, –V DRIVE, +BLANKING, – BLANKING, +SYNC, –SYNC, VIDEO

MACHINE TOOL CONTROL IDENTIFICATIONS

printed black on white background. All markers are the same on each card.

1T1 to 1T3	6T1 to 6T3
2T1 to 2T3	7T1 to 7T3
3T1 to 3T3	8T1 to 8T3
4T1 to 4T3	9T1 to 9T3
5T1 to 5T3	

NEMA COLOR IDENTIFICATIONS

Colors: Black, Blue, Brown, Green, Grey, Orange, Purple, Red, White, Yellow

CONSECUTIVE NUMBERS

printed black on white background. All markers are in sequence on each card.

Sequences: 1 to 33, 34 to 66, 67 to 99, 100 to 124, 125 to 149, 150 to 174, 175 to 199, similar sequences up to 9975 to 9999

CONSECUTIVE LETTERS

printed black on white background. All letters are in sequence on each card.

Capital letters: A to Z, plus A to H
Lower Case letters: a to z, plus a to h

CONSECUTIVE NUMBERS

printed black on white background. All numbers are in sequence on each card, sequences repeated.

0 to 9	1 to 6	1 to 12
0 to 10	1 to 7	1 to 16
1 to 3	1 to 8	17 to 32
1 to 4	1 to 9	1 to 18
1 to 5	1 to 10	19 to 36

CONSECUTIVE NUMBERS

printed black on colored backgrounds. All numbers are in sequence on each card.

Colors: Blue, Brown, Green, Grey, Orange, Purple, Red, Yellow

Sequences: Same as above, up to 375 to 399.

CONSECUTIVE LETTERS

printed black on white background. All letters are in sequence on each card, sequences repeated.

A to G, A to E, F to J, K to O, P to T, U to Z.

CONSECUTIVE SYMBOLS

printed black on white background. All symbols are in sequence on each card, sequences repeated.

A1 to A4	G1 to G4	L1 to L26	R1 to R4	T10 to T13	X1 to X26
B1 to B4	H1 to H4	M1 to M4	R1 to R26	T10 to T17	Y1 to Y4
C1 to C4	H1 to H9	M1 to M6	S1 to S4	T14 to T17	Z1 to Z4
C1 to C26	J1 to J4	N1 to N4	S1 to S26	U1 to U4	
D1 to D4	J1 to J9	O1 to O4	T1 to T4	V1 to V4	
E1 to E4	K1 to K4	P1 to P4	T1 to T9	W1 to W4	
F1 to F4	L1 to L4	Q1 to Q4	T1 to T26	X1 to X4	

CONSECUTIVE MACHINE TOOL CONTROL SYMBOLS

printed black on white background. All symbols are in sequence on each card, sequences repeated.

Sequences: 1T1, 1T2, 1T3, 2T1, 2T2, 2T3, 3T1, 3T2, 3T3.
Sequences: 4T1, 4T2, 4T3, 5T1, 5T2, 5T3, 6T1, 6T2, 6T3.
Sequences: 7T1, 7T2, 7T3, 8T1, 8T2, 8T3, 9T1, 9T2, 9T3.
Sequences: A1, A2, F1, F2, S1, S2 (D.C. Motor and Generator).

GENERAL ORDERING INFORMATION:

Card Size: 2" x 10". Standard Marker Length 1½".
For wire diameter under ¼", specify ¾" markers.
Twice as many markers at no extra cost.
For wire diameters over ¼", specify the 1½" standard markers.
Speedy Mark are printed in the standard NEMA-ASA colors.

Where markers are printed on colored background, please specify choice of color.

Stock items can be grouped for maximum quantity minimum price.
Minimum order 20 cards.
Terms: Net 10 days FOB Bayside, N. Y.
Special Items and Colors Are Available — Send Sketches for Quotation

SPEEDY MARX WIRE MARKERS PRICE LIST
Card Size 1½ x 9

20-49	.15
50-99	.13
100-249	.11½
250-499	.10
500-999	.09¾
1000-2499	.09½
2501-4999	.09¼
5000-	quote

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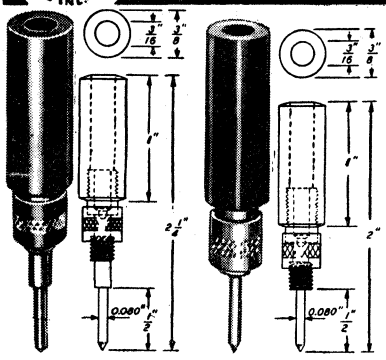
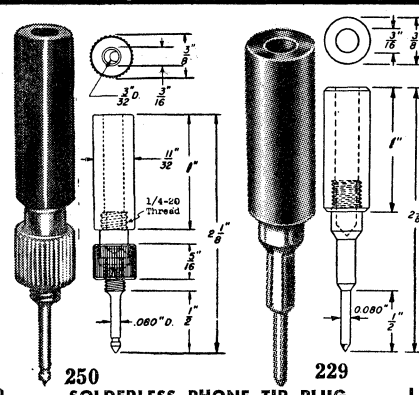


200 **201**

INSULATED SOLDERLESS TIP PLUGS

Plug portion brass, nickel plated. Fits all standard phone tip jacks. Wire is wrapped around screw portion and tightened with knurled nut. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.

No. 200	Senior Type	$25.00 Per C
No. 201	Junior Type	$25.00 Per C



250 **229**

SOLDERLESS PHONE TIP PLUG

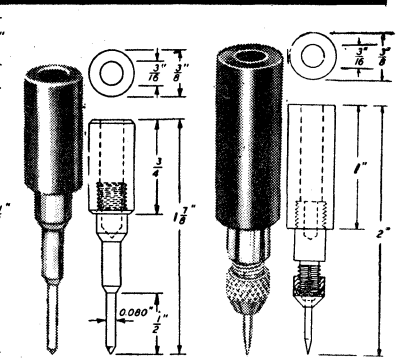
Signal Corps Approved. Steel, Case hardened phone tip made to Signal Corps drawing and specs. Supplied with Rigid Thermoplastic handle to JAN specs. Available in Red or Black. Specify color.

No. 250 $90.00 Per C

HEAVY DUTY INSULATED PHONE TIP PLUG

Plug portion brass, nickel plated. Fits all standard phone tip jacks.
Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.

No. 229 $25.00 Per C



215 **216**

BANANA PLUG TO TIP PLUG ADAPTER

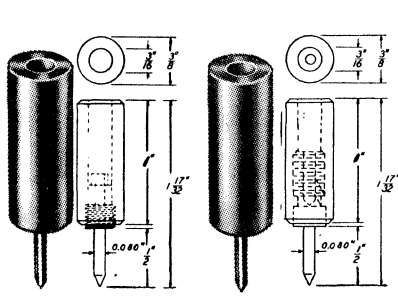
Banana plug inserts in rear to adapt to phone tip plug. Plug portion brass, nickel plated. Fits all standard phone tip jacks. Plastic handle in Red, Black, Yellow or Green. Specify color.

No. 215 $25.00 Per C

INSULATED PHONO NEEDLE TIP PLUG

Brass, nickel plated. Removable chuck. Molded handle, Red, Black, Yellow, Green, Blue or White. Specify color.

No. 216 $25.00 Per C



203 **283**

INSULATED SHORT PHONE TIP PLUG

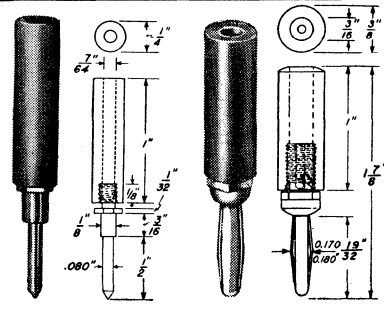
Plug portion brass, nickel plated. Fits all standard phone tip jacks. Tip inserts right up to handle. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.

No. 203 $20.00 Per C

INSULATED SOLDERLESS SHORT TIP PLUG

Plug portion brass, nickel plated. Fits all standard phone tip Jacks. Tip inserts right up to handle. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify Color.

No. 283 $22.00 Per C



270 **295**

SUB-MINIATURE PHONE TIP

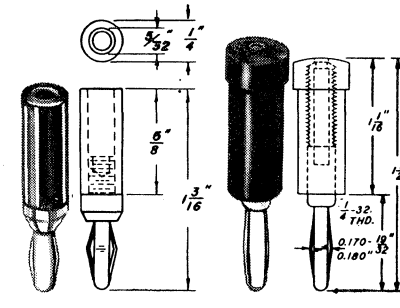
Fits standard tip jacks. For checking all types of subminiature equipment. Brass, nickel plated tip. Handle Red or Black bone fibre. Specify color.

No. 270 $22.00 Per C

INSULATED SOLDERLESS BANANA PLUG

Plug portion Hexed Brass, Nickel Plated. Fits all standard Banana Jacks. Beryllium spring retains resiliency after thousands of insertions. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify color.

No.	Spring Material	Plating	Per C
295	Phosphor Bronze	Nickel	$30.00
296	Phosphor Bronze	Silver	35.00
297	Beryllium Copper	Nickel	40.00
298	Beryllium Copper	Silver	45.00



291 **214**

INSULATED MIDGET BANANA PLUG

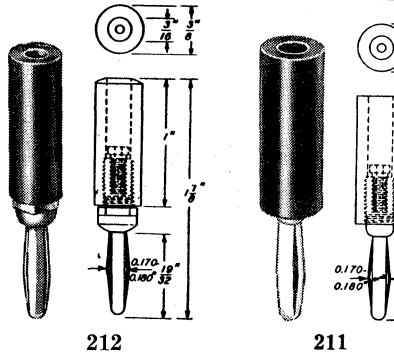
Fits all standard Banana Jacks. Beryllium spring retains resiliency after thousands of insertions. Wire soldered directly into Plug. Available in Red or Black only. Specify color.

No.	Spring Material	Plating	Per C
291	Phosphor Bronze	Nickel	$30.00
292	Phosphor Bronze	Silver	35.00
293	Beryllium Copper	Nickel	40.00
294	Beryllium Copper	Silver	45.00

TIP PLUG TO BANANA PLUG ADAPTER

Fits all standard banana jacks. Plug portion four leaved phosphor bronze nickel plated. Tip jack in rear enables adapting tip plug to banana plug. Phosphor bronze tip jack spring. Available in Red, Black, Yellow or Green. Specify color.

No. 214 $50.00 Per C



212 **211**

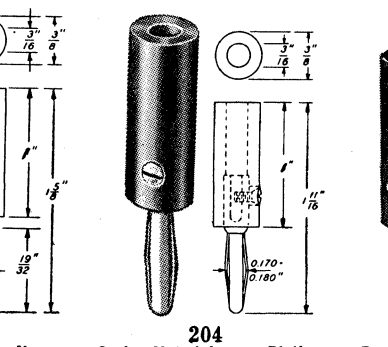
INSULATED BANANA PLUGS

Plug portion hexed brass, nickel plated. Fits all standard Banana Jacks. Solder to stud or plug. Beryllium spring retains resiliency after thousands of insertions. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify color.

No.	Spring Material	Plating	Per C
212	Phosphor Bronze	Nickel	$35.00
232	Phosphor Bronze	Silver	40.00
242	Beryllium Copper	Nickel	50.00
262	Beryllium Copper	Silver	55.00

INSULATED BANANA PLUG

Spring Type. Plug portion brass, nickel plated. Fits all standard banana jacks. Four leaved phosphor bronze spring. Wire can be soldered to stud or plug. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.



204

No.	Spring Material	Plating	Per C
211	Phosphor Bronze	Nickel	$30.00
261	Phosphor Bronze	Silver	35.00
271	Beryllium Copper	Nickel	40.00
281	Beryllium Copper	Silver	45.00

INSULATED BANANA PLUG

Spring Type. Plug portion brass, nickel plated. Fits all standard banana jacks. Four leaved phosphor bronze spring. Set screw provided for solderless connection. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.

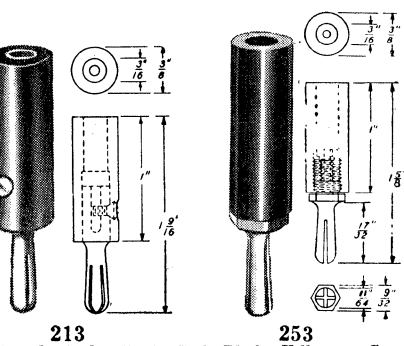
No. 204 $30.00 Per C

Same as above, supplied with nickel plated Beryllium Copper Spring, which maintains its resiliency after thousands of insertions.

No. 254 $45.00 Per C

Same as 204 except supplied with 1½" machined plastic handle in Red, Black, Yellow or Green. Specify Color.

No. 244 $40.00 Per C



213 **253**

INSULATED BANANA PLUG

Split Type. Plug portion brass, nickel plated; cross slotted. Set screw for solderless connection. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. specify color.

No. 213 $30.00 Per C

Same as above except supplied with 1½" machined plastic handle in Red, Black, Yellow or Green. Specify Color.

No. 243 $40.00 Per C

INSULATED BANANA PLUG

Plug portion brass, nickel plated. Wire can be soldered to stud or plug. Molded plastic handle. Red, Black, Yellow, Green, Blue or White. Specify color.

No. 253 $30.00 Per C

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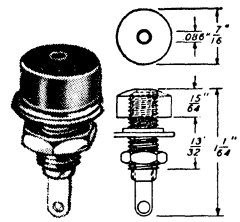
ALL PRICES SUBJECT TO TRADE DISCOUNT



202

INSULATED PHONE TIP JACKS

Accommodates all standard Phone Tip Plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to 3/8" thick. Molded bakelite head available in Red, Black, Yellow, Green, Blue or White.

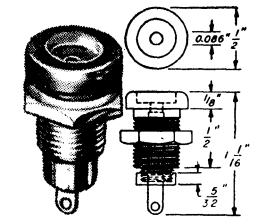
No. 202 $22.00 Per C

Same as above with 1/2" o.d. machined plastic head. Available in Red, Black, Yellow or Green.

No. 223 $35.00 Per C

MOLDED NYLON ALL INSULATED TIP JACK
Rated at 4000 Volts AC

This completely insulated phone tip jack accommodates all standard phone tips. Sturdy phosphor bronze contact. Mounts in 3/8" hole in panels up to 5/16" thick. Available in Red, Black, Yellow, Green or Blue. Specify color.



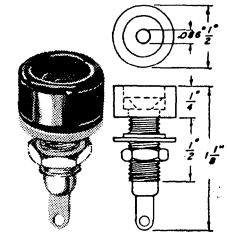
240

No. 240 $30.00 Per C

METER TYPE INSULATED TIP JACK
Recessed Head

Accommodates all standard Phone Tip Plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to 3/8" thick. Jack body recessed to prevent shock or grinding. Molded bakelite head available in Red, Black, Yellow or Green.

No. 282 $25.00 Per C

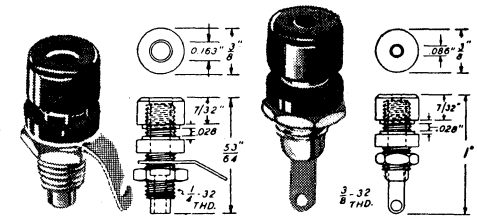


282

INSULATED MIDGET BANANA JACK
Moulded Nylon Head & Insulating Washer

Extruded portion of head and washer provide excellent insulation from panel. Accommodates all standard banana plugs. Brass nickel plated body. Mounts in 5/16" hole in panels up to 1/4" thick. Available in Red, Black, Yellow, Green, or Blue. Specify color.

No. 221 $30.00 Per C

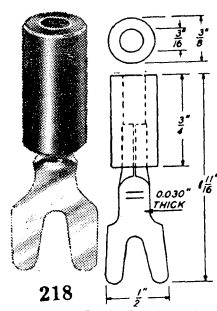


221 241

INSULATED PHONE TIP JACK
Moulded Nylon Head & Insulating Washer

Extruded portion head and washer provides excellent insulation from panel. Accommodates all standard phone tip plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to 1/4" thick. Red, Black, Yellow, Green or Blue. Specify color.

No. 241 $30.00 Per C

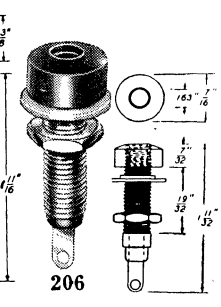


218

INSULATED SPADE LUG

Adapts banana plug to a spade lug. Steel hot tinned lug .030" thick for extra durability. Molded plastic handle in Red or Black. Specify color.

No. 218	Complete	$18.00 Per C
No. 129	Lug Only	$20.00 Per M

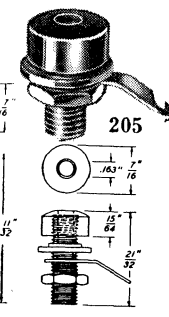


206

INSULATED COMBINATION JACK

Accommodates all standard phone tip or banana plugs. Body is brass, nickel plated; contact is a sturdy phosphor bronze spring. Molded plastic head. Red, Black, Yellow, Green, Blue or White. Specify color.

No. 206 $27.00 Per C

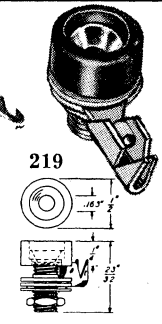


205

INSULATED BANANA JACK

Accommodates all standard banana plugs. Body is brass, nickel plated. Mounts in 5/16" hole in panels up to 3/8" thick. Molded plastic head. Red, Black, Yellow, Blue, White or Green. Specify color.

No. 205 $22.00 Per C

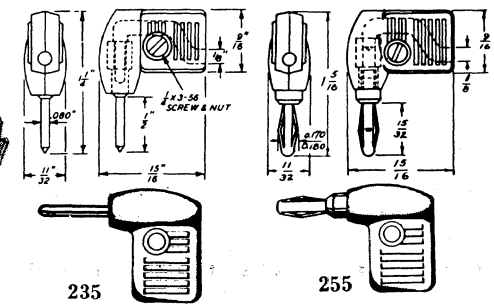


219

INSULATED BANANA JACK

Accommodates all standard banana plugs. Body is brass, nickel plated. Mounts in 5/16" hole in panels up to 3/8" thick. Molded plastic head. Red, Black, Yellow or Green. Specify color.

No. 219 $25.00 Per C

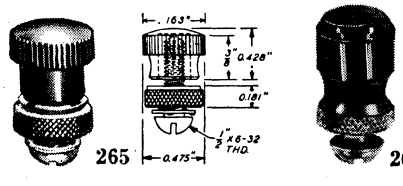


235 255

MOLDED METER TIP AND BANANA PLUGS

Molded meter type plug molded in two halves for easy assembling with screw and nut. Brass nickel plated tips fit in all standard tip and banana jacks. Available in Red and Black. Specify color.

No.	Description	Each
235	Meter Tip Plug, Phone Tip Type	$ .45
235D	Display of 24 Pairs	$21.60
255	Meter Tip Plug, Banana Tip Type	$ .60
255D	Display of 24 Pairs	$28.80



265 266

BINDING POST

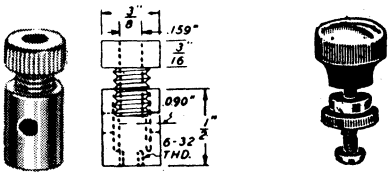
Molded-in brass insert in molded bakelite head supplied only in black. Brass, nickel plated retaining washer. Supplied complete with 8/32" x 1/2" screw and lockwasher.

No. 265 $27.00 Per C

BINDING POST

Molded-in brass insert in molded bakelite head. Brass nickel plated retaining washer. Supplied complete with 8/32" x 1/2" screw and lock washer. Red or Black. Specify color.

No. 266 $25.00 Per C



136 110

METAL COMBINATION BINDING POST

This two piece brass nickel plated all metal binding post accepts all standard phone tip or banana plugs. Mounts to chassis by use of 6-32 screw.

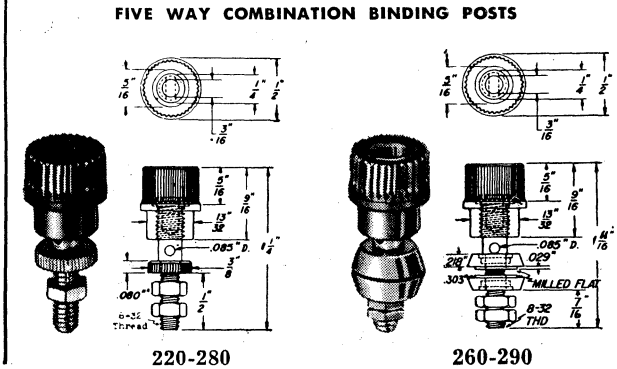
No. 136 $25.00 Per C

METAL BINDING POST

Made of brass, heavily nickel plated overall. Supplied complete with screw and lockwasher.

No. 110 $35.00 Per C

FIVE WAY COMBINATION BINDING POSTS



220-280 260-290

FIVE-WAY COMBINATION BINDING POSTS
Grounding Type

Molded plastic non-removable head. Can be completely insulated from panel with our **No.** 2155 shoulder washer and **No.** 2163 flat washer. Body brass, nickel plated. Available in Red or Black. Specify color.

No.	Type	Per C
220		$45.00
280	Same as above with Metal Insert in Head	$50.00

All Insulated Type

Molded plastic non-removable head. Molded insulated washers completely insulate this post from panel. Mounts in 5/16" panel with mill slot for locking available in Red or Black. Specify color.

No.	Type	Per C
260		$55.00
290	Same as above with Metal Insert in Head	$65.00

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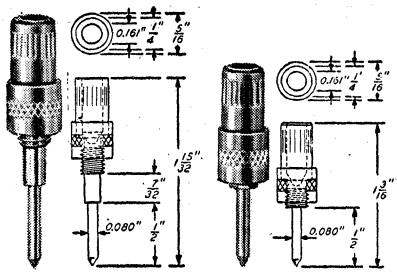
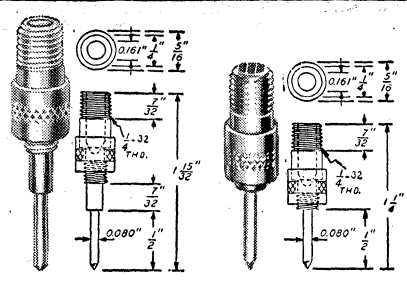


105 106

SOLDERLESS PHONE TIP PLUGS

Brass, nickel plated. Wire is wrapped around screw portion, and tightened with knurled nut. Fits standard phone tip jacks.

No. 105	Senior Type	$17.00 Per C
No. 106	Junior Type	$16.00 Per C

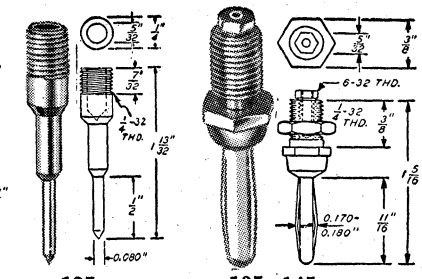


124 127

THREADED SOLDERLESS PHONE TIPS

Brass, nickel plated. Wire is wrapped around screw portion and tightened with knurled nut. Threaded for easy insertion in plastic handles. Fits standard phone tip jacks.

No. 124	Senior Type	$20.00 Per C
No. 127	Junior Type	$19.00 Per C



125 135–145

HEAVY DUTY PHONE TIP PLUG

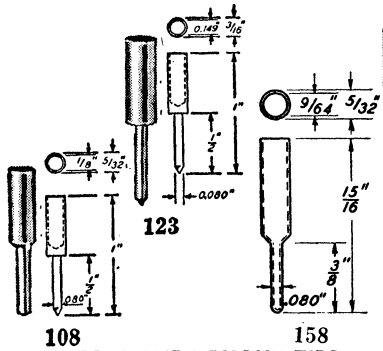
This brass nickel plated phone tip is of extra sturdy construction, and fits all standard phone tip jacks.

No. 125 $17.00 Per C

BANANA PLUGS — Spring Type

Hexed brass, nickel plated. Beryllium spring retains resiliency after thousands of insertions. Wire can be soldered to stud or plug. Supplied with hex nut.

No. 135	Beryllium Copper Spring	$45.00 Per C
No. 145	Phosphor Bronze Spring	$27.00 Per C



108 158

SOLDER TYPE PHONE TIPS

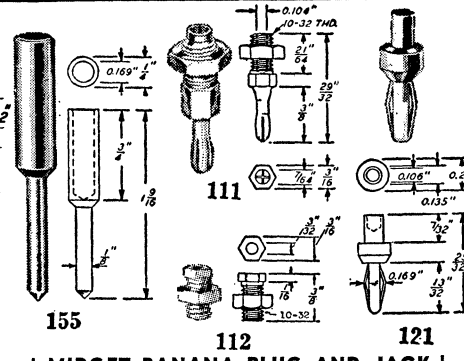
Brass nickel plated.

No. 108	Standard Type	$ 35.00 Per M
No. 123	Large I.D. Type	$ 44.00 Per M
No. 155	Heavy Duty Type	$110.00 Per M

DRAWN HOLLOW SOLDER TIP

Designed to insure maximum solder deep well contact. Brass, nickel plated. Extra sturdy construction.

No. 158 $25.00 Per C



155 112 111 121

MIDGET BANANA PLUG AND JACK

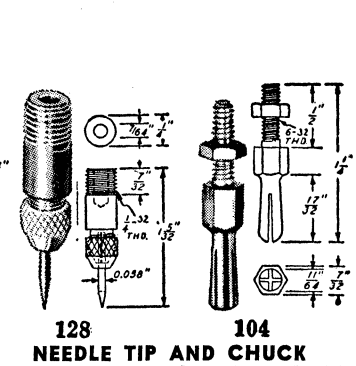
For use in minimum of space. The plug is cross slotted. Plug and jack are brass, nickel plated.

No. 111	Plug	$17.00 Per C
No. 112	Jack	$13.00 Per C

MIDGET BANANA PLUG Rivet Type

Brass, silver plated. Four leaved phosphor bronze spring. Fits all standard banana jacks. Also made to rigid JAN specs.

No. 121 $27.00 Per C



128 104

NEEDLE TIP AND CHUCK

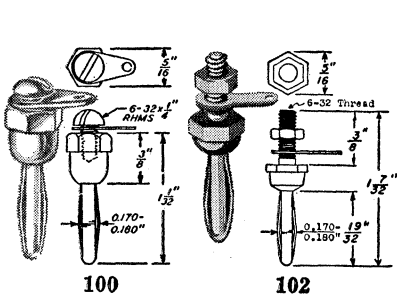
Brass nickel plated body, with steel nickel plated needle. Removable chuck. Threaded for easy insertion in plastic handles.

No. 128 $22.00 Per C

BANANA PLUG — Split Type

Hexed brass, nickel plated. Cross slotted for positive and lasting contact. Fits all standard banana jacks. One-piece construction. 6-32 hex nut.

No. 104 $22.00 Per C



100 102

BANANA PLUG

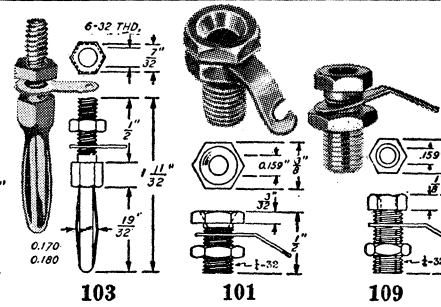
Hexed brass, nickel plated. Spring is four-leave phosphor bronze, nickel plated. Plug supplied with screw and phosphor bronze tinned lug. Internal female permits use of this plug on all size panels.

No. 100 $25.00 Per C

BANANA PLUG

Hexed brass, nickel plated. Four-leaved phosphor bronze spring, nickel plated. Four-leaved phosphor bronze spring, nickel plated. 6-32 hex nut.

No. 102 $25.00 Per C



103 101 109

BANANA PLUG

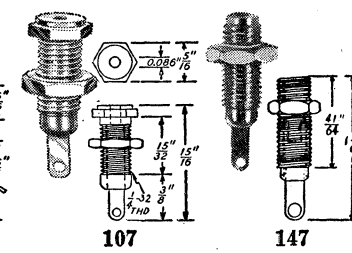
Hexed brass, nickel plated. Four-leaved phosphor bronze spring, nickel plated. 6-32 hex nut.

No. 103 $25.00 Per C

BANANA JACK

Hexed brass, nickel plated jack with recessed head. Recommended for use with No. 100 banana plug but accommodates all standard banana plugs.

No. 101 $17.00 Per C



107 147

BANANA JACK

Hexed brass, nickel plated. Mounts in ¼" hole and fits panels up to ⅜" thick. Accommodates all standard banana plugs.

No. 109 $17.00 Per C

PHONE TIP JACK

Body is brass, nickel plated, with internal phosphor bronze spring for positive contact. Mounts in ¼" hole in panels up to ⅜" thick. ¼-32 hex nut.

No. 107 $17.00 Per C

HEADLESS PHONE TIP JACK

Jack body is screwed into instrument body. Nickel Plated plastic. Phosphor bronze spring. Supplied with hex nut.

No. 147 $10.00 Per C

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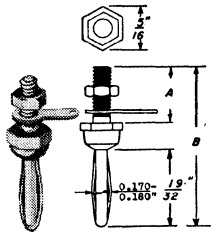
ALL PRICES SUBJECT TO TRADE DISCOUNT

HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

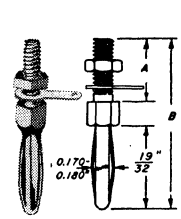


BANANA PLUGS

Fits all standard banana jacks. Hexed brass body, one piece construction with threaded stud for panel mounting. Four leaved phosphor bronze or beryllium copper spring. Plated to Govt. Specs.

PHOS. BR. SPRING Nickel Plated Overall				BERYL. COP. SPRING Nickel Plated Overall			
No.	Per C	A	B	No.	Per C
431	$25.00	6-32 x 3/8"	1-3/32"	443	$30.00
432	25.00	6-32 x 1/2"	1-7/32"	444	30.00
433	25.00	6-32 x 3/4"	1-11/32"	445	30.00
434	25.00	8-32 x 3/8"	1-3/32"	446	30.00
435	25.00	8-32 x 1/2"	1-7/32"	447	30.00
436	25.00	8-32 x 3/4"	1-11/32"	448	30.00

PHOS. BR. SPRING Silver Plated Overall				BERYL. COP. SPRING Silver Plated Overall			
		A	B		
437	$30.00	6-32 x 3/8"	1-3/32"	449	$35.00
438	30.00	6-32 x 1/2"	1-7/32"	450	35.00
439	30.00	6-32 x 3/4"	1-11/32"	451	35.00
440	30.00	8-32 x 3/8"	1-3/32"	452	35.00
441	30.00	8-32 x 1/2"	1-7/32"	453	35.00
442	30.00	8-32 x 3/4"	1-11/32"	454	35.00

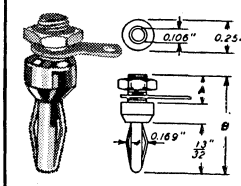


BANANA PLUGS

Fits all standard banana jacks. Hexed brass body, one piece construction with threaded stud for panel mounting. Four leaved phosphor bronze or beryllium copper spring. Plated to Govt. Specs.

PHOS. BR. SPRING Nickel Plated Overall				BERYL. COP. SPRING Nickel Plated Overall			
No.	Per C	A	B	No.	Per C
401	$25.00	6-32 x 3/8"	1-7/32"	414	$30.00
403	25.00	6-32 x 1/2"	1-11/32"	415	30.00
404	25.00	6-32 x 3/4"	1-15/32"	416	30.00
405	25.00	8-32 x 3/8"	1-7/32"	417	30.00
406	25.00	8-32 x 1/2"	1-11/32"	418	30.00
407	25.00	8-32 x 3/4"	1-15/32"	419	30.00

PHOS. BR. SPRING Silver Plated Overall				BERYL. COP. SPRING Silver Plated Overall			
		A	B		
408	$30.00	6-32 x 3/8"	1-7/32"	420	$35.00
409	30.00	6-32 x 1/2"	1-11/32"	421	35.00
410	30.00	6-32 x 3/4"	1-15/32"	422	35.00
411	30.00	8-32 x 3/8"	1-7/32"	423	35.00
412	30.00	8-32 x 1/2"	1-11/32"	424	35.00
413	30.00	8-32 x 3/4"	1-15/32"	425	35.00

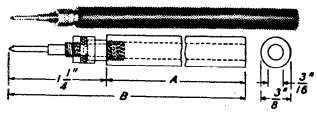


MIDGET BANANA PLUG

Fits all standard banana jacks. One piece construction with threaded stud for panel mounting. Supplied with phosphor bronze or beryllium copper spring. Plated to Govt. Specs.

PHOS. BR. SPRING Nickel Plated Overall				BERYL. COP. SPRING Nickel Plated Overall			
No.	Per C	A	B	No.	Per C
460	$25.00	4-40 x 3/8"	15/16"	468	$30.00
461	25.00	4-40 x 1/2"	1-1/16"	469	30.00
462	25.00	6-32 x 3/8"	15/16"	470	30.00
463	25.00	6-32 x 1/2"	1-1/16"	471	30.00

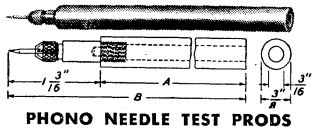
PHOS. BR. SPRING Silver Plated Overall				BERYL. COP. SPRING Silver Plated Overall			
		A	B		
464	$30.00	4-40 x 3/8"	15/16"	472	$35.00
465	30.00	4-40 x 1/2"	1-1/16"	473	35.00
466	30.00	6-32 x 3/8"	15/16"	474	35.00
467	30.00	6-32 x 1/2"	1-1/16"	475	35.00



SOLDERLESS TEST PRODS

Wire fits thru handle, and is wrapped around the screw portion and tightened with the knurled nut. Brass nickel plated tip with Red or Black plastic handle. Specify color.

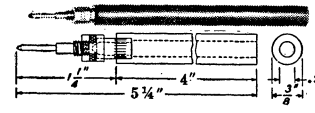
No.	Handle (A)	Overall (B)	Each
302	4"	5 1/4"	$0.50
303	5 1/2"	6 3/4"	0.55



PHONO NEEDLE TEST PRODS

Brass, nickel plated body, with steel nickel plated needle. Removable chuck for replacing needles. Red or Black plastic handle. Specify color.

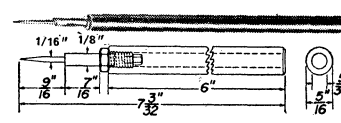
No.	Handle (A)	Overall (B)	Each
317	4"	5 5/16"	$0.50
318	5 1/2"	6 11/16"	0.55



SOLDERLESS FIBRE TEST PROD

Wire fits through handle and is wrapped around screw portion and tightened with the knurled nut. (Large I.D. of prod permits use of heavy duty wire.) Brass nickel plated tip with Red or Black handle. Specify color.

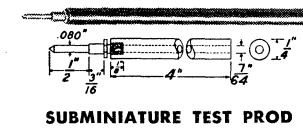
No. 323 $0.40 Each



SOLDERLESS PHONO NEEDLE TEST PROD

Double XX Bakelite lacquered handles. Sharp pointed needle pierces corrosion. Available in Red or Black. Specify color.

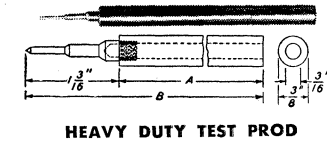
No. 313 $1.20 Each



SUBMINIATURE TEST PROD

Brass, nickel plated phone tip. Small 1/8" O.D. handle. Ideally suited for checking sub-miniature equipment. Red or Black bone fibre. Specify color.

No. 322 $0.40 Each

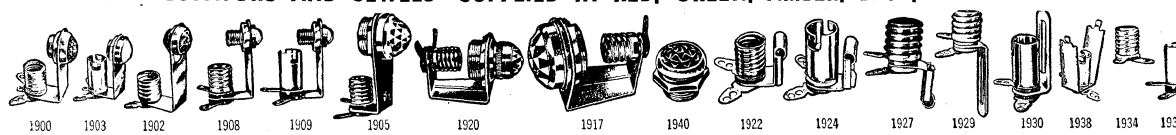


HEAVY DUTY TEST PROD

Extra sturdy brass, nickel plated tip with Red or Black plastic handle. Specify color.

No.	Handle (A)	Overall (B)	Each
319	4"	5 3/16"	$0.50
329	5 1/2"	6 11/16"	0.55

PANEL INDICATORS AND JEWELS—SUPPLIED IN RED, GREEN, AMBER, BLUE, OPAL AND CLEAR



1/2" JEWEL MOUNTS in 7/16" DIA. HOLE

No.	Type	Each
1900	Miniature Screw Base	$0.45
1901	Candelabra Base	.55
1902	Candelabra Base with Univ. Bracket	.58
1903	Bayonet Base	.45
1904	Bayonet Base with Univ. Bracket	.50

3/8" JEWEL MOUNTS IN 5/16" DIA. HOLE

No.	Type	Each
1908	Miniature Screw Base	$0.45
1909	Miniature Bayonet Base	.50

3/4" JEWEL MOUNTS IN 11/16" DIA. HOLE

No.	Type	Each
1905	Miniature Screw Base	$0.95
1906	Miniature Bayonet Base	1.00
1907	Candelabra Base	1.00

1/2" OPEN TYPE MOUNTS IN 11/16" HOLE

No.	Type	Each
1920	Miniature Screw Base	$0.70
1921	Miniature Bayonet Base	.75

1" OPEN TYPE

No.	Type	Each
1917	Miniature Screw Base	$1.60
1918	Miniature Bayonet Base	1.60
1919	Candelabra Base	1.70

JEWELS WITH MOUNTING NUT

3/8 Inch Jewel MOUNTS IN 5/16" HOLE

No.	Type	Each
1940	Smooth	$0.35
1941	Facetted	0.35

3/4 Inch Jewel MOUNTS IN 11/16" HOLE

No.	Type	Each
1913	Smooth	$0.70
1914	Facetted	0.70

1/2 Inch Jewel MOUNTS IN 7/16" HOLE

No.	Type	Each
1911	Smooth	$0.35
1912	Facetted	0.35

1 Inch Jewel MOUNTS IN 1" HOLE

No.	Type	Each
1915	Smooth	$1.25
1916	Facetted	1.25

CLIP-ON TYPE SOCKETS

No.	Type	Per C
1922	Min. Screw Up Clip	$16.00
1923	Min. Screw Down Clip	16.00
1924	Min. Bayonet Up Clip	16.00
1925	Min. Bayonet Down Clip	16.00
1926	Candelabra Up Clip	17.50
1927	Candelabra Down Clip	17.50

BRACKET TYPE SOCKETS

No.	Type	Per C
1928	Min. Screw Up Bracket	$16.00
1929	Min. Screw Down Bracket	16.00
1930	Min. Bayonet Up Bracket	16.00
1931	Min. Bayonet Down Bracket	16.00
1932	Candelabra Up Bracket	17.50
1933	Candelabra Down Bracket	17.50

UNMOUNTED TYPE SOCKETS

No.	Type	Per C
1934	Miniature Screw Base	$14.50
1935	Miniature Bayonet Base	13.50
1936	Candelabra Base	15.50

CLIP-IN TYPE

No. 1938 ..... $15.50 Per C

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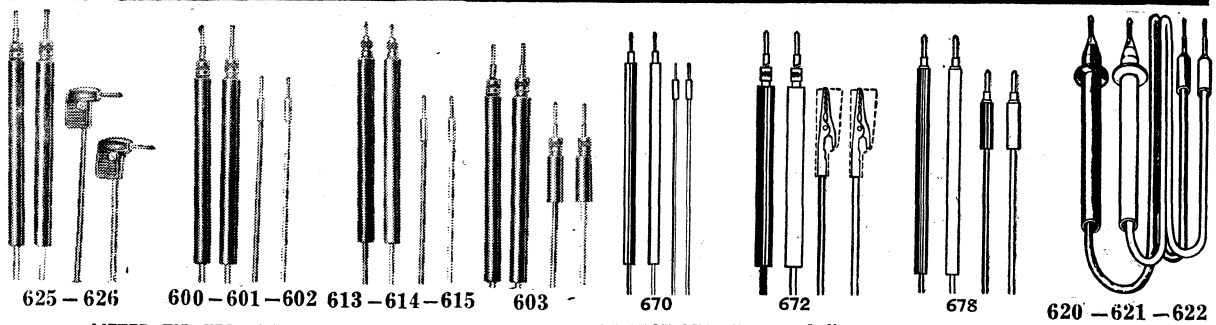


625 – 626 | 600 – 601 – 602 | 613 – 614 – 615 | 603 | 670 | 672 | 678 | 620 – 621 – 622

METER TIP TEST LEAD

50″ rubber covered kinkless wire. Molded plastic fingergrip tips and 4″ plastic test prod handles.

No. 625	Solderless prods	$2.25 Per Pr.
No. 626	Needle Tip Prods	$2.25 Per Pr.

SOLDERLESS TIP TEST LEADS

Fibre handles 4″ long x 3/8″ diameter. Flexible kinkless rubber covered wire, 50″ long.

No. 600	Phone Tips	$1.45 Per Pr.
No. 601	Spade Lugs	$1.45 Per Pr.
No. 602	Alligator Clips	$1.55 Per Pr.

Same as above, with NEW TENITE HANDLES

	Type	List Price
No. 617	Phone Tips	$1.30 Per Pr.
No. 618	Spade Lugs	$1.30 Per Pr.
No. 619	Alligator Clips	$1.55 Per Pr.

PHONO NEEDLE TEST LEADS

Fibre handles 4″ long x 3/8″ diameter. Tips are very sharp phonograph needles. Flexible kinkless rubber covered wires 50″.

No. 613	Phone Tips	$1.45 Per Pr.
No. 614	Spade Lugs	$1.45 Per Pr.
No. 615	Alligator Clips	$1.55 Per Pr.

Same as above, with NEW TENITE HANDLES

	Type	List Price
No. 647	Phono Tip	$1.30 Per Pr.
No. 648	Spade Lugs	$1.30 Per Pr.
No. 649	Alligator Clips	$1.40 Per Pr.

ALL SOLDERLESS TEST LEADS

No. 302 handles and No. 200 plugs. Flexible kinkless rubber covered leads 50″ long.

No. 603		$2.10 Per Pr.

No. 670—SLIM HANDLE TEST LEADS—Fine, low-cost test leads; slender pencil type tenite handles. 5/16″ O.D. 50″ of hi-quality kinkless, extra flexible, rubber covered test lead wire. Heavy duty standard phone tips. $1.10 Per Pr.

ALLIGATOR CLIP TEST LEADS

No. 672—Solderless red and black tenite handles (our No. 302) with alligator clips and insulators on other end. Flexible, kinkless rubber covered wire 50″ long. $2.10 Per Pr.

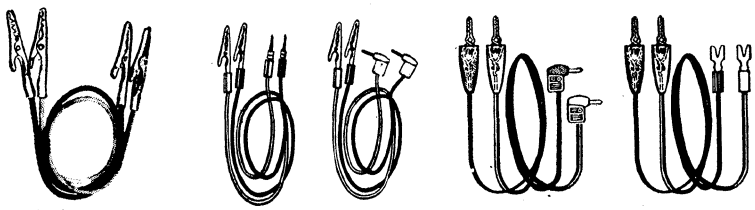
SUBMINIATURE TEST LEADS

No. 678—Extra long, extra thin fibre handles, 1/4″ O.D. x 4 1/2″ long. Insulated phone tips at other end. Flexible, kinkless, rubber covered wire, 50″. $2.10 Per Pr.

HIGH TENSION TEST LEADS

Heavy duty probes, 48″ high tension kinkless rubber covered wire .248″ O.D. 22,000 volt breakdown (60 cycles).

No. 620	Phone Tips	$3.30 Per Pr.
No. 621	Spade Lugs	$3.30 Per Pr.
No. 622	Alligator Clips	$4.00 Per Pr.



604 – 607 | 627 | 628 | 675 | 671

ALLIGATOR CLIP TEST LEADS

Very flexible kinkless Red and Black wire with alligator clips at each end.

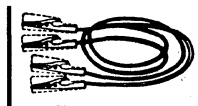
No. 604	12″	Wire Length	$0.95 Per Pr.
No. 605	24″	Wire Length	$1.05 Per Pr.
No. 606	36″	Wire Length	$1.20 Per Pr.
No. 607	48″	Wire Length	$1.35 Per Pr.

No. 627—ALLIGATOR CLIP LEAD with solderless tips and 50″ flexible rubber covered test lead wire. $1.50 Per Pr.

No. 628—ALLIGATOR CLIP LEAD with meter tips and 50″ flexible rubber covered test lead wire. $2.00 Per Pr.

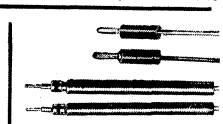
No. 675—CROCODILE CLIP LEAD with meter tips and 50″ flexible rubber covered test lead wire. $1.90 Per Pr.

No. 671—CROCODILE CLIP LEAD with insulated lug and 50″ flexible rubber covered test lead wire. $2.00 Per Pr.



Alligator Clip Test Leads with Rubber Insulators

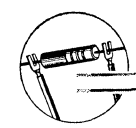
No.	Wire Length	Per Pr.
629	12″	$1.35
657	24″	1.45
658	36″	1.60
659	48″	1.70



Banana Plug Test Lead

Test Leads with 50″ rubber covered kinkless test lead wire. Solderless test prod with 4″ handle one end, banana plugs other end.

No. 623 $2.50 Per Pr.



."KANT-SLIP" TEST LEAD

Replaceable chuck and collar holds "U" type tip which is insulated right up to point of use. Solderless phone tips (our No. 200) at other end. Flexible kinkless rubber-covered test lead wire, 50″ long.

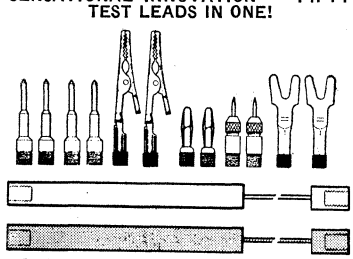
No. 695 $2.25 Per Pr.

TEST LEAD WIRE

Heavy duty kinkless, rubber covered test lead wire, with extra heavy insulation. 42 strands No. 34 tinned copper wire with cotton separator. .040″ wall, high temperature heat resisting. Specify Red or Black.

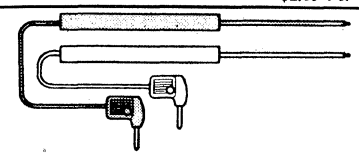
No. No. 660 100-Ft. Coil $7.75 Ea.

"UNIVERSAL" TEST LEADS COMPLETELY INTERCHANGEABLE SENSATIONAL INNOVATION — FIFTY TEST LEADS IN ONE!



One lead can make any required test lead combination. All parts adapt into prod handle or tip handle. Supplied in Vinyl Case.

No. 699 $4.00 Each



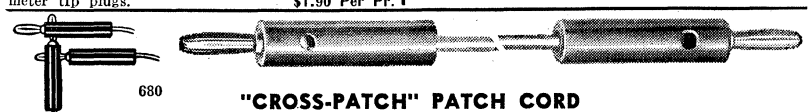
NEW! "SLIM JIM" TEST LEADS

Long slim probe tips fully insulated with vinyl tubing to prevent shocks or shorting. Perfect for those hard to get at spots. Supplied with molded meter tip plugs. $1.90 Per Pr.

ALL PURPOSE TEST LEAD KIT

48″ rubber covered kinkless test lead wire. Plastic handles with solderless or needle tips. Other end supplied with standard #204 banana plugs, which are interchangeable with the phone tips, alligator clips, or spade lugs included.

No.	Description	Each
610	Kit W/Solderless prods	$3.00
611	Kit W/Needle point prods	$3.00
609	Banana Lead W/Solderless prod	$2.50



680

"CROSS-PATCH" PATCH CORD

Provides a never-ending banana plug receptacle to interconnect an unlimited amount of multiple circuits. The cross hole is designed for positive contact of all standard banana plugs. Fits all standard banana jacks. Four-leaved phosphor bronze nickel plated spring. Red or Black assemblies. Specify color.

No. 680	8″ Wire Length	$1.45 Each
No. 681	12″ Wire Length	$1.55 Each
No. 682	24″ Wire Length	$1.65 Each
No. 683	36″ Wire Length	$1.75 Each

690

PATCH CORD

Embodies No. 211 banana plug and is used to interconnect circuits. Molded plastic handle. Plug portion brass, nickel plated. Fits all standard banana jacks. Four-leaved phosphor bronze nickel plated spring. Red or Black assemblies. Specify color.

No. 690	8″ Wire Length	$ .80 Each
No. 691	12″ Wire Length	$ .90 Each
No. 692	24″ Wire Length	$1.00 Each
No. 693	36″ Wire Length	$1.10 Each

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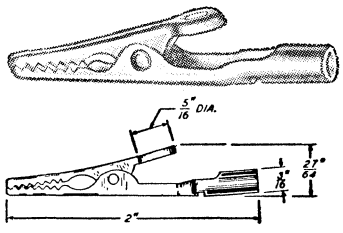
ALL PRICES SUBJECT TO TRADE DISCOUNT

ALLIGATOR CLIP

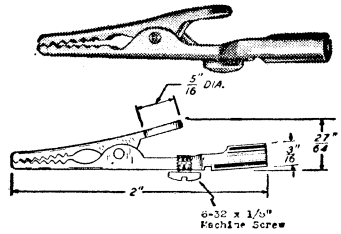


300

Steel, cadmium plated. Jaws match accurately for firm grip. Banana plug fits in rear of alligator clip.

No. 300 — $8.50 Per C

ALLIGATOR CLIP—Screw Type

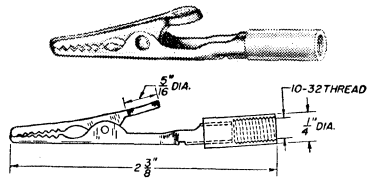


350 **360**

Steel, cadmium plated. Jaws match accurately for firm grip. Supplied with screw for solderless connection.

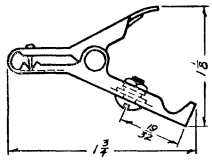
No. 350	Steel Cad. Pl.	$ 9.50 Per C
No. 360	Copper	$15.00 Per C

ALLIGATOR CLIP ADAPTER



Adapts standard solderless tips to Alligator Clip. This novel quick adapter is a must for all types of bench work!

No. 310 — $25.00 Per C

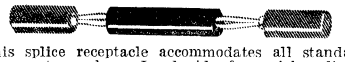


TL 137 TEST CLIP

Signal Corps Apprvd. Linemans Test Clip made in accordance with Gov't Specs. Steel Spring. Phosphate finish — Clip nickel plated. 3/4" jaw opening.

No. 315 — $0.65 Ea.

BANANA PLUG SPLICE



This splice receptacle accommodates all standard banana type plugs. Invaluable for quick splicing connections. Supplied in Red, Black, Yellow, or Green colors. Specify color.

No. 245 — $0.40 Ea.

PHONE TIP PLUG SPLICE

Accommodates all standard phone tip plugs. Invaluable for quick splicing connections or for test lead extension. Supplied in Red, Black, Yellow or Green. Specify color.

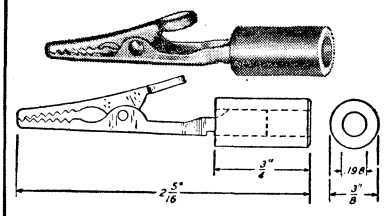
No. 246 — $0.45 Ea.

IN-LINE PHONE TIP JACK

Accommodates all standard phone tip plugs. Suitable for test lead extension where long leads are required. Supplied in Red, Black, Yellow or Green. Specify color.

No. 248 — $0.35 Ea.

INSULATED ALLIGATOR CLIP

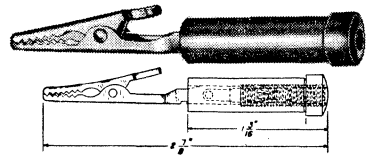


301 **306**

Embodies our No. 300 steel cadmium plated alligator clip with molded plastic Red or Black handle. Specify color.

No. 301	3/4" Handle	$14.00 Per C
No. 306	1 1/2" Handle	$35.00 Per C

PHONE TIP OR BANANA PLUG TO ALLIGATOR CLIP ADAPTER



No. 300 alligator clip with No. 206 comb. phone tip and banana plug jack in rear of handle. Adapts phone tips and banana plugs to alligator clips. Red or Black. Specify color.

No. 305 — $65.00 Per C

Same, except with No. 360 screw type copper alligator clip.

No. 335 — $70.00 Per C

ALL INSULATED ALLIGATOR CLIP

Steel Cadmium plated alligator clip. All metal parts covered with vinyl plastic insuring against shock. Solder Type connection. Red or Black. Specify color.

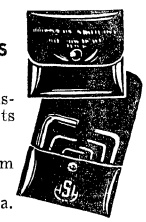
No. 337 — $0.80 Ea.

ALL INSULATED PHONE TIP TO ALLIGATOR CLIP ADAPTER

Steel Cadmium plated Alligator clip with spring in rear of handle enabling the adapting of standard phone tip plugs to alligator clips. All metal parts covered with molded plastic insuring against shock. Red or Black. Specify color.

No. 336 — $1.00 Ea.

HEX AND SPLINE KEY KITS



Attractive tearproof vinyl plastic kit with individual pockets for each of six keys in kit.

Kit of 6 keys for screws from No. 3 to 5/16".

No. 355 — $1.00 Ea.

Kit of 6 spline keys for screws from No. 5 to 5/16".

No. 385 — $1.00 Ea.

Combination Kit of 3 hex and 3 spline keys for No. 6-8-10 screws.

No. 390 — $1.00 Ea.

Combination Kit of 7 hex keys for screws from No. 3 to 5/16" and 4 spline keys from No. 4 to No. 10.

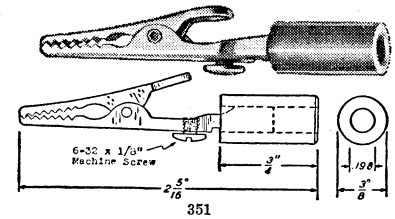
No. 395 — $2.00 Ea.

DISPLAY CARDS

No.		Each
355D	24 Hex Kits No. 355	$24.00
385D	24 Spline Kits No. 385	24.00
390D	24 Combination Kits No. 390	24.00
395D	20 Combination Kits No. 395	40.00

INSULATED ALLIGATOR CLIP

Screw Type

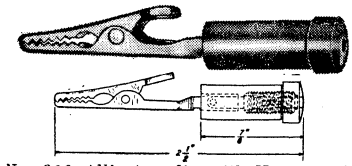


351

Screw type. Embodies our No. 350 steel, cadmium plated screw type alligator clip with molded plastic Red or Black handle. Specify color.

No. 351	Steel	$16.00 Per C
No. 361	Copper	$21.00 Per C

PHONE TIP TO ALLIGATOR CLIP ADAPTER

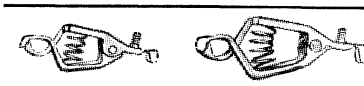


No. 300 Alligator clip with No. 202 tip jack in rear of handle, adapts phone tip plugs to alligator clips. Red or Black. Specify color.

No. 304 — $55.00 Per C

Same, except with No. 360 screw type copper alligator clip.

No. 334 — $60.00 Per C



365 366

BATTERY TEST CLIP — Midget Size

Steel, cadmium plated, for radio and ignition work, etc. Jaws have meshing teeth. Jaw spread 1/2", 7 lb. spring, 1 1/2" long, 5 amp. capacity.

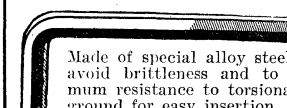
No. 365 — $10.50 Per C

BATTERY TEST CLIP — Small Size

For general testing and radio use. Steel, Electroplated. Jaws have meshing teeth. Jaw spread 3/16", 10 lb. spring, 2" long, 10 amp. capacity.

No. 366 — $11.00 Per C

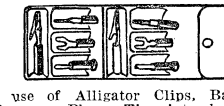
HEX AND SPLINE KEYS



Made of special alloy steel, tempered to avoid brittleness and to impose maximum resistance to torsional strain. Ends ground for easy insertion.

HEX KEYS			SPLINE KEYS		
No.	Screw Size	Per C	No.	Screw Size	Per C
340	No. 2	$13.00	370	No. 4	$13.00
341	No. 3, 4	13.00	371	No. 5	13.00
342	No. 5, 6	13.00	372	No. 6	13.00
343	No. 8	13.00	373	No. 8	13.00
344	No. 10	15.00	374	No. 10	15.00
345	1/4"	15.00	375	1/4"	15.00
346	5/16"	15.00	376	5/16"	15.00

TEST LEAD INTERCHANGE KIT



Permits use of Alligator Clips, Banana Plugs, Spade Lugs or Phone Tips interchangeably. One each red and black solderless phone tips with banana jack rear, spade lugs with banana jack rear, combination alligator clip jack, and banana plugs with phone tip jack rear. Durable vinyl kit.

No. 640 — $3.75 Ea.

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HERMAN H. SMITH, INC.

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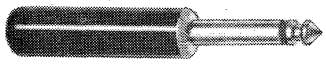
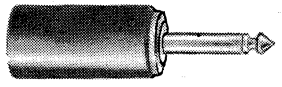
TELEPHONE TYPE PLUGS



SLIM BARREL BAKELITE PHONE PLUG

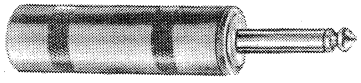
No. 225	Red or Black	$65.00 Per C
No. 226	Shielded	$100.00 Per C

BAKELITE DOUBLE PHONE PLUG



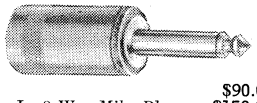
No. 222	Red or Black	$65.00 Per C
No. 227	3-Way Bakelite Barrel Mike Plug	$140.00 Per C

SHIELDED PHONE PLUG



No. 272		$110.00 Per C
No. 238	3-Way Mike Plug	$185.00 Per C

JR. SHIELDED PHONE PLUG



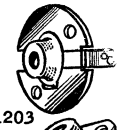
No. 252		$90.00 Per C
No. 228	Jr. 3-Way Mike Plug	$150.00 Per C

PHONO PLUGS

RCA Type Phone Plug. For use with record players, recording and reproducing equipment, etc. Extra large hole in cap (.175") for coaxial cable.

No.	Type	Per C
1201	Long Pin (1" overall)	$8.00
1202	Short Pin (13/16" overall)	$8.00

PHONO JACKS



1203

Female for No. 1201 plug. Single prong positive grip jack mounted on 1/16" bakelite with 11/16" mounting centers.

No.		Per C
1203		$11.00
1203-1	Insulating Washer	3.00

1223

Small, compact . . . where space is at a permium.

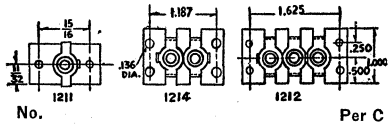
No.	Per C
1223	$12.00

Space Saver . . . Rivets and grounds to chassis.

No.	Per C
1233	$11.00

PHONO JACKS

Used on recording units, phono players, etc.



No.	Per C
1211—Single Jack	$12.00
1214—Double Jack	16.00
1212—Triple Jack	20.00
1214-1—Insulating Washer for No. 1214	4.00

SHIELDED EXTENSION JACK

Brass shell, cadmium plated, 1 7/16" long, with black bakelite insert. Provides insulation for solder-coated positive grip contact. Uses No. 1201 phono plug.

No. 1237 ..... $28.00 Per C

TELEPHONE TYPE JACKS

OPEN CIRCUIT TWO CONDUCTOR

No. 275 $50.00 Per C

CLOSED CIRCUIT TWO CONDUCTOR

No. 276 $57.00 Per C

OPEN CIRCUIT THREE CONDUCTOR

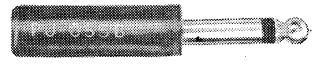
No. 277 $60.00 Per C

CLOSED CIRCUIT THREE CONDUCTOR

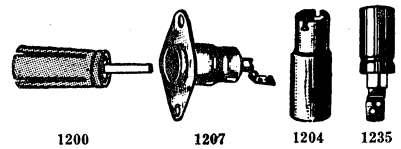
No. 278 $75.00 Per C

PJ-055B and PJ-068 PLUGS

JAN APPROVED



No. 217	Type PJ-055B	$1.35 Ea.
No. 247	Type PJ-068	$3.65 Ea.



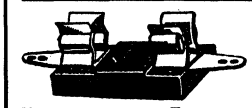
1200 1207 1204 1235

No.	Type	Per C
1200	Motorola Type Plug	$14.00
1207	Antenna Connector, Takes 1200 Plug	22.00
1204	Lead-in Adapter, converts Motorola pin plug to Delco	15.00
1235	Female for #1200 plug, without flange	12.00

1205 1296 1297 1234

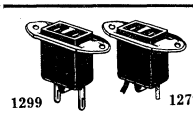
MINI-MAX CONNECTING STRIP

No.	Type	Per C
1205	67½ Volt	$30.00
1206	90 Volt	40.00
1296	Female	6.50
1297	Male	6.00
1210	67½ V. Small	30.00
1234	For Miniature 45V "B"	40.00



3AG FUSE MOUNTING BASES

No.	Type	Per C
530	Single	$25.00
531	Double	40.00
532	Clip Only	2.50

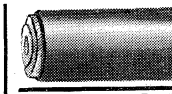


1299 1279

SPACE SAVER APPLIANCE RECEPTACLES

Mounts from top or bottom of Mtg. bracket. 1⅛" Mtg. ctrs. U.L. Approved, 15A-125V AC or DC.

		Per C
No. 1299	With Soldering Terminals	$20.00
No. 1279	With 8" Wire Leads	38.00



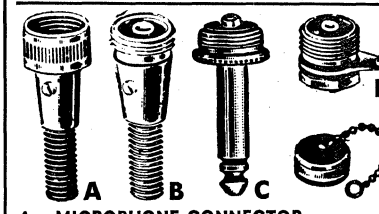
IN-LINE PHONE JACK

No. 274 $90.00 Per C

SHIELDED IN-LINE JACK

Single Open Circuit

No. 273 $155.00 Per C



A. MICROPHONE CONNECTOR
No. 116 Single Contact Female $0.53 Ea.

B. MICROPHONE CONNECTOR
No. 115 Single Contact Male $0.35 Ea.

C. PHONE PLUG ADAPTOR
For Mike Cables. Fits Standard Jack.
No. 113 $0.50 Ea.

D. CHASSIS CONNECTOR
No. 117 Single Contact Male $0.38 Ea.

E. CAP & CHAIN
No. 118 $0.60 Ea.

ANTENNA CONNECTOR

For use as connection of auto radio antenna lead-in to auto radio receiver.

No. 1300 ..... $17.00 Per C

FUSE RETAINER

Recommended for use in auto radio power supply cables.

No. 1301 ..... $22.00 Per C

PARTS FOR CONNECTOR AND RETAINER

No.	Type	Per C
1305	Male Cap for #1300 & #1301	$3.30
1306	Female Shell for #1300	3.85
1307	Contact for #1300 & #1301	5.50
1308	Spring for #1300 & #1301	1.10
1309	Washer for #1300 & #1301	.55
1310	Insulating Tube for #1301	1.00
1311	Female Shell for #1301	5.50

JUMBO FUSE HOLDERS

No.	Size	Fuse Size	Each
1302	½" x 2⅛"	9 amp.	$0.35
1303	½" x 2⅝"	14 amp.	.35
1313	½" x 2⅝"	30 amp.	.35

WIRED FUSE RETAINER

Simply cut wire, strip and put in line. Will accommodate either 3 A.G. 20 amp. or SFE 14 amp. fuse.

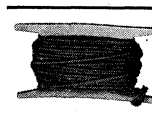
No.	Each
1304	$ 0.50
1304-D—Display of 24	12.00

DOUBLE END WRENCH

For Toggle Switches **For Volume Controls**

Specially designed offset wrench for rear of chassis assembly of toggle switches, Volume Controls, etc. Case hardened steel, Cadmium plated.

No. 999 $0.35 Each
No. 999D Display of 50 No. 999 $17.50 Each



ANTENNA HANK

Cotton covered copper antenna hank.

No. 1222 $40.00 per C

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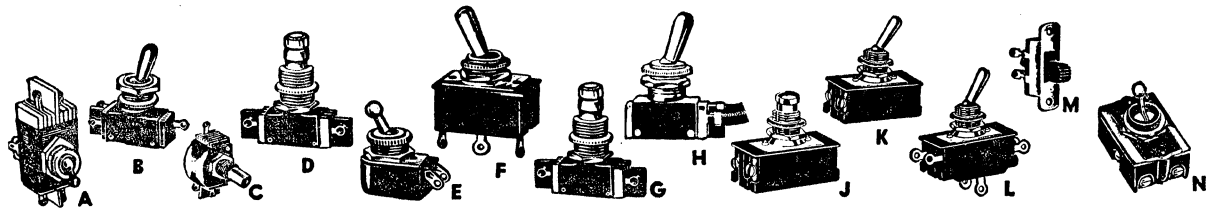
ALL PRICES SUBJECT TO TRADE DISCOUNT

HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

ARROW, H&H SWITCHES



(A) BALL HANDLE TOGGLE SWITCHES

No.	Type	Current Rating 125 Volts	250 Volts	Shaft	Each
500	SPST		3 Amps	15/32"	$1.00
501	SPST		3 Amps	3/4"	1.25
502	SPDT	3 Amps	1 Amp	15/32"	1.30
503	SPDT	3 Amps	1 Amp	3/4"	1.60
504	DPST	3 Amps	1 Amp	15/32"	1.85
505	DPST	3 Amps	1 Amp	3/4"	2.10
506	DPDT	3 Amps	1 Amp	15/32"	2.10
507	DPDT	3 Amps	1 Amp	3/4"	2.35
508	NAMEPLATE ON-OFF				$6.00 Per C
509	NAMEPLATE HI-LOW				6.00 Per C

(B) BAT HANDLE TOGGLE SWITCHES

No.	Type	Current Rating 125 Volts	250 Volts	Shaft	Each
510	SPST		3 Amps	15/32"	$1.00
511	SPDT	3 Amps	1 Amp	15/32"	1.30
512	DPST	3 Amps	1 Amp	15/32"	1.85
513	DPDT	3 Amps	1 Amp	15/32"	2.10

(C) ROTARY SWITCHES—1½" LG. SHAFT

Made by H. & H. Switches nickel plated; supplied with mounting nut. Threaded shank 13/32" O.D. x 3/8" long. Overall length of shaft 1½".

No.	Type	Current Rating 125 Volts	250 Volts	Each
570	SPST		3 Amps	$1.20
571	SPDT	3 Amps	1 Amp	1.70
572	DPST	3 Amps	1 Amp	2.10
573	DPDT	3 Amps	1 Amp	2.35

(D) PUSH BUTTON MOMENTARY SWITCH

Quick make and break. Normally off rated at 3 amps 250 volts for A.C. or D.C. Will take #581 Button.

No.	Type	Each
555	SPST	$2.00
556	SPDT	2.25
557	2 Circuit	2.30
558	DPST	2.80
559	DPDT	3.05

(E) SMALL TOGGLE SWITCH

No.	Type	Each
590	SPST Ball Handle	$1.20
591	SPST Bat Handle	1.20

(F) MOLDED BAKELITE SWITCHES

Made by H. & H. Bat handle. Back connected silver plated contacts, slotted sleeve.

No.	Type	Current Rating 125 Volts	250 Volts	Shaft	Each
520	SPST	6 Amps	3 Amps	15/32"	$1.35
521	SPDT	6 Amps	3 Amps	15/32"	1.60
522	DPST	6 Amps	3 Amps	15/32"	1.95
523	DPDT	6 Amps	3 Amps	15/32"	2.25

MOLDED BAKELITE MOMENTARY SWITCHES

Same as above except switches are momentary type. SPST normally "OFF."

No.	Type	Current Rating 125 Volts	250 Volts	Shaft	Each
524	SPST	6 Amps	3 Amps	15/32"	$1.95
525	DPDT	6 Amps	3 Amps	15/32"	3.05

BAT HANDLE TOGGLE SWITCHES

Meets Joint Army-Navy Specs. JAN-S-23 Molded Type. Made by H. & H. Maintained contact type. Silver plated contacts, slotted sleeve.

No.	A.W.S. No.	Type	Current Rating 125 Volts	250 Volts	Each
545	ST-12-A	SPST	6 Amps.	3 Amps.	$1.75
546	ST-12-D	SPDT	6 Amps.	3 Amps.	2.00
547	ST-22-K	DPST	6 Amps.	3 Amps.	2.50
548	ST-22-N	DPDT	6 Amps.	3 Amps.	2.75

(G) PUSH BUTTON MOMENTARY SWITCH

Slow make and break switch made by H. & H. Laminated type, solder lug. Circuit normally "OFF," push to make, 5/8" slotted sleeve, rated at 1 amp, 125 volts. The two circuit switch has one circuit normally on, one circuit normally off.

No.	Type	Each
579	SPST less button	$1.00
580	Two Circuit less button	1.45
581	Red or Black Button	.35
582	SPST Refrigerator Switch, Normally On	1.10

(H) SMALL TOGGLE SWITCH w/Wire Leads

Midget type Bakelite case with 6" wire leads. Made by H. & H. rated at 3 amps., 250 volts. 3/8" shank. Supplied with hex and ring nuts.

No.	Type	Each
526	SPST Ball Handle	$1.45
527	SPST Bat Handle	1.45

(J) HEAVY DUTY MOMENTARY SWITCH

6 amps, 250 volts — 12 amps, 125 volts, 1 HP at 250 volts.

No.	Type	Each
595	DPST	$2.90 Each

(K) HEAVY DUTY BAT HANDLE SWITCH

6 amps, 250 volts — 12 amps, 125 volts, 1 HP at 250 volts.

No.	Type	Each
596	DPST	$1.95 Each

(L) CENTER OFF SWITCH

No.	Type	Current Rating 125 Volts	250 Volts	Each
566	SPDT	6 Amps	3 Amps	$2.50
567	DPDT	6 Amps	3 Amps	3.05

(M) SLIDE LEVER SWITCHES

Size 1⅜" x ½". Mtg Ctrs 1⅛". Rated at 125 V. AC-DC. UL APPROVED.

No.	Type	Rating	Each
515	SPST	.75 Amps	$0.21
516	SPDT	.75 Amps	.22
517	DPST	.50 Amps	.29
518	DPDT	.50 Amps	.32
	SPRING RETURN		
568	SPST	.75 Amps	.33
569	SPDT	.75 Amps	.35
	CENTER-OFF		
577	SPDT	.75 Amps	.30
578	DPDT	.50 Amps	.35
519	Shield for all slide Switches		.10

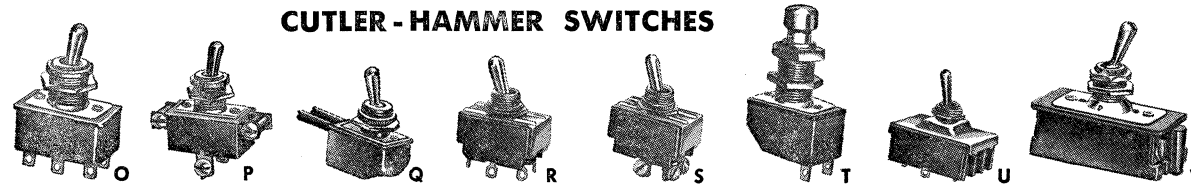
(N) HEAVY DUTY POWER SWITCHES

Made by H & H. Neutral off in center position. Rated at 10A.-125V.; 5A.-250V. Mtg Sleeve Diam. ¾" x ⅜" long.

No.	Type	Size	Power Rating	Each
574	DPDT	2x1¼x⅞"	¾ HP 250V.	$ 8.50
575	TPDT	2x2¼x1"	½ HP 3-ph.*	12.50
576	4PDT	2x2¼x1"	½ HP 2-ph.*	17.00

*115-230 V.A.C.

CUTLER-HAMMER SWITCHES



LIGHT DUTY TOGGLE SWITCHES

AC-DC, UL Approved; 15/32" shank; quick make—quick break; bakelite case. Unusually small size for electrical capacity.

(O) BACK CONNECTED LUG TERMINALS

No.	C-H No.	Type	Current Rating 125 Volts	250 Volts	Ea.
950	8280K16	SPST		3 Amps.	$1.10
951	8381K8	SPST	6 Amps.	3 Amps.	1.25
952	8282K14	SPDT	3 Amps.	1 Amp.	1.35
953	8284K14	2 circ.	3 Amps.	1 Amp.	1.45
954	8360K7	DPST		3 Amps.	1.85
955	8370K7	DPST	6 Amps.	3 Amps.	2.10
956	8363K7	DPDT		3 Amps.	2.25
957	8373K7	DPDT	6 Amps.	3 Amps.	2.40

(P) SIDE CONNECTED SCREW TERMINALS

No.	C-H No.	Type	Current Rating 125 Volts	250 Volts	Ea.
958	8295K8	SPST		3 Amps.	$1.30
959	8396K8	SPST	6 Amps.	3 Amps.	1.45
960	8297K8	SPDT	3 Amps.	1 Amp.	1.70
961	8372K7	DPST	6 Amps.	3 Amps.	2.55
962	8365K7	DPDT		3 Amps.	2.90
963	8375K7	DPDT	6 Amps.	3 Amps.	3.10

(Q) WIRE LEADS—SIX INCHES LONG

No.	C-H No.	Type	Current Rating 125 Volts	250 Volts	Ea.
964	8290K16	SPST		3 Amps.	$1.30
965	8391K8	SPST	6 Amps.	3 Amps.	1.45

STANDARD DUTY TOGGLE SWITCHES

15 Amps. 125 Volts — 10 Amps. 250 Volts

AC, UL Approved; 15/32" shank; slow-make and break; bakelite case. AC rated only for longer life and greater capacity.

(R) BACK CONNECTED LUG TERMINALS

No.	C-H No.	Type	Each
966	7501K13	SPST	$1.05
967	7505K4	SPDT	1.20
968	7561K4	DPST	1.60
969	7565K5	DPDT	1.80
970	7611K2	TPST	3.30
971	7615K2	TPDT	4.10

(S) BACK CONNECTED SCREW TERMINALS

No.	C-H No.	Type	Each
972	7500K14	SPST	$1.25
973	7504K4	SPDT	1.45
974	7560K5	DPST	1.95
975	7564K6	DPDT	2.35
976	7610K2	TPST	3.90
977	7614K2	TPDT	4.95

(T) PUSH BUTTON SWITCHES

Push to make — Push to break

AC-DC, UL Approved; 11/16" shank; bakelite case. Pushing the button once closes the contacts. Pushing it again opens the contacts. Rated at 6 Amps. 125 Volts-3 Amps. 250 Volts.

No.	C-H No.	Type	Terminals	Each
989	7206K4	SPST	Lug	$1.50
990	7208K4	SPST	Screw	1.70
991	7207K4	SPST	Wire	1.70

(U) CENTER OFF STANDARD DUTY TOGGLE SWITCHES

BACK CONNECTED LUG TERMINALS

No.	C-H No.	Type	Each
978	7503K13	SPDT	$1.20
979	7563K4	DPDT	1.80
980	7613K2	TPDT	4.10

BACK CONNECTED SCREW TERMINALS

No.	C-H No.	Type	Each
981	7502K13	SPDT	$1.45
982	7562K4	DPDT	2.35
983	7612K2	TPDT	4.95

(V) HEAVY DUTY TOGGLE SWITCHES

AC-DC, UL Approved; 15/32" shank; quick make—quick break; bakelite case. Screw Terminals.

No.	C-H No.	Type	Current Rating 125 Volts	250 Volts	Ea.
984*	7321K3	SPST	12 Amps.	6 Amps.	$2.05
985*	7320K3	DPST	12 Amps.	6 Amps.	2.05
986†	7361K5	SPST	15 Amps.	10 Amps.	3.55
987†	7360K8	DPST	15 Amps.	10 Amps.	3.55
988§	7402K4	DPST	——	20 Amps.	5.00

* 1 Hp—125/250V. † 1½ Hp—125/250V.
§ 1½ Hp—125V, 2 Hp—250V.

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HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

Exclusive Distributors of

KULKA AIRCRAFT TYPE SWITCHES

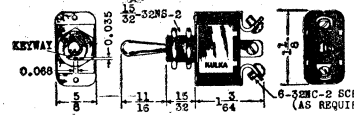
TO RADIO PARTS JOBBERS ONLY

Made to Joint Army and Navy Specifications No. Jan-S-23 superseded by Mil S-3950

For Electronic & Communications Use

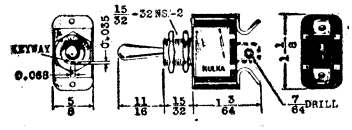
Bakelite housing for DC, or AC circuits up to 1600 cycles, one hole mounting. Two styles available — binding screw terminals (ST-40 Series and ST-50 Series). Solder lugs (ST-42 Series and ST-52 Series) — terminals and screws silver-plated to prevent corrosion; solder lugs hot-tinned to facilitate soldering. Supplied with 2 mounting nuts, 1 sleeve lock-washer and if needed, locking rings. Teerminal screws are Sems type, with external teeth.

SINGLE POLE Style 40—With Screw Term.



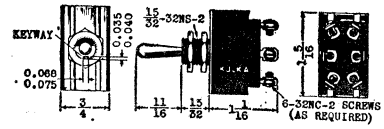
Cat No.	Type	Up Position	Center Position	Down Position	Each
ST-40A	SPST	ON	NONE	OFF	$1.85
ST-40B	SPST	ON	NONE	MOM. OFF	2.00
ST-40C	SPST	OFF	NONE	MOM. ON	2.00
ST-40D	SPDT	ON	NONE	ON	2.15
ST-40E	SPDT	ON	OFF	ON	2.15
ST-40F	SPDT	ON	NONE	MOM. ON	2.30
ST-40G	SPDT	MOM. ON	OFF	MOM. ON	2.30
ST-40H	SPDT	ON	OFF	MOM. ON	2.30

SINGLE POLE Style 42—With Solder Lugs



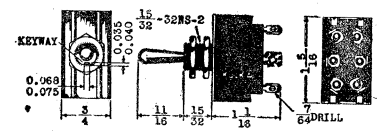
Cat No.	Type	Up Position	Center Position	Down Position	Each
ST-42A	SPST	ON	NONE	OFF	$1.50
ST-42B	SPST	ON	NONE	MOM. OFF	1.65
ST-42C	SPST	OFF	NONE	MOM. ON	1.65
ST-42D	SPDT	ON	NONE	ON	1.80
ST-42E	SPDT	ON	OFF	ON	1.80
ST-42F	SPDT	ON	NONE	MOM. ON	1.95
ST-42G	SPDT	MOM. ON	OFF	MOM. ON	1.95
ST-42H	SPDT	ON	OFF	MOM. ON	1.95

DOUBLE POLE Style 50—With Screw Term.

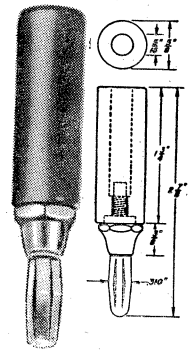


Cat No.	Type	Up Position	Center Position	Down Position	Each
ST-50K	DPST	ON	NONE	OFF	$2.20
ST-50L	DPST	ON	NONE	MOM. OFF	2.40
ST-50M	DPST	OFF	NONE	MOM. ON	2.40
ST-50N	DPDT	ON	NONE	ON	2.40
ST-50P	DPDT	ON	OFF	ON	2.40
ST-50R	DPDT	ON	NONE	MOM. ON	2.75
ST-50S	DPDT	MOM. ON	OFF	MOM. ON	2.75
ST-50T	DPDT	ON	OFF	MOM. ON	2.75

DOUBLE POLE Style 52—With Solder Lugs



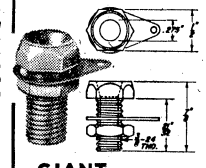
Cat No.	Type	Up Position	Center Position	Down Position	Each
ST-52K	DPST	ON	NONE	OFF	$1.85
ST-52L	DPST	ON	NONE	MOM. OFF	2.05
ST-52M	DPST	OFF	NONE	MOM. ON	2.05
ST-52N	DPDT	ON	NONE	ON	2.05
ST-52P	DPDT	ON	OFF	ON	2.05
ST-52R	DPDT	ON	NONE	MOM. ON	2.40
ST-52S	DPDT	MOM. ON	OFF	MOM. ON	2.40
ST-52T	DPDT	ON	OFF	MOM. ON	2.40



INSULATED GIANT BANANA PLUG

Large deep internal well for soldering heavy wire. Phosphor Bronze Spring. Entire plug portion nickel plated. Red or Black. Specify Color.

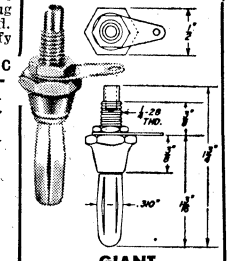
No. 285 $77.00 Per C



GIANT BANANA JACK

Hexed Brass Head. Mounts in 3/8" hole. Brass nickel plated overall.

No. 187 $50.00 Per C



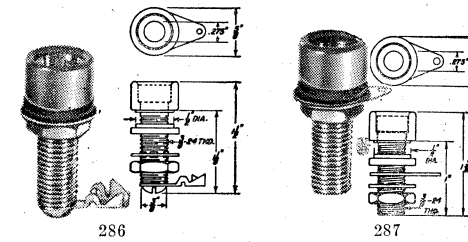
GIANT BANANA PLUG

Plug portion of No. 285

Large deep internal well for soldering heavy wire. Phosphor Bronze Spring. Brass nickel plated overall.

No. 185 $50.00 Per C

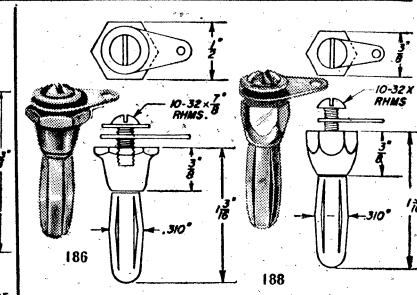
INSULATED GIANT BANANA JACKS



286 287

Recessed head for assembly from rear of panel. Mounts in 1/2" hole. Brass nickel plated body. Red or Black. Specify Color.

No.	Description	Per C
286	Lug at End	$70.00
287	Lug Under Head	70.00



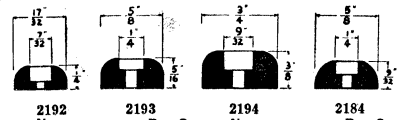
186 188

GIANT BANANA PLUGS

Internal Screw—Spring Type.
Phosphor Bronze Spring—Nickel Plated Overall.

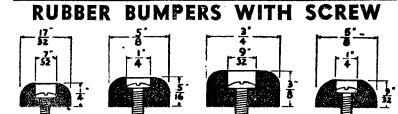
No. 186 $50.00 Per C **No. 188 $50.00 Per C**

RECESS RUBBER BUMPERS



2192 No.	Per C	2193 No.	Per C	2194 No.	Per C	2184 No.	Per C
2192	$2.20	2193	2.75	2194	4.40	2184	4.50

RUBBER BUMPERS WITH SCREW

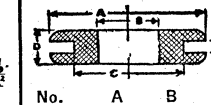


2196 2197 2198 2199

Supplied complete with 1/2" screw and hex nut. For panels up to 3/16" thick. Specify larger screw for larger panels.

No.	Per C	No.	Per C
2196	$4.90	2198	6.25
2197	5.25	2199	6.50

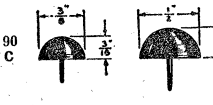
RUBBER GROMMETS



A: O.D.
B: I.D.
C: PANEL
D: THICK
E: P. THICK

No.	A	B	C	D	E	Per C
2185	5/16"	1/8"	3/16"	3/16"	1/16"	$2.20
2172	7/16"	3/16"	1/4"	1/16"	1/16"	3.30
2170	5/8"	1/4"	3/8"	1/4"	1/16"	3.85
2174	5/8"	5/16"	7/16"	1/4"	1/16"	3.60
2175	11/16"	3/8"	1/2"	1/4"	1/16"	3.85
2177	3/4"	7/16"	9/16"	1/4"	1/16"	3.60
2186	1 1/16"	1/2"	3/4"	5/16"	1/16"	4.95
2187	1 1/8"	5/8"	7/8"	5/16"	1/16"	5.20
2188	1 1/16"	9/16"	13/16"	5/16"	1/16"	5.50
2189	1"	3/4"	7/8"	5/32"	1/32"	8.00

RUBBER TACK BUMPERS

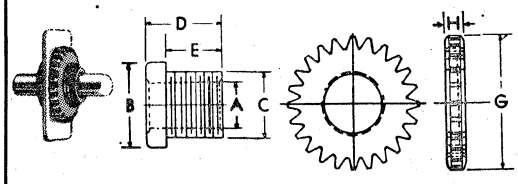


No. 2190 $2.40 C

No. 2191 $2.65 C

INSULATED GROMMET BUSHINGS

Black Phenolic — Matte Finish



No.	BUSHING A	B	C	D	COLLAR E	G	H	Each
931	1/8"	3/8"	1/4"—32	.3750"	1/4"	1/2"	1/8"	$0.25
932	3/16"	7/16"	5/16"—32	.4250"	5/16"	5/8"	1/8"	.27
933	1/4"	1/2"	3/8"—27	.4375"	5/16"	11/16"	1/8"	.29
934	5/16"	9/16"	15/32"—32	.4500"	5/16"	7/8"	1/8"	.30
935	3/8"	3/4"	5/8"—27	.4500"	5/16"	1"	1/8"	.32

FELT FEET

No.	Type	Per C
2181	With 6/32 x 3/8" Machine Screw	$11.00
2182	With Stronghold "Anchor Fast" Nail	11.50

ALL PRICES SUBJECT TO TRADE DISCOUNT

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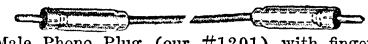
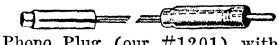
JUMPER CORDS



Male Phono Plug (our #1201) with finger-grip handle on each end.

No. 631	18 Inches	$1.15 Ea.
No. 632	24 Inches	1.20 Ea.
No. 633	36 Inches	1.30 Ea.
No. 634	48 Inches	1.45 Ea.
No. 635	72 Inches	1.65 Ea.
No. 636	120 Inches	2.20 Ea.

EXTENSION CORDS



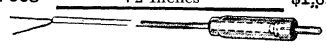
Male Phono Plug (our #1201) with finger-grip handle, one end. Female In-Line Jack (our #1237) other end.

No. 641	18 Inches	$1.45 Ea.
No. 642	24 Inches	1.55 Ea.
No. 643	36 Inches	1.60 Ea.
No. 644	48 Inches	1.70 Ea.
No. 645	72 Inches	1.90 Ea.
No. 646	120 Inches	2.20 Ea.

PHONO PLUG CONNECTOR CORDS

Male Phono Plug (our #1201) with finger-grip handle, one end. Spade Lugs other end.

No. 668 — 72 Inches — $1.65 Ea.



Male Phono Plug (our #1201) with finger-grip handle, one end. Other end stripped and tinned.

No. 637	36 Inches	$1.10 Ea.
No. 638	72 Inches	1.35 Ea.

INPUT-OUTPUT CORDS

Male Phono Plug (our #1201) with finger-grip handle, one end. Male Phone Plug (our #225) other end.

No. 662 — 72 Inches — $2.50 Ea.

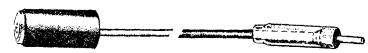
Male Phone Plug (our #225) one end. Female In-Line Jack (our #1237) other end.

No. 663 — 72 Inches — $2.65 Ea.

EXTENSION CORDS

Male Phone Plug (our #225) one end. In-Line Jack (our #274) other end.

No. 669 — 72 Inches — $3.00 Ea.



Male Phone Plug (our #1201) one end. In-Line Jack (our #274) other end.

No. 639 — 72 Inches — $2.35 Ea.

COAXIAL EXTENSION CABLE

No.	Length	Each
687	36 inches	$2.00
688	72 inches	2.50
689	144 inches	3.60

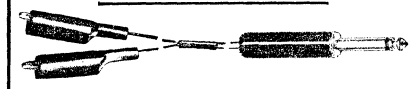
PHONE PLUG CONNECTOR CORDS

Male Phone Plug (our #225) one end. Spade Lugs other end.

No. 665 — 72 Inches — $2.25 Ea.

Male Phone Plug (our #225) one end. Other End Stripped and Tinned.

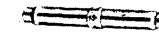
No. 667 — 72 Inches — $2.00 Ea.



Male Phone Plug (our #225) one end. Insulated Alligator Clips other end.

No. 664 — 72 Inches — $2.75 Ea.

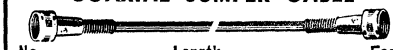
FEED THRU



Accepts Phono Plug on each end.

No. 661 — $1.10 Ea.

COAXIAL JUMPER CABLE



No.	Length	Each
694	36 inches	$2.25
696	72 inches	2.75
697	144 inches	3.85

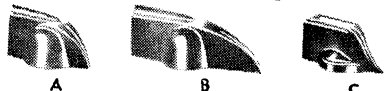
INSTRUMENT KNOBS

Plain — With Pointer — With Skirt

Molded black bakelite instrument knobs with molded in brass insert for ¼" shafts. Style B pointer knobs have white vinyl pointer. Style C skirt type have white indicator line. Style D same as Style A except with protruding brass insert for mounting special dials and pointers.

No.	Style	O.D.		Height	Per C
2200	A	1⅛"		5/8"	$40.00
2201	A	1⅜"		11/16"	42.00
2202	A	1⅝"		¾"	48.00
2203	A	2⅜"		⅞"	70.00
2204	B	1⅛"	¾" Pointer	11/16"	61.00
2205	B	1⅜"	1 1/16" "	⅞"	64.00
2206	B	1⅝"	1⅜" "	13/16"	70.00
2207	B	2⅜"	1 9/16" "	15/16"	90.00
2208	C	1⅛"	1½" Skirt	13/16"	75.00
2209	C	1⅜"	1¾" "	⅞"	80.00
2210	C	1⅝"	2 1/16" "	29/32"	95.00
2211	C	2⅜"	3" "	1 1/32"	125.00
2212	D	1⅛"		25/32"	50.00
2213	D	1⅜"		29/32"	51.00
2214	D	1⅝"		29/32"	57.00
2215	D	2⅜"		31/32"	80.00
2216		1½"	Skirt Only		14.00
2217		1¾"	Skirt only		18.50
2218		2 1/16"	Skirt only		21.00
2219		1"	Skirt only		25.50

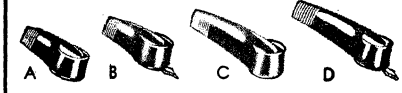
POINTER KNOBS



A — Length 1¼" Hgt. 5/8" — B — Length 2" Hgt. 5/8" — C — Length 1¼" Hgt. 9/16"

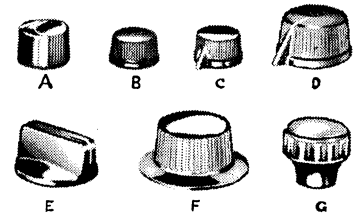
No.	Style	Type Hole	Color	Per C
2220	A	¼" Plain	Black	$17.00
2221	A	¼" Plain	Walnut	18.00
2222	A	¼" Plain	Ivory	20.00
2223	A	¼" Brass Insert	Black	26.00
2224	A	¼" Brass Insert	Walnut	27.00
2225	A	¼" Brass Insert	Red	28.00
2226	B	¼" Plain	Black	33.00
2227	B	¼" Plain	Walnut	34.00
2228	B	¼" Brass Insert	Black	39.00
2229	B	¼" Brass Insert	Walnut	40.00
2230	C	¼" Plain	Black	17.00
2231	C	¼" Plain	Walnut	18.00

LEVER KNOBS
WITH ¼" BRASS INSERT



No.	Style	Length	Hgt.	Color	Per C
2232	A	1 5/8"	19/32"	Black	$33.00
2233	A	1 5/8"	19/32"	Walnut	34.00
2234	B	1 1/16"	19/32"	Black	51.00
2235	B	1 1/16"	19/32"	Walnut	53.00
2236	C	2 1/2"	⅝"	Black	35.00
2237	C	2 1/2"	⅝"	Walnut	36.00
2238	D	2 1/16"	⅝"	Black	56.00
2239	D	2 1/16"	⅝"	Walnut	58.00

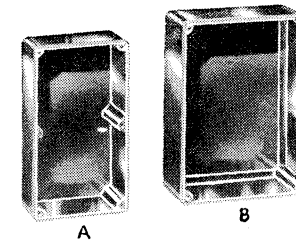
CONTROL KNOBS



Molded bakelite control knobs. Supplied with ¼" molded hole; complete with set screw. *Recessed for Locknut.

No.	Style	O.D.	Hgt.	Color	Per C
2240	A	¾"	19/32"	Black	$18.00
2241	A	¾"	19/32"	Walnut	18.00
2242	B	11/16"	19/32"	Black	15.00
2243	B	11/16"	19/32"	Walnut	15.00
2244*	B	1"	½"	Black	20.00
2245*	B	1"	½"	Walnut	20.00
2246	C	11/16"	13/32"	Black	15.00
2247	C	11/16"	13/32"	Walnut	15.00
2248*	D	1"	½"	Black	25.00
2249*	D	1"	½"	Walnut	25.00
2250*	E	1 1/8"	9/16"	Black	22.00
2251*	E	1 1/8"	9/16"	Walnut	22.00
2252*	F	1 1/2"	11/16"	Black	32.00
2253*	F	1 1/2"	11/16"	Walnut	33.00
2254*	F	1 1/2"	11/16"	Ivory	34.00
2258	G	7/8"	¾"	Black	20.00
2259	G	7/8"	¾"	Walnut	20.00

METER OR INSTRUMENT CASES



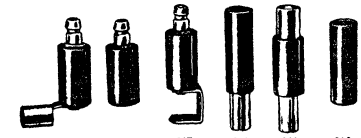
Molded, Black, with four corner brass inserts for corner mounting.

No. 2255 (Illustration A), Case. Inserts have 6-32 tap. Overall: 6¼" Long, 3¾" Wide, 2" Deep. **Each $1.85**

No. 2256 Cover for 2255 Case **Each $1.50**

No. 2257 (Illustration B), Case only. Inserts have 4-36 tap. Overall: 6 13/16" Long, 5 3/32" Wide, 2 5/16" Deep. **Each $2.20**

Auto Radio IGNITION SUPPRESSORS



Solidly made of molded black bakelite housings with rugged brass metal parts . . . impervious to heat, oil, moisture and vibration. Resistance of 10,000 ohms, will remain constant over 50,000 miles of operation.

Cat. No.	Type	Per C
805	Snap-On Type Suppressor	$38.00
806	Univ. Type with Double Thrd.	38.00
807	Angle Type Suppressor	38.00
808	Distributor Screw Type	38.00
809	Distributor Plug-in Type	38.00
810	Double Screw Type	38.00

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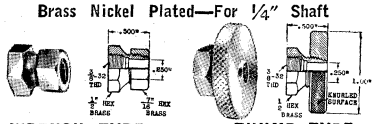
HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

SHAFT LOCKS

Brass Nickel Plated—For ¼" Shaft



WRENCH TYPE		THUMB TYPE	
No. 181	$0.40 Ea.	No. 182	$0.55 Ea.

BRASS AND INSULATED COUPLINGS

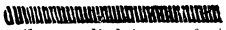
Available in both brass and insulated material. Overall length ¾". Set screws are provided in coupling for tightening to shaft.

No.	Type	O.D.	Material	Each
120	¼"-¼"	7/16"	Brass	$0.27
140	¼"-¼"	7/16"	Fibre	0.25
131	⅜"-¼"	½"	Brass	0.27
141	⅜"-¼"	½"	Fibre	0.25
133	⅜"-⅜"	½"	Brass	0.27
142	⅜"-⅜"	½"	Fibre	0.25

BRASS AND INSULATED SHAFT EXTENDERS

No.	Type	Material	Shaft Length	Overall Length	Each
150	¼"-¼"	Brass	1⅜"	1¾"	$0.33
130	¼"-¼"	Fibre	1⅜"	1¾"	0.33
132	⅜"-¼"	Brass	1⅜"	1¾"	0.33
134	⅜"-¼"	Fibre	1⅜"	1¾"	0.33

THREADED BRASS RODS



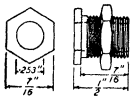
Rods ordinarily supplied in one foot lengths; if two foot length is required, please specify.

1-FT. LENGTH No.	Per Length	THREAD	2-FT. LENGTH No.	Per Length
1400-1	$ .40	6-32	1400-2	.80
1401-1	.40	8-32	1401-2	.80
1402-1	.60	10-32	1402-2	1.20
1403-1	.90	¼-20	1403-2	1.80

BRASS AND INSULATED RODS

No.	Type	Length	Dia.	Each
1404	Brass	6"	¼"	$0.33
1405	Brass	12"	¼"	.66
1406	Insulated	6"	¼"	.50
1407	Insulated	12"	¼"	.50

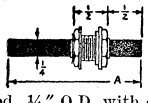
BEARING FOR PANEL ASSSEMBLY



Made of brass, and fits in ⅜" dia. hole in panels up to 5/16" thick. Bearing is made to accommodate ¼" shafts. Overall length ½".

No. 119 $0.25 each

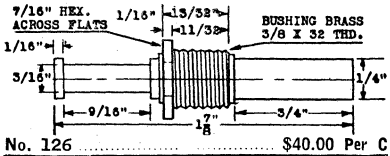
PANEL BEARING ASSEMBLY



This assembly combines either 3" or 6" brass rod, ¼" O.D. with our standard No. 119 Panel Bearing. Nickel plated overall.

No.	A	Each
148	3"	$0.55
149	6"	0.65

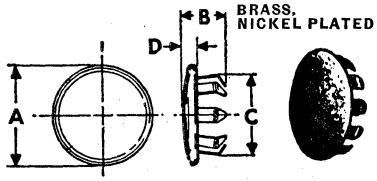
PANEL BEARING ASSEMBLY



No. 126 ..... $40.00 Per C

SNAP BUTTON HOLE PLUGS

BRASS, NICKEL PLATED



Metal plugs for covering punched or drilled holes in metal, plastic or wood.

No.	Hole	A	B	C	D	Prongs	Per C
650	¼"	13/32	1/4	17/64	5/64	6	$3.20
651	5/16"	7/16	1/4	21/64	1/16	6	3.20
652	⅜"	17/32	3/8	25/64	5/64	6	3.20
653	½"	21/32	17/64	17/32	5/64	8	4.60
654	⅝"	51/64	9/32	41/64	5/64	8	4.60
655	¾"	15/16	19/64	49/64	3/32	12	4.60
656	1"	1 5/32	19/64	1 33/64	5/64	12	18.00

BRASS SPACERS CADMIUM PLATED

Ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a No. 6 or No. 8 screw.

FOR NO. 6 SCREW No.	Per C	¼" O.D. Length	FOR NO. 8 SCREW No.	Per C
2100	$5.50	¼"	2105	$5.50
2101	7.25	⅜"	2106	7.25
2102	8.80	½"	2107	8.80
2103	10.50	¾"	2108	10.50
2104	12.00	1"	2109	12.00
		⅜" O.D.		
2110	$8.80	¼"	2115	$8.80
2111	10.50	⅜"	2116	10.50
2112	12.00	½"	2117	12.00
2113	13.75	¾"	2118	13.75
2114	15.50	1"	2119	15.50

THREADED BRASS SPACERS CADMIUM PLATED

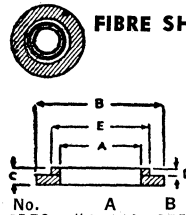
Brass bushings ¼" O.D. Threaded 6-32 and 8-32.

THREADED 6-32 No.	Per C	Length	THREADED 8-32 No.	Per C
2120	$6.50	¼"	2125	$6.50
2121	8.25	⅜"	2126	8.25
2122	10.00	½"	2127	10.00
2123	12.00	¾"	2128	12.00
2124	13.75	1"	2129	13.75

INSULATED SPACERS

FOR NO. 6 SCREW No.	Per C	¼" O.D. Length	FOR NO. 8 SCREW No.	Per C
2130	$6.50	¼"	2140	$6.50
2131	8.25	⅜"	2141	8.25
2132	10.00	½"	2142	10.00
2133	12.00	¾"	2143	12.00
2134	13.75	1"	2144	13.75

FIBRE SHOULDER WASHERS



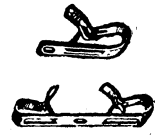
A. Inside Diameter
B. Outside Diameter
C. Thickness Over-all
D. Height of Shoulder
E. Diameter of Shoulder

No.	A	B	C	D	E	Per M
2150	#6-.140	.375	.098	.031	.237	$11.50
2151	#4-.110	.250	.062	.031	.187	9.50
2152	#6-.136	.250	.093	.031	.187	10.00
2153	#6-.136	.312	.093	.031	.187	11.00
2154	¼"-.250	.500	.068	.028	.312	12.00
2155	#8-.172	.375	.093	.031	.246	11.00
2156	#10-.196	.375	.093	.031	.246	11.00
2157	⅜"-.375	.750	.093	.031	.500	14.50
2158	⅜"-.385	.625	.093	.031	.500	14.00
2159	17/64"-.265	.500	.097	.031	.365	12.00

FLAT FIBRE WASHERS

No.	For Screw-(I.D.)	O.D.	Thickness	Per M
2160	#6-.136	.250	1/16	$ 9.50
2161	#4-.110	.250	1/16	9.50
2162	#6-.140	.375	1/16	8.50
2163	#8-.172	.375	1/16	8.50
2164	#10-.196	.375	1/16	8.50
2165	¼"-.250	.500	1/16	9.00
2166	¼"-.250	.500	3/32	9.50
2167	5/16"-.312	.500	1/16	9.00
2168	⅜"-.385	.625	1/16	11.00
2169	⅜"-.375	.750	1/16	14.00

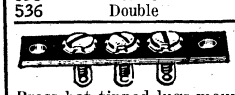
FAHNESTOCK SPRING BATTERY CLIPS



Brass, nickel plated.

No.	Type	Length	Per C
539	Single	5/8"	$ 2.00
533	Single	¾"	2.40
534	Single	1"	2.80
535	Double	1½"	14.00
536	Double	2 1/16"	16.00

TERMINAL BOARDS Screw Type

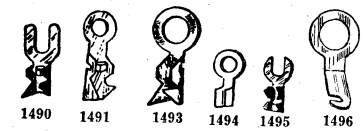


Brass hot tinned lugs mounted on 1/16" bakelite. Lugs are spaced 7/16" center to center.

No.	Terminals	Mtg. Ctr.	Per C
871	2	1 5/16"	$13.00
872	2	1 7/16"	13.00
873	3	1¾"	20.00
874	4	2 1/16"	24.00
875	5	2 5/8"	30.00
876	6	3 1/16"	36.00
877	7	3½"	44.00

SOLDER TYPE LUGS—Hot Tinned

1484 1485 1486 1488 1489



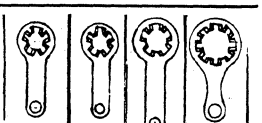
1490 1491 1493 1494 1495 1496

No.	Material	L.	Thick.	Hole	Per M
1484	Brass	5/8"	.020"	No. 6	$8.50
1485-4	Ph. Br.	9/16"	.012"	No. 4	9.00
1485-6	Ph. Br.	9/16"	.012"	No. 6	9.00
1485-8	Ph. Br.	9/16"	.012"	No. 8	9.00
1485-10	Ph. Br.	9/16"	.012"	No. 10	9.00
1486-4	Ph. Br.	13/16"	.012"	No. 4	9.00
1486-6	Ph. Br.	13/16"	.012"	No. 6	9.00
1486-8	Ph. Br.	13/16"	.012"	No. 8	9.00
1486-10	Ph. Br.	13/16"	.012"	No. 10	9.00
1488-4	Ph. Br.	9/16"	.012"	No. 4	7.25
1488-6	Ph. Br.	9/16"	.012"	No. 6	7.25
1488-8	Ph. Br.	9/16"	.012"	No. 8	7.25
1489	Brass	⅞"	.015"	No. 8	10.00
1490	Brass	¾"	.020"	No. 10	11.00
1491	Copper	15/16"	.020"	No. 10	16.50
1493	Brass	1⅛"	.027"	¼"	28.00
1494-6	Brass	5/8"	.020"	No. 6	9.00
1494-8	Brass	5/8"	.020"	No. 8	9.00
1495	Brass	5/8"	.020"	No. 8	8.50
1496	Brass	¾"	.020"	¼"	11.00

An attractive display card of each lug containing 24 45c list envelopes can be obtained by specifying the letter "D" after the above catalog numbers.

LOCKING TYPE TERMINAL LUGS

BRASS ELECTRO PLATED



1465 1466 1467 1468

No.	Hole Size	Thick	Per M
1465	No. 4	.020	$15.00
1466	No. 6	.020	15.00
1467	No. 8	.020	15.00
1468	¼"	.020	15.00

TIE DOWN TERMINAL STRIPS

861 862 849 863 864 867

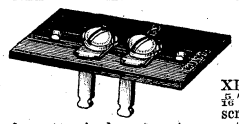
865 853 868

866 860 869

848 870

No.	Per C	No.	Per C
848	$10.75	864	$4.00
849	3.00	865	6.75
853	6.25	866	6.50
860	9.00	867	5.50
861	3.00	868	7.25
862	3.25	869	8.25
863	4.00	870	10.00

HEAVY DUTY TERMINAL BOARDS



XP Bakelite, 8-32 x 5/16" Brass nickel plated screws. ⅞" wide. ½" from terminal centers to mounting hole centers, and ½" between terminal centers.

No.	Terminals	Mtg. Center	Per C
901	1	1"	$17.00
902	2	1½"	23.00
903	3	2"	29.00
904	4	2½"	35.00
905	5	3"	41.00
906	6	3½"	47.00
907	7	4"	53.00
908	8	4½"	59.00
909	9	5"	65.00
910	10	5½"	71.00
911	11	6"	77.00
912	12	6½"	83.00

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ALL PRICES SUBJECT TO TRADE DISCOUNT

HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

STEEL MACHINE SCREWS

Round Head Cadmium Plated

No.	Per M	Size	No.	Gross
1000M	$6.25	6-32 x ¼"	1000G	$1.05
1001M	6.75	6-32 x ⅜"	1001G	1.15
1002M	7.25	6-32 x ½"	1002G	1.20
1006M	8.00	8-32 x ¼"	1006G	1.35
1007M	8.65	8-32 x ⅜"	1007G	1.50
1008M	9.30	8-32 x ½"	1008G	1.55

BRASS MACHINE SCREWS

Round Head Nickel Plated

No.	Per M	Size	No.	Gross
1044M	$9.00	4-36 x ¼"	1044G	$1.50
1045M	10.00	4-36 x ⅜"	1045G	1.60
1046M	11.00	4-36 x ½"	1046G	1.70
1047M	9.00	4-40 x ¼"	1047G	1.50
1048M	10.00	4-40 x ⅜"	1048G	1.60
1049M	11.00	4-40 x ½"	1049G	1.70
1050M	12.00	6-32 x ¼"	1050G	2.00
1051M	13.00	6-32 x ⅜"	1051G	2.10
1052M	13.75	6-32 x ½"	1052G	2.30
1056M	16.00	8-32 x ¼"	1056G	2.65
1057M	18.00	8-32 x ⅜"	1057G	3.25
1058M	22.00	8-32 x ½"	1058G	3.70

VOLUME CONTROL AND TOGGLE SWITCH NUTS

Nickel Plated

No.	Type	Dimensions	Per M
1195	Vol. Cont. Brass	⅜-32 x ½ x $\frac{3}{32}$	$25.00
1199	Vol. Cont. Steel	⅜-32 x ½ x $\frac{3}{32}$	20.00
1196	Toggle Sw. Hex	15-32 x $\frac{7}{16}$ x $\frac{5}{64}$	30.00
1197	Toggle Sw. Ring	15-32 x $\frac{5}{8}$ x $\frac{1}{16}$	50.00

HEXAGON NUTS

Brass Nickel Plated

No.	Per M	Size	No.	Gross
1188M	$10.00	4-36 x ¼"	1188G	$1.65
1168M	10.00	4-40 x ¼"	1168G	1.65
1189M	12.90	6-32 x ¼"	1189G	2.10
1190M	12.90	6-32 x $\frac{5}{16}$"	1190G	2.10
1192M	14.10	8-32 x $\frac{5}{16}$"	1192G	2.30

Steel, Cadmium Plated

No.	Per M	Size	No.	Gross
1179M	$8.75	6-32 x ¼"	1179G	$1.45
1180M	9.25	6-32 x $\frac{5}{16}$"	1180G	1.55
1181M	9.50	8-32 x $\frac{5}{16}$"	1181G	1.60

SELF TAPPING SCREWS CADMIUM PLATED

Round Head—Type A—Sharp Point

No.	Per M	Size	No.	Gross
1801M	$10.00	4 x ½	1801G	$1.65
1802M	10.00	6 x ¼	1802G	1.65
1803M	10.00	6 x ⅜	1803G	1.65
1804M	13.50	6 x ½	1804G	2.25
1805M	12.50	8 x ⅜	1805G	2.10
1806M	15.75	8 x ½	1806G	2.65

Round Head—Type Z—Blunt Point

No.	Per M	Size	No.	Gross
1807M	$10.00	4 x ½	1807G	$1.65
1808M	10.00	6 x ¼	1808G	1.65
1809M	10.00	6 x ⅜	1809G	1.65
1810M	13.50	6 x ½	1810G	2.25
1811M	12.50	8 x ⅜	1811G	2.10
1812M	15.75	8 x ½	1812G	2.65

Slotted Hex Head—Type B—Blunt Point

No.	Per M	Size	No.	Gross
1830M	$10.00	6 x ¼	1830G	$1.65
1831M	10.00	6 x ⅜	1831G	1.65
1832M	13.50	6 x ½	1832G	2.25
1833M	12.50	8 x ⅜	1833G	2.10
1834M	15.75	8 x ½	1834G	2.65

STEEL SPADE BOLTS

Steel, cadmium plated finish, threaded 6-32, thread length $\frac{5}{16}$", length overall ¾".

No. 1500 $17.00 Per M

FLAT WASHERS

Brass Nickel Plated

No.	Per M	Size	Material	No.	Per M
1149M	$4.80	4x⅜"x.037"	Brass	1149G	$0.70
1150M	4.80	6x⅜"x.012"	Ph. Br.	1150G	0.70
1151M	4.80	8x⅜"x.012"	Ph. Br.	1151G	0.70
1152M	4.80	10x⅜"x.037"	Brass	1152G	0.70

LOCK WASHERS

Steel, Cadmium Plated Internal Teeth

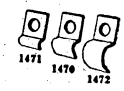
No.	Per M	Type	No.	Gross
1127M	$5.00	No. 4	1127G	$0.85
1128M	5.00	No. 6	1128G	.85
1129M	5.75	No. 8	1129G	.95
1130M	6.10	No. 10	1130G	1.00
1132M	7.75	¼"	1132G	1.30
1131M	13.00	⅜"	1131G	2.00

Narrow Rim Control Shaft Lockwasher Internal Teeth

1145M	$13.00	⅜"	1145G	$2.00

External Teeth

No.	Per M	Type	No.	Gross
1139M	$5.00	No. 4	1139G	$0.85
1140M	5.00	No. 6	1140G	.85
1141M	5.75	No. 8	1141G	.95
1141M	6.10	No. 10	1142G	1.00
1144M	7.75	¼"	1144G	1.30
1143M	13.00	⅜"	1143G	2.00



CABLE CLAMPS

Steel Cadmium Plated with No. 8 open Hole.

No.	Length	Width	Cable	Per C
1471	⅝"	⅜"	⅛" to ¼"	$1.30
1470	¾"	⅜"	¼"	1.40
1472	1"	⅜"	½"	1.50

DRILL & TAP KIT

for

- **Hams**
- **Laboratories**
- **Servicemen**

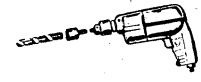
Specially designed for electronic bench duty, this kit contains the most popular sizes of taps and corresponding tap and body drills for precise and speedy work. Drill and tap size identifications are engraved on the steel cadmium plated drill stand, to facilitate correct replacement as needed. **Contains: 4-40, 6-32, 8-32, 10-32 Taps with eight corresponding tap and body drills.**

No. 750 Kit $9.00

Replacement Drills Available—Write for Catalog

DRILL ADAPTER

CASE HARDENED STEEL



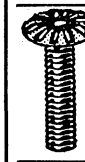
Convert ¼" drill chuck to drill holes up to ½". Drills can be quickly inserted and tightened with two set screws provided, located at 90° angle for firm hold on drill.

No.	For Drill	Each
175	$\frac{5}{16}$"	$0.75
176	⅜"	.80
177	$\frac{7}{16}$"	.85
178	½"	.90
179	Kit of 4 Adapters	3.30
179D	Display of 12 No. 179 Kits	39.60

BINDING HEAD SCREWS

Steel Nickel Plated

No.	Per M	Size	No.	Gross
1425M	$6.25	6-32 x ¼"	1425G	$1.05
1426M	6.75	6-32 x ⅜"	1426G	1.15
1427M	7.25	6-32 x ½"	1427G	1.20
1428M	8.00	8-32 x ¼"	1428G	1.35
1429M	8.65	8-32 x ⅜"	1429G	1.50
1430M	9.30	8-32 x ½"	1430G	1.55



FANCY HEAD BRONZE FINISH SCREWS

No.	Size	Per M
1160	6-32 x ¾"	$10.70
1161	6-32 x 1"	11.40
1162	6-32 x 1¼"	12.50

"VERI-THIN" ALIGNING TOOL

Fibre aligning tool 7" long x ⅛" O.D. with screw driver on each end.

No.	Each
328	$ 0.40
328D—Display of 50 No. 328	20.00
328H—With Amber Handle	0.60
328HD—Display of 25 No. 328H	15.00

EXTRA LONG ALIGNING TOOL

Hard Bone Fibre screw driver 12 inches long by ⅛ inches dia. Extra strong and durable.

No.	Each
333	$ 0.60
333-D—Display of 50 No. 333	30.00
333H—With Amber Handle	0.90
333HD—Display of 25 No. 333H	22.50

"LONG REACH" ALIGNING TOOL

Aligning tool 9" long x .165 O.D. with screw driver on each end. Material of treated clear lucite.

No.	Each
330	$ 0.60
330D—Display of 30 No. 330	21.60

RACK SCREWS

Oval Head, Steel, Nickel Plated

Specially recommended for mounting panels in racks and cabinets. Available in gross packages or packed 1000 to the box.

No.	Per M.	Size	No.	Gross
1111M	$10.25	10-32 x ½"	1111G	$1.75
1112M	12.00	10-32 x ¾"	1112G	2.00

COUNTERSUNK WASHERS

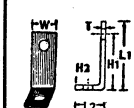
Brass, Nickel Plated

Recommended for use with Rack Screws designated above.

No.	Per M	Size	No.	Gross
1115M	$4.50	6	1115G	$0.75
1116M	5.00	8	1116G	.85
1117M	5.50	10	1117G	.95

GRID CAPS

No.	Tube Type	Per M
1450	⅜" Glass Tubes	$18.00
1451	⅜" Glass Tubes	27.00
1452	⅜" Glass Tubes	15.50
1453	⅜" Glass Tubes	15.50
1454	¼" Mini Tubes	15.00



ANGLES

Steel, Cadmium Plated

All holes to clear No. 6 Screw.

L1=Length of Leg H1=Hole Location
L2=Length of Leg H2=Hole Location
T =Thickness W =Width

No.	L1	L2	T	H1	H2	W	Per C
1444	7/16"	7/16"	.032"	17/64"	1/4"	3/8"	$1.20
1445	1/2"	1/2"	.050"	11/32"	41/64"	5/16"	1.50
1446	49/64"	27/64"	.030"	39/64"	15/64"	5/16"	1.50
1447	1-9/64"	1/2"	.050"	61/64"	41/64"	1/2"	1.70

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HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

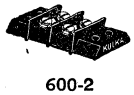
HEAVY DUTY BAKELITE BARRIER TERMINAL STRIPS

Shown below are our popular screw type terminal blocks. Made of molded thermosetting plastics — in high tensile strength bakelite for general commercial use. CFG, MFE, CMG, MME, AND MDG blocks made in strict compliance with latest military specifications MIL-P-14C. Prices available on request. Special flag, spade, hole type lugs, and steel straddle plates available. Manufactured by the KULKA ELECTRIC MANUFACTURING COMPANY, INC. and exclusively distributed by us to the Radio Parts Distributors.

600 Series

Height $\frac{13}{32}$", Width $\frac{7}{8}$", Thickness $\frac{1}{4}$", Terminals $\frac{3}{8}$" Centers, $\frac{5}{16}$" Mtg., 5-40x$\frac{1}{4}$" Screws.

600 Series



600-2

No.	Each
600-1	$0.15
600-2	0.25
600-3	0.33
600-4	0.42
600-5	0.51
600-6	0.59
600-7	0.68
600-8	0.77
600-9	0.86
600-10	0.95
600-11	1.03
600-12	1.12
600-13	1.21
600-14	1.31
600-15	1.40
600-16	1.49
600-17	1.57
600-18	1.66
600-19	1.75
600-20	1.84
600-21	1.93
600-22	2.02

600-ST-2

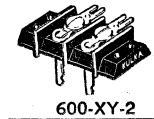
No.	Each
600-ST-1	$0.19
600-ST-2	0.32
600-ST-3	0.44
600-ST-4	0.57
600-ST-5	0.69
600-ST-6	0.83
600-ST-7	0.95
600-ST-8	1.08
600-ST-9	1.21
600-ST-10	1.33
600-ST-11	1.45
600-ST-12	1.58
600-ST-13	1.71
600-ST-14	1.84
600-ST-15	1.96
600-ST-16	2.09
600-ST-17	2.21
600-ST-18	2.34
600-ST-19	2.46
600-ST-20	2.60
600-ST-21	2.72
600-ST-22	2.86

600-$\frac{3}{4}$ST-2

No.	Each
600-$\frac{3}{4}$ST-1	$0.19
600-$\frac{3}{4}$ST-2	0.32
600-$\frac{3}{4}$ST-3	0.44
600-$\frac{3}{4}$ST-4	0.57
600-$\frac{3}{4}$ST-5	0.69
600-$\frac{3}{4}$ST-6	0.83
600-$\frac{3}{4}$ST-7	0.95
600-$\frac{3}{4}$ST-8	1.08
600-$\frac{3}{4}$ST-9	1.21
600-$\frac{3}{4}$ST-10	1.33
600-$\frac{3}{4}$ST-11	1.45
600-$\frac{3}{4}$ST-12	1.58
600-$\frac{3}{4}$ST-13	1.71
600-$\frac{3}{4}$ST-14	1.84
600-$\frac{3}{4}$ST-15	1.96
600-$\frac{3}{4}$ST-16	2.09
600-$\frac{3}{4}$ST-17	2.21
600-$\frac{3}{4}$ST-18	2.34
600-$\frac{3}{4}$ST-19	2.46
600-$\frac{3}{4}$ST-20	2.60
600-$\frac{3}{4}$ST-21	2.72
600-$\frac{3}{4}$ST-22	2.86

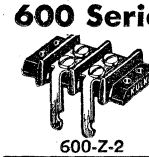
600-Y-2

No.	Each
600-Y-1	$0.19
600-Y-2	0.32
600-Y-3	0.44
600-Y-4	0.57
600-Y-5	0.69
600-Y-6	0.83
600-Y-7	0.95
600-Y-8	1.08
600-Y-9	1.21
600-Y-10	1.33
600-Y-11	1.45
600-Y-12	1.58
600-Y-13	1.71
600-Y-14	1.84
600-Y-15	1.96
600-Y-16	2.09
600-Y-17	2.21
600-Y-18	2.34
600-Y-19	2.46
600-Y-20	2.60
600-Y-21	2.72
600-Y-22	2.86



600-XY-2

No.	Each
600-XY-1	$0.23
600-XY-2	0.40
600-XY-3	0.60
600-XY-4	0.73
600-XY-5	0.93
600-XY-6	1.07
600-XY-7	1.23
600-XY-8	1.40
600-XY-9	1.57
600-XY-10	1.73
600-XY-11	1.89
600-XY-12	2.06
600-XY-13	2.23
600-XY-14	2.40
600-XY-15	2.56
600-XY-16	2.73
600-XY-17	2.89
600-XY-18	3.06
600-XY-19	3.22
600-XY-20	3.40
600-XY-21	3.56
600-XY-22	3.74



600-Z-2

No.	Each
600-Z-1	$0.23
600-Z-2	0.40
600-Z-3	0.60
600-Z-4	0.73
600-Z-5	0.93
600-Z-6	1.07
600-Z-7	1.23
600-Z-8	1.40
600-Z-9	1.57
600-Z-10	1.73
600-Z-11	1.89
600-Z-12	2.06
600-Z-13	2.23
600-Z-14	2.40
600-Z-15	2.56
600-Z-16	2.73
600-Z-17	2.89
600-Z-18	3.06
600-Z-19	3.22
600-Z-20	3.40
600-Z-21	3.56
600-Z-22	3.74

601 Series

Height $\frac{1}{2}$", Width 1$\frac{1}{8}$", Thickness $\frac{5}{16}$", Terminals $\frac{7}{16}$" Centers, 27/64" Mtg., 6-32x$\frac{1}{4}$" Screws.

601 Series

No.	Each	No.	Each	No.	Each	No.	Each	No.	Each	No.	Each
601-1	$0.20	601-ST-1	$0.24	601-$\frac{3}{4}$ST-1	$0.24	601-Y-1	$0.24	601-XY-1	$0.28	601-Z-1	$0.28
601-2	0.31	601-ST-2	0.41	601-$\frac{3}{4}$ST-2	0.41	601-Y-2	0.41	601-XY-2	0.49	601-Z-2	0.49
601-3	0.42	601-ST-3	0.57	601-$\frac{3}{4}$ST-3	0.57	601-Y-3	0.57	601-XY-3	0.69	601-Z-3	0.69
601-4	0.54	601-ST-4	0.74	601-$\frac{3}{4}$ST-4	0.74	601-Y-4	0.74	601-XY-4	0.90	601-Z-4	0.90
601-5	0.64	601-ST-5	0.90	601-$\frac{3}{4}$ST-5	0.90	601-Y-5	0.90	601-XY-5	1.10	601-Z-5	1.10
601-6	0.75	601-ST-6	1.07	601-$\frac{3}{4}$ST-6	1.07	601-Y-6	1.07	601-XY-6	1.31	601-Z-6	1.31
601-7	0.88	601-ST-7	1.23	601-$\frac{3}{4}$ST-7	1.23	601-Y-7	1.23	601-XY-7	1.51	601-Z-7	1.51
601-8	0.99	601-ST-8	1.40	601-$\frac{3}{4}$ST-8	1.40	601-Y-8	1.40	601-XY-8	1.72	601-Z-8	1.72
601-9	1.10	601-ST-9	1.56	601-$\frac{3}{4}$ST-9	1.56	601-Y-9	1.56	601-XY-9	1.92	601-Z-9	1.92
601-10	1.22	601-ST-10	1.73	601-$\frac{3}{4}$ST-10	1.73	601-Y-10	1.73	601-XY-10	2.13	601-Z-10	2.13
601-11	1.33	601-ST-11	1.89	601-$\frac{3}{4}$ST-11	1.89	601-Y-11	1.89	601-XY-11	2.33	601-Z-11	2.33
601-12	1.44	601-ST-12	2.06	601-$\frac{3}{4}$ST-12	2.06	601-Y-12	2.06	601-XY-12	2.54	601-Z-12	2.54
601-13	1.56	601-ST-13	2.22	601-$\frac{3}{4}$ST-13	2.22	601-Y-13	2.22	601-XY-13	2.74	601-Z-13	2.74
601-14	1.67	601-ST-14	2.39	601-$\frac{3}{4}$ST-14	2.39	601-Y-14	2.39	601-XY-14	2.95	601-Z-14	2.95
601-15	1.78	601-ST-15	2.55	601-$\frac{3}{4}$ST-15	2.55	601-Y-15	2.55	601-XY-15	3.15	601-Z-15	3.15
601-16	1.90	601-ST-16	2.72	601-$\frac{3}{4}$ST-16	2.72	601-Y-16	2.72	601-XY-16	3.36	601-Z-16	3.36
601-17	2.01	601-ST-17	2.88	601-$\frac{3}{4}$ST-17	2.88	601-Y-17	2.88	601-XY-17	3.56	601-Z-17	3.56
601-18	2.12	601-ST-18	3.05	601-$\frac{3}{4}$ST-18	3.05	601-Y-18	3.05	601-XY-18	3.77	601-Z-18	3.77
601-19	2.24	601-ST-19	3.21	601-$\frac{3}{4}$ST-19	3.21	601-Y-19	3.21	601-XY-19	3.97	601-Z-19	3.97
601-20	2.35	601-ST-20	3.38	601-$\frac{3}{4}$ST-20	3.38	601-Y-20	3.38	601-XY-20	4.18	601-Z-20	4.18
601-21	2.47	601-ST-21	3.55	601-$\frac{3}{4}$ST-21	3.55	601-Y-21	3.55	601-XY-21	4.38	601-Z-21	4.38
601-22	2.59	601-ST-22	3.72	601-$\frac{3}{4}$ST-22	3.72	601-Y-22	3.72	601-XY-22	4.58	601-Z-22	4.58
601-23	2.71	601-ST-23	3.89	601-$\frac{3}{4}$ST-23	3.89	601-Y-23	3.89	601-XY-23	4.78	601-Z-23	4.78

602 Series

Height $\frac{5}{8}$", Width 1$\frac{5}{16}$" Thickness $\frac{3}{8}$", Terminals $\frac{9}{16}$" Centers, $\frac{1}{2}$" Mtg., 8-32x$\frac{5}{16}$" Screws.

602 Series

No.	Each	No.	Each	No.	Each	No.	Each	No.	Each	No.	Each
602-1	$0.23	602-ST-1	$0.30	602-$\frac{3}{4}$ST-1	$0.30	602-Y-1	$0.30	602-XY-1	$0.34	602-Z-1	$0.34
602-2	0.36	602-ST-2	0.50	602-$\frac{3}{4}$ST-2	0.50	602-Y-2	0.50	602-XY-2	0.58	602-Z-2	0.58
602-3	0.51	602-ST-3	0.70	602-$\frac{3}{4}$ST-3	0.70	602-Y-3	0.70	602-XY-3	0.82	602-Z-3	0.82
602-4	0.65	602-ST-4	0.90	602-$\frac{3}{4}$ST-4	0.90	602-Y-4	0.90	602-XY-4	1.06	602-Z-4	1.06
602-5	0.78	602-ST-5	1.11	602-$\frac{3}{4}$ST-5	1.11	602-Y-5	1.11	602-XY-5	1.31	602-Z-5	1.31
602-6	0.92	602-ST-6	1.31	602-$\frac{3}{4}$ST-6	1.31	602-Y-6	1.31	602-XY-6	1.55	602-Z-6	1.55
602-7	1.07	602-ST-7	1.52	602-$\frac{3}{4}$ST-7	1.52	602-Y-7	1.52	602-XY-7	1.80	602-Z-7	1.80
602-8	1.20	602-ST-8	1.72	602-$\frac{3}{4}$ST-8	1.72	602-Y-8	1.72	602-XY-8	2.04	602-Z-8	2.04
602-9	1.34	602-ST-9	1.93	602-$\frac{3}{4}$ST-9	1.93	602-Y-9	1.93	602-XY-9	2.29	602-Z-9	2.29
602-10	1.49	602-ST-10	2.12	602-$\frac{3}{4}$ST-10	2.12	602-Y-10	2.12	602-XY-10	2.52	602-Z-10	2.52
602-11	1.62	602-ST-11	2.33	602-$\frac{3}{4}$ST-11	2.33	602-Y-11	2.33	602-XY-11	2.77	602-Z-11	2.77
602-12	1.76	602-ST-12	2.53	602-$\frac{3}{4}$ST-12	2.53	602-Y-12	2.53	602-XY-12	3.01	602-Z-12	3.01
602-13	1.90	602-ST-13	2.74	602-$\frac{3}{4}$ST-13	2.74	602-Y-13	2.74	602-XY-13	3.26	602-Z-13	3.26
602-14	2.04	602-ST-14	2.94	602-$\frac{3}{4}$ST-14	2.94	602-Y-14	2.94	602-XY-14	3.50	602-Z-14	3.50
602-15	2.18	602-ST-15	3.15	602-$\frac{3}{4}$ST-15	3.15	602-Y-15	3.15	602-XY-15	3.75	602-Z-15	3.75
602-16	2.32	602-ST-16	3.34	602-$\frac{3}{4}$ST-16	3.34	602-Y-16	3.34	602-XY-16	3.98	602-Z-16	3.98
602-17	2.45	602-ST-17	3.54	602-$\frac{3}{4}$ST-17	3.54	602-Y-17	3.54	602-XY-17	4.32	602-Z-17	4.32
602-18	2.58	602-ST-18	3.74	602-$\frac{3}{4}$ST-18	3.74	602-Y-18	3.74	602-XY-18	4.46	602-Z-18	4.46
602-19	2.76	602-ST-19	3.99	602-$\frac{3}{4}$ST-19	3.99	602-Y-19	3.99	602-XY-19	4.75	602-Z-19	4.75
602-10	2.90	602-ST-20	4.20	602-$\frac{3}{4}$ST-20	4.20	602-Y-20	4.20	602-XY-20	5.00	602-Z-20	5.00
602-21	3.04	602-ST-21	4.41	602-$\frac{3}{4}$ST-21	4.41	602-Y-21	4.41	602-XY-21	5.25	602-Z-21	5.25
602-22	3.19	602-ST-22	4.62	602-$\frac{3}{4}$ST-22	4.62	602-Y-22	4.62	602-XY-22	5.50	602-Z-22	5.50
602-23	3.33	602-ST-23	4.83	602-$\frac{3}{4}$ST-23	4.83	602-Y-23	4.83	602-XY-23	5.75	602-Z-23	5.75
602-24	3.48	602-ST-24	5.04	602-$\frac{3}{4}$ST-24	5.04	602-Y-24	5.04	602-XY-24	6.00	602-Z-24	6.00
602-25	3.62	602-ST-25	5.25	602-$\frac{3}{4}$ST-25	5.25	602-Y-25	5.25	602-XY-25	6.25	602-Z-25	6.25
602-26	3.76	602-ST-26	5.46	602-$\frac{3}{4}$ST-26	5.46	602-Y-26	5.46	602-XY-26	6.50	602-Z-26	6.50

***NOTE:** Also available, **600A SERIES** (same as 600 Series above, except with 6-32 x $\frac{1}{4}$ screws). See complete list prices in Special Price List.

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ALL PRICES SUBJECT TO TRADE DISCOUNT

HERMAN H. SMITH, INC.

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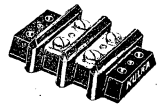
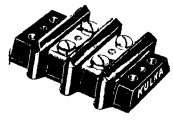


603 SERIES

Height ¾", Width 1 13/16", Thickness 7/16", Terminals 1 1/16" Centers, 5/8" Mtg., 10-32 x 3/8" Screws.

603 Marker Strips

No.	Each	No.	Each	No.	Each	No.	Per C
603-1	$0.55	603-ST-1	$0.66	603-¾ST-1	$0.66	MS603-1	$7.60
603-2	0.94	603-ST-2	1.13	603-¾ST-2	1.13	MS603-2	9.40
603-3	1.32	603-ST-3	1.60	603-¾ST-3	1.60	MS603-3	11.10
603-4	1.71	603-ST-4	2.07	603-¾ST-4	2.07	MS603-4	12.90
603-5	2.09	603-ST-5	2.53	603-¾ST-5	2.53	MS603-5	14.70
603-6	2.48	603-ST-6	3.00	603-¾ST-6	3.00	MS603-6	16.40
603-7	2.86	603-ST-7	3.46	603-¾ST-7	3.46	MS603-7	18.20
603-8	3.25	603-ST-8	3.92	603-¾ST-8	3.92	MS603-8	20.00
603-9	3.63	603-ST-9	4.40	603-¾ST-9	4.40	MS603-9	21.80
603-10	4.02	603-ST-10	4.80	603-¾ST-10	4.80	MS603-10	23.50

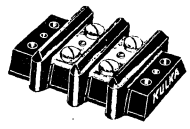


604 SERIES

Height 15/16", Width 2", Thickness ½", Terminals 7/8" Centers, ¾" Mtg., 12-32 x 3/8" Screws.

604 Marker Strips

604-1	$ .94	604-ST-1	$1.10	604-¾ST-1	$1.10	MS604-1	$7.70
604-2	1.71	604-ST-2	2.04	604-¾ST-2	2.04	MS604-2	11.70
604-3	2.48	604-ST-3	2.97	604-¾ST-3	2.97	MS604-3	15.50
604-4	3.25	604-ST-4	3.91	604-¾ST-4	3.91	MS604-4	19.30
604-5	4.02	604-ST-5	4.84	604-¾ST-5	4.84	MS604-5	23.10
604-6	4.79	604-ST-6	5.78	604-¾ST-6	5.78	MS604-6	26.90
604-7	5.56	604-ST-7	6.71	604-¾ST-7	6.71	MS604-7	30.70
604-8	6.33	604-ST-8	7.65	604-¾ST-8	7.65	MS604-8	34.50

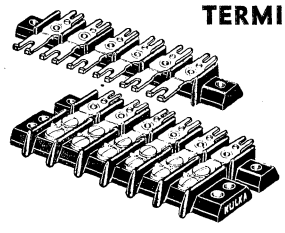


605 SERIES

Height 1⅛", Width 2½", Thickness 5/8", Terminals 1⅛" Centers, 7/8" Mtg., ¼-28 x ½" Screws.

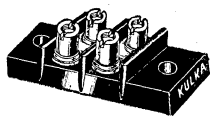
605 Marker Strips

605-1	$1.27	605-ST-1	$1.49	605-¾ST-1	$1.49	MS605-1	$8.20
605-2	2.42	605-ST-2	2.86	605-¾ST-2	2.86	MS605-2	14.50
605-3	3.58	605-ST-3	4.24	605-¾ST-3	4.24	MS605-3	20.90
605-4	4.73	605-ST-4	5.61	605-¾ST-4	5.61	MS605-4	27.20
605-5	5.89	605-ST-5	6.99	605-¾ST-5	6.99	MS605-5	33.50
605-6	7.04	605-ST-6	8.36	605-¾ST-6	8.36	MS605-6	39.80



TERMINAL SPREADERS (TS)

Molded plastic block with soldering lugs eyeletted between protective high barriers with same spacing and dimension of equivalent barrier strip. Up-Turned non-shifting lugs stay in perfect alignment for connection to strip. Soldering can be done at bench for later assembly. Supplied to match 600, 601 and 602 series in respective number of terminals. Complete list prices in special list price sheet.



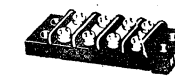
NAVY TERMINAL BOARDS

Made According to BUREAU of SHIPS Drawings No. 9000—S6505F-73214 Rev. 5 and Spec. MIL-T-16784 (Ships)

Type No.	Piece No.	Material	No. Studs	Mounting Spacings	Standard Navy Stock No.	List Price Each
8TB2	68	CFI-5	4	1¼"	17-B-77635-1733	$1.75
8TB2M	68	MFG	4	1¼"	17-B-77635-1737	2.00
8TB6C	16	CFI-5	12	2¾"	17-B-77738-8432	3.50
8TB6M	16	MFG	12	2¾"	17-B-77738-8437	4.00
8TB8C	14	CFI-20	16	3½"	17-B-77840-7053	4.50
8TB8M	14	MFI-20	16	3½"	17-B-77840-7075	5.00
8TB10C	9	CFI-20	20	4¼"	17-B-77936-7951	5.50
8TB10M	9	MFI-20	20	4¼"	17-B-77936-7955	6.00

Stud Connectors—$20.00 per M List.

410 SERIES MINIATURE TERMINAL BLOCK With Double Screw Terminals



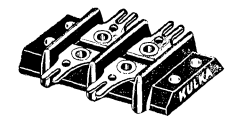
Slotted binder head or Phillips Screws, 2-56 x 3/16". Width 5/8", Height 5/16".

GENERAL PURPOSE AND CFG MATERIAL				MFE, MME, CMG, MDG MATERIAL			
No.	Each	No.	Each	No.	Each	No.	Each
410-1	.47	410-12	3.33	410-1	.87	410-12	4.88
410-2	.74	410-13	3.64	410-2	1.24	410-13	5.24
410-3	.99	410-14	3.90	410-3	1.59	410-14	5.60
410-4	1.25	410-15	4.17	410-4	1.95	410-15	5.97
410-5	1.53	410-16	4.42	410-5	2.33	410-16	6.32
410-6	1.79	410-17	4.69	410-6	2.69	410-17	6.69
410-7	2.05	410-18	4.96	410-7	3.05	410-18	7.06
410-8	2.32	410-19	5.23	410-8	3.42	410-19	7.53
410-9	2.59	410-20	6.50	410-9	3.79	410-20	7.80
410-10	2.83	410-21	7.77	410-10	4.13	401-21	8.17
410-11	3.11			410-11	4.51		

599 SERIES — SPECIAL NARROW WIDTH BLOCK With Single Screw Terminal

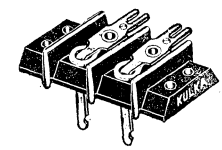
Single wire connection with single mounting hole. Width 3/8", Height 13/32", Terminals 3/8" Centers.

No.	Each	No.	Each	No.	Each	No.	Each
599-1	$0.15	599-7	$0.68	599-12	$1.12	599-18	$1.66
599-2	0.25	599-8	0.77	599-13	1.21	599-19	1.75
599-3	0.33	599-9	0.86	599-14	1.31	599-20	1.84
599-4	0.42	599-10	0.95	599-15	1.40	599-21	1.93
599-5	0.51	599-11	1.03	599-16	1.49	599-22	2.02
599-6	0.59			599-17	1.57		



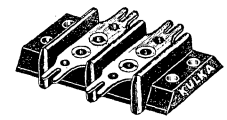
700-ST SERIES

700-ST thru 705-ST Series same as 600 thru 605 Series respectively except with EYELETTED "Two-Sided" Terminals (ST). List Prices and number of terminals same as respective series "With Screw Terminals."



700-XY SERIES

700-XY, 701-XY, 702XY Series same as 600, 601, 602 Series respectively except with EYELETTED "Side and Bottom" Terminals (XY). List prices and number of terminals same as respective series "With Screw Terminals."



700-DST SERIES

700-DST, 70-DST, 702-DST Series same as 600, 601, 602 series respectively except with EYELETTED "Double-Solder" Terminals (DST). List Prices and number of terminals same as respective series "With Screw Terminals."

WIRE SIZES FOR TERMINAL BLOCKS

600—#18—16 B & S Gauge
601—#16—14 B & S Gauge
602—#14—12 B & S Gauge
603—#12—10 B & S Gauge
604—#10— 8 B & S Gauge
605—# 8— 6 B & S Gauge

RATINGS FOR TERMINAL BLOCKS

Series Number	VOLTAGE Without Marker Strips	VOLTAGE With Marker Strips	Capacity
410	1000V. RMS	1100V. RMS	5 Amp.
599	1100V. RMS	1200V. RMS	15 Amp.
600	1100V. RMS	1200V. RMS	15 Amp.
601	1100V. RMS	1600V. RMS	20 Amp.
602	1600V. RMS	2500V. RMS	30 Amp.
603	1700V. RMS	2600V. RMS	50 Amp.
604	1800V. RMS	3400V. RMS	70 Amp.
605	2100V. RMS	3800V. RMS	90 Amp.

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HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

MARKER STRIPS
for 600, 600-ST and 600-¾ST

Black fiber marker strips 1/32" thick imprinted to specs.

Bakelite marker strips are available. Specify XP.

No.	Per C
MS600-1	$2.90
MS600-2	3.80
MS600-3	4.70
MS600-4	5.70
MS600-5	6.60
MS600-6	7.60
MS600-7	8.50
MS600-8	9.50
MS600-9	10.40
MS600-10	11.40
MS600-11	12.30
MS600-12	13.30
MS600-13	14.20
MS600-14	15.20
MS600-15	16.10
MS600-16	17.10
MS600-17	18.00
MS600-18	19.00
MS600-19	19.90
MS600-20	20.90
MS600-21	21.80
MS600-22	22.70

MARKER STRIPS
for 600-Y Series

Black fiber marker strips 1/32" thick imprinted to specs.

Bakelite marker strips are available. Specify XP.

No.	Per C
MS600-Y-1	$6.60
MS600-Y-2	7.60
MS600-Y-3	8.50
MS600-Y-4	9.50
MS600-Y-5	10.40
MS600-Y-6	11.40
MS600-Y-7	12.30
MS600-Y-8	13.30
MS600-Y-9	14.20
MS600-Y-10	15.20
MS600-Y-11	16.10
MS600-Y-12	17.10
MS600-Y-13	18.00
MS600-Y-14	19.00
MS600-Y-15	19.90
MS600-Y-16	20.90
MS600-Y-17	21.80
MS600-Y-18	22.80
MS600-Y-19	23.70
MS600-Y-20	24.70
MS600-Y-21	25.60
MS600-Y-22	26.50

MARKER STRIPS
for 601, 601-ST and 601-¾ST

No.	Per C
MS601-1	$3.20
MS601-2	4.40
MS601-3	5.70
MS601-4	7.00
MS601-5	8.20
MS601-6	9.50
MS601-7	10.80
MS601-8	12.00
MS601-9	13.30
MS601-10	14.50
MS601-11	15.80
MS601-12	17.10
MS601-13	18.30
MS601-14	19.60
MS601-15	20.90
MS601-16	22.10
MS601-17	23.40
MS601-18	24.70
MS601-19	25.90
MS601-20	27.20
MS601-21	28.50
MS601-22	29.80
MS601-23	31.10

MARKER STRIPS
for 601-Y Series

No.	Per C
MS601-Y-1	$7.00
MS601-Y-2	8.20
MS601-Y-3	9.50
MS601-Y-4	10.80
MS601-Y-5	12.00
MS601-Y-6	13.30
MS601-Y-7	14.50
MS601-Y-8	15.80
MS601-Y-9	17.10
MS601-Y-10	18.30
MS601-Y-11	19.60
MS601-Y-12	20.90
MS601-Y-13	22.10
MS601-Y-14	23.40
MS601-Y-15	24.70
MS601-Y-16	25.90
MS601-Y-17	27.20
MS601-Y-18	28.50
MS601-Y-19	29.70
MS601-Y-20	31.10
MS601-Y-21	32.30
MS601-Y-22	33.60
MS601-Y-23	34.90

MARKER STRIPS
for 602, 602-ST and 602-¾ST

No.	Per C
MS602-1	$3.50
MS602-2	5.10
MS602-3	6.60
MS602-4	8.20
MS602-5	9.80
MS602-6	11.40
MS602-7	13.00
MS602-8	14.50
MS602-9	16.10
MS602-10	17.70
MS602-11	19.30
MS602-12	20.90
MS602-13	22.50
MS602-14	24.00
MS602-15	25.60
MS602-16	27.20
MS602-17	28.80
MS602-18	30.40
MS602-19	32.00
MS602-20	33.60
MS602-21	35.20
MS602-22	36.80
MS602-23	38.40
MS602-24	40.00
MS602-25	41.60
MS602-26	43.20

MARKER STRIPS
for 602-Y Series

No.	Per C
MS602-Y-1	$7.30
MS602-Y-2	8.90
MS602-Y-3	10.40
MS602-Y-4	12.00
MS602-Y-5	13.60
MS602-Y-6	15.20
MS602-Y-7	16.80
MS602-Y-8	18.30
MS602-Y-9	19.90
MS602-Y-10	21.50
MS602-Y-11	23.10
MS602-Y-12	24.70
MS602-Y-13	26.30
MS602-Y-14	27.80
MS602-Y-15	29.40
MS602-Y-16	31.00
MS602-Y-17	32.60
MS602-Y-18	34.20
MS602-Y-19	35.80
MS602-Y-20	37.40
MS602-Y-21	39.00
MS602-Y-22	40.60
MS602-Y-23	42.20
MS602-Y-24	43.80
MS602-Y-25	45.40
MS602-Y-26	47.00

TWO-SIDED LUG

No.	Per C
410-STL	$4.40
599-STL	4.40
600-STL	4.40
601-STL	5.90
602-STL	7.20
603-STL	10.00
604-STL	18.00
605-STL	26.00

ONE-SIDED LUG

No.	Per C
410-3/4STL	$4.40
599-¾STL	4.40
600-3/4STL	4.40
601-3/4STL	5.90
602-3/4STL	7.20
603-3/4STL	10.00
604-3/4STL	18.00
605-3/4STL	26.00

BENT LUG

No.	Per C
410-YL	$4.40
599-YL	4.40
600-YL	4.40
601-YL	5.90
602-YL	7.20

FLAG LUG

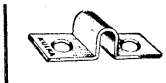
No.	Per M
599-SLF	$20.00
600-SLF	20.00
601-SLF	21.00
602-SLF	23.00
603-SLF	45.00

SPADE LUG

No.	Per M
599-SLS	$20.00
600-SLS	20.00
601-SLS	21.00
602-SLS	23.00
603-SLS	45.00

HOLE LUG

No.	Per M
599-SLH	$20.00
600-SLH	20.00
601-SLH	21.00
602-SLH	23.00
603-SLH	45.00



JUMPER

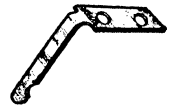
No.	Per M
410-J	$35.00
600-J	35.00
601-J	40.00
602-J	45.00
603-J	55.00
604-J	65.00
605-J	75.00

LONG BENT LUG

No.	Per C
599-YSYL	44.00M
600-YSYL	44.00M
601-YSYL	60.00M
602-YSYL	72.00M

COMBINATION Y AND 3/4 ST

No.	Per C
599-XYL	44.00M
600-XYL	44.00M
601-XYL	60.00M
602-XYL	72.00M



OUTSIDE BENT LUG

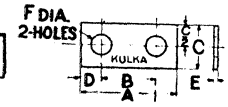
No.	Per C
599-ZL	44.00M
600-ZL	44.00M
601-ZL	60.00M
602-ZL	72.00M

SPECIAL MATERIALS FOR TERMINAL BLOCKS

MIL-P-14C	JAN-P-14	CODE SUFFIX
CFG	MTS-E-1 Phenolic	C
MFE	MTS-E-4 Mica	M
CMG	MTS-G-2 Melamine	G
MME	Melamine	GMF
MDG	Acme Resin	B

SEE LIST PRICE SHEET for all SPECIAL PURPOSE BARRIER STRIP PRICES

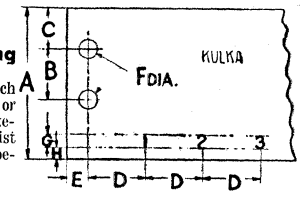
STRADDLE PLATE (SP)



No.	A	B	C	D	E	F	Per M
410-SP	1/2	.250	3/16	.125	.032	.125	$35.00
600-SP	9/16	.312	9/32	.125	.032	.144	35.00
601-SP	23/32	.421	5/16	.148	.032	.148	40.00
602-SP	7/8	.500	13/32	.187	.032	.189	45.00

MARKER STRIPS
Dimensions and Imprinting

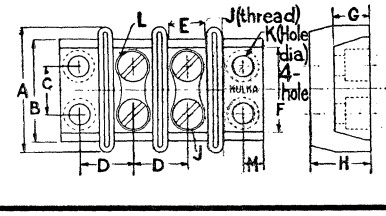
Marker strips are supplied to fit each size terminal block — either plain or imprinted — in vucanize fibre or Bakelite (1/32" thick). Complete list prices and imprinting charges in special list price sheet.



Series Number	A	B	C	D	E	F	G	H
410	3/4	1/4	3/16	1/4	1/8	.125	1/16	1/16
599	13/16		9/32	3/8	9/64	.160	1/8	3/32
600	1-1/8	5/16	9/32	3/8	1/8	.160	1/8	3/32
601	1-5/16	27/64	11/32	7/16	5/32	.175	1/8	3/32
602	1-1/2	1/2	13/32	9/16	13/64	.209	1/8	1/8
603	1-7/8	5/8	19/32	11/16	7/32	.175	1/8	1/8
604	2-1/8	3/4	5/8	7/8	17/64	.175	1/8	1/8
605	2-11/16	7/8	13/16	1-1/8	5/16	.209	1/8	1/8

DIMENSIONAL DRAWING OF TERMINAL BLOCKS

Series No.	A	B	C	D	E	F	G	H	J	K	L	M	Max. Term's
410	5/8	5/8	1/4	1/4	3/16	5/8	7/32	5/16	2-56	.125	3/16	1/8	22
599	9/16	3/8	—	3/8	19/64	9/32	1/4	13/32	5-40	.156	1/4	9/64	22
600	7/8	11/16	5/16	3/8	19/64	9/16	1/4	13/32	5-40	.156	1/4	9/64	22
601	1-1/8	7/8	27/64	7/16	21/64	3/4	5/16	1/2	6-32	.175	1/4	5/32	23
602	1-5/16	1-1/16	1/2	9/16	27/64	7/8	3/8	5/8	8-32	.209	5/16	13/64	26
603	1-13/16	1-5/16	5/8	11/16	15/32	1-1/16	7/16	3/4	10-32	.165	3/8	7/32	10
604	2	1-1/2	3/4	7/8	9/16	1-1/4	1/2	15/16	12-32	.195	3/8	17/64	8
605	2-1/2	1-13/16	7/8	1-1/8	21/32	1-1/2	5/8	1-1/8	1/4-28	.209	1/2	5/16	6



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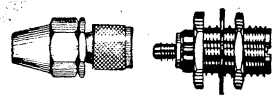
ALL PRICES SUBJECT TO TRADE DISCOUNT

HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

SOLDERLESS CO-AXIAL CONNECTORS

Designed to use inner conductor of co-ax cable for male pin. Brass, silver-plated, solderless.



1650 1711

MALE CONNECTOR FOR RG-59/U

Mates with 1660 receptacle or cable coupler.

No.		Each
1650		$ 0.80
1650-D	Display of 24	19.20

CABLE ADAPTER

Permits coupling RG-11/U and RG-13/U coax cables to RG-59/U.

No.		Each
1711		$ 3.50
1711-D	Display of 20	70.00

1660 1680

HEAVY DUTY FEMALE RECEPTACLE

Mates with #1650. Threaded stem 5/8" long.

No.		Each
1660		$ 0.80
1660-D	Display of 24	19.20

CABLE JUNCTION FOR RG-59/U

Mates at either end with male #1650 connector.

No.		Each
1680		$1.00
1680-D	Display of 24	24.00

1712

CABLE ADAPTER ASSEMBLY

Consists of one each #1650, 1711, and 1713 (PL-259) Plug.

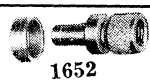
No.		Each
1712	Cable Adapter Assembly	$ 5.25
1712-D	Display of 12 Assemblies	63.00
1713	PL-259 Plug only	1.25

1700

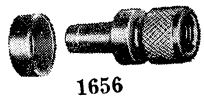
HEAVY DUTY CABLE ADAPTER

For RG-11/U or RG-8/U to RG-59/U cable.

No.		Each
1700		$ 2.50
1700-D	Display of 20	50.00



1652

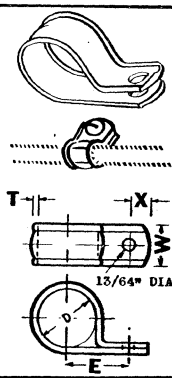


1656

MALE CONNECTOR

Withstands 350 lbs. pull. Used with #1752 pliers for quick, easy assembly.

No.	Description	Each
1652	For RG-59/U, JRP-59 Cables	$ 0.80
1652-D	Display of 24	19.20
1656	For RF-6/U Cable	1.05
1656-D	Display of 24	25.20
1752	Pliers	3.00



PLASTIC CABLE CLIPS

These cable clips are fabricated from a tough, durable plastic material, Ethyl Cellulose, and will give maximum service at a minimum cost. Holds open wire, cables, etc., firmly in position.

"T" .060" — "X" 7/32" — "W" 1/2"

No.	Size	D	E	Per C
831	1/8"	.115	.360	$3.90
832	3/16"	.172	.423	4.00
833	1/4"	.234	.457	4.30
834	5/16"	.297	.498	4.75
835	3/8"	.359	.529	5.00
836	7/16"	.422	.560	5.50
837	1/2"	.484	.592	6.00
838	9/16"	.547	.623	7.00
839	5/8"	.609	.654	7.50
840	11/16"	.672	.752	8.00
841	3/4"	.734	.783	8.50
842	7/8"	.859	.845	9.00
843	1"	.984	.908	9.50
844	1 1/8"	1.102	.970	10.00
845	1 1/4"	1.227	1.062	10.50

NYLON LACING CORD

The lacing cord meets specification for yardage and tensile strength and is made to meet spec JAN-T-713, Type S, Composition P, Classes 3, 2 and 1. Supplied in 1 lb. tubes.

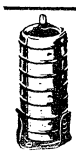
CLASS 1 70 Lb. Test			CLASS 2 48 Lb. Test			CLASS 3 32 Lb. Test		
No.	Ydge.	Each	No.	Ydge.	Each	No.	Ydge.	Each
734	600	$15.00	735	800	$15.50	736	1140	$16.00

LINEN LACING CORD

Made from pure flax, waxed and mildew proofed. Six, Eight and Twelve ply cord meet Spec. JAN-T-713 Type N Classes 3, 2, and 1 respectively.

	4 Ply 20 Lb. Test			6 Ply—Class 3 42 Lb. Test			8 Ply—Class 2 56 Lb. Test		
Tube	No.	Ydge.	Each	No.	Ydge.	Each	No.	Ydge.	Each
4 oz.	725	210	$2.70	728	150	$2.60	737	115	$2.60
8 oz.	726	425	4.70	729	300	4.50	738	235	4.50
1 lb.	727	850	9.00	730	600	8.00	739	470	8.00

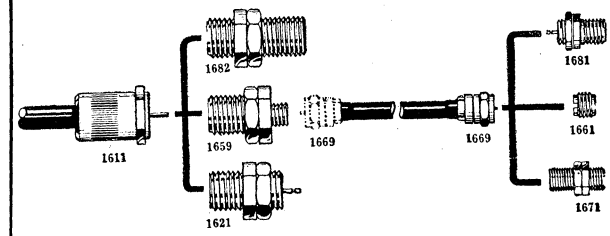
	9 Ply 60 Lb. Test			12 Ply—Class 1 77 Lb. Test		
Tube	No.	Ydge.	Each	No.	Ydge.	Each
4 oz.	731	100	$2.60	740	75	$2.60
8 oz.	732	200	4.50	741	150	4.50
1 lb.	733	400	8.00	742	300	8.00



MINI-SHIELDS FOR MINI-TUBES

No.	Type	Overall Length	Per C
550	for 2" tube	1 3/4"	$13.00
551	for 1 1/2" tube	1 1/4"	11.00
553	3 prong base clip		5.50
554	single clips		3.30

SOLDERLESS CO-AXIAL FITTINGS



CONNECTORS & ADAPTERS

FOR ALL TYPES OF RG-11/U AND RG-59/U CABLES. TRUE 72-OHM MATCHED FITTINGS. EASY TO ASSEMBLE. BRASS, SILVER PLATED.

SOLDERLESS Male CONNECTOR

Mates with 1682, 1659 and 1621. Used with solid stranded BG-11/U. Permanently bonded to cable with 1701 assembly tool.

No. 1611 **$1.50 Each**

SOLDERLESS Male CONNECTOR

Mates with 1681, 1661, 1659 and 1671 Connectors. Permanently bonded to RG-59/P with 1752 crimping tool.

No. 1669 **$1.00 Each**

FEMALE COUPLING

Couples 2 1669 Male Connectors. Mounts in 3/8" hole.

No. 1681 **$1.50 Each**

FEMALE CHASSIS CONNECTOR

Mates with 1669 male connector.

No. 1671 **$1.15 Each**

ADAPTER

Mates with 1669 and 1660.

No. 1661 **$0.11 Each**

SOLDERLESS MALE CONNECTOR

Similar to 1611 connector. Used with 50 ohm fittings. Not matched to 72 ohm. Center conductor and braid permanently bonded by 1701 assembly tool.

No. 1631 **$1.80 Each**

FEMALE COUPLING ADAPTER Completely Solderless

Mates 1611 male connector with 1669 male connector. Mounts in 5/8" dia. hole for use as feed thru.

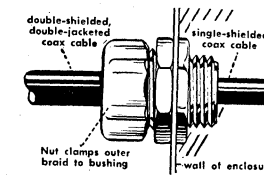
No. 1659 **$3.50 Each**

FEMALE COUPLING

Couples 2 1611 connectors together. Used in 5/8" dia. hole for use as feed thru.

No. 1682 **$3.00 Each**

SOLDERLESS FEED THRU BUSHINGS



RADIATION REDUCING

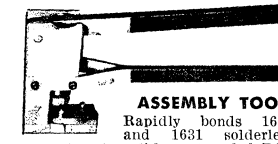
Isolates outer and inner braids without change in line characteristics.
Weatherproof. For double shielded, double jacketed RG cables.

No.	O.D.	Wire	Each
1641	1-1/16"	RG11/U	$3.45
1642	7/8"	RG59/U	3.35
1643	7/8"	RG6/U	3.35

FEMALE CHASSIS FITTING

Mates with 1611 male connector. Mounts in 5/8" dia. hole.

No. 1621 **$2.50 Each**



ASSEMBLY TOOL

Rapidly bonds 1611 and 1631 solderless connectors to solid or stranded RG-11/U type cables. Strong uniform connections in one operation. Automatically shears excess braid.

No. 1701 **$25.00 Each**

MINI-SPRING FOR MINI-TUBES

No.	Type	Per C
560	Short	$15.00
561	Medium	15.00
562	Long	15.00
563	9 Prong	15.00

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PLUGS • JACKS • COUPLINGS • TERMINALS

GIANT BANANA PLUGS and JACKS

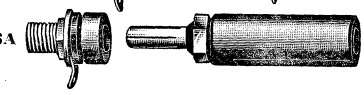
FOR HEAVY DUTY APPLICATIONS

Giant banana jack, complete with nut and solder lug. For mounting, drill ⅜" hole.
Cat. No. **PJ-963**
Dealer Cost $ .20

Giant plug, tapped 10-32. Positive spring action assures firm contact.
Cat. No. **PL-962**
Dealer Cost $ .20

PJ-963 **PL-962**

PJ-476A **PL-475A**



Giant insulated banana plug jack, complete with insulating washers, solder lug and nut. To mount, drill ½" hole.
Cat. No. **PJ-476A**
Dealer Cost $ .45

High voltage insulated banana plug. Over all length 2⅞". Excellent for heavy duty applications.
Cat. No **PL-475A**
Dealer Cost $ .54

BANANA PLUGS and JACKS

(Brass Nickel Plated)

Banana plug jack, threaded ¼ — 28, supplied with nut and solder lug.
Cat. No. **PJ-949**
Dealer Cost $ .10

Banana plug
Overall Length 1¼"
Shank threaded 6-32, supplied with 6-32 nut.
Cat. No. **PL-470**
Dealer Cost $ .15

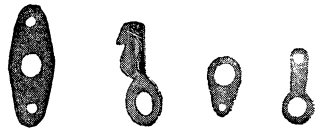
PJ-949 **PL-470**

PJ-478 **PL-469**

Insulated banana plug jack, complete with insulating washers, solder lug and nut.
Cat. No. **PJ-478**
Dealer Cost $ .20

Banana plug. Shank tapped for 6-32 screws. Nickel plated.
Cat. No. **PL-469**
Dealer Cost $ .12

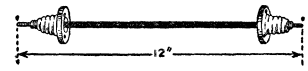
SOLDERING LUGS and TERMINALS



A **B** **C** **D**

Catalog No.	Type	Length	Mounting Hole	Width	Wire Opening	Dealer Cost
TL-42	A	27/32"	5/32"	11/32"	3/32"	**$ .66C**
TL-44	B	15/16"	7/32"	11/32"	3/16"	**.95C**
TL-45	B	1⅛"	9/32"	1/2"	3/16"	**1.30C**
TL-46	C	13/16"	1/4"	3/8"	1/8"	**.74C**
TL-47	C	3/4"	9/32"	13/32"	3/32"	**.77C**
TL-48	C	11/16"	5/32"	5/16"	3/32"	**.55C**
TL-50	C	9/16"	1/8"	3/16"	3/32"	**.55C**
TL-51	C	9/16"	5/32"	5/16"	1/16"	**.55C**
TL-52	C	5/8"	7/32"	3/8"	1/16"	**.55C**
TL-54	D	13/16"	7/32"	3/8"	3/32"	**1.00C**
TL-55	D	3/4"	3/16"	5/16"	1/16"	**.78C**
TL-56	D	5/8"	5/32"	15/64"	5/64"	**.55C**
TL-57	B	11/16"	3/16"	11/32"	3/32"	**.95C**
TL-59	C	7/8"	25/64"	9/16"	1/16"	**1.67C**

WALL LEAD-IN I-742



This Lead-In is used to facilitate bringing in antennas or feeders through a wall or window casing with ease and safety. Unit consists of a 12" threaded brass rod insulated with heavy plastic tubing, and two heavy ceramic insulators. Rod and insulator may be readily cut to any length.

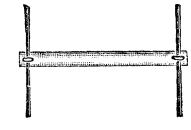
I-742.....Dealer Cost **$1.50**

SHAFT COUPLINGS, REDUCERS and EXTENSIONS

As indicated in the heading, these items are intended for connecting two shafts, changing diameter of shafts, or for increasing shaft lengths. Units made of brass.

Catalog No.	Type	Description	Dealer Cost
SE-1049	Brass	¼" Coupling	**$0.22**
SE-1050	Brass	⅜" Coupling	**.27**
SE-1051	Brass	¼" to ⅜" Coupling	**.28**
SE-1052	Brass	¼" Male to ¼" Female	**.28**
SE-1053	Brass	⅜" Female to ¼" Male	**.30**
SE-1054	Brass	¼" Female to ⅜" Male	**.30**
SE-1056	Brass	¼" x 6" Brass Shaft	**.19**
SE-796	Brass	¼" x 12" Brass Shaft	**.35**
SE-1206	Insulated	¼" Coupling	**.22**
SE-1055	Insulated	¼" x 6" Fiber Shaft	**.28**
SE-797	Insulated	¼" x 12" Fiber Shaft	**.42**

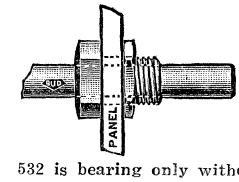
LUCITE FEEDER SPREADERS



Designed for all average feeder requirements. A 600 ohm line can be made with any size wire from No. 12 to No. 18 by using one of the spreaders listed below. The spreader used for this application depends on the wire size. Further data on this subject is available in any antenna handbook. These spreaders are furnished with locking screws to clamp the wire in place. All spreaders are ⅜" in diameter.

Catalog No.	Wire Spacing	Std. Package	Dealer Cost
I-1900	2"	25	**$0.36**
I-1901	4"	25	**.44**
I-1902	5"	25	**.48**
I-1903	6"	25	**.51**

PANEL BEARING ASSEMBLIES



Nos. PB-530 and PB-531 consist of a regular ¼" shaft bearing with 6" and 3" length of ¼" brass rod inserted and held in place by washers to prevent shaft from shifting. These two assemblies will facilitate the panel control of condensers, potentiometers, etc., which must be mounted a distance from the panel. Bearing fits in 13/32" hole and on panels up to 5/16" thick. No. PB-532 is bearing only without shaft.

Catalog Number	Overall Length	Distance behind panels	Dealer Cost
PB-530	6"	4¾"	**$0.60**
PB-531	3"	1¾"	**.45**
PB-532	Bearing Only	...	**.18**

DIAL LOCK DL-1947

This dial lock is a dual purpose item, since it functions as both a dial lock and a position indicator. The problems of dial slippage and accidental movement of dials are absolutely eliminated by this inexpensive and precise lock. Made of brass, nickel plated.

DL-1947.....Dealer Cost **$0.20**

Prices subject to change without notice.
Only a few of many BUD Products are shown. Write for complete catalog.

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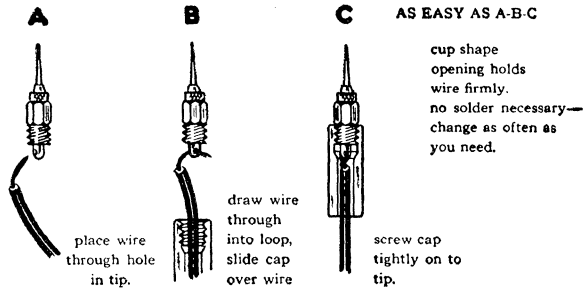
PRODS • LEADS • JACKS • PLUGS

"VISE-GRIP" TEST PRODS

No longer is it necessary to use a soldering iron or screw-driver to replace a broken or worn lead on a test prod or plug. To install a wire in this unique, patented prod, merely insert end of wire in hole, screw down handle to finger tightness and a positive contact is assured. By far the fastest, most efficient way of doing this job.



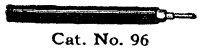
TEST PRODS WITH 1" PLASTIC HANDLE

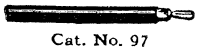
Prod is made of brass rod, and is nickel plated. Plastic handle is threaded at one end and prod screws into same.

Catalog Number		Dealer Cost
TP-93	Needle Chuck ..... 1" plastic handle—red or black	$ .27
TP-94	Phone Tip ..... 1" plastic handle—red or black	.21
TP-477A	Banana Plug ..... 1" plastic handle—red or black	.23

TEST PRODS WITH 4" PLASTIC HANDLE

Cat. No. 95


Cat. No. 96


Cat. No. 97

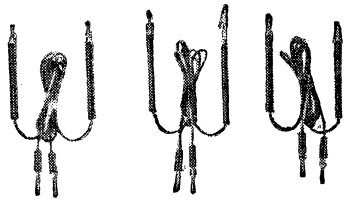
Prods are identical to those described above. Plastic handle is 4" long and made of the best material obtainable.

Needle Chuck—Black or Red.
Cat. No. TP-95 **Dealer Cost $0.39**

Phone Tip—Black or Red.
Cat. No. TP-96 **Dealer Cost $0.30**

Banana Plug—Black or Red.
Cat. No. TP-97 **Dealer Cost $0.33**

SUPER TEST LEADS



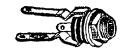
All BUD Super Test Leads use BUD "Vise-Grip" Prods that screw into the highly polished 4" or 1" plastic handles on each end of the leads. The finest, flexible, kinkless, rubber covered wire obtainable is used on all BUD Test Leads.

No. **TL-178** is supplied with 4" handles at one end of the wires with removable needle points and on other end 1" handle with phone tips.
Cat. No. **TL-178**.....Dealer Cost **$1.35**

No. **TL-179**—4" handles, one with removable needle point and the other with phone tip and removable alligator clip. 1" handles with phone tips.
Cat. No. **TL-179**.....Dealer Cost **$1.35**

No. **TL-180** have 4" plastic handles with phone tips on one end. Other end, 1" handles with phone tips as illustrated above.
Cat. No. **TL-180**.....Dealer Cost **$1.20**

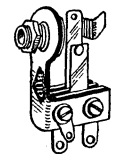
SMALL JACKS



These panel mounting jacks are desirable for control panels and similar applications where space is at a premium. Parts are accurately machined, with nickle plated finish and contacts are formed from spring brass. Each jack comes complete with insulating washers and will accommodate standard plugs. Overall length 1¼".

Catalog No.	Contacts	Distance Behind Panel	Dealer Cost
J-1038	2	15/16"	$ .39
J-1058	3	15/16"	.51

ALL-PURPOSE JACKS



Although small in size, this is one of the finest lines of jacks available. The careful design and high quality materials used in these components assure long, dependable service. Circuit opening contacts are made of pure silver and the laminated bakelite insulation prevents breakdown between springs at all ordinary voltages. Supplied with panel insulating washers. Height 1⅞", distance behind panel ⅞".

Catalog Number	Circuit Design	Contact Arrangement	Dealer Cost
J-1324		Open circuit	$0.44
J-1325		Closed circuit	.54
J-1326		3-Contact open circuit	.69
J-1327		Break contacts on tip and ring spring	.92

MIDGET JACKS

The construction of this jack allows its use in applications having limited space behind the panel. The spring brass contact assures a good connection. These jacks come with insulating washers and accommodate standard phone plugs.

Catalog No.	Type	Distance Behind Panel	Dealer Cost
J-232A	Open Circuit	13/16"	$0.42
J-233A	Closed Circuit	13/16"	.48

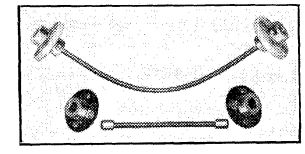
PHONE PLUGS

All metal parts on these excellent phone plugs are machined from brass, and are nickel plated. Unshielded plugs have handles of black bakelite; shielded types have attractive brass knurled handles bright nickel plated.

No. **FP-1946** is supplied **Without a Handle,** and is used as an adapter between a female microphone cable connector and a regular plug jack.

Catalog Number	Contacts	Handle	Overall Length	Bushing Diam.	Dealer Cost
FP-230	2	Bakelite	2¾"	¾"	$0.45
FP-282	2	Shielded	2⅞"	¾"	.75
FP-1057	3	Bakelite	2¾"	¾"	.90
FP-284	3	Shielded	2⅞"	¾"	.99
FP-1946	2	None	1-7/16"	11/16"	.30

FLEXIBLE SHAFTS and COUPLERS



When construction necessitates the mounting of condensers or potentiometers away from the panel and at unusual angles, these Flexible Shafts simplify panel control problems. Both lengths are remarkably free from backlash and will turn at any angle up to 90°.

Nos. FS-859 and FS-860 have ¼" bushings sweated to each end to fit either plain or insulated couplings. Nos. FS-862 and FS-863 have Steatite insulated couplings attached to each end to fit ¼" shafts.

Catalog Number	Overall Length	Dealer Cost
FS-859	3¼"	$0.48
FS-860	6¼"	.60
FS-862	4¼"	1.50
FS-863	7¼"	1.80

Prices subject to change without notice.

Only a few of many BUD Products are shown. Write for complete catalog.

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GENERAL CEMENT
TV • RADIO CHEMICALS

G-C TV TENNA-KOAT

Clear plastic coating to minimize TV antenna corrosion, maintain strong signal. Also coat lead connections, retard moisture. Apply with brush. Fast drying.

No.		List
24-2	2-oz.	$0.75

G-C TELEVISION CHEMICAL KIT

Complete kit of essential chemicals needed for TV set servicing. Saves time and money. Handy metal box contains 9 chemicals such as Corona Dope, Tube-Koat, Tenna-Koat, De-Ox-Id, Lens Cleaner, etc.

No.		List
904	Kit	$9.95

G-C TELEVISION HIGH VOLTAGE CORONA DOPE

Used by manufacturers and servicemen to prevent corona shorts on high voltage circuits in Television sets. Easy to apply, air-drying. It has very excellent high voltage insulating qualities.

No.		List
47-2	2-oz.	$1.20

G-C TV LENS & TUBE CLEANER

Specially prepared for cleaning TV lenses and CR tubes. Eliminates finger marks and spots, restores sharp, clear picture. Good item to sell every TV set owner.

No.		List
216-2	2-oz.	$0.60

G-C SILVER PRINT

Same "Pure Silver" compound as used by manufacturers in Printed Circuit design. You need G-C Silver Print to repair those Printed Circuits, to touch up the circuit around eyelets, rivets, parts, etc. Also handy for experimenters, engineers, laboratories, etc.

No.		List
21-2	1-Troy oz.	$7.75
21-1	½-Troy oz.	3.95

G-C LIQUIDOPE

All wave nitrocellulose base dope for coils. Air dries fast to tough film that insures toughness and firmness. Use for sealing, doping, supporting coils, etc.

No.		List
36-2	2-oz.	$0.75

G-C ELECTRONIC HYPODERMIC NEEDLE INJECTOR

A handy applicator on the hypodermic principle; for injecting cleaners and oils into tight places. Supplied with 2-oz. bottle.

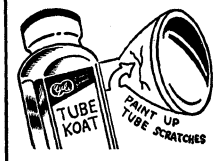
No.		List
8383	Hypodermic Needle	$0.75

G-C RADIO CHASSIS CLEANER

Clean the chassis and make extra money on every repair job. Satisfy your customer. For radio chassis, panels, testers, etc. Non-explosive cleaner.

No.		List
123-8	8-oz.	$0.95

G-C TELEVISION TUBE KOAT



A black conductive coating for outside of glass TV tubes and for interior of cabinets to ground high potential, built up for TV tubes.

No.		List
49-2	2-oz.	$0.95

NEW G-C RED-X CORONA DOPE

Prevent corona shorts on high voltage TV circuits with this all-new G-C product. Easy to apply. Air dries faster. Excellent high voltage insulating qualities.

No.		List
50-2	2-oz.	$1.20

G-C MAG-NETIK HEAD CLEANER

Cleans tape and wire recorder head mechanisms. Does not leave scum or film. Should be used regularly for best recordings.

No.		List
53-1	1-oz. bottle	$0.95
53-2	2-oz. bottle	1.60

G-C FUNGUS VARNISH

Used on radio equipment and instruments to insulate and prevent fungus growth in moist or humid climates. Air dry, brush or spray.

No.		List
57-2	2-oz.	$0.75

G-C INSULATING & DIPPING VARNISH

For treating field coils, noisy or buzzing transformers and chokes. Air dries to a tough insulating film. Can be brushed or dipped.

No.		List
56-2	2-oz.	$0.75

G-C DE-OX-ID KIT
"Ideal for Television Controls"

Handy kit contains 2-oz. of De-Ox-Id and hypodermic injector in box.

No.		List
8460	Kit	$1.95

G-C GRAFOLINE

Noiseless lubricant for air exposed switch contacts, rheostats, relays, wire volume controls, tube prongs, etc. Increases current capacity of switch controls. Cleans also.

No.		List
120-2	2-oz.	$0.75

G-C TV SPRA-KLEEN

Pressurized electrical contact cleaner and lubricant. Fast, easy to use, no spillage. Saves removing chassis or parts.

No.		List
8666	6-oz.	$1.20

G-C DE-NOIZ TV CONTACT & DETENT CLEANER

New secret ingredients dissolve corrosion and oxidation on contacts, stops noise on contacts, volume controls, tuners, detents, switches, relays, etc.

No.		List
51-1	1-oz. bottle	$0.95
51-2	2-oz. bottle with Applicator	1.60

G-C SILICONE COMPOUND

"The miracle moisture and water-proofing compound for Television and FM"

A permanent water-proofing material for TV and FM leads.

No.		List
8100	1-oz. Tube	$1.65

G-C Q-DOPE & Q-DOPE THINNER

Liquid polystyrene low loss coil dope for RF, UHF, and VHF components. Performs −70°F. to 160°F.

No.		List
37-2	2-oz.	$0.75
41-2 Thinner	2-oz.	.60

G-C DE-OX-ID
"Television Contact Cleaner"

Liquid chemical for all electronic contacts and controls. It cleans, lubricates, and preserves. Recommended for volume and tone controls, relay contacts, push-buttons, etc. Dissolves corrosion and oxidation.

No.		List
19-1	1-oz.	$0.95
19-2	2-oz.	1.60

G-C RED ELECTRONIC CONTACT CLEANER

The best and only all-purpose cleaner. Dissolves the dirt and removes corrosion. Leaves protective film on contacts to prevent corrosion.

No.		List
210-2	2-oz.	$0.75

G-C VINYL PLASTIC FABRIC CEMENT

Made for cementing vinyl plastic sheets together. Ideal for vinyl insulating tubings, patching plastic raincoats, etc. Dries fast.

No.		List
16-2	2-oz. bottle	$0.75

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

G-C GENERAL CEMENT

TV • RADIO CHEMICALS

ALL CHEMICALS AVAILABLE IN LARGER SIZE CONTAINERS!

Ask your distributor for large, complete G-C CATALOG FREE! or write direct!

G-C RADIO-TV SERVICE CEMENT

The best Cement for repairing radios and speakers. Excellent for repairing and replacing torn cones. Vibration-proof, water-proof and fast drying. Brushes attached.

No.		List
30-2	2-oz.	$0.75
34-2	Tube	.75

G-C VINYLITE CEMENT

Clear transparent adhesive, air drying. For cementing metals, plastics, paper, leather, etc. Used also as thermoplastic cement for non-porous materials. Sets on cooling. Brush attached.

No.		List
58-2	2-oz.	$0.75

G-C WOOD GLUE

New white resin water-proof glue for radio cabinets, furniture, chairs, etc. Will not injure finish. Extra strong.

No.		List
39-2	2-oz.	$0.75

G-C ACRYLIC CEMENT

Welds and cements lucite, plexiglas, and other acrylic materials. Strong, fast drying. Brush attached.

No.		List
40-2	2-oz.	$0.75

G-C CEMENT SAMPLER KIT

What kind of cement shall I use? Get this kit and experiment with all types of cements available. Cements for all applications included so you can try them yourself for your application. 10–2-oz. bottles in Kit.

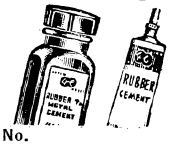
No.		List
345	Kit	$9.95

G-C LACQUER THINNER

Will thin all lacquers, lacquer enamels, telephone black or gray, touch-up lacquers, airplane dopes, model cements, etc.

No.		List
29-2	2-oz.	$0.60

G-C RUBBER TO METAL DIAL DRIVE CEMENT



For cementing rubber drives to shafts, rubber mountings, gaskets, hose, weather stripping, for radios, refrigerators, autos, etc.

No.		List
35-2	2-oz.	$0.75
35-3	Tube	.75

G-C HOUSEHOLD & MODEL CEMENT

Best cement for model makers, household, and office use. For airplanes, railroads, ships, toys, etc. Will cement wood, paper, plastics, metal, china, ceramics, etc. Fast drying, waterproof. Brush attached.

No.		List
45-2	2-oz.	$0.75
45-3	Tube	.50

G-C PLI-O-BOND CEMENT

Sticks anything to anything. Cold setting, rubber-like, thermoplastic cement that dries rapidly with a flexible and very strong bond. For iron, steel, plastics, glass, cloth, plastic fabrics, etc.

No.		List
43-2	2-oz.	$0.75

G-C CONTROL KLEENER

Cleans and lubricates volume, brightness, tone and other controls. Also for push button, switches, contacts and tuners. Will not harm finishes of wood, acetate, metal, etc. Can be used with G-C No. 9280 Control Gun.

No. 65-16	16 oz. Control Kleener	List $ 3.25
No. 65-G	1 gallon Control Kleener	List 15.00

G-C CEMENT THINNER

Made of same solvents as G-C Service Cement. Best thinner for all cements.

No.		List
28-2	2-oz.	$0.60

G-C No. 67 PAINT THINNER

For Ruf-Koat, Krome-Koat, B-K Cement, Insulating Varnish, Rubber Cements, and ordinary paints.

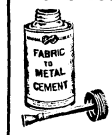
No.		List
67-2	2-oz.	$0.60

G-C BAKELITE CEMENT

For cementing bakelite to bakelite and bakelite to other materials. For repairing knobs, cabinets, panels, for inserts in moldings, attaching labels to plastics, etc. Brush attached.

No.		List
32-2	2-oz.	$0.75

G-C FABRIC TO METAL CEMENT



For cementing cloth and felt to metal or plastics. Best for grille cloth, phono turntable felts, upholstering, fabrics, etc. Fast drying, water-proof.

No.		List
22-2	2-oz.	$0.75

G-C ELECTRICAL AND RESISTOR CEMENT

Heat-proof cement, hardens like porcelain. Same as on resistors, flat irons, etc.

No.		List
27-2	2-oz.	$0.75

G-C LABEL CEMENT

Sticks labels to anything—metal, glass, wood, tin, bakelite, plastics, etc. Good for cementing labels to bins, racks, water-proofing labels, etc.

No.		List
46-2	2-oz.	$0.75

G-C RADIO SERVICE SOLVENT

Best Solvent for loosening cement on speaker cones, frames, etc. Will dissolve all cements on speakers. Brush attached.

No.		List
31-2	2-oz.	$0.60

G-C PLASTIC CEMENT

For cementing broken plastic cabinets, knobs, dial and crystal assemblies, grille cloth, etc. Fast drying. Brush attached.

No.		List
No. 32-2A	2-oz.	$0.75

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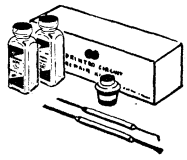
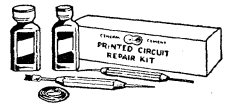
G-C PRINTED CIRCUIT SERVICE MANUAL

Instruction book for repairing printed circuits. Well illustrated to show you easy methods of repairing printed circuits. Ask your distributor for a copy or write to G-C. Enclose 10¢ for handling and mailing.

GENERAL CEMENT

PRINTED CIRCUIT SERVICE AIDS





G-C PRINTED CIRCUIT KIT

A must for every serviceman for repair of printed circuits. Here's a kit that makes printed circuit repair easy. No service shop is complete without one.

G-C No. 680 — PRINTED CIRCUIT SILICONE RESIN SERVICE KIT

The complete kit. Contains all the materials needed to repair any printed circuit in radio or TV sets.

Kit contains the following:
- 1—14-2 Print-Kote Silicone Resin
- 1—13-2 Print-Kote Solvent
- 1—21-1 ½ oz. Pure Silver Print
- 1—9093 Solder Probe Tool
- 1—9094 Stainless Brush and Scraper
- 1—Quantity of Special Print-Kote Solder
- 1—G-C Printed Circuit Service Manual

All packed in a handy box.

No. 680 Complete Kit **List $9.75**

G-C No. 681 — TV PRINTED CIRCUIT SILICONE RESIN SERVICE KIT

No. 681 kit same as kit No. 680 except the pure silver print is not included.

Kit contains the following:
- 1—14-2 Print-Kote Silicone Resin
- 1—13-2 Print-Kote Solvent
- 1—9093 Solder Probe Tool
- 1—9094 Stainless Brush and Scraper
- 1—Quantity of Special Print-Kote Solder
- 1—G-C Printed Circuit Service Manual

All packed in a handy box.

No. 681 Complete Kit **List $5.80**

G-C PRINT-KOTE SILICONE RESIN SPRAY

Packaged in easy-to-use spray can. Genuine silicone resin as used by leading TV set manufacturers to protect printed circuits. After repairing printed circuits, spray coat the new soldered connections. Insulates, protects and prevents arcing and shorting.

No.		List
14-6	6 oz. Spray Can	$3.25

G-C PRINT-KOTE SOLDER

Especially made for printed circuits and is same solder as used by leading TV set manufacturers in "Printed Circuits." Has a special flux and low melting solder combined with pure silver.

No. 9131	2 oz. Coil	List $ .75
No. 9131-D	Display of 12 - 2 oz.	List 9.00

G-C No. 9093 PRINT-KOTE SOLDER AID PROBE

"Specially for Printed Circuits"

Handy, fine point probe especially designed to aid in probing and soldering printed circuits. Made with Special Stainless Steel Hardened Probes—solder will not stick to it.

No.		List
9093	Probe	$ 1.65
9093-D	Display of 12	19.80

G-C No. 9094 PRINT-KOTE BRUSH AND SCRAPER

"Specially for Printed Circuits"

Fine Stainless Steel Brush and Hardened Steel Scraper are required to scrape and clean the Silicone Resin from Printed Circuits before any repair can be made. Saves time in repairing printed circuits.

No.		List
9094	Brush & Scraper	$ 1.65
9094-D	Display of 12	19.80

G-C HEAVY DUTY SOLDERING AID TOOL

"With the Wire Cleaning Brush" Made of Stainless Steel

Servicemen and technicians will appreciate this carefully designed soldering aid tool. One end has a stiff wire brush for cleaning wire and terminal strip before soldering, and the other end is machined to hold the wires while being soldered. Solder will not stick to the soldering probe end of the tool.

No. 9088	Soldering Aid Tool	List $ 1.65
No. 9088-D	Display of 12	List 19.80

G-C SILVER PRINT

You need G-C Silver Print to repair printed circuits. It is the same "Pure Silver" compound as used by manufacturers. Also can be used to touch up circuits around eyelets, rivets, etc. Can be used by experimenters, engineers, laboratories. Air drying.

No.		List
21-1	½ Troy oz.	$3.95
21-2	1 Troy oz.	$7.75

G-C No. 14-2 PRINT-KOTE SILICONE RESIN

Used by leading TV set manufacturers to protect printed circuits. After repairing or replacing parts in printed circuits, protect the panel joints and parts. Fast air drying. Supplied in 2 oz. bottle with brush in bottle.

No. 14-2	2 oz. Silicone Resin	List $ 1.95
No. 14-2-D	Display of 12	List $23.40

G-C No. 13-2 PRINT-KOTE SOLVENT FOR SILICONE RESIN

The only solvent for G-C 14-2 Silicone Resin. Will dissolve and remove silicone resin from printed circuits. Can also be used for a thinner for 14-2 Print-Kote Silicone Resin.

No.		List
13-2	2 oz. Print-Sol	$ .55
13-2-D	Display of 12	6.60

G-C PRINT-KOTE SOLDERING FLUX

"Liquid Flux specially made for Printed Circuits." Non-corrosive liquid flux for easy soldering and repairs of printed circuits. Used by leading TV set manufacturers.

No. 12-2	2 oz. Print-Kote Flux	List $ .75
No. 12-2-D	Display of 12	List $9.00

G-C PRINT-KOTE VARNISH

For Printed Circuits

Specially prepared protective insulation coating for printed circuits and components. Will air dry in 5 to 15 minutes or can be baked in 5 minutes at 150 F. Water white in color. NO DISCOLORATION with age. Will take 1,250 volts after 72 hours in 100% relative humidity. Tough — Flexible — will not crack or char — Arc resistant.

No.		List
C9-2	2 oz. Bottle	$ 1.25
C9-2-D	Display of 12	15.00

Use G-C No. 67 thinner if necessary.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

GC GENERAL CEMENT
TV • RADIO CHEMICALS

It's G - C for All TV!

G-C LUBE-REX

Lubriplate—white lubricant for push buttons, phonographs, Philco mystery controls, guns, fishing reels, dials, etc. Prevents corrosion, repels water.

No.		List
1206	2-oz. Tube	$0.75
1209	2-oz. Bottle	.65

G-C CONTACT & CRYSTAL CLEANER

Extra pure cleaner. Fast drying for cleaning contacts and crystals. Will not injure delicate parts.

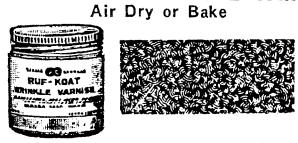
No.		List
127-2	2-oz.	$0.75

G-C COIL DOPE KIT

For high frequency coils, ultra low loss. Contains 2-oz. bottle Polystyrene Q-Dope, 2-oz. Thinner, and 2 brushes. The best!

No.		List
888	Kit	$1.25

G-C RUF-KOAT WRINKLE VARNISH
Air Dry or Bake



The only finish that will air dry and give professional wrinkle job without baking. Same as used by leading mfrs. Apply and let dry. Colors: Black, Gray, Brown. (Specify Color.)

No.			List
60-2		2-oz.	$0.75
60-X-4	Ruf-Koat Undercoat	4-oz.	1.10

G-C KRYSTAL KOAT CRYSTAL LACQUER

Makes beautiful floral pattern when dry. Strictly air drying. For chassis, panels, decorations on metal, etc. Colors: Black, Gray. (Specify Color.)

No.		List
63-2	2-oz.	$0.75

G-C DIAL LITE COLOR KIT

Long lasting coloring for dials, signals, lamps, panels, hobby work, etc. Red, Green, Blue, Amber, Purple and Solvent in kit.

No.		List
66-5	Kit - 5 small bottles	$1.00
66-6	Kit - 6 small bottles	1.20
66-2	2-oz. (Specify Color)	.75

G-C CARBON CONTROL CLEANER

Fix noisy carbon controls without taking apart. Just squirt cleaner along shaft and job is done. Save money. Applicator supplied.

No.		List
212-2	2-oz.	$0.75

G-C CONTACT DOPE

Ideal cleaner and lubricant for switches, controls and contacts. Resists corrosion and oxidation. Eliminates noise.

No.		List
1213	Tube	$0.50
1214	2-oz.	.75

G-C SPIRIT VARNISH

Fast drying walnut spirit varnish for touching up nicks and scratches. Will not raise the finish.

No.		List
161-2	2-oz.	$0.75

G-C ROOF-SEEL COMPOUND

Seals holes in roofs, eliminates call-backs on roof antenna installations. Inexpensive, easy to use.

No.		List
18-16	Pint Can	$1.10

G-C KROME-KOAT ALUMINUM PAINT

Fast drying, ready mixed, leaves chrome-like finish. For PA equipment, speakers, chassis, towers, antennas, etc.

No.		List
61-2	2-oz.	$0.75

G-C CHEMICAL LABORATORY

Complete assortment of 20 popular radio chemicals and cements in 2-oz. bottles put up on steel rack. Very neat for radio bench and home work shop. Steel rack FREE.

No.		List
997	Lab	$13.95

G-C CARBON-X

New improved formula. Fix those old noisy carbon controls, touch up noisy spots on worn controls. Brush in bottle.

No.		List
1205	2-oz.	$1.20

G-C CARBON TETRA-CHLORIDE

100% pure for cleaning and degreasing electrical contacts, controls, motors. Absolutely safe—will not burn. Also kills bugs, roaches, etc.

No.		List
211-2	2-oz.	$0.55

G-C PENETRATING STAIN

Spirit type stain, penetrates and will not injure finish. Cover scratches, dents, darken corners on cabinets, etc. Walnut and Mahogany. Specify.

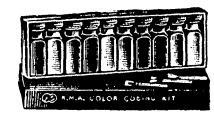
No.		List
162-2	2-oz.	$0.60

G-C TELEPHONE BLACK OR GRAY

High grade lacquer enamel covers well, dries fast. Black is satin ebony finish similar to telephones. Gray is pleasing shade. For panels, racks, parts, etc. (Specify Color.)

No.		List
62-2	2-oz.	$0.75

G-C RMA COLOR CODING KIT



Complete kit of all standard RMA colors to code resistors, condensers, parts, etc. Chart included. Ten bottles.

No.		List
677	Kit	$2.15

G-C DELUXE CHEMICAL LAB

Practical larger laboratory of popular chemicals and cements to fit needs of average shop—2-oz., 4-oz., and 8-oz. bottles. Larger bottles of more popular items. Steel rack is FREE.

No.		List
998	Lab	$18.25

Ask Your Distributor for Complete G-C Catalog

FREE . . . or Write Direct!

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It's

G-C

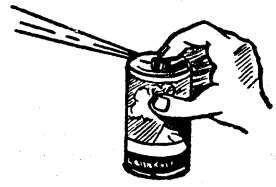
for All TV!

GENERAL CEMENT

TV • RADIO CHEMICALS

G-C POWER SPRAY-KOAT

No brush — no muss — no fuss. Your choice of eight fine finishes in handy spray containers. Just press the special nozzle cap. Aluminum: Coat and protect antenna masts, speakers, PA equipment, etc.; dries to bright, chrome-like finish. Plastic: Corrosion-proof antennas, connectors, all metals, etc.; dries fast, transparent. Cover 100 square feet approximately.



No.		List
8660	Aluminum	$1.79
8665	Plastic, clear	1.79
8754	Gray	1.95
8755	Black	1.95
8756	Brown	1.95
8757	White	1.95
8758	Gold	1.95
8759	Coppertone	1.95

G-C DIAL OIL

For lubricating dials, drives, and fine mechanisms. Long lasting.

No.		List
1245	4 oz.	$0.75

G-C NON-STICK IRON TIP COMPOUND

Prevents soldering iron tips from burning into iron. Saves your iron and tips.

No.		List
1201	2 oz.	$0.75

G-C LIQUID SOLDER FLUX

Non-corrosive flux for radio and electrical work. Solders faster, smoother.

No.		List
42-2	2 oz.	$0.75

G-C SOLDERING PASTE

The best non-corrosive paste for radio and electrical work. Solders faster and smoother.

No.		List
1207	2 oz. can	$0.50

G-C STRIP-X

Strips enamel from magnet wire. Dip wire in and wipe insulation off—ready for soldering.

No.		List
26-2	2 oz.	$0.75

G-C NON-SLIP COMPOUNDS

Powder Compound

For dial cords, pulleys, belts. Prevents slipping.

No.		List
1210	2 ozs.	$0.75

Liquid

Penetrating liquid shrinks fibers, prevents slipping on dial cord and belts.

No.		List
1215	2 oz.	$0.75

G-C RECORD-LIFE LUBRICANT

Simply wipe record with "Record-Life" and the needle will glide over the record smoothly. Prevents record and needle wear; also eliminates noises and scratching sounds. Use also for making records.

No.		List
125-2	2 oz.	$0.75

G-C REK-O-DOPE

Required lubricant when recording and cutting records. All purpose, it cools, cleans, lubricates, and hardens grooves when cut. Rek-O-Dope will give better tone and longer life.

No.		List
126-2	2 oz.	$0.75

G-C STA-PUT PHONO-GEAR LUBRICANT

New "Sta-Put" lubricant for phonomotors, gears, shafts, etc. Will not run or drip-it "Stays-Put." Recommended by RCA, G-E, and others.

No.		List
1223	Tube	$0.75
122-2	2 oz.	.65

G-C "RECO" STATIC CHASER

Developed specially for vinylite records, it eliminates static electricity on plastic records and keeps records dust free. Also stops crackling and static discharge noises. Simply wipe it on and the job is done. Can be used on any type records.

No.		List
48-2	2 oz.	$0.75

G-C PORCELAIN GLAZE

Fills in nicks and dents on porcelain and duco refrigerators, sinks, washing machines, etc. Fill in and let dry.

No.		List
911	2 oz.	$0.75

G-C SPEAKER CONE RECONDITIONER

Apply to old dried out cones to restore plasticizer and bring back original tones.

No.		List
25-8	8 oz.	$1.00

G-C TV LINE SEAL for UHF and VHF

Outdoor special acrylic sealer for sealing TV wires, terminals, screws, antennas, TV Lines, etc. Seal it with G-C TV Line Seal and forget it. It will avoid trouble as it seals and prevents corrosion and loosening of contacts, screws, etc.

No.		List
17-2	2 oz. Line Seal	$0.75

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

GENERAL CEMENT

CABINET REPAIR MATERIALS

G-C LUMINOUS KITS

Complete kits of luminous paint that glows in the dark. Many uses in shop and home. See it at night. Easy to use — apply and let dry.

No.		List
184-0	DeLuxe Kit contains Powder, Mix-Koat, Top Koat and Brush.	$3.75

G-C FRENCH VARNISH

Used by craftsmen to repair furniture and blend in the finish. Can be applied with pad, brush or spray. Dries fast.

No.		List
160-2	2 oz.	$0.75

G-C RUBBING OIL

Rub down newly finished or repaired cabinets to produce rich satin sheen finish.

No.		List
163-16	16 oz.	$2.40

G-C CREME-O-WAX POLISH

White non-staining hard wax base polish produces a hard glossy finish. Excellent for radios, pianos, refrigerators, furniture, etc.

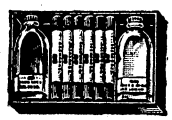
No.		List
95-2	2 oz.	$0.60

G-C SHELLAC STICK KIT

Handy assortment of 10 colors to take care of any shade of wood. Same as in G-C Kits.

No.		List
925	Kit	$2.75

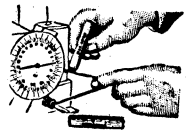
G-C MAGIC SCRATCH KIT



Combination of 6 shades fillers and light and dark scratch fluid. Easy to use on emergency jobs.

No.		List
915	Kit	$1.95

NEW G-C DIAL CORD DRESSING STICK



A new, easy way to treat slipping cords on dial mechanisms. Simply rub the stick on cord and job is done! Prevents and stops slipping. Carry a stick with you and save time.

No.		List
1212	Dressing Stick	$0.25

G-C FRENCH EMULSION

Best pad lubricant to use with French Varnish Polishing Method.

No.		List
164-4	4 oz.	$1.10

G-C SCRATCH REMOVER POLISHES

Dark

Polish contains stains to remove scratches. Sell to housewives.

No.		List
92-2	2 oz.	$0.60

Light

For light woods; polishes and removes scratches at same time. Popular with housewives.

No.		List
93-2	2 oz.	$0.60

G-C PORCELAIN PATCH STICK

Made for white porcelain refrigerators, sinks, ranges, fixtures, etc. Simply melt into nick and smooth off.

No.		List
908	Stick	$0.60

G-C SHELLAC STICKS

High grade sticks for filling dents and nicks in wood cabinets and furniture. Sticks 7" long.

No.		List	No.		List
929	Lt. Walnut	$0.60	979	Dk. Oak	$0.60
930	Dk. Walnut	.60	980	Transparent	.60
933	Black	.60	981	Lt. Transparent	.60
934	White	.60	982	Walnut	.60
935	Maple	.60	983	Mahogany	.60
978	Lt. Oak	.60	984	Blonde Maple	.60

G-C GENERAL SCRATCH STICK

Removes scratches. Simply run over scratches and they will disappear. Handy to carry in your pocket or tool box for emergency repairs. Also sell to housewives.

No.		List
909-W	Walnut	$0.60
909-M	Mahogany	.60
909-I	Ivory	.60

G-C SCRATCH REMOVER LIQUID

New liquid! Removes scratches instantly. Simply wipe over scratches. Handy to have in tool box.

No.		List
917	2 oz.	$0.60

SPECIAL PRICES TO QUANTITY USERS . . . ASK YOUR G-C DISTRIBUTOR FOR COMPLETE INFORMATION AND PRICES.

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GENERAL CEMENT
CABINET REPAIR KITS
GRILLE CLOTH

G-C FLOCK BLOWER GUN

It's easy to apply flock and be sure to get a good job with the G-C Patented Gun. Gun can also be used for dusting and cleaning.

No.		List
180-3	Gun	$6.50
180-4N		.35
	Cleaning Nozzle for Gun	

G-C MASTER DELUXE CABINET REPAIR KIT

Complete cabinet repair kit in a permanent metal box. All finishes are spirit soluble and will not cut or damage surrounding finishes on cabinets, etc. Kit contains 10 shellac sticks, alcohol lamp, French varnishes, rubbing felt and fluid, enamels, glue, steel wool, sandpaper, polish, directions, etc.

No.		List
900	Kit	$12.95

G-C MASTER CABINET TOUCH-UP KIT

A complete, fast touch-up kit for repairing scratches and dents. Works on wood and plastic cabinets. The spirit finishes will not cut into the adjoining surface or injure surrounding finish. Contains French varnish, emulsion, colored enamels, stains, polishes, and filler. Sandpaper, steel wool, rubbing cloth and directions included. Brushes attached to caps of all finish bottles. Put up in metal box.

No.		List
907	Kit	$5.75

G-C FELT KOAT FLOCK KIT

New G-C kit with special blower gun. Distribues flock evenly and applies a thick velvet-like coat. Kit is complete with gun, brown and ivory flock, brown and ivory undercoat, thinner, brush, etc. Gives professional job on turntables, cabinets, grilles, tool boxes, toys, signs, etc. Has thousands of applications.

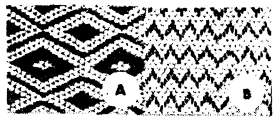
No.		List
180-2	Kit	$15.95

G-C FELT-KOAT FLOCK

Genuine Rayon Flock, $\frac{1}{16}$" length fibers accurately cut, give beautiful even finish. One pound covers approximately 90 sq. ft. Colors: Brown, Taupe, Blue, Black, Ivory, Red, Green, Silver, and Gold. (Specify Color.)

No.		List
180-5	2 oz. Can	$1.35
180-7	1 lb. Bag	6.00

G-C TELEVISION GRILLE CLOTH



New television metallic grille cloth specially made for TV cabinets.

Specify "A" or "B" style

No.	Size	List
8656	18" x 24"	$2.50
8657	24" x 36"	4.75
8658	36" x 36"	7.50
8659	36" wide per yard, bulk	7.25

G-C TV PLASTIC SARAN WOVEN GRILLE CLOTH

Beautiful plastic cloth in a beautiful pattern. Ideal material for custom-built cabinets and commercial sound installations.

No.	List	
No. 8736	List $1.65	12" x 18" - Bronze & Gold
No. 8739	List $9.25	36" x 36" - Bronze & Gold
No. 8737	List $1.65	12" x 18" - Ecru & Ivory
No. 8740	List $9.25	36" x 36" - Ecru & Ivory

G-C DELUXE CABINET REPAIR KIT

Comes in handy metal box. Contains ten shades of shellac sticks, bottles of light and dark oil stain, bottles of metal shading varnish, polish, General Skratch Stik, alcohol lamp (with alcohol), spatula, small brushes, steel wool, sandpaper, and wiping cloth. No special skill required. Directions included.

No.		List
901	Kit	$8.50

G-C CABINET REPAIR KIT MATERIALS

No.		List
908	Porcelain Patch Stick	$0.60
992	Shellac Stick Rubbing Fluid 2 oz.	.60
900-11R	Sandpaper, 4/0 Sheet	.15
900-12R	Sandpaper, 7/0 Sheet, very fine	.25
900-14R	Steel Wool Pads, box of 16	2.00
936	Spatula, for Shellac Stiks	.45
937	Alcohol Lamp with Alcohol	.75
938	Lamp Fluid, pint	1.25
161-2	Varnish Stain, Walnut, 2 oz.	.75
162-4	Spirit Stain, Walnut or Mahogany (specify color), 4 oz.	1.10
900-13R	Touch-Up Brush	.75

G-C FELT KOAT KITS

Complete flock kit with flock undercoat, thinner and brushes and shaker type can for applying flock. Colors: Brown, Blue, Taupe, Black, Red, Green and Gold. (Specify Color).

No.		List
180-0	DeLuxe Kit	$3.95
180-1	Reg. Kit (No Brush or Thinner)	2.95

G-C FLOCK SIZING UNDERCOAT

Material is first applied on surface to be flocked. Then flock is applied. Used on metal, wood, paper, etc. Neutral color, can be used with all colors of flock.

No.		List
180-4	4 oz.	$1.20

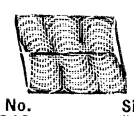
G-C FLOCK SIZING THINNER

No.		List
181-4	4 oz.	$0.50
181-8	8 oz.	.65

G-C METAL FLOCKED GRILLE SCREEN

Very popular. Both sides flocked with rayon over galvanized metal screen. Used on radios, P.A. speakers, intercoms, auto radios, etc. Waterproof, durable. Colors: Brown, Ivory, Maroon.

No.	Size	Color	List
951-1	8" x 11"	Brown	$0.95
951-3	8" x 11"	Ivory	.95
951-5	8" x 11"	Maroon	.95
952-1	18" x 24"	Brown	3.20
952-3	18" x 24"	Ivory	3.20
952-5	18" x 24"	Maroon	3.20
953-1	36" x 36"	Brown	9.85
953-3	36" x 36"	Ivory	9.85
953-5	36" x 36"	Maroon	9.85



G-C CABINET SPEAKER GRILLE CLOTH

Beautiful modern patterns of Brown, Gold and light colors to match Walnut, Mahogany and Ivory Cabinets. Specify "Ivory" when ivory is wanted.

No.	Size	List
940	18" x 20"	$1.50
941	9" x 18"	.75
942	12" x 12"	.80
943	14" x 18"	1.00
944	24" x 13"	1.35
945	18" x 13"	.90
949-2R	50" Wide Cont. lgth., per yd.	6.50

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

GC GENERAL CEMENT
RADIO • TV ACCESSORIES

G-C DIAL DRIVE SPRING KITS

G-C DIAL CORD CLIPS

Handy assortment for fastening dial cords. Squeeze around cord with pliers. 100 Assorted.

No.	List
6221-C	$0.70

Assorted, for most requirements.

No.	List
1056	$4.85

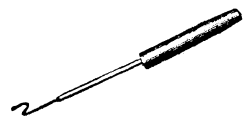
100 assorted

G-C RCA TELEVISION TUNING BELT

New belt for RCA Television Tuner. Used on models series numbers 8TC, 8TK, 9TC, etc. (Belt Part No. 73465.)

No.		List
195	Tuner Belt	$0.50

G-C DIAL CABLE TOOL



Handy tool to aid in stringing new dial cord and replacing cables slipped off pulleys and drums. It's like an extra hand. Speeds up the job.

No. 5096 List $0.85

G-C 860 CAP

Spring action flat brown bakelite cap. App. brass blades.

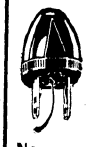
No.		List
860	Cap	$0.25

G-C 861 CAP

Spring action, finger grip rubber caps. App., screw terminal br. blade.

No.		List
861	Cap	$0.25

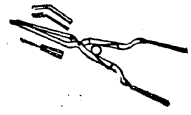
G-C 865 CAP



Modern flush type rubber cap. Easy to assemble. No exposed screws or wires.

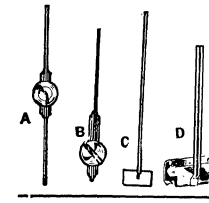
No.		List
865	Cap	$0.35

G-C LONG NOSE PLIERS



Very handy pliers to reach into places and hold parts. It's very handy for installing radio dial cords. Available in straight nose and curved nose styles.

No.		List
5192	Straight Nose Pliers	$1.00
5193	Curved Nose Pliers	1.00



G-C DIAL POINTERS

Popular Replacement Pointers

No. (a) 6801 List $0.40
3" Rotary Pointer for ¼" shaft, gold

No. (b) 6802 List $0.40
5" 360° Rotary Pointer for ¼" shaft, gold and red

No. (c) 6803 List $0.40
2" Slide Pointer, red translucent

No. (d) 6804 List $0.40
2¼" Slide Pointer, white enamel

G-C PHONO SPRING KIT

Kit contains assorted springs same as are used on phono turntables. With this kit you can replace the broken or weak spring without waiting or delay in service.

No.		List
6478	Kit of 50	$2.75
6479	Kit of 100	4.85

G-C DIAL POINTER KITS

A complete kit of assorted dial pointers. Pointers come in a clear transparent plastic case which keeps the pointers in perfect condition.

No.		List
6810	Kit - 10 pointers	$3.25
6805	Kit - 25 pointers	5.50

G-C HANDY PICK-UP TOOL

Very handy for every one. Picks up pieces in hard-to-get-at places. Will hold and start screws, nuts, etc. Will pay for itself in short time.

No. 5089 List $1.65

G-C TV KNOB SPRING KIT

Contains various types of knob springs and wedges used on TV knobs. Assortment of 100.

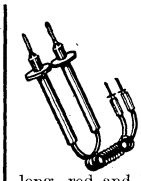
No. 9133 List $2.75

G-C DUAL TUBE PIN STRAIGHTENER

Streamlined pocket-size straightener for 7-pin and 9-pin miniature tubes. Accurately machined hardened metal inserts for long life.

No. 9092 List $1.65

G-C HIGH-VOLT TEST LEADS



For high voltage TV testing. Heavy duty wire, flexible even though insulation makes it ¼" thick. 22,000 volt breakdown at 60 cycles. 48" long, red and black leads.

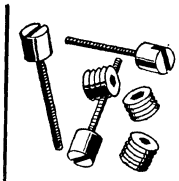
No. 9100	w. phone tips	List $5.00
No. 9101	w. spade lugs	List 5.00
No. 9102	w. alligator clips	List 6.00

G-C "TEST LINE" TEST LEADS

Slender pencil-type Tenite 5" long test prods, with 50" kinkless, extra flexible rubber covered wire. Phone tips. Red and black colors.

No. 9190 List $1.00

G-C TV-RADIO IRON CORE KIT



Contains 7 assorted types of iron cores used in TV and radio sets. Covers 90% of replacements.

No. 9141 List $0.95

G-C SELENIUM RECTIFIER MOUNTING SCREWS

Assortment of 24 extra long 6-32 screws and nuts for mounting selenium rectifiers. Round head screws 2½", 3" and 4½" long.

No. 9224 List $0.60

G-C TERMINAL STRIPS

SCREW TYPE

Laminated bakelite strips, rigidly constructed, terminals will not turn and short.

No.	Contacts	List
1772	2	$0.12
1773	3	.19
1774	4	.25
1775	5	.28
1776	6	.35
1777	7	.42
1778	8	.50
1779	9	.55
1780	10	.60

SOLDER TYPE

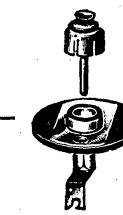
Mounted on laminated bakelite strips. Lugs securely fastened and will not turn.

No.	Contacts	List
1781	1	$0.05
1782	2	.06
1783	3	.07
1784	4	.09
1785	5	.12
1786	6	.13
1787	7	.20
1788	8	.22

G-C PHONO PLUG

For all types of phono connections on RCA, Zenith, Philco and others. Also for auto radio connector.

No.		List
1742	Single Plug	$0.10
1742-E	Env. 4	.45



G-C PHONO JACK

Companion phono jack for No. 1742 plug.

No.		List
1743	Single Jack	$0.14
1743-E	Env. 3	.45

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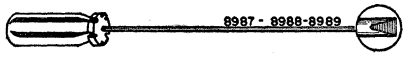
GENERAL CEMENT
RADIO • TV ALIGNMENT TOOLS

G-C NEW TELEVISION "X 57 PLASTIC LONG SLIM" SCREWDRIVER



No.	Blade	Overall	List
8987	7″	9¼″	$1.00
8988	12″	14¼″	1.50
8989	16″	18¼″	2.00

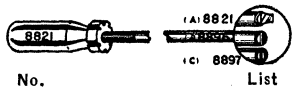
G-C "SHORTY" TV ALIGNMENT SCREWDRIVER

No. 8289 List $0.70

G-C TELEVISION 6" DUPLEX ALIGNER

No. 8276 List $0.80

G-C LONG ARM TV TOOL

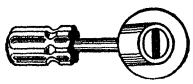


No.		List
8821	Tool Type A	$1.50
8896	Tool Type B	1.50
8897	Tool Type C	1.50

G-C TELEVISION CHANNEL TUNING TOOL

No. 8195 List $0.90

G-C "SHORTY" TV ALIGNMENT TOOL



No. 9051 List $0.75

G-C NYLON TELEVISION LONG REACH ALIGNER

No. 8607 List $1.80
No. 8608-E Repl. Tip List .30

G-C TELEVISION 2-IN-1 9" LONG-REACH DUPLEX ALIGNER

No. 8721 List $1.25

G-C TELEVISION ALIGNMENT TOOL

No. 5066 List $0.55

G-C TELEVISION AND FM TUNING TOOL

No. 8196 List $0.60

G-C TV ALIGNMENT TOOL

No. 9050 List $0.30

G-C TELEVISION ALL-PURPOSE ALIGNER

No. 8273 List $1.10

G-C TELEVISION LONG REACH ALIGNER

No. 8274 List $1.20

G-C TELEVISION TUNING WAND

No. 8278 List $0.55

G-C DUPLEX ALIGNMENT SCREWDRIVER

No. 5001 List $0.85

G-C TELEVISION ZENITH UNIVERSAL ALIGNER

No. 8275 List $0.80

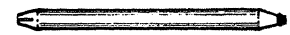
G-C ZENITH TV WRENCH AND ALIGNER

No. 8282 List $0.55

G-C ALIGNMENT SCREWDRIVER

No. 5000 ¼″ dia. List $0.45
No. 5088 $\frac{7}{32}$″ dia. List .45

G-C GENERAL ELECTRIC ALIGNMENT TOOL



No. 8609 List $1.00

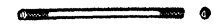
G-C TELEVISION 2-IN-1 7" DUPLEX ALIGNER

No. 8722 List $1.05

G-C TELEVISION ALIGNING WRENCH

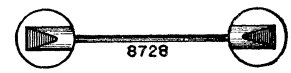
No. 5080 List $0.85

G-C TELEVISION CORE ALIGNER



No. 8271 List $0.90

G-C LONG REACH ALIGNMENT SCREWDRIVERS

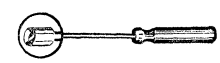


No. 8728A 7″ l. List $0.45
No. 8728 12″ l. List .70
No. 8729 16″ l. List .90

G-C TELEVISION "SHORTY" DUPLEX ALIGNER

No. 8277 List $0.80

G-C TELEVISION CORE ALIGNER



No. 8279 List $1.10

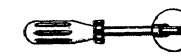
G-C "STRATO" TUNING WAND

No. 5002 List $1.10

G-C UNIVERSAL SCREW DRIVER ALIGNER

No. 8290 List $1.00

G-C K-TRAN TELEVISION ALIGNER

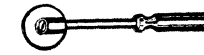


No. 8727 List $0.85

G-C K-TRAN TOOL

No. 5097 List $0.85

G-C TELEVISION I.F. OSCILLATOR ALIGNER



No. 8272 List $1.20

G-C STANDARD TV ALIGNMENT TOOL KIT

No. 8455 9 tools List $7.65

G-C TELEVISION DUPLEX ALIGNER

No. 8276 List $0.80

G-C TELEVISION 2-IN-1 ALIGNMENT TOOL

No. 8606 List $0.55

G-C NO-METAL INSULATING ADJUSTMENT SCREWDRIVER

No. 5004 7″ l. List $0.75
No. 5008 7″ l. List .45
for UHF

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

GENERAL CEMENT

NEW G-C KLIPZONS

THE REVOLUTIONARY SELF HOLDING

TEST PRODS - CONNECTORS - ADAPTERS CRYSTAL PROBES

KLIPZON TEST PRODS AND LEADS

Designed for maximum time saving, convenience and safety. Self-holding jaws slip onto wires, lugs, terminals, and grip test points until pulled off. Modern design adds minimum capacity to circuit; makes contact with inaccessible wires and terminals easy. Points fit into pin-jacks, sockets, binding posts; grip wires from finest to #12 B&S gauge. Points are needle sharp stainless steel in Duralumin holders. Handles, red and black, 4¾" long, of glossy Tenite. 4 ft., super-flexible rubber covered leads.

No. 5608 List $3.25
Test Prods and Leads

No. 5609 List $2.50
Test Leads & Phone Terminals

No. 5610 List $3.25
Test Leads with Banana Plugs

CRYSTAL PROBES FOR VOM AND VTVM

Mini-Prod Connectors as terminals No. 5612 provides accurate means of measuring V.H.F. voltages with a vacuum tube voltmeter. Germanium crystal in low capacity, high impedance circuit, supplies rectified voltage to DC input. Complete shielding reduces hand capacity and antenna effect to minimum. Completely insulated. Reads to 200 Mc with 10% accuracy. Input capacity 3.5 Mmf. 400 V DC rating. Input resistance (approx.) .25 Megohms @ 500 Kc, 150,000 Ohms @ 10 Mc, 25,000 Ohms @ 100 Mc. Reads .707 x positive peak of sinusoidal voltage. Type 5611 adapts volt-ohm-milliammeters for indication and comparison of V.H.F. voltages. Has Germanium crystal and suitable network of resistance and capacity for connection to DC circuit of VOM, with at least 200 Micro-amp sensitivity.

CRYSTAL PROBES

No. 5611 List $7.25
For VOM

No. 5612 List $7.25
For VTVM

SHIELDED LOW LOSS-LOW CAPACITY LEADS

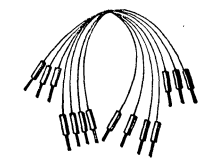
Provide a reliable means of piping audio or radio frequencies in laboratory or service work. Di-electric of air and polyethylene is proportioned to provide unusually low capacity and loss even at U.H.F. while retaining strength, durability and flexibility of the lead. Complete shielding of leads eliminates stray pickups, feed back and other undesirable coupling effects. Lead length is 3 ft., O.D. approximately 3/32", total capacity only 25 mmf. Provided with black Mini-Prod Connectors at each end of lead for complete grounding of shield and red Mini-Prods for connecing to circuit or instrument.

No. 5613 List $4.95
Shielded Low Loss-Low Capacity Leads

HEAVY DUTY TEST PROBES AND LEADS

Designed to make the self-holding feature available for large sized wires, lugs and terminals. The oversized self-holding points clip onto conductors up to #4 B&S Ga. and grip test point until pulled off. Points are needle sharp to pierce insulation, fungus and wrappings, and protected with insulating sleeves to prevent shorting to adjacent wires. Handles unscrew for easy renewal of leads by soldering to internal lug. Spade type terminals are provided for ease of connection to meters or other equipment. Provided with 4 ft. lacquered polyethylene rayon leads, equivalent to #18 B&S Ga. (16 strands #30 B&S Ga. copper wire.)

No. 5614 List $4.25
Heavy Duty Test Prods and Leads



12" AND 24" JUMPER LEADS

Every electronics laboratory, service shop and production line needs a supply of these handy leads. Each is equipped with two Mini-Prod Connectors, which may be used as a miniature prod or clip. Points are protected by insulating sleeves to prevent shorting to adjacent wires. Sleeves are easily removable so that point may be inserted into pin jacks, binding post and tube sockets. Needle sharp points readily make contact with inner conductors by piercing insulation. Lead wire is super-flexible, rubber covered (41 strands, #34 B&S Ga. copper) in red or black 12 and 24 inch lengths. Solderless connector in handle makes renewal of leads easy.

No.	JUMPER LEADS	List
5634	Red 12"	$1.00
5635	Black 12"	1.00
5636	Red 24"	1.10
5637	Black 24"	1.10

TEST PROD HANDLES

Test Prod Handles of glossy Tenite with self-holding points and solderless connection in handles, same as supplied with No. 5608 Test Prods. Hole in handle accommodates up to .140" Dia. wire, 4¾" long. Designed for those who wish to wire up their own test prods.

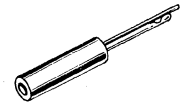
No. 5615 List $0.85
Red Test Prod Handles

No. 5616 List $0.85
Black Test Prod Handles

JUMBO PROD HANDLES

Test Prod Handles of wear resistant plastic with heavy duty self-holding points, the same as provided with No. 5614 Jumbo Test Leads. Point unscrews from handle, for attachment of leads to internal soldering lug. Hole in handle accommodates up to .220" Dia. wire. Designed for those who wish to wire up their own test prods.

No.	PROD HANDLES	List
5617	Red Jumbo	$0.85
5618	Black Jumbo	.85



JUMBO ADAPTERS

Designed to make the self-holding feature available for use on larger wires and terminals. Fits over regular KLIPZON Self-Holding Point of No.'s 5608, 5611, 5612. Will also fit over standard R.M.A. test points or phonograph needle type with special insert supplied. Suitable for wires up to #4 B&S ga., #12 machine screws and equivalent sized lugs and terminals.

No.	JUMBO ADAPTERS	List
5619	Red	$0.75
5620	Black	.75

MINI-PROD CONNECTORS

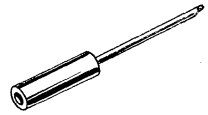
Designed for laboratory or service use where quick, easy to make, temporary test connections are needed. Equipped with various lead lengths they make handy test connectors that can be easily changed without shutting off power. Insures maximum safety in testing. Wiring made easy by solderless connection inside Tenite handle. Needle sharp points for piercing insulation and protective coatings.

No.	CONNECTORS	List
5621	Red Mini-Prod	$0.45
5622	Black Mini-Prod	.45

MINI-PROD ADAPTERS

Designed to fit over old style test points and thereby convert them to New Style Self-Holding Prods. Fits over usual R.M.A. standard test point directly, or over phonograph needle type with special insert supplied. Size is same as that of KLIPZON Mini-Prod Connector.

No.	ADAPTERS	List
5623	Red Mini-Prod	$0.60
5624	Black Mini-Prod	.60

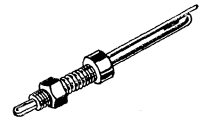


LONGIE ADAPTERS

Especially designed for test work in miniaturized or deep, close packed chassis. The extra long, slender point has the unique self-holding jaw and a needle sharp point for piercing insulation. The Longie fits over R.T.M.A. standard test points directly, and over phonograph needle type with special insert supplied.

No. 5625 List $0.75
Red Longie Adapters

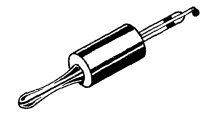
No. 5626 List $0.75
Black Longie Adapters



KLIPZON PANEL MOUNT

Test Germanium diodes, transistors, resistors, coils, capacitors, printed circuits, the easy way. Just the thing for laboratory, production test work or life-test panels. Unique KLIPZON point of duralumin with stainless steel needle grips wires. Just press lead down against the needle. Has 3/32" shank for panel mounting with solder terminal.

No.	List
5627 Panel Mount	$0.60



KLIPZON BANANA PLUG

Make handy test setup for transistors, diodes, resistors, capacitors, coils, printed circuits. Banana plug jacks are used on thousands of lab and service instruments. TYPE R provides an easy way to make instant connections to these terminals.

No. 5628 List $0.75
Red Banana Plug

No. 5629 List $0.75
Black Banana Plug

ALLIGATOR CLIP ADAPTER

Fits onto KLIPZON test points. R.T.M.A. test prods or phone tips.

No. 5630 List $0.60
Red Alligator Clip

No. 5631 List $0.60
Black Alligator Clip

BANANA PLUG ADAPTER

Fits onto KLIPZON test points. R.T.M.A. test prods or phone tips.

PLUG ADAPTERS

No. 5632 List $0.60
Red Banana

No. 5633 List $0.60
Black Banana

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GENERAL CEMENT

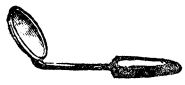
ALIGNMENT TOOLS • SERVICE AIDS

G-C SOLDERING IRON TIPS

Best grade hard-drawn copper, bright plated to resist corrosion. Heats fast and holds heat.

No.	Tip	List
724	¼" x 3"	$0.50
725	5/16" x 4½"	.65
726	⅜" x 4½"	.70
727	7/16" x 4"	.85

G-C INSPECTION MIRROR



Inspection Mirror for hard to see places.

No.	List
5090	$0.55

G-C ZENITH PUSH-BUTTON WRENCH

Special wrench necessary to use in adjusting Zenith push-button sets.

No.	List
5094	$0.20

G-C MINIATURE TUBE PIN STRAIGHTENER

Precision base die straightens prongs and spaces them properly for miniature tubes like 1S5, 6AK5, etc.

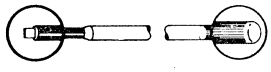
No.		List
5191	For 7-pin tubes	$1.25
8105	For 9-pin tubes	1.25

G-C AUTO RADIO TUNER

For adjusting car radios; turn controls when radio is removed from car and cables disconnected. Square tip and V-tip ends for various shafts.

No.	List
8285	$0.45

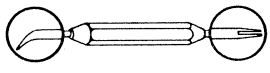
G-C WESTINGHOUSE TV ALIGNMENT TOOL



Specially designed to fit Westinghouse coils, end turned down to fit openings. 5¾" long, with metal tip on end.

No.	List
9089	$0.90

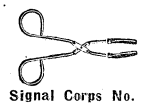
G-C PRINT-KOTE SOLDER AID PROBE



Fine point probe for soldering printed circuits. Solder won't stick to stainless steel probe.

No.	List
9093	$1.65

G-C TUBE AND PARTS EXTRACTOR



U. S. Signal Corps No. TL-201

Handy prong tool for extracting tubes and picking up parts. Rubber cushions on prongs.

No.	List
5092	$1.65

G-C LONG-REACH TV AND RADIO LUBRICATOR

For hard-to-reach radio and TV controls, bearings, phono motors, etc.

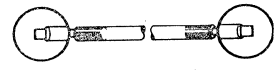
No.	List
8690	$0.80

G-C DUPLEX TUBE PIN STRAIGHTENER

Straightens both miniature and jumbo miniature tubes, both 7- and 9-pin types. Precision steel dies.

No.	List
8655	$2.50

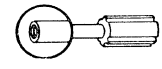
G-C STANDARD COIL SLUG TUNER ADJUSTING TOOL



Designed especially for Standard Tuners, tool has blade length sufficient to adjust slug without turning it into coil. Tool 7½" long, .170 dia. shaft ends.

No.	List
9087	$1.00

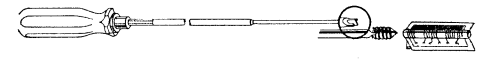
G-C ADJUSTABLE SHORTY



Designed for RCA, Westinghouse, etc. Recessed tip. Adjustable from 1¼" to 2" in length. No need to remove chassis from cabinet.

No.	List
9090	$0.70

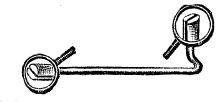
G-C SLUG RETRIEVER TOOL



Precision made tool with hardened steel tips for removing lost tuner slugs in Standard Tuners. Simply slip in, push and retrieve slug.

No. 9096 — 12" long ..... List $3.70
No. 9097 — 15" long ..... List $4.95

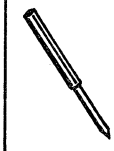
G-C CONTACT ADJUSTER



Ideal tool for adjusting contacts on switches, relays on pin ball machines, radio sets.

No.	List
5095	$0.25

G-C SPEEDEX SLIM-TYPE SOLDER IRON TIPS



High heat turn-down tip made of copper. Fits ⅜" iron, 4½" tip.

No.	List
8741	$1.00

G-C TV "HIGH-VOLT" SAFETY PROBE AND TESTER

Check TV high voltage circuits quickly. Tester glows when okay. Handy for H.V. rectifier tubes, transmitters, etc.

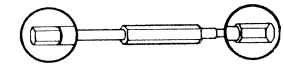
No.	List
8836	$2.75

G-C HEAVY DUTY SOLDERING AID TOOL

Stainless steel with hardened probe, solder won't stick. Other end is stiff wire brush for cleaning wire.

No.	List
9088	$1.65

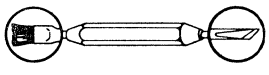
G-C NYLON DOUBLE END IRON CORE TOOL



All nylon hex tool made to fit cores with .125 hex opening. One end undercut to reach bottom slug in coil without turning top slug.

No.		List
9091	5" l.	$0.75
9091-L	11" l.	$1.00

G-C PRINT-KOTE BRUSH AND SCRAPER



Stainless steel brush and hardened steel scraper to scrape and clean silicone resin from printed circuits before repairs are made.

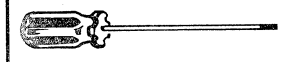
No.	List
9094	$1.65

G-C NON-MAGNETIC ALIGNING BERYLLIUM TOOL

Specially heat treated beryllium copper for use in loosening difficult alignment screws (prevents damage to plastic alignment tools). ⅛" blade.

No.		List
9105	6" blade	$1.25
9106	10" blade	$1.35

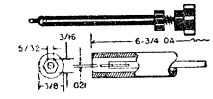
G-C RCA TV ALIGNMENT TOOL



Double end nylon tool with recessed metal tip on one end, plastic slot on other. For RCA, Zenith, etc.

No.		List
9150	6" long	$1.50

G-C TL-597-U SPECIAL ALIGNMENT TOOL



Made to govt. specifications, combination tool with bakelite screwdriver within ¼" hex socket wrench.

No.	List
5068	$2.85

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

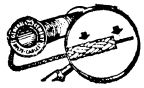
GENERAL CEMENT
RADIO • TV DIAL CORDS, CABLES and BELTS

DIAL CABLES

Available in special bulk lengths and quantities

WRITE FOR QUOTATIONS

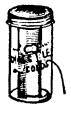
G-C No. 75-A EXTRA THIN NYLON CORD

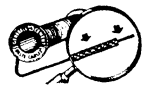


.025" diam. Used on RCA, GE, Strom.-Carl., etc. Braided nylon over fibre glass core. In plastic container:

No.	Spool	List
75A-25	25 ft.	$1.50
75A-50	50 ft.	2.65
75A-100	100 ft.	4.95
75A-11	Env.	.45
H395-F	Plastic Box	.50

G-C No. 75 STANDARD THIN NYLON CORD

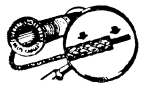




.028" diam. Most popular; used on 95% of sets. Braided nylon over fibre glass core. In plastic container.

No.	Spool	List
75-25	25 ft.	$1.50
75-50	50 ft.	2.65
75-100	100 ft.	4.95
75-11	Env.	.45
H396-F	Plastic Box	.50

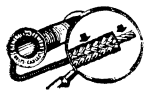
G-C No. 74 MEDIUM NYLON CORD



.040" diameter. Very popular; used by RCA, Philco, GE, etc. Braided nylon over fibre glass core. In plastic container.

No.	Spool	List
74-25	25 ft.	$1.50
74-50	50 ft.	2.65
74-100	100 ft.	4.95
74-11	Env.	.45
H397-F	Plastic Box	.50

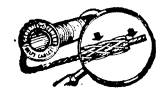
G-C No. 73 HEAVY NYLON CORD



.062" diameter; used on Philco, Majestic, Brunswick, etc. Very strong, chemically treated to prevent slipping. In plastic container.

No.	Spool	List
73-25	25 ft.	1.90
73-50	50 ft.	3.25
73-100	100 ft.	5.50
73-11	Env.	.45

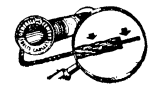
G-C No. 70 BRAIDED BRONZE CABLE



.040" diameter; used on radio dials, instruments and for aircraft reel-in antenna cable. Phosphor bronze braided over fibre glass core for strength. In plastic container.

No.	Spool	List
70-25	25 ft.	$1.80
70-50	50 ft.	2.65
70-100	100 ft.	5.00
70-11	Env.	.45

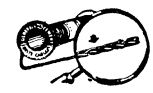
G-C No. 71 42-STRAND BRONZE CABLE



.040" diameter; 42 strands twisted phosphor bronze over fibre glass core. Radio dials, aircraft reel-in-antennas, etc. Durable and flexible. In plastic containers.

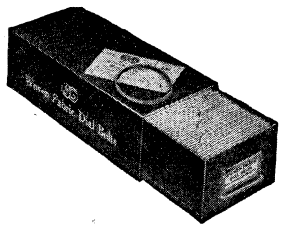
No.	Spool	List
71-25	25 ft.	$2.25
71-50	50 ft.	3.50
71-100	100 ft.	6.50
71-11	Env.	.45

G-C No. 76 SPECIAL THIN BRONZE CABLE



.025" diameter. Braided bronze as used on GE, RCA, and others. Also for flexible connections on speakers, cones, etc. In plastic container.

No.	Spool	List
76-25	25 ft.	$1.80
76-50	50 ft.	2.65
76-100	100 ft.	5.00
76-11	Env.	.45



G-C SERVICEMEN'S DIAL BELT KITS

General Cement Belts are approved replacements for all sets. They are made of best quality material and will not stretch. They are specially treated to prevent slipping. They are the best. Sizes available for all sets. **They are easy to install** as they are made to fit. No adjustments necessary.

BELTS — 50c List Each

Servicemen! Have an assortment of belts on hand for prompt replacement. Kits contain only the more popular belts used. KIT INCLUDES ATTRACTIVE STEEL BOX—BELT SCALE AND COMPLETE LISTING OF OVER 1100 MODELS.

G-C SERVICEMEN'S KITS

List Price

No. G-25—Kit of 25 popular belts.....$13.95

INSTRUCTIONS — FOR MEASURING BELTS

To determine size of belt, if the old belt is available, cut the belt and measure for stretched out length. This will be "cut length" of belt.

If old belt is not available or is worn out so that it cannot be properly measured, stretch a thin thread around belt pulleys on set. (Be sure to use thin thread as a thick cord will give an inaccurate reading.) Measure the thread, it will be our "circumference around pulleys." In measuring belts always remember that the **circumference around pulleys** is not the same as **stretched out or cut length.** A belt when cut, develops approximately $\frac{3}{32}$" extra length when stretched out, depending on thickness of belt.

G-C RADIO BELT SPECIFICATIONS

LISTED AS PER BELT SIZE

Circumference Around Pulleys	Cut Length	G-C Belt No.
5 7/16"x1/4"	5 5/8"x1/4"	195
6-23/32"	6-29/32"	101
6-55/64"	7-3/64"	161
6-57/64"	7-5/64"	102
6-15/16"	7-1/8"	158
7-1/64"	7-13/64"	157
7-1/4"	7-7/16"	106
7-9/32"	7-15/32"	156
7-13/32"	7-19/32"	177
7-15/32"	7-21/32"	103
7-1/2"	7-11/16"	105
7-35/64"	7-23/32"	155
7-11/16"	7-7/8"	107
7-3/4"	7-15/16"	174
7-15/16"	8-1/8"	111
8-1/64"	8-13/64"	104
8-1/32"	8-7/32"	159
8-3/32"	8-9/32"	113
8-3/16"	8-3/8"	172
8-13/64"	8-25/64"	162
8-15/64"	8-27/64"	114
8-25/64"	8-37/64"	110
8-1/2"	8-11/16"	109
8-21/32"	8-27/32"	108
8-39/64"	8-51/64"	153
8-43/64"	8-55/64"	112
8-11/16"	8-7/8"	160
8-13/16"	9"	167
9-1/16"	9-1/4"	117
9-13/64"	9-25/64"	115
9-19/64"	9-31/64"	163
9-5/16"	9-1/2"	116
9-17/32"	9-23/32"	119
9-7/8"	10-1/16"	123
9-59/64"	10-7/64"	127
10-1/16"	10-1/4"	126
10-1/4"	10-7/16"	164
10-17/64"	10-29/64"	124
10-19/64"	10-31/64"	128
10-23/64"	10-35/64"	118
10-3/8"	10-9/16"	122
10-25/64"	10-37/64"	125
10-1/2"	10-11/16"	152
10-41/64"	10-53/64"	129
10-11/16"	10-7/8"	121
10-45/64"	10-57/64"	120
10-27/32"	11-1/32"	180
10-61/64"	11-9/64"	133
10-31/32"	11-5/32"	132

LISTED AS PER BELT SIZE

Circumference Around Pulleys	Cut Length	G-C Belt No.
11"	11-3/16"	135
11-5/64"	11-17/64"	130
11-9/64"	11-21/64"	131
11-5/32"	11-15/32"	137
11-3/16"	11-3/8"	171
11-9/32"x5/16"	11-15/32"x5/16"	131W
11-3/8"	11-9/16"	134
11-25/64"	11-37/64"	136
11-7/16"	11-5/8"	173
11-21/32"	11-27/32"	194
11-3/4"	11-15/16"	141
11-13/16"	12"	143
12"	12-3/16"	138
12-1/32"	12-7/32"	154
12-3/32"	12-1/4"	142
12-7/32"	12-13/32"	140
straight belt	12-7/16"-str. belt	193
12-9/32"	12-15/32"	139
12-15/32"	12-21/32"	144
12-1/2"	12-11/16"	178
12-39/64"	12-51/64"	145
12-13/16"	13"	168
13-3/16"	13-3/8"	146
14-7/32"	14-13/32"	186
14-27/64"	14-39/64"	147
14-33/64"	14-3/4"	148
14-57/64"	15-5/64"	151
15-1/64"	15-13/64"	149
15-17/64"	15-29/64"	187
15-7/16"	15-5/8"	183
15-13/16"	16"	182
straight belt	16" - str. Belt	192
15-61/64"	16-9/64"	150
16-19/64"	16-31/64"	170
16-27/64"	16-39/64"	184
16-15/16"	17-1/8"	185
17-1/16"	17-1/4"	165
17-13/32"	17-19/32"	169
17-37/64"	17-49/64"	179
17-5/8"	17-13/16"	190
18-1/2"	18-11/16"	189
18-9/16"	18-3/4"	181
19-7/16"	19-5/8"	166
19-47/64"	19-59/64"	188
21-5/16"	21-1/2"	175
22-35/64"	22-47/64"	176
22-19/64"	22-61/64"	191

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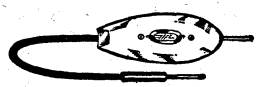
GENERAL CEMENT
WIRE STRIPPERS • TEST LEADS
TEST LITES

G-C DANDY TEST LITE



New neon test lite for checking radios, television sets, fuses, circuits, etc. Simple, safe and dependable for tracing all kinds of trouble. Use on voltages of 60 volts AC to 550 volts AC or DC.

No.		List
8585	Dandy Lite	$1.25

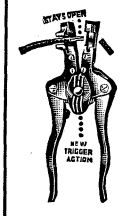
G-C STANDARD SPEEDEX WIRE STRIPPER

Fast operating precision made hand tool for stripping insulation from all types of wire. Very easy to operate. Strips 750 to 1000 wires per hour. Used by girls or men. All blades are interchangeable and easily replaced.

Standard Models

No.	Wire	List
733	12 to 20	$6.60
733-A	14 to 30	6.60
733-B	10 to 18	6.60
733-C	8 to 10	6.60
733-D	16, 18, 20, 22	6.60
733-E	14, 16, 18	6.60
733-F	10, 12, 14	6.60
733-G	For #18 P.O.S.J. or parallel wire	6.60
733-H	For the new 300-Ohm television and FM transmission line	6.60
733-I	For 10, 12, 14, 16, 18, 20 22 wire	6.60

G-C AUTOMATIC SPEEDEX WIRE STRIPPER

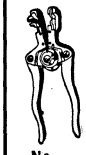


Similar to standard models except has the "stay open feature" with the new Speedex "Trig-O-Matic Action." Automatically holds jaws open until wire is removed, and prevents bending or crushing of fine wires. Has on-off mechanism so tool can be used as standard model if desired.

Automatic Models

No.	Wire	List
744	12 to 20	$8.25
744-A	14 to 30	8.25
744-B	10 to 18	8.25
744-C	8 to 10	8.25
744-D	16, 18, 20, 22	8.25
744-E	14, 16, 18	8.25
744-F	10, 12, 14	8.25
744-G	For #18 P.O.S.J. or parallel wire	8.25
744-H	For the new 300-Ohm television and FM transmission line	8.25
744-I	For 10, 12, 14, 16, 18, 20, 22 wire	8.25

G-C HEAVY DUTY SPEED-O-MATIC WIRE STRIPPER



Improved version of the "744" series, ideal for production line. Delayed return action. Will not crush stranded wires. Sturdy, easy to use. Interchangeable blades.

No.	Wire	List
766	10 to 20	$8.25
766-A	14 to 30	8.25
766-B	10 to 18	8.25
766-C	8 to 10	8.25
766-D	16, 18, 20, 22	8.25
766-E	14, 16, 18	8.25
766-F	10, 12, 14	8.25
766-G	For #18 P.O.S.J. or parallel wire	8.25
766-H	For 300-Ohm TV & FM twin transmission line	8.25
766-I	For 10, 12, 14, 16, 18, 20, 22 wires	8.25
766-M	10 to 20	8.25
766-N	Straight cutter blades	8.25

G-C SPEEDEX WIRE STRIPPER KIT

Wire stripper complete with seven different size blades put up in a specially designed permanent steel box. For wires No. 8 to No. 30.

No.		List
733-K	Standard Stripper Kit, with blades	$15.60
744-K	DeLuxe Automatic Stripper Kit, with blades	17.25
766-K	Speed-O-Matic Kit	17.25

G-C SPEEDEX REPLACEMENT BLADES

Fit standard and automatic models. Blades interchangeable.

No.		List
3W	12 to 20	$1.65
3W-A	14 to 30	1.65
3W-B	10 to 18	1.65
3W-C	8 to 10	1.65
3W-D	16, 18, 20, 22	1.65
3W-E	14, 16, 18	1.65
3W-F	10, 12, 14	1.65
3W-G	Blades for parallel #18 P.O.S.J. or similar	1.65
3W-H	Blades for the new 300-Ohm television and FM twin transmission line	1.65
3W-I	10, 12, 14, 16, 18, 20, 22 wire	1.65

When Blades for 766 Series Stripper are wanted — specify 2W — instead of 3W.

G-C SPEEDEX TRIG-O-MATIC PLATE

Converts any standard Speedex Stripper to an Automatic Model.

No.		List
756	Trig-O-Matic Plate, only	$2.20

G-C UNIVERSAL TYPE TEST LEADS

Heavy duty 6000-volt leads 50" long, made with unbreakable plastic handles 6" long with solderless type tips. Other end comes with standard banana plugs, interchangeable for spade lugs, phone tips, and alligator clips. Supplied complete.

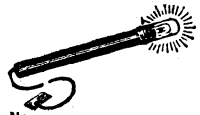
No. 8463	Universal Test Leads	List $3.00
No. 8464	Same, but supplied with needle point prods	List 3.00

G-C TOOL HANDLE INSULATING TUBES

For insulating your hand tools. A supply of insulating tubing in assorted sizes to insulate all types of handles on pliers, cutters, screw driver blades, etc. Simply soak tubing for a few minutes in G-C Service Solvent. The tubing will swell. Slip it over the handles and allow to dry. It will shrink on drying. (G-C Service Solvent is not included in kit.)

No.		List
8118-E	Env. Asstd. Tubing	$0.45

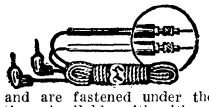
G-C INSPECTION LITE



Operates on 110-120 volts AC or DC. Cord approximately 6 feet long.

No.		List
705	Inspection Light	$2.25
704	Replacement Bulb for #705	.20
704-S	Clear Plastic Shield	.10

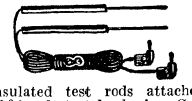
G-C MASTER TEST LEADS



The best test leads you can buy, 50" long, 6000-volt, heavy duty test prods, solderless type. Flexible leads run through handles and are fastened under the knurled collar on the tips. Available with either the attached angle tips or the straight solderless type tips.

No.		List
5050	With Solderless type Straight Tips	$1.85
8459	With Angle type Test Tips	2.10

G-C THIN TYPE TEST LEADS



This is a handy pair of test leads for hard-to-reach places. Made with slim, plastic handles with long, slim insulated test rods attached. Made with 50" of 6000-volt test lead wire. Comes equipped with angle type phone tips.

No.		List
8465	Thin Type Test Leads	$2.10

G-C "TUX" TOOL KIT

Made of "Alathlon" polyethylene. Tough, flexible, will not lose shape. Handy for all most needed tools.

No.	List
8943	$3.95

G-C NE-O-LITE

A simple, safe, electrical circuit tester for voltages from 60 volts AC to 550 volts AC or DC. Used for radio, electrical and automotive testing. Molded plastic.

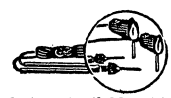
No.		List
5100	Ne-O-Lite	$0.60

G-C RESISTOR FOR NEON LAMP

Required resistor when using No. 717 neon lamp on voltages of 60 to 550 volts AC or DC. Connect in series.

No.	List
718	$0.07

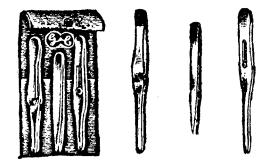
G-C NEEDLE POINT TEST LEADS



Heavy duty 6000-volt test leads, 50" long, made with unbreakable plastic handles 6" long with needle type chuck and needle to penetrate insulation. Available with either the attached angle tips or the straight solderless type tips.

No.		List
8461	With Solderless Straight Tips	$1.95
8462	With Angle type Test Tips	2.25

G-C TWEEZERS AND KIT



For the shop or laboratory to pick up and examine small parts, start screws and nuts, to get in hard-to-get spots, stringing dial cord, etc.

No.		List
7950	Tweezer Kit, beautiful leatherette case and one each tweezers described below.	$3.55
7946	6½" Self-closing tweezer. Opens when squeezed. Serrated, blunt points.	1.15
7947	6½" Heavy-duty type with slide lock feature. Holds wires or parts tight. Serrated, blunt points.	1.30
7948	4½" Precision Tweezer. Narrow pointed ends for delicate work.	0.60

G-C NEON GLOW LAMPS

NE-T2 lamp as used in testers, appliances, as pilot light, etc.

No.	List
717	$0.25

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GENERAL CEMENT

TEST PRODS • PLUGS • TIPS

G-C TELEVISION HIGH-VOLT BAKELITE TEST PROD HANDLE

Heavy duty type test prod with finger ground ring to protect from the high voltage. Protects against the high voltage in a TV Set. Designed so that the minimum of metal is exposed. Made of bakelite.

No.		List
8986	Red	$1.20
8986-1	Black	1.20
8986-2	Red & Black	2.35

G-C LOW-LOSS DELUXE TEST PRODS

New polished low-loss material. Non-breakable. Moisture resistant. Withstands high voltages. Solderless type, brass nickel-plated.

No.		List
5045	Red	$0.50
5046	Black	.50

G-C TEST LEAD ANGLE TIP

New, attractive, fully insulated, molded plastic angle phone tip plugs. Will take wires up to .140 diameter.

No.		List
8149	Red, each	$0.45
8150	Black, each	.45

G-C TEST PROD TIPS

Solderless type, brass nickel-plated. Non-insulated. Wire fastens easily.

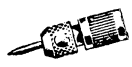
No.	List
5060	$0.17

G-C HEAVY DUTY PHONE PLUG

Standard type as used on test prods, leads, etc. Fits snugly in ¼" hole. Brass nickel-plated.

No.	List
7706	$0.17

G-C PHONO NEEDLE POINT TEST PROD CHUCK



Push on type fits snugly in ¼" hole. Brass nickel-plated.

No.	List
7703	$0.22

G-C INSULATED SPADE LUG

Tapered spade lug fits all screws or terminal strips up to No. 10. Insulated female end fits banana plugs.

No.		List
7712	Red	$0.18
7713	Black	.18

G-C INSULATED PHONE TIP JACKS

Standard insulated type phosphor bronze spring contacts. ⅜" insulated head. Fits ¼" hole and panels up to ¼" thick. Brass parts nickel-plated.

No.		List
7715	Red	$0.22
7716	Black	.22

G-C SET SCREW TYPE BANANA PLUG

Insulated set screw type. Polished insulated plastic handles. Nickel-plated metal parts.

No.		List
7732	Red	$0.30
7733	Black	.30

G-C SPLIT BANANA PLUG

Standard size with 6-32 threaded shank. Use on plug-in coils, terminal strips, etc. Complete with lug and nut. Brass nickel-plated.

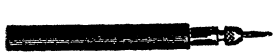
No.	List
7736	$0.22

G-C BANANA JACK

Standard size banana pin jack. Fits ¼" hole up to ⅜" thick panel. Nut and lug supplied. Brass nickel-plated.

No.	List
7740	$0.17

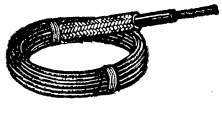
G-C NEEDLE POINT TEST PRODS



Adjustable chuck tip for needle. 6" polished plastic handles in Red or Black. Brass Nickel-plated chuck removable. Includes needle. (Specify color.)

No.	List
7701	$0.50

G-C SHIELDED PHONO PICK-UP WIRE



Handy package of single conductor shielded wire as used on phono pick-ups, etc. Enough wire for several jobs in package.

No.		List
1738-E		$0.45
H675-F	Plastic Box	.50

G-C TEST LEAD WIRE

Ideal long-life replacement wire, extra flexible, 6000-volt insulation. Red and Black. (Specify color.)

No.		List
5049	Env. 1 Red, 1 Black 50" long	$0.80
5049-C	100 feet	8.25

G-C INSULATED TEST PROD TIPS

Unbreakable polished plastic insulated handles. Solderless connectors, brass nickel-plated.

No.		List
5061	Red	$0.25
5061-E	Env. 2	.50
5062	Black	.25
5062-E	Env. 2	.50

G-C PHONO NEEDLE POINT TEST PROD CHUCK

Threaded chuck fits ¼-20 threaded hole. Needle removable. Brass nickel-plated. Includes needle.

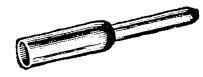
No.	List
7702	$0.22

G-C STANDARD PHONE TIP

Standard tip made of drawn brass, bright nickel plated.

No.		List
6320-E	Env. 12	$0.45

G-C SOLID STANDARD PHONE TIP



Solid brass type made to RMA specifications. Bright nickel-plated.

No.		List
6321-E	Env. 8	$0.45

G-C INSULATED PHONE TIP PLUG

Fits standard phone tip jacks. Polished non-breakable low-loss plastic insulated handles. Brass, nickel-plated tip. Minimum contact exposure.

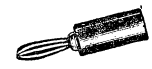
No.		List
7710	Red	$0.20
7711	Black	.20

G-C PHONO TIP JACKS

Standard type with phosphor bronze spring contacts. Fits ¼" hole and panels up to ⅜" thick. Brass parts nickel-plated.

No.	List
7714	$0.17

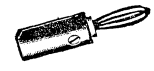
G-C SPLIT BANANA PLUG



Insulated solderless type with polished insulated handles. Metal parts nickel-plated.

No.		List
7730	Red	$0.30
7731	Black	.30

G-C SMALL BANANA PIN PLUG



Approved silver-plated plugs with straight shank. Can be riveted or soldered. For wires, multiple plugs, etc.

No.		List
6400	Env. 10	$0.45

G-C SPLIT BANANA PLUG

Standard size with 6-32 female thread on end. Supplied with screw and solder lug. Brass nickel-plated.

No.	List
7737	$0.25

G-C INSULATED BANANA JACK

Standard size with polished plastic insulators. Fits ¼" hole, up to ⅜" thick panel. Nut, lug, and insulators supplied. Brass, nickel-plated.

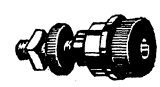
No.		List
7741	Red	$0.22
7742	Black	.22

G-C INSULATED BANANA PLUG OR PHONE TIP JACK

Standard size insulated combination jack. Brass nickel-plated with phosphor bronze spring contacts. Fits ¼" hole, panels up to ⅝" thick.

No.		List
7744	Red	$0.27
7745	Black	.27

G-C COMBINATION BINDING POST



Dual purpose insulated head binding post. Banana plug fits in top, phone tips in side. Supplied with 6-32 x ½" stud and 2 hex nuts. Red or black.

No.		List
7725	Red Binding Post	$0.45
7726	Black Binding Post	.45

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G-C GENERAL CEMENT

SIGNAL LIGHTS • CONNECTOR • CLIPS

G-C ONE-INCH JEWEL SIGNAL LIGHT

For signal devices of all types. Bulbs change from the front; for socket bases as listed below. One inch mounting hole. Jewel colors: Red, Green, Amber, and Opal. (Specify Jewel Color.)

No.		List
7901	100-V Cand. Facet	$2.35
7902	110-V. Cand. Smooth	$2.25
7903	Min. Bayonet Facet	$2.15
7905	Min. Screw Facet	$2.05

G-C PANEL JEWELS

Complete assemblies in 1", ¾", and ½" diameters. Fit panels up to ¼" thick. Brass nickel-plated. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify color.)

No.	Dia.	Jewel	Mtg. Hole	List
7913	½"	Facet	7/16"	$0.40
7914	½"	Smooth	7/16"	.40
7915	¾"	Facet	11/16"	.75
7916	1"	Facet	1"	1.75

G-C UNMOUNTED PILOT LIGHT SOCKETS

Cadmium-plated. Ideal for replacements or special assemblies.

No.	Type	List
7932	Min. Screw Base	$0.15
7933	Min. Bayonet Base	.15
7934	110-V. Candelabra	.15

G-C FEMALE MICROPHONE CONNECTOR

Single contact female type used with No. 7940, 7941 and 7943 connectors. Complete, brass chrome-plated.

No.		List
7942	Connector	$0.70

G-C INSULATED ALLIGATOR CLIP

Solder type with Red or Black insulated sleeve. Strong spring. Nickel-plated.

No.		List
5064	Red Clip	$0.14
5065	Black Clip	.14

G-C ALLIGATOR CLIP

Wire fastens under set screw. Handy for all types of connectors. Cadmium-plated.

No.		List
7752	Clip	$0.095

G-C ¾-INCH JEWEL SIGNAL LIGHT

Signal light with facet jewels in colors of Red, Green, Blue, Amber. ⅞" mounting hole. Jewel removed from front. (Specify color.)

No.	Socket	List
7907	Min. Screw	$1.10
7908	Min. Bayonet	1.25
7909	110-V. Candel.	1.30

G-C CLIP-ON PILOT LIGHT SOCKETS

Clip up and clip down types for replacements. Cadmium-plated.

No.	Type	List
7920	Min. Screw Clip Up	$0.17
7921	Min. Screw Clip Down	.17
7922	Min. Bay. Clip Up	.20
7923	Min. Bay. Clip Down	.20
7924	110-V. Cand. Clip Up	.20
7925	110-V. Cand. Clip Down	.20

G-C PILOT LAMP INSTALLER

Makes it easy to install miniature dial bulbs, neon and candelabra lamps in hard-to-get-at places. All rubber.

No.		List
7935	Installer	$0.65

G-C MICROPHONE CHASSIS UNIT CONNECTOR

Single contact male connector for chassis. Used with Type 7942 female connector. Supplied complete. Brass nickel-plated.

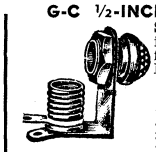
No.		List
7941	Connector	$0.45
7943	Closed Circuit Type, prevents open circuit noises when mike is disconnected	$0.65

G-C ALLIGATOR CLIP

Solder type, non-insulated. Strong spring for positive contact. Nickel-plated.

No.		List
5063	Clip	$0.085

G-C ½-INCH JEWEL SIGNAL LIGHT

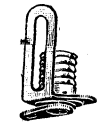


Signal light, requires ⅞" mounting hole. Facet jewel removed from front. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify color.)

No.	Socket	List
7910	Min. Screw	$0.55
7911	Min. Bayonet	.55
7912	110-V. Candel.	.70

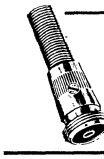
G-C BRACKET-TYPE PILOT LIGHT SOCKETS

Sturdy bracket-up or bracket-down type. Cadmium-plated.



No.		List
	Miniature Screw	
7926	Bracket Up	$0.17
7927	Bracket Down	.17
	Miniature Bayonet	
7928	Bracket Up	.19
7929	Bracket Down	.19
	110-V. Candelabra	
7930	Bracket Up	.20
7931	Bracket Down	.20

G-C MALE MICROPHONE CONNECTOR



Completely shielded, sturdy, single contact connector. Brass, bright chrome-plated. Steel spring cord protector.

No.		List
7940	Connector	$0.50

G-C MICROPHONE CONNECTOR CAP

Chrome-plated cap with anchor chain for all connectors. Seal against dirt and prevent thread damage.

No.		List
7944	Connector Cap	$0.75

G-C SCREW TYPE INSULATED ALLIGATOR CLIP

Very popular. Bright polished handles. Set screw for wire.

No.		List
7750	Black Clip	$0.16
7751	Red Clip	.16

G-C FAHNESTOCK CLIPS AND PLUGS

G-C SMALL CLIP

½" long by 3/32" wide. Handles up to No. 16 wire. No. 4 Mtg. Hole.

No.		List
6301	Each	$0.04

G-C DOUBLE CLIP

1½" long by 5/32" wide. No. 6 Mtg. Hole.

No.		List
6304	Each	$0.15

G-C MEDIUM CLIP

¾" long by 5/16" wide. Handles up to No. 14 wire. No. 6 Mtg. Hole.

No.		List
6302	Each	$0.04

G-C MEDIUM SOLDER LUG CLIP

¾" long by 5/16" wide. No. 6 Mtg. Hole.

No.		List
6306	Each	$0.07

G-C LARGE CLIP

1 1/16" long by ⅜" wide. No. 8 Mtg. Hole.

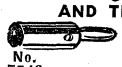
No.		List
6303	Each	$0.08

G-C BANANA PLUG SPLICE

Couples two standard type banana plugs. Two colors.

No.		List
7746	Red Plug Splice	$0.40
7747	Black Plug Splice	.40

G-C BANANA PLUG AND TIP JACK COMBINATION



Converts phone tip test leads to fit banana plugs. Length 1 3/16".

No.		List
7748	Red Plug/Jack	$0.50
7749	Black Plug/Jack	.50

G-C ALLIGATOR CLIP & PHONE TIP JACK

Overall length 2 5/16", with 1" handle. Two colors.

No.		List
7723	Red Clip/Jack	$0.55
7724	Black Clip/Jack	.55

G-C INSULATED SPRING TYPE BANANA PLUG

Solderless type, no screws or contacts showing. Length 1 5/16", with 1" handle.

No.		List
8994	Red Plug	$0.35
8995	Black Plug	.35

G-C SPRING TYPE BANANA PLUG

Solderless wire connection with set screw on side. Length 1 5/8", with ⅞" handle.

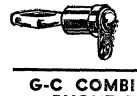
No.		List
8996	Red Plug	$0.30
8997	Black Plug	.30

G-C SPRING TYPE BANANA PLUG

Hex brass, nickel plated plug. Threads 6-32 x ⅝". Length 1¼".

No.		List
8998		$0.25

G-C SPRING TYPE BANANA PLUG



Phosphor bronze contacts. Contact screw 6-32, soldering lug.

No.		List
8999		$0.25

G-C COMBINATION ALLIGATOR CLIP PHONE TIP AND BANANA JACK

Length 3", with 1 1/16" handle.

No.		List
7721	Red Clip	$0.65
7722	Black Clip	.65

G-C TEST LEAD PLUG INTERCHANGE KIT

Handy kit for interchanging alligator clips, banana plugs, spade lugs or phone tips. Includes red and black phone tips, combination jacks and plugs. Fitted plastic case.

No.		List
7743	Kit	$3.75

G-C INSULATED BELL STAPLES

No.		List
	Fig. 1, 3/16" x ½"	
1751	Box 50, No. 1	$0.30
1752	Box 100, No. 1	.50
	Fig. 2, 3/16" x ⅝"	
1753	Box 50, No. 2	.30
1754	Box 100, No. 2	.50
	Fig. 3, 3/16" x ¾"	
1755	Box 50, No. 3	.30
1756	Box 100, No. 3	.50
	Fig. 5, ¼" x ⅝"	
1757	Box 50, No. 5	.30
1758	Box 100, No. 5	.50
	Fig. 6, ¼" x ¾"	
1759	Box 100, No. 6	.50
	Fig. 7, ¼" x ⅞"	
1760	Box 100, No. 7	.50
	Extra Large Cable Size	
	Fig. 10, ⅜" x ¾"	
1761	Box 100, No. 10	.85

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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

GENERAL CEMENT

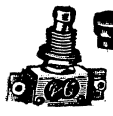
SWITCHES • SPAGHETTI • TUBING

G-C TOGGLE SWITCH WITH WIRE LEADS

For vacuum cleaners, appliances, radio sets, etc. Made by H & H for G-C. Rated at 3 amps., 125 volts. Nickel Plated.

No.		List
1335	"Bat Handle" S.P.S.T.	$1.45
1336	"Ball Handle" S.P.S.T.	1.45

G-C PUSH BUTTON SWITCH



Two circuit, "slow make and quick break" momentary contact switch. One circuit normally on, other off; pushing button reverses circuits in use. Made by H & H for G-C. 3 amps., 125 volts. Shank ⅝" long.

No.		List
1340	Switch	$1.75

PUSH BUTTON

For 1340 Switch. Red or Black (Specify).

No.		List
1343	Button	$0.40

G-C HEAVY DUTY POWER SWITCH

D.P.S.T. toggle power switch for motors, appliances, projectors, etc. Made by H & H for G-C. 12 amps., 125 volts. Nickel Plated.

No.		List
1350	D.P.S.T.	$2.25

G-C MOLDED BAKELITE TOGGLE SWITCHES

Bat handle style, silver plated contacts. Rated 3 amps. at 250 volts, 6 amps., 125 volts. 15/32" shaft. Nickel Plated.

No.		List
1361	S.P.S.T.	$1.35
1362	S.P.D.T.	1.60
1363	D.P.S.T.	1.95
1364	D.P.D.T.	2.65
	Momentary Switches (circuit normally "off")	
1365	S.P.S.T.	1.95
1365A	S.P.D.T.	2.50
1366	D.P.D.T.	2.80

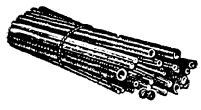
G-C SPAGHETTI ON SPOOLS

"Approved by ASTM"

5000-Volt Dielectric Strength. Best grade varnished tubing put on convenient 20-ft. spools. Will fit wire from No. 12 to No. 18. Colors: Black, Red, Yellow, Green, Blue. Specify color.

No.		List
499	Spool - 20-ft.	$1.85

G-C ASSORTED SPAGHETTI KIT



An assortment of 7½" lengths of spaghetti sleeving, 26 lengths to the kit. Sizes include from No. 17 wire to ⅜" I.D. A very handy bundle to have for repair jobs.

No.		List
550	Kit 26 Lengths	$0.60

G-C SPAGHETTI ASSORTMENT

"A Box Full of Spaghetti"

Here's a buy you can't beat on a spaghetti assortment. A variety of sizes and colors are included of high grade varnish tubing. Put up in attractive box.

No.	List
551	$1.50

G-C FYBEROID

"FISH PAPER"

Fish paper has many uses around the shop for repair jobs where electrical insulation is required. .010" — 240 sq. in. roll.

No.		List
560	Roll	$0.75

G-C ON-OFF PLATE

Will fit the G-C, H & H, Cutler-Hammer and other makes of standard switches.

No.		List
1329	On-Off Plate	$0.06

G-C ROTARY SWITCHES

Best grade enclosed rotary switches. Made by H & H for G-C. 3 amps., 125 volts. Shafts 1½" long.

No.		List	No.		List
1320	S.P.S.T.*	$1.20	1324	D.P.S.T.**	$2.30
1321	S.P.S.T.**	1.50	1325	D.P.D.T.*	2.35
1322	S.P.D.T.*	1.55	1326	D.P.D.T.**	2.50
1323	S.P.D.T.**	1.90			

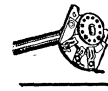
*⅜" Shank Length **1" Shank Length

G-C EXTRA HEAVY DUTY POWER SWITCH

Three position for motors, projectors, transmitters, movie equipment, etc. Made by H & H for G-C. 10 amps., 125 volts. Neutral off in center. Size 2" x 1" x 1⅝", shank ¾" diameter.

No.		List
1352	D.P.D.T.	$ 8.25
1353	3-P.D.T.	12.55
1354	4-P.D.T.	17.25

G-C REAR SPEAKER TONE SWITCH



Designed for rear seat auto radio speakers. Permits use of either speaker separately or together.

No.		List
8891	Switch	$0.95

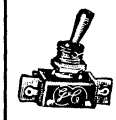
G-C TOGGLE SWITCHES

Ball handle general purpose switch. Made by H & H for G-C. 3 amps., 125 volts. Nickel Plated.

No. 1300	List $1.00 S.P.S.T.*	No. 1304	List $1.80 D.P.S.T.*
No. 1301	List $1.20 S.P.S.T.**	No. 1305	List $2.05 D.P.S.T.**
No. 1302	List $1.30 S.P.D.T.*	No. 1306	List $2.10 D.P.D.T.*
No. 1303	List $1.50 S.P.D.T.**	No. 1307	List $2.30 D.P.D.T.**

*½" Shank Length **¾" Shank Length

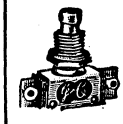
G-C BAT HANDLE TOGGLE SWITCH



Tear drop handle general purpose switch. Made by H & H for G-C. 3 amp., 125 volts. Nickel Plated.

No.		List
1330	S.P.S.T.	$1.00
1331	S.P.D.T.	1.30
1332	D.P.S.T.	1.85
1333	D.P.D.T.	2.10

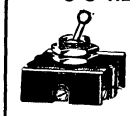
G-C PUSH-ON PUSH-OFF SWITCH



For vacuum cleaners, appliances, test equipment. Made by H & H for G-C. Rated at 3 amps., 125 volts. Nickel Plated.

No.		List
1338	S.P.S.T.	$2.20

G-C NEUTRAL CENTER SWITCH



Handy radio, appliance and tester switch with 3 positions, on-off-on. Rated 15 amps., 110 volts; 15/32" shank. Nickel Plated.

No.		List
1308	S.P.D.T.	$2.25
1309	D.P.D.T.	2.75

G-C HEAVY DUTY POWER SWITCH

Push button, D.P.S.T. safety switch for transmitters, refrigerators and high frequency work made by H & H for G-C. 12 amps., 125 volts. Nickel Plated.

No.		List
1351	D.P.S.T.	$3.00

G-C STACKPOLE SLIDE SWITCHES

Made by Stackpole for G-C. Used on radios, phonographs, etc. UL approved at .5A-125V. and higher.

No.		List	No.		List
1367	S.P.S.T.*	$0.25	1369	D.P.S.T.**	$0.35
1368	S.P.D.T.*	.25	1369A	D.P.S.T.*	.35
			1370	D.P.D.T.**	.35
			1370A	D.P.T.D.*	.35

*17/32" w. x 1⅜" l. **15/32" w. x 1-57/64" l.

G-C GENFLEX PLASTIC TUBING

High grade extremely flexible plastic tubing for Radio and Electronic Insulation work. Resistant to cold or heat. High dielectric strength, average 8,000 volts. Colors: Black, Red, Green, Clear. (Specify.)

No.	Wire	Pkg.	List
603	18	20 ft.	$1.20
605	16	20 ft.	1.20
607	14	20 ft.	1.20
609	12	20 ft.	1.20
611	10	15 ft.	1.20
613	8	15 ft.	1.20
616	6	10 ft.	1.20
617	4	10 ft.	1.20
620	2	10 ft.	1.20
625	Fits over 300-ohm Twin Line	8 ft.	1.10

G-C RADIO SPAGHETTI

Best grade Radio and TV spaghetti. Smooth coated, best varnishes. Very flexible. 5000 volt dielectric. Approved by ASTM. Colors: Black, Red, Yellow, Green, Brown. Specify color. 30" lengths.

No.	Size	List
500	No. 20 fit 20 wire	$0.20
503	No. 17, fit 18 wire	.22
506	No. 14, fit 14 wire	.24
508	No. 12, fit 12 wire	.26
512	⅛" I.D.	.33
515	5/32" I.D.	.38
518	¼" I.D.	.55
521	⅜" I.D. (resist. size)	.99
522	7/16" I.D.	1.15
523	½" I.D.	1.32

G-C PLASTIC TUBING KITS

Handy kits of assorted colors and sizes. Ideal for experimenters and servicemen.

No.	List
635	$1.20

Kit of 25 ft. Asstd.

G-C RADIO FRICTION TAPE

This narrow ⅜" tape was particularly made for radio work. It eliminates waste and tearing of tape. It saves time and is handy to carry with you.

No.	Roll	List
870	65 ft. ⅜"	$0.65
871	65 ft. ¾"	1.25

G-C INSULATING CAMBRIC

10,000 Volts

Yellow varnished cambric. .010" thick.

No.	List
549	$1.00

Roll over 210 sq. in.

No.	List
548	$3.65

36" x 36" yd., any length

G-C LAMINATED BAKELITE PANELS

1/16" thick. Black.

No.	List
590	$0.70

6" x 6" x 1/16"

No.	List
591	$1.35

6" x 12" x 1/16"

No.	List
592	2.65

12" x 12" x 1/16"

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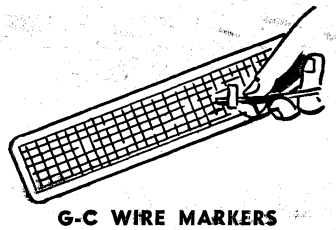


G-C WIRE MARKERS

Self-sticking, all temperature markers for tracing circuits, identifying wires, harnesses, etc. Pre-cut to exact size, No. 1 to No. 33 (3 full strips to kit).

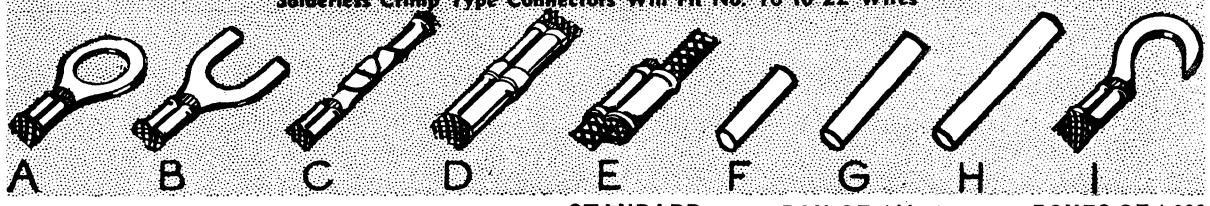
No. 9229 **List $1.25**

GC GENERAL CEMENT

RADIO • TV SERVICE AIDS

G-C SPEEDEX SOLDERLESS TERMINALS

Solderless Crimp Type Connectors Will Fit No. 16 to 22 Wires

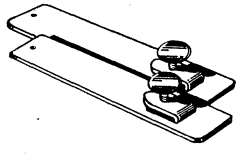


STYLE NO. AND DESCRIPTION	STANDARD BOX List $1.85 No.	Quan.	BOX OF 144 Specify "G" After Part No. No.	List	BOXES OF 1,000 Specify "M" After Part No. No.	List
Assortment of 50 Terminals	8177	50				
"A" Small Ring Type No. 6 Screw	8178	50	8178-G	$5.65	8178-M	$33.75
"A" Large Ring Type No. 6 Screw	8179	50	8179-G	5.39	8179-M	32.00
"A" Large Ring Type No. 8 Screw	8180	50	8180-G	5.65	8180-M	33.75
"A" Large Ring Type No. 10 Screw	8181	50	8181-G	5.65	8181-M	33.75
"A" Large Ring Type for 16-14 Wire, No. 10 Screw	8188	50	8188-G	5.65	8188-M	33.75
"B" Slotted Tongue Type No. 6 Screw	8182	40	8182-G	6.40	8182-M	37.00
"B" Slotted Tongue Type No. 8 Screw	8294	50	8294-G	5.65	8294-M	33.75
"B" Slotted Tongue Type No. 10 Screw	8295	40	8295-G	6.40	8295-M	37.00
"C" Knife Disconnect	8185	25	8185-G	9.35	8185-M	56.00
"D" Butt Connector	8186	35	8186-G	7.80	8186-M	46.75
"E" Parallel Connector 22-16 Wire	8187	50	8187-G	5.35	8187-M	32.00
"E" Parallel Connector 16-14 Wire	8189	50	8189-G	5.35	8189-M	32.00
"F" Disconnect Plastic Tubing	8190	175	8190-G	.90	8190-M	5.00
"G" Connector Plastic Tubing	8191	175	8191-G	.90	8191-M	5.00
"H" Terminal Plastic Tubing	8192	175	8192-G	1.75	8192-M	10.00
"I" Hook Type Connector No. 6 Screw	8193	50	8193-G	5.65	8193-M	33.75

G-C CHASS-EZ

A tool to make the Serviceman's job easier. Chassis can be installed in "Chass-Ez" in five seconds. All one unit — no extra bolts or nuts to adjust. Heavy steel, riveted construction, heavily plated.

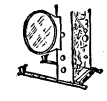
No. 5207 **List** $4.00



G-C TV CHASSIS SUPPORT

Prop chassis to easy working position on bench or on job. Slip on and tighten thumb screws. Steel 11" long, heavily plated. Pair.

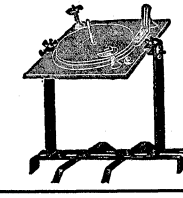
No. 9176 **List** $3.00



G-C TELEVISION SAF-T-RACK

A sturdy rack to use in repairing heavy television chassis. Set it on the rack and tilt it on side. Hooks hold the chassis on its side so you can work on it. Prevents tubes from being damaged.

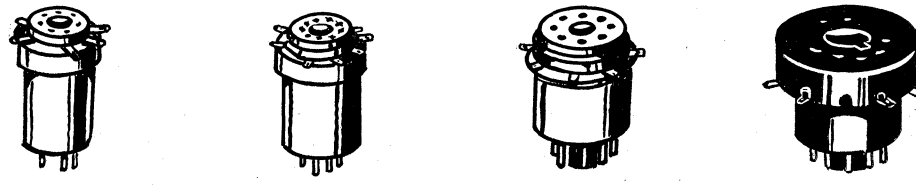
No. 8045 Saf-T-Rack **List** $5.45



G-C PHONO TURNTABLE STAND

New improved model, adjustable to all turntables. Raises the turntable 15 inches above bench. Pivots on swivel joints for easy examination or repairs. Sturdy steel construction. Plated.

No. 5205 **List** $8.25



G-C TEST SOCKET ADAPTERS

Designed for easy testing and checking of voltage, resistance, video and audio from top of chassis. Low RF loss phenolic construction, extended test tabs, high insulation resistance.

G-C 7-PIN MINIATURE ADAPTER		G-C 9-PIN MINIATURE ADAPTER		G-C 8-PIN OCTAL ADAPTER		G-C DUO-DECAL CRT ADAPTER	
No. 9247	List $2.75	No. 9249	List $3.10	No. 9248	List $2.60	No. 9251	List $3.25

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

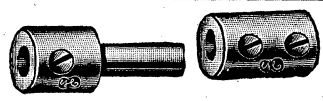
GENERAL CEMENT

TOOLS—THERMISTORS—FUSE-SISTORS

G-C MINI-MAX STRIP

Used for connecting 67½ volt "B" batteries, such as Eveready 455, 466; Burgess XX30, XX45.

No.	List
8115	$0.30



G-C SHAFT COUPLINGS, EXTENSIONS AND REDUCERS

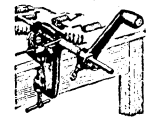
No.	BRASS FITTINGS	List
6701	¼″ to ¼″ coupling	$0.20
6702	¼″ to ⅜″ coupling	.30
6703	¼″ to 5/16″ coupling	.30
6704	⅜″ to ⅜″ coupling	.30
6705	¼″ hole to ¼″ shaft extension	.30
6710	⅜″ hole to ¼″ shaft extension and reducer	.30
6712	¼″ x 6″ brass shaft	.25
6713	¼″ x 12″ brass shaft	.45
6716	¼″ hole x ¼″ round shaft x 4″ long	.35

No.	INSULATED FITTINGS	List
6721	¼″ to ¼″ coupling	.25
6722	¼″ to ⅜″ coupling	.30
6725	¼″ hole to ¼″ shaft extension	.30
6734	¼″ x 6″ fibre shaft	.40
6735	¼″ x 12″ fibre shaft	.65

NEW WHIZ WIRE STRIPPER

Precision milled, hardened steel cutters — fast, effortless operation, designed to prevent wire jamming — jaws lock open automatically — quick finger-tip release — strong, durable, light weight — smooth, all steel. Black rust resistant finish — order yours now.

No.		List
788	3 Hole Blade Ga. #12 thru #22	$6.60
788-B	3 Hole Blade Ga. #10 thru #16	6.60
788-D	4 Hole Blade Ga. #14 thru #24	6.60
788-H	300 ohm Blade for twin lead-in	6.60



G-C SPEEDEX SPRING WINDER

New Speedex Spring Winder that will make any spring you need for any repair job. Is simple to operate. Any diameter spring and any size wire can be used. Makes any type of spring, any number of coils and any pitch desired. Makes both compression and extension springs. Fastens to any bench.

No.		List
5209	— Speedex Spring Winder	$24.95
5210	— Replacement Kit of Asst. Sizes of Music Wire	2.75

G-C SOLDERLESS TERMINAL RADIO and TV REPAIR KIT

Kit includes a heavy duty terminal tool and wire stripper to properly fasten solderless terminals.

Very handy for indoor or outdoor use as it eliminates soldering. Excellent for installing TV antennas.

Supplied in handy box with tool and generous supply of terminals.

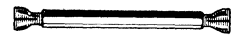
No.		List
8176	— Complete Kit	$6.60

G-C SLUG RETRIEVER TOOL

For removing TV tuner slugs from Standard Coil Tuners. Precision made with hardened steel tips. Comes in 12″ and 15″ lengths.

No.		List
9096	12″ Slug Retriever	$3.70
9096-D	Display of 12	44.40
9097	15″ Slug Retriever	4.95
9097-D	Display of 12	59.40

G-C DUAL NUT STARTER and HEX HEAD SCREW STARTER



Holds and starts hex nuts and screws in hard to get at places.

No.		List
9147	Dual Nut Starter	$2.50
9147-D	Display of 12	30.00

G-C SCREW STARTER SCREW DRIVER

A screw holding screw driver for starting screws in hard to get at places. Precision made.

No.		List
9148	12″ Screw Starter	$3.50
9148-D	Display of 12	42.00

G-C ROTARY CANOPY SWITCHES

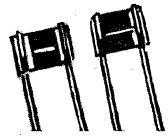
Replacement canopy switch for appliances, lamps, instruments, etc. Has brass knob, 6″ leads, 13/32″ shank.

1A - 125 V. T.
3A - 125 V - 1A - 250V

No.		List
9204*	Switch	$0.50

*Standard Carton 10 switches.

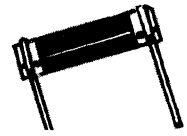
G-C GLOBAR® THERMISTORS



G-C No. 9135 KIT "2 Resistors in Kit"

No. 9135 kit of 2 resistors will take care of 100% replacement of G.E. filament resistors. Also, for Motorola, Sears, Crosley. Hoffman, Teletone, and Pathe.

No. 9135 List $2.40
Glo-Bar Kit
No. 9135-D List 48.00
Display of 20

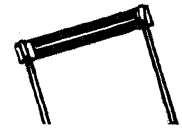


G-C No. 9214

Resistance

Hot — 20 ohms at 600 M. A. Cold — 250 ohms — no load — Replaces G. E. No. RRW051. Very popular resistor.

No. 9214 List $1.25
Glo-Bar
No. 9214-D List 27.00
Display of 20

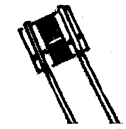


G-C No. 9215

Resistance

Hot — 75 ohms at 300 M. A. Cold — 950 ohms — no load. Replaces G. E. No. RRW041.

No. 9215 List $1.60
Glo-Bar
No. 9215-D List 32.00
Display of 20

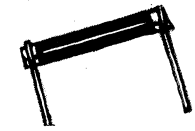


G-C No. 9216

Resistance

Hot — 31 ohms at 300 M. A. Cold — 260 ohms — no load. Replaces G. E. No. RRW097. Popular in all G. E. — 1953 models.

No. 9216 List $1.40
Glo-Bar
No. 9216-D List 28.00
Display of 20

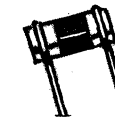


G-C No. 9217

Resistance

Hot — 35 ohms at 600 M. A. Cold — 460 ohms — no load. Replaces G. E. No. RRW054. Popular G. E. Type Resistor.

No. 9217 List $1.40
Glo-Bar
No. 9217-D List 28.00
Display of 20



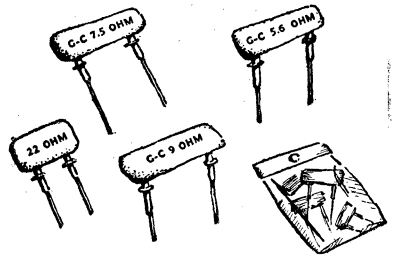
G-C No. 9268

Resistance

Hot — 43 ohms at 600 M. A. Cold — 125 ohms — no load. Replacement for Crosley.

No. 9268 List $1.70
Glo-Bar
No. 9268-D List 34.00
Display of 20

G-C TV FUSE-SISTORS



G-C 7.5 Ohm TV Fuse-Sistor — Replaces any fuse resistor in series wired, 1955 TV sets.
No. 9207 — 7.5 Ohm Fuse-Sistor ..... List $ 0.55
9207-D — Display of 50 #9207 ..... List 27.50

G-C 5.6 Ohm TV Fuse-Sistor — Replacement for Raytheon, R.C.A., Arvin, Western Auto, etc.
No. 9276 — 5.6 Ohm Fuse-Sistor ..... List $ 0.55
No. 9276-D — Display of 50 #9276 ..... List 27.50

G-C 9 Ohm TV Fuse-Sistor — Ideal replacement for Gamble-Skogmo, Firestone, and Raytheon television receivers.
No. 9277 — 9 Ohm Fuse-Sistor ..... List $ 0.55
No. 9277-D — Display of 50 #9277 ..... List 27.50

G-C 22 Ohm TV Fuse-Sistor — Replacement for Motorola television receivers.
No. 9278 — 22 Ohm Fuse-Sistor ..... List $ 0.55
No. 9278-D — Display of 50 #9278 ..... List 27.50

G-C Fuse-Sistor Kit — One each of 5.6 Ohm, 7.5 Ohm, 9 Ohm, and 22 Ohm Fuse-Sistor.
No. 9279 — Fuse-Sistor Kit ..... List $ 2.15
No. 9279-D — Display of 20 Kits ..... List 43.00

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G-C REDUCING BUSHINGS

No.		List
6751-E	¼″ to $\frac{3}{16}$″ reduction, 8 in Env.	$0.45

G-C SHAFT EXTENSIONS

No.		List
6755	¼″ x 4½″ Long Flat Shaft Ext.	$0.55
6716	¼″ x 4½′ Long Round Shaft Ext.	.35

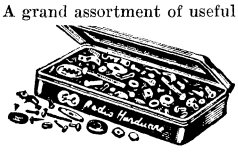
G-C PLASTIC HARDWARE ASSORTMENT

Approximately 1000 assorted screws, nuts, washers, springs, clamps, eyelets, grommets, terminals, etc. No cast-offs — only regular hardware. Plastic jar with screw cap.

No.		List
6064	1000 Asstd.	$1.80
6056-E	Env 100 Asstd.	.45

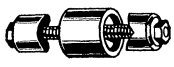
G-C HELL BOX

A grand assortment of useful hardware; screws, nuts, lugs, clips, washers, clamps, etc. Thousands of items needed every day. Metal hinged box.



No.	List
6500	$3.75

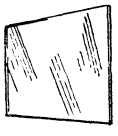
G-C DUAL SHEET METAL PUNCH



A quick method for punching accurate holes. Made of tool steel. For hand or power operation. May be used in arbor press. Punches holes ⅞″ and $1\frac{5}{32}$″.

No.		List
9260	— Dual Punch	$ 5.95
9260-D	— Display of 12	71.40

G-C PLASTIC CRYSTAL



Unbreakable plastic crystal in flat sheets. Use to replace dials, clocks, dashboard any odd shape difficult to replace with glass.

No.		List
92	8″ x 10″ Flat	$1.25

GENERAL CEMENT

SERVICE AIDS • RADIO KNOBS

G-C BRASS AND INSULATED SPACERS AND BUSHINGS

No.	Assortments	List
6617	Hardware Lab. Jar, 12 Asstd. Spacers and Bushings	$0.85
6760-E	Env. 12 Asst. Ins. Spacers	.45
6762	15 Asst. Threaded Brass Bushings 6-32 thread, ¼″ to ¾″ long	1.45
6763	15 Asst. Threaded Brass Bushings 8-32 thread, ¼″ to ¾″ long	1.45
6775-E	Env. 12 ¼″ x ¼″ Ins. Spacers	.45
6761-E	Env. 12 Asst. Metal Spacers	.45

BRASS

No.	O.D.	Length	List
6765	¼″	¼″	$0.05
6767	¼″	½″	.06
6768	¼″	¾″	.07
6769	⅜″	¼″	.06
6770	⅜″	½″	.07
6771	⅜″	¾″	.08

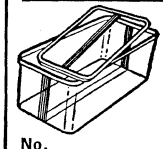
INSULATED

No.	O.D.	Length	List
6775	¼″	¼″	$0.04
6776	¼″	⅜″	.05
6777	¼″	½″	.05
6778	¼″	¾″	.08
6779	⅜″	¼″	.05
6780	⅜″	½″	.06
6781	⅜″	¾″	.07

THREADED BRASS BUSHINGS

No.	O.D.	Thread Size	Length	List
6785	¼″	6-32	¼″	$0.06
6786	¼″	6-32	⅜″	.08
6787	¼″	6-32	½″	.09
6789	¼″	6-32	¾″	.11
6790	¼″	8-32	¼″	.06
6791	¼″	8-32	⅜″	.08
6792	¼″	8-32	½″	.09
6793	¼″	8-32	¾″	.11

G-C PLASTIC STOCK BOXES AND TRAYS



Clear Polystyrene boxes for stocking small parts, screws, nuts, bolts, condensers, resistors, etc. Tight fitting covers.

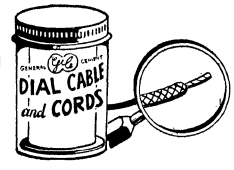
No.		List
8022	4″ x 4″ x 2½″ deep	$0.50
8023	4″ x 8″ x 2½″ deep	1.00

G-C PHONO NEEDLE AND STYLUS SET SCREWS

Replacements for all popular types of pick-up arms and recording heads. Specially made, round head, hardened machine screws. 10 sizes.

No.		List
1052-E	Env. 7	$0.45
1052	Kit 15 Screws	.75

G-C COLOR TV NO-STRETCH DIAL CORD



Especially developed for color TV set manufacturers who demanded a cord that would not stretch. Made of nylon with fibre glass core and specially coated with no-stretch plastic.

EXTRA FINE		STANDARD		MEDIUM	
.025 diameter supplied on metal spools.		.028 diameter supplied on metal spools.		.040 diameter supplied on metal spools.	
No.	List	No.	List	No.	List
87-25	$1.50	88-25	$1.50	89-25	$1.50
25 ft. Spool		25 ft. Spool		25 ft. Spool	
87-25-D	$18.00	88-25-D	$18.00	89-25-D	$18.00
Display of 12 - 25 ft.		Display of 12 - 25 ft.		Display of 12 - 25 ft.	
87-100	$5.00	88-100	$5.00	89-100	$5.00
100 ft. Spool		100 ft. Spool		100 ft. Spool	
87-100-D	$60.00	88-100-D	$60.00	89-100-D	$60.00
Display of 12 - 100 ft.		Display of 12 - 100 ft.		Display of 12 - 100 ft.	

GENERAL CEMENT RADIO KNOBS — KITS

MAJESTIC BAKELITE KNOBS

Popular pattern. Set screw type. ⅞″ dia., ¼″ shaft.

No.		List
1100	Walnut	$0.20
1100-I	Ivory	.20

ROYAL BAKELITE KNOBS

Beautiful pattern. Set screw type. ⅞″ dia., ¼″ shaft.

No.		List
1105	Walnut	$0.20
1105-I	Ivory	.20

YANKEE BAKELITE KNOBS

Set screw type. ¾″ and 1″ dia., ¼″ shaft.

No.		List
1109	¾″ Walnut	$0.20
1110	1″ Walnut	$0.20
1110-I	1″ Ivory	$0.20

G-C TV-RADIO KNOB FELTS

Brown felt washers, prevent scratching and rubbing on cabinet.

No.		List
1065-E	Env. 50	$0.45

INSTRUMENT KNOB

Heavy duty knob for communication equipment, instruments. ¼″ brass insert, set screw. 1¾″ O.D. x ⅞″.

No.		List
1175	Black	$0.55

POPULAR LARGE KNOB

Knurl shaft or set screw types. $1\frac{1}{8}$″ diameter.

Knurl Shaft Type		
No.		List
1180	Walnut	$0.13
Set Screw Type		
No.		List
1181	Walnut	$0.17

MIDGET BAKELITE KNOBS

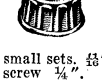
For small sets. $\frac{11}{16}$″ dia., ¼″ shaft.

Pointer Type

No.		List
1115	Walnut	$0.17
1116	Ivory	.17
1117	Red	.17
1118	Black	.17

MIDGET BAKELITE KNOBS

Set Screw Type

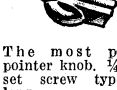


For small sets. $\frac{13}{16}$″ dia., set screw ¼″.

Non-Pointer Type

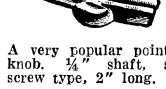
No.		List
1111	Walnut	$0.17
1112	Ivory	.17
1113	Red	.17
1114	Black	.17

STREAMLINE POINTERS



The most popular pointer knob. ¼″ shaft, set screw type 1¼″ long.

No.		List
1136	Black	$0.22
1136-W	Walnut	.22
1137	Red	.22
1137-I	Ivory	.22



A very popular pointer knob. ¼″ shaft, set screw type, 2″ long.

No.		List
1135	Black	$0.33
1135-W	Walnut	.33
1138	Red	.33
1138-I	Ivory	.33

MODERN POINTER BAR KNOBS

BRASS BUSHING

For intercoms and instruments. Black. Set screw, ¼″ shaft, 2¾″ long.

No.		List
1130	Black	$0.47
1130-W	Walnut	.47

For intercoms and instruments. Black finish. Set screw, ¼″ shaft, 1⅝″ long.

No.		List
1131	Black	$0.42
1131-W	Walnut	.42

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GENERAL CEMENT

RADIO • TV KNOBS and KITS

MODERN LARGE KNOB

Knurl shaft or set screw types available. 1⅛" diameter.

No.		List
1176	— Knurl Shaft Type Walnut	$0.13
1177	— Set Screw Type Walnut	.17

SPRING AND D-SHAFT KNOBS

Spring type. 15/16" dia. Fits ¼" flat shafts.

No.		List
1151	Walnut*	$0.13
1152	Ivory	.17

D — or flat shaft type. ⅝" diameter.

MIDGET TYPE PLASTIC KNOB

¾" dia., ⅜" shank for ¼" knurled shafts.

No.		List
1157	Walnut	$0.14
1158	Ivory	.15

MIDGET TYPE PLASTIC KNOB

23/32" diam., ½" shank for ¼" knurled shafts.

No.		List
1197	Walnut	$0.14
1198	Ivory	.15

G-C FRONT DUAL CONTROL KNOB

Plated gold finish inlay. 1 5/16" O.D. Used with rear knob No. 8533 and others.

No. 8530 List $0.45
Fits ¼" Knurl Shaft

No. 8531 List $0.50
Fits ¼" Flatted Shaft

No. 8532 List $0.50
Fits .202" Flatted Shaft

G-C FRONT DUAL BAR CHANNEL KNOB

Push-on type for RCA sets and others. Fits standard ¼" shaft flatted to .156". Complete with spring.

No.	List
8861	$0.50

G-C FRONT KNOB

Push-on type for RCA sets and others; for off-on, volume, etc. Fits ⅜" shaft flat to .156". Complete with spring.

No.	List
8863	$0.25

STREAMLINE BRASS BUSHING

Brass insert, ¼" shaft, set screw. 1¼" long.

No.		List
1170	Black	$0.31
1170-W	Walnut	.31
1172	Red	.31
1172-I	Ivory	.31

MIDGET TYPE PLASTIC KNOB

¾" dia. flush type for ¼" knurled shafts.

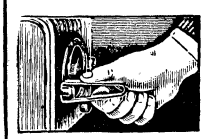
No.		List
1159	Walnut	$0.13
1160	Ivory	.15

MIDGET TYPE PLASTIC KNOB

23/32" dia., flush shank for ¼" knurled shafts.

No.		List
1193	Walnut	$0.13
1194	Ivory	.15

G-C RADIO KNOB PULLER



Very handy in removing knobs. Simply slip behind knob and pull off. Saves cabinet and knobs.

No.	List
1063	$0.50

G-C REAR CHANNEL KNOB

Mate to No. 8861 knob. Fits ⅜" shaft flatted to .327". Complete with spring.

No.	List
8862	$0.45

G-C REAR KNOB

Mate to No. 8863 knob. Fits 17/64" shaft flat to .237". Complete with spring.

No.	List
8864	$0.45

POINTERS

Brass insert, ¼" shaft, set screw. 2" long.

No.		List
1171	Black	$0.46
1171-W	Walnut	.46
1173	Red	.46
1173-I	Ivory	.46

G-C REAR DUAL CONTROL KNOB

Rear mate to 8530 series knobs. 1⅝" dia., for standard .265" dia. rear keyway shaft.

No.	List
8533	$0.28

G-C AUTO RADIO KNOBS

Chrome plated. For ¼" and 3/16" shafts. Set screw mounting.

No.		List
1169	¼"	$0.35
1174	3/16"	.35

G-C CHANNEL INDICATOR PLATE

For sets using Radio Condenser TV tuner, etc. Sparton, Farnsworth, Sonora, Meck. Walnut, gold letters. Matches 8530 series knobs. Fits ⅜" dia. rear flat shaft.

No.	List
8537	0.75

G-C FRONT CHANNEL KNOB

Popular front knob used on channel tuners and controls for Motorola, Hallicrafter, Stromberg-Carlson, etc., also sets using Chicago Telephone tuner. 15/16" dia. Walnut. Fits .202" dia. flat shaft.

No.	List
8538	$0.22

POPULAR BAR KNOB

For intercoms, instruments, appliances. Bakelite with set screw. ¼" hole, 1⅝" long.

No.		List
1132	Walnut	$0.20

PUSH-ON KNURL KNOB

15/16" dia. flush type for ¼" knurled shafts.

No.		List
1184	Walnut	$0.13
1185	Ivory	.13

G-C KNOB SET SCREW ASST.

Handy set screw assortments for radio knobs, shafts, pulleys. 6-32, 8-32, and 10-32.

No.		List
1060	50 Asst.	$1.10
1061	100 Asst.	2.00
1062-E	15 Asst.	.45
6605	30 Asst.	.85

G-C COMBINATION DUAL KNOB

Front and rear dual dummy type control knob. 1⅜" dia. Plated gold finish inlay. Fits ¼" flat shaft.

No.	List
8534	$0.75

G-C REAR CHANNEL KNOB

Mate to No. 8538 knob. For .265" rear keyway shaft. 1¼" dia.

No.	List
8539	$0.22

G-C TV KNOB SPRINGS

Standard and special replacements for TV-radio knobs.

Type A — Fits small .202" dia. flat shaft		
No.		List
8541-E	Env. 10	$0.45
8541-G	Gross	2.15
Type B — Fits ⅜" dia. flat shaft		
No.		List
8542-E	Env. 10	$0.45
8542-G	Gross	2.60

POPULAR PLASTIC KNOB

15/16" diameter with ½" shank extension for ¼" knurled shaft.

No.		List
1153	Walnut	$0.14
1154	Ivory	.15

PUSH-ON KNURL KNOB

15/16" dia., ½" shank for ¼" knurled shafts.

No.		List
1186	Walnut	$0.13
1187	Ivory	.13

G-C KNOB SPRING KITS

No. 1049-E List $0.45
Env. 20 Asst.

No. 1050 List $1.10
Kit 35

No. 1051 List $1.95
Kit 100

No. 6619 List $0.85
Jar 35 Asst.

G-C DUAL TUNER BAR KNOB

Front knob, 2" long bar. Plated gold finish inlay. Used with No. 8536 knob and others. Fits ¼" dia. flat shaft.

No.	List
8535	$0.90

G-C COMBINATION DUAL DUMMY KNOB

One-knob combination of No. 8538 and 8539 knobs. For matching cabinet design on single control. 1¼" dia. at base. Fits ¼" knurled shaft.

No.	List
8540	$0.45

ATTRACTIVE PLASTIC KNOB

15/16" dia., flush type for ¼" knurled shafts.

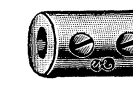
No.		List
1155	Walnut	$0.13
1156	Ivory	.13

POINTER TYPE PLASTIC KNOB

15/16" dia., ½" shank for ¼" knurled shafts.

No.		List
1188	Walnut	$0.13
1189	Ivory	.13

G-C KNOB BUSHINGS



Reduce from ¼" to ⅜". For auto radios.

No.	List
6751 Env. of 8	$0.45

G-C REAR DUAL TUNER KNOB

Rear knob, used with No. 8535 and others. 1 5/16" dia. Fits standard ⅜" dia. rear flat shaft.

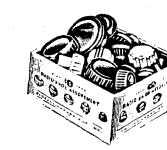
No.	List
8536	$0.28

G-C TV KNOB SET

Set of above 4 TV knobs, boxed. Brown color.

No. 8860 List $1.65
Complete set

G-C RADIO KNOB KITS



Popular plastic knobs in assorted kits, all kinds.

No.	Quantity	List
1140	35 Asst. Push-on Buttons	$4.95
1141	28 Asst. Spring Knobs	4.95
1142	24 Asst. Set Screw Knobs	4.95
1143	30 Asst. All Type Knobs	4.95

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IT'S G-C FOR ALL TV

GENERAL CEMENT SPRA-KOAT PRODUCTS

DE-OX-ID

Electrical contact cleaner for silver, detent and radar contacts. All electric and electronic contacts.

No. 19-6 — 6 oz. De-Ox-Id ..... List $ 3.50
No. 19-6-D — Case of 12 #19-6 ..... List 42.00

KOLOID K-29 HI VOLTAGE SPRA-KOAT

A clear resin spray where unusually high voltages are encountered. Air dries in a few minutes.

No. 9123 — 12 oz. Koloid K-29 ..... List $ 2.75
No. 9123-D — Cast of 12 #9123 ..... List 33.00

SPRA-KLEEN

Spray onto radio and television contacts and eliminate noise due to dust, dirt and corrosion.

No. 8666 — 6 oz. Spra-Kleen ..... List $1.20

KOLOID CLEAR ACRYLIC SPRA-KOAT

For insulating TV antennas, terminals, lines, etc. Prevents corrosion, rusting and oxidation on brass, silver chrome.

No. 8665 — 12 oz. Clear Acrylic ..... List $ 1.79
No. 8665-D — Case of 12 #8665 ..... List 21.48

CORONA DOPE SPRA-KOAT

Used by manufacturers and servicemen to prevent corona shorts on high voltage circuits in TV sets.

No. 47-12 — 12 oz. Corona Dope ..... List $ 3.25
No. 47-12-D — Case of 12 #47-12 ..... List 39.00

K-27 PRINT-KOTE

Original clear silicone resin as used by manufacturers for printed circuits. Insulates, protects and prevents shorts.

No. 14-6 — 6 oz. Print-Koat ..... List $ 3.25
No. 14-6-D — Case of 12 #14-16 ..... List 39.00

RUF-KOAT SPRA-KOAT

Air drying wrinkle varnish. Gives a professional looking job. Can also be baked. Comes in black or gray.

No. 60-12 — 12 oz. Black ..... List $ 2.75
No. 60-12-D — Case of 12 #60-12 ..... List 33.00
No. 60-13 — 12 oz. Gray ..... List 2.75
No. 60-13-D — Case of 12 #60-13 ..... List 33.00

KROME-KOAT SPRA-KOAT

A ready to use fast drying aluminum paint that leaves a beautiful chrome-like finish.

No. 8660 — 12 oz. Aluminum ..... List $ 1.79
No. 8660-D — Case of 12 #8660 ..... List 21.48

HI-GLOSS ENAMELS SPRA-KOAT

Beautiful high gloss finish that dries fast. Easy to use. Comes in 6 colors.

No. 8754 — 12 oz. Gray ..... List $ 1.95
No. 8754-D — Case of 12 #8754 ..... List 23.40
No. 8755 — 12 oz. Black ..... List 1.95
No. 8755-D — Case of 12 #8755 ..... List 23.40
No. 8756 — 12 oz. Brown ..... List 1.95
No. 8756-D — Case of 12 #8756 ..... List 23.40
No. 8757 — 12 oz. White ..... List 1.95
No. 8757-D — Case of 12 #8757 ..... List 23.40
No. 8758 — 12 oz. Gold ..... List 1.95
No. 8758-D — Case of 12 #8758 ..... List 23.40
No. 8759 — 12 oz. Coppertone ..... List 1.95
No. 8759-D — Case of 12 #8759 ..... List 23.40

WROUGHT-IRON BLACK SPRA-KOAT

Renew and modernize TV stands, iron furniture, metal objects. Air dries to a flat, black finish.

No. 9112 — 12 oz. Wrought Iron Black ..... List $ 1.95
No. 9112-D — Case of 12 #9112 ..... List 23.40

HAMMER-KOAT SPRA-KOAT

For a professional looking hammer finish in easy to use Spra-Koat. Air dries in a few minutes. 3 colors.

No. 83-12 — 12 oz. Brown Hammer ..... List $ 2.75
No. 83-12-D — Case of 12 #83-12 ..... List 33.00
No. 84-12 — 12 oz. Blue Hammer ..... List 2.75
No. 84-12-D — Case of 12 #84-12 ..... List 33.00
No. 85-12 — 12 oz. Silver Hammer ..... List 2.75
No. 85-12-D — Case of 12 #85-12 ..... List 33.00

TELEPHONE BLACK and GRAY SPRA-KOAT

A satin finish enamel that dries fast. Excellent for panel work, instrument finish, etc.

No. 62-12 — 12 oz. Black ..... List $ 2.75
No. 62-12-D — Case of 12 #62-12 ..... List 33.00
No. 62-13 — 12 oz. Gray ..... List 2.75
No. 62-13-D — Case of 12 #62-13 ..... List 33.00

TOUCH-UP VARNISH SPRA-KOAT

Fast drying varnish stain that covers nicks and scratches. Easy to apply. Mahogany or Walnut.

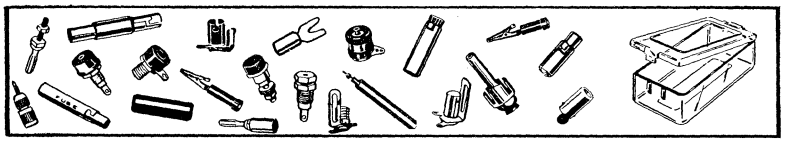
No. 161-3 — 12 oz. Mahogany ..... List $ 2.75
No. 161-3-D — Case of 12 #161-3 ..... List 33.00
No. 161-5 — 12 oz. Walnut ..... List 2.75
No. 161-5-D — Case of 12 #161-5 ..... List 33.00

APPLIANCE WHITE SPRA-KOAT

A white glossy factory like finish for refrigerators, washers, dryers, ranges, etc. Dries fast.

No. 9113 — 12 oz. Appliance White. List $ 1.95
No. 9113-D — Case of 12 #9113 ... List 23.40

GENERAL CEMENT NEW 50 LINE PACKAGES



Many G-C accessories such as pilot light sockets, auto radio hardware, plugs, jacks, etc., are available in the famous G-C 50-Line package. Complete assortment listed below. All one price

LIST **50¢** PER PACKAGE

PART	QUAN.	DESCRIPTION
H-1740	3	Auto Antenna Plugs
H-1741	2	Antenna Connector Jack
H-1744	3	Extension Jack and Connector
H-1745	1	Motorola Lead Adapter
H-1746	4	Adapter Shell
H-1747	2	Antenna Connector
H-1748	2	Jumbo Fuse Holders
H-1749	2	Auto Fuse Connectors
H-5060	2	Solderless Test Prod Tips
H-5061	2	Red Test Prod Tips
H-5062	2	Black Test Prod Tips
H-5063	4	Alligator Clips
H-5064	2	Red Ins. Alligator Clips
H-5065	2	Black Ins. Alligator Clips
H-6321	8	Standard Phone Tips—Solid
H-7702	2	Threaded Phono Needle Test Prod Chuck
H-7703	2	Push-on Phono Needle Test Prod Chuck
H-7706	3	Heavy Duty Phone Tip Plug
H-7710	2	Red Insulated Phone Tip Jack
H-7711	2	Black Insulated Phone Tip Jack
H-7712	2	Red Insulated Spade Lug
H-7713	2	Black Insulated Spade Lug
H-7714	3	Phono Tip Jacks

PART	QUAN.	DESCRIPTION
H-7715	2	Red Insulated Phone Tip Jacks
H-7716	2	Black Insulated Phone Tip Jacks
H-7725	1	Red Ins. Combination Jack and Binding Post
H-7726	1	Black Ins. Combination Jack and Binding Post
H-7730	1	Red Ins. Solderless Split Banana Plugs
H-7731	1	Black Ins. Solderless Split Banana Plugs
H-7732	2	Red Ins. Split Banana Plugs
H-7733	2	Black Ins. Split Banana Plugs
H-7736	2	Threaded Split Banana Plug
H-7737	2	Lug Type Banana Plug
H-7740	3	Banana Jack
H-7741	2	Red Ins. Banana Jack
H-7742	2	Black Ins. Banana Jack
H-7744	1	Red Ins. Combination Banana Phone Tip Jack
H-7745	1	Black Ins. Combination Banana and Phone Tip Jack
H-7746	1	Red Insulated Banana Plug Splice
H-7747	1	Black Insulated Banana Plug Splice
H-7748	1	Red Banana Plug with Tip Jack
H-7749	1	Black Banana Plug with Tip Jack

PART	QUAN.	DESCRIPTION
H-7750	2	Black Ins. Set Screw Alligator Clip
H-7751	2	Red Ins. Set Screw Alligator Clip
H-7752	2	Screw Type Alligator Clip
H-7922	2	Miniature Bayonet Clip on Sockets —Clip Up
H-7923	2	Miniature Bayonet Clip On Sockets —Clip Down
H-7927	3	Min. Screw Type Bracket Sockets—Bracket Down
H-7928	2	Min. Bayonet Bracket Socket — Bracket Up
H-7929	2	Min. Bayonet Bracket Socket — Bracket Down
H-7932	3	Miniature Screw Base Socket
H-7933	3	Miniature Bayonet Base Socket
H-8149	1	Red Test Lead Angle Tip
H-8150	1	Black Test Lead Angle Tip
H-8994	1	Red Insulated Spring Type Banana Plug
H-8995	1	Black Insulated Spring Type Banana Plug
H-8996	2	Red Insulated Banana Plug
H-8997	2	Black Insulated Banana Plug
H-8998	2	Threaded Banana Plug
H-8999	2	Lug Type Banana Plug

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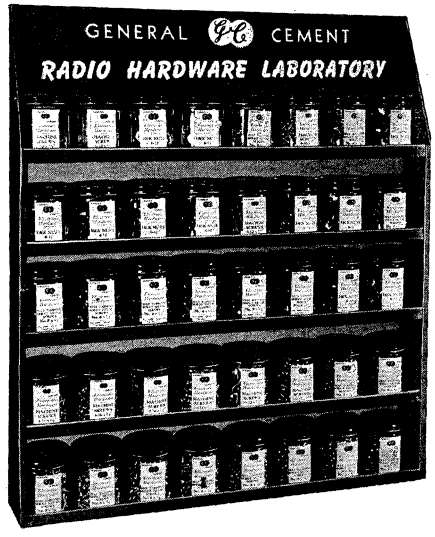
G-C RADIO HARDWARE IN GLASS JARS

G-C Hardware Laboratory



Hardware in glass jars is convenient for the workshop or laboratory. Supplied in modern clear glass jars with a wide mouth opening. All hardware is labelled for easy identification.

Two assortments of hardware — one a 40-jar assortment, the other a 20-jar assortment — are available. Supplied from the jars of hardware listed below.

List Price

No. 6601 Hardware Rack Asst. (20 Jars) . $17.00
Contains Jars 6605 thru 6624

No. 6604 Hardware Rack Asst. (40 Jars) . 34.00
Contains Jars 6605 thru 6644

THE HEAVY STEEL RACK IS FREE

FREE STEEL RACK
(With No. 6601 or No. 6604 Assts.)

A Complete Assortment of Hardware in Glass Jars

only 85c per jar
LIST PRICE

No.	Quantity		List Price
		ROUND HEAD MACHINE SCREWS	
6610	75	Assorted 4-36 and 6-32 Screws	$0.85
6611	60	Assorted 8-32 and 10-32 Screws	.85
6005	100	4-36 x 1/4"	.85
6006	100	4-36 x 1/2"	.85
6007	80	4-36 x 3/4"	.85
6005-A	100	4-40 x 1/4"	.85
6005-B	100	4-40 x 1/2"	.85
6005-C	80	4-40 x 3/4"	.85
6008	90	6-32 x 1/4"	.85
6009	85	6-32 x 1/2"	.85
6010	75	6-32 x 3/4"	.85
6011	50	6-32 x 1"	.85
6014	70	8-32 x 3/8"	.85
6015	65	8-32 x 1/2"	.85
6016	60	8-32 x 3/4"	.85
6017	45	8-32 x 1"	.85
6020	60	10-32 x 1/2"	.85
6021	50	10-32 x 3/4"	.85
6022	35	10-32 x 1"	.85
		OVAL HEAD RACK and CABINET SCREWS	
6628	45	Asstd. Rack Screws and Cup Washers	.85
6541	50	6-32 x 3/4"	.85
6542	45	8-32 x 3/4"	.85
6543	45	10-32 x 3/4"	.85
		ORNAMENTAL HEAD SCREWS	
6631	50	Asstd Ornamental Head Screws	.85
		WOOD SCREWS	
6633	45	Asstd. Wood Screws	.85
6114	45	No. 4 x 1/2"	.85
6115	40	No. 4 x 3/4"	.85
6116	40	No. 6 x 3/4"	.85
6117	35	No. 6 x 1"	.85
6118	35	No. 8 x 3/4"	.85
		SHEET METAL SCREWS	
6608	50	Asstd. No. 4 & No. 6	.85
6609	45	Asstd. No. 8 & No. 10	.85
6090	50	No. 4 x 1/2"	.85
6091	50	No. 6 x 1/4"	.85
6092	50	No. 6 x 3/8"	.85
6093	50	No. 6 x 1/2"	.85
6094	50	No. 6 x 3/4"	.85
6095	50	No. 8 x 3/8"	.85
6096	45	No. 8 x 1/2"	.85
6097	40	No. 8 x 1"	.85
6098	40	No. 10 x 3/8"	.85
6099	40	No. 10 x 1/2"	.85
6100	35	No. 10 x 3/4"	.85
		ESCUTCHEON PLATE SCREWS	
6632	50	Asstd. Escutcheon Screws	.85
		MOUNTING NUTS	
6615	25	Asstd. Mounting Nuts	.85

No.	Quantity		List Price
		RADIO KNOB SET SCREWS	
6605	30	Asstd. Set Screws	.85
6071	30	6-32 x 1/8"	.85
6072	30	6-32 x 3/16"	.85
6073	30	6-32 x 1/4"	.85
6074	30	8-32 x 1/8"	.85
6075	30	8-32 x 3/16"	.85
6076	30	8-32 x 1/4"	.85
6077	30	8-32 x 1/2"	.85
6078	30	10-32 x 3/16"	.85
6079	30	10-32 x 1/4"	.85
		HEXAGON NUTS	
6606	60	Asstd. 4-36 & 6-32	.85
6607	60	Asstd. 8-32 & 10-32	.85
		Thread Width Thick.	
6045	80	4-36 x 1/4" x 3/32"	.85
6041-A	80	4-40 x 1/4" x 3/32"	.85
6045-B	75	5-40 x 1/4" x 3/32"	.85
6046	75	6-32 x 1/4" x 3/32"	.85
6047	60	8-32 x 1/4" x 3/32"	.85
6048	50	10-32 x 3/8" x 5/64"	.85
		CUP FINISHING WASHERS	
6628	45	Asstd. Screws and Washers	.85
6161	65	No. 6 Cup Washer	.85
6162	65	No. 8 Cup Washer	.85
6163	65	No. 10 Cup Washer	.85
		C-WASHERS and RETAINING RINGS	
6636	85	Asstd. C-Washers	.85
		Shaft Diam. A B C D	
6182	65	3/16" .171 .125 .062 .031	.85
6183	65	1/4" .234 .156 .046 .031	.85
6184	65	1/4" .260 .187 .062 .031	.85
		COTTER PINS	
6642	90	Asstd. Cotter Pins	.85
		HAIR PIN COTTERS	
6637	75	Asstd. Hair Pin Cotters	.85
		FLAT FIBRE WASHERS	
6634	85	Asstd. Flat Fibre Washers	.85
		Screw Size I.D. O.D. Thickness	
6513	100	No. 6 .136" 1/4" 1/32"	.85
6514	100	No. 8 11/64" 3/8" 1/32"	.85
6515	80	No. 10 .196" 3/8" 1/32"	.85
6516	80	1/4" 1/4" 1/2" 1/64"	.85
6517	70	3/8" 3/8" 5/8" 1/64"	.85
		EXTRUDED FIBRE WASHERS	
		A B C D	
6525	65	5/16" .187 .140 .039 (For No. 6 Screw)	.85
6526	65	3/8" .250 .169 .031 (For No. 8 Screw)	.85
6527	65	7/16" .255 .196 .032 (For No. 10 Screw)	.85
6528	50	1/2" .375 .250 .032 (For 1/4" Shaft)	.85
6529	50	5/8" .437 .380 .031 (For 3/8" Shaft)	.85

No.	Quantity		List Price
		SNAP-IN TRIMOUNTS	
6620	45	Asstd. Trimounts	.85
		DIAL CORD CLIPS	
6621	75	Asstd. Dial Cable Clips	.85
		SOLDERING LUGS	
6618	75	Asstd. Soldering Lugs	.85
		CABLE HOLDER CLAMPS	
6644	40	Asstd. Cable Clamps	.85
6251	40	Cable Fit, 1/8" to 3/16"	.85
6252	40	Cable Fit, 3/16" to 1/4"	.85
		METAL WASHERS	
6612	135	Asstd. No. 4 & No. 6	.85
6613	100	Asstd. No. 8 & No. 10	.85
		Screw Size Hole Size O.D. Thickness	
6154	150	No. 4 1/8" 3/32" 1/32"	.85
6155	125	No. 6 5/32" 3/16" 1/32"	.85
6156	100	No. 8 3/16" 7/32" 1/32"	.85
6157	100	No. 10 13/64" 1/2" .049"	.85
		LOCK WASHERS	
		INTERNAL LOCK WASHERS	
6614	90	Asstd. Lock Washers, All Types	.85
6508	50	No. 3/8" 11/16" O.D.	.85
		SPLIT TYPE LOCK WASHERS	
		Screw Size O.D. Thickness	
6503	100	No. 4 1/8" 3/32"	.85
6504	100	No. 6 11/64" 3/32"	.85
6505	90	No. 8 11/64" .025"	.85
6506	90	No. 10 13/64" .050"	.85
6507	80	No. 1/4" 7/16" 3/64"	.85
		MISCELLANEOUS	
6616	15	Asstd. Dial Springs	.85
6617	12	Asst. Bushings & Spacers	.85
6619	35	Asstd. Knob Springs	.85
6622	85	Asstd. Rivets & Eyelets	.85
6623	60	1/2" Felt Pads	.85
6624	18	3/8" Rubber Tack Bumpers	.85
6625	25	Asstd. Large Rubber Grommets	.85
6626	25	Asstd. Soft Rubber Grommets	.85
6627	18	Asstd. Acorn Nuts	.85
6629	30	Asst. Phone Tips	.85
6630	60	Asstd. Tinnerman Speed Nuts	.85
6635	25	Asstd. Grid Caps	.85
6638	12	Asstd. Dial Pulleys	.85
6639	30	Asstd. Fahnestock Clips	.85
6640	50	Asstd. Dust Felts	.85
6641	70	Knob Felts	.85
6643	30	Asstd. Small Comp Springs	.85

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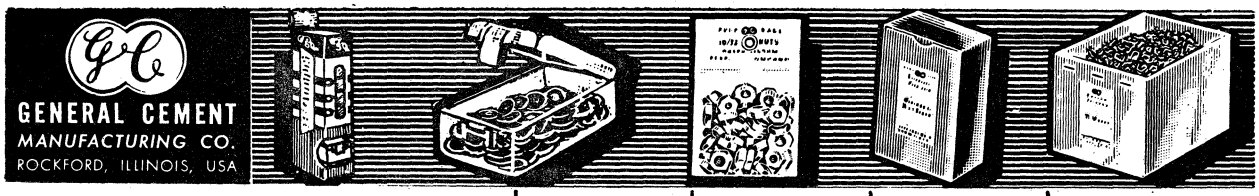

HANDY G-C HARDWARE
In Convenient Packages:
1. Plastic Boxes or Envelopes
2. Boxes of 144 (Gross)
3. Bulk Boxes of 1000.

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes. List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

G-C ROUND HEAD MACHINE SCREWS
STEEL - NICKEL PLATED

DESCRIPTION and SPECIFICATIONS	Hinged Cover Plastic Boxes Part No.	Qty. In Box	Hundred Pac in Plastic Envelopes Part No.	List Price Per 100	Boxes of 144 (Gross Packages) Part No.	List Price Per 144	Bulk Hardware (Boxes of 1000) Part No.	List Price Per 1000 Pcs.
Assorted Machine Screws	H1000-F	35						
Assorted Screws and Nuts	H1001-F	40						
Assorted No. 2 and No. 4 Screws and Nuts	H1002-F	35						
Assorted 4-36 Screws	H1010-F	40						
Assorted 6-32 Screws	H1012-F	40						
Assorted 8-32 Screws	H1016-F	40						
Assorted 10-32 Screws	H1018-F	25						
Machine Screws, 2-56 x ¼"	H1022-F	40	7130-C	.50	7130-G	.75	7130-M	4.35
Machine Screws, 2-56 x ½"	H1024-F	40	7131-C	.55	7131-G	.80	7131-M	4.70
Machine Screws, 2-56 x ¾"	H1026-F	40	7132-C	.65	7132-G	.90	7132-M	5.45
Machine Screws, 3-48 x ¾"	H1028-F	40	7124-C	.65	7124-G	.95	7124-M	5.60
Machine Screws, 4-36 x ¼"	H1032-F	40	6005-C	.55	6005-G	.80	6005-M	4.70
Machine Screws, 4-36 x ⅜"	H1033-F	35	7138-C	.60	7138-G	.85	7138-M	4.90
Machine Screws, 4-36 x ½"	H1034-F	35	6006-C	.60	6006-G	.90	6006-M	5.20
Machine Screws, 4-36 x ¾"	H1036-F	35	6007-C	.70	6007-G	1.00	6007-M	6.00
Machine Screws, 4-40 x ¼"	H1042-F	40	6005-AC	.55	6005-AG	.80	6005-AM	4.70
Machine Screws, 4-40 x ½"	H1044-F	35	6005-BC	.60	6005-BG	.85	6005-BM	5.20
Machine Screws, 4-40 x ¾"	H1046-F	35	6005-CC	.70	6005-CG	1.00	6005-CM	6.00
Machine Screws, 6-32 x ¼"	H1062-F	40	6008-C	.60	6008-G	.90	6008-M	5.25
Machine Screws, 6-32 x ½"	H1064-F	30	6009-C	.70	6009-G	1.05	6009-M	6.10
Machine Screws, 6-32 x ¾"	H1066-F	30	6010-C	.80	6010-G	1.20	6010-M	7.00
Machine Screws, 6-32 x 1"	H1068-F	30	6011-C	.90	6011-G	1.40	6011-M	7.95
Machine Screws, 6-32 x 1¼"	H1070-F	30	7141-C	1.10	7141-G	1.70	7141-M	9.45
Machine Screws, 6-32 x 2" (Extra long, handy to mount rectifiers)	H1076-F	20	7148-C	1.65	7148-G	2.55	7148-M	14.35
Machine Screws, 8-32 x ¼"	H1082-F	30	6013-C	.80	6013-G	1.15	6013-M	6.70
Machine Screws, 8-32 x ⅜"	H1083-F	25	6014-C	.85	6014-G	1.25	6014-M	7.20
Machine Screws, 8-32 x ½"	H1084-F	25	6015-C	.90	6015-G	1.35	6015-M	7.65
Machine Screws, 8-32 x ¾"	H1086-F	25	6016-C	1.05	6016-G	1.60	6016-M	8.85
Machine Screws, 8-32 x 1"	H1088-F	20	6017-C	1.20	6017-G	1.85	6017-M	10.20
Machine Screws, 8-32 x 1¼"	H1090-F	20	7142-C	1.35	7142-G	2.10	7142-M	11.85
Machine Screws, 10-32 x ½"	H1104-F	20	6020-C	1.05	6020-G	1.60	6020-M	9.10
Machine Screws, 10-32 x ¾"	H1106-F	20	6021-C	1.25	6021-G	1.90	6021-M	10.65
Machine Screws, 10-32 x 1"	H1108-F	17	6022-C	1.40	6022-G	2.15	6022-M	12.10
Machine Screws, 10-32 x 1½"	H1112-F	15	7143-C	1.85	7143-G	2.85	7143-M	15.90
Machine Screws, ¼-20 x ½"			7144-C	1.75	7144-G	2.70	7144-M	15.30
Machine Screws, ¼-20 x ¾"			8061-C	2.05	8061-G	3.15	8061-M	17.70
Machine Screws, ¼-20 x 1"			8062-C	2.30	8062-G	3.60	8062-M	20.15
Machine Screws, ¼-20 x 1¼"			7145-C	2.60	7145-G	4.10	7145-M	22.75
Machine Screws, ¼-20 x 1¾"			8521-C	3.25	8521-G	5.05	8521-M	28.40
Machine Screws, ¼-20 x 2½"			7146-C	4.45	7146-G	6.90	7146-M	38.90

G-C ROUND HEAD MACHINE SCREWS
BRASS - NOT PLATED

Assorted Brass Machine Screws	H1210-F	30						
Machine Screws, Brass, 6-32 x ¼"			8501-C	.96	8501-G	1.40	8501-M	8.35
Machine Screws, Brass, 6-32 x ½"			8502-C	1.25	8502-G	1.85	8502-M	11.00
Machine Screws, Brass, 6-32 x ¾"			8503-C	1.51	8503-G	2.20	8503-M	13.25
Machine Screws, Brass, 6-32 x 1"			8504-C	1.80	8504-G	2.65	8504-M	15.80
Machine Screws, Brass, 8-32x ¼"			8505-C	1.38	8505-G	2.00	8505-M	12.10
Machine Screws, Brass, 8-32 x ½"			8506-C	1.75	8506-G	2.55	8506-M	15.35
Machine Screws, Brass, 8-32 x ¾"			8507-C	2.70	8507-G	4.15	8507-M	24.80
Machine Screws, Brass, 8-32 x 1"			8508-C	2.60	8508-G	3.75	8508-M	22.60

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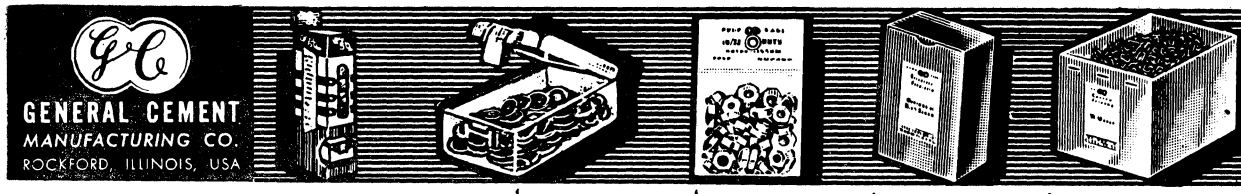
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY



HANDY G-C HARDWARE

In Convenient Packages:

1. **Plastic Boxes or Envelopes**
2. **Boxes of 144 (Gross)**
3. **Bulk Boxes of 1000.**

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display 10 Boxes — List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS	Part No.	In Box Quantity	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.
G-C PHILLIPS TYPE ROUND HEAD MACHINE SCREWS — STEEL - NICKEL PLATED								
Assorted Phillips Type Machine Screws	H1180-F	25						
Machine Screws, Phillips, 6-32 x ¼"			8511-C	.95	8511-G	1.40	8511-M	8.55
Machine Screws, Phillips, 6-32 x ½"			8512-C	1.05	8512-G	1.60	8512-M	9.55
Machine Screws, Phillips, 6-32 x ¾"			8513-C	1.20	8513-G	1.80	8513-M	10.90
Machine Screws, Phillips, 6-32 x 1"			8514-C	1.35	8514-G	2.00	8514-M	12.15
Machine Screws, Phillips, 8-32 x 5/16"			8515-C	1.00	8515-G	1.55	8515-M	9.30
Machine Screws, Phillips, 8-32 x ½"			8516-C	1.15	8516-G	1.70	8516-M	10.30
Machine Screws, Phillips, 8-32 x ¾"			8517-C	1.30	8517-G	2.00	8517-M	11.90
Machine Screws, Phillips, 8-32 x 1"			8518-C	1.50	8518-G	2.30	8518-M	13.70
G-C BINDING HEAD MACHINE SCREWS — STEEL - NICKEL PLATED								
Assorted Binding Head Machine Screws	H1168-F	35						
Machine Screws, 5-36 x ¼" (Used on many small toggle switches)	H1170-F	35	7154-C	.85	7154-G	1.30	7154-M	5.10
Machine Screws, 6-32 x 3/16"			7151-C	.60	7151-G	.85	7151-M	5.10
Machine Screws, 6-32 x ¼"	H1172-F	35	7152-C	.60	7152-G	.85	7152-M	5.15
Machine Screws, 6-32 x ⅜"			7153-C	.60	7153-G	.90	7153-M	5.45
Machine Screws, 7-32 x ⅜" (Popular in electrical switches)	H1174-F	30	7155-C	1.65	7155-G	2.50	7155-M	15.15
Machine Screws, 8-32 x 5/16"			7158-C	.80	7158-G	1.15	7158-M	6.95
G-C OVAL HEAD RACK and CABINET SCREWS — STEEL - NICKEL PLATED								
Assorted Rack Screws and Washers	H1005-F	15						
Machine Screws, 6-32 x ½"			6540-C	.70	6540-G	1.00	6540-M	6.10
Machine Screws, 6-32 x ¾"	H1266-F	30	6541-C	.80	6541-G	1.15	6541-M	7.00
Machine Screws, 8-32 x ¾"	H1270-F	25	6542-C	1.00	6542-G	1.45	6542-M	8.85
Machine Screws, 10-32 x ½"			8848-C	1.05	8848 G	1.50	8848-M	9.10
Machine Screws, 10-32 x ¾"	H1273-F	20	6543-C	1.20	6543-G	1.75	6543-M	10.65
G-C ORNAMENTAL HEAD SCREWS — STEEL - STATUARY BRONZE PLATED								
Assorted Ornamental Head Screws	H1250-F	20						
Ornamental Head Screws, 6-32 x ¾"	H1252-F	25	1097-C	1.20	1097-G	1.70	1097-M	10.35
Ornamental Head Screws, 6-32 x 1"	H1253-F	20	1098-C	1.30	1098-G	1.90	1098-M	11.30
Ornamental Head Screws, 8-32 x 1¼"	H1255-F	12	1099-C	1.75	1099-G	2.60	1099-M	15.45
G-C WOOD SCREWS — ROUND HEAD - STEEL - NICKEL PLATED								
Assorted Wood Screws	H1502-F	25						
Wood Screws, No. 4 x ½"			6114-C	1.20	6114-G	1.80	6114-M	10.95
Wood Screws, No. 4 x ¾"			6115-C	1.30	6115-G	1.95	6115-M	11.90
Wood Screws, No. 6 x ¾"			6116-C	1.35	6116-G	2.05	6116-M	12.35
Wood Screws, No. 6 x 1"			6117-C	1.60	6117-G	2.40	6117-M	14.55
Wood Screws, No. 8 x ¾"			6118-C	1.55	6118-G	2.35	6118-M	14.10
Wood Screws, No. 8 x 1¼"			8071-C	1.95	8071-G	2.95	8071-M	17.75
Wood Screws, No. 10 x 1½"			8073-C	2.55	8073-G	3.85	8073-M	23.10
Wood Screws, No. 12 x 1½"			8075-C	3.05	8075-G	4.60	8075-M	27.65
Wood Screws, No. 14 x 1¾"			8076-C	4.35	8076-G	6.55	8076-M	39.35
G-C SPADE BOLTS or MOUNTING SCREWS — STEEL - NICKEL PLATED								
Assorted Spade Bolts	H1570-F	15						
A: 6-32, B: No. 6, C: 9/32", D: 11/16", E: 9/16"			6081-C	1.65	6081-G	2.45	6081-M	14.85
A: 6-32, B: No. 6, C: 13/32", D: 7/8", E: 11/16"			6082-C	2.35	6082-G	3.55	6082-M	21.25
A: 8-32, B: No. 8, C: 7/16", D: 1 5/32", E: 13/16"			6084-C	4.10	6084-G	6.15	6084-M	37.15

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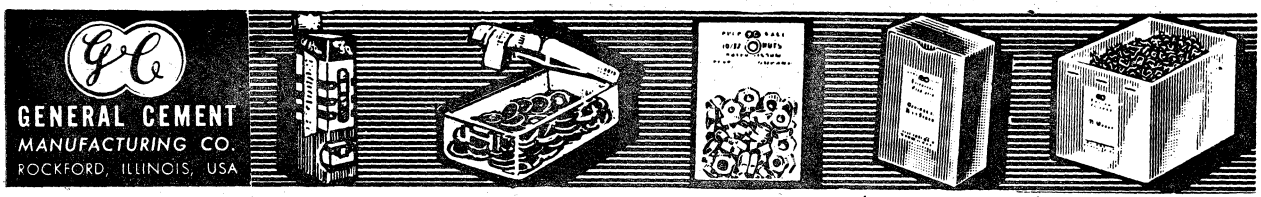

HANDY G-C HARDWARE
In Convenient Packages:
1. Plastic Boxes or Envelopes
2. Boxes of 144 (Gross)
3. Bulk Boxes of 1000.

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display 10 Boxes List Price Per Box **50¢**

HUNDRED PAC IN PLASTIC ENVELOPES Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS	Part No.	Quantity In Box	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.
G-C SHEET METAL SCREWS — HEX HEAD - SLOTTED - SELF-TAPPING - NICKEL PLATED POINTED TYPE "A"								
Assorted Sheet Metal Screws	H1300-F	25						
Assorted No. 4 and No. 6 Sheet Metal Screws								
Assorted No. 8 and No. 10 Sheet Metal Screws								
Sheet Metal Screws, No. 4 x ½"	H1350-F	35	6090-C	1.00	6090-G	1.55	6090-M	9.35
Sheet Metal Screws, No. 6 x ¼"	H1362-F	30	6091-C	1.00	6091-G	1.55	6091-M	9.35
Sheet Metal Screws, No. 6 x ⅜"	H1363-F	25	6092-C	1.10	6092-G	1.60	6092-M	9.80
Sheet Metal Screws, No. 6 x ½"	H1364-F	25	6093-C	1.15	6093-G	1.70	6093-M	10.35
Sheet Metal Screws, No. 6 x ¾"	H1366-F	20	6094-C	1.40	6094-G	2.10	6094-M	12.65
Sheet Metal Screws, No. 8 x ¼" (Auto Radio Size)	H1382-F	20	8102-C	1.20	8102-G	1.85	8102-M	11.25
Sheet Metal Screws, No. 8 x ⅜"	H1383-F	20	6095-C	1.25	6095-G	1.95	6095-M	11.75
Sheet Metal Screws, No. 8 x ½"	H1384-F	20	6096-C	1.25	6096-G	1.90	6096-M	11.35
Sheet Metal Screws, No. 8 x 1"	H1388-F	15	6097-C	1.70	6097-G	2.55	6097-M	15.40
Sheet Metal Screws, No. 10 x ⅜"	H1403-F	15	6098-C	1.50	6098-G	2.25	6098-M	13.85
Sheet Metal Screws, No. 10 x ½"	H1404-F	15	6099-C	1.85	6099-G	2.80	6099-M	16.90
Sheet Metal Screws, No. 10 x ¾"	H1406-F	12	6100-C	2.35	6100-G	3.55	6100-M	21.35
G-C ESCUTCHEON PLATE SCREWS — ROUND HEAD - SLOTTED - STATUARY BRONZE PLATED								
Assorted Escutcheon Screws	H1500-F	25						
Escutcheon Screws, No. 2 x ¼"			1091-C	1.05	1091-G	1.60	1091-M	9.50
Escutcheon Screws, No. 2 x ⅜"			1093-C	1.10	1093-G	1.65	1093-M	10.00
G-C RADIO KNOB SET SCREWS — SLOTTED - HEADLESS - HARDENED STEEL — CUP POINT Is Standard								
No. 1060 Kit 50 Asst. Set Screws **List Price $1.10**								
No. 1061 Kit 100 Asst. Set Screws **List Price $2.00**								
Assorted Set Screws	H1605-F	15						
Assorted Set Screws, 6-32								
Assorted Set Screws, 8-32								
Assorted Set Screws, 10-32								
Set Screws, 6-32 x ⅛"			6071-C	1.75	6071-G	2.55	6071-M	15.35
Set Screws, 6-32 x 3/16"	H1623-F	15	6072-C	1.75	6072-G	2.55	6072-M	15.35
Set Screws, 6-32 x ¼"			6073-C	1.75	6073-G	2.55	6073-M	15.35
Set Screws, 8-32 x ⅛"			6074-C	1.75	6074-G	2.55	6074-M	15.35
Set Screws, 8-32 x 3/16"	H1633-F	15	6075-C	1.75	6075-G	2.55	6075-M	15.35
Set Screws, 8-32 x ¼"	H1634-F	15	6076-C	1.75	6076-G	2.55	6076-M	15.35
Set Screws, 8-32 x ½"			6077-C	1.75	6077-G	2.55	6077-M	15.35
Set Screws, 10-32 x 3/16"			6078-C	1.75	6078-G	2.55	6078-M	15.35
Set Screws, 10-32 x ¼"	H1644-F	15	6079-C	1.75	6079-G	2.55	6079-M	15.35
G-C BRISTO SET SCREWS — HARDENED STEEL - SPLINE TYPE - HEADLESS								
Bristo Set Screws, 6-32 x 3/16"			7182-C	8.00	7182-G	11.65	7182-M	69.85
Bristo Set Screws, 8-32 x ⅛"			7186-C	8.00	7186-G	11.65	7186-M	69.85
Bristo Set Screws, 8-32 x 3/16"			7187-C	8.00	7187-G	11.65	7187-M	69.85

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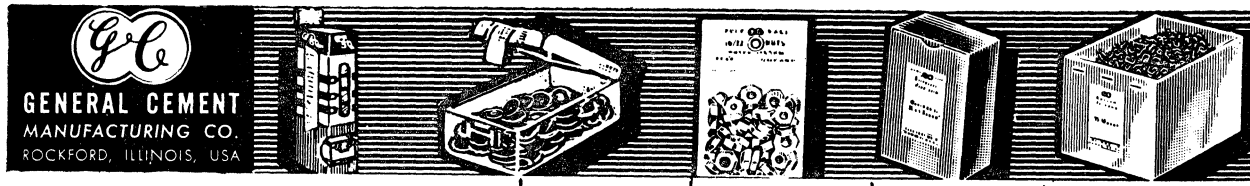

HANDY G-C HARDWARE
In Convenient Packages:
1. Plastic Boxes or Envelopes
2. Boxes of 144 (Gross)
3. Bulk Boxes of 1000.

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes — List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS	Part No.	Quantity In Box	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.
G-C ALLEN HEX SET SCREWS — STEEL - HARDENED - HEADLESS								
Assorted Lengths, 4-36	H1674-F	5						
Assorted Lengths, 6-32	H1676-F	5						
Assorted Lengths, 8-32	H1678-F	5						
Hex Set Screws, 4-36 x 1/8"			7191-C	8.20	7191-G	12.10	7191-M	72.00
Hex Set Screws, 6-32 x 1/8"			7196-C	8.20	7196-G	12.10	7196-M	72.00
Hex Set Screws, 6-32 x 3/16"			7197-C	8.20	7197-G	12.10	7197-M	72.00
Hex Set Screws, 8-32 x 1/8"			7201-C	8.20	7201-G	12.10	7201-M	72.00
Hex Set Screws, 8-32 x 3/16"			7202-C	8.20	7202-G	12.10	7202-M	72.00
G-C PHONOGRAPH NEEDLE and STYLUS SET SCREWS — STEEL - BRONZE PLATED								
No. 1052 Asst., 15 in Box — List Price $ .75								
Assorted Phono Needle Screws	H1550-F	12						
No. 1053 Asst., 100 in Box — List Price $12.25	H1551-F	12						
Phono Needle Screws, 2-56 x 9/16"	H1553-F	12	P1-C	.75	P1-G	1.15	P1-M	7.05
Phono Needle Screws, 2-64 x 3/4"			P2-C	3.00	P2-G	4.55	P2-M	27.20
Phono Needle Screws, 1-56 x 3/4"			P3-C	4.30	P3-G	6.45	P3-M	38.85
Phono Needle Screws, 1-64 x 1"			P4-C	4.00	P4-G	6.05	P4-M	36.45
Phono Needle Screws, 1-72 x 9/32"			P5-C	2.00	P5-G	3.05	P5-M	18.35
Phono Needle Screws, 1-72 x 29/32"	H1555-F	5	P6-C	1.95	P6-G	2.95	P6-M	17.75
Phono Needle Screws, 0-64 x 27/32"			P7-C	7.60	P7-G	11.55	P7-M	69.35
Phono Needle Screws, 4-48 x 23/32"			P8-C	3.05	P8-G	4.60	P8-M	27.75
Phone Needle Screws, 2-64 x 29/32"			P9-C	4.95	P9-G	7.50	P9-M	45.05
Phono Needle Screws, 1-64 x 3/4"			P10-C	2.95	P10-G	4.50	P10-M	27.15
PHONO CARTRIDGE MOUNTING SCREWS — STEEL - NICKEL PLATED								
Assorted Cartridge Mounting Screws	H1560-F	60						
Cartridge Screws, 4-36 x 1/4"	H1562-F	40	6005-IC	.55	6005-G	.80	6005-M	4.70
Cartridge Screws, 4-40 x 1/4"	H1564-F	40	6005-AC	.55	6005-AG	.80	6005-AM	4.70
G-C HEXAGON NUTS — STEEL - NICKEL PLATED								
Assorted Hex Nuts	H1800-F	30						
Thread / Width / Thickness								
2-56 — 3/16" — 1/16"	H1802-F	30	7225-C	.75	7225-G	1.10	7225-M	6.70
3-48 — 3/16" — 1/16"	H1803-F	30	7226-C	.75	7226-G	1.10	7226-M	6.70
4-36 — 1/4" — 3/32"	H1805-F	30	6041-C	.75	6041-G	1.10	6041-M	6.40
4-40 — 1/4" — 3/32"	H1804-F	30	6041-AC	.75	6041-AG	1.10	6041-AM	6.40
5-40 — 5/16" — 7/64"			6045-BC	.80	6045-BG	1.15	6045-BM	7.05
6-32 — 1/4" — 3/32"	H1806-F	30	6042-C	.75	6042-G	1.10	6042-M	6.70
6-32 — 5/16" — 7/64"	H1807-F	30	7230-C	.80	7230-G	1.15	7230-M	7.05
8-32 — 1/4" — 3/32"	H1808-F	30	6043-C	.80	6043-G	1.20	6043-M	7.10
8-32 — 11/32" — 1/8"	H1809-F	30	7233-C	.80	7233-G	1.20	7233-M	7.10
10-32 — 3/8" — 5/64"	H1810-F	30	6044-C	1.00	6044-G	1.55	6044-M	9.30
10-32 — 3/8" — 1/8"			6049-C	.95	6049-G	1.40	6049-M	8.45
1/4-20 — 7/16" — 3/16"	H1820-F	25	7235-C	1.50	7235-G	2.15	7235-M	12.85
11/32-32 — 7/16" — 1/16"			7236-C	3.00	7236-G	4.50	7236-M	27.05
3/8-32 — 9/16" — 3/32"	H1923-F	15	6050-AC	2.45	6050-AG	3.55	6050-AM	21.40
7/16-27 — 9/16" — 1/8"	H1924-F	10	7238-C	4.95	7238-G	7.50	7238-M	44.70
15/32-32 — 9/16" — 5/64"			6050-BC	3.35	6050-BG	5.05	6050-BM	30.45

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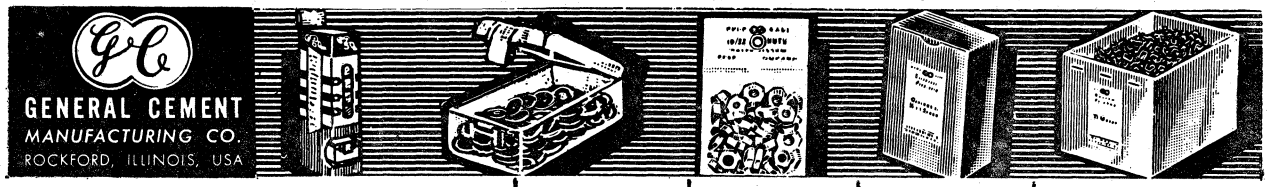

HANDY G-C HARDWARE
In Convenient Packages:
1. Plastic Boxes or Envelopes
2. Boxes of 144 (Gross)
3. Bulk Boxes of 1000.

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes. List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS			HINGED COVER PLASTIC BOXES Part No.	Quantity In Box.	HUNDRED PAC IN PLASTIC ENVELOPES Part No.	List Price Per 100	BOXES OF 144 (Gross Packages) Part No.	List Price Per 144	BULK HARDWARE (Boxes of 1000) Part No.	List Price Per 1000 Pcs.
G-C BRASS HEXAGON NUTS — NOT PLATED										
Thread	Width	Thickness								
2-56	3/16"	1/16"			7241-C	1.05	7241-G	1.60	7241-M	9.50
3-48	3/16"	1/16"			7242-C	1.05	7242-G	1.60	7242-M	9.50
4-36	1/4"	3/32"	H1842-F	35	7243-C	1.25	7243-G	1.90	7243-M	11.40
4-40	1/4"	3/32"	H1844-F	25	7244-C	1.25	7244-G	1.90	7244-M	11.30
6-32	1/4"	3/32"	H1846-F	25	7245-C	1.30	7245-G	1.90	7245-M	11.25
8-32	5/16"	7/64"	H1848-F	15	7248-C	1.55	7248-G	2.25	7248-M	13.55
10-32	3/8"	1/8"	H1850-F	15	7249-C	1.70	7249-G	2.45	7249-M	14.85
G-C MOUNTING NUTS — STEEL - NICKEL PLATED										
Assorted Mounting Nuts			H1920-F	12						
Thread	Width	Thickness								
11/32-32	7/16" (Rotary Switch Size)	1/16"			7236-C	3.00	7236-G	4.50	7236-M	27.05
3/8-32	9/16" (Volume Control Size)	3/32"	H1923-F	15	6050-AC	2.45	6050-AG	3.55	6050-AM	21.40
7/16-27	9/16" (Pilot Light Size)	1/8"			7238-C	4.95	7238-G	7.50	7238-M	44.70
15/32-32	9/16" (Toggle Switch Size)	5/64"	H1924-F	10	6050-BC	3.35	6050-BG	5.05	6050-BM	30.45
15/32-32	Round Ring Nut (Toggle Switch Size)	1/16"	H1926-F	8	6050-CC	3.70	6050-CG	5.60	6050-CM	33.70
G-C TINNERMAN SPEED NUTS										
Assorted Speed Nuts			H1960-F	30						
Speed Nuts, No. 4					6051-C	.80	6051-G	1.25	6051-M	7.40
Speed Nuts, No. 6					6052-C	.85	6052-G	1.25	6052-M	7.55
Speed Nuts, No. 8					6053-C	.85	6053-G	1.25	6053-M	7.55
G-C ACORN NUTS — SOLID BRASS - NICKEL PLATED										
Assorted Acorn Nuts			H1950-F	10						
Acorn Nuts, 6-32					6031-C	4.05	6031-G	6.10	6031-M	36.70
Acorn Nuts, 8-32					6032-C	4.05	6032-G	6.16	6032-M	36.70
Acorn Nuts, 10-32					6033-C	5.40	6033-G	8.15	6033-M	48.90
G-C KNURLED THUMB NUTS — BRASS - NICKEL PLATED										
Assorted Knurled Thumb Nuts			H1941-F	10						
Knurled Thumb Nuts, 6-32			H1943-F	8	6655-C	3.20	6655-G	4.85	6655-M	29.15
Knurled Thumb Nuts, 8-32			H1944-F	8	6656-C	3.20	6656-G	4.80	6656-M	28.90
Knurled Thumb Nuts, 10-32			H1945-F	5	6657-C	7.50	6657-G	11.40	6657-M	68.15
G-C WING NUTS — NICKEL PLATED										
Assorted Wing Nuts			H1931-F	10						
Wing Nuts, 6-32			H1933-F	10	6658-C	3.55	6658-G	5.35	6658-M	32.15
Wing Nuts, 8-32			H1934-F	10	6659-C	2.90	6659-G	4.45	6659-M	26.55
Wing Nuts, 10-32			H1935-F	8	6660-C	2.90	6660-G	4.45	6660-M	26.55

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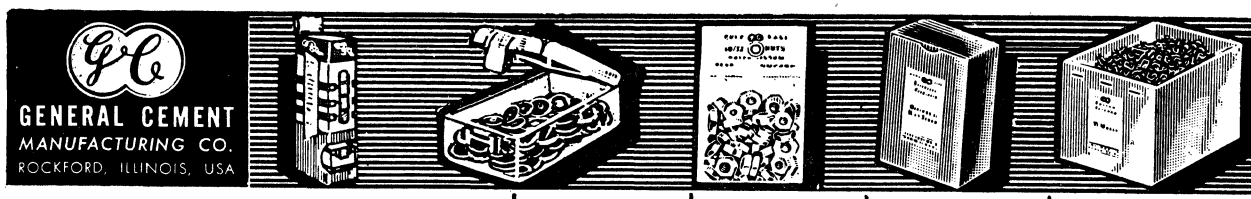

HANDY G-C HARDWARE
In Convenient Packages:
1. Plastic Boxes or Envelopes
2. Boxes of 144 (Gross)
3. Bulk Boxes of 1000.

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes — List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS				Part No.	In Box Quantity	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.
G-C METAL WASHERS — NICKEL PLATED											
Assorted Metal Washers				H870-F	80						
Screw Size	Hole Size	O.D.	Thickness								
No. 4	1/8"	9/32"	1/32"	H874-F	80	6154-C	.25	6154-G	.40	6154-M	2.45
No. 6	5/32"	3/8"	1/32"	H876-F	80	6155-C	.25	6155-G	.40	6155-M	2.45
No. 8	3/16"	7/16"	1/32"	H878-F	80	6156-C	.30	6156-G	.45	6156-M	2.85
No. 10	13/64"	3/8"	1/32"	H880-F	70	7306-C	.35	7306-G	.50	7306-M	3.10
No. 10	13/64"	7/16"	1/32"			7307-C	.30	7307-G	.45	7307-M	2.85
No. 10	13/64"	1/2"	.049			6157-C	.25	6157-G	.40	6157-M	2.45
No. 12	.228	7/16"	.021			7308-C	.35	7308-G	.55	7308-M	3.35
No. 1/4"	9/32"	5/8"	1/16"	H882-F	50	6158-C	.50	6158-G	.75	6158-M	4.45
No. 1/4"	17/64"	1/2"	1/16"			7311-C	.65	7311-G	1.05	7311-M	6.15
No. 5/16"	5/16"	11/16"	1/16"			7312-C	.65	7312-G	.95	7312-M	5.70
G-C LOCK WASHERS — INTERNAL LOCK WASHERS — CADMIUM PLATED											
Assorted Lock Washers, All Types				H918-F	45						
Assorted Internal Lock Washers				H920-F	50						
	Screw Size	O.D.									
Internal Lock Washers, No. 2				H922-F	35	7322-C	.75	7322-G	1.15	7322-M	7.00
Internal Lock Washers, No. 3						7323-C	.65	7323-G	1.00	7323-M	6.10
Internal Lock Washers, No. 4				H924-F	50	7324-C	.50	7324-G	.75	7324-M	4.40
Internal Lock Washers, No. 6		9/32"		H926-F	50	7326-C	.50	7326-G	.75	7326-M	4.40
Internal Lock Washers, No. 8		21/64"		H928-F	50	7328-C	.50	7328-G	.80	7328-M	4.80
Internal Lock Washers, No. 10		3/8"		H930-F	45	7330-C	.50	7330-G	.80	7330-M	4.80
Internal Lock Washers, No. 1/4"		9/16"				7332-C	.70	7332-G	1.05	7332-M	6.35
Internal Lock Washers, No. 5/16"		19/32"				7333-C	.85	7333-G	1.30	7333-M	7.90
Internal Lock Washers, No. 3/8"		11/16"				7334-C	1.15	7334-G	1.80	7334-M	10.65
Internal Lock Washers, No. 3/8"		9/16"		H938-F	25	7335-C	1.35	7335-G	2.00	7335-M	12.10
Internal Lock Washers, No. 15/32		19/32"				7338-C	1.70	7338-G	2.55	7338-M	15.30
EXTERNAL LOCK WASHERS — CADMIUM PLATED											
Assorted External Lock Washers				H950-F	60						
External Lock Washers, No. 4						7354-C	.50	7354-G	.75	7354-M	4.40
External Lock Washers, No. 6						7356-C	.50	7356-G	.75	7356-M	4.40
External Lock Washers, No. 8						7358-C	.50	7358-G	.80	7358-M	4.80
External Lock Washers, No. 10						7360-C	.50	7360-G	.80	7360-M	4.70
External Lock Washers, No. 1/4"		1/2"				7361-C	.70	7361-G	1.05	7361-M	6.30
External Lock Washers, No. 3/8"		11/16"				7363-C	1.00	7363-G	1.55	7363-M	9.30
SPLIT TYPE LOCK WASHERS — CADMIUM PLATED											
Assorted Split Type Lock Washers				H960-F	60						
Screw Size	O.D.	Thickness									
No. 4	3/16"	1/32"				6503-C	.465	6503-G	.70	6503-M	4.10
No. 6	15/64"	1/32"				6504-C	.435	6504-G	.65	6504-M	3.85
No. 8	11/32"	.025				6505-C	.415	6505-G	.60	6505-M	3.65
No. 10	5/16"	.050				6506-C	.36	6506-G	.50	6506-M	3.10
No. 1/4"	7/16"	5/64"				6507-C	.525	6507-G	.75	6507-M	4.60

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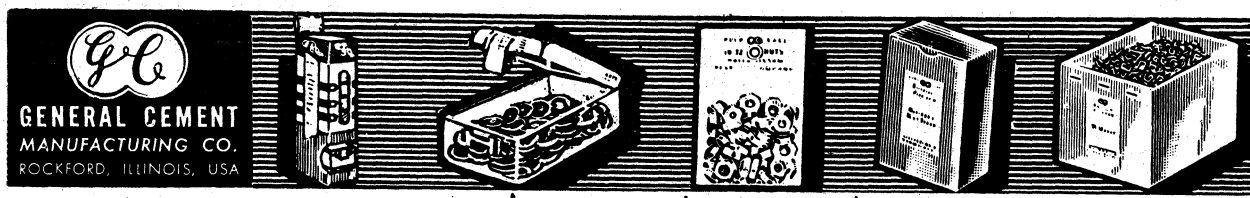


HANDY G-C HARDWARE

In Convenient Packages

1. Plastic Boxes or Envelopes
2. Boxes of 144 (Gross)
3. Bulk Boxes of 1000.

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display 10 Boxes — List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

G-C SPRING FRICTION WASHERS

DESCRIPTION and SPECIFICATIONS					Hinged Cover Plastic Boxes Part No.	Qty. In Box	Hundred Pac in Plastic Envelopes Part No.	List Price Per 100	Boxes of 144 Part No.	List Price Per 144	Bulk Hardware Part No.	List Price Per 1000 Pcs.
Assorted Spring Friction Washers					H750-F	12						
A	B	C	Thickness of Metal									
9/64"	5/16"	1/32"	.012				7385-C	2.60	7385-G	3.95	7385-M	23.65
3/16"	3/8"	1/32"	.008				7386-C	2.20	7386-G	3.35	7386-M	20.10
3/16"	7/16"	1/16"	.008				7387-C	2.15	7387-G	3.25	7387-M	19.60
1/4"	9/16"	1/16"	.012				7389-C	2.45	7389-G	3.75	7389-M	22.35

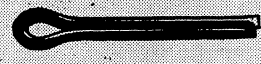
G-C CUP FINISHING WASHERS
NICKEL PLATED

Assorted Screws and Washers					H1005-F	15						
Assorted Cup Washers					H805-F	40						
Cup Washers, No. 6					H806-F	45	6161-C	.40	6161-G	.65	6161-M	3.85
Cup Washers, No. 8					H808-F	45	6162-C	.45	6162-G	.70	6162-M	4.10
Cup Washers, No. 10					H810-F	35	6163-C	.60	6163-G	.90	6163-M	5.40

G-C C-WASHERS and RETAINING RINGS
STEEL - CADMIUM PLATED

Assorted C-Washers					H770-F	25						
Shaft. Diam.	A	B	C	D								
3/16"	.171	.125	.062	.031	H772-F	15	6182-C	1.00	6182-G	1.55	6182-M	9.15
1/4"	.234	.156	.046	.031	H774-F	15	6183-C	1.15	6183-G	1.75	6183-M	10.40
1/4"	.260	.187	.062	.031			6184-C	1.15	6184-G	1.75	6184-M	10.60
1/4"	5/32" O.D.	Wire Ring		.029	H778-F	50	6185-C	.40	6185-G	.60	6185-M	3.65

G-C COTTER PINS
STEEL - CADMIUM PLATED



Assorted Cotter Pins					H388-F	60						
Diameter	Length Under Eye											
Cotter Pins, 1/16"	1/2"						7301-C	.45	7301-G	.70	7301-M	4.10
Cotter Pins, 1/16"	1"						7303-C	.55	7303-G	.85	7303-M	5.25
Cotter Pins, 1/16"	1 1/4"						7304-C	.70	7304-G	1.05	7304-M	6.25
Cotter Pins, 3/32"	1/2"						7305-C	.90	7305-G	1.35	7305-M	8.00

G-C HAIR PIN COTTERS

Assorted Hair Pin Cotters					H380-F	50						
A	B	C										
9/32"	1/16"	.026					7375-C	.45	7375-G	.70	7375-M	4.30
3/8"	1/16"	.026					7376-C	.45	7376-G	.65	7376-M	4.00
13/32"	3/32"	.026					7377-C	.50	7377-G	.75	7377-M	4.60
1/2"	5/32"	.026					7378-C	.45	7378-G	.65	7378-M	4.00
21/32"	3/16"	.032					7379-C	.50	7379-G	.80	7379-M	4.80

G-C FLAT FIBRE WASHERS

Assorted Flat Fibre Washers					H820-F	35						
Screw Size	I D	O.D.	Thickness									
No. 6	.140	1/4"	1/32"		H824-F	30	6513-C	.35	6513-G	.55	6513-M	3.25
No. 8	11/64"	3/8"	1/32"		H825-F	30	6514-C	.40	6514-G	.60	6514-M	3.55
No. 10	.196	3/8"	1/32"		H826-F	30	6515-C	.35	6515-G	.60	6515-M	3.55
No. 1/4"	1/4"	1/2"	3/64"		H827-F	24	6516-C	.45	6516-G	.75	6516-M	4.45
No. 3/8"	.390	25/64"	3/64"		H828-F	20	6517-C	.55	6517-G	1.20	6517-M	7.40
No. 15/32"	15/32"	3/4"	1/32"				6518-C	.55	6518-G	1.20	6518-M	7.40

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

GENERAL CEMENT
MANUFACTURING CO.
ROCKFORD, ILLINOIS, USA

HANDY G-C HARDWARE
In Convenient Packages:
1. Plastic Boxes or Envelopes
2. Boxes of 100 or 144 (Gross)
3. Bulk Boxes of 1000.

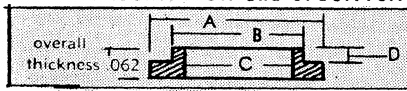
HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes — List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

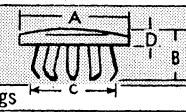
BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS	Part No.	In Box Quantity	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.



G-C EXTRUDED FIBRE WASHERS

Assorted Extruded and Flat Fibre Washers					H854-F	30						
Assorted Extruded Fibre Washers					H855-F	30						
A	B	C	D	Screw Size								
5/16"	.187	.140	.039	No. 6			6525-C	.90	6525-G	1.40	6525-M	8.35
3/8"	.250	.169	.031	No. 8			6526-C	.90	6526-G	1.40	6526-M	8.35
7/16"	.255	.196	.032	No. 10			6527-C	1.00	6527-G	1.50	6527-M	9.15
1/2"	.375	.250	.032	1/4" Shaft			6528-C	1.00	6528-G	1.50	6528-M	9.15
5/8"	.437	.380	.031	3/8" Shaft	H864-F	20	6529-C	1.05	6529-G	1.60	6529-M	9.60



G-C SNAP BUTTON HOLE PLUGS
NICKEL PLATED

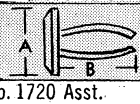
Assorted Hole Plugs					H300-F	8						
No. 1710 Asst. 50 Plugs in Box **List Price $2.75**												
For Hole Dia.	A	B	C	D								
1/4"	13/32"	1/4"	17/64"	5/64"	H306-F	8	1711-AC	4.20	1711-AG	6.25	1711-AM	38.25
5/16"	7/16"	1/4"	21/64"	1/16"			1711-BC	4.20	1711-BG	6.25	1711-BM	38.25
3/8"	17/32"	3/8"	25/64"	5/64"	H308-F	8	1711-C	4.20	1711-G	6.25	1711-M	38.25
1/2"	21/32"	17/64"	17/32"	5/64"	H310-F	6	1712-C	4.90	1712-G	7.40	1712-M	44.35
5/8"	51/64"	9/32"	41/64"	5/64"	H312-F	6	1713-C	5.56	1713-G	8.34	1713-M	50.50
3/4"	15/16"	19/64"	49/64"	3/32"	H314-F	5	1714-C	6.70	1714-G	10.15	1714-M	61.15
7/8"	Fits Switch Box Knockout Hole						1714-AC	7.70	1714-AG	11.65	1714-AM	70.35
1"	1 5/32"	19/64"	1 1/32"	5/64"	H316-F	5	1715-AC	9.05	1715-AG	13.75	1715-AM	82.55
1 1/8"	1 5/16"	11/32"	1 9/64"	3/32"			1715-BC	9.05	1715-BG	13.75	1715-BM	82.55
1 1/4"	1 7/16"	5/16"	1 17/64"	3/32"			1715-C	9.65	1715-G	14.60	1715-M	87.55

Punched Vent Type →

G-C SNAP-IN VENTILATING PLUGS
NICKEL PLATED

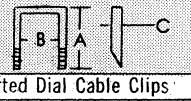
← Screen Vent Type

Ventilating Plugs, 1" Hole Size, Punched Holes					H334-F	4	1709-C	9.75	1709-G	14.60	1709-M	88.10
Ventilating Plugs, 1" Hole Size, Screen Vent							1708-C	31.95	1708-G	48.35	1708-M	290.50



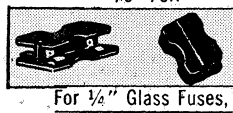
G-C SNAP-IN TRIMOUNTS

No. 1720 Asst. 100 Trimounts **List Price $1.35**												
Assorted Trimounts					H370-F	20						
To Fit Hole	A	B	Fig. No.									
1/8"	9/32"	3/16"	1				1721-C	1.15	1721-G	1.75	1721-M	10.75
1/8"	9/32"	13/64"	2		H373-F	25	1722-C	1.15	1722-G	1.75	1722-M	10.75
.136	11/32"	17/64"	3				1723-C	1.25	1723-G	1.85	1723-M	11.25
.136	23/64"	9/32"	4		H375-F	20	1724-C	1.55	1724-G	2.35	1724-M	14.05
5/32"	3/16" x 11/32"	25/64"	5		H378-F	17	1726-C	2.05	1726-G	3.10	1726-M	18.80
5/32"	3/16" x 11/32"	21/32"	6		H379-F	15	1727-C	2.00	1727-G	3.05	1727-M	18.35



G-C DIAL CORD CLIPS
NICKEL PLATED

Assorted Dial Cable Clips					H745-F	30						
Used on Cord No.	A	B	C									
75 - 75A	1/8"	7/64"	3/32"		H746-F	40	6221-C	.70	6221-G	1.05	6221-M	6.60
74 - 74L	1/4"	5/32"	5/32"				6222-C	.80	6222-G	1.20	6222-M	7.35
73 - 73X	3/16"	9/64"	3/16"				6223-C	.85	6223-G	1.25	6223-M	7.65



G-C FUSE CLIPS

For 1/4" Glass Fuses, No. 6 Mounting Hole B					H600-F	12	6311-C	1.95	6311-G	2.90	6311-M	17.95
Television Fuse Clip (A)		No. 8618			**($0.30 List)**							
Television Fuse Clip		No. 8618-D			(Display 24 No. 8618 **$7.20**)							

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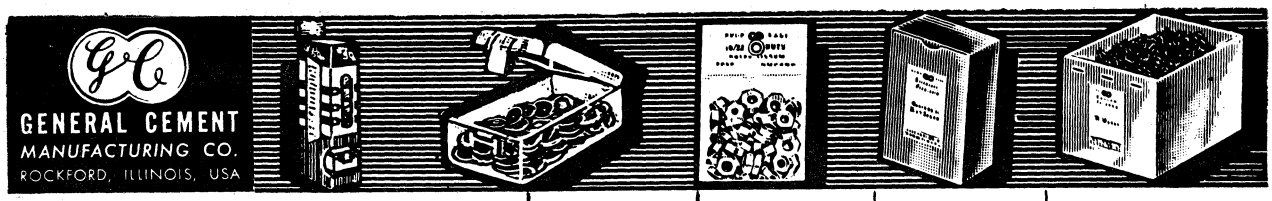

HANDY G-C HARDWARE

In Convenient Packages:

1. **Plastic Boxes or Envelopes**
2. **Boxes of 144 (Gross)**
3. **Bulk Boxes of 1000.**

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes. List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS			Part No.	In Box Quantity	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.
G-C SOLDERING LUGS TINNED (A1, A, B, C, D, H, K, L, M, O)										
No. 1020 100 Asst. Solder Lugs		List Price $1.10								
Assorted Soldering Lugs			H100-F	30						
Hole Size	Fig. No.	Length								
Solder Lugs, No. 6	A1	5/8"			8466-C	1.70	8466-G	2.55	8466-M	15.30
Solder Lugs, No. 6	A	23/32"			8467-C	3.00	8467-G	4.55	8467-M	27.25
Solder Lugs, No. 8	A	23/32"			8468-C	3.25	8468-G	4.90	8468-M	29.40
Solder Lugs, No. 6	B	23/32"	H104-F	25	1021-BC	1.25	1021-BG	1.95	1021-BM	11.55
Solder Lugs, No. 8	B	23/32"	H106-F	25	7445-C	1.25	7445-G	1.95	7445-M	11.60
Solder Lugs, No. 10	B	23/32"			8473-C	1.70	8473-G	2.55	8473-M	15.35
Solder Lugs, No. 6	C	11/16"	H108-F	30	1021-CC	.75	1021-CG	1.10	1021-CM	6.70
Solder Lugs, No. 6	F	9/16"	H112-F	30	1021-FC	1.00	1021-FG	1.50	1021-FM	8.95
Solder Lugs, No. 8	F	9/16"	H113-F	30	7451-C	.90	7451-G	1.40	7451-M	8.45
Solder Lugs, No. 6	H	7/8"	H114-F	25	7454-C	.70	7454-G	1.05	7454-M	6.45
Solder Lugs, No. 8	H	7/8"	H117-F	25	7455-C	1.60	7455-G	2.40	7455-M	14.40
Solder Lugs, No. 10	H	7/8"	H118-F	25	7456-C	.95	7456-G	1.50	7456-M	8.90
Solder Lugs, No. 4	K	13/16"			7458-C	2.00	7458-G	3.00	7458-M	18.00
Solder Lugs, No. 8	K	13/16"			7460-C	2.00	7460-G	3.00	7460-M	18.05
Solder Lugs, No. 10	K	13/16"			7461-C	2.00	7461-G	3.00	7461-M	18.05
Solder Lugs, No. 6	L	5/8"	H122-F	20	7462-C	1.15	7462-G	1.70	7462-M	10.30
Solder Lugs, No. 8	L	5/8"			7463-C	1.15	7463-G	1.70	7463-M	10.30
Solder Lugs, No. 6	M	11/16"	H124-F	25	7441-C	1.25	7441-G	1.90	7441-M	11.45
Solder Lugs, No. 8	M	11/16"	H134-F	25	7442-C	1.20	7442-G	1.85	7442-M	11.05
Solder Lugs, No. 10	M	11/16"	H102-F	25	1021-AC	1.55	1021-AG	2.40	1021-AM	14.35
Solderless TV Line Lug	O		H225-F	10	8633-C	1.75	8633-G	2.65	8633-M	15.90
G-C CABLE HOLDER CLAMPS NICKEL PLATED										
Assorted Cable Clamps			H500-F	20						
To Fit Cable		Mounting Hole								
1/8" to 3/16"		No. 6	H502-F	25	6251-C	1.05	6251-G	1.60	6251-M	9.50
3/16" to 1/4"		No. 6	H503-F	20	6252-C	1.20	6252-G	1.80	6252-M	10.75
1/4" to 5/16"		No. 6			7503-C	2.20	7503-G	3.35	7503-M	20.20
5/16" to 1/2"		No. 6	H506-F	15	6253-C	1.35	6253-G	2.05	6253-M	12.25
Baseboard Wire Clips Black Parkerized			H509-F	20	8345-C	2.15	8345-G	3.30	8345-M	19.70
G-C FAHNESTOCK CLIPS NICKEL PLATED (A, B, C, D, E, F)										
Assorted Fahnestock Clips			H590-F	12						
Fig.	Length	Width	Mtg. Hole	Max. Wire						
A	1/2"	7/32"	4	16	H592-F	15	6301-C	1.95	6301-G	3.00	6301-M	17.95
B	3/4"	5/16"	6	14	H594-F	14	6302-C	2.30	6302-G	3.55	6302-M	21.20
C	1 1/16"	3/8"	8	10			6303-C	3.95	6303-G	6.05	6303-M	36.15
D	1 1/2"	5/16"	6	10			6304-C	14.65	6304-G	22.30	6304-M	133.45
E	3/4"	5/16"	6	14			6306-C	5.40	6306-G	8.15	6306-M	48.90
F	Ammeter Connections						6307-C	12.65	6307-G	19.20	6307-M	115.10
G-C TERMINAL STRIP ASSORTMENT										
Assorted Terminal Strips			H250-F	4						

Listed by sizes on page 27

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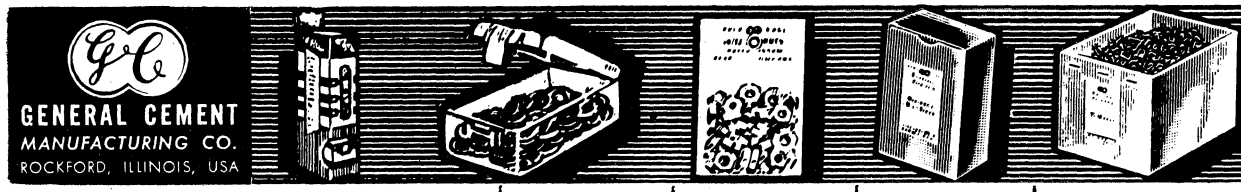


HANDY G-C HARDWARE

In Convenient Packages:

1. **Plastic Boxes or Envelopes**
2. **Boxes of 144 (Gross)**
3. **Bulk Boxes of 1000.**

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes — List Price Per Box **50c**

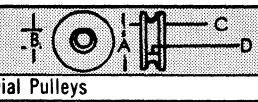
HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

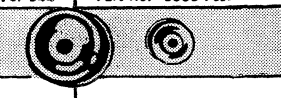
BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS	Part No.	In Box Quantity	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.

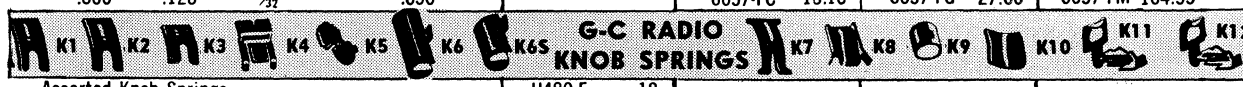
G-C DIAL PULLEYS
BRASS





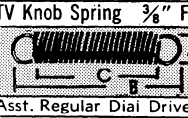
Assorted Dial Pulleys				H1966-F	6						
A	B	C	D (Groove Width)								
3/8"	.120	1/8"	3/32"			6057-AC	5.25	6057-AG	7.75	6057-AM	47.40
7/16"	.067	13/64"	1/8"			6057-BC	7.80	6057-BG	11.60	6057-BM	70.35
1/2"	1/8"	3/16"	3/32"			6057-GC	9.60	6057-GG	14.25	6057-GM	87.10
.620	.128	.165	1/16"			6057 CC	10.55	6057-CG	15.75	6057-CM	95.85
.860	.128	5/32"	.050			6057-FC	18.10	6057-FG	27.00	6057-FM	164.55

G-C RADIO KNOB SPRINGS



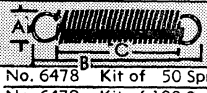
Assorted Knob Springs				H480-F	18						
TV Knob Spring Assortment				H460-F	12						
No. 1050 Kit of 35 Springs			**List Price $1.10**								
No. 1051 Kit of 100 Springs			**List Price $1.95**								
Fig. No.	Width	Length	For Knob Shaft. Diam.								
K1	9/32" Light	7/16"	1/4"	H482-F	20	6460-C	1.20	6460-G	1.80	6460-M	10.75
K2	9/32" Heavy	7/16"	1/4"	H484-F	20	6461-C	1.25	6461-G	1.85	6461-M	11.25
K3	9/32"	5/16"	1/4"	H487-F	20	6462-C	1.00	6462-G	1.50	6462-M	9.10
K4	3/8"	5/32"	1/4"	H489-F	10	6463-C	1.30	6463-G	2.00	6463-M	12.05
K5	7/32"	13/32"	1/4"			6464-C	2.10	6464-G	3.15	6464-M	18.95
K6	9/32"	3/8"	1/4"	H492-F	8	6465-C	2.65	6465-G	4.05	6465-M	24.15
K6-S	9/32"	1/4"	1/4"			6466-C	3.15	6466-G	4.80	6466-M	28.75
K7	9/32"	1/2"	1/4"			6467-C	1.40	6467-G	2.15	6467-M	12.95
K8	9/32"	3/8"	1/4"	H494-F	10	6468-C	1.70	6468-G	2.55	6468-M	15.30
K9	11/32"	1/4"	1/4"			6469-C	2.65	6469-G	4.05	6469-M	24.15
K10	3/8"	3/8"	1/4"	H497-F	10	6470-C	1.70	6470-G	2.55	6470-M	15.40
K11	3/8"	7/16"	1/4"	H498-F	10	6471-C	2.85	6471-G	4.35	6471-M	26.15
K12	3/8"	7/16"	3/16"	H499-F	10	6472-C	2.65	6472-G	4.00	6472-M	23.95
TV Knob Spring .202" Shaft				H462-F	10	8541-C	1.40	8541-G	2.15	8541-M	12.95
TV Knob Spring 3/8" Flat Shaft				H464-F	10	8542-C	1.70	8542-G	2.60	8542-M	15.50

G-C DIAL DRIVE TENSION SPRINGS and PHONO SPRINGS
STEEL - CADMIUM PLATED



Asst. Regular Dial Drive Springs						H401-F	8						
Asst. Small Dial Drive Springs						H400-F	10						
No. 1055 Kit of 25 Asst. Springs					**List Price $1.30**								
No. 1056 Kit of 100 Asst. Springs					**List Price $4.85**								
Asst. Large Tension Springs						H421-F	10						
Asst. Small Tension Springs						H420-F	10						
A	B	C	Wire Size	Old No.	List Price								
1/8"	1/2"	1/4"	.019	T1	**$0.05**	H403-F	10	6450-C	5.70	6450-G	8.65	6450-M	51.70
1/8"	1"	3/4"	.019	T2	**.06**	H406-F	8	6451-C	4.25	6451-G	6.50	6451-M	38.85
3/16"	1"	5/8"	.020	T3	**.06**	H408-F	8	6452-C	4.75	6452-G	7.25	6452-M	43.35
3/16"	1 3/8"	1"	.020	T4	**.06**	H410-F	8	6453-C	4.90	6453-G	7.40	6453-M	44.50
1/4"	1 1/2"	1"	.026	T5	**.08**	H412-F	6	6454-C	6.30	6454-G	9.60	6454-M	57.50
1/4"	2"	1 1/2"	.026	T6	**.10**			6455-C	7.80	6455-G	11.85	6455-M	70.95

G-C PHONOGRAPH SPRINGS
STEEL - CADMIUM PLATED



No. 6478 Kit of 50 Springs				**List Price $2.75**							
No. 6479 Kit of 100 Springs				**List Price $4.85**							
Asst. Small Phono Turntable Springs					H450-F	8					
Asst. Large Phono Turntable Springs					H452-F	8					
A	B	C	Wire Size								
5/64"	7/16"	1/8"	.008			7535-C	6.00	7535-G	9.10	7535-M	54.50
5/32"	3/4"	1/2"	.016			7537-C	4.40	7537-G	6.70	7537-M	40.00
3/16"	19/32"	13/32"	.014			7539-C	4.25	7539-G	6.45	7539-M	38.50
3/16"	1 1/8"	3/4"	.014			7543-C	5.10	7543-G	7.75	7543-M	46.50
1/8"	19/32"	11/32"	.006			7544-C	6.10	7544-G	9.25	7544-M	55.50
5/32"	1 1/16"	3/4"	.010			7545-C	6.90	7545-G	10.45	7545-M	62.55
3/16"	5/16"	1/4"	.033			7547-C	4.25	7547-G	6.45	7547-M	38.50

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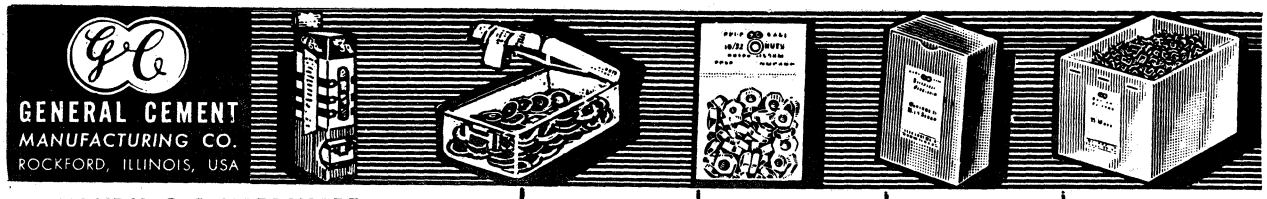

HANDY G-C HARDWARE

In Convenient Packages:

1. **Plastic Boxes or Envelopes**
2. **Boxes of 144 (Gross)**
3. **Bulk Boxes of 1000.**

HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes. List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS	Part No.	Quantity In Box	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.
G-C COMPRESSION SPRINGS								
Asst. Small Compression Springs	H440-F	20						
Asst. Large Compression Springs	H441-F	15						
G-C PHONO TURNTABLE MOUNTING SPRINGS								
O.D. Length Wire Size No. of Coils								
1" x 1 1/16" 13/16" .079 4			7497-C	3.60	7497-G	5.40	7497-M	32.50
G-C BRASS EYELETS								
Asst. Rivets and Eyelets	H526-F	55						
Asst. Eyelets and Clamps	H744-F	60						
Eyelet Assortment	H510-F	50						
Shank Dia. Length Under Head Head Dia.								
.087 1/8" .145			7251-C	.30	7251-G	.50	7251-M	2.90
.087 5/32" .145			7252-C	.40	7252-G	.60	7252-M	3.65
.087 7/32" .145			7253-C	.45	7253-G	.70	7253-M	4.10
.087 11/32" .180			7254-C	1.20	7254-G	1.85	7254-M	11.15
.123 5/32" .197	H515-F	50	7257-C	.55	7257-G	.85	7257-M	5.10
.123 7/32" .195			7259-C	.45	7259-G	.70	7259-M	4.10
.123 1/4" .195			7260-C	.60	7260-G	.90	7260-M	5.35
.123 9/32" .195			7261-C	.60	7261-G	.90	7261-M	5.45
.125 5/16" .289			7264-C	1.00	7264-G	1.55	7264-M	9.35
.127 15/32" .222			7265-C	1.25	7265-G	1.90	7265-M	11.45
.182 3/16" .315			7269-C	.35	7269-G	.55	7269-M	3.25
G-C RIVETS NICKEL PLATED								
Asst. Rivets and Eyelets	H526-F	55						
Rivet Assortment	H525-F	50						
TV Interlock Receptacle Rivets	H527-F	Asst.						
Shank Diameter Length Under Head								
Rivets .059 5/32"			7276-C	1.00	7276-G	1.50	7276-M	8.95
Rivets .059 3/16"			7277-C	1.00	7277-G	1.50	7277-M	8.95
Rivets .059 1/4"			7278-C	.65	7278-G	1.00	7278-M	6.05
Rivets .088 3/16"			7280-C	1.05	7280-G	1.60	7280-M	9.65
Rivets .098 3/16"			7283-C	1.10	7283-G	1.70	7283-M	10.15
Rivets .121 1/8"			7286-C	.85	7286-G	1.30	7286-M	7.95
Rivets .121 3/16"			7288-C	.65	7288-G	1.00	7288-M	6.10
Rivets .121 1/4"			7290-C	.70	7290-G	1.05	7290-M	6.35
Rivets .121 5/16"			7291-C	.75	7291-G	1.10	7291-M	6.70
Rivets .121 1/2"			7293-C	.70	7293-G	1.10	7293-M	6.60
Rivets .146 5/16"			7296-C	.80	7296-G	1.25	7296-M	7.45
G-C GRID CAPS NICKEL PLATED								
Assorted Grid Caps	H609-F	8						
Glass Tube Grid Caps	A		6291-C	1.50	6291-G	2.30	6291-M	13.75
Metal Tube Grid Caps	B		6292-C	1.50	6292-G	2.30	6292-M	13.80
TV Spring Type Grid Caps, Asstd.	H610-F	5						
1/4" High-Voltage Spring Grid Cap			8838 IRC	4.30	8838 IRG	6.50	8838-1RM	36.90
3/8" High-Voltage Spring Grid Cap			8838 2RC	4.45	8838 2RG	6.80	8838-2RM	40.70
1/4" Insulated High-Voltage Grid Cap	H612-F	1	8834-C	32.30	8834-G	49.00	8834-M	293.55
3/8" Insulated High-Voltage Grid Cap	H614-F	1	8835-C	32.30	8835-G	49.00	8835-M	293.55

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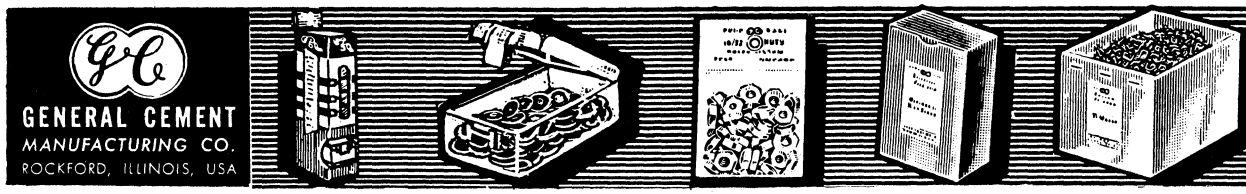


GENERAL CEMENT
MANUFACTURING CO.
ROCKFORD, ILLINOIS, USA

HANDY G-C HARDWARE

In Convenient Packages:

1. **Plastic Boxes or Envelopes**
2. **Boxes of 144 (Gross)**
3. **Bulk Boxes of 1000.**

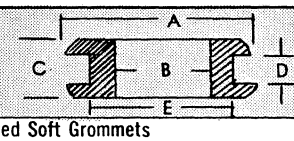
HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes — **List Price Per Box 50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

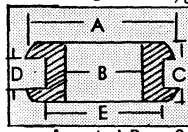
BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

DESCRIPTION and SPECIFICATIONS	Part No.	Qty In Box	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.



G-C RUBBER GROMMETS

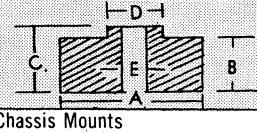
Assorted Soft Grommets					H025-F	15						
No. 1040 Kit of 50 Asstd. Grommets **List Price $1.15**					(For Switch Box Knock-Out)							
A	B	C	D	E								
11/32"	1/8"	3/16"	1/16"	1/4"	H030-F	16	1041-2C	1.20	1041-2-G	1.80	1041-2-M	10.80
7/16"	3/16"	7/32"	1/16"	5/16"	H032-F	14	1041-C	1.40	1041-G	2.15	1041-M	12.95
9/16"	1/4"	1/4"	1/16"	3/8"	H034-F	12	1042-C	1.80	1042-G	2.70	1042-M	16.35
1/2"	1/4"	5/16"	1/8"	3/8"			7566-C	2.60	7566-G	3.95	7566-M	23.70
5/8"	3/8"	1/4"	1/16"	1/2"	H036-F	10	1043-C	2.00	1043-G	3.05	1043-M	18.35
13/16"	1/2"	9/32"	1/16"	5/8"	H038-F	8	1043-1C	3.10	1043-1-G	4.65	1043-1-M	28.00
1"	3/8"	1/4"	1/16"	7/8"			7569-C	3.05	7569-G	4.65	7569-M	27.80



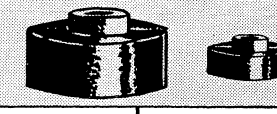
G-C PURE GUM GROMMETS

VERY SOFT LIVE RUBBER GROMMETS FOR SHOCK AND VIBRATION DAMPENING. FOR MOUNTING TUNING CONDENSERS, SOCKETS, PHONO MOTORS, CHASSIS, ETC.

Assorted Pure Gum Grommets					H040-F	12						
No. 7581 Kit of 100 Asst. Grommets **List Price $2.45**												
A	B	C	D	E								
7/16"	3/16"	7/32"	1/16"	5/16"	H042-F	12	7582-C	1.70	7582-G	2.60	7582-M	15.65
9/16"	1/4"	1/4"	1/16"	3/8"	H043-F	10	7584-C	2.45	7584-G	3.70	7584-M	22.25



G-C RUBBER CHASSIS MOUNTS



Assorted Chassis Mounts					H075-F	12						
Rubber Washer and Bumper Asst.					H083-F	12						
No. 1030 Kit of 25 Mounts **List Price $2.00**												
A	B	C	D	E								
3/4"	5/32"	7/32"	1/2"	1/4"			7571-C	7.00	7571-G	10.65	7571-M	63.90
3/4"	1/8"	3/8"	1/2"	1/4"			1031-C	7.00	1031-G	10.65	1031-M	63.90
3/4"	7/16"	1/2"	7/16"	3/16"	H076-F	5	1032-C	4.35	1032-G	6.65	1032-M	39.80
3/4"	11/16"	3/4"	7/16"	3/16"			1033-C	8.90	1033-G	13.55	1033-M	81.05
1"	3/8"	1/2"	1/2"	1/4"			1034-C	8.40	1034-G	12.75	1034-M	76.45
1 1/4"		3/8"		1/4"			1036-C	8.80	1036-G	13.35	1036-M	80.05

G-C VOICE COIL DUST FELTS

Assorted Dust Felts		H740-F	15						
	Diameter								
Dust Felts	3/4"			1081-C	.55	1081-G	.80	1081-M	4.90
Dust Felts	1"			1082-C	.90	1082-G	1.40	1082-M	8.35
Dust Felts	1 1/4"			1083-C	1.70	1083-G	2.60	1083-M	15.65
Dust Felts	1 1/2"			1084-C	1.80	1084-G	2.70	1084-M	16.25
Dust Felts	1 3/4"			1085-C	1.85	1085-G	2.80	1085-M	16.75
Dust Felts	2 1/4"			1085-AC	2.15	1085-AG	3.25	1085-AM	19.45

G-C RADIO KNOB FELTS

3/4" O.D. x 1/4" Hole, Brown	H760-F	40	1065-C	.40	1065-G	.60	1065-M	3.75

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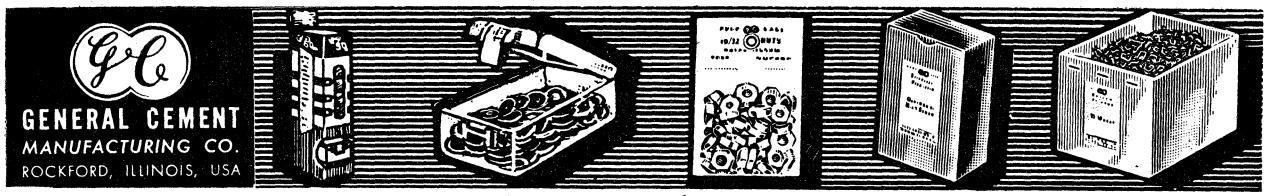


HANDY G-C HARDWARE
In Convenient Packages:
1. Plastic Boxes or Envelopes
2. Boxes of 144 (Gross)
3. Bulk Boxes of 1000.

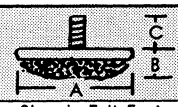
HINGED COVER PLASTIC BOXES — 50-LINE — Distributor's Standard Display, 10 Boxes. List Price Per Box **50c**

HUNDRED PAC IN PLASTIC ENVELOPES — Handy Envelope of 100 Units

BOXES OF 144 (Gross Packages) Distributor's Standard Carton, 7 Boxes of 144

BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000

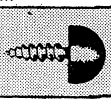
G-C CHASSIS FELT FEET — SCREW TYPE



DESCRIPTION and SPECIFICATIONS				Part No.	In Box Quantity	Part No.	List Price Per 100	Part No.	List Price Per 144	Part No.	List Price Per 1000 Pcs.
Asst. Screw Type Chassis Felt Feet				H085-F	4						
A	B	C	Type of Screw								
1/2"	3/16"	1/2"	No. 6 x 1/2" Sheet Metal Pointed			1086-BC	10.65	1086-BG	16.20	1086-BM	97.00
1/2"	3/16"	1/2"	6-32 Machine	H087-F	4	1087-C	10.20	1087-G	15.45	1087-M	92.55
3/4"	1/4"	1/2"	No. 6 x 1/2" Sheet Metal Pointed			1088-C	12.55	1088-G	19.10	1088-M	114.35
3/4"	1/4"	1/2"	10-32 Machine			1089-C	12.40	1089-G	18.80	1089-M	112.60

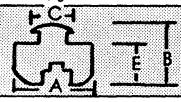
G-C RUBBER FEET — Screw Type

45c ENV. SUPPLIED WITH SCREWS—GROSS and THOUSANDS PKGS. WITHOUT SCREWS



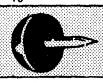
Asst. Screw Type Rubber Feet			H050-F	8						
O.D.	High									
3/8"	3/16"		H052-F	8	1075-BC	1.00	1075-BG	1.55	1075-BM	9.35
1/2"	1/4"		H054-F	8	1075-CC	1.65	1075-CG	2.50	1075-CM	15.00
5/8"	5/16"		H056-F	8	1075-FC	2.50	1075-FG	3.80	1075-FM	22.75

G-C RUBBER BUTTON BUMPERS — JUST PUT IN HOLE



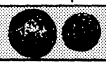
A O.D.	B Height	C Hole	E Height							
3/8"	3/8"	3/16"	3/16"		7596-C	1.60	7596-G	2.45	7596-M	14.75
1/2"	7/16"	1/4"	1/4"	H058-F 8	7597-C	2.35	7597-G	3.60	7597-M	21.60
5/8"	9/16"	3/8"	5/16"		7598-C	3.80	7598-G	5.80	7598-M	34.75

G-C RUBBER TACK BUMPERS



3/8" O.D. Rubber Tack Bumpers	H071-F	10	1075-C	2.10	1075-G	3.15	1075-M	18.95

G-C FELT PADS

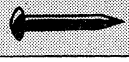


Assorted Felt Pads	H074-F	40						
1/2" O.D. x 1/4" Thick Felt Pads			1071-C	.35	1071-G	.50	1071-M	3.05

G-C CORD STRAIN RELIEFS

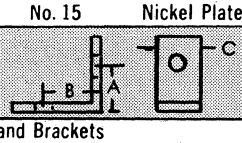
Will Fit P.O.S.J. Cord	H048-F	5	6675-C	5.95	6675-G	9.00	6675-M	54.00

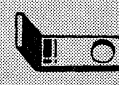
G-C ESCUTCHEON PINS



Asst. Escutcheon Pins			H560-F	100						
Length	Diam.	Finish								
1/4"	No. 18	Stat. Bronze			7526-C	.30	7526-G	.45	7526-M	2.85
1/4"	No. 19	Stat. Bronze			7527-C	.35	7527-G	.50	7527-M	3.00
1/4"	No. 20	Stat. Bronze			7528-C	.50	7528-G	.80	7528-M	4.75
1"	No. 15	Nickel Plated			7529-C	1.40	7529-G	2.10	7529-M	12.60

G-C ANGLES and BRACKETS





Assorted Angles and Brackets				H570-F	12						
A	B	C	Hole Size								
1/4"	3/16"	9/32"	6			6261-C	1.25	6261-G	1.90	6261-M	11.50
3/8"	1/4"	9/32"	6			6262-C	1.55	6262-G	2.35	6262-M	14.25
1/2"	7/16"	3/8"	6			6263-C	1.80	6263-G	2.70	6263-M	16.25

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

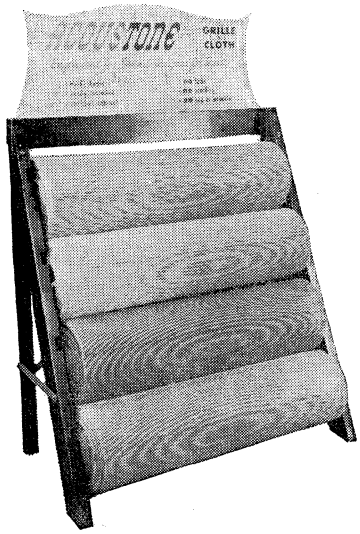
ACOUSTONE*

WORLD'S FINEST LINE ACOUSTIC GRILLE CLOTH

- 24 BRILLIANT DESIGNS
- TESTED ACOUSTICALLY — U. S. Testing Co.
- NO SCUFFING or SAGGING
- DECORATOR COLORS
- EASILY INSTALLED

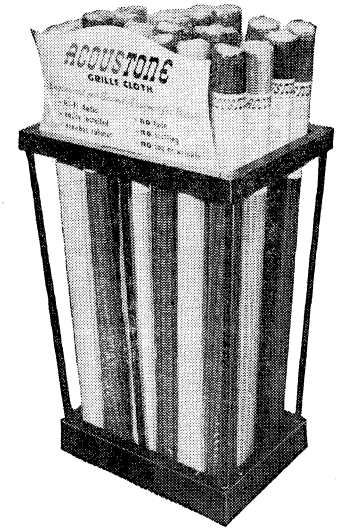
Look For These Displays At Your Distributor

CUSTOM CABINET BUILDERS!



CHOOSE YOUR NEEDS FROM THIS "EQUAL VISION" ROLL RACK

FOR YOUR CONVENIENCE!



- READY TO GO
- CELLOPHANE PACKED
- SQUARE YARD ROLL
- COMPLETE ASSORTMENT

Engineered for Sound-Designed for Beauty

NEWCASTLE FABRICS CORP.

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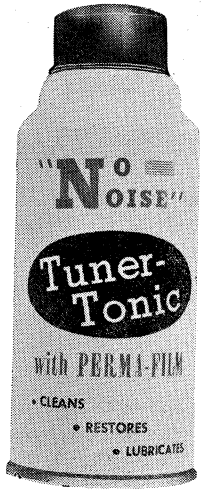
"NO NOISE" TUNER RESTORER



new... Tuner-Tonic

contains PERMA-FILM

non-toxic **non-inflammable**

Proved amazingly effective — a new scientific chemical discovery that cleans, lubricates and restores all tuners, including wafer type. This sensational discovery by the makers of famous No-Noise Volume Control and Contact Restorer performs as promised! It's absolutely safe — won't change or affect capacities, inductance or resistance. Won't harm insulations or precious metals, nor attack plastics. Buy it — you'll never be without it!

6 oz. Aerosol Can $3.25
Net To Servicemen

Ideal for television, radio and FM. Noise, oxidation and dirt are indefinitely eliminated on contact.

Extra Economical Because A Small Amount Does The Complete Job!

FOR YOUR PROTECTION . . . the basic chemical in No-Noise Tuner-Tonic is a carefully guarded scientific discovery known only to the makers of No-Noise. No-Noise Tuner-Tonic contains the amazing Perma-Film for trouble-free performance at all times.

"NO NOISE" VOLUME CONTROL CONTACT RESTORER

stops TV Front End Trouble

* *amazing new chemical formula*
* *contains sensational Perma-Film*

The most amazing product you've ever used — No-Noise cleans, lubricates and protects. It positively won't harm precious metals, does not change capacities, won't harm insulations. No-Noise prevents gumming, eliminates binding on automatic record changers. Just one drop on each tube prong eliminates noisy tube sockets. Use it on volume controls, band switches, push button assemblies, electrical contacts.
Not a carbon-tet solution.

2 oz. bottle
$1.00
Net To Servicemen

New 6 oz. Spray Can
$2.25
Net To Servicemen

"NO NOISE"

Also available in 8 oz. bottles and quart cans. All No-Noise products sold with a money-back guarantee.

No-Noise Volume Control and Contact Restorer has been used and unconditionally endorsed by leading TV manufacturers and service organizations. Saves YOU time, money and labor. Remember, No-Noise is economical — a little goes a long, long way.

all "NO NOISE" products sold with a money back guarantee

ELECTRONIC CHEMICAL CORP. **Jersey City N. J.**

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RCA SERVICE PARTS

KEY PARTS FOR RCA VICTOR
TV RECEIVERS • RADIOS • RECORD CHANGERS

RCA Service Parts for RCA Victor Television Receivers

RCA Stock No.	Part Description	Distr. Resale Price Each*	List Price Each*
71440	Height Control	.72	1.20
71441	Horizontal-Linearity Control	.72	1.20
71442	Focusing Control	1.08	1.80
71446	Contrast and Volume Control	2.10	3.50
71449	Horizontal Linearity Control	.75	1.25
71457	Power Cord	.72	1.20
72845	Knob Spring	.03	.05
73440	Detent and Shaft	2.85	4.75
73576	Synchroguide Transformer	1.44	2.40
73591	Antenna-Matching Coil	1.20	2.00
74048	Volume Control and On/Off Switch	2.22	3.70
74144	Vertical-Blocking-Oscillator Transformer	1.80	3.00
74586	Power Transformer	14.10	23.50
74588	Horizontal-Output and High-Voltage Transformer	9.90	16.50
74945	Width Control	1.89	3.15
74950	Vertical-Deflection-Output Transformer	3.30	5.50
74951	Horizontal-Output and High-Voltage Transformer	3.75	6.25
74952	Deflecting Yoke	5.88	9.80
74955	Voltage-Divider Resistor, 3 Sections	1.56	2.60
75162	Detent and Shaft	1.50	2.50
75212A	IF Transformer	1.50	2.50
75213	Horizontal Oscillator Coil	1.50	2.50
75215	Horizontal and Vertical-Hold Control	1.77	2.95
75216	Picture and Brightness Control	1.80	3.00
75221	Selenium Rectifier	1.86	3.10
75508	Power Transformer	13.20	22.00
75513	Volume and Tone Control	2.25	3.75
75514	Picture and Brightness Control	2.40	4.00
75516	Width Control	.66	1.10
75519	Horizontal-Output and High-Voltage Transformer.	3.60	6.00
75520	Audio Output Transformer	1.44	2.40
75585	Horizontal-Output and High-Voltage Transformer.	3.60	6.00
75645	Power Transformer	14.70	24.50
76141	Ion-Trap Magnet	.72	1.20
76168	Focusing Magnet	7.15	11.90
76317	Ion-Trap Magnet	.84	1.40
76375	Centering Magnet	1.05	1.75
76433	IF Transformer	.66	1.10
76440	Horizontal-Oscillator Transformer	1.80	3.00
76441	Width Control	1.15	1.95
76442	Horizontal-Linearity Control	.81	1.35
76444	AGC Control	1.25	2.10
76445	Picture Control	1.05	1.75
76452	Selenium Rectifier	2.28	3.80
76483	Horizontal-Linearity Control	.66	1.10
76484	Width Control	1.45	2.40
76501	Horizontal-Output and High-Voltage Transformer.	3.78	6.30
76521	Detent and Shaft	1.50	2.50
76653	Deflecting Yoke	10.25	17.10
76675	Crystal Diode Rectifier	.57	.88
76795	Horizontal-Output and High-Voltage Transformer	6.00	10.00
76803	Volume Control and On/Off Switch	.93	1.55
76981	IF Transformer	2.00	3.35
76984	Power Transformer	17.40	29.00
77000(t)	5" Speaker	2.62t	4.55t
77112	IF Transformer	2.30	3.85
77635	Power Transformer	13.65	22.75
77641	Brightness Control	2.15	3.55
77655	Brightness Control	2.65	4.40
77697	Deflecting Yoke	7.20	12.00
78201	Horizontal-Output and High-Voltage Transformer	10.00	16.65
78208	Picture and Volume Control	2.30	3.85
78278	Deflecting Yoke	9.00	15.00
78396	Antenna-Matching Transformer	8.00	13.35
79141	IF Transformer	2.50	4.20
79142	Printed IF Circuit	13.90	23.15
79144	Width Coil	1.10	1.85
79145	Horizontal-Output and High-Voltage Transformer	10.75	17.90
79161	Horizontal-Oscillator Sinewave Transformer	.93	1.55
79490	Deflecting Yoke	8.95	14.95
79733	Antenna-Matching Transformer	5.05	8.40
79868	Deflecting Yoke	10.50	17.50
79869	Power Transformer	18.70	31.20
79870	Horizontal-Output and High-Voltage Transformer	8.20	13.70
79966	Horizontal-Oscillator Transformer	1.30	2.15
100117	Resistor, Fuse Type	.50	.84
100586	Deflecting Yoke	11.85	19.75
100639B	Control Knob	.29	.49
100860	Horizontal-Output and High-Voltage Transformer	7.85	13.10
100861	Volume Control	2.00	3.35
100862	AGC Control	.59	.98
100863	Stabilizer Control	.59	.98
100864	Vertical Linearity Control	.59	.98
100944B	Selector Knob	.72	1.20
101015B	Fine Tuning Knob	.42	.70
101028B	Selector Knob	.59	.98
101029B	Selector Knob	.59	.98
101031B	Fine Tuning Knob	.40	.70
101124B	Contrast Knob	.34	.56
101125A	Channel Indicator Belt	.84	1.40
101147	Deflecting Yoke	11.85	19.75
101151B	Selector Knob	.38	.63
101153B	Selector Knob	.38	.63
101154B	Fine Tuning Knob	.38	.63
101219	Ratio-Detector Transformer	2.30	3.85
101252	Power Transformer	15.70	26.25

RCA Service Parts for RCA Victor Record-Changers

70338	78 RPM Cartridge, uses Stylus 72345	4.20	7.00
72345	78 RPM Stylus for 70338, 72551, 75976	1.20	2.00
74067	45 RPM Cartridge, uses Stylus 74068	3.84	6.40
74068	45 RPM Stylus for 74067, 76318	.90	1.50
74071	Motor——115v., 60 cps	5.40	9.00
74077	Wheel——Idler Wheel	.48	.80
74096	Separator—Separator, Shelf, Gear Assembly	.42	.70
74620	Cap—Spindle Nose Cap	.21	.35
74862	Spring—Record Separator Spring	.09	.15
74864	Separator—Record Separator	.06	.10
74865	Shelf—Record Shelf	.06	.10
74985	45 RPM Stylus for 76297, 74984	1.08	1.80
75044	33⅓-45 RPM Cartridge, uses Stylus 75045 78 RPM Cartridge, uses Stylus 75046	5.70	9.50
75045	33⅓-45 RPM Stylus for 75044	.90	1.50
75046	78 RPM Stylus for 75044	.90	1.50
75497	78 RPM Stylus for 75475, 77779	.90	1.50
75575	45 RPM Cartridge, uses Stylus 75770	3.84	6.40
75719	Arm—Pickup Arm, shell only	.60	1.00
75733	Switch—On-Off Switch, less housing	.39	.65
75741	Control Knob	.10	.17
75753	Turntable and Shaft Assembly	1.60	2.65
75755	Spindle Nose Cap (Red)	.30	.50
75756	Separator Shelf Return Spring	.03	.05
75757	Separator Shaft with Cam	.30	.50
75764	Cam Wheel and Tire	.48	.80
75770	45 RPM Stylus for 75575	1.35	2.25
75976	78 RPM Cartridge, uses Stylus 72345	4.50	7.50
76257	45 RPM Cartridge, uses Stylus *76374 or **76323 — *Cartridge stamped 988370-1 **Cartridge stamped 988370-2	4.00	6.75
76286	Idler Wheel	.90	1.50
76297	45 RPM Cartridge, uses Stylus 74985	4.95	8.25
76299	Motor—117 v., 60 cps., less conversion spring	7.15	11.90
76301	On/Off Switch, less housing	.60	1.00
76746	Pulley—78 RPM	.72	1.20
76747	Pulley—45 RPM	.60	1.00
76748	Pulley—33⅓ RPM	.63	1.05
76750	Idler Wheel	.51	.85
76904	Center Post—33⅓, 78 RPM, with bearing	3.25	5.45
76928	Spindle Nose Cap (Red)	.53	.79
76933	Slider Assembly Plate	.17	.25
76934	Slider Return Spring	.11	.16
76955	Cycling Gear, Shaft, Pawl	.55	.82
77118	Turntable and Hub Assembly	1.44	2.15
77132	Drive Pulley Mtg. Plate, 3 Pulleys	3.50	5.80
77779	33⅓-45 RPM Cartridge, uses Stylus 77899 78 RPM Cartridge, uses Stylus 75497	5.52	9.20
77899	33⅓-45 RPM Stylus for 77779, 75475	1.15	1.95
78372	Motor Assembly, 115 v., 60 cps	7.30	12.15
78508	Idler Wheel	.60	1.00
78525	Pulley—33⅓ RPM	.57	.95
78526	Pulley—45 RPM	.57	.95
78527	Pulley—78 RPM	.57	.95
78769	33⅓-45-78 RPM Cartridge, uses Stylus 78770	9.30	15.50
78827	33⅓-45-78 RPM Stylus for 78748, 79807, 100653	2.10	3.50
79096B	Spindle—45 RPM	1.90	2.95
79791	45 RPM Cartridge, uses Stylus 79849	5.10	8.50
79849	45 RPM Stylus for 79791	1.60	2.65
79895	33⅓-45-78 RPM Cartridge, uses Stylus 79898	3.60	6.00
79898	33⅓-45 RPM Stylus for 79895	.33	.55
100653	33⅓-45-78 RPM Cartridge, supersedes 79807, uses Stylus 78827	5.70	9.50

RCA Service Parts for RCA Victor Radios

70342	Volume Control and On/Off Switch	1.05	1.75
70385	Audio-Output Transformer	1.92	3.20
73036	IF Transformer	1.38	2.30
73037	IF Transformer	1.41	2.35
75487	IF Transformer	1.32	2.20
75773	Volume Control and On/Off Switch	.99	1.65
76373(t)	2" x 3" P.M. Speaker	2.85t	4.75t
77489	Crystal Diode Rectifier	1.05	1.60
77958	Selenium Rectifier	1.11	1.85
100940	Output Transformer	8.30	13.80

Prices shown do not include any state or local sales and similar taxes. All prices subject to change or withdrawal without notice. The prices of stock numbers marked (t) include Federal Manufacturers' Excise Tax pursuant to Reg. 46, Sec. 316.11, without representation under I. R. C. Sec. 7211.

* Optional. Prices higher in Alaska and Hawaii.

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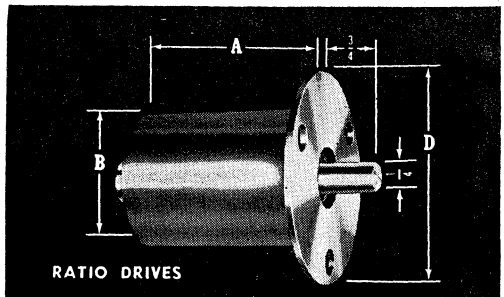
BROOKLYN 11, N. Y.

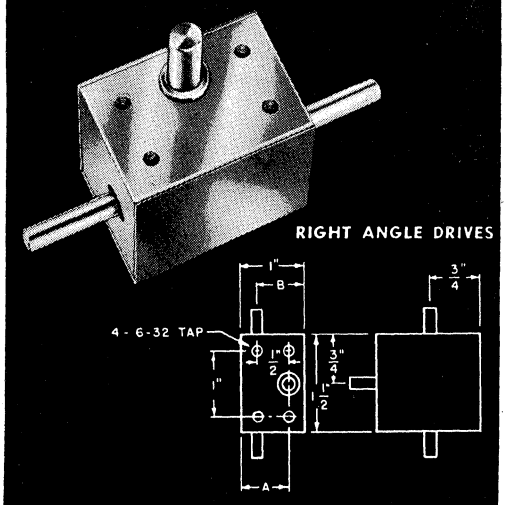


BALL BEARING RATIO DRIVES

A Totally New Concept! Up to 20:1

For exceptionally smooth control of electronic components in instruments. A unique series of "in-line" ratio drives utilizing precision, ball-bearings, provide exceptionally smooth rotary control of circuit functions in electronic applications. Ruggedly built and permanently lubricated, these units are small in size.

Cat. No.	Ratio	A	B	Output shaft C	D	Mtg. Ctr. Dia. E
RDL-1	2.66:1	29/32	1-1/8	1/4	1-3/4	1-3/8
RDL-2	7.08:1	1-11/32	1-1/8	1/4	1-3/4	1-3/8
RDL-3	18.8:1	1-3/4	1-1/8	1/4	1-3/4	1-3/8
RDS-1	2.7:1	19/32	5/8	1/8	1-1/8	7/8
RDS-2	7.28:1	13/16	5/8	1/8	1-1/8	7/8
RDS-3	19.65:1	1-1/64	5/8	1/8	1 1/8	7/8

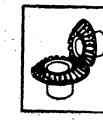


RIGHT ANGLE RATIO DRIVES

Featuring dual output shafts, this series of miniature, right angle drives for the control of components, is available with matched bevel or worm gears with a wide range of ratios. Assembled in dust-proof housings, the gears are permanently pinned in place on stainless steel shafts, mounted in oilite bearings and held under constant pressure, with thrust washers.

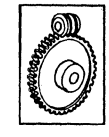
BEVEL GEAR RIGHT ANGLE DRIVES

Cat. No.	Ratio	"A"	"B"
RABG-1	1:1	1/2	1/2
RABG-2	2:1	1/2	1/2
RABG-3	3:1	1/2	1/2

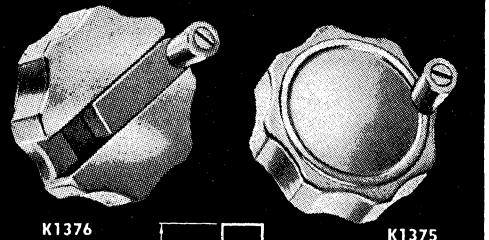


WORM GEAR RIGHT ANGLE DRIVES

Cat. No.	Ratio	"A"	"B"
RAWG-1	5:1	3/4	3/4
RAWG-2	10:1	3/4	3/4
RAWG-3	20:1	3/4	3/4



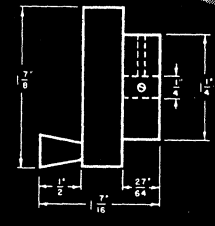
Note: JAN'S WORM GEAR RIGHT ANGLE DRIVES are especially suited to handling spring or gravity loaded components since the output shaft automatically locks in any desired position and is controlled only by the input shaft which remains free for smooth drive in either direction.



SLIP-CLUTCH KNOBS

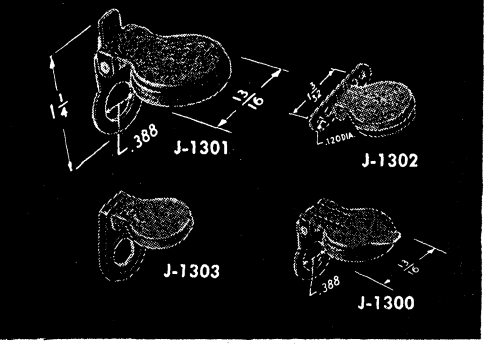
Fixed or Retractable Spinner

Designed for driving devices such as variable capacitors, inductors, potentiometers, etc., these knobs work on the principle of a "slip-clutch," automatically disengaging and slipping when a predetermined torque is exceeded. JAN'S SAFETY KNOBS are fluted to aid in sensitive adjustment and also have either a fixed or a retractable spinner for fast turning. Made from single unit construction, molded Bakelite-to-metal inserts, these knobs safeguard delicate and costly instruments against careless or inadvertent cranking beyond their normal stops. Note: Model K-1376 is identical to Model K-1375 but has the additional feature of a retractable spinner. It has a positive toggle type action, being spring loaded in either open or closed position and thus is useful where equipment must fit into small spaces.



SPINNER KNOBS

Models K-1275 and 1276 are spinner knobs having an identical appearance to K1375 and K1376 respectively and are available without the slip-clutch mechanism. Designed for 1/4 inch shafts, these knobs are made from single unit construction, molded black bakelite-to-brass insert. Supplied with two set screws for firm attachment to the shaft.



JACK COVERS (Trimmer Covers)

These sturdy JACK COVERS are used to keep out dust and moisture and to prevent inadvertent disturbance of control settings. They are made of steel finished in enamel after bonderizing. Supplied assembled with stainless steel spring, hinge pin and neoprene pad. Fit jack or panel bushings. Supplied in three standard finishes. For black wrinkle specify (-1), smooth grey(-2), olive drab (-3) or other colors to order.

NOTE: J-1300 "SNAP-JACK" IS A TOTALLY NEW DESIGNED JACK COVER. IT SNAPS TO OPEN OR SHUT POSITION AND WILL REMAIN OPEN TO 90° until snapped shut!

J-1304 IS A MINIATURIZED JACK COVER SIMILAR TO J-1301.

	STANDARD JACK COVER	J-1301 (—)
	PANEL MOUNT TYPE	J-1302 (—)
	WATERPROOF TYPE	J-1303 (—)
	SNAP JACK (Toggle)	J-1300 (—)
(Not shown)	MINI-JACK COVER	J-1304 (—)

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JAN HARDWARE MANUFACTURING CO., INC.
BROOKLYN 11, N. Y.

HIGH VOLTAGE INSULATED COUPLING — 30 KV RATING
FOR TV & INDUSTRIAL APPLICATIONS

Exclusive of the stainless tip, washers and mounting nut, this new coupling is made entirely of high grade Bakelite and designed to withstand greater than 30 K.V. voltage breakdown. Permits chassis or panel adjustment of high voltage controls without danger of electrical shock to operating personnel. Cat. No. AK-4160.

High Voltage Insulated Couplings—"Mil-Spec" 15 KV Rating
FOR MILITARY APPLICATIONS (U. S. Patent No. 2,681,378)

An engineered, high voltage coupling fabricated of stainless steel shaft and precision screw driver tip molded into a single unit with mineral filled melamine. Completely shock, vibration and fungus proof. Operates with ease over an ambient temperature range of —75° C. to +175° C. Supplied complete with nickel plated hardware. Screw driver tip mates slot of all standard slotted potentiometer shafts WITHOUT FURTHER MACHINING.

Cat. No.	"B"	"A"	"C"
LOCKING TYPE			
AK-5079-X-1	1/8"	9/16"	1/8"
AK-5079-B-1	1/8"	9/16"	1/4"
STANDARD TYPE			
AK-5164-X-2	7/16"	3/8"	1/8"
AK-5164-B-2	7/16"	3/8"	1/4"

Cat. No.	"B"	"A"	"C"
AK-5164-X-3	15/16"	3/8"	1/8"
AK-5164-B-3	15/16"	3/8"	1/4"
AK-5164-X-4	1-7/16"	3/8"	1/8"
AK-5164-B-4	1-7/16"	3/8"	1/4"

Offset Extension Shaft Couplings ±30° Offset
Cat. No. AP15299

This versatile and extremely durable insulated nylon coupling makes it possible to join two parallel drive shafts offset from each other plus or minus 30 degrees in any direction and at separations greater than 3 inches.
- Secures firmly to the drive shaft through a nickel plated brass, molded insert and 2 set screws.
- Used with 1/4" coupling shaft of any length (not furnished).
- Shaft is keyed to the coupler by zinc plated steel drive pins supplied by JAN.

SHAFT COUPLING **Cat. No. AP15150**

A rugged, nickel plated brass coupling for joining two 1/4" shafts. Supplied with four set screws.

FLEXIBLE SHAFT COUPLING **Cat. No. AP15311**

This Nylon flexible coupling is completely vibration-proof by virtue of its single unit molded metal insert to plastic construction. Adequate insulation to 5 KV in addition to its wide flexibility provide a practical means for efficiently joining 1/4" shafts slightly misaligned. Four cup pointed set screws supplied permit firm attachment of joining shafts.

NYLON SHAFT LOCK **Cat. No. AK1050**

A one-piece single unit shaft lock. Fits 3/8"-32 thread of shaft bushing. Grasps 1/4" shaft with adjustable friction grip to prevent accidental or vibrational disturbance of controls. May be adjusted for semi-permanent locking of control shaft.

SHAFT LOCKS—SPLIT BUSHING TYPE

These shaft locks securely hold in position the shaft of volume controls, capacitors, switches, etc. Body and lock nut of nickel plated brass. Supplied with cadmium plated and iridited, steel lock washer.

	Standard JAN LOCK NUT	**AK5100**	
	PANEL MOUNT TYPE	**AK5101**	**NEW!**
(Not shown)	**Knurled Lock Nut Type**	**AK5102**	**NEW!**
(Not shown)	**Miniature for 1/8" shafts**	**AK5103**	**NEW!**

BUSHING EXTENDER

This special bushing extender permits staggered mounting of components (having 1/4" dia. shafts) behind a panel. Supplied in nickel plated brass in 8 sizes.
Note: Cat. No. AK5079-9 is of the locking type and is supplied with lock nut.

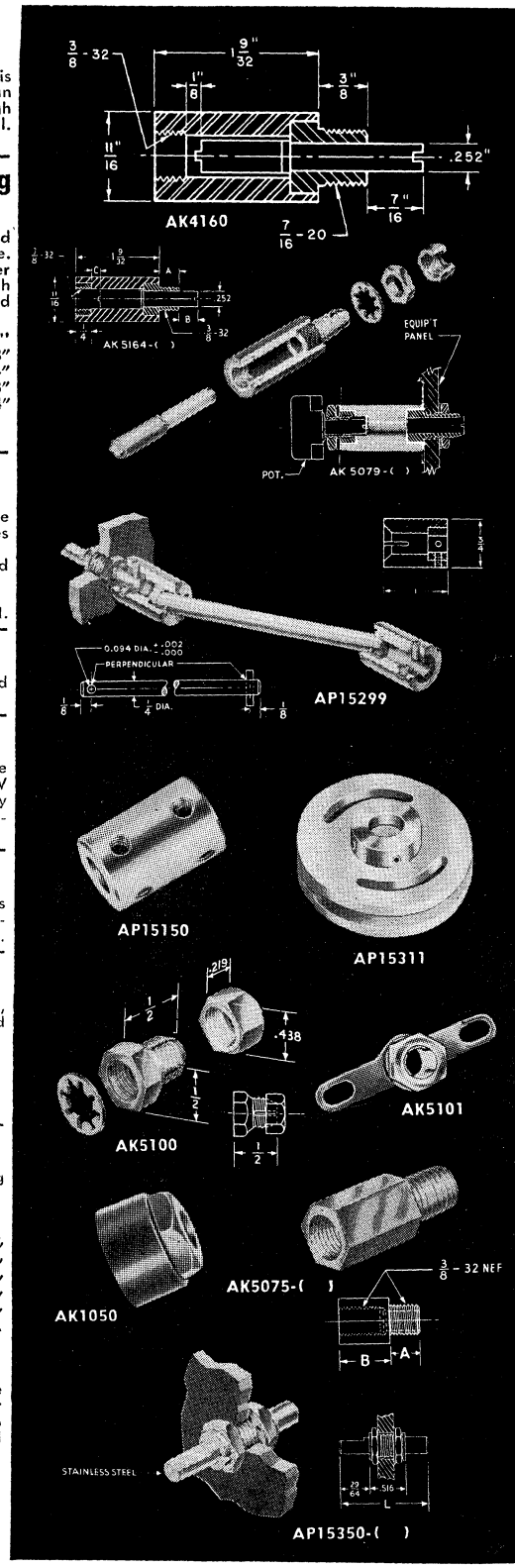
Cat. No.	"B"	"A"
AK5075-1	5/8"	3/8"
AK5075-2	5/8"	1/4"
AK5075-3	5/8"	3/16"
AK5075-4	3/4"	1/4"

Cat. No.	"B"	"A"
AK5075-5	2-1/4"	1/4"
AK5075-6	1-5/8"	1/4"
AK5075-7	1-7/16"	3/16"
AK5075-8	1-1/16"	1/4"
AK5075-9	11/16"	1/2"

PANEL BEARING & SHAFT ASSEMBLY

This versatile Panel Bearing and Shaft Assembly is used for control of a remote component. Passivated stainless steel shaft is 1/4" dia. with one end flatted for attaching to control knob by set screws. Supplied completely assembled with two retaining rings, jam nut with lock washer, and brass panel bearing, nickel plated. Fits all panels up to 3/16" thick; mounts in 13/32" dia. hole.

Cat. No.	*"L" Shaft Length*
AP15350	**Panel bearing assy without shaft.**
AP15350-1	**1-5/16"**
AP15350-2	**3"**
AP15350-3	**6"**



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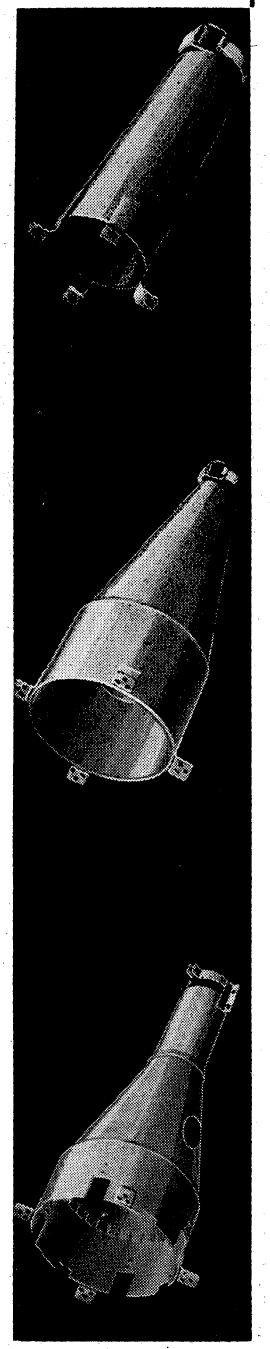
JAN HARDWARE MANUFACTURING CO., INC.

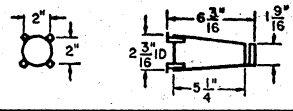
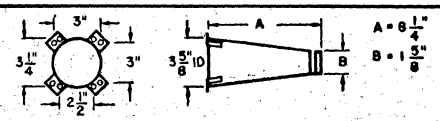
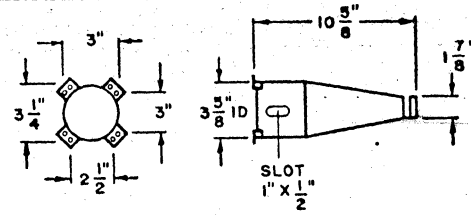
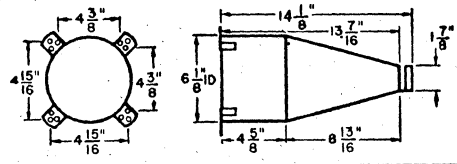
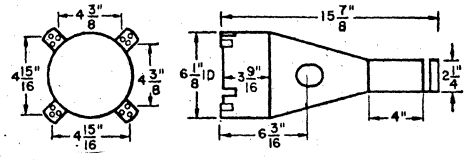
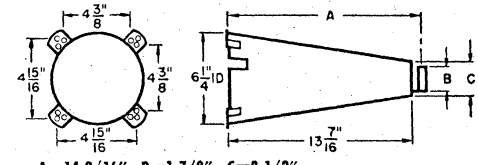
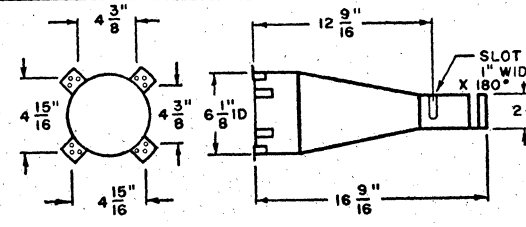
BROOKLYN 11, N. Y.

MAGNETIC SHIELDS FOR CATHODE RAY TUBES

JAN MAGNETIC SHIELDS are made of the highest grated of magnetic metals and are carefully annealed by a special process to assure optimum orientation of the specific grain structure of the alloy. JAN SHIELDS prevent distortion and intensity modulation of the electron beam due to stray magnetic fields and protect personnel against the dangers of accidental tube breakage. Mounting holes are tapped for #6-32 screw. Bezels with designations (—1) are used with curved faced CRT only. All others are flat faced which are to be used with bezels designated as (—2). See following pages for specifications on JAN BEZEL ASSEMBLIES. *Opening for anode provided when required.

★ INDICATES SHIELD ADAPTABLE FOR EDGE LIGHTING



SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	DIMENSIONAL OUTLINE
S2001	2AP1 2BP1 2BP11 902	—	
S3001 ★	3RP1	CP1328-1 CP1329-1	
	3RPA 3RP1A	CP1328-2 CP1329-2	
★ S3005	3WP1	Same as S3007	Same as S3001 except A=10-1/8"; B=1-7/8"
★ S3003	3AP1 3KP4 3KP1 908A 3KP11 3WP	Same as S3001	Same as S3001 except A=10-5/8" B=1-7/8"
★ S3004*	3BP1A 3JP1 3JP7 3ACP	Same as S3001	Same as S3001 except A=8-5/8" B=2-3/8"
★ S3007	3WP1	CP1428-2 CP1328-2 CP1328-1 CP1329-2 CP1329-1	
S5001	5UP1 5UP7 5UP11	CP1465 CP13584-1 CP-13549-1 CP19495-1 CP19498-1	
S5002* ★	5BP1A 5CP11A 5CP1A 5CP12 5CP7A	CP1465 CP13584-1 CP13549-1 CP19495-1 CP19498-1	
	5ABP1 5ABP7 5ABP11 5ADP	CP1465 CP13584-2 CP13549-2 CP19495-2 CP19498-2	
S5003 ★	5UP1 5UP7 5UP11	Same as S5001	 A=14-3/16", B=1-7/8", C=2-1/2"
S5004* ★	5BP1A 5CP11A 5CP1A 5CP12 5CP7A 5ABP7 5ADP 5ABP11 5ABP1	Same as S5002	Same as S5003 except A=15-7/8" B=2-1/4" C=3-1/2" Hole for anode provided.
S5005 ★	Same as S5002	Same as S5002	

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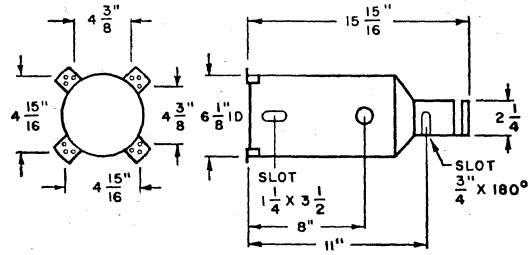
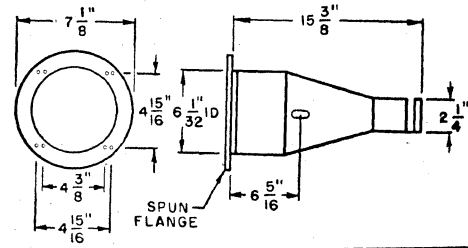
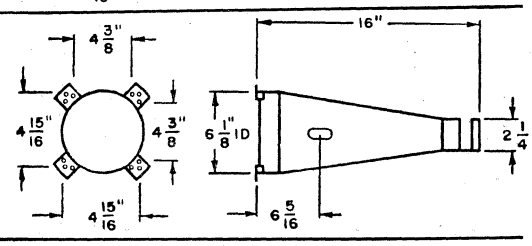
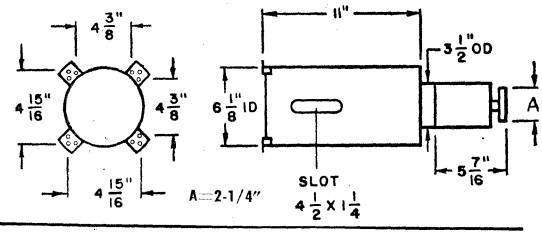
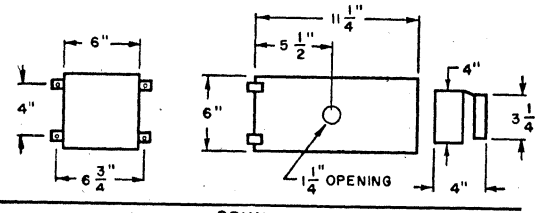
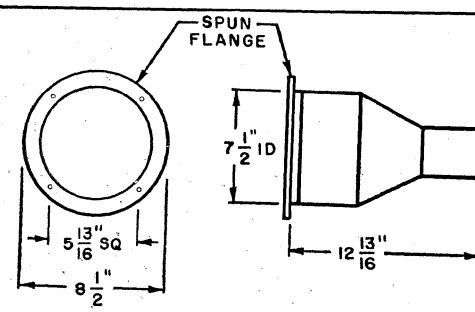
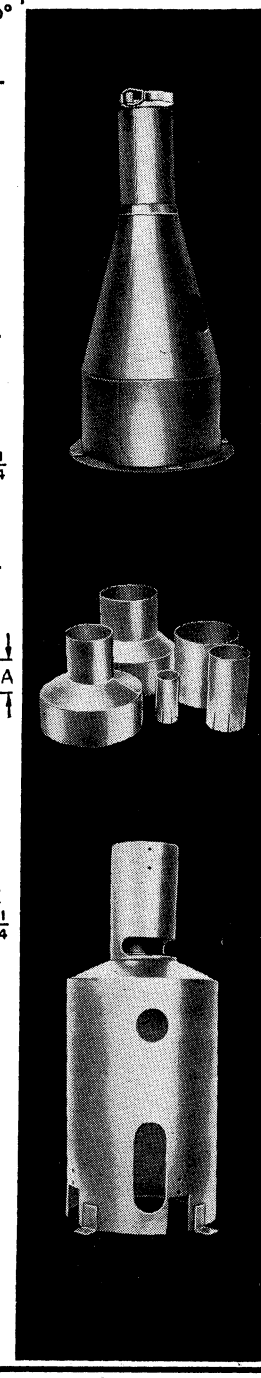
BROOKLYN 11, N. Y.

SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	DIMENSIONAL OUTLINE
S5006	5RP1	CP19498-2 CP13584-2 CP13549-2 CP19495-2 CP1465	
S5007	5BP1A 5CP11A 5CP1A 5CP12 5CP7A 5ABP1 5ABP7 5ABP11 5ADP	Same as S5002	
S5008	5AMP	Same as S5006	
S5009	5SP7	Same as S5006	
S7003	7YP3	•	
S7001	7GP4 7JP4 7JP1 7VP1	•	
S7002*	7CP1		Same as S7001 except anode opening provided.

SHIELDS FOR ALL PHOTO-MULTIPLIER AND OTHER C.R. TUBES IN STOCK

*Opening for anode provided when required.



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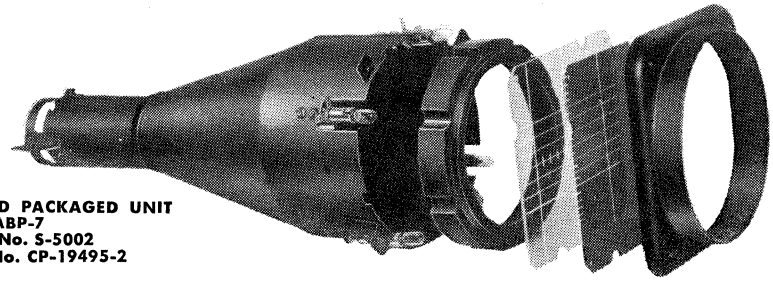
PACKAGED BEZEL-SHIELD ASSEMBLIES

SAVE PURCHASING AND ENGINEERING TIME! AVOID ERRORS!

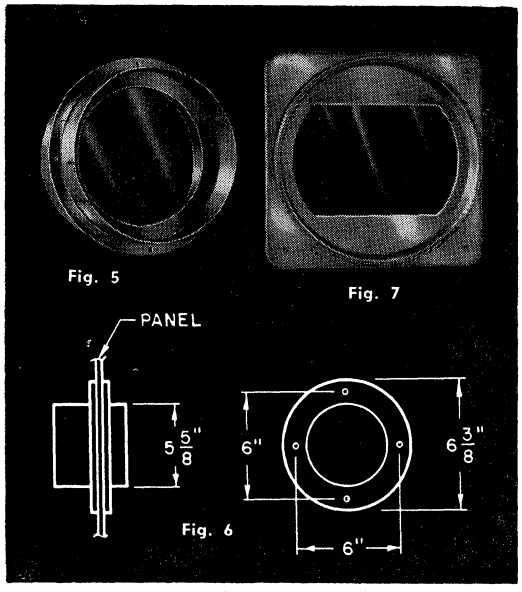
JAN PACKAGED UNITS are designed to save time and money for the user by assembling in one package all items needed for CRT BEZEL AND MAGNETIC-SHIELD applications. The package consists of a kit composed of: JAN MAGNETIC SHIELD, JAN BEZEL AND BUNA-S RUBBER CUSHION, graticules, and light filter, plus complete assembly parts including: spacers, machine screws, bayonet sockets, pilot bulbs (for use with edge-lit bezel-shield assemblies), and miscellaneous hardware.



ILLUSTRATED PACKAGED UNIT
for CRT. 5 ABP-7
Jan Shield No. S-5002
Jan Bezel No. CP-19495-2

WHEN ORDERING SPECIFY: JAN PACKAGED UNIT giving Jan Shield No., Jan Bezel No. and CRT tube type with which it is to be used.

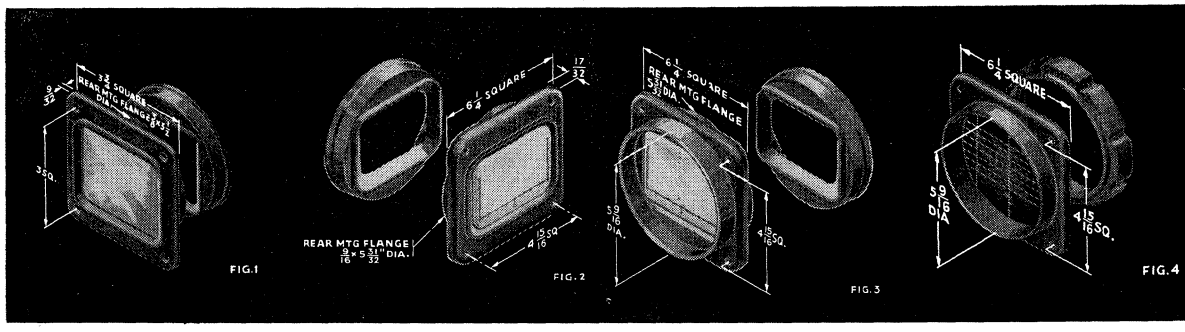
BEZEL ASSEMBLIES



JAN BEZEL ASSEMBLIES consist of cast aluminum alloy bezels,* finished in smooth dull or non-reflecting black enamel paint, Buna-S rubber shock mounts, scale calibrated graticules, light filters and mounting hardware. To accommodate the requirements of advanced engineering, many JAN BEZELS are designed for edge lighting of the graticule and are supplied with corrected light filters to suit the phosphors of various CRTs. JAN CAMERA MOUNT BEZELS are available to accommodate all 5" tubes used for photo-oscillography. The camera mount is cast as an integral part of the bezel. All JAN BEZELS are designed for universal application and are specifically adaptable for use with JAN'S MAGNETIC SHIELDS. All bezel assemblies listed are supplied with heavy buna-S rubber shock cushions.

* Except Cat. No. C.P. 1465 which is deep drawn steel alloy.

Cat. No.	Fig. No.	C.R.T.	Face	Panel Hole
STANDARD TYPE				
CP1328-1	1	3"	Curved	3-1/2"
CP1328-2	1	3"	Flat	3-1/2"
CP13549-1	2	5"	Curved	6"
CP13549-2	2	5"	Flat	6"
CAMERA MOUNT TYPE				
CP13584-1	3	5"	Curved	6"
CP13584-2	3	5"	Flat	6"
CP1465	5 & 6 (See illustration for dimensions)	5"	Curved or Flat	5-5/8"
CAMERA MOUNT WITH EDGE WINDOW LIGHTING				
CP19495-2	4	5"	Flat	5-5/16"
CP-19636-2	7 (see Fig. 4)	5"	Curved or Flat	5-5/16"
CP-1428-2	Not shown	3"	Flat	3-1/4"



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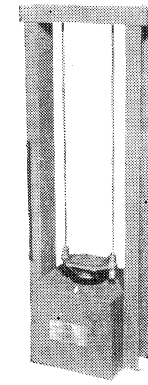
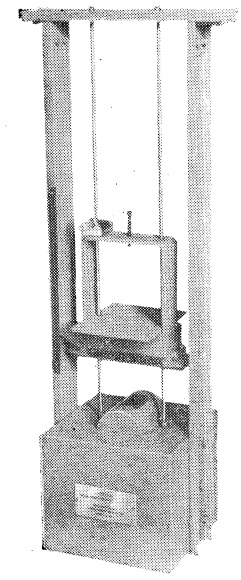
BROOKLYN 11, N. Y.

"JOLTA" SHOCK TESTING MACHINES

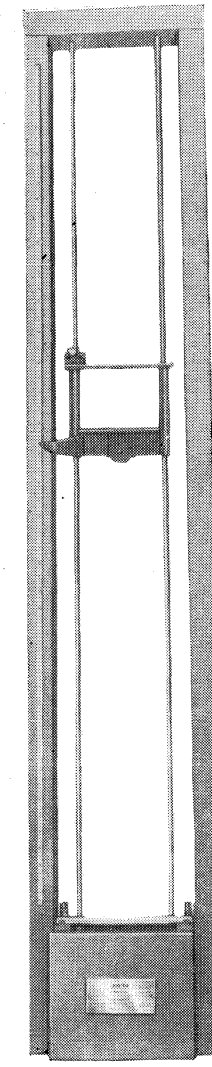
JAN'S "Jolta" shock testers for small components provide for rapid and precise testing of anticipated shock stresses. Designed for laboratory and production testing of instruments such as relays, electric meters, clocks, transistors and other electrical and electronic devices, they are accurately calibrated for direct readings in accord with specifications now required in most military and Commercial contracts. The testers are ruggedly built and accommodate all shapes of test specimens. Specimens may be tested while in actual operation and under electrical load. Each machine is individually calibrated and computation charts are supplied thus insuring accurate interpretation of test results. JOLTA SHOCK TESTERS feature the exclusive JAN INERTIA BRAKE which automatically captures the carriage at the summit of its first rebound eliminating secondary (irrelevant) shocks and dangerous manual grasping.



M500



1001



F3003

JOLTA #1001

- Test range 30 to 120g.
- Bench model, only 10" x 8" x 32" high.
- Accepts specimens up to 4" x 5" x 7½".
- Manufactured and finished strictly in accord with: JAN-S-44, MIL-STD-202, METHOD-202.
- Shipping weight 290 lbs.

Replacement Plate Springs for medium and high impact shock tests available as optional equipment.

NEW! JOLTA "M" #500

- Shocks to 500g.!
- Bench model per JAN-254.
- High impact testing to meet MIL-T-12679-A (Sig. C).

JOLTA "M"-500 is designed for testing extremely lightweight components such as diodes, transistors, etc. The carriage is machined from magnesium castings and the anvil is made from a specially formulated synthetic rubber. JOLTA "M"-500 will consistently reproduce shocks up to 500 g. at an amplitude of 1 millisecond in accordance with the requirements of MIL-T-12679A and JAN 254.

NEW! JOLTA "F" #3003

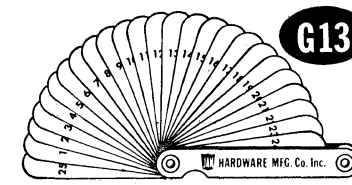
High Impact Shock Tester

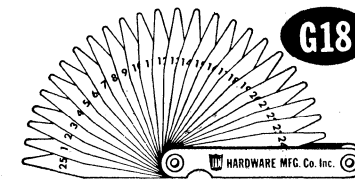
- 250 to over 2000g at 1 to 2 milliseconds.
- Heavy duty floor model machine; 10" x 8" x 60" high.
- Takes specimens up to 2 lbs.
- Fixed plate spring to eliminate extraneous harmonic oscillations.
- Standard model supplied with 60,000 "k" spring for shocks in the range of 1.4 to 1.6 milliseconds.
- New design permits fast replacement of plate springs of different stiffness for alternate g. ranges.
- Supplied with JAN INERTIA BRAKE and calibration chart.

JAN THICKNESS GAUGES

JAN's thickness gauges are a necessity for adjusting condenser plates and microwave plumbing. They also suit the needs of the engineer and the machinist for general use — such as measuring shim stock requirements, determining flatness of machined parts, amount of backlash, and adjusting drill jig or milling fixtures. These gauges are manufactured from fine grade hardened and tempered steel, with tolerances of plus or minus .00025" to .0005", and are guaranteed to be accurate. All numerals are permanently etched and legible.

Cat. No.	Blade Shape	Blade Length	No. of Blades	Blade Thicknesses
G11	Round	3"	9	.002, .003, .004, .006, .008, .012, .013, .020, .025
G12	Round	3-1/2"	15	.002, .003, .004, .005, .006, .008, .011, .012, .013, .014, .016, .018, .020, .022, .025
G13	Round	3-1/2"	25	.0015 to .025
G16	Tapered	3-1/2"	9	.002, .003, .004, .006, .008, .012, .013, .020, .025
G17	Tapered	3-1/2"	15	.002, .003, .004, .006, .008, .012, .015, .018, .020, .022, .025, .028, .030, .030, .032, .035
G18	Tapered	3-1/2"	25	.0015 to .025





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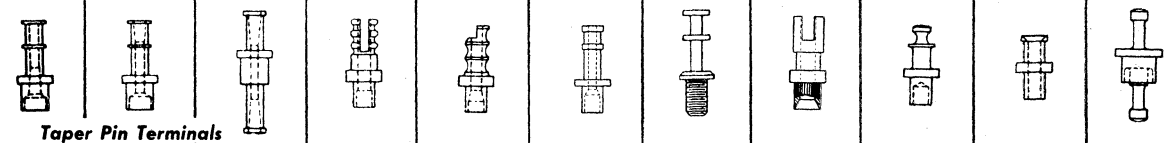
KEYSTONE DESIGNERS & MANUFACTURERS

ELECTRONIC COMPONENTS

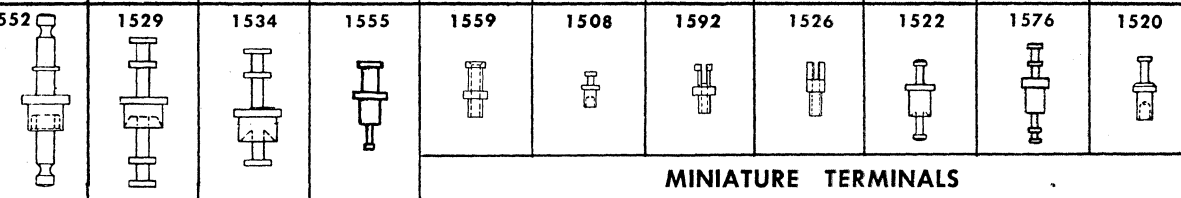
TERMINALS FULL SIZE. MADE OF BRASS. AVAILABLE IN HOT TIN DIP OR SILVER PLATE.

1579 1580 1581 1578 1506 1538 1558 1557 1504 1554 1501



Taper Pin Terminals

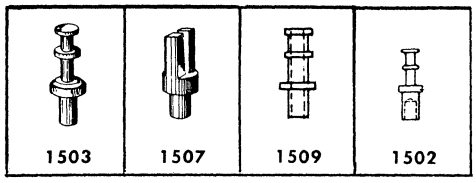
1552 1529 1534 1555 1559 1508 1592 1526 1522 1576 1520



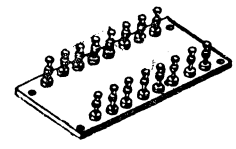
MINIATURE TERMINALS

STANDARDIZED TURRET TERMINAL BOARDS

CHOICE OF TERMINALS



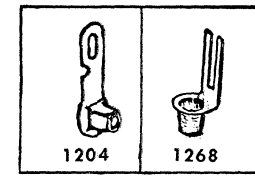
1503 1507 1509 1502



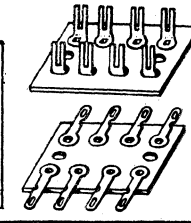
30 SIZES AVAILABLE

READI-MADE TERMINAL BOARDS

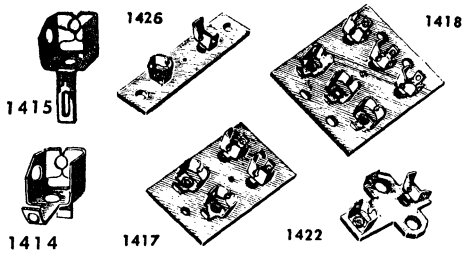
CHOICE OF TERMINALS



1204 1268

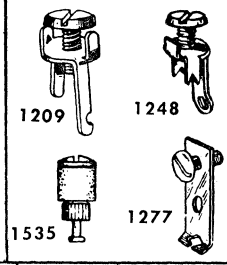


DIODE CLIP MOUNTING BOARDS



1415 1426 1418 1414 1417 1422

SCREW TERMINALS



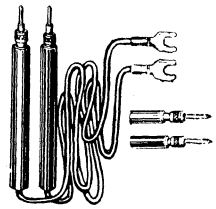
1209 1248 1535 1277

BATTERY HOLDERS

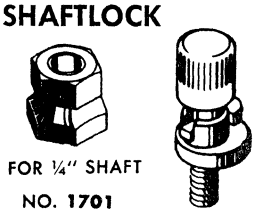
for TRANSISTOR ASSEMBLIES — RADIOS
GEIGER COUNTERS — METERS

We are prepared to quote on special requirements or design holders to specifications.

TEST LEADS



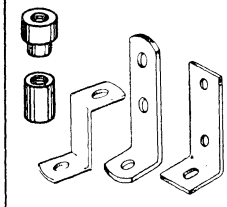
SHAFTLOCK



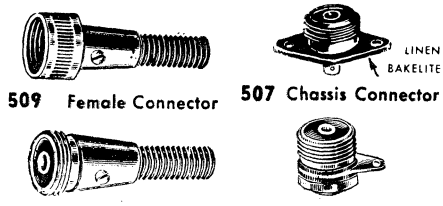
FOR ¼" SHAFT
NO. 1701

NO. 1705
DIAL-LOCK

BRACKETS & BUSHINGS



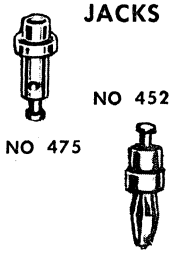
MICROPHONE CONNECTOR



LINEN BAKELITE

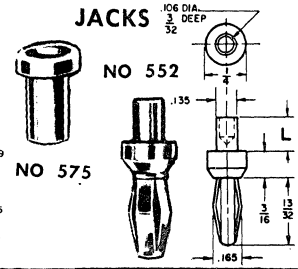
509 Female Connector
507 Chassis Connector
500 Male Connector
505 Chassis Connector

MINI-PLUGS AND JACKS



NO 452
NO 475

MEDIUM PLUGS AND JACKS



NO 552
NO 575

SPECIAL ASSEMBLIES We are equipped to produce economically short runs of special assemblies made to your specifications. Prompt delivery is assured and quotations will be rendered without obligation to you.

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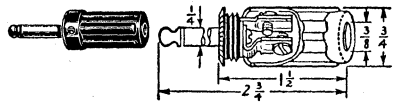
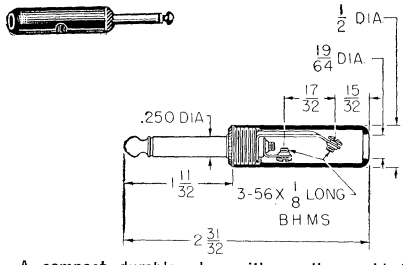
Telephone Type Plugs



A standard 2 conductor phone plug, featuring sure-grip ribbed barrel for ease of handling. Molded of red and black plastic. Hardware is brass, nickel-plated. Accepts two pairs of cord tips, held firmly in place with two screws. Fits all makes of jacks.

No. 24B — Complete (Black Barrel)
No. 24R — Complete (Red Barrel)
No. 34B — Black barrel only
No. 34R — Red barrel only
No. 34P — Plug only

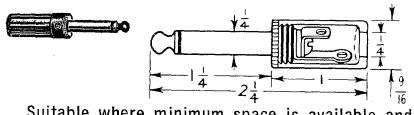
2 Conductor Phone Plugs



A compact durable plug with smaller molded plastic barrel (½" dia. x 15⁄8" L.) for panel mounting space economy. Has two screw type terminals. Fits standard phone jacks.

No. 7577 — Black **No. 7579 — Red**

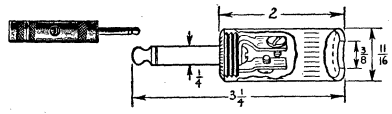
Midget Phone Plugs



Suitable where minimum space is available and where two or more plugs are used adjacent to each other. Supplied with black or red sure-grip ribbed barrel. All parts are brass, nickel-plated. Two-conductor solder lug terminals.

No. 29B — Black **No. 29R — Red**

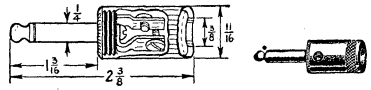
Shielded Phone Plug



Fits all standard jacks. Brass shell is nickel-plated for shielding purposes.

No. 25 — Shielded Plug

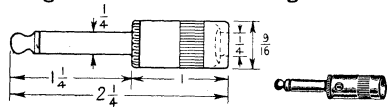
Stubby Shielded Phone Plugs



For use where space economy is a factor. Similar to No. 25 shielded phone plug except that barrel measures 1 1/16" diam. x 1⅛" long. Fits all standard jacks.

No. 27 — Shielded Plug **No. 37 — Barrel only**

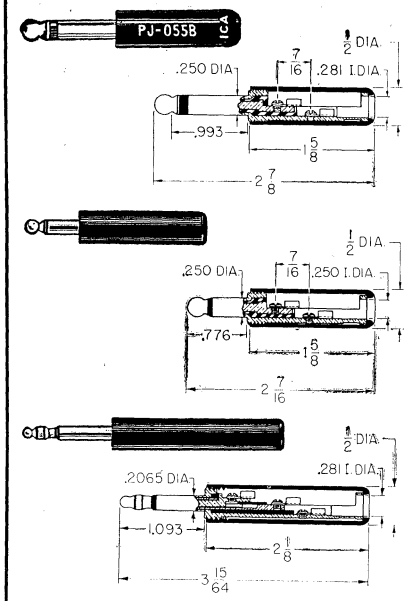
Midget Shielded Phone Plug



Similar to No. 29 midget phone plug with the exception that it has a nickel-plated brass barrel for shielding purposes.

No. 30 — Shielded Plug

U. S. Army-Navy Specification Plugs



Designed to meet the latest specification JAN-P-642. Features durability with low moisture absorption characteristics.

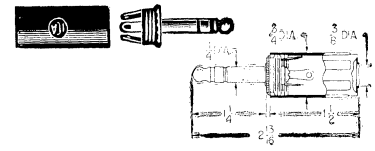
No. PJ-055B
No. PJ-054
No. PJ-068 — 3 Conductor Microphone Plug

Strain Relief Clamp

Provides secure attachment of cables to PJO and PL type plugs. Steel; cadmium plated; made to U. S. Army Signal Corps specifications.

No. 5695

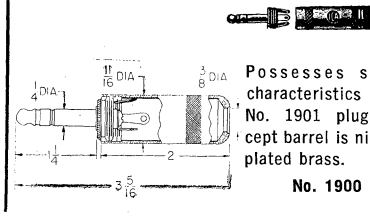
3-Wire Microphone Plug



Has solder connections for cable or microphone use. Ribbed barrel molded of plastic; brass parts, nickel-plated. Used with microphone and other applications requiring 3 wires or 2 wires and a shield. Fits standard 3 conductor phone jacks.

No. 1901

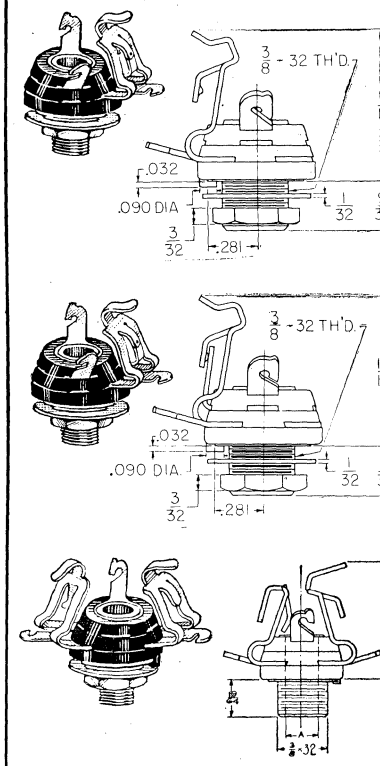
Shielded 3-Wire Microphone Plug



Possesses same characteristics as No. 1901 plug except barrel is nickel-plated brass.

No. 1900

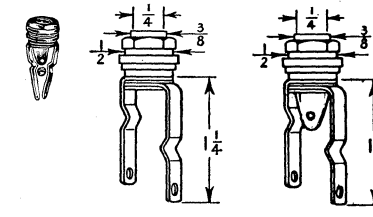
Deluxe Phone Jacks



No finer jack available. Completely new design that features: practically tireless spring; spring members made of phosphor bronze, bright cadmium plated; streamlined molded insulating sections minimize creepage; component parts are interlocked and cannot turn or short; hook type soldering lugs for easy wiring. For standard ¼" plugs.

No. 1920 — Two Conductor Open Circuit
No. 1921 — Two Conductor Single Circuit Transfer
No. 1922 — Three-Way Microphone Jack

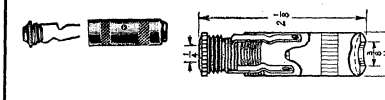
Panel Mounting Jacks



Improved jacks engineered for compact panel mounting. Sleeve made of high-grade brass. Springs of phosphor-bronze, nickel-plated. Provided with insulated shoulder washers for metal panel mounting.

No. 325 — Two Conductor Open Circuit
No. 1905 — 3-Way Microphone Jack

Shielded Extension Jack



Unique jack housed in nickel-plated brass shielded barrel. Two conductor open circuit. Mates with standard ¼" plugs.

No. 1913

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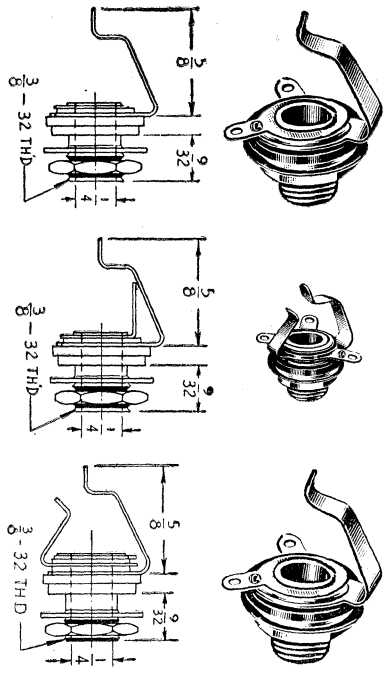
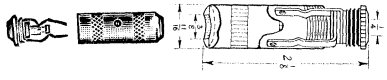
Phone Jacks



Suitable for limited space. Contacts of phosphor bronze, cadmium plated, to assure firm connections. Fiber contact insulation. Complete with nut and metal washer. For standard ¼" plugs.

No. 1870 — Two Conductor Open Circuit
No. 1871 — Two Conductor Shorting Type
No. 1872 — 3-Way Mike Jack

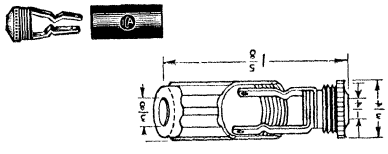
Shielded 3-Way Extension Microphone Jack



For all types of microphones. Sturdily constructed of brass parts with phosphor bronze springs. Nickel plated and thoroughly insulated.

No. 1904

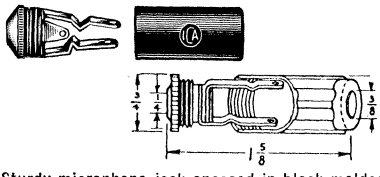
Extension Jack



Two conductor open circuit. Ribbed barrel molded of black phenolic. Fits all standard plugs.

No. 1911

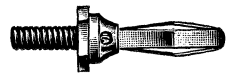
3-Wire Microphone Extension Jack



Sturdy microphone jack encased in black molded phenolic barrel. Fully insulated.

No. 1903

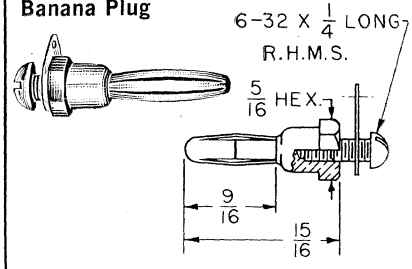
Spring Type Banana Plug



Has brass body with phosphor bronze spring contacts, nickel plated overall. Extra sturdy. Overall size 1 3/16" long. Threaded shank length 13/32" long; for 6/32 nuts. For complete dimensions, see chart page U122.

No. 7573

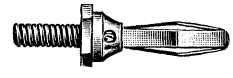
Banana Plug



Nickel-plated brass with snug-fitting one-piece phosphor bronze spring. Includes 6/32 screw and soldering lug; 6/32 tapped hole. Hex base permits firm tightening. Center shaft extends full length of plug.

No. 7584

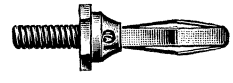
Threaded Shank Beryllium Banana Plug



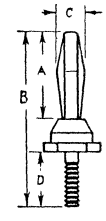
Has 13/32" shank, threaded for 6/32 nuts. Overall size measures 1 3/16" long. For complete dimensions, see chart on following page.

No. 421

Silver-Plated Banana Plugs



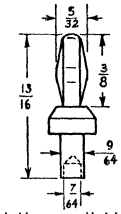
Silver-plated beryllium copper banana plug. Overall length 1½". Shank length ¾"; threaded for 8/32 nuts.



No.	A	B	C	D
**421	5/16	1 3/16	3/16	13/32
424	5/16	1½	3/16	¾
428	5/16	1 7/8	3/16	1 1/8
429	5/16	1 9/16	3/16	¾
*7573	5/16	1 3/16	3/16	13/32

*Brass Plated **Beryllium

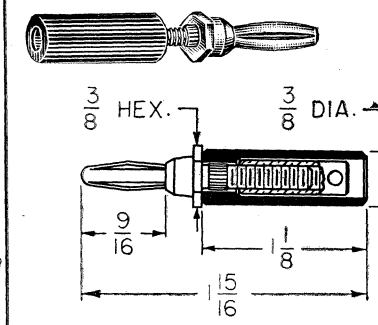
Beryllium Banana Plug



Approved by Signal Corps and other government agencies, these plugs are used in all government equipment. Made of beryllium copper, guaranteed for its spring and durability. Rivet shank of plug can be turned over without splitting. Silver plating available upon request at extra charge.

No. 419 (.141" shank diam.)

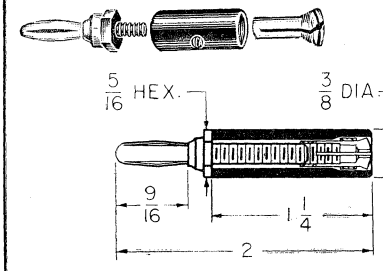
Insulated Solderless Banana Plug



Features a ribbed insulating (1⅛" L. x ⅜" diam.) tenite handle. Silver plated beryllium copper springs. Fits standard type banana jacks. Cross drilled holes in plug end for solderless connection. Overall length: 1 15/16".

No. 413B — Black **No. 413R — Red**

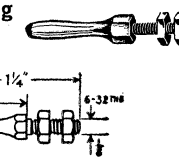
Pin Vise Banana Plugs



Revolutionary new solderless silver plated beryllium copper spring banana plug with insulating ribbed tenite sleeve. Measures ⅜" in diam.; 1¼" long. Features a novel miniature spring collet which serves as receptacle for phone tip or test lead wire ranging from 14 to 20 gauge. May be attached to component leads for a temporary testing connection without bending or mangling.

No. 433B — Black **No. 433R — Red**

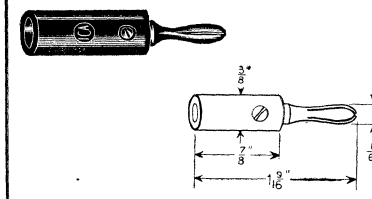
Split Banana Plug



Has 6/32 threaded stud. Complete with two hex nuts. Machined from solid brass, nickel-plated.

No. 403

Insulated Solderless Split Banana Plugs



Fits all standard banana jacks. Set screw provided at side of tenite barrel to fasten wire without soldering.

No. 883B — Black **No. 565 — Yellow**
No. 883R — Red **No. 566 — Green**
No. 567 — Blue

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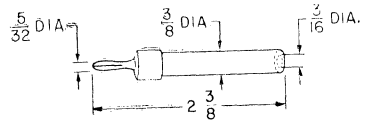
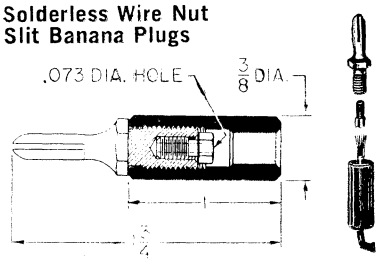
Extra Long Split Banana Plugs



These plugs have long tenite handles and may be used as test prods. Set screw connector eliminates need of soldering. As test prods, may be used with No. 886 phone tips, No. 884 alligator clips or No. 887 spade lugs. Similar to No. 883B series. Barrel is 1½" long and sleeve covers set screws.

No. 882B — Black **No. 882R — Red**

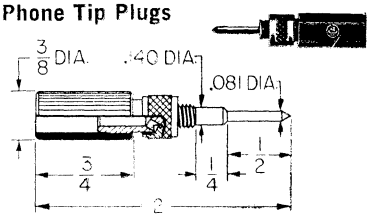
Solderless Wire Nut Slit Banana Plugs



Fully insulated. The only exposed metal is the plug itself. Hollow screw type solderless connector. Tenite handle.

No. 434B — Black **No. 434R — Red**

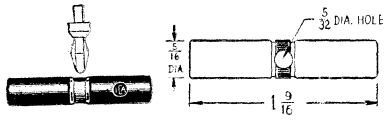
Insulated Solderless Phone Tip Plugs



Fits all standard phone tip jacks. Quickly and easily attached. Available in variety of colored ribbed barrels for fast identification.

No. 885B — Black **No. 7555 — Yellow**
No. 885R — Red **No. 7556 — Green**
No. 7557 — Blue

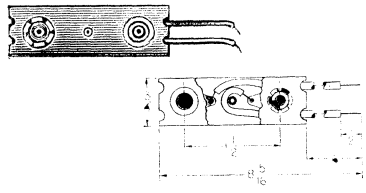
Wire Connector With Banana Plug Receptacle



Spring collet at each end of insulated sleeve to assure positive grip. Takes regular banana plug in common center terminal. Ideal for quick splicing for testing point.

No. 1933

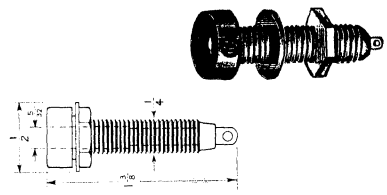
"B" Battery Connector Strip



Fitted with easy snap-on clips for the following popular type batteries: Burgess XX30; XX45. Eveready 455; 467. RCA VS016; VS056. Ray-o-vac P4367.

No. 3397

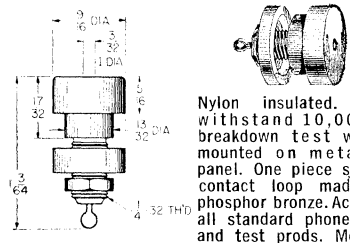
Combination Banana Plug and Phone Tip Jacks



Removable insulated cap. Accepts banana plug or standard phone tips interchangeably. Complete with mounting hardware. Improved type one-piece tinned phosphor bronze spring contact loop. Requires 5/16" diameter mounting hole.

No. 528B — Black **No. 528R — Red**

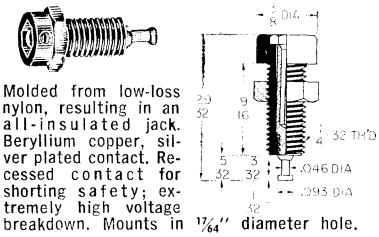
High Voltage Nylon Tip Jacks



Nylon insulated. Will withstand 10,000 v. breakdown test when mounted on metallic panel. One piece spring contact loop made of phosphor bronze. Accepts all standard phone tips and test prods. Molded nylon washer mates with shoulder on head thus providing added protection against "shorts".

No. 1899N — Natural Finish **No. 1899R — Red**
No. 1899B — Black

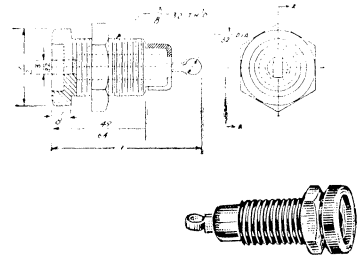
Miniature Nylon Tip Jacks



Molded from low-loss nylon, resulting in an all-insulated jack. Beryllium copper, silver plated contact. Recessed contact for shorting safety; extremely high voltage breakdown. Mounts in 17/64" diameter hole.

No. 7537 — White **No. 7541 — Orange**
No. 7538 — Red **No. 7542 — Yellow**
No. 7539 — Black **No. 7543 — Brown**
No. 7540 — Green **No. 7544 — Blue**
No. 7545 — Ivory

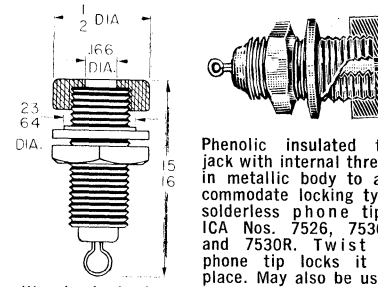
Molded Tip Jacks



All-molded tenite tip jack with tinned phosphor bronze spring contact. Includes brass nut for mounting directly on panels up to 3/8" thick. Mounting hole: 3/8". Over-all dimensions 1" L. x ½" Dia.

No. 7521 — Black **No. 7523 — Green**
No. 7522 — Red **No. 7524 — Yellow**
No. 7525 — Blue

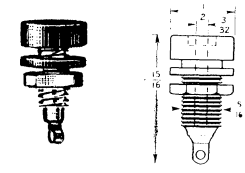
Locking Type Tip Jacks



Phenolic insulated tip jack with internal thread in metallic body to accommodate locking type solderless phone tips, ICA Nos. 7526, 7530B and 7530R. Twist of phone tip locks it in place. May also be used with standard phone tips, minus the locking feature. Tinned phosphor bronze one-piece spring contact loop. Mounting hole: 5/16". Overall length 15/16". Dia. ½".

No. 432B — Black **No. 432R — Red**

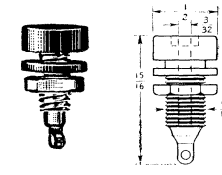
Beryllium Copper Insulated Tip Jacks



Molded phenolic head; brass body. Spring contact of heat treated beryllium copper for firmer and long lasting spring action. Metal parts are nickel plated.

No. 1897 — Black **No. 1898 — Red**

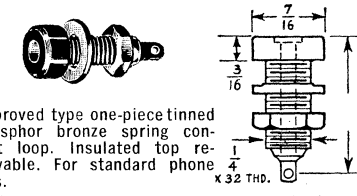
Insulated Tip Jacks



Improved type one-piece spring contact loop of tinned phosphor bronze for easier wiring. Molded phenolic head; brass body. Accepts all standard phone tips and test prods. Complete with insulated washer.

No. 1889 — Black **No. 1890 — Red**

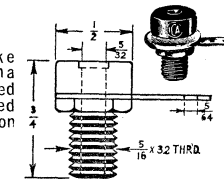
Insulated Tip Jacks



Improved type one-piece tinned phosphor bronze spring contact loop. Insulated top removable. For standard phone tips.

No. 889B — Black **No. 7560 — Yellow**
No. 889R — Red **No. 7561 — Green**
No. 7562 — Blue

Insulated Banana Type Jacks



Designed to take standard banana type plugs. Supplied with an insulated washer for use on metal panels.

No. 1891 — Black **No. 1892 — Red**

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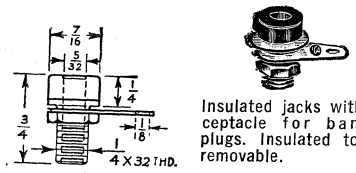
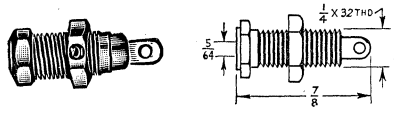
Insulated Banana Jacks



Insulated jacks with receptacle for banana plugs. Insulated top is removable.

No. 888B — Black
No. 888R — Red
No. 7570 — Yellow
No. 7571 — Green
No. 7572 — Blue

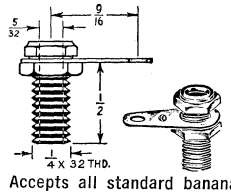
Brass Tip Jack



Accommodates any phone tip. Made of brass, nickel plated. Improved type one-piece nickel plated phosphor bronze spring contact loop for easy wiring.

No. 357

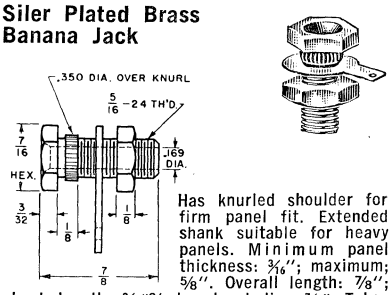
Transmitting Banana Jack



Made of quality brass; nickel plated, standard 1/4-32 thread. Furnished with heavy terminal lugs and plated nut. Accepts all standard banana plugs.

No. 402

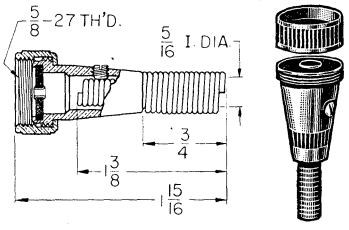
Siler Plated Brass Banana Jack



Has knurled shoulder for firm panel fit. Extended shank suitable for heavy panels. Minimum panel thickness: 3/16"; maximum; 5/8". Overall length: 7/8"; shank length: 3/16"3/8 hex head dia.: 7/16". Takes Insuline banana plugs No. 410, 421, 428, 429, 7573 and 7584.

No. 431A

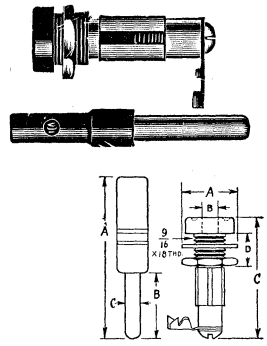
Universal Microphone Connector



Mates with all standard microphone connectors including itself. Non-fixed coupling ring permits rapid conversion from male to female. This connector is widely used for microphone cables, test equipment, etc. It provides a fully shielded reliable connection.

No. 1931

Giant Insulated Transmitting Plugs and Jacks



A line of heavy duty transmitting plugs and jacks. Plug-in type with positive grip contacts. Suited for use on short wave diathermy apparatus and ultra high frequency transmitters, etc. Supplied with red or black insulation. Equipped with large hex nuts for panel mounting. Rated at 1,000 Volts, 10 Amps.

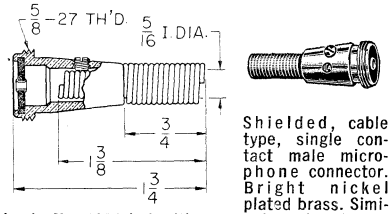
Giant Insulated Transmitting Plug

No.	Color	A	B	C
450	Red	3 3/8	1 3/8	1/4
451	Black	3 3/8	1 3/8	1/4
454	Red	3 5/8	1 5/8	3/8
455	Black	3 5/8	1 5/8	3/8

Giant Insulated Transmitting Jack

No.	Color	A	B	C	D
452	Red	7/8	1/4	1 7/8	7/16
453	Black	7/8	1/4	1 7/8	7/16
456	Red		3/8	2 3/8	7/16
457	Black		3/8	2 3/8	7/16

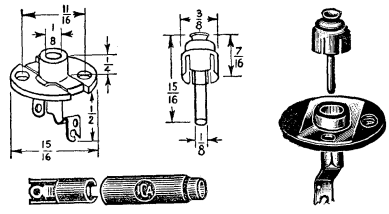
Microphone Connector

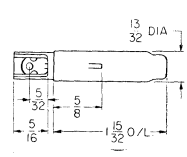


Shielded, cable type, single contact male microphone connector. Bright nickel plated brass. Similar to No. 1931 but without coupling ring. Mates with No. 1931 or any standard female microphone connector.

No. 1932

Phono Plugs and Jacks

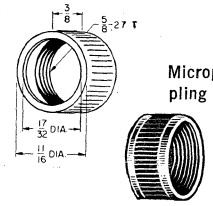




Used for phonograph connections, Hi-Fidelity, inter-connecting cables, etc. Compact and fully shielded.

No. 2383 — Phono Plug
No. 2384 — Cable Type Phono Jack
No. 2385 — Chassis Type Phono Jack

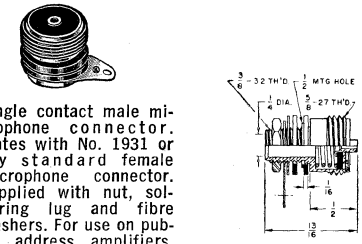
Connector Coupling Ring



Microphone connector coupling ring converts No. 1932 male connector to No. 1931 universal microphone connector.

No. 1925

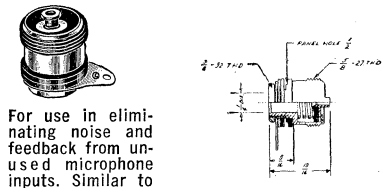
Chassis Type Microphone Connector



Single contact male microphone connector. Mates with No. 1931 or any standard female microphone connector. Supplied with nut, soldering lug and fibre washers. For use on public address amplifiers, test equipment, etc. (Use 3/8" hole for grounded mounting or 1/2" hole and fiber washers for insulated mounting.)

No. 1929

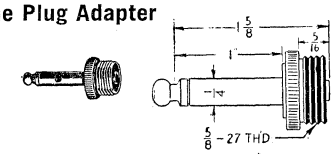
Closed Circuit Chassis Type Microphone Connector



For use in eliminating noise and feedback from unused microphone inputs. Similar to No. 1929 but with spring actuated contact.

No. 1930

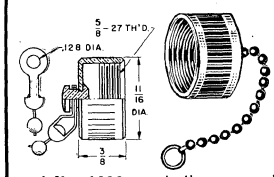
Phone Plug Adapter



Fits standard female mike connector such as ICA No. 1931, thus converting it to a phone plug. Soldering or wiring not necessary.

No. 33

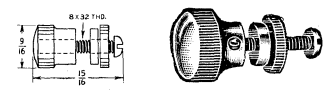
Connector Cap and Chain



Provides effective protection to unused male microphone connectors against grit and dirt. Chain prevents loss. For use with No. 1929 and No. 1930 or similar connectors.

No. 1918

All Metal Binding Post



Designed for high amperage, low resistance connections. Nickel plated brass. Dimensions same as No. 617.

No. 620

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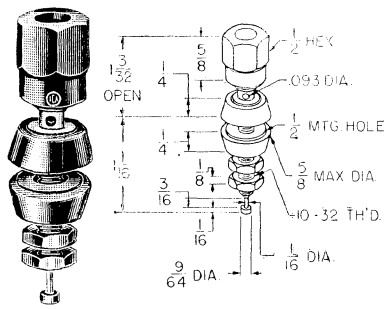
New Multi-Way Tenite Binding Post



Permits 6 different methods of connection above panel and 3 below.

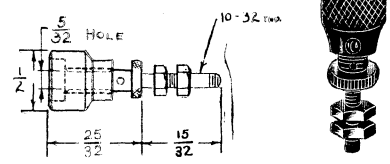
Above 1. Wire or 2. Phone tip thru hole and clamped. 3. Wire wrapped around stem and clamped 4. Spade lug clamped 5. Banana plug plug-in or 6. Alligator clip to stem.

Below 1. Wire or 2. Lug clamped between hex nuts. 3. Wire soldered.

Rated at 30 amp. 1000 v. max. diam. 5/8"; height above panel 29/32" (closed); 1 3/32" (open). Mounting hole 1/2". Panel thickness from 1/16" to 1/4".

No. 640B — Black **No. 640R — Red**

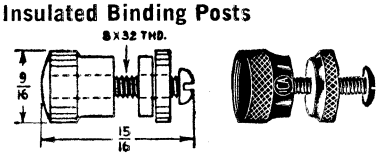
Insulated Binding Posts with Jack for Banana Type Plug



Knurled grip, non-removable head. Receptacle for standard banana type plug built into stem. Hole provided in stem for wire or phone tip connection. Length 1¼" overall when fully opened. Extends 5/8" above panel when head is screwed down. Fitted with 8/32 stud (3/8" long) and two hex nuts.

No. 623 — Black **No. 622 — Red**

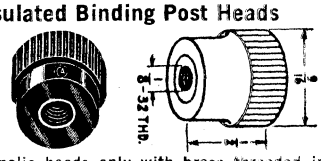
Insulated Binding Posts



9/16" diameter phenolic head with brass threaded insert, nickel plated screw and knurled nut. Removable head. Available in red and black.

No. 617 — Red **No. 618 — Black**

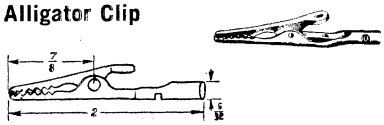
Insulated Binding Post Heads



Phenolic heads only with brass threaded insert for 8/32 screw.

No. 628 — Red **No. 629 — Black**

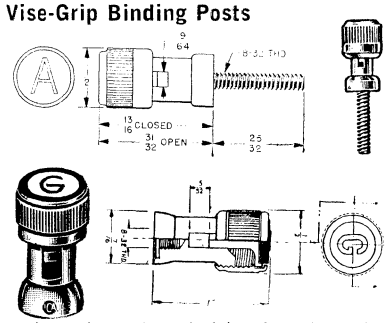
Alligator Clip



Non-insulated, widely-used type. Cadmium-plated steel. Sturdy spring and hinge assure firm bite. May be soldered to wire or shank. Will accept banana plug.

No. 364

Vise-Grip Binding Posts

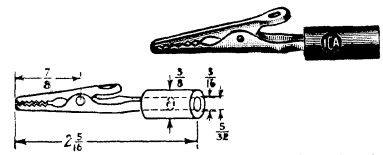


Engineered on the principle of a vise. When mounted, the post cannot be rotated and the wire hole and designating symbol will always be in alignment.

No. 630 Series—Have 8/32 Male Threaded Shank
No. 690 Series—Have 8/32 Tapped Hole

No.	Marking	No.	Marking
630	ANT	690	ANT
631	GND	691	GND
632	A	692	A
633	G	693	G
634	+	694	+
635	—	695	—
636	Rec.	696	Rec.
637	PLAIN (No Marking)	697	PLAIN (No Marking)

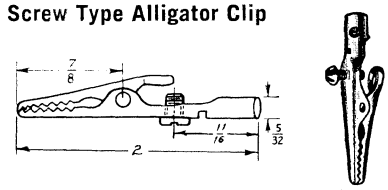
Insulated Alligator Clips



Cadmium-plated steel with red or black insulating sleeve. Has banana plug receptacle on insulated end.

No. 884B — Black **No. 884R — Red**

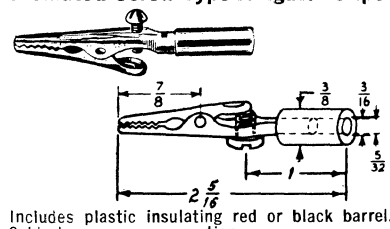
Screw Type Alligator Clip



Similar to No. 364 alligator clip but with convenient screw connection. Eliminates need for soldering.

No. 376

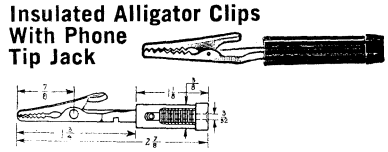
Insulated Screw Type Alligator Clips



Includes plastic insulating red or black barrel. Solderless screw connection.

No. 526B — Black **No. 526R — Red**

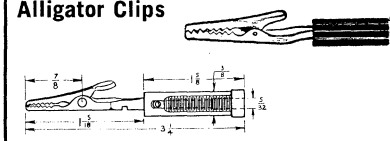
Insulated Alligator Clips With Phone Tip Jack



Has standard phone tip jack in insulated red or black sleeve. Will accommodate any standard phone tip.

No. 525B — Black **No. 525R — Red**

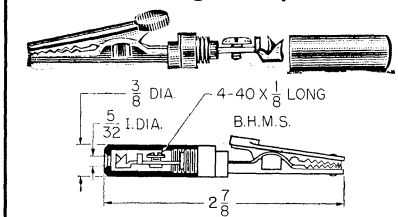
Insulated Combination Jack Alligator Clips



An insulated alligator clip with a dual purpose jack in plastic sleeve. Accepts either phone tip or banana plug.

No. 520B — Black **No. 520R — Red**

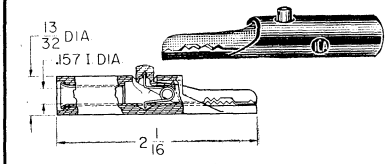
All-Insulated Alligator Clips



Special plastic molding fully encases clip; molded threaded sleeve covers terminal lug and screw. Combines a strong spring-loaded contact with complete insulation.

No. 522B — Black **No. 522R — Red**

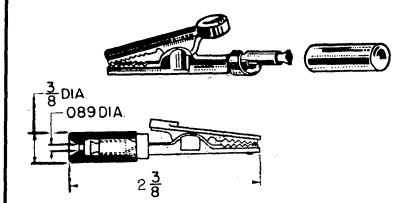
All-Insulated Alligator Clips



Fully insulated alligator clip. Firm gripping jaws; handy push button release. Takes standard banana plugs.

No. 524B — Black **No. 524R — Red**

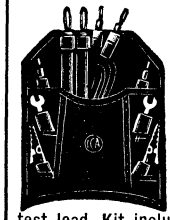
All-Nylon Insulated Alligator Clip



Spring-loaded alligator clip with high dielectric nylon insulation to prevent "shorts"; shock-free. Nylon barrel accepts standard .080" diam. test prods or phone tips. Metal parts are steel, cadmium plated. Supplied in black or red.

No. 529B — Black **No. 529R — Red**

All-Purpose Test Lead Kit



Packed in a convenient leatherette pocket case. Includes one pair of test leads with 48" of red and black kinkless live rubber wire. Leads are equipped with insulated phone tips on one end; other end has long-handled insulated removable banana plugs. The fittings supplied may be added to the banana plugs to provide desired type of test lead. Kit includes: 1 pr. test leads (handle 3⅛" L.); 1 pr. insulated alligator clips—red and black; 1 pr. insulated spade lugs — red and black; 1 pr. insulated needle point phone tips — red and black.

No. 1005

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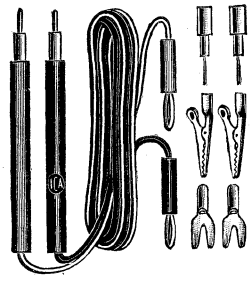
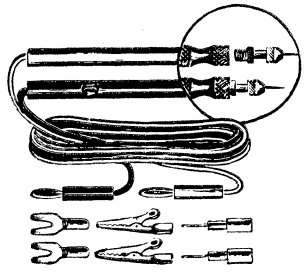
All-Purpose Test Lead Kit with Interchangeable Tips



The slim test lead handles measure 5" long. Made of sturdy tenite tubing. Overall length: 6". Red and black handles are equipped with sharp point phone tips which fit all standard jacks; the other end equipped with split banana plug. The kinkless live rubber leads are 48" long. The kit includes a pair of spade lugs, alligator clips and phone tips — all interchangeable.

No. 312

All-Purpose Test Lead Kit with Interchangeable Tips



Similar to No. 312 except handles are equipped with removable phone needle chucks.

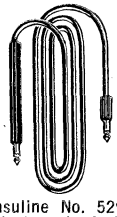
No. 311

Magne-Lead

Features a lead with magnet on one end. Ideal for quick, simple testing. Includes set of interchangeable tips; 48" rubber covered wire; overall length of handle 6".

No. 478

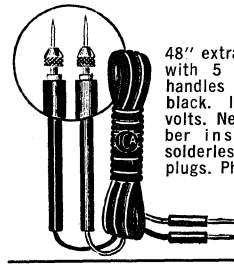
Nylon Handle Test Leads



A pair of flexible type test leads made to U. S. Army Signal Corps specification CX-1331/U. Each lead features one red (1" long) and one black (4" long) nylon barrel for high dielectric strength, each with 1" prod tip of silver-plated heat-treated beryllium copper for rugged use. Tip fits standard .080 dia. type jacks; also Insuline No. 529 alligator clip. Uses WS-16/U (black) and WS-17/U (red) single conductor cable, 48" long. Available in other wire lengths upon request.

No. 481

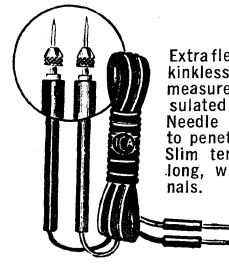
DeLuxe Phono Needle Test Leads



48" extra flexible test leads with 5 inch slim tenite handles — one red, one black. Insulated for 5000 volts. New non-kinking, rubber insulated wire. Has solderless pointed phone plugs. Phone tip terminals.

No. 355

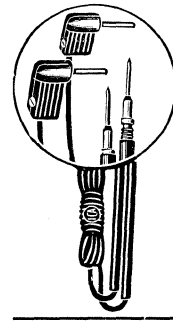
Phono Needle Point Test Leads



Extra flexible rubber-covered, kinkless wire, black and red, measures 48" in length. Insulated for 5000 volts. Needle point enables tester to penetrate wire insulation. Slim tenite handles are 5" long, with phone tip terminals.

No. 382

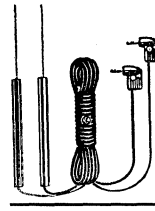
Pencil Type Test Leads



Streamlined design with finger-grip molded tips. Made of red and black tenite insulating material, with 48 inches of fine flexible soft rubber kinkless wire. Handles are 5" long. Sharp-pointed penetrating tip is threaded, screws into handle and protects one inch. All connections properly soldered providing low resistance connections vital in all precision tests. Insulated for 5,000 volts.

No. 373

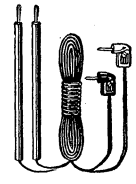
Slim-Line Test Leads



Long vinyl-insulated shaft permits probing in closely spaced circuits without fear of shorting. Black and red tenite handles are 5" long. 48" kinkless wire lead. Supplied with molded phone tip plug.

No. 438

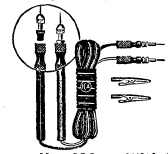
Extra Long Handled Test Leads



Features special low-loss highly polished hard rubber, high dielectric properties. 8" prod handles with sharp pointed penetrating tips for easier testing of less accessible points. The black and red kinkless wire leads measure 48". Includes molded black and red gun-handle phone tip plugs.

No. 329

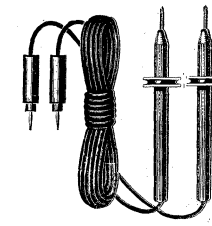
Heavy Duty Laboratory Test Leads



Extra long (5 inch) slim red and black handles with removable phono needle chucks. Handles knurled for fingergrip-ease. The heavy duty kinkless flexible rubber leads measure 48".

No. 400 — With insulated solderless plug
No. 388 — With alligator clip

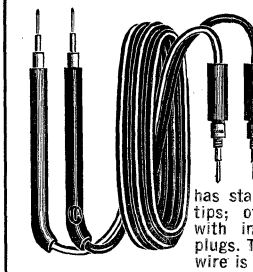
Heavy Duty Test Leads



Safely tests up to 10,000 volts. Bakelite handles with guards. Uses midget type phone tip. Heavy duty red and black cable of 18 gauge, 65/36 tinned copper, with heavy walled rubber covering. Prods are 6" long with 48" red and black cable; 2" bakelite phone tips on other end.

No. 4317

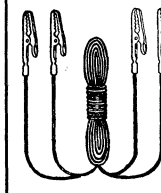
Unbreakable Test Leads



Made with long, slim metal prods (overall length: 6 11/16"), nickel-plated, covered with red and black shockproof live rubber sleeves. One end has standard needle point tips; other end supplied with insulated solderless plugs. The kinkless, rubber wire is 48" long.

No. 332 — With phone tips, non-insulated
No. 331 — With insulated solderless plug ends

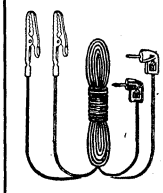
Alligator Clip Test Leads



A handy utility type test lead. The rubber-covered kinkless wire is highly flexible with firm-gripping alligator clips at each end.

No.	Wire Length	No.	Wire Length
486	12"	488	36"
487	24"	489	48"

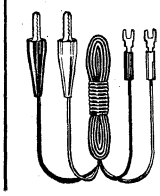
"Clip-On" Test Leads



A convenient "clip-on" test lead that includes phone tip plugs on one end; sturdy alligator clips on other end. The red and black kinkless wire leads measure 48".

No. 328

Heavy Duty "Clip-On" Test Leads



Heavy duty test leads of the "clip-on" type. Includes a heavy gauge nickel-plated brass insulated spade terminal which will fit screws or binding posts up to 3/16" dia. The pair consists of a 48" red and black lead with tenite insulation.

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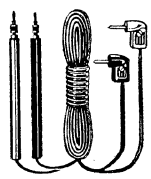
Lucite Handle Test Leads



Features red and black low-loss durable lucite handles (5" L.) for exacting testing requirements. Handles have brass threaded insert. Includes 48" kinkless live red and black rubber wire with molded gun-grip phone tip plugs. Handles have threaded type phono needle chucks.

No. 304

Non-Kink Flexible Test Lead Wire

Flexible rubber covered wire that will not kink or deteriorate in service. Consists of very fine tinned stranded copper wire with a heavy wall of live rubber insulation.

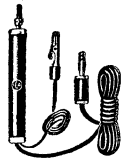
No. 307 — 100 ft. spool, Black
No. 309 — 100 ft. spool, Red

Lucite Prod Set

Has brass threaded insert. Red and black handles (measuring $\frac{7}{16}$" x 5" L.) are made of low-loss high-dielectric strength lucite. Have needle chucks on ends. Set includes one black and one red prod.

No. 302

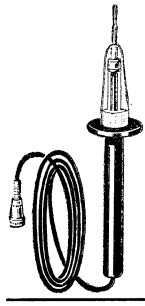
RF and Signal Tracer Probe



Germanium crystal circuit. Assures accurate analysis of circuit defects. May be used with audio amplifier for audible tracing or with V.T.V.M. for RF and AF measurements. Low input capacitance. The ideal probe for the audio section of television circuits. The sturdy phenolic barrel (overall length 6⅝") has sealed tenite ends with solderless phone tip and includes 48" RG59/U coaxial cable with phone plug and 18" rubber covered ground lead with alligator clip.

No. 4310

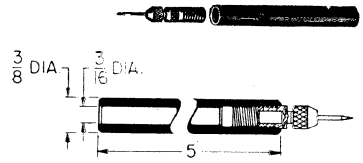
"100 X" Multiplier Probe



A new 30KV to 50KV multiplier probe (internal resistance 1090 megohms). For all 10 to 11 megohm input instruments.
This VTVM probe will multiply existing meter ranges by a factor of 100.

No. 6222—With microphone type connector and ground lead

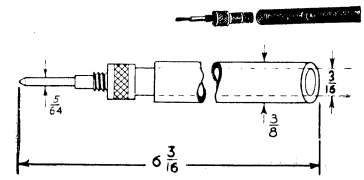
Tenite Phono Needle Point Test Prods



With removable chuck. Supplied in black or red tenite tapped handles. Needle point chuck is tapped to screw into handle.

No. 389B — Black
No. 389R — Red

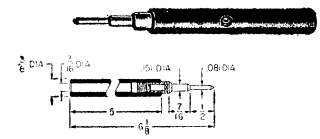
Solderless Plug Test Prods



With solderless plug chuck. Slim tapped tenite handles in black or red, threaded to take the solderless plug chuck. All brass parts are nickel-plated.

No. 390B — Black
No. 390R — Red

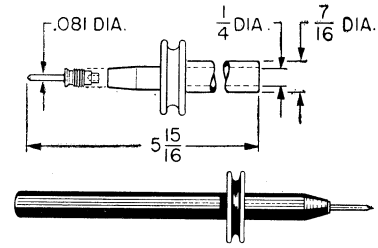
Heavy Duty Test Prods



Slim tapped tenite handle fitted with threaded heavy duty phone tip.

No. 387B — Black
No. 387R — Red

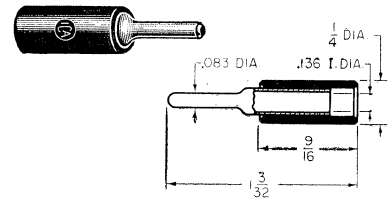
High Voltage Heavy Duty Tenite Test Prod Handles



High voltage, 10,000 volts. Has midget threaded phone tip. Suitable for all high voltage work. Made of black tenite with finger guard ring. Prods are 6" long overall.

No. 480

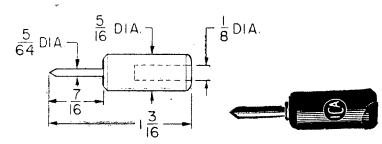
Phone Tip With Insulating Jacket



Nickel-plated brass with small O.D. insulating sleeve.

No. 341B — Black **No. 341R — Red**

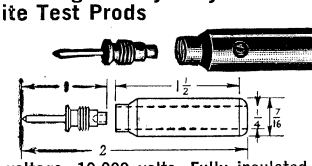
Insulated Midget Phone Tip Plug



Fits all standard tip jacks. Tip is made of nickel-plated brass, particularly adapted for use where minimum amount of metal can be exposed. Ribbed tenite handle.

No. 876B — Black **No. 876R — Red**

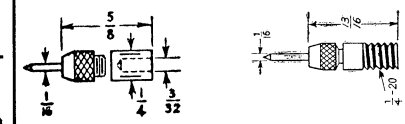
High Voltage Heavy Duty Tenite Test Prods



High voltage, 10,000 volts. Fully insulated with threaded midget sharp pointed phone tips. Measures 2" overall.

No. 485

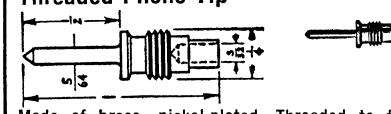
Phono Needle Chucks



In two styles: push-on type can be forced into handles; threaded type can be screwed into handles. Machined of brass, nickel-plated, with needle point.

No. 508 — Push-on type. Overall size: 1"
No. 509 — Threaded type. Overall size: 1"

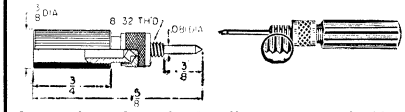
Midget Sharp Point Threaded Phone Tip



Made of brass, nickel-plated. Threaded to fit all test prods. Serves as replacement for tips in midget plugs listed herein. For use where exposure of minimum amount of metal is desired.

No. 365

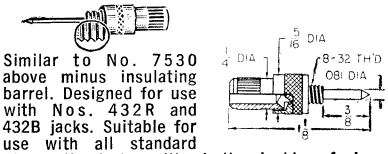
Locking Type Solderless Phone Tips



Companion piece to Insuline No. 432 locking type tip jack. (May also be used with non-locking type jack). Insulated barrel.

No. 7530B — Black **No. 7530R — Red**

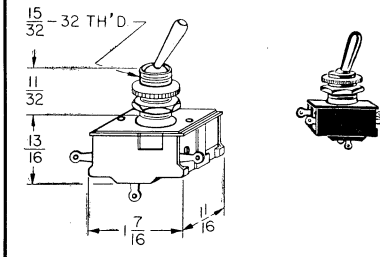
Locking Type Solderless Phone Tip



Similar to No. 7530 above minus insulating barrel. Designed for use with Nos. 432R and 432B jacks. Suitable for use with all standard phone tip jacks without the locking feature.

No. 7526

Bat-Handle Double Throw Switch



A sturdy double throw bat-handle toggle switch featuring center "OFF" position. Made by H & H. Rated 3 Amps., 250 Volts; 6 Amps., 125 Volts.

No. 1386 — Single Pole Double Throw
No. 1387 — Double Pole Double Throw

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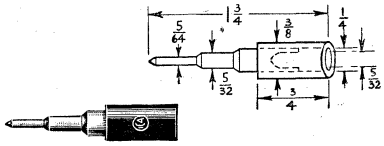
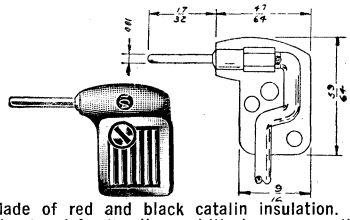
Insulated Needle Point Tip Plugs



A heavy duty needle point phone tip with a ribbed — red or black — tenite handle. Generous sized solder hole will accept any size wire or a banana plug. Serves dual purpose as adapter permitting leads equipped with banana plugs to be used with instruments having tip jacks.

No. 886B — Black No. 886R — Red

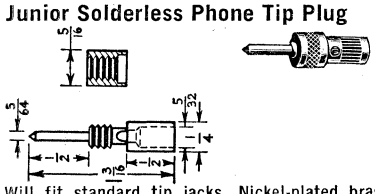
Grip-Rite Molded Phone Tip Plugs



Made of red and black catalin insulation. Replacement for Insuline and Weston — as well as other make test leads. Phone tip fits all make tip jacks. Supplied with nut and bolt for ease of assembly.

No. 868 — Red No. 869 — Black

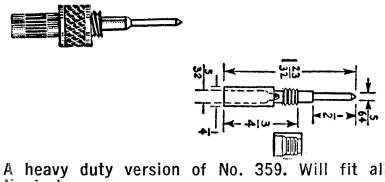
Junior Solderless Phone Tip Plug



Will fit standard tip jacks. Nickel-plated brass construction. Knurled for easy gripping. Easily attached without soldering or use of tools. Suitable for testing, leads, antenna and ground connections, etc.

No. 359

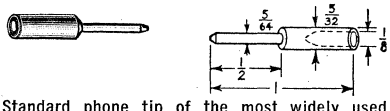
Senior Solderless Phone Tip Plug



A heavy duty version of No. 359. Will fit all tip jacks.

No. 358

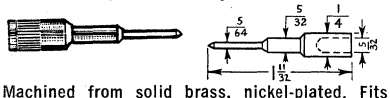
Standard Phone Tip



Standard phone tip of the most widely used type.

No. 360

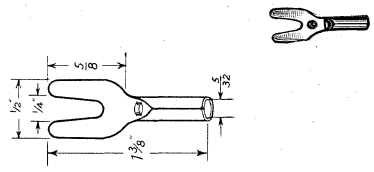
Heavy Duty Phone Tip



Machined from solid brass, nickel-plated. Fits all standard phone tip jacks. The .161 hole takes a standard banana plug. The knurled portion will be a tight fit in a ¼" or slightly smaller hole.

No. 361

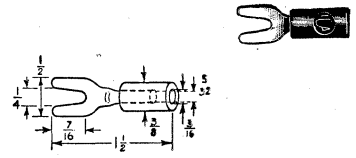
Spade Lug



May be used on any size screw or terminal up to size 10. Receptacle fits all Insuline and other make banana plugs.

No. 879

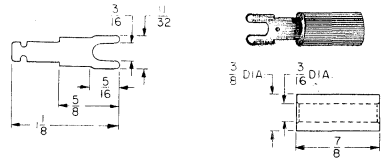
Insulated Spade Lugs



Insulated spade lug with banana plug receptacle on lead end.

No. 887B — Black No. 887R — Red

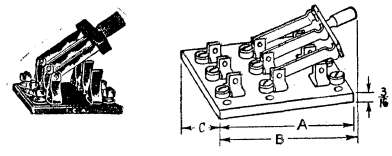
Heavy Duty Insulated Spade Lugs



Heavy gauge nickel-plated brass spade lug which will fit on screws or binding posts up to 3/16" in diameter. Supplied with tenite sleeve — red or black — unassembled for forced fit after wiring.

No. 867B — Black No. 867R — Red

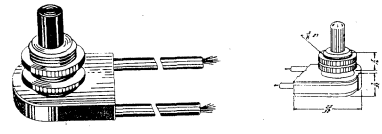
Bakelite Knife Switches



Hardware of brass, cadmium plated. Mounted on highly polished bases of Black Bakelite. Firm contact assured.

No.	Description	A	B	C
1216	S.P.S.T.	1 13/16	2¾	1
1217	S.P.D.T.	2¾	3½	¾
1218	D.P.S.T.	1⅞	2⅝	1⅞
1219	D.P.D.T.	2¾	3½	1 11/16
1360	3.P.S.T.	1⅞	2⅝	2½
1220	3.P.D.T.	2⅞	3½	2½
1221	4.P.S.T.	1⅞	2⅝	3¼
1222	4.P.D.T.	2¾	3½	3¼
1364	5.P.D.T.	2¾	3½	3 15/16

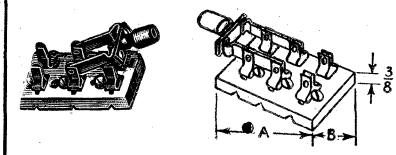
Rotary Canopy Switch



Single pole switch
⅜-27 shank, 5/16" long with bakelite knob and 6" leads — 3 Amperes, 125 Volts.

No. 1257

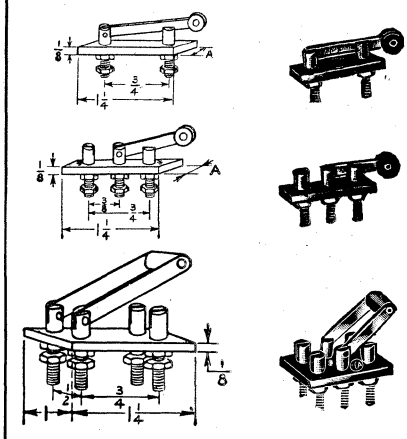
Porcelain Knife Switches



Moisture-proof base. Recommended for outdoor use. Hardware of brass, heavily nickel plated.

No.	Description	Base Size A	Base Size B
235	S.P.S.T.	1¾"	1"
236	S.P.D.T.	2⅝"	1"
237	D.P.S.T.	1¾"	1⅝"
238	D.P.D.T.	2⅝"	1½"

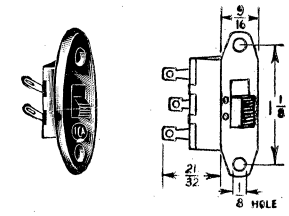
Miniature Bakelite Switches



Can be mounted either on the panel or base. Black Bakelite base — cadmium plated brass parts with insulated handles.

No.	Description	A
2223	S.P.S.T.	½
2224	S.P.D.T.	½
2225	D.P.D.T.	1
2226	D.P.S.T.	1

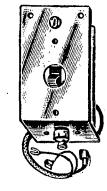
Slider Switches



Used wherever a small compact switch is needed. Has solder lug terminals with phosphor bronze spring contacts.

No. 1255 — S.P.S.T. No. 1260 — D.P.D.T.
No. 1259 — S.P.D.T. No. 1264 — D.P.S.T.

FM and Record-Player Switch



Replacement for RCA Switch 9824A

Used for quickly connecting Record Players, F.M. attachments and similar devices into the audio amplifier of existing radio receivers.

No. 1740

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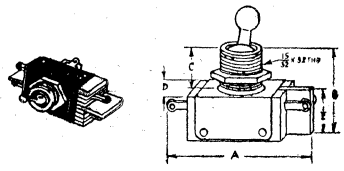
Toggle Switches

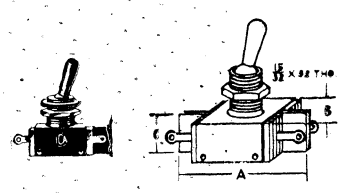


Specially constructed ball joint. Bakelite insulation. Furnished in Nickel or Antique Bronze. Capacity 1 Amp., 250 Volts; 3 Amps., 125 Volts. Mfd. by H & H for ICA. Underwriters approved.

No.	Description	Finish	A	B	C	D
1230*	S.P.S.T.	Nickel	1 3/16	15/16	3/8	7/16
1232*	S.P.S.T.	Bronze	1 3/16	15/16	3/8	7/16
1233*	S.P.S.T.	Bronze	1 3/16	1 1/4	3/4	7/16
1235*	S.P.S.T.	Nickel	1 3/16	1 1/4	3/4	7/16
1236	S.P.D.T.	Nickel	1 1/2	15/16	7/16	7/16
1237	S.P.D.T.	Nickel	1 1/2	15/16	3/4	7/16
1238	D.P.S.T.	Nickel	1 9/16	1	3/8	5/8
1365	D.P.D.T.	Nickel	1 9/16	1 3/8	7/16	5/8
1366	D.P.D.T.	Nickel	1 9/16	1 5/8	3/4	5/8

* 3 Amps., 250 Volts.

Bat-Handle Toggle Switch



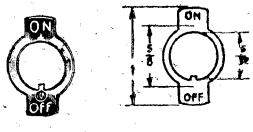
Made by H & H identical to toggle switches listed above, except that handle is longer and shaped like a baseball bat. Rated 3 Amps., 125 Volts; 1 Amp., 250 Volts.

Less "On and Off" plate
Nickel plated only — 15/32" shank

No.	Description	A	B	C
1296*	S.P.S.T.	1 3/16	7/16	9/16
1297	S.P.D.T.	1 1/2	7/16	9/16
1298	D.P.S.T.	1 9/16	5/8	9/16
1299	D.P.D.T.	1 9/16	5/8	9/16

* 3 Amps., 250 Volts.

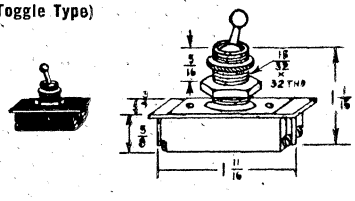
"On-Off" Plate



No. 1300 — For Toggle Switch — Nickel plated finish

No. 1300-BR — For Toggle Switch — Antique Bronze finish

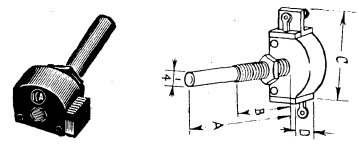
Power Switch
(Toggle Type)



Characteristics and dimensions same as No. 1280 described above.

No. 1281

Rotary Switches

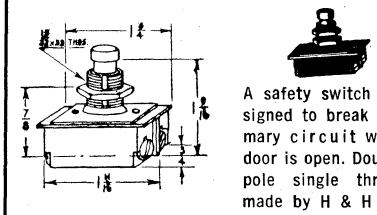


Rated 3 Amps., 125 Volts. Each switch encased in steel jacket. Bakelite insulation. Made by H & H for ICA. Underwriters Approved.

No.	Description	A	B	C	D
*1228	S.P.S.T.	1 1/2	3/8	1 3/16	1/2
*1229	S.P.S.T.	1 1/2	1	1 3/16	1/2
1286	S.P.D.T.	1 1/2	3/8	1 1/2	1/2
1287	S.P.D.T.	2 1/2	1	1 1/2	1/2
1288	D.P.D.T.	1 1/2	3/8	1 9/16	11/16
1289	D.P.D.T.	2 1/2	1	1 9/16	11/16

* Rated 3 Amps, 250 Volts.

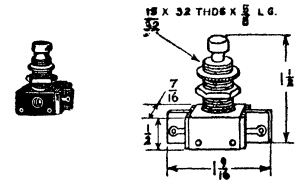
High Power Switch Push Button Type



A safety switch designed to break primary circuit when door is open. Double pole single throw, made by H & H for ICA. Capacity 12 Amperes, 125 Volts; 6 Amperes, 250 Volts. Requires 1/2" hole for mounting. Underwriters Approved.

No. 1280

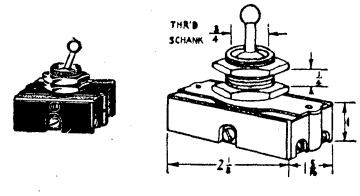
Push Button Switch



Single pole 2 circuit momentary switch. One circuit is "ON" and the other normally "OFF". 1 Ampere, 125 Volts, made by H & H for ICA. Shank 9/16" long. Underwriters Approved.

No. 1282

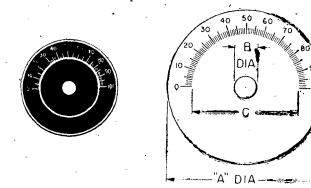
Extra Heavy Duty Switch
D.P.D.T. With Neutral Center



An extra large heavy duty, Double Pole, Double Throw Switch with neutral position in the center for use in heavy current circuits. Rated at 10 Amperes, 125 Volts; 5 Amperes, 250 Volts; 3/4 H. P., 250 Volts. Underwriters Approved.

No. 1283

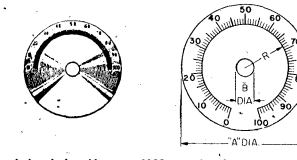
Brass, Black Satin Finish, Dial Plates With Etched Silver Numerals



Made of brass, black finished, with clear etched silver lines and numerals. Supplied in 2" and 3 1/2" diameters.

No.	Degrees	Calib.	A	B
2230	325	0-100	3 1/2"	13/32"
2231	180	100-0	3 1/2"	13/32"
2232	180	0-100	3 1/2"	9/16"
2233	180	100-0	2"	13/32"
2234	325	0-100	2"	13/32"
2235	325	100-0	2"	13/32"
2236	180	0-100	2"	13/32"

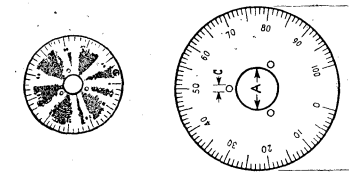
Chrome Silver Dial Plates



Furnished in three different sizes — 2", 3 1/2", and 4" diameters. Attractive grain satin finish. Black Etcho-Engraving on chrome silver background brass plates.

No.	A	Deg.	R	Calib.	B
2294	2	180	5/8	0-100	13/32
2295	2	325	9/16	0-100	13/32
2296	3 1/2	180	1 1/16	0-100	9/16
2297	3 1/2	325	1 1/32	0-100	9/16
2298	4	180	1 3/8	0-100	9/16

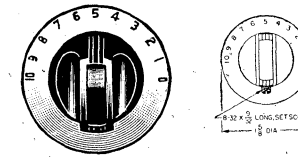
Chrome Silver Dial Plates



2 3/4" and 4" diameter. Two types, calibrated 180 degrees, 0-100 and 325 degrees, 0-100; made of brass.

No.	Degrees	Calib.	A	B	C
2196	325	0-100	5/8	2 3/4	9/64
2197	180	0-100	5/8	2 3/4	9/64
2194	325	0-100	15/16	4	9/64
2195	180	0-100	15/16	4	9/64

Miniature Dial Plates



For matching dials on instruments, receivers, amplifiers, etc. Rich chrome silver dial with clear black etched numbers; made of brass. Finger-grip black knob. Fits 1/4" shaft. Ranges from 0-10 over 180 and also 270 degrees. Only 1 5/8" diameter.

No. 2164 — 10-0-180 degrees
No. 2165 — 10-0-270 degrees

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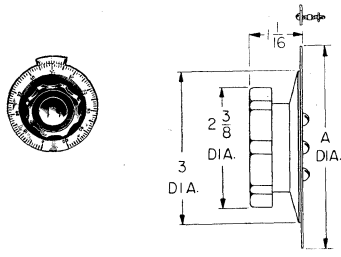
Chrome Silver Dials With Finger Grip Flange Knobs



Precision chrome silver finished brass dial plates accurately Etcho-engraved with black numerals and calibrations. Mounted on ICA Finger Grip Flanged Knob. Knob is equipped with brass bushing for 1/4" shaft. Supplied complete with VERNIER MARKER and hardware.

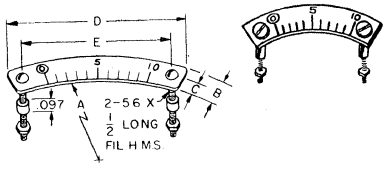
No.	Degrees	Cal.	A
2170	325	0-100	2¾"
2171	180	0-100	2¾"
2168	325	0-100	4"
2169	180	0-100	4"

Miniature Chrome Silver Dial Plates

Same as 2164 and 2165 less knobs.

No. 2166 — 10-0-180 degrees
No. 2167 — 10-0-270 degrees

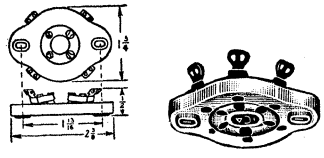
Vernier Dial Marker



Brass verniers, supplied complete with screws, nuts, and spacers for mounting on metal, wood, bakelite or brass panels. Permit reading to within 1/10% of full rotation. Made in four types.

No.	For Dial Diam.	Deg.	A	B	C	D	E
2189	2¾	325	1⅜	¼	⅛	1 7/16	1 3/32
2190	2¾	180	1⅜	¼	⅛	1 1/32	¾
2191	4	325	2	5/16	⅛	1 13/16	1 13/32
2192	4	180	2	5/16	5/32	1 1/32	1

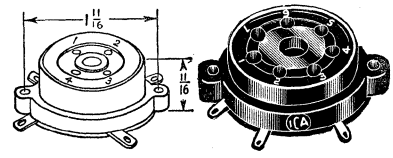
Wafer Sockets



Designed for ultra high frequency reception. Made of Insulex — a low loss ceramic compound. Features include: large self-wiping contacts of cadmium plated phosphor bronze; special circular grooves for easy tube inserting; recessed contact rivets to prevent "shorting". For either base board or sub-panel mounting.

No. 2600 — 4 Prong
No. 2601 — 5 Prong
No. 2602 — 6 Prong
No. 2604 — 7 Prong, small
No. 2605 — 8 Prong OCTAL for new metal tubes
No. 2636 — Contact for above Sockets

Base Mounting Sockets

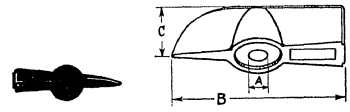


Ideal for radio and testing equipment work. Improved bakelite molded socket with special spring bronze nickel plated contacts. For either base or panel mounting. Two mounting holes 5/64" diam.

Base Mounting

No. 2480 — 4 Prong
No. 2481 — 5 Prong
No. 2482 — 6 Prong
No. 2483 — 7 Prong combination large and small
No. 2489 — 8 Prong Octal
No. 2490 — Contact only for above sockets

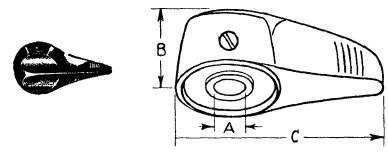
Pointer Bar Knobs



New type modernistic pointer knobs with set screw mounting. Pointer is filled in white. Firm mounting.

No.	Color	A	B	C
1125	Black	¼	1¼	⅝
1126	Black	¼	2	⅝

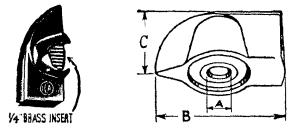
Instrument Bar Knob



Used on Test equipment, amplifiers, inter-office systems, etc. Has 1/4" brass insert with set screw. Black only.

No.	A	B	C
1270	¼	⅝	1⅝

Streamlined Pointer Knobs

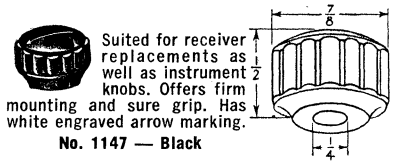


Attractive design with brass insert that offers firm grip on shaft for use on amplifiers, test equipment, etc. Has 1/4" brass insert and set screw.

No.	A	B	C
1274	¼	1¼	⅝
1275	¼	2	⅝

1274-S — Same as 1274 but with two set screws
1275-S — Same as 1275 but with two set screws

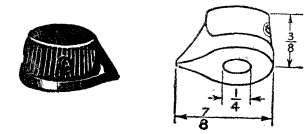
"Shur-Grip" Arrow Pointer Knob



Suited for receiver replacements as well as instrument knobs. Offers firm mounting and sure grip. Has white engraved arrow marking.

No. 1147 — Black

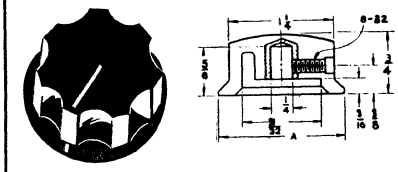
Modern Plastic Knob



Recent design to blend with latest type instrument housings.

No. 1081 — Black

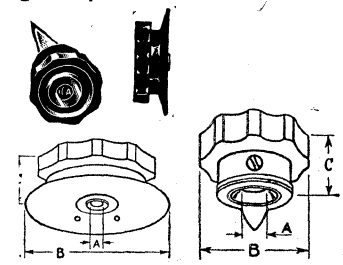
Instrument Knobs



A compact, firm-gripping knob with well-defined indicating stripe. Black bakelite.

No.	A
244	1¼
245	1½

Finger-Grip Pointer Knobs

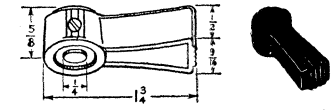


Moulded of black phenolic with brass insert and hole for use with ICA dial plates. Pointer type knobs have white plastic indicator.

No.	A	B	C
WITH POINTER			
1166	¼	1⅛	11/16
1168	¼	1⅝	13/16
1170	¼	2⅜	15/16
LESS POINTER			
1165	¼	1⅛	⅝
1167	¼	1⅝	¾
1169	¼	2⅜	⅞
WITH FLANGE			
1171	¼	2 1/16	⅞
1172	¼	3	15/16

These knobs also supplied with TWO set screws. Order by adding "S" to numbers indicated.

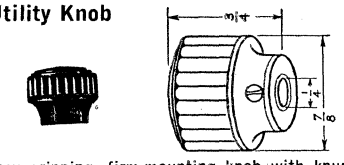
Pendulum Knob with Brass Insert



An attractive molded plastic handle knob having 1/4" shaft and set screw.

No. 1153 — Black

Utility Knob



Easy gripping, firm-mounting knob with knurled rim. Gleaming black finish.

No. 1174

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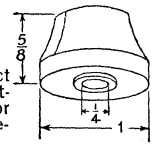
Semi Bar Knob



A neatly designed, compact knob that assures firm mounting. Black finish. Excellent for medium size knob requirements.

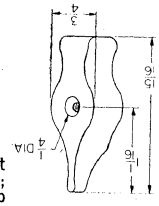
No. 1088 — Black

Deluxe Knob Assortment

An assortment containing 50 knobs packed in attractive convenient container. Includes a variety of all-purpose modern bakelite knobs equipped with set screw. Fits 1/4" shaft. Suitable for many applications.

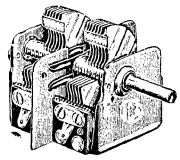
No. 1059

Metal Knob

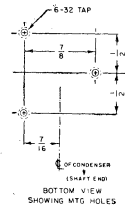


A sturdy knob of die cast aluminum. Fits 1/4" shaft; includes 2 socket head cup point set screws. This easy-grip knob has black anodized finish. **No. 1184**

Midget Precision Condensers



Ball-bearings on both ends of shaft insure long life without wear or side play. Heavy brass springs make direct contact with rotor shaft, insuring a clean wiping contact at all times.



TWO GANG CONDENSER

No.	Mmfd.	Overall Width	Overall Height	Overall Length
538	135	1 13/16"	2"	3 3/16"
534	365	1 13/16"	2"	3 3/16"

THREE GANG CONDENSER

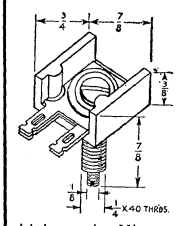
No.	Mmfd.	Overall Width	Overall Height	Overall Length
532	135	1 13/16"	2"	4 3/16"
531	365	1 13/16"	2"	4 3/16"

Superheterodyne Type

Designed for 455 KC IF. RF section is 27 plates; 435 mmfd. Oscillator Section is 19 plates; 173 mmfd. Overall Width: 1 13/16". Overall Height: 2". Overall Length: 3 3/16".

No. 545

Ceramic Padding Condensers

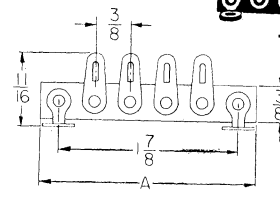


Compact, yet rugged Padding Condensers. Designed for aligning tandem condensers, short wave band switch coils, antenna trimmers, etc. Uses high grade Mica and Phosphor Bronze Nickel-plated Spring contacts.

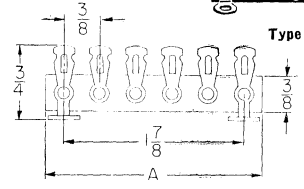
No.	Min. Cap.	Max. Cap.
611	4.0 mmfd.	40 mmfd.
612	12.0 mmfd.	100 mmfd.
613	70.0 mmfd.	350 mmfd.
614	160.0 mmfd.	500 mmfd.

Solder Type Terminal Strips

Type A



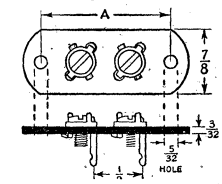
Type B

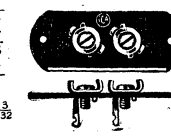


Bakelite (1/16" thick). Mounting tie strips for fastening Resistors, Condensers, etc. Mounting Lug hole diameter .140". Terminals are made of cadmium plated brass. Type A shows non-ground mounting lug. Type B shows combination grounding-mounting lug.

No.	Type	Terminals	Mounting Centers	Mounting Lugs
2434	A	1		1
2455	B	1	One	1
2435	A	2	Hole	1
2456	B	2		1
2436	A	3	1 1/2	2
2457	B	3	1 1/2	2
2437	A	4	1 7/8	2
2458	B	4	1 7/8	2
2438	A	5	2 1/4	2
2459	B	5	2 1/4	2
2439	A	6	1 7/8	2
2460	B	6	1 7/8	2
2440	A	7	1 1/2	2
2461	B	7	1 1/2	2
2441	A	8	1 7/8	2
2462	B	8	1 7/8	2

Screw Type Terminal Strips



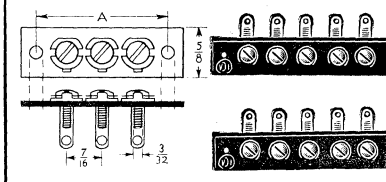


Specially suited for amplifiers, mixers, receivers, etc. Made of 1/8" heavy black Bakelite, engraved in silver. Terminals are brass cadmium plated. Will not turn or short.

No.	Term.	Marking	A	Size
2420	2	Plain	1 1/2	7/8 x 2
2419	2	A & G	1 1/2	
2418	2	Output	1 1/2	
2417	2	Input	1 1/2	
2414	3	Plain	2	7/8 x 2 1/2
2415	3	1, 2, 3	2	
2413	4	Plain	2 1/2	7/8 x 3
2408	4	1, 2, 3, 4	2 1/2	
2405	5	Plain	3	7/8 x 3 1/2
2406	5	1, 2, 3, 4, 5	3	7/8 x 3 1/2
2404	6	Plain	3 1/2	7/8 x 4
2402	6	1, 2, 3, 4, 5, 6	3 1/2	
2412	7	Plain	4	7/8 x 4 1/2
2411	7	1, 2, 3, 4, 5, 6, 7	4	
2410	8	Plain	4 1/2	7/8 x 5
2409	8	7, 2, 3, 4, 5, 6, 7, 8	4 1/2	
2424	9	Plain	5	7/8 x 5 1/2
2423	9	1, 2, 3, 4, 5, 6, 7, 8, 9	5	
2422	10	Plain	5 1/2	7/8 x 6
2421	10	7, 2, 3, 4, 5, 6, 7, 8, 9, 10	5 1/2	

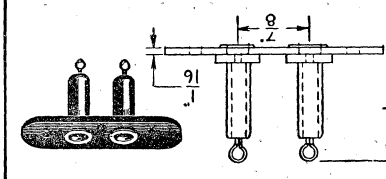
Screw Type Terminal Strips

Brown bakelite 1/16" thick. Suitable light duty radio work, experimental purposes, etc. Terminals are brass, cadmium-plated.



No.	Terminals	A
2520	2	1 5/16
2521	3	1 3/4
2522	4	2 3/16
2523	5	2 5/8
2524	6	3 1/16
2528	Terminal Lug & Screw only	

Twin Jack Strip



For Headphones, Speakers, etc., where two terminals required for ready contact. Will take standard phone tips. Spun on 1/16" bakelite strip. Base width 1 1/16". Distance between mounting holes 1 1/16".

No. 2443

Special Jack strips supplied to manufacturer's specifications in quantity runs.

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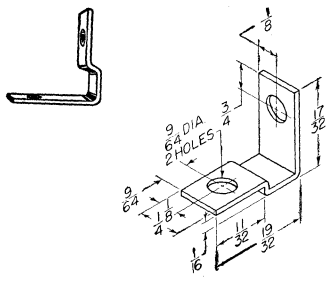
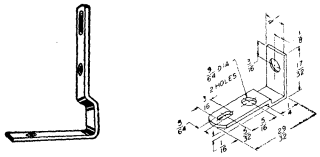
Terminal Strip Offset Mounting Bracket



For mounting screw-type terminal strips on breadboards; above chassis, etc. Cadmium-plated steel. Mounting hole for No. 6 screw.

No. 2430

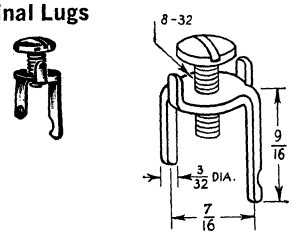
Terminal Strip Offset Mounting Bracket and Lug Combination



For sturdy mounting of terminal strips. Features convenient grounding lug which projects above terminal strip. Cadmium-plated steel. Mounting hole for No. 6 screw.

No. 2431

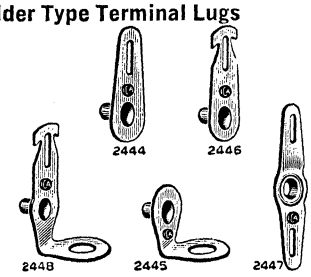
Terminal Lugs



Sturdy cadmium-plated brass screw type terminal lugs.

No. 2425 — Lugs only (less screws)
No. 2426 — Terminal Screws, 5/16" L.

Solder Type Terminal Lugs



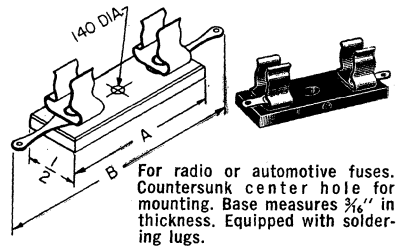
A variety of cadmium plated brass solder type lugs for wide application.

No. 2444 — Terminal Lug
No. 2445 — Mounting Lug — #6 hole
No. 2446 — Notched Terminal Lug
No. 2448 — Combination Term. and Mounting Lug — #6 hole
No. 2638 — Same as 2448 — #8 hole
No. 2447 — Double lug with center eyelet
No. 2463 — Combination lug — eyelet type and bracket

Special Terminal Strips

Special type terminal strips with terminals in any required position, including offset bracket type. Made to specifications. Send us your print.

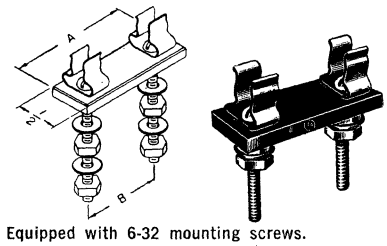
Phenolic Base Fuse Mountings for 3 AG Type Fuses Flush Type Mounting



For radio or automotive fuses. Countersunk center hole for mounting. Base measures 3/16" in thickness. Equipped with soldering lugs.

No.	Type	A	B
2340	Single Pole	1½"	2⅜"
7201	Double Pole	1¾6"	2¼"

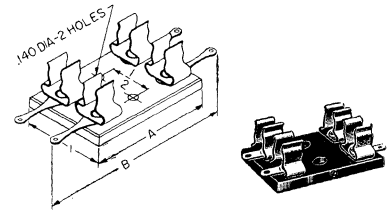
Panel Type Mounting



Equipped with 6-32 mounting screws.

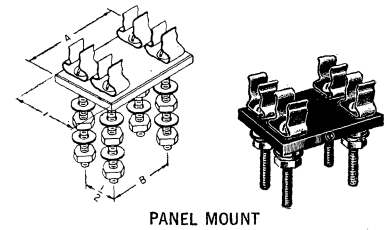
No.	Type	A	B
2341	Single Pole	1½"	1"
7203	Double Pole	1½"	1"

For 8 AG Type Fuses



FLUSH MOUNT

No.	Type	A	B
7202	Single Pole	1¾6"	2¼"
7204	Double Pole	1½"	2⁷⁄16"



PANEL MOUNT

No.	Type	A	B
7205	Single Pole	1¾6"	1¾6"
7206	Double Pole	1¾6"	1¾6"

Midget Fuse Clips

For ¼" glass fuses; nickel plated.

Cat. No.	Height	Length
5681	7/16"	¼"

Standard Fuse Holders

Top quality fuse holder and parts

No. 2348 — Standard fuse holder complete

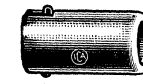
No. 2360 — Female sleeve only

No. 2364 — Fibre Insulator only

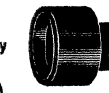
Jumbo Fuse Holders

Fuse holders of various needed values

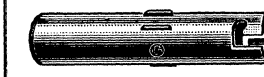
No. 2349 — SFE 30 Amperes (2⅝" L. x ½" d.)
No. 2346 — SFE 20 Amperes (2½" L. x ½" d.)
No. 2345 — SFE 14 Amperes (2¼" L. x ½" d.)
No. 2344 — SFE 9 Amperes (2⅛" L. x ½" d.)



No. 2359 — Male sleeve only

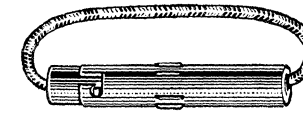


No. 2367 — Bakelite bushing only



No. 2358 — Female sleeve only

Pre-Wired Jumbo Fuse Holder



Suitable for 3 A.G. 20 amp. or SFE 14 amp. fuse. Eliminates necessity of soldering when changing fuse holder. Wire is merely severed, stripped and placed in line.

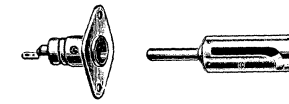
No. 2368

Antenna Connector

A popular, widely used antenna connection. Complete.

No. 2347

Motorola Plug & Jack



No. 2378 — Motorola Shielded Jack
No. 2375 — Motorola Pin Plug

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OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

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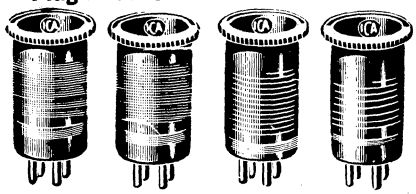
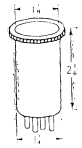
Short-Wave and Broadcast Plug-In Coils



Precision wound on Low-Loss phenolic forms: 4 Prongs . . . 2 Windings. Diam. 1¼"; height 2¼". Rim handle for easy changing. Uniformly spaced winding. Used with either 140 or 150 mmfd. tuning condenser.

No. 1471 — Set of 4 short wave coils — from 9½ to 217 Meters
No. 1473 — Set of 2 Broadcast coils — 190 to 550 Meters

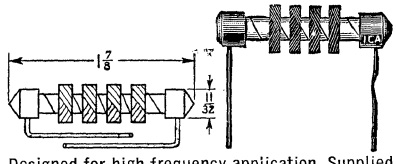
Small Phenolic Coil Forms



Equipped with special rim on top making it easy to insert and pull out of socket. Black phenolic. Ridge is grooved for color coding.

No. 1108B — 4-Prong
No. 1113B — 5-Prong
No. 1114B — 6-Prong

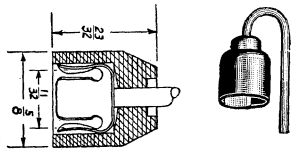
Insulex R. F. Choke Coil



Designed for high frequency application. Supplied with wire leads for mounting.

No.	Inductance	D.C. Resis.	Current Cap.
277	2.5 M.H.	32 ohms	150 ma.

Phenolic Insulated Grid Caps



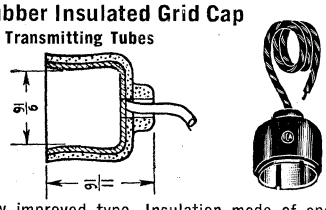
Improved type for standard and transmitting tubes. Sturdy cadmium plated brass clip. Furnished with 12" wire.

For 866 Transmitting Tubes
No. 683 — Black

For Standard Glass Receiving Tubes with small caps
No. 680 — Red **No. 681 — Black**

Rubber Insulated Grid Cap

For Transmitting Tubes

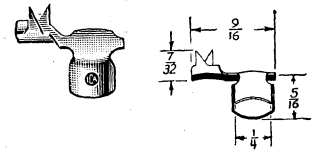


New improved type. Insulation made of special soft rubber over spring bronze.

For 866 Type Tubes

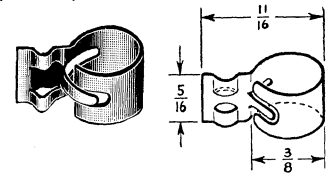
No. 870 — With Leads

Spring Action Grid Cap



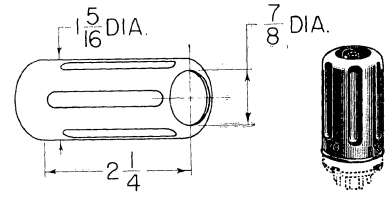
For all types of tubes. Positive contact. All grid caps are hot tinned steel ready for soldering.

No. 1551 — For tubes with miniature caps (.250 dia.)



No. 1554 — For standard glass receiving tubes

GT and GT/G Type Tube Shields

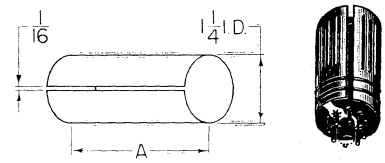


Latest type seamless, drawn shell type. Length 2¼".

No. 1744 — Open top* **For tube diam. 1.218"**
No. 1745 — Closed top* **For tube diam. 1.218"**
No. 1746 — Open Top** **For tube diam. 1.165"**
No. 1747—Closed top† For tube diam. 1.165"**

***For GT and GT/G tubes with large metal base.**
****For GT tubes with small metal base.**
†For Loktal tubes.

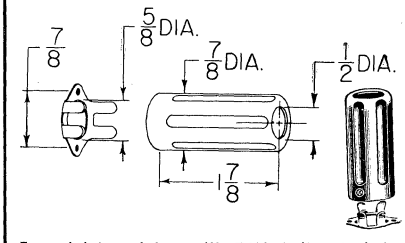
Form Fit Tube Shields



A tube shield that assures a snug, positive fit. Includes ground clip as illustrated.

No. 1727B — For GT; GT/G and Loktal tubes. Length 2½".
No. 1729B — For GT and GT/G tubes. Length 2¾".

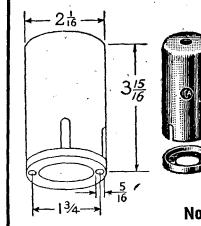
Miniature Tube Shield and Clip



For miniature tubes with T5½ bulbs. Includes base clip. Length 1⅞" Mtg. Centers (base clip) ⅞" for standard miniature tubes.

No. 1735

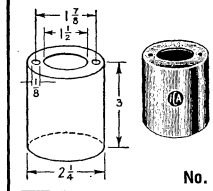
Aluminum Tube Shield with Detachable Base



Will fit on all standard Screen Grid Tubes. Supplied with base. Measures 2 1/16" diameter x 3 15/16" high.

No. 1541

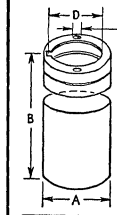
807 Tube Shield



For use with Transmitter Pentodes, and Tetrodes, to prevent oscillation. Can also be used on RK 20, RK 39, 807 and 804 tubes.

No. 1545

Coil Shields With Detachable Base

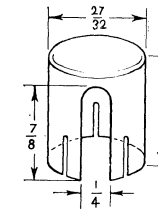


A sturdy coil shield made of aluminum with a detachable base.

Cat. No.	A	B	D
1539	2⅛	3	1⅜

Grid Cap Shields

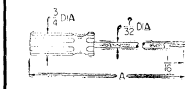
(For Metal Tubes)



Fits firmly over grid cap, affording complete shielding. Slotted cap permits passage of grid wire.

No. 1552
No. 1558 — With Bakelite Insert

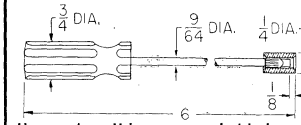
Deep-Nib "Kleer Aligner"



All-insulated aligner with clear flexible low-loss rod 7/32" dia.; amber plastic handle. Metal nib for No. 6 studs entirely insulated and set within barrel end. For tuning IF and RF shielded coils and trimmers. Overall length: 4".

No. 6846

Thin Aligner



Has extra thin recessed blade; durable slim metal shaft for cramped probing. Amber plastic handle. Especially suitable for Admiral and similar type TV receivers. Measures 6" overall length.

No. 6849

SINCE 1921 — insuline Corporation of America — OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

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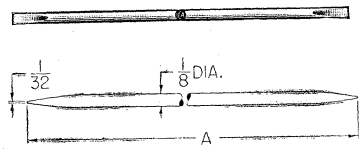
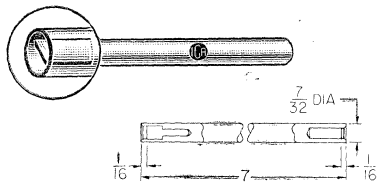
"Long Stretch" Fibre TV Aligner



A double bladed aligning tool, measuring 12" in length. Made of durable fibre for complete insulation and sturdiness. Narrow shaft is 1/8" in diam.

No. 6159 — 12" Long
No. 6158 — 7" Long

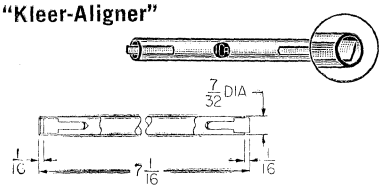
Double End "Kleer Aligner"



Low-loss CLEAR PLASTIC all-insulated shaft. Has two recessed blades set within rod ends, completely insulated. One blade suitable for No. 6 screw and smaller; other blade for No. 4 screw and smaller. Shaft is 7" long x 7/32" diameter.

No. 6193

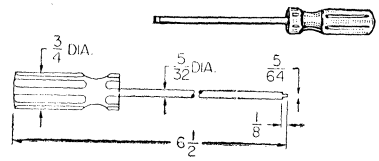
"Kleer-Aligner"



A low-loss CLEAR PLASTIC all-insulated aligning tool. Narrow shaft. Has recessed insulated blade on one end; extended blade on other end. Measures 7" in length x 7/32" diameter.

No. 6192

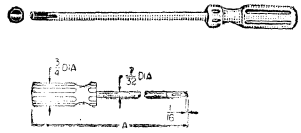
"Aligner-Tran"



Aligning tool of tough fibre with insulating amber plastic handle for standard IF, RF and "K-Tran" midget transformers. Measures 6½" overall length.

No. 6850

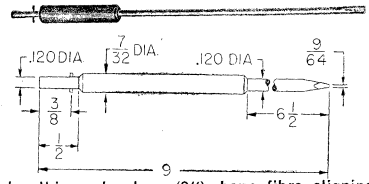
"Kleer-Tuner"



Low-loss clear plastic rod measures 7/32" in dia. Insulating amber plastic handle. Has recessed blade for No. 6 studs. All-insulated. Measures 8½" overall length.

No. 6848

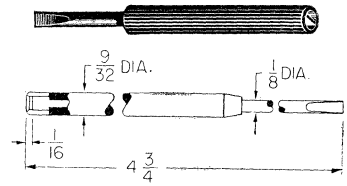
"Big Stretch" Aligner



Extra thin, extra long (9"), bone fibre aligning tool, 6½" blade. Specially designed for adjustment of nested iron cores of "Admiral," "Zenith" and similar make TV sets. Permits use on RCA front ends and normally inaccessible areas.

No. 6162

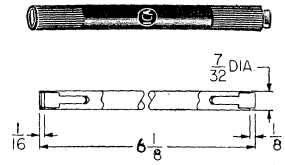
Tuning Wrench



Insulated fibre tuning wrench with extra thin recessed blade. Extra thin screw driver blade on other end (4¾" L.) Tenite handle. Especially designed for "Zenith" TV sets, etc.

No. 6164

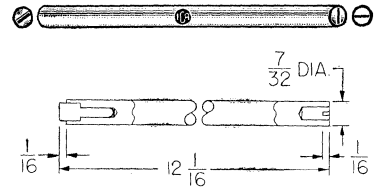
Dual Aligner



Dual purpose narrow shaft, tenite alignment tool for trimmers, IF transformers, coils, condensers, push-button tuners, etc. Recessed screw nib on one end; metal screw driver on other end. Used on RCA, Bendix, and other type receivers.

No. 6166

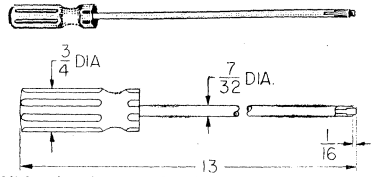
"Super Stretch Kleer Aligner"



All insulated extra long TV aligner for inaccessible areas. The low-loss CLEAR PLASTIC Rod is 12" long x 7/32" diam. Carries an extended blade at one end; brass slotted insert at other end.

No. 6194

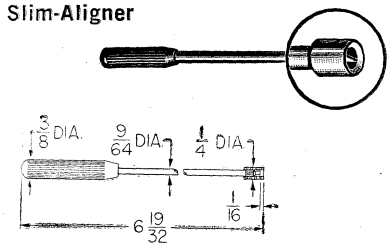
Long-Rod "Kleer Aligner"



All-insulated extra length tool (measures 13" overall) for hard-to-reach trouble points. Clear plastic rod is 7/32" in diameter. Has amber plastic handle. Extended blade: 5/32" w.

No. 6847

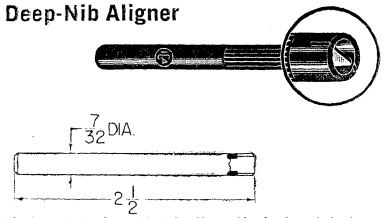
Slim-Aligner



Alignment tool with extra thin recessed blade and slim metal shaft for cramped probing in television receivers. Tenite handle. Especially suitable for "Admiral" and similar make television sets.

No. 6161

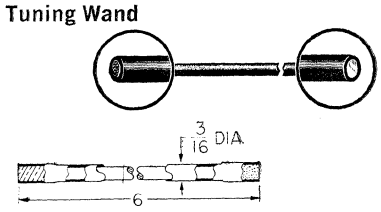
Deep-Nib Aligner



Made of Tenite. Metal nib entirely insulated and set within barrel end. For tuning IF and RF shielded coils and trimmers. Small enough to fit under television tubes without removing. Length: 2½" x 7/32" diameter.

No. 6156

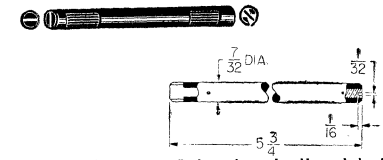
Tuning Wand



Extra thin diameter to fit small coil openings in television sets. Flexible vinylite. Brass insert in one end; molded powdered iron core in other end. Lowers or increases inductance. Suitable for "Zenith", etc. TV sets.

No. 6163

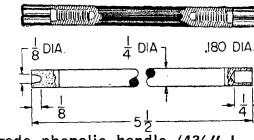
Core Aligner



For Stewart-Warner, Belmont and other television receivers employing Stackpole adjustable cores. The 5¾" insulated tenite shaft has brass insert at one end for milled end cores; recessed screw driver blade at other end for standard slotted cores.

No. 6170

Precision Tuning Wand



High-grade phenolic handle (4¾" L. & ¼" D.) has precision molded powdered iron core in one end (permeability tolerance ± 2%; "Q" tolerance ± 10%); silver-plated brass core in other end — both securely threaded and cemented into shaft. Increases or decreases inductance.

No. 6249

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OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

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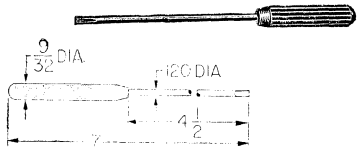
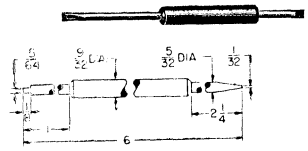
Television "Channel Tuner"



A narrow all-insulated screw driver of machined fibre. Ideal for deep, inaccessible tuning. Overall: 7" Length. 1/8" blade on 4½" shaft.

No. 6157

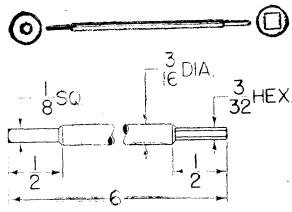
Tran-Aligner



Newly designed all-insulated aligning tool for standard IF and RF and "K-Tran" midget transformers. Trim fibre; milled at one end, screw driver at other end. 2½" length blade; 6" overall.

No. 978

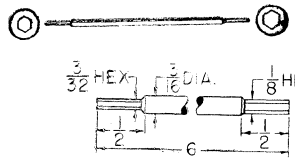
Hexy-Square Aligner



All bone fibre iron core aligning tool especially designed for Raytheon-Belmont IF transformers and similar type transformers. 6" shaft has 3/16" diam.; 3/32" hex one end; 1/8 "square other end

No. 6171

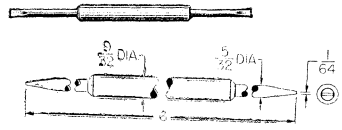
Hex-Aligner



All bone fibre iron core aligning tool. Has 3/32" hex one end; 1/8" hex other end. Especially designed for Dumont, Raytheon-Belmont receivers and other sets, using similar type iron cores. Shaft 6" long; 3/16" diam.

No. 6199

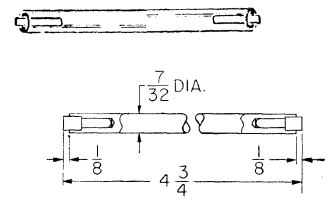
All-Purpose Aligner



Bone fibre screw driver ends set in red tenite handle. Overall length 6"; blade width 3/32"; tip thickness 1/64". Designed for general aligning purposes for Motorola and other popular receivers.

No. 6248

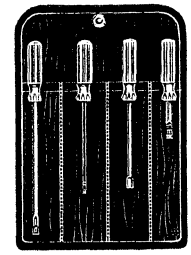
Dual Bladed "Kleer" Aligner



Low-loss clear plastic; 4½" handle, 7/32" diam. Two corrosion-proof extended blades (Govt. "spec" plated nibs) — one thickness .018", the other .025". Designed specifically for ARC-27 but excellent for television and general aligning purposes.

No. 6247

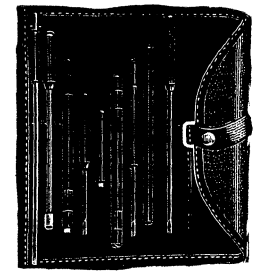
Television Junior "Handi-Kit" 4 Essential Tools for TV Servicing



A neat, compact kit containing four of the most popular Insuline tools used for a variety of television servicing requirements. The handy, plastic case is pocket-size for convenient carrying. Includes No. 6846 — all insulated aligner for tuning IF and RF shielded coils and trimmers; No. 6848 — all insulated recessed blade tuner; No. 6850 — aligner for IF, RF, and "K-Tran" midget transformers; No. 6849 — extra slim aligner for cramped probing. All tools have amber plastic handles.

No. 6697

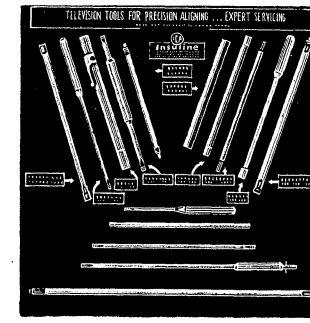
Television "Handi-Kit"



For television servicing. Contains nine latest tools especially designed for television needs. Includes No. 978 — aligner for IF and RF and "K-Tran" Transformers; No. 6161 — slim alignment tool for cramped spaces; No. 6162 — extra thin long (9") aligner; No. 6163 — thin diameter tuning wand; No. 6164 — tuning wrench; No. 6166 — dual aligner, narrow shaft; No. 6170 — Stackpole core aligner; No. 6156 — deep nib aligner; No. 6157 — narrow insulated screw driver for deep tuning. Packed in attractive leatherette case for easy carrying. A real combination value.

No. 6165

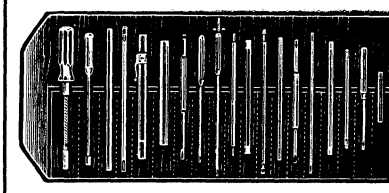
"E-Z Reach" TV Aligning and Servicing "Pak-Card"



Contains 15 general television servicing and aligning tools. No. 978 — Aligner for IF, RF, and "K-Tran" Transformers; No. 981 — Alignment wrench, hexed full length; No. 1019 — "4-In-1" screw driver wrench aligner; No. 6157 — Narrow insulated screw driver for deep tuning; No. 6158 — Double bladed, narrow shaft fibre TV aligner; No. 6161 — Slim aligning tool for cramped spaces; No. 6162 — Extra thin long (9") aligner; No. 6163 — Thin diameter tuning wand; No. 6164 — Extra-thin recessed blade tuning wrench; No. 6171 — Hex-square aligner; No. 6192 — "Kleer-Aligner", for trimmers, IF transformers, etc.; No. 6193 — Extra thin — brass core . . . iron core tuning wand; No. 6194 — "Super Stretch" aligner, 12" handle; No. 6247—"Kleer-Aligner", double extended blades; No. 6249 — Tuning Wand, brass core; iron core.

No. 6693

Super Radio-TV and Aligning Tool Kit



A complete deluxe kit of 19 tools designed for the widest possible use. Contains the following Insuline tools: No. 6193 — Extra thin — brass core . . . iron core tuning wand; No. 6157 — Narrow insulated screw driver for deep tuning; No. 1019 — "4-In-1" screw driver wrench aligner; No. 978 — Aligner for IF, RF, and "K-Tran" Transformers; No. 6247 — "Kleer-Aligner" double extended blades; No. 981 — Alignment wrench, hexed full length; No. 6171 — Hex-square aligner; No. 6161 — Slim aligning tool for cramped spaces; No. 6192 — "Kleer-Aligner", for trimmers, IF transformers, etc.; No. 6164 — Extra-thin recessed blade tuning wrench; No. 6163 — Thin diameter tuning wand; No. 6158 — Double bladed, narrow shaft fibre TV aligner; No. 935 — Flexible screw driver; No. 1039 — Double edge bone fibre screw driver; No. 6248 — All purpose aligner for Motorola, etc. sets; No. 6156 — Deep-nib Aligner for IF and RF shielded coils and trimmers; No. 6249 — Tuning Wand, brass core; iron core; No. 6170 — Core Aligner for Stackpole adjustable cores; No. 6162 — Extra thin long (9") aligner.

No. 6696

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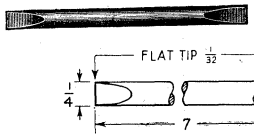
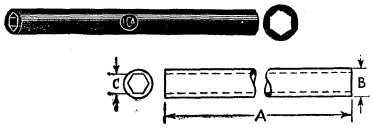
Bone Fibre Screw Driver
Double Edged — No Metal — Fully Insulated



Made of ¼" rod and machined with two blades. Ideal for neutralizing and adjusting radio sets, coils, condensers, etc.

No. 1039

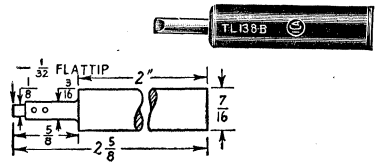
Insulated Neutralizing Wrenches
Hexed Full Length



Made of sturdy insulating fibre and hexed all the way through. Entire length of interior of tube is broached so that worn part may be sawed off and wrench continued in use.

No.	A	B	C
985	6"	3/8"	¼"
980	5"	3/8"	¼"
981	5"	7/16"	5/16"

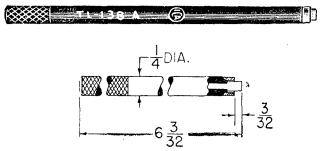
Insulated Aligning Tool



Designated by the U. S. Army Signal Corps as tool No. TL-138-B. Stubby all-insulated tool in wide use by government service, R.C.A., Bendix.

No. 1010

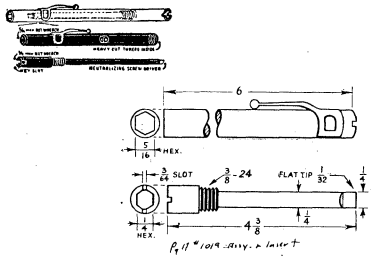
Neutralizing and Aligning Tool



Designated by U. S. Army and Navy as tool No. TL-138-A. A handy tool for general tuning and aligning purposes.

No. 1011

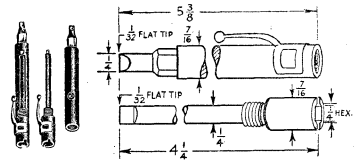
4-in-1 Neutralizing Tool — Screw Driver and Wrench Combination



A fully-insulated, fiber combination tool — one of the most widely used for all-round tuning requirements. All the features are shown in the illustration.

No. 1019

5-in-1 Neutralizing and Compensating Tool



Has essentially the same features as No. 1019 with the addition of heavy duty all-metal screw driver.

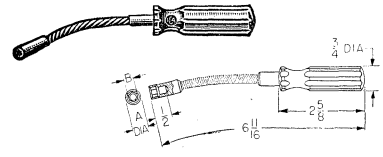
No. 1022

"Magic Tuning" Alignment Tool

Consists of a phenolic rod with a brass cylinder at one end, and a special iron core at the other end. Inserting the brass cylinder into a coil lowers its inductance, while inserting the end with the iron core, increases the inductance. Proper adjustment is evidenced by a reduction in output with either end of the alignment tool inserted into the coil.

No. 977

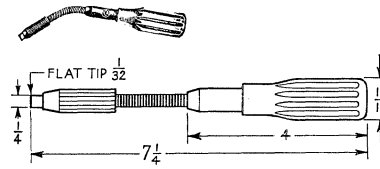
Flexible Socket Wrench



Can actually be used around corners or under obstructing objects, or as probe to locate unseen nuts. Flexible, sturdy shaft on unbreakable insulated handle.

No. 913 — ¼" Hex
No. 914 — 5/16" Hex

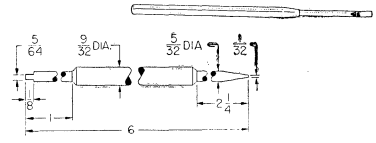
Flexible Screw Driver



Allows access to screws in hard to reach and out of the way places. Equipped with flexible, strong and unbreakable shaft, and insulated movable screw locator to locate slots of screws that cannot be seen; helps keep the screw in position.

No. 935

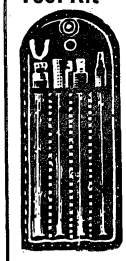
Radar Tuning Tool



All nylon insulated precision aligning tool of wide application in the field of higher frequency requirements. Screw driver blade on one end; other end slotted. May be used for HF, VHF, UHF and SHF tuning demands. Made to U.S. Signal Corps design TL-644/U.

No. 6255

Neutralizing and Aligning Radio Tool Kit



Consists of twelve separate and distinct parts, some of which can be employed for several operations. These units telescope into each other, forming 4 separate tools when assembled. Attractive black leatherette carrying case.

No. 998

Hex Wrench Kit

Contains an assortment of FIVE frequently used hexagon key wrenches. Made of durable hardened alloy steel. Includes wrenches as follows:

No. 4—Fits Nos. 3 and 4 set screw; Nos. 0 and 1 cap screw.
No. 6—Fits Nos. 5 and 6 set screw; No. 2 cap screw.
No. 8—Fits No. 8 set screw; Nos. 3 and 4 cap screw.
No. 10—Fits No. 10 set screw; Nos. 5 and 6 cap screw.
¼"—Fits ¼" set screw; No. 8 cap screw.

Packed in convenient leatherette-acetate case.

No. 963

Spline Wrench Kit

A handy assortment of popular spline type wrenches for a variety of servicing needs. Sturdy hardened alloy steel assures lasting use. Includes SIX wrenches as follows:

No. 4—Fits No. 4 set screw; Nos. 0 and 1 cap screw.
No. 5—Fits No. 5 set screw.
No. 6—Fits No. 6 set screw; No. 2 cap screw.
No. 8—Fits No. 8 set screw; Nos. 3 and 4 cap screw.
No. 10—Fits No. 10 set screw; Nos. 5 and 6 cap screw.
¼"—Fits ¼" set screw; No. 8 cap screw.

Packed in leatherette-acetate case.

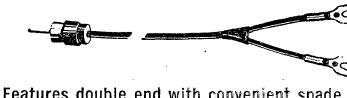
No. 964

Insulated Hi-Fi Connecting Cords

Especially designed for use with amplifiers, preamplifiers, tuners, record changers, recorders, speakers, etc.

No.	Length
2386	18"
2388	36"
2398	72"

Dual Hi-Fi Connecting Cord



Features double end with convenient spade lugs; other terminal has phono pin plug. Ideal for quick and easy inter-connecting of many types of HI-FI equipment and accessories.

No. 2394

SINCE 1921 INSULINE CORP. OF AMERICA ICA TRADE MARK **insuline** *Corporation of America*
OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

Copyright by U. C. P., Inc.

Serviceman's Iron

60 Watt general utility soldering iron.

No. 1960-A — 105-120 Volts
No. 1963 — 220 Volts

General Purpose Iron

A sturdy 85 Watt iron designed for industrial requirements.

No. 1962-A — 105-120 Volts
No. 1964 — 220 Volts

Heavy Duty Iron

Especially designed for heavy duty soldering. Equipped with a special 11/16" diameter extra heavy duty tip. 115 Watts.

No. 1961-A — 105-120 Volts
No. 1965 — 220 Volts

Replacement Elements for Soldering Irons

Because of the practical design of ICA Soldering Irons, burnt out elements may be easily replaced.

105-120 Volts		220 Volts	
No.	**Watts**	**No.**	**Watts**
1985	60	1990	60
1986	85	1991	85
1987	115	1992	115

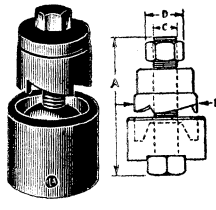
Replacement Tips for Soldering Irons

Available in all sizes

Made of a special copper alloy. Electrolytically pure. For replacement in ICA Soldering Irons. Can also be used in American Beauty and Irons of similar construction.

No.	Watts	Tips	Dia.	Length
1970	60	Chisel	3/8"	3"
1972	85	Pyramid	3/8"	3 1/2"
1971	115	Pyramid	7/16"	3 1/2"

Shearing Punches



All parts made of steel. Unique design of punch and die arrangements assures a clean smooth hole at all times. Complete with cap screw.

No.	A	B	C	D
723	1 3/4	5/8	3/8-24	7/16
725	2	3/4	3/8-24	7/16
724	2	1	7/16-20	5/8
727	2	1 1/8	7/16-20	5/8
726	2	1 5/32	7/16-20	5/8
728	2	1 3/16	7/16-20	5/8
729	2	1 1/4	7/16-20	5/8
730	2 3/4	1 3/8	7/16-20	5/8

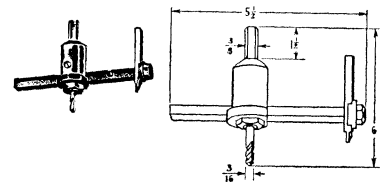
Brass Extension Rods

Extension rods made of precision machined brass. Sturdy and durable.

No. 2117 — 6" L., 1/4" O.D.
No. 2118 — 12" L., 1/4" O.D.

All-Purpose Circle Cutter

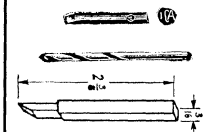
Will Cut Holes from 1 1/2" to 8 Inches



Has a hexagon shank. Fits either hand brace or electric drills. Cutting bar holder is 7/8" in diameter and accommodates a centering drill or any size pilot pin. Cutting bar is 3/8" square and is arranged to hold 3/16" high speed cutting bit.

No. 775

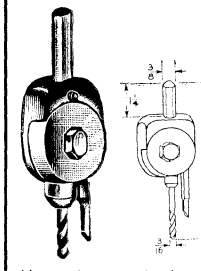
Replacement Drills & Cutters



Replacement parts for ICA circle cutters. Suitable for other make cutters. Made of hardened steel; replaced easily and quickly.

No. 776—Replacement drill for No. 775 Circle Cutter.
No. 777—Replacement cutter for No. 775 Circle Cutter.
No. 781—Replacement drill for No. 780 Circle Cutter.
No. 782—Replacement cutter for No. 780 Circle Cutter.

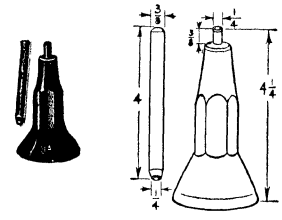
Universal Multi-Purpose Cutting Tool



Can be used for counter-sinking, beading, drilling or cutting holes. Equipped with 3/16" drill used as a pilot. Will cut holes from 7/16" diameter up to 3" diameter. Can be used either in drill press or hand brace. Also acts as a boring tool when used in lathe.

No. 780

Rivet and Eyelet Punch Set



Designed to make possible the resetting of any size eyelet or rivet. The two setting tools are made of hardened steel. Holder is made of cast iron with hexagonal sides, permitting the tool to be placed in a vise without slipping. Complete with ample assortment of eyelets and rivets.

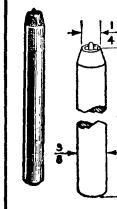
No. 785

Rivet & Eyelet Assortment

Additional eyelets and rivets can be purchased separately.

No. 5265 (Assortment of 100)

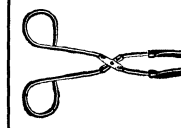
Rivet & Eyelet Setting Tool



Setting tool as used in Rivet & Eyelet Punch set listed above. Made of hardened steel. Formed to take most sizes of eyelets and rivets used in radio receivers.

No. 786

Tube Extractor



Originally Designed for U. S. Signal Corps. Made of sturdy zinc plated iridited spring steel. Molded soft neoprene cushion over the two claws offers the maximum in tube protection.

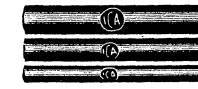
No. 1001

Insulated Extension Rods

Vulcanized fibre extension rods of excellent electrical insulating properties.

No. 2120 — 6" L., 1/4" O.D.

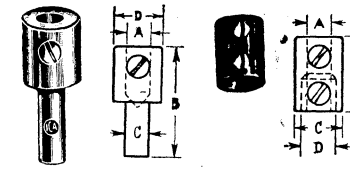
Vulcanized Fibre Rods



Made of durable vulcanized fibre in variety of sizes for general application. Possesses high electrical insulating properties and great tensile strength. Highly resistant to moisture. Black finish.

No.	Diameter	No.	Size
168	1/4"	2175	12" x 1/4"
206	5/16"	2176	24" x 1/4"
169	3/8"	2179	12" x 3/8"
170	1/2"	2180	24" x 3/8"
		2183	12" x 1/2"
Approx. Lengths: 3 ft.		2184	24" x 1/2"

Shaft Couplings and Extension Rods



Used to increase the lengths of shafts of different diameters. Made in two types: Insulating Phenolic for cases where it is necessary to insulate one shaft from the other — Nickel-plated Brass where good mechanical strength is of primary importance.

NICKEL-PLATED BRASS COUPLINGS

No.	A	B	C	D
2105	1/4	3/4	7/16	1/4
2106	3/8	3/4	9/16	3/8
2107	1/4	3/4	9/16	3/8

PHENOLIC COUPLINGS

2116	1/4	3/4	7/16	1/4
2109	1/4	3/4	9/16	3/8

NICKEL-PLATED BRASS SHAFT EXTENSIONS

2111	1/4	1 1/8	1/4	7/16
2112	3/8	1 1/8	1/4	9/16
2113	1/4	1 1/8	3/8	7/16
2123	1/4	1 3/4	1/4	7/16

PHENOLIC SHAFT EXTENSIONS

2110	1/4	1 1/8	1/4	7/16

SINCE 1921 — insuline Corporation of America
OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

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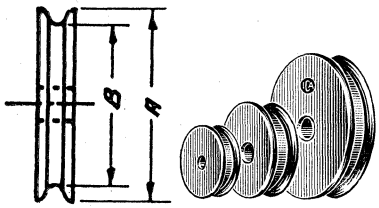
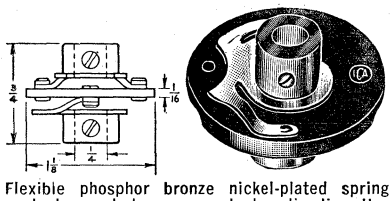
Aluminum Idler Pulleys



Precision made aluminum idler pulleys. Supplied in any quantity in any type to any desired specifications — with or without shoulders. Listed are typical sizes hole diam. .128".

No.	A	B
601	3/8	1/4
602	7/16	5/16
603	1/2	3/8
604	5/8	1/2
605	3/4	5/8

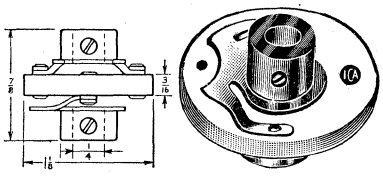
Phenolic Flexible Shaft Coupling



Flexible phosphor bronze nickel-plated spring contact mounted on a round phenolic disc. Has 1/4" bushing.

No. 2142

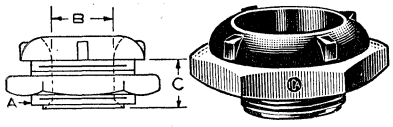
Insulex Flexible Shaft Coupling



Flexible phosphor bronze nickel-plated contact. Mounted on Insulex disc for efficient low-loss coupling. 1 1/8" diam. 1/4" bushing.

No. 2143

Phenolic Bushings

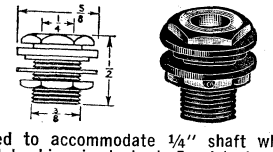


Molded phenolic bushings for complete insulation. Strong seamless threads. Heat resisting to 300° F. Complete with stamped cadmium plated lock nuts.

No.	A Pipe Thread	B Hole Size	C Length Under Head
606	1/8	17/64	1/4
607	1/4	5/16	5/16
608	3/8	13/32	5/16
609	1/2	9/16	11/32
610*	1/2	7/32	11/32

* (2 holes)

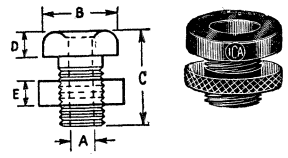
Universal Panel Bearing



Designed to accommodate 1/4" shaft wherever a panel bushing is desired. Furnished with nut and insulating washers. Made of sturdy brass.

No. 1250

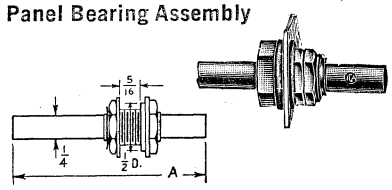
Molded Plastic Insulating Bushings



Supplied in two sizes — in Red and Black colors.

No.	Color	A	B	C	D	E
670	Black	1/8	3/8	3/8	1/8	1/8
671	Red	1/8	3/8	3/8	1/8	1/8
672	Black	1/4	1/2	7/16	9/64	9/64
673	Red	1/4	1/2	7/16	9/64	9/64

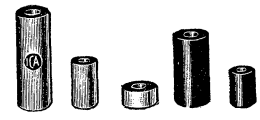
Panel Bearing Assembly



Can be used with either rigid or flexible couplings. Constructed of brass and so arranged that it is held rigidly in place. Will fit on panels up to 5/16" thickness.

No.	A
1248	3"
1249	6"

Spacers and Bushings Brass... Insulated



Spacers and bushings for a variety of uses. Will fit No. 6 and No. 8 screws. Supplied in brass or high quality insulation.

Brass Bushings

No.	O. D. Outside Diam.	I. D. Inside Diam.	Length
5760	1/4	.166	1/4
5761	1/4	.166	3/8
5762	1/4	.166	1/2
5763	1/4	.166	3/4
5767	1/4	.166	1
5764	3/8	.209	1/4
5765	3/8	.209	1/2
5766	3/8	.209	3/4
5768	3/8	.209	1

Insulating Bushings

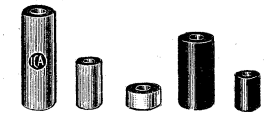
5775	1/4	.169	1/4
5776	1/4	.169	3/8
5777	1/4	.169	1/2
5778	1/4	.169	3/4
5782	1/4	.169	1
5779	3/8	1/4	1/4
5780	3/8	1/4	1/2
5781	3/8	1/4	3/4
5783	3/8	1/4	1

Threaded Brass Bushings

No.	O.D.	I.D.	Length
5785	1/4	for 6/32 tap	1/4
5786	1/4	for 6/32 tap	3/8
5787	1/4	for 6/32 tap	1/2
5788	1/4	for 6/32 tap	3/4
5794	1/4	for 6/32 tap	1
5790	1/4	for 8/32 tap	1/4
5791	1/4	for 8/32 tap	3/8
5792	1/4	for 8/32 tap	1/2
5795	1/4	for 8/32 tap	1

Spacers and Bushings Made to Specifications in Large Quantities.

Spacer & Bushing Assortments Brass and Insulated



Assortment of 25 spacers and bushings from 1/4" to 3/4" lengths in 1/4" and 3/8" dia. Ideal for raising sub-panels, chassis, etc.

No. 5260 — Insulated Assortment.

No. 5261 — Brass Assortment.

Threaded Brass Bushing Assortments

No. 5262 — 16 Assorted Brass bushings. Threaded for 6/32 from 1/4" to 3/4" lengths.

No. 5263 — 16 Assorted Brass bushings. Threaded for 8/32 from 1/4" to 3/4" lengths.

Molded Plastic Eyelet Bushing

No. 2365 — Suitable for either spacer or bushing. With brass eyelet.

No. 2366 — Same as above, without eyelet.

Flat Fibre Washers

Cat. No.	Dia.	Description Thick.	Hole Size
5061	5/16	1/16	3/32
5612	3/8	1/16	1/8
5609	1/2	1/32	5/32
5626	3/8	1/16	5/32
5605	3/8	1/16	7/32
5610	1/2	.020	5/16
5611	5/8	1/32	3/8

Fibre Shoulder Washers

Cat. No.	Overall Diam.	Shoulder Height	Description Shoulder Diam.	Hole Size	Overall Ht.
5618	5/16	1/32	3/16	#5	3/32
5620	7/16	3/64	7/32	#5	3/32
5615	3/8	1/32	1/4	3/16	5/64
5619	7/16	1/16	5/16	3/16	1/8
5616	1/2	1/32	5/16	1/4	1/16
5624	1/2	1/64	3/8	5/16	3/64
5628	5/8	3/64	1/2	3/8	3/32

Fibre Washer Assortment

A representative assortment of fibre washers both plain and shoulder, to fit all popular size screws and bolts. Suitable for wide range of uses.

No. 5805 — Contains 100 assorted washers

Special Length Bakelite Tubing Cut to Order — Wall Thickness to 1/16"

Outside diameters range from 1" to 4". Prices on request. Other diameters and thicknesses quoted on request.

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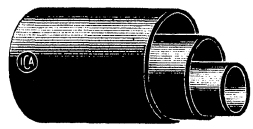
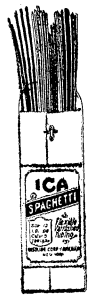
Vulcanized Fibre Tubing



Has low electrical absorption; highly resistant to moisture. Rigid and sturdy. Readily formed. Offers wide variety of applications. Black finish. Full lengths of approximately 30" to 48"; 1/16" wall thickness.

No.	Size O.D.	No.	Size O.D.
161	1/4"	136	1 1/2"
162	3/8"	137	1 3/4"
163	7/16"	138	2"
164	1/2"	139	2 1/4"
165	5/8"	140	2 1/2"
166	3/4"	141	2 3/4"
167	7/8"	142	3"
134	1"	143	3 1/4"
135	1 1/4"	144	3 1/2"

Spaghetti Tubing



An insulated covering for bus bar or any 10 to 18 gauge wire. Flexible and guaranteed not to crack. Furnished in 30" lengths for No. 10 to No. 18 wires.

No. 182 — Red
No. 183 — Yellow
No. 184 — Brown
No. 185 — Green
No. 186 — Black

Small Size Spaghetti Tubing

Fits over thin wire from No. 24 to No. 18. Supplied in 30" lengths.

No. 200 — Red
No. 201 — Yellow
No. 202 — Black

Large Size Spaghetti Tubing

Supplied in 36" lengths with a diameter of 3/4" I.D. x 3/16" O.D.

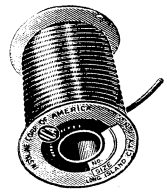
No. 196

Giant Sleeving

Made of high voltage insulation saturated cambric material. Inside diameter 3/8". For insulating Resistors, Small Condensers, Wire Cables, Leads, etc. 36" lengths.

No. 198

Flexible Spaghetti Tubing



A high grade vinyl plastic tubing in various colors. Will accommodate from No. 10 to No. 18 wires. FURNISHED IN ONE LENGTH — 20 feet long on handy spools.

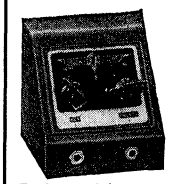
No. 210 — Red
No. 211 — Yellow
No. 212 — Brown
No. 213 — Green
No. 214 — Black

Above tubing also supplied in 500 foot spools.

No. 197
SPECIFY COLOR

Signa-Tone Classroom Model

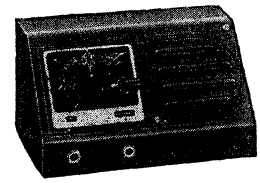
Complete with tubes



Designed primarily for class and radio club use. Intended for use with earphones. If desired, however, speakers may be used instead of phones.
Features 3-tone audio output, continuously variable volume control, and extra terminals for keys and phones.
Features 3-tone audio output, continuously variable volume control, and extra terminals for keys and phones. Quality is same as DeLuxe Signatone. For 110 volts AC-DC.
Complete instructions furnished for a class room set-up for send-receive practice.

No. 4301

Deluxe Signa-Tone



Audio Oscillator — Code Practice Set — Keying Monotor. Complete with tubes and self-contained speaker, for 110 V. AC-DC.

A perfected Audio-Oscillator, having 3 different output frequencies and continuously variable volume control. Audio notes are similar to those of high quality commercial CW stations. Some of the uses of the Signa-Tone are:

1. CODE PRACTICE SET
2. KEYING MONITOR
3. MODULATION SIGNAL
4. SIGNAL TRACER

Dimensions: 8" long, 4 1/4" wide, 4 1/2" high. Weight 3 lbs.

No. 4300

"Triplex"

Radio and Telegraph Code Practice Set
Blinker Light Radio Signal Telegraph

Simple and economical to operate. Requires but two standard flashlight batteries. Legible code instructions mounted on signal box face. Composed of a High Frequency Buzzer — Blinker Light and telegraph sounder. Individually packed with complete instructions.

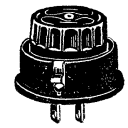
No. 70 (Single Unit)

Dual Triplex

Two No. 70 Triplex Units packed in an attractive carton with 50 feet of Special Wire and full operating instructions. Units can be arranged for both sending and receiving. (Less Batteries)

No. 71

Simplex Filtervolt



Eliminates Radio Noises Caused By —

- Electric Shavers
- Refrigerators
- Fans
- Elevators
- Motors, etc.

No. 90

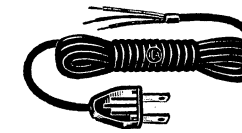
Unbreakable Morse Code Record Set

The scientific way to learn International Morse Code quickly and easily. The complete set consists of five double-faced 10" 78 rpm electrically transcribed unbreakable records in a durable album. Contents include 3 Tables; 10 Lessons.

No. 1800 — Complete No. 1800B — Booklet only
No. *1800R—Record only *Specify lesson number

Universal Resistor Cord

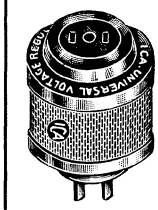
From 22 to 330 Ohms on One Cord



Replacement Resistor Cord for all makes of Receivers. A complete table of instructions is supplied with each cord.

No. 205

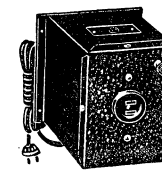
Universal Voltage Regulator



This regulator protects tubes through scientific regulation of current fluctuations. Nickel plated steel end rings and perforated housing body. For all Radio Sets, AC, DC.

No. 92

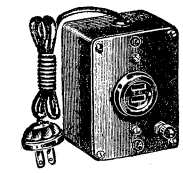
Filtervolt Noise Filter



An efficient filter for disturbances caused by electrical appliances. For use with any all-wave or broadcast receiver.
Rated conservatively at 250 watts for 32, 110 and 220 volt AC or DC circuits. Can be installed either at the radio or at the source of disturbance.

No. 338

Filtervolt



Improves extremely noisy radio reception due to interference on power line caused by electrical appliances, lights, etc.

No. 394

3-in-1 Radio Tuner

Functions as either an Antenna Tuner, Wave Trap, or Aerial Eliminator.
Easily installed within a few minutes.

No. 93

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Ear Phones

Complete with Head Bands

Extremely sensitive for true reproduction of faint signals from distant stations inaudible through loud speakers. 2000 ohms. Lightweight-molded bakelite and nickel-plated metal.

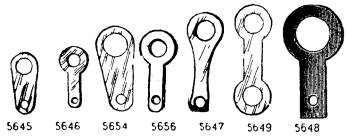
No. 23

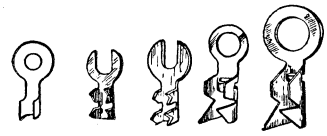
Ear Cushions

Soft rubber fabrication for ear comfort.

No. 195

Brass Terminal Lugs





Cadmium plated brass terminal lugs suitable for all types of lug requirements.

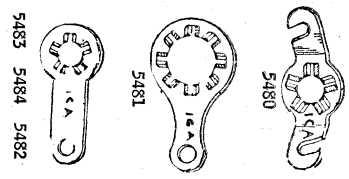
Cat. No.	Length	Hole Size
5645	17/32	No. 8
5646	1/2	No. 6
5654	7/8	1/4
5656	11/16	No. 6
5647	7/8	No. 10
5649	15/16	No. 8
*5648	1	5/16
5655	11/16	No. 8
5653	5/16	No. 6
5650	3/4	No. 6
5651	13/16	No. 10
5652	1 1/16	1/4

* Steel, nickel-plated.

Nickel-Plated Brass Cup Washers

Cat. No.	Hole Size
5713	No. 10

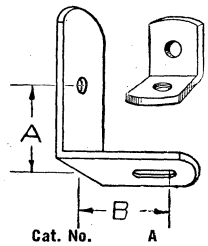
Everlock Terminal Lugs



Brass cadmium plated terminal lugs.

Cat. No.	Length	Hole Size
5480	11/16	No. 6
5481	13/16	1/4
5482	3/4	No. 4
5483	3/4	No. 6
5484	7/8	No. 8

Angles and Brackets



Steel nickel-plated angles and brackets of various sizes.

Cat. No.	A	B	Width
5702	9/32	5/32	5/16
5703	3/8	3/4	3/8
5704	9/32	1 1/8	3/8
5705	5/16	5/16	1/2†
5706	3/8	9/16	3/8‡
5707	5/8	13/16	3/8‡

† One Hole Tapped — One Plain.
‡ One Slot — One Hole.

Angle and Bracket Assortment

A complete assortment of 30 popular steel angles and brackets, nickel plated finish.

No. 5800

Nickel-Plated Steel Oval Head Machine Screws

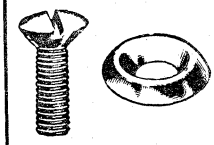
Cat. No.	Description
5710†	10-32 x 5/8" long

† For Transmitting Racks.

Nickel-Plated Brass Spring Clip

Cat. No.	Width	Length
5691	3/16	11/16
5692	5/16	13/16
5693	3/8	1

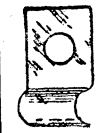
Handy Rack Screw and Washer Assortment



Packed in handy ICA jars. Includes 25 Oval Head Screws (10-32 x 5/8") and 25 Cup Washers (10-32) described above.

No. 5210

Cadmium Plated Steel Cable Clamps



Cat. No.	Length	Diam. Bend
5697	3/4	5/16
5698	15/16	7/16

Nickel-Plated Steel Flat Washers

Cat. No.	Description
5595	For No. 6 Screw
5596	For No. 8 Screw
5597	For No. 10 Screw
5603	For 1/4" Screw
5607	For 3/8" Screw

Everlock Steel Lockwashers

Cat. No.	Description
5592	For No. 6 Screw
5593	For No. 8 Screw
5594	For No. 10 Screw

Kantlink Split Type Steel Lockwashers

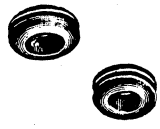
Cat. No.	Description
5589	For No. 6 Screw—1/32" thick
5590	For No. 8 Screw—1/32" thick
5591	For No. 10 Screw—3/64" thick
5602	For 1/4" Screw—1/16" thick

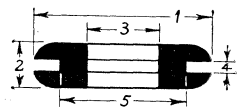
Universal Hardware Assortment

Contains 2 pounds of assorted hardware commonly used by servicemen, amateurs, experimenters, etc. Suitable for many types of radio, television, servicing, etc., jobs. Includes screws, nuts, bolts, rivets, eyelets, lugs, washers, etc.

No. 5250

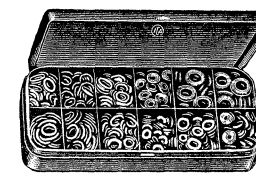
Flexible Rubber Grommets





Cat. No.	(3) Hole Size	(1) O.D.	(2) Thick-ness	(4) Slot	(5) Mtg. Width
5633	7/64	1/2	9/32	3/32	19/64
5634	3/8	21/32	1/4	1/16	7/16
5635	1/4	1/2	5/16	5/32	11/32
5639	7/32	7/16	5/16	1/16	11/32
5637	1/4	5/8	3/8	1/16	13/32
5641	1/2	1	3/8	5/32	3/4
5642	5/16	11/16	1/4	1/16	1/2
5687	3/16	5/8	1/4	1/16	3/8
		AN Grommet (931-4-7)			
5684	1/4	5/8	3/16	1/16	7/16

All-Purpose Assortment



Packed in a handy utility case.
This deluxe assortment includes such items as knob set screws — escutcheon screws — Parker-Kalon self-tapping screws — rubber grommets — screws — nuts, etc.

No. 5251

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INSULINE CORPORATION OF AMERICA

SUBSIDIARY OF THE VAN NORMAN INDUSTRIES, INC.

186 Granite Street, Manchester, New Hampshire

DEALER'S NET COST PRICE LIST FOR CATALOGUE No. 1256*

Effective June 1, 1956. Prices Subject to Change Without Notice. Prices Indicate "Each" Unless Otherwise Noted. Supersedes All Other Lists of Earlier Dates.

Catalog No.	Dealer Cost	Stand. Pkg.
23	$3.61	1
24B	.39	50
24R	.39	50
25	.66	10
27	.54	10
29B	.38	50
29R	.38	50
30	.60	10
33	.30	10
34B	14.69C	10
34P	.30	10
34R	14.69C	10
37	.35	10
PJ054	.90	10
PJ055B	.90	10
PJ068	2.40	10
70	2.15	1
71	4.53	1
90	1.29	5
92	1.29	5
93	.60	1
134	.90ft.	*
135	1.08ft.	*
136	1.09ft.	*
137	1.23ft.	*
138	1.35ft.	*
139	1.47ft.	*
140	1.62ft.	*
141	1.92ft.	*
142	2.10ft.	*
143	2.26ft.	*
144	2.67ft.	*
161	.67ft.	*
162	.73ft.	*
163	.81ft.	*
164	.84ft.	*
165	.88ft.	*
166	.90ft.	*
167	1.00ft.	*
168	.66ft.	*
169	.88ft.	*
170	1.09ft.	*
182	11.00C	100
183	11.00C	100
184	11.00C	100
185	11.00C	100
186	11.00C	100
195	1.00	10 pr.
196	.38	100
197	21.07	1 spool
198	.38	100
200	11.00C	100
201	11.00C	100
202	11.00C	100
205	1.37	5
206	1.25ft.	*
210	.92	spool
211	.92	spool
212	.92	spool
213	.92	spool
214	.92	spool
235	.28	10
236	.34	10
237	.48	10
238	.48	10
244	23.22C	50
245	28.21C	50
277	.40	25
302	.99	10
304	1.82	10
307	4.65	spool
309	4.65	spool
311	1.98	10
312	1.76	10
325	.38	25
327	1.20	10
328	1.20	10
329	2.48	10
331	.92	10
332	.83	10
338	5.50	1
341B	10.16C	50
341R	10.16C	50
355	.87	10
357	10.20C	50
358	10.20C	50
359	9.60C	50
360	21.00M	500
361	66.00M	500
364	5.50C	50
365	11.40C	50
373	1.49	10
376	6.75C	50
382	.87	10
387B	.30	10
387R	.30	10
388	1.24	10
389B	.30	10
389R	.30	10
390B	.30	10
390R	.30	10
394	3.30	1
400	1.32	10
402	10.20C	100
403	13.20C	100
413B	.33	50
413R	.33	50
419	16.20C	100
421	23.10C	100
424	21.99C	100
428	21.99C	100
429	21.99C	100
431A	13.20C	50
432B	20.89C	50
432R	20.89C	50
433B	.40	25
433R	.40	25
434B	18.00C	25
434R	18.00C	25
438	1.14	10
450	.46	5
451	.46	5
452	.88	5
453	.88	5
454	.70	5
455	.70	5
456	.97	5
457	.97	5
478	1.76	10
480	.72	10
481	3.90	10
485	.46	10
486	.57	10
487	.63	10
488	.72	10
489	.81	10
508	12.10C	100
509	13.20C	100
520B	.39	25
520R	.39	25
522B	.44	25
522R	.44	25
524B	.25	25
524R	.25	25
525B	33.00C	25
525R	33.00C	25
526B	11.30C	25
526R	11.30C	25
528B	16.20C	25
528R	16.20C	25
529B	.60	25
529R	.60	25
531	3.57	1
532	3.57	1
534	2.84	1
538	2.84	1
545	2.84	1
601	3.68C	100
602	4.03C	100
603	4.40C	100
604	4.79C	100
605	5.12C	100
606	11.00C	25
607	11.00C	25
608	12.82C	25
609	12.85C	25
610	14.68C	25
611	.41	25
612	.41	25
613	.44	25
614	.44	25
617	16.20C	50
618	16.20C	50
620	21.00C	50
622	27.00C	50
623	27.00C	50
628	11.00C	25
629	11.00C	25
630—637	.44	10
640B	.37	25
640R	.37	25
670	14.66C	50
671	14.66C	50
672	18.35C	50
673	18.35C	50
680	21.99C	10
681	21.99C	10
683	.46	10
690—697	.38	10
723	2.42	1
724	2.64	1
725	2.42	1
726	2.81	1
727	2.81	1
728	2.81	1
729	2.81	1
730	3.19	1
775	3.75	1
776	.55	1
777	.74	1
780	3.38	1
781	.55	1
782	.74	1
785	3.67	1
786	.71	1
810	.85	1
811	.94	1
812	1.07	1
813	1.29	1
814	1.40	1
815	1.10	1
816	1.21	1
817	1.40	1
818	1.51	1
832	1.29	1
833	1.57	1
834	1.67	1
835	2.53	1
836	2.64	1
837	2.97	1
840	4.03	1
842	1.90	1
843	2.31	1
844	2.75	1
845	3.27	1
846	3.67	1
847	4.59	1
850	5.68	1
		full
852	17.98	sheets
		full
853	22.61	sheets
		full
854	36.82	sheets
		full
857	45.88	sheets
		full
858	55.10	sheets
860	2.31	1
861	3.19	1
863	3.49	1
864	4.79	1
867B	.23	25
867R	.23	25
868	27.00C	50
869	27.00C	50
870	.28	50
876B	12.00C	50
876R	12.00C	50
879	12.10M	50
882B	.30	10
882R	.30	10
883B	18.00C	50
883R	18.00C	50
884B	10.60C	50
884R	10.60C	50
885B	15.00C	50
885R	15.00C	50
886B	15.00C	50
886R	15.00C	50
887B	10.80C	50
887R	10.80C	50
888B	13.20C	50
888R	13.20C	50
889B	13.20C	50
889R	13.20C	50
913	.99	10
914	.99	10
935	1.49	10
963	.60	10
964	.60	10
977	.73	10
978	.54	25
980	21.99C	10
981	.28	10
985	.25	10
998	4.13	1
1001	1.10	10
1005	1.50	1
1010	.41	10
1011	.73	10
1019	.60	10
1022	1.10	10
1039	.30	10
1059	10.00	1
1081	11.00C	50
1088	18.26C	50
1080B	.38	10
1113B	.41	10
1114B	.41	10
1125	14.66C	50
1126	18.33C	50
1147	14.66C	50
1153	27.38C	50
1165	.35	10
1165S	.43	10
1166	.44	10
1166S	.51	10
1167	.41	10
1167S	.48	10
1168	.61	10
1168S	.68	10
1169	.61	10
1169S	.68	10
1170	.77	10
1170S	.84	10
1171	.61	10
1171S	.68	10
1172	.71	10
1172S	.78	10
1174	18.33C	50
1184	.60	25
1194	1.05	1
1195	1.23	1
1196	1.33	1
1198	1.60	1
1199	2.28	1
1200	2.83	1
1216	.61	10
1217	.66	10
1218	.83	10
1219	.99	10
1220	1.46	10
1221	1.84	10
1222	2.20	10
1228	.95	10
1229	.99	10
1230	.58	10
1232	.58	10
1233	.80	10
1235	.80	10
1236	.80	10
1237	.95	10
1238	1.13	10
1248	.33	25
1249	.39	25
1250	16.50C	50
1255	16.50C	10
1257	.56	10
1259	16.50C	10
1260	26.40C	10
1264	26.40C	10
1270	20.18C	50
1274	20.18C	50
1274S	.28	50
1275	.22	50
1275S	.29	50
1280	2.34	5
1281	2.35	5
1282	1.26	5
1283	4.98	5
1286	1.07	10
1287	1.07	10
1288	1.44	10
1289	1.81	10
1296	.58	10
1297	.80	10
1298	1.13	10
1299	1.26	10
1300	3.30C	100
1300BR	3.30C	100
1360	1.36	10
1364	2.86	10
1365	1.27	10
1366	1.45	10
1386	1.30	10
1387	2.00	10
1471	2.75	1
1473	2.20	1
1518	1.53	3
1519	2.58	3
1520	1.65	3
1521	1.87	3
1522	2.68	3
1524	2.83	3
1526	1.02	3
1527	1.50	3
1528	1.65	3
1530	.92	3
1539	.24	5
1541	.24	20
1545	.24	25
1546	.74	3
1547	.65	3
1548	.83	3
1551	8.25M	100
1552	11.90C	50
1554	8.35M	100
1556	.92	1
1558	21.99C	25
1559	.77	3
1560	.85	3
1564	1.17	3
1565	1.28	3
1566	1.46	3
1567	1.78	3
1568	1.68	3
1569	1.13	3
1570	1.17	3
1571	1.33	3
1572	1.62	3
1573	1.62	3
1574	2.03	3
1575	1.75	3
1577	2.17	3
1578	2.17	3
1579	2.50	3
1580	2.17	3
1581	3.12	3
1582	1.29	3
1583	1.87	3
1586	1.08	3
1587	1.17	3
1588	1.78	3
1589	1.75	3
1595	1.05	3
1596	.99	3
1597	1.10	3
1598	1.50	3
1599	1.45	3
1600	.53	1
1601	.50	1
1602	.63	1
1603	.70	1
1604	.73	1
1605	.78	1
1606	.80	1
1607	.67	1
1608	.86	1
1612	.88	1
1613	.95	1
1615	.92	1
1616	.95	1
1617	1.13	1
1618	1.52	1
1619	1.27	1
1620	1.33	1
1622	1.12	1
1623	.60	1
1624	1.29	1
1625	.50	1
1629	.87	1
1636	.46	1
1677	.53	1
1679	.90	1
1681	.81	1
1683	.97	1
1685	1.17	1
1686	1.27	1
1687	1.29	1
1688	1.61	1
1727B	11.00C	5
1729B	11.00C	5
1735	11.00C	5
1740	1.37	5
1744	11.00C	5
1745	11.00C	5
1746	11.00C	5
1747	11.00C	5
1800	7.94	1
1800B	.80	1 book
1800R	2.02	1 record
1870	.30	50
1871	.34	50
1872	.40	50
1889	16.50C	50
1890	16.50C	50
1891	13.20C	50
1892	13.20C	50
1897	.40	50
1898	.40	50
1899B	.50	25
1899N	.50	25
1899R	.50	25
1900	1.11	25
1901	.84	25
1903	.83	10
1904	1.10	10
1905	.83	10
1911	.54	25
1913	.93	10
1918	36.00C	10
1920	.55	50
1921	.64	50
1922	.83	50
1925	8.80	25
1929	22.80C	25
1930	.30	25
1931	31.80C	25
1932	24.00C	25
1933	.28	10
1960A	3.67	1
1961A	5.50	1
1962A	4.76	1
1963	3.67	1
1964	4.76	1
1965	5.50	1
1970	.46	10
1971	.74	10
1972	.64	10
1985	2.20	10
1986	2.56	10
1987	2.56	10
1990	2.20	10
1991	2.56	10
1992	2.56	10
2105	16.20C	25
2106	16.20C	25
2107	16.20C	25
2109	15.00C	25
2110	19.80C	25
2111	19.80C	25
2112	19.80C	25
2113	19.80C	25
2116	15.00C	25
2117	19.80C	10
2118	39.60C	10
2120	15.00C	10
2123	19.80C	25
2142	.55	50
2143	.64	50
2164	.70	10
2165	.76	10
2166	.45	5
2167	.49	5
2168	2.20	5
2169	2.20	5
2170	1.65	5
2171	1.65	5
2175	.33	1
2176	.58	1
2179	.46	1
2180	.94	1
2183	.63	1
2184	1.24	1
2189	.41	10
2190	.41	10
2191	.41	10
2192	.41	10
2194	1.13	5
2195	1.13	5
2196	.94	5
2197	.94	5
2223	.28	10
2224	.46	10
2225	.53	10
2226	.55	10
2230	.52	5
2231	.52	5
2232	.52	5
2233	.41	5
2234	.41	5
2235	.41	5
2236	.41	5
2294	.65	5
2295	.64	5
2296	1.01	5
2297	1.01	5
2298	1.10	5
2340	15.00C	25
2341	18.33C	25
2344	21.00C	100
2345	21.00C	100
2346	21.99C	100
2347	10.20C	100
2348	13.20C	100
2349	21.00C	100
2358	5.50C	100
2359	4.13C	100
2360	3.30C	100
2364	5.86M	100
2365	3.21C	100
2366	3.21C	100
2367	3.30C	100
2368	.30	100
2375	8.40C	100
2378	13.20C	25
2383	4.80C	100
2384	16.80C	25
2385	6.60C	100
2386	.69	5
2388	.78	5
2394	.99	5
2398	.99	5
2402	.44	25
2404	.38	25
2405	.31	25
2406	.35	25
2408	.28	25
2409	.58	25
2410	.52	25
2411	.50	25
2412	.46	25
2413	25.64C	25
2414	20.15C	25
2415	21.99C	25
2417	14.68C	25
2418	14.68C	25
2419	14.68C	25
2420	14.68C	25
2421	.70	25
2422	.63	25
2423	.63	25
2424	.58	25
2425	4.73C	100
2426	1.17C	100
2430	1.65C	100
2431	1.65C	100

* Random Lengths

* WEST OF DENVER, COL. ADD 10%

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DEALER'S NET COST PRICE LIST FOR CATALOGUE No. 1256*

Effective June 1, 1956. Prices Subject to Change Without Notice. Prices Indicate "Each" Unless Otherwise Noted. Supersedes All Other Lists of Earlier Dates.

Catalog No.	Dealer Cost	Stand. Pkg.
2434	1.80C	100
2435	2.40C	100
2436	3.75C	100
2437	4.95C	100
2438	5.40C	100
2439	7.48C	100
2440	8.14C	100
2441	8.90C	100
2443	16.50C	100
2444	3.30M	100
2445	5.40M	100
2446	5.40M	100
2447	5.40M	100
2448	7.20M	100
2455	1.95C	100
2456	2.40C	100
2457	3.80C	100
2458	4.95C	100
2459	5.45C	100
2460	7.48C	100
2461	8.14C	100
2462	8.91C	100
2463	4.40M	100
2480	.34	1
2481	.39	1
2482	.42	1
2483	.45	1
2489	.50	1
2490	5.00C	50
2520	7.80C	100
2521	12.00C	100
2522	14.40C	100
2523	18.00C	100
2524	21.60C	100
2528	3.80C	100
2600	.24	35
2601	.24	35
2602	.26	35
2604	.25	35
2605	.26	35
2636	3.02C	50
2638	6.60M	100
3157	2.10	1
3158	2.38	1
3159	4.20	1
3175	.72	1
3176	.80	1
3177	.93	1
3178	1.20	1
3183	1.03	1
3184	1.10	1
3186	1.23	1
3191	1.60	1
3192	1.87	1
3194	2.17	1
3209	.99	10
3320	2.66	1
3321	2.97	1
3322	3.43	1
3397	19.80C	100
3500	.64	10
3501	.85	10
3505	.74	1
3510	.74	1
3513	1.18	1
3514	1.36	1
3515	1.65	1
3525	.74	1
3532	.66	1
3570RS	.74	1
3571RS	.91	1
3572RS	1.07	1
3573RS	1.21	1
3574RS	1.46	1
3575RS	1.65	1
3576RS	1.84	1
3577RS	2.02	1
3578RS	2.23	1
3579RS	2.61	1
3580RS	2.83	1
3581RS	3.16	1
3600RS	.76	1
3601RS	.86	1
3602RS	1.02	1
3603RS	1.14	1
3604RS	1.37	1
3605RS	1.68	1
3606RS	1.95	1
3607RS	2.26	1
3608RS	2.52	1
3609RS	2.84	1
3610RS	3.15	1
3611RS	3.47	1
3612RS	.76	1
3613RS	.86	1
3614RS	1.02	1
3615RS	1.14	1
3616RS	1.37	1
3617RS	1.68	1
3618RS	1.95	1
3619RS	2.26	1
3620RS	2.52	1
3621RS	2.84	1
3622RS	3.15	1
3623RS	3.47	1
3641	1.39	1
3642	1.53	1
3643	1.39	1
3644	1.53	1
3651	1.88	1
3652	1.40	1
3653	1.88	1
3654	1.40	1
3662RS	.74	1
3663RS	.91	1
3664RS	1.07	1
3665RS	1.21	1
3666RS	1.46	1
3667RS	1.65	1
3668RS	1.84	1
3669RS	2.02	1
3670RS	2.23	1
3671RS	2.61	1
3672RS	2.83	1
3673RS	3.16	1
3797	1.05	3
3800	1.37	3
3801	1.96	3
3802	2.33	3
3803	2.85	3
3804	2.78	3
3810	.90	3
3811	1.00	3
3812	1.26	3
3816	1.11	3
3817	1.17	3
3818	1.17	3
3819	1.52	3
3821	1.52	3
3823	1.61	3
3825	3.47	1
3826	4.12	1
3828	4.69	1
3829	5.57	1
3830	5.57	1
3831	6.99	1
3850	3.04	3
3851	3.79	3
3854	3.10	1
3855	2.35	1
3856	1.75 pr.	1 pr.
3857	1.65 pr.	1 pr.
3858	9.12	1
3859	10.07	1
3860	4.35	2
3861	5.20	2
3862	6.49	2
3863	10.77	1
3865	45.55	1
3866	56.65	1
3867	67.55	1
3868	105.00	1
3880	12.60	1
3881	15.33	1
3882	20.16	1
3883	23.63	1
3884	26.15	1
3885	14.39	1
3886	17.01	1
3905	1.05	1
3906	1.76	1
3910	11.56	1
3911	13.26	1
3912	22.16	1
3913	19.00	1
3914	60.00	1
3925	3.60	2
3926	4.74	1
3927	5.40	2
3928	9.77	1
3930	7.61	1
3931	8.55	1
3932	10.05	1
3935	4.12	2
3936	5.25	2
3937	6.43	2
3938	7.88	2
3942	3.59	2
3943	4.55	2
3944	5.85	2
3945	7.69	2
3947	2.59	1
3948	5.12	1
3949	10.28	1
3950	.84 pr.	1 pr.
3951	.97 pr.	1 pr.
3952	1.15 pr.	1 pr.
3955	.89 pr.	1 pr.
3956	1.26 pr.	1 pr.
3957	1.45 pr.	1 pr.
3958	1.08 pr.	1 pr.
3962	8.14	2
3963	8.40	2
3964	8.72	2
3965	4.04	2
3966	5.25	2
3967	5.78	2
3968	5.85	2
3969	7.50	2
3971	4.10	2
3972	5.25	2
3973	5.78	2
3974	5.85	2
3975	6.65	2
3980	2.83	2
3981	4.20	2
3982	4.55	2
3983	4.89	2
3984	5.25	2
3986	1.50	2
3987	1.50	2
3988	3.50	2
3990	4.02	2
3991	4.46	2
3992	4.81	2
3993	9.00	2
3995	1.00	2
3996	1.00	2
3997	1.50	2
3998	1.50	2
3999	1.32	2
4000	.85	3
4001	.83	3
4002	1.17	3
4003	1.34	3
4004	1.10	3
4005	1.17	3
4006	1.37	3
4007	1.26	3
4008	1.58	3
4009	1.65	3
4013	1.58	3
4014	1.52	3
4016	1.58	3
4017	1.68	3
4018	2.02	3
4019	2.55	3
4020	1.92	3
4021	3.00	3
4023	2.47	3
4024	1.02	3
4027	2.10	3
4028	2.22	3
4029	2.00	3
4030	2.17	3
4031	3.42	3
4032	1.24	3
4033	1.80	3
4035	1.65	3
4037	.95	3
4038	1.05	3
4039	1.62	3
4040	1.68	3
4042	1.10	3
4043	1.40	3
4051	.55	1
4052	.63	1
4053	.70	1
4054	.75	1
4055	.71	1
4056	.79	1
4057	.79	1
4058	.81	1
4060	.48	1
4062	.90	1
4063	.95	1
4064	.80	1
4065	.95	1
4066	.97	1
4067	1.13	1
4068	1.52	1
4069	1.27	1
4070	1.33	1
4072	1.17	1
4073	.70	1
4074	1.23	1
4075	.53	1
4076	.47	1
4077	1.16	1
4079	1.68	1
4081	1.53	1
4083	1.79	1
4086	10.08	1
4092	.90	1
4093	1.25	1
4094	1.42	1
4155	.33	1
4156	.45	1
4300	15.74	1
4301	14.85	1
4310	4.05	10
4317	3.00	10
5210	1.09	1
5250	1.65	2 lbs.
5251	3.47	1
5260	1.65	1
5261	1.65	1
5262	1.65	1
5263	1.65	1
5265	.63	1
5480	12.10M	500
5481	9.00M	500
5482	9.00M	500
5483	9.00M	500
5484	9.00M	500
5589	3.67M	500
5590	3.67M	500
5591	3.67M	500
5592	3.67M	500
5593	4.13M	500
5594	4.59M	500
5595	2.75M	500
5596	2.75M	500
5597	2.75M	500
5601	4.59M	500
5602	4.76M	500
5603	4.13M	500
5605	5.50M	500
5607	4.59M	500
5609	5.50M	500
5610	5.50M	500
5611	7.06M	500
5612	5.32M	500
5615	6.41M	500
5616	6.41M	500
5618	6.41M	500
5619	7.33M	500
5620	7.33M	500
5624	7.33M	500
5626	5.50M	500
5628	9.18M	500
5633	3.21C	100
5634	3.38C	100
5635	3.67C	100
5637	3.02C	100
5639	2.66C	100
5641	6.87C	100
5642	3.38C	100
5645	5.08M	500
5646	5.50M	500
5647	5.08M	500
5648	6.60M	500
5649	7.15M	500
5650	6.60M	500
5651	7.93M	500
5652	13.92M	500
5653	5.29M	500
5654	5.08M	500
5655	5.29M	500
5656	4.41M	500
5681	1.50C	100
5684	6.49C	100
5687	3.02C	100
5691	16.50M	100
5692	18.33M	100
5693	21.07M	100
5695	2.20C	100
5697	13.20M	500
5698	15.50M	500
5702	2.29C	100
5703	2.48C	100
5704	3.85C	100
5705	31.72M	100
5706	2.29C	100
5707	2.94C	100
5710	8.25M	100
5713	5.50M	100
5760	4.40C	50
5761	5.32C	50
5762	6.22C	50
5763	7.24C	50
5764	6.41C	50
5765	7.33C	50
5766	8.71C	50
5767	8.25C	50
5768	11.90C	50
5775	3.90C	50
5776	4.95C	50
5777	6.00C	50
5778	7.20C	50
5779	4.40C	50
5780	5.50C	50
5781	6.60C	50
5782	8.25C	50
5783	8.25C	50
5785	4.03C	50
5786	5.66C	50
5787	6.66C	50
5788	7.50C	50
5790	5.50C	50
5791	6.50C	50
5792	7.50C	50
5794	8.35C	50
5795	9.16C	50
5800	.66	1
5805	.66	1
6156	.40	25
6157	.61	25
6158	.24	25
6159	.36	25
6161	.73	25
6162	.80	25
6163	.38	25
6164	.53	25
6165	4.95	1
6166	.54	25
6170	.61	25
6171	.83	25
6192	.66	25
6193	.66	25
6194	.91	25
6199	.91	25
6222	9.95	1
6247	.83	25
6248	.55	25
6249	.99	25
6255	.75	25
6693	8.53	1
6696	12.03	1
6697	2.35	1
6846	.46	25
6847	.99	25
6848	.73	25
6849	.73	25
6850	.56	25
7201	24.00C	10
7202	12.82C	10
7203	.30	10
7204	23.82C	10
7205	16.50C	10
7206	16.50C	10
7521	23.10C	50
7522	23.10C	50
7523	23.10C	50
7524	23.10C	50
7525	23.10C	50
7526	15.39C	50
7530B	18.00C	50
7530R	18.00C	50
7537	33.00C	50
7538	33.00C	50
7539	33.00C	50
7540	33.00C	50
7541	33.00C	50
7542	33.00C	50
7543	33.00C	50
7544	33.00C	50
7545	33.00C	50
7555	15.00C	25
7556	15.00C	25
7557	15.00C	25
7560	13.20C	25
7561	13.20C	25
7562	13.20C	25
7565	18.00C	25
7566	18.00C	25
7567	18.00C	25
7570	13.20C	25
7571	13.20C	25
7572	13.20C	25
7573	9.90C	100
7577	.42	10
7579	.42	10
7584	9.90C	100
8201	1.65	1
8202	2.19	1
8600RS	.99	1
8601RS	1.21	1
8602RS	1.67	1
8603RS	2.09	1
8604RS	2.50	1
8605RS	3.13	1
8606RS	3.65	1
8607RS	4.20	1
8608RS	4.66	1
8609RS	5.16	1
8610RS	5.66	1
8611RS	6.08	1
8620RS	.99	1
8621RS	1.21	1
8622RS	1.67	1
8623RS	2.09	1
8624RS	2.50	1
8625RS	3.13	1
8626RS	3.65	1
8627RS	4.09	1
8628RS	4.50	1
8629RS	5.00	1
8630RS	5.50	1
8631RS	5.92	1
8702	.84	1
8703	.80	1
8704	.90	1
8705	.97	1
8706	1.14	1
8707	1.14	1
8708	1.19	1
8712	1.14	1
8713	1.32	1
8715	1.28	1
8716	1.18	1
8717	1.52	1
8718	1.84	1
8719	1.97	1
8720	2.07	1
8721	1.18	1
8723	.77	1
8725	.77	1
8727	1.84	1
8729	.74	1
8730	.75	1
29000	.99	1
29001	1.09	3
29002	1.47	3
29003	1.65	3
29004	2.07	3
29005	1.22	3
29006	1.47	3
29007	1.58	3
29008	1.75	3
29009	1.67	3
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29013	2.48	3
29014	2.62	3
29015	2.42	3
29016	2.93	3
29017	3.15	3
29018	3.67	3
29019	3.03	3
29020	3.68	3
29021	3.30	3
29022	3.90	3
29023	3.33	3
29024	4.13	3
29025	3.63	3
29026	4.58	3
29027	2.33	3
29030	1.10	3
29033	1.15	3
29034	2.22	3
29037	2.83	3
29039	2.67	3
29043	1.12	3
29044	1.17	3
29047	1.25	3
29048	1.63	3
29050	2.57	3
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29061	2.37	1
29062	2.62	1
29063	3.00	1
29064	3.42	1
29065	3.83	1
29066	4.02	1
29067	4.53	1
29075	.35	3
29076	.38	3
29077	.41	3
29078	.41	3
29079	.41	3
29080	.50	3
29081	.54	3
29082	.41	3
29083	.45	3
29084	.50	3
29085	.54	3
29100	3.80	3
29105	4.13	3
29110	3.94	3
29130	3.98	3
29135	4.31	3
29140	4.13	3
29200	.79	3
29205	1.10	3
29210	1.21	3
29215	1.03	3
29220	1.13	3
29225	2.20	3
29300	.91	3
29305	1.24	3
29310	1.36	3
29315	1.16	3
29320	1.32	3
29325	2.39	3
29335	.60	3
29336	.60	3
29337	.63	3
29338	.82	3
29339	.88	3
29340	.95	3
29341	.97	3
29342	1.20	3
29343	1.32	3
29344	1.98	3
29345	2.17	3
29346	2.77	3
29347	3.21	3
29400	.91	3
29405	1.24	3
29410	1.36	3
29415	1.16	3
29420	1.32	3
29425	2.39	3
29435	.73	3
29436	.73	3
29437	.77	3
29438	.96	3
29439	.99	3
29440	1.09	3
29441	1.08	3
29442	1.38	3
29443	1.69	3
29444	2.21	3
29445	2.74	3
29446	3.23	3
29447	3.80	3
29800	1.72	2
29801	2.48	2
29810	1.12	2
29811	1.29	2
29812	1.62	2
29840	1.09	2
29841	1.20	2
29842	1.44	2
29843	1.60	2
29844	2.17	2
29860	2.52	2
29861	2.52	2
29862	3.15	2
29863	3.15	2
D70989	12.00	Display of 12

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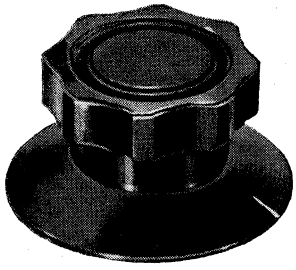
When ordering products shown in this book or writing for additional information, please be sure to mention the 1957 MASTER and the respective pages and catalog numbers. This will avoid confusion and expedite delivery.

The *Radio-Electronic* **MASTER**

Harry Davies Molding Co.

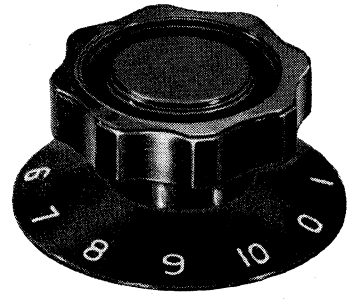
Molders of Plastics

ELECTRONIC INSTRUMENT KNOBS



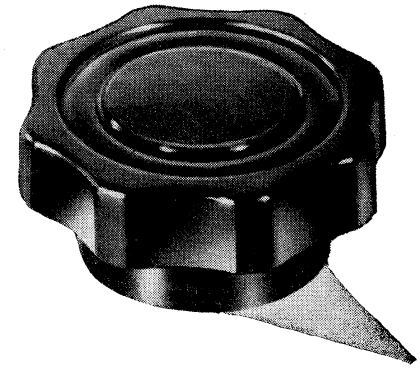
Part No.	Knob Dia.	Skirt Dia.
4104	1⅛″	1½″
4106	1⅜″	1½″
4108	1⅝″	2-1/16″
4109	2⅜″	3″

Skirts available with or without indicator line filled

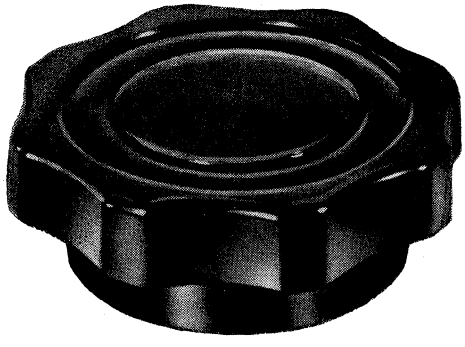


Part No.	Knob Dia.	Skirt Dia.
4104	1⅛″	1½″
4106	1⅜″	1½″
4108	1⅝″	2-1/16″
4109	2⅜″	3″

Branding stamps constructed to your specifications



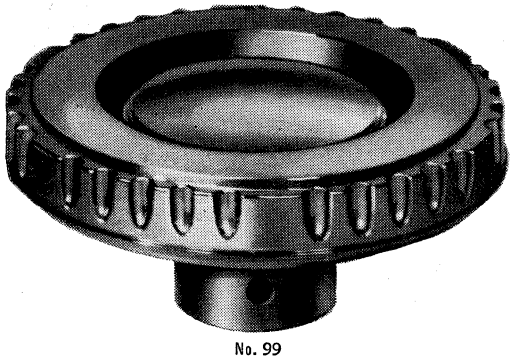
White vinylite pointed available for all knobs of the 4100 series. Specify length when ordering. Pointer lengths, ⅝″, ¾″, ⅞″/ 1-1/16″, 1-3/16″, 1¼″, 1-9/16″.



Part No.	Knob Dia.	Knob Hgt.
4100	1⅛″	⅝″
4101	1⅜″	11/16″
4102	1⅝″	¾″
4103	2⅜″	⅞″

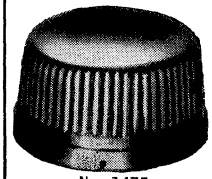
Entire series available with ¼″ molded hole or metal insert, set screw mounting.

ACTUAL SIZE



No. 99

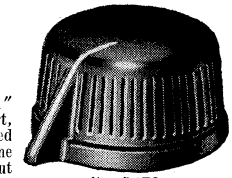
Dia. 3⅜″, hgt. ⅞″ to 1½″, ⅜″ or ½″ molded hole or metal insert. Set screw mounting, with or without spinner.



No. 1475

Dia. 1″, hgt. ½″, ¼″ molded hole or brass insert, set screw, spring or knurled hole mounting, locknut recess.

Dia. 1″, hgt. ½″, ¼″ molded hole or brass insert, set screw, spring or knurled hole mounting, indicator line filled or unfilled, locknut recess.



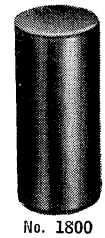
No. 1470

No. 1400

Dia. 11/16″, hgt. 13/32″, ¼″ molded hole or brass insert, set screw, spring or knurled hole mounting.

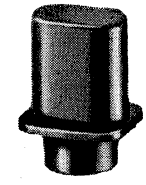
Dia. 11/16″, hgt. 13/32″, ¼″ molded hole or brass insert, set screw, spring or knurled hole mounting.

No. 1450



No. 1800

Dia. 7/16″, hgt. 1″ to 1⅜″, touch tuning, plain or recessed top, push on, self locating, also with studs of various lengths patented friction fit.



No. 5149-A

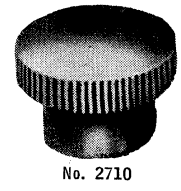
Hgt. 51/64″, oval touch tuning. Push-on, self locating, patented friction fit.

No. 1750

Dia. 31/64″, hgt. 9/16″ to 15/16″, touch tuning, push on, self locating, patented friction fit.

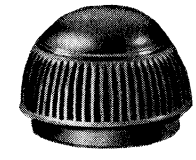
No. 1770

Dia. 31/64″, hgt. ½″ to ⅞″, 6-32 or 8-32 male or female metal insert.



No. 2710

Dia. ¾″, hgt. ½″, 8-32, 10-32, 10-24 metal insert with or without metal face on bottom.



No. 5460

Dia. ⅞″, hgt. ⅝″, ¼″ molded hole, set screw mounting.

No. 1700

Dia. ¾″, hgt. 19/32″, ¼″ molded hole, set screw, spring or knurled hole mounting.

Knobs shown are only part of our stock on hand. Our stock molds are interchangeable and meet most requirements with only minor tooling variations. Let us quote on your specifications.

HARRY DAVIES MOLDING CO.
CHICAGO 10, ILL.

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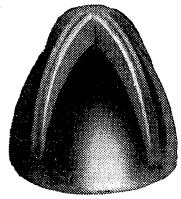
Molders of Plastics

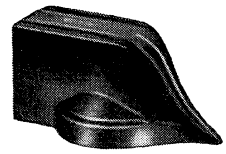


No. 2500

Dia. ¾", hgt. ¾", ¼" molded hole, set screw, spring or knurled hole mounting.

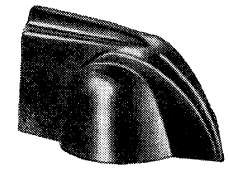
No. 2600

Dia. ⅞", hgt. ⅞", ¼" molded hole, set screw, spring or knurled hole mounting.



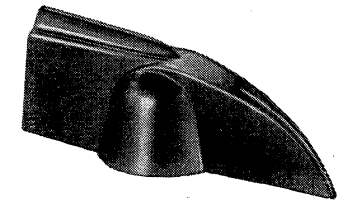
No. 2150

Length 1¼", hgt. 9/16", ¼" molded round or hex hole, set screw mounting, locknut recess.



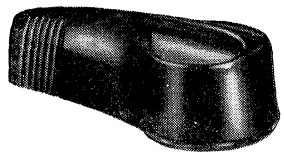
No. 2300

Length 1¼", hgt. ⅝", ¼" molded hole, round, hex or "D" shape, also ¼" metal insert, set screw or knurled hole mounting, locknut recess.



No. 2350

Length 2", hgt. ⅝", ¼" molded hole or metal insert, set screw or knurled hole mounting, locknut recess.



No. 2110

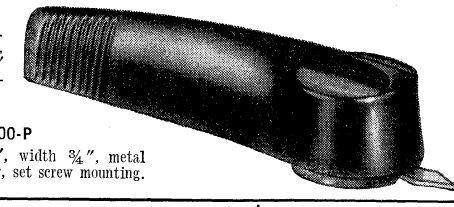
Length 1⅝", hgt. 19/32", width ¾", ¼" molded hole or metal insert, set screw or knurled hole mounting, locknut recess.

No. 2100

Length 2½", hgt. ⅝", width ¾", ¼" molded hole or metal insert, set screw mounting, locknut recess.

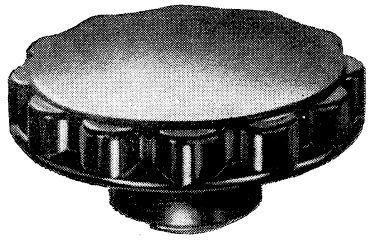
No. 2110-P

Length 1⅝", hgt. 19/32", width ¾", metal insert and 5/16" pointer, set screw mounting.



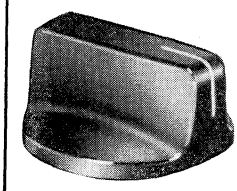
No. 2100-P

Length 2½", hgt. ⅝", width ¾", metal insert and 5/16" pointer, set screw mounting.



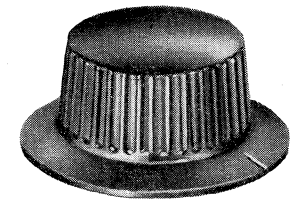
No. 3000

Dia. 1¾", hgt. ¾", 1", 1¼", 1½"; ¼" molded hole, some male and female metal inserts, set screw or knurled hole mounting, or tapped to order, locknut recess.



No. 1500

Dia. 1⅛", hgt. 9/16", ¼" molded hole, set screw or knurled hole mounting, locknut recess, indicator line filled or unfilled.

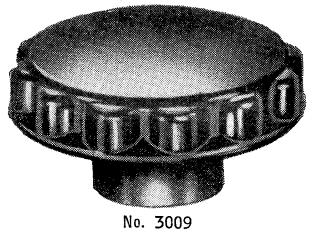


No. 1600

Dia. 1½", hgt. 11/16", ¼" molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

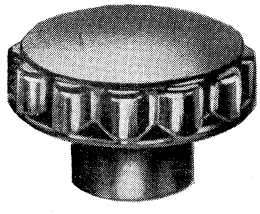
No. 1610

Dia. 15/16", hgt. ⅝", ¼" molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.



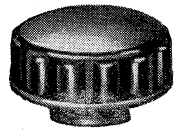
No. 3009

Dia. 1½", hgt. ¾" to 1", ¼" molded hole, some male and female metal inserts, set screw mounting or tapped to order.



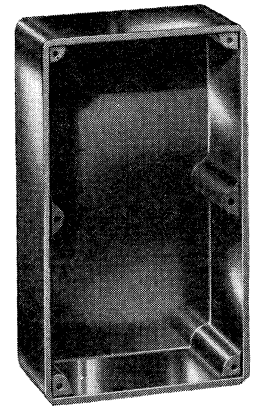
No. 3008

Dia. 1¼", hgt. ¾" to 1", ¼" molded hole, some male and female metal inserts, set screw mounting or tapped to order.



No. 2965

Dia. ⅞", hgt. ½" to 1⅛", ¼" molded hole, set screw, spring, knurled hole mounting, also 10-32 male and female inserts.

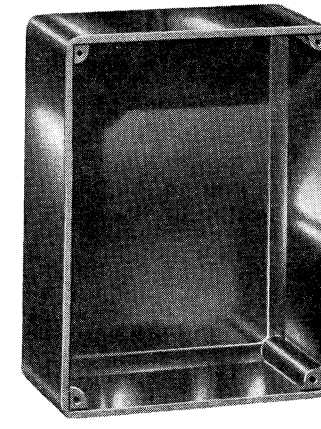


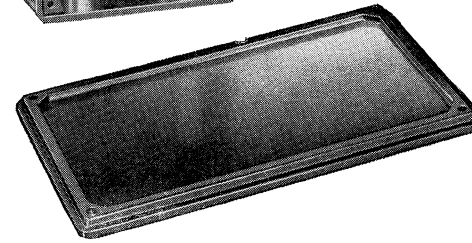
No. 240

2" hgt. x 3¾" wide x 6¼" long. (Outside Dimensions) — ⅛" (Wall Thickness).

No. 260

2-5/16" height x 5-9/32" wide x 6-13/16" long. (Outside Dimensions) — 5/32" (Wall Thickness).





No. 241

Mating cover with interlocking lip for No. 240 series cases.

BRANCH OFFICES: New York, Milwaukee, Boston, Philadelphia, Buffalo, Los Angeles, Cleveland, Lansing, Columbus, Ind., Dallas, St. Louis, Louisville, Memphis, Seattle.
FOREIGN OFFICE: Toronto, Canada.

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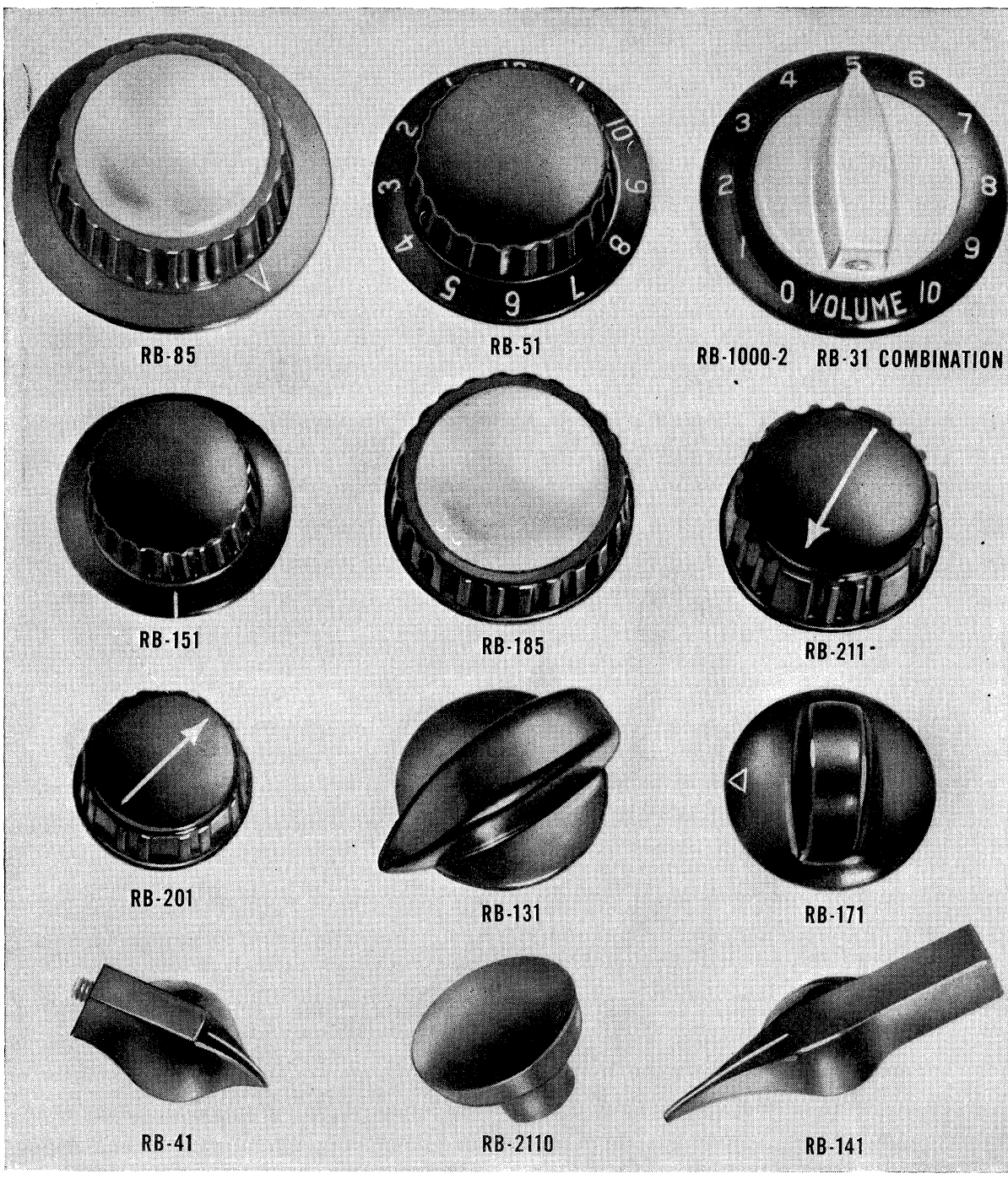

Shown actual size, here are just a few of the many Rogan plastic knobs . . . available promptly from stock molds. Phenolic or urea plastics . . . also high heat-resisting materials. Black, brown or walnut colors in phenolic and light pastel colors in the urea material. Mostly ¼" shaft holes with set screws. "Specials" supplied at nominal cost. All types of markings, branded from stock dies.

Wide variety of combination knobs (plate and knob sets) in matching or contrasting colors . . . with all types of markings. Write for complete catalog.

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SKOKIE, ILLINOIS

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ELECTRONICS INC.

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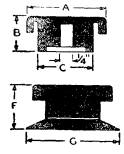
Semi-Fluted Design Knobs

Exclusive semi-fluted design. Injection-molded from Tenite II plastic. All are stocked with brass inserts for ¼" shafts, complete with 8/32" slotted cup point set screws. Have three mounting holes for use with either skirts or pointers.

Catalog Number Black	Walnut	Dimensions A	B	D	List Price Ea. 1B
SF-1B	SF-1W	5/8"	7/16"	—	$ .31
SF-2B	SF-2W	15/16"	5/8"	13/32"	.33
SF-3B	SF-3W	1 1/8"	5/8"	13/32"	.36
SF-4B	SF-4W	1 5/8"	3/4"	13/32"	.39
SF-5B	SF-5W	1 5/8"	3/4"	13/32"	.44
SF-6B	SF-6W	2 3/8"	13/16"	13/32"	.53



Plain Knob

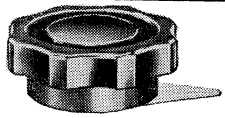
WALDOM No.	CRONAME No.
WA-4100	6537
List Price ea. $.44	List Price ea. $.44
A—1 1/8", B—5/8", C—13/16"	
WA-4101	6538
List Price ea. $.47	List Price ea. $.47
A—1 3/8", B—11/16", C—13/16"	
WA-4102	6539
List Price ea. $.58	List Price ea. $.58
A—1 5/8", B—3/4", C—1 7/8"	
WA-4103	6540
List Price ea. $.83	List Price ea. $.83
A—2 3/8", B—7/8", C—1 3/4"	

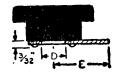
Full Fluted Knobs

For a variety of applications involving test instruments, custom-built radio equipment and specialized electronic components. Black phenolic material. Supplied with brass inserts and a single slotted cup point set screw. Available also with cup type, single or double, set screws or plain molded hole, on special order. In Red, Ivory and Walnut upon special request.

Knob and Skirt

WALDOM No.	CRONAME No.
WA-4104	6545S
List Price ea. $.70	List Price ea. $.70
F—51/64", G—1 1/2"	
WA-4107	6548S
List Price ea. $.70	List Price ea. $.70
F—55/64", G—1 3/4"	
WA-4108	6549S
List Price ea. $.90	List Price ea. $.90
F—7/8", G—2 1/16"	
WA-4109	6550S
List Price ea. $1.10	List Price ea. $1.10
F—1", G—3"	



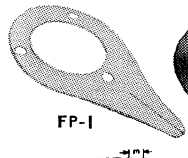


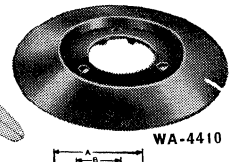
Pointer Knob

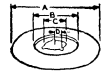
Croname pointer knobs come with plastacele pointers. Waldom pointer knobs come with white plastic pointer staked on.

(See detail of WA-4100 for A, B and C dimensions).

No. 6566P (Croname) — A—1 1/8", B—5/8", C—13/16", D—31/64", E—25/32" ..... List Price ea. $.70
No. WA-4100Q (Waldom)—Dimensions same as above except E—3/4" ..... List Price ea. $.66
No. 6571P (Croname) — A—1 3/8", B—11/16", C—13/16", D—31/64", E—1 3/32" ..... List Price ea $1.20
No. WA-4101J (Waldom) — Dimensions same as above except E—7/8" ..... List Price ea. $.70
No. 6570P (Croname) — A—1 5/8", B—3/4", C—1 1/8", D—3/4", E—1 5/16" ..... List Price ea. $.97
No. WA-4102Q (Waldom) — Dimensions same as above except E—1 1/4" ..... List Price ea. $.76
No. 6559P (Croname) — A—2 3/8", B—7/8", C—1 3/4", D—5/8", E—1 11/16" ..... List Price ea $1.47
No. WA-4103W (Waldom) — Dimensions same as above except E—1 9/16" ..... List Price ea. $1.00


FP-1


WA-4410



Knob Pointers

Transparent plastacele pointers. Extremely practical, see calibration marks and numerals right through them. Red indicator lines on pointers for high visibility. Packed in an individual envelope with self-tapping attaching screws.

Knob Skirts

Black plastic knob skirts which can be attached to knobs alone, or in combination with knobs and dial plates. Packaged in envelope complete with self-tapping screws.

Catalog No.	DIMENSIONS A	B	C	D	E	Fits Knobs With Following Top Diam.	List Price Each
FP-1	25/32"	1-9/64"	3/4"	23/32"	9/32"	7/8", 15/16" 1 1/8" & 1 3/8"	$ .25
FP-2	1-1/32"	1-27/64"	31/64"	25/32"	9/32"	7/8", 15/16" 1 1/8" & 1 3/8"	.72
FP-3	1-9/32"	1-13/16"	3/4"	1-1/16"	13/32"	1 5/8"	.45
FP-4	1-11/16"	2-15/32"	15/16"	1 1/2"	5/8"	2 3/8"	.72

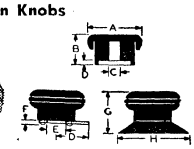
Catalog No. Waldom	Croname	DIMENSIONS A	B	C	D	Fits Knobs With Following Top Diam.	List Price Each
WA-4110	KS-1B	1 1/2"	13/16"	15/32"	9/32"	7/8", 15/16", 1 1/8" & 1 3/8"	$ .17
WA-4111	KS-2B	1 3/4"	13/16"	1/2"	9/32"	7/8", 15/16", 1 1/8" & 1 3/8"	.20
WA-4112	KS-3B	2-1/16"	1 1/8"	3/4"	13/32"	1 5/8"	.22
WA-4113	KS-4B	3"	1 1/2"	15/16"	5/8"	2 3/8"	.31

Precision Shaft Locks

Precision machined and nickel plated. SL-216 and SL-217 mount on ¼" shafts. SL-218 is tapped 1/4-32, and designed to lock shafts ⅛" in diameter.

SL-216 ½" x ½" $ .45 — SL-217 ½" x 1" $ .75 — SL-218 5/8" x ½" $ .39

Modern Knobs



Injection-molded of butyrate plastic. All knobs are molded with ¼" Brass inserts and have slotted set screws, mounting holes for pointers, dials and skirts. Available with Allen head or double set screws on request. Dimensions A and B for pointer and skirted knobs are the same as those given for plain knobs. In Black, Ivory or Red upon special request.

Plain Knobs

Cat. No.	Dimensions A	B	C	List Price Each
6126	5/8"	7/16"	1/4"	$ .47
6129	7/8"	11/16"	1/4"	.53
6132	1 1/8"	5/8"	1/4"	.78
6135	1 5/8"	3/4"	1/4"	.75
6138	2 3/8"	13/16"	1/4"	1.00

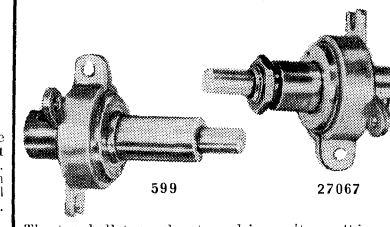
Knob and Pointer

Cat. No.	Dimensions A	D	E	F	List Price Each
6141P	7/8"	25/32"	3/8"	13/32"	$ .75
6144P	1 1/8"	25/32"	3/8"	13/32"	1.03
6147P	1 5/8"	1 1/32"	1/4"	13/32"	1.20
6150P	2 3/8"	1 1/32"	1/4"	13/32"	1.72

Knob and Skirt

Cat. No.	Dimensions A	G	H	List Price Each
6508S	7/8"	13/16"	1 1/2"	$ .70
6102S	1 1/8"	13/16"	1 1/2"	.95
6426S	1 5/8"	7/8"	2 1/16"	.97
6429S	2 3/8"	1"	3"	1.33

Auxiliary Planetary Drives


599 27067

The two ball-type planetary drive units on this page are useful whenever a compact device is needed for reduced-speed operation of light mechanisms. Both have a ratio of approximately 5 to 1. They may be used as auxiliaries to existing instruments or incorporated in new construction.

Both of these units have hubs to fit ¼" instrument shafts.

Croname planetary units are made as detailed below. To meet all needs, there are single speed and two speed models. If desired two planetaries can be operated in tandem to produce a combined ratio of approximately 25 to 1; a drive ratio of 5 to 1 will also be available at the same time if the front unit of the pair is one of the two-speed units.

Two-Speed Planetary Drive

No. 599—This is an "A Type" adjustable unit as explained below. Permits slow speed operation at approximately 5 to 1 ratio and high speed at 1 to 1. Our No. 6665 pair of knobs below fits this unit. No. 599 is a precision device used for both military and civilian production. Can be used as a single-speed drive by omitting knob on the high-speed sleeve. Complete with mounting accessories.
List Price ea. $10.61

Single Speed Planetary Drive

No. 27067—"Type A." This unit is the same as No. 599 described above except that the sleeve for a high-speed knob has been omitted; in its place there's a threaded sleeve with shoulder so an indicating dial or pointer may be installed. Clamping nut, clamping washers and planetary anchor stud are included. Has ¼" diameter knob shaft and fits ¼" diameter instrument shaft. **List Price ea. $10.61**

All Croname planetary units depend on the action of steel balls that rotate between the knob shaft and a concentric sleeve that is attached to the driven instrument. "Type A" units are adjustable so that the pressure on the balls can be varied to match the operating load; this assures maximum smoothness while maintaining adequate torque. Maximum torque 14 inch ounces; minimum torque 10 inch ounces.

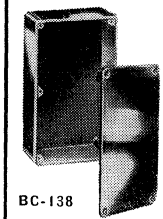
6665 104

Pair of Knobs

No. 6665—These knobs fit the No. 599 two-speed planetary drive. Larger knob is aluminum. 1 3/16" diameter drilled 7/16" to fit high-speed sleeve on planetary. Smaller knob is molded black butyrate with brass insert to fit ¼" low-speed planetary shaft. Both are supplied with set screws.
List Price ea. $1.12

Auxiliary Gear Type Drive Unit

No. 104—GEAR REDUCTION UNIT. Double-gear and spring design eliminates back-lash in this gear and pinion mechanism. Provides 6 to 1 ratio between knob shaft and drive shaft of your instrument. Accepts any knob with ¼" shaft hole and has removable reducing bushing in hub so the same unit can be used on either ¼" or ⅛" instrument shaft. Complete with set screw. **List Price ea. $7.30**


BC-138

BC-137A

Instrument Cases, Panels

Sturdy heavy molded plastic meter cases, wall thickness ⅛". With four mounting bosses, recessed ⅛" for flush panel mounting. Matching panels listed below.

No.	Size	List Price ea.
BC-138	2" h x 3 3/4" w x 6 1/4" lg.	$1.35
BC-140	2 5/16" h x 5 3/32" w x 6 13/16" lg.	2.10

Black phenolic panels ⅛" thick for cases listed above. Complete with hardware. Flat panel for recess fit.

No.	List Price ea.
BP-137	—Panel for BC-138 ..... $ .85
BP-139	—Panel for BC-140 ..... 1.15
BP-137A	—(Moulded flange cover—fits over case) For BC-138 ..... 1.00

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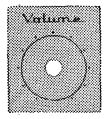
WALDOM ELECTRONICS INC.

ELECTRONIC COMPONENTS and CRONAME PRODUCTS



ADP-1

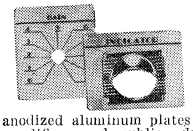
High Fidelity and All-Purpose Dial Plates

Aluminum dial plates finished in a beautiful anodized bronze tone, for today's High Fidelity and other modern equipment. Harmonize nicely with traditional as well as modern cabinet designs. 2" wide by 2¼" high. The center hole is $\frac{13}{32}$" diameter to clear standard ⅜" control and switch sleeves.

ADP-1—Volume	ADP-11—Selector 0-100 (180°)
ADP-2—Bass	ADP-12—Selector 100-0 (180°)
ADP-3—Treble	ADP-13—Tape
ADP-4—Microphone	ADP-14—Tone
ADP-5—Microphone 1	ADP-15—Gain
ADP-6—Microphone 2	ADP-16—Master Gain
ADP-7—Phono	ADP-17—Loudness
ADP-8—Phono 1	ADP-18—Level-Set
ADP-9—Phono 2	ADP-19—No Title
ADP-10—Selector	

LIST PRICE Ea. $0.43

Anodized Aluminum Dial Plates



436 440

High quality anodized aluminum plates particularly designed for amplifiers and public address equipment. Black figures and letters deeply dyed into the extremely hard aluminum oxide surface assure long-lasting service.

Single Vertical

(See No. 436 Illustration) 2⅝" High x 2⅜" Wide

No. 436—Gain 0-10	No. 442—Bass 0-10
No. 437—Gain 5-0-5	No. 443—Treble 0-10
No. 438—Switch-1-2-3	No. 444—Phono 0-10
No. 439—Tone 0-10	

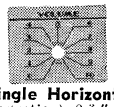
LIST PRICE Ea. $0.60

Indicator Plate—Horizontal Style

This plate is 2⅜" high by 2⅝" wide and includes an embossed chrome escutcheon or shield to fit resonance-indicating tubes.

No. 440—Horizontal Style Indicator Plate.

List Price Ea. $1.65



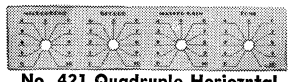
426

Single Horizontal

(See No. 426 Illustration) 2⅜" high x 2⅝" wide

Cat. No.	Title and Calibration	Cat. No.	Title and Calibration
410	Without Title 0-10	422	Gain 5-0-5
411	Tone 0-10	423	Increase with Arrow
412	Gain 0-10	426	Volume 0-10
413	Master Gain 0-10	427	Fader 5-0-5
414	Record 0-10	428	Bass 5-0-5
415	Microphone 0-10	429	Treble 5-0-5
416	Microphone 1 0-10	430	Expansion 0-10
417	Microphone 2 0-10	446	Phono 0-10
		447	Bass 0-10
		448	Treble 0-10

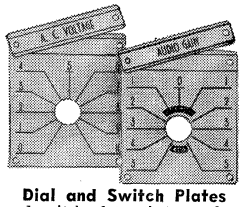
LIST PRICE Ea. $0.60



No. 421 Quadruple Horiozntal

2⅜" High x 9¾" Wide

LIST PRICE Ea. $1.90



No. 408 No. 409

Dial and Switch Plates

Two dial and switch plates that exactly match title plates on Page U-112. Use separately or with title plate across the top as illustrated. Each plate is 2⅜" high x 1¾" wide.

No. 408 No. 409

LIST PRICE Ea. $0.45

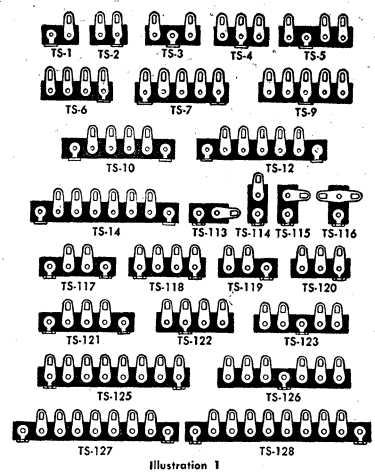


Illustration 1

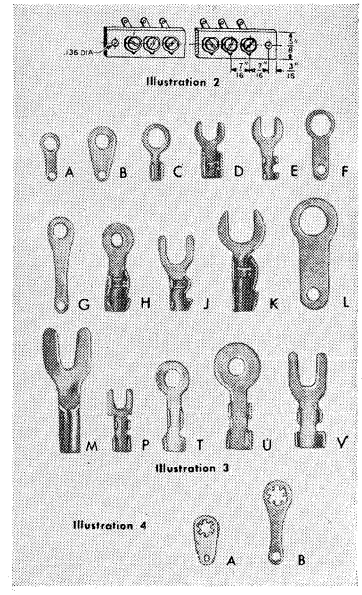
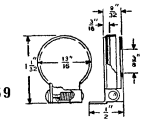


Illustration 2

Illustration 3

Illustration 4

A-22227



A-23559

Jack or Trimmer Covers

These handy covers are made of steel, bonderized for rust protection and then given a black wrinkle finish for long wear. (Special finishes available on request.) All have high-torque coil springs for positive self-closing action. Used for protecting jacks against entrance of dust or moisture, and for covering small inspection and adjustment openings.

No. A-23559 Cover—Will accept plugs with body diameters up to ⅝". Jack mounting nut fastens cover to panel. Corprene pad inside the cap provides waterproof seal for jack opening. Cover opens full 90°. List Price Ea. $2.60

No. A-22227 Cover—Felt pad. Cover opens 60° for standard plugs to $\frac{7}{16}$" body diameter. Part A-22227 has formed attaching plate as shown.

List Price Ea. $2.53

Standard Type Terminal Strips

ILLUSTRATION 1

Standard type lug mounting terminal strips of X Grade bakelite ⅛" thick, ⅜" wide. End terminals are spaced $\frac{3}{16}$" from end of strip. Lug holes spaced ⅜" center to center.

	List Price Ea.		List Price Ea.
TS-1	$ .03	TS-115	$ .03
TS-2	.03	TS-116	.03
TS-3	.04	TS-117	.06
TS-4	.05	TS-118	.07
TS-5	.05	TS-119	.04
TS-6	.06	TS-120	.05
TS-7	.07	TS-121	.06
TS-9	.06	TS-122	.06
TS-10	.08	TS-123	.06
TS-12	.09	TS-125	.11
TS-14	.10	TS-126	.08
TS-113	.03	TS-127	.10
TS-114	.03	TS-128	.11

Screw Type Terminal Strips

ILLUSTRATION 2

Standard and heavy duty, bakelite screw type terminal strips. Hot-tin dipped for easy soldering. ⅝" wide, with .136 dia. mounting holes. Standard duty $\frac{1}{16}$" thick.

Cat. No. 1/16"	No. of Ter.	Length	Mounting Centers	List Ea.
BTS-18	1	1¼"	⅞"	$ .05
BTS-19	2	$1\frac{11}{16}$"	$1\frac{5}{16}$"	.12
BTS-20	3	$2\frac{1}{16}$"	$1\frac{3}{4}$"	.18
BTS-21	4	$2\frac{3}{16}$"	$2\frac{3}{16}$"	.18
BTS-22	5	3"	$2\frac{5}{8}$"	.21
BTS-23	6	$3\frac{7}{16}$"	$3\frac{1}{16}$"	.37
BTS-24	7	$3\frac{5}{8}$"	$3\frac{1}{2}$"	.29
BTS-25	8	$4\frac{5}{16}$"	$3\frac{15}{16}$"	.32
BTS-26	9	$4\frac{3}{4}$"	$4\frac{5}{8}$"	.37
BTS-27	10	$5\frac{5}{16}$"	$4\frac{15}{16}$"	.61

Terminal and Spade Lugs

ILLUSTRATION 3

For all applications. Hot-tin dipping in brass, copper or steel. Standard package quantities are 100 (C) and 1000 (M). Please specify C or M after catalog number for quantity desired when ordering.

Cat. No.	Fig.	Mtl.	Hole Size	Length	List Price C
T-151	A	.020B	#6	½"	$ .92
T-152	A	.020B	#8	13/16"	.89
T-153	A	.020B	#10	13/16"	.89
T-154	B	.020B	#6	9/16"	.97
T-155	C	.032C	3/16"	19/32"	1.56
T-156	C	.032C	#6	½"	1.06
T-157	D	.020B	#8	41/64"	.86
T-158	E	.020B	#6	21/32"	1.00
T-159	E	.020B	#8	21/32"	1.00
T-160	E	.020B	#8	13/16"	1.08
T-162	F	.015B	#8	47/64"	.94
T-163	G	.025B	#6	1"	1.11
T-164	G	.025B	#8	1"	1.11
T-166	H	.020C	#6	15/16"	1.78
T-167	H	.020C	#8	15/16"	1.78
T-168	H	.020C	#10	15/16"	1.78
T-170	J	.020B	3/16"	25/32"	1.03
T-171	J	.025B	3/16"	31/32"	1.58
T-172	K	.025C	9/32"	1-1/16"	2.44
T-173	L	.020B	#10	1-5/32"	1.69
T-174	M	.030S	7/32"	1-5/16"	1.78
T-177	P	.032B	#6	23/32"	2.36
T-178	P	.032B	#8	23/32"	2.39
T-187	T	.032B	#8	15/16"	3.33
T-188	T	.032B	#10	15/16"	3.33
T-189	U	.032B	#6	1-3/32"	4.80
T-190	U	.032B	#8	1-3/32"	4.80
T-191	U	.032B	#10	1-3/32"	4.80
T-192	U	.032B	¼"	1-3/32"	4.80
T-193	V	.032B	#8	1"	4.61

Locking-Type Lugs

ILLUSTRATION 4

Locking type construction eliminates need for additional washer. Fabricated from phosphor bronze and tinned. In standard packages of one hundred (C) and one thousand (M). When ordering please specify "C" or "M" after catalog number for quantity desired.

Cat. No.	Fig.	Screw Size	Mtl. Thick.	Length	List Price per C
T-194	A	#6	.018	⅝"	$1.42
T-195	A	#8	.018	⅝"	1.42
T-196	B	#4	.018	⅞"	1.42
T-197	B	#6	.018	⅞"	1.42
T-198	B	#8	.018	⅞"	1.42

Solderless Terminals

ILLUSTRATION 5

Cat. No.	Type	Hole	Wire Size	List Price per C
S-1001	Ring Tongue	#4-#6	22-16	$4.08
S-1003	Ring Tongue	#8-#10	22-16	4.08
S-1004	Ring Tongue	#12-¼"	22-16	5.22
S-1008	Ring Tongue	#8-#10	16-14	4.08
S-1014	Spade Tongue	#4-#6	22-16	3.72
S-1015	Spade Tongue	#4-#6	16-14	4.08
S-1016	Spade Tongue	#8-#10	16-14	4.08
S-1018	Hook Type	#4-#6	22-16	3.72

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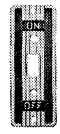
WALDOM ELECTRONICS INC.

ELECTRONIC COMPONENTS and CRONAME PRODUCTS

566



41838

Rectangular Control Plates

Plates in this group are calibrated 0-10 in 300° and titled as listed below. Etched aluminum with polished figures and border and black background. Size 2 1/4" x 1 21/32"; 13/32" diameter center hole.

No.	No.
276—Gain	577—Microphone 1
277—Tone	578—Microphone 2
565—Record	585—Bass
566—Microphone	586—Treble
570—Master Gain	587—Phono
571—No Title	588—Volume

LIST PRICE Ea. $0.44

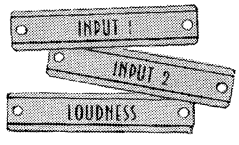
Plates for Sliding Switches

These two switch plates are etched bronze with antique finish. Opening for switch button 1/2" x 1/4". Two holes for attaching switch to plate are on 1 1/8" centers. Two holes for attaching plate to panel are on 2 13/16" centers. Overall size 2 1/2" x 7/8".

No. 41837—"Phono-Radio" No. 41838—"Off-On"

LIST PRICE Ea. $0.35

High Fidelity and All-Purpose Title Plates



0-11

0-12

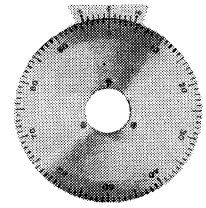
0-14

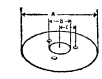
Standard for identifying controls, meters, switches and terminals on a wide variety of equipment. Each plate is 7/8" x 1 3/4", of anodized aluminum with silvery-white background and black letters.

Notice K-10 blank plate for engraving special titles, and L-1 and L-2 for engraving or stamping serial and model numbers.

A-1—A.C.	I-9—Record
A-2—A.C. Input	I-10—Rectifier
A-3—A.C. Output	I-12—Screen Current
A-4—A.C. Voltage	I-13—Send
A-5—Amplifier	I-14—Send-Receive
A-6—Antenna	I-15—Selector
A-7—Antenna Current	J-2—Speaker
A-9—Audio Gain	J-3—Speaker 1
A-10—Auxiliary	J-4—Speaker 2
B-6—Bias Voltage	J-5—Speaker 3
B-7—Buffer	J-6—Speaker 4
D-5—Crystal	J-11—Telephone
D-8—D.C.	J-12—Tone
D-9—D.C. Input	J-14—Transmitter
D-10—D.C. Output	K-4—Volume
D-11—D.C. Voltage	K-6—Line Current
E-5—Filament Voltage	K-7—Audio Input
E-6—Focus	K-8—Audio Output
E-8—Gain Control	K-10—Blank (for engraving special titles)
E-10—Grid Current	K-11—Phono 1
E-11—Ground	K-12—Phono 2
E-12—Heater Voltage	K-13—Bass
E-13—Input	K-14—Treble
F-3—Key	L-1—Serial No. (with blank space for figures)
F-6—Master Switch	L-2—Model No. (with blank space for figures)
F-7—Microphone	L-3—Phono 3
F-8—Microphone 1	M-2—Standby
F-9—Microphone 2	M-3—High Voltage
F-10—Microphone 3	M-6—Phones
F-11—Microphone 4	M-8—Emergency (red wording)
F-13—Mixer No. 1	M-14—Equalizer
F-14—Mixer No. 2	N-9—Pre-Amp
F-15—Mixer No. 3	N-10—Pre-Amp In
G-6—Monitor	N-11—Pre-Amp Out
G-8—Off-Intensity	O-8—Tape-1
G-9—On-Off	O-9—Tape-2
G-10—Off	O-10—Tape
G-11—On	O-11—Input-1
G-12—Oscillator	O-12—Input-2
G-15—Output	O-13—Compensator
H-7—Phone-CW	O-14—Loudness
H-9—Plate No. 1	
H-10—Plate No. 2	
H-11—Plate Current	
H-12—Plate Voltage	
H-15—Power	
I-6—Radio	
I-7—R.F. Gain	
I-8—Receive	

LIST PRICE Ea. $0.23



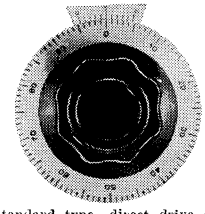


Accessory Dial Plates for Knobs

For attachment to modern and semi-fluted knobs. Made of heavy aluminum with chromium finish. Calibration lines and numerals are filled with black enamel.

KD-1 and KD-2 have single-line indicators; others have spring-mounted vernier indicators for accurate reading to one-tenth of each dial division. KD-1 and KD-2 are intended for direct assembly. The 2 3/4" and 4" dials can be used with knob alone or with knob and skirt combined. Reverse calibration on request. Complete with indicator and all necessary screws.

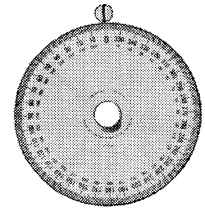
Cat. No.	Calibration	DIMENSIONS A	B	C	Fits Knobs With Following Top Diameters	List Price Each
KD-1	0-100 in 180°	1 3/4"	31/64"	9/32"	3/8", 15/16" or 1 1/8"	$1.30
KD-2	0-100 in 270°	1 3/4"	31/64"	9/32"	3/8", 15/16" or 1 1/8"	1.30
KD-3	0-100 in 180°	2 3/4"	3/4"	13/32"	1 5/8"	3.00
KD-4	0-100 in 270°	2 3/4"	3/4"	13/32"	1 5/8"	3.00
KD-5	0-100 in 360°	2 3/4"	3/4"	13/32"	1 5/8"	3.00
KD-6	0-100 in 180°	4"	15/16"	5/8"	2 3/4"	3.85
KD-7	0-100 in 270°	4"	15/16"	5/8"	2 3/4"	3.85
KD-8	0-100 in 360°	4"	15/16"	5/8"	2 3/4"	3.85
KD-8A	0-360 in 360°	4"	15/16"	5/8"	2 3/4"	3.85



Direct Drive Dials for Transmitters and Technical Equipment

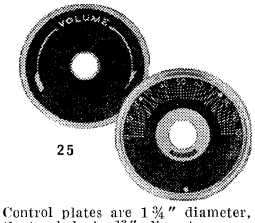
Standard type, direct drive dials. Knobs are black bakelite with brass inserts and plated set screws. Calibrated dial plates are heavy aluminum, spun chromium finish. All assemblies include knob, skirt and dial, except No. 27068 and No. 27069 which have knob only and single-line indicator; all others have spring-mounted vernier indicators for accurate reading to one-tenth of each dial division. All dials fit 1/4" diameter instrument shafts.

Cat. No.	Calibration	Knob Dia.	Dial Dia.	List Price Each
292	0-100 in 180°	2 3/8"	4"	$4.85
293	0-100 in 270°	2 3/8"	4"	4.85
294	0-100 in 180°	1 5/8"	2 3/4"	3.75
295	0-100 in 270°	1 5/8"	2 3/4"	3.75
302	0-100 in 360°	2 3/8"	4"	4.85
302-A	0-360 in 360°	2 3/8"	4"	4.85
303	0-100 in 360°	1 5/8"	2 3/4"	3.75
27068	0-100 in 180°	1 1/8"	1 3/4"	1.90
27069	0-100 in 270°	1 1/8"	1 3/4"	1.90



No. 27010 Azimuth Dial

For laboratory use on instruments requiring a dial of extreme accuracy in calibration, also as an indicator for direction finders. Outer numerals read 0 to 360 in counter-clockwise direction; inner numerals 0 to 360 in clockwise direction. Etched on heavy brass with black graduations and figures on chromium background. Hub has two set screws and fits 7/8" shaft. Diameter of dial is 6"; diameter of indicator is 1/2". **List Price Ea. $10.80**



25

550

Round Control Plates

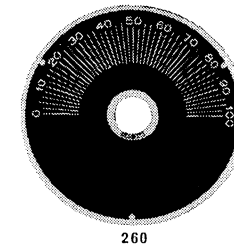
Control plates are 1 3/4" diameter, etched aluminum. Center hole is 13/32" diameter.

	List Price Ea.
No. 25—Volume	$ .34
No. 26—Off-Tone Control	.34
No. 569—Calibrated 0-100 in 180°. No Title	.34
No. 905—Calibrated 0-100 in 270°. No Title	.34

Anodized Aluminum Dial Plates

Made of anodized aluminum with embossed beaded edges for greater stiffness. Black backgrounds and silvery-white figures and borders. Diameter of center hole is 13/32".

Cat. No.	Diameter	Calibrated	List Price Ea.
550	1 7/8"	0-100 in 180°	$ .47
551	1 7/8"	0-100 in 270°	.47
552	2 7/8"	0-100 in 180°	.91
553	2 7/8"	0-100 in 270°	.91



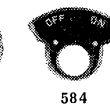
260

Chrome and Black Dial Plates

Made of heavy brass with satin chromium figures, graduations and borders. Backgrounds are dull black.

Cat. No.	Diameter	Calibrated	List Price Ea.
260	3"	0-100 in 180°	$1.00
261	3"	0-100 in 270°	1.00
262	1 7/8"	0-100 in 180°	.58
263	1 7/8"	0-100 in 270°	.58
264	2 1/4"	0-10 in 300° and titled "Gain"	1.00

272



584

Circular Plates for Toggle Switches

These plates are 1 1/8" in diameter with 13/32" hole. Polished aluminum with black background. Locking lug fits groove in switch.

	List Price Ea.
No. 272—Off-On	$ .38
No. 589—Off-On (Vertical)	.38
No. 581—Lo-Hi	.38
No. 582—Monitor	.38
No. 573—Micro-Phono	.38

Polished aluminum with black background. All are 1" x 1 1/4".

	List Price Ea.
No. 584—"Off-On"	$ .28
No. 274—"1-2"	.28
No. 564—"1-2-3"	.28

278

275

Horizontal Switch Plates

No. 278—"Off-On" Switch Plate. Etched aluminum with black background and polished aluminum letters and border. Size is 13/16" x 1 21/32". **List Price Ea. $0.22**

No. 275—"Off-On" Switch Plate. Etched aluminum with black background. Overall size 5/8" x 1 1/2". Has two mounting holes **List Price Ea. $0.40**

Ask your distributor for complete WALDOM catalog listing such other products as . . .

Anode Connectors
Crystal Sockets
Diode Sockets
Fasteners
Mechanical Rubber Components
Phono Connectors
Tube Sockets and Shields

AND MANY OTHERS

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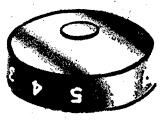
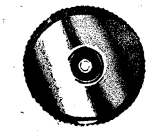
Gee-Lar RADIO AND TELEVISION KNOBS



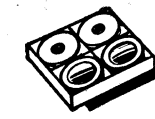
G-L #1220 FRONT CHANNEL KNOB
Plated gold finish inlay. 2½" dia. $\frac{25}{32}$" height. Fits .250" dia. shaft with .156" flat. Calibrated for Standard Tuner.
No. 1220 List $1.25

G-L #1225 REAR KNOB FOR #1220
2$\frac{5}{8}$" Dia. $\frac{3}{32}$" Height. Fits $\frac{3}{8}$" Dia. Shaft with .328" flat.
No. 1225 List $0.45

G-L #1230 FRONT KNOB OFF-ON, ETC.
Plated gold finish inlay. 2½" Dia. $\frac{25}{32}$" Height. Fits .187" Dia. Shaft with .156" flat.
No. 1230 List $1.10



G-L #1235 REAR KNOB FOR #1230
2$\frac{5}{8}$" Dia. $\frac{3}{16}$" Height. Fit .256" Dia. Shaft with .234" flat.
No. 1235 List $0.45

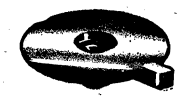


G-L #1240 TV KNOB SET
Complete set of four TV knobs at left. Boxed. Color, walnut only. For Standard Tuners.
No. 1240 List $3.00

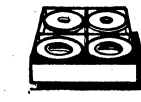
G-L #3460 FRONT CHANNEL KNOB
Plated gold finish inlay. 2$\frac{3}{8}$" Dia. $\frac{25}{32}$" Height. Fits .250" Dia. Shaft and .156" flat. Calibrated for Standard Tuner.
No. 3460 List $1.25

G-L #3465 REAR KNOB FOR #3460
2$\frac{9}{16}$" Dia. $\frac{3}{32}$" Height. Fits $\frac{3}{8}$" Dia. Shaft with .328" flat. Finger Tip Tuning.
No. 3465 List $0.45

G-L #3470 FRONT KNOB OFF-ON, ETC.
Plated gold finish inlay. 2$\frac{3}{8}$" Dia. $\frac{25}{32}$" Height. Fits .187" Dia. Shaft with .156" flat.
No. 3470 List $1.10



G-L #3475 REAR KNOB FOR #3470
2$\frac{9}{16}$" Dia. $\frac{3}{16}$" Height. Fits .265" Dia. Shaft with .324" flat. Finger Tip Tuning.
No. 3475 List $0.45



G-L #3480 KNOB SET
Complete set of four TV knobs at left. Boxed. Color, walnut only. For Standard Tuners.
No. 3480 List $3.00

GEE-LAR NEW GOLD METAL INLAY RADIO KNOBS

Beautiful, Modern Knobs — To Replace Knurl Type Knobs

TENITE PLATED GOLD INLAY
2$\frac{1}{8}$" Dia. ½" H. Fits ¼" Shaft.
No. 1540 List $0.50
Knurl Type

TENITE PLATED GOLD INLAY
1$\frac{5}{8}$" Dia. ½" H. Fits ¼" Shaft
No. 1541 List $0.40
Knurl Type
No. 1541S List $0.45
Spring Type
Walnut Only

TENITE PLATED GOLD INLAY
1½" Dia. ½" H. Fits ¼" Shaft.
No. 1542 List $0.38
Knurl Type
No. 1542S List $0.40
Spring Type
Walnut Only

TENITE PLATED GOLD INLAY
1¼" Dia. ½" H. Fits ¼" Shaft.
No. 1543 List $0.35
Knurl Type
No. 1543S List $0.40
Spring Type
Walnut or Ivory

TENITE PLATED GOLD INLAY
1" Dia. $\frac{5}{8}$" Height. Fits ¼" Shaft.
No. 1544 List $0.30
Knurl Type
No. 1544S List $0.35
Spring Type
Walnut or Ivory

TENITE PLATED GOLD INLAY
1" Dia. ½" Height. Fits ¼" Shaft.
No. 1545 List $0.28
Knurl Type
No. 1545S List $0.30
Spring Type
Walnut or Ivory

TENITE PLATED GOLD INLAY
1" Dia. $\frac{3}{8}$" Height. Fits ¼" Shaft.
No. 1546 List $0.28
Knurl Type
No. 1546S List $0.30
Spring Type
Walnut or Ivory

TENITE PLATED GOLD INLAY
¾" Dia. $\frac{3}{8}$" Height. Fits ¼" Shaft.
No. 1547 List $0.26
Knurl Type
No. 1547S List $0.30
Spring Type
Walnut or Ivory

INSTRUMENT KNOBS

All Knobs are Set Screw Type with Brass Inserts for ¼" Shafts. Black only.

No. 580SS List $0.70
Dia. 1⅛", H. ⅝", ¾" Pointer.

No. 590SS List $0.77
Dia. 1⅜", H. $\frac{11}{16}$", 1$\frac{1}{16}$" Pointer.

No. 600SS List $0.88
Dia. 1⅝", H. ¾", 1$\frac{3}{16}$" Pointer.

No. 610SS List $1.10
Dia. 2⅜", H. ⅞", 1$\frac{9}{16}$" Pointer.

No. 620SS List $0.72
Dia. 1⅛", H. $\frac{13}{16}$", 1½" Skirt.
No. 625SS List $0.72
Dia. 1⅛", H. $\frac{13}{16}$", 1¾" Skirt.
No. 630SS List $0.72
Dia. 1⅜", H. ⅞", 1½" Skirt.
No. 635SS List $0.72
Dia. 1⅜", H. ⅞", 1¾" Skirt.
No. 640SS List $0.94
Dia. 1⅝", H. $\frac{29}{32}$", 2$\frac{1}{16}$" Skirt.
No. 650SS List $1.10
Dia. 2⅜", H. 1$\frac{1}{32}$", 3" Skirt.

No. 660SS List $0.38
Dia. 1⅛", H. ⅝".

No. 670SS List $0.44
Dia. 1⅜", H. $\frac{11}{16}$".

No. 680SS List $0.55
Dia. 1⅝", H. ¾".

No. 690SS List $0.83
Dia. 2⅜", H. ⅞".

No Brass Inserts

No. 700SS List $0.28
Skirt Dia. 1¾", H. ¾". Set Screw Type.

No. 710SS List $0.28
Skirt Dia. 1½", H. ¾". Set Screw Type.

Gee-Lar AUTOMOBILE RADIO KNOBS

To fit ¼" Shafts; 3/16" Bushings to Accommodate 3/16" Shafts included.

Tenite
No. 780SS List $0.40
Dia. ⅞", H. $\frac{9}{16}$" Set Screw Type

Tenite
No. 790SS List $0.40
Dia. ⅞", H. $\frac{9}{16}$" Set Screw Type

Tenite
No. 800SS List $0.40
D. ⅞", H. ⅞" Set Screw Type

Tenite
No. 810SS List $0.40
Dia. $\frac{13}{16}$", H. $\frac{11}{16}$" Set Screw Type

Tenite
No. 820SS List $0.45
D. 1$\frac{9}{16}$", H. ½" Set Screw Type

Tenite
No. 854SS List $0.45
Chrome Inlay Black Color
D. ⅞", H. $\frac{29}{32}$" Set Screw Type

Tenite
No. 830SS List $0.40
D. $\frac{13}{16}$", H. ⅞" Set Screw Type

Tenite
No. 840SS List $0.40
D. $\frac{11}{16}$", H. ⅝" Set Screw Type

Tenite
No. 850SS List $0.40
D. ¾", H. ½" Set Screw Type

Chrome Plated Metal Knob
No. 851SS List $0.35
D. ½", H. ¾" Set Screw Type

Tenite
No. 852SS List $0.35
D. $\frac{13}{16}$", H. ⅞" Set Screw Type

G-L Reducing Bushings
To reduce from ¼" to $\frac{3}{16}$" size shafts.
No. 853-E List $0.44
Env. 8
853-G $7.15
Box 144

All Knobs for ¼" Shafts. Distributor's Standard Package 12 Knobs of a Type to a Box.

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Gee-Lar TELEVISION KNOBS

Knobs for Sets using dual controls and tuners made by Standard Coil, Sarkis-Tarzian, RCA, Leonard and others. Also TV Sets such as RCA, Leonard, Bendix, Westinghouse, Admiral, Hoffman, Packard-Bell, etc. Walnut pattern knobs with plated gold finish inlay on face of knobs.

G-L FRONT DUAL CONTROL KNOB

$1\frac{5}{16}$" O.D. Used with rear knob No. 1205 and others.

No. 1202 List $0.45
Fits ¼" Knurl Shaft

No. 1203 List $0.50
Fits ¼" Flatted Shaft

No. 1204 List $0.50
Fits .202" Flatted Shaft

G-L REAR DUAL CONTROL KNOB

$1\frac{5}{8}$" diameter. For standard .265" diameter rear keyway shaft. Used as mate to front dual control knobs.

No. 1205 Rear Knob List $0.28

G-L COMBINATION DUAL KNOB

Dual dummy type knob. Front and rear dual knob combined into one for matching on cabinet. $1\frac{5}{8}$" diameter. Fits ¼" flatted shaft.

No. 1206 List $0.75
Combination Dummy Knob

G-L DUAL TUNER BAR KNOB

Front bar knob for use on dual controls and tuners. 2" length. Can be used in combination with knob No. 1208 and others. Fits ¼" diameter flat shaft.

No. 1207 Bar Knob List $0.90

G-L REAR DUAL TUNER KNOB

For dual tuners and controls. Used with No. 1207 knob and others. $1\frac{5}{32}$" diameter. For standard ⅜" diameter rear flat shaft.

No. 1208 List $0.28
Rear Dual Knob

G-L CHANNEL INDICATOR PLATE

Used on sets using radio condenser TV tuner, etc. For Sparton, Farnsworth, Sonora, Meck, etc. Matches knobs listed above. Fits standard ⅜" diameter rear flat shaft.

No. 1209 List $0.75
Channel Indicator Plate

G-L FRONT CHANNEL KNOB

Front dual control knob used on channel tuners and controls for Motorola, Hallicrafters, Stromberg-Carlson, etc., and sets using Chicago Telephone tuner. $1\frac{3}{8}$" diameter. Fits .202" diameter flat shaft.

No. 1210 List $0.22
Front Knob

G-L REAR CHANNEL KNOB

Rear dual control knob. Walnut. Mate to No. 1210. Center hole for .265" rear keyway shaft. $1\frac{1}{4}$" diameter.

No. 1211 Rear Knob List $0.22

G-L COMBINATION DUAL DUMMY KNOB

A combination of knobs Nos. 1210 and 1211. Used to match cabinet design on single control. $1\frac{1}{4}$" diameter at base. Fits on ¼" knurled shaft.

No. 1213 List $0.45
Combination Knob

G-L TELEVISION KNOB SPRINGS

Necessary replacement springs for use on television knobs. Special sizes of springs not regularly used on older type radios.

No.		List
Type A - Fits small .202" dia. flat shaft.		
1214-G	Gross	$5.05
1214-M	1000	30.25
Type B - Fits ⅜" diameter flat shaft.		
1215-G	Gross	$4.10
1215-M	1000	24.75

NEW TV KNOBS TO FIT RCA SETS AND OTHERS

Sturdy and Substantial Knobs Combined with Beauty for Lasting Performance

G-L FRONT DUAL BAR POINTER CHANNEL KNOB

Push-on type to fit standard ¼" shaft flatted to .156", complete with spring. Flat adjacent to pointer.

No. 3600 List $0.50
Bar Pointer

G-L REAR CHANNEL KNOB FOR #3600

Push-on type to fit ⅜" shaft flatted to .327". Complete with spring.

No. 3601 List $0.45
Rear Knob

G-L FRONT KNOB OFF-ON-VOLUME, ETC.

Push-on type to fit $\frac{5}{16}$" shaft flatted to .156". Complete with spring.

No. 3602 List $0.25
Front Knob

G-L REAR KNOB FOR #3602

Push-on type to fit 17/64" shaft flatted to .237". Complete with spring.

No. 3603 List $0.45
Rear Knob

G-L #3604 TV KNOB SET

Set of 4 TV knobs at left, boxed. Color, brown only.

No. 3604 List $1.65
Complete Set

POINTER KNOBS TO FIT STANDARD ¼" SHAFTS

Distributors' Standard Package — 12 Knobs of a Type to a Box — Set Screw Type Except Where Noted

Dia. 1" Ht. $\frac{7}{16}$"

No.	Tenite	List
860	Knurl Type	$0.13
860SS		$0.17

Walnut or Ivory

Dia. $\frac{23}{32}$" Ht. $\frac{13}{32}$"

No.	Tenite	List
870	Knurl Type	$0.13
870SS		$0.15

Walnut or Ivory

Dia. $\frac{15}{16}$" Ht. $\frac{7}{16}$"

No.	Tenite	List
880	Knurl Type	$0.13
880S	Spring Type	$0.13

Walnut or Ivory

Dia. 1 ¼" Ht. $\frac{5}{8}$"

No.	Bakelite	List
890SS		$0.20

Black, Walnut, Red, Ivory

Dia. $\frac{13}{16}$" Ht. ¾"

No.	Bakelite	List
900SS		$0.17

Walnut or Black

Dia. 1 ¼" Ht. $\frac{9}{16}$"

No.	Tenite	List
910SS		$0.33

Walnut, Blk., Red, White

Dia. 1 ¼" Ht. $\frac{5}{16}$"

No.	Bakelite	List
920SS		$0.33

Walnut or White

Dia. 1 ¼" Ht. $\frac{9}{16}$"

No.	Bakelite	List
930SS		$0.33

Walnut or White

Dia. 1 ¼" Ht. $\frac{11}{16}$"

No.	Bakelite	List
940SS		$0.22

Walnut, Black, Red or Ivory

Dia. 2 ¼" Ht. $\frac{11}{16}$"

No.	Bakelite	List
950SS		$0.30

Walnut, Black, Red or Ivory

Dia. $\frac{11}{16}$" Ht. $\frac{13}{32}$"

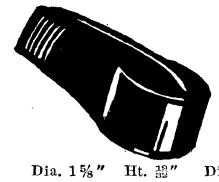
No.	Bakelite	List
960SS		$0.17

Walnut, Black, Red or Ivory

Dia. 2 ½" Ht. $\frac{5}{8}$"

Brass Insert
Black or Walnut

No.	Bakelite	List
970SS		$0.28
970ASS	Plain ¼" Hole	$0.38



Dia. 1 ⅝" Ht. $\frac{39}{32}$"

No.	Bakelite	List
980SS		$0.20

Plain ¼" Hole
Black or Walnut

Dia. 1 ¼" Ht. $\frac{9}{16}$"

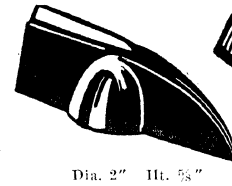
No.		List
990SS		$0.21

Bakelite
Plain ¼" Hole
Black, Walnut, Red or Ivory

Dia. 1 ¼" Ht. ⅝"

No.		List
1000SS		$0.22

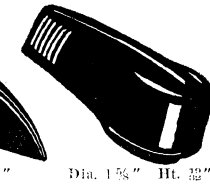
Bakelite
Black, Walnut, Red or Ivory



Dia. 2" Ht. $\frac{5}{8}$"

No.	Bakelite	List
1010SS	¼" Hole	$0.33
1020SS	¼" Hole	$0.46

Brass Insert
Black, Walnut, Red, Ivory



Dia. 1 ⅝" Ht. $\frac{39}{32}$"

No.		List
1030SS		$0.33

Bakelite
Brass Insert
Black or Walnut

Dia. 1 ¼" Ht. ⅝"

No.		List
1040SS		$0.29

Bakelite
Metal Insert
Black or Walnut

Dia. 1 ¼" Ht. ⅝"

No.		List
1050SS		$0.31

Bakelite
Brass Insert
Black, Walnut, Red or Ivory

Gee-Lar RADIO KNOB KITS

No.		List
1250	Assmt. "A" Contents: 36 Asstd. Knurled Type	$4.35
1251	Assmt. "B" Contents: 30 Asstd. Spring Type	4.35
1252	Assmt. "C" Contents: 26 Asstd. Set Screw Type	4.35
1253	Assmt. "D" Contents: 12 Asstd. Auto Radio with Brass Bushings and Reducing Bushings for $\frac{3}{16}$" Shaft	4.35
1254	Assmt. "E" Contents: 30 Asstd. as follows: 10 Set Screw, 10 Spring Type, 10 Knurled Type	$4.35
1255	Assmt. "F" Contents: 50 Asstd. Push Buttons	4.35
1256	Assmt. "H" Contents: 24 Asstd. Pointer and Bar Set Screw Knobs	4.35

All Knobs for ¼" Shafts — Distributors' Standard Package—12 Knobs of a Type to a Box.

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Gee-Lar RADIO AND TELEVISION KNOBS

Dia. 1 1/8" Ht. 1/2"

No. Tenite List
10 Knurl Type $0.13
10S Spring Type $0.15
10SS $0.17
Set Screw Type
Walnut or Ivory

Dia. 3/4" Ht. 3/4"

No. Tenite List
20 Knurl Type $0.13
Walnut or Ivory

Dia. 1" Ht. 7/16"

No. Tenite List
30 Knurl Type $0.13
30S Spring Type $0.13
30SS $0.17
Set Screw Type
Walnut or Ivory

Dia. 23/32" Ht. 13/32"

No. Tenite List
40 Knurl Type $0.13
40SS $0.15
Walnut or Ivory

Dia. 15/16" Ht. 7/16"

No. Tenite List
50 Knurl Type $0.13
50S Spring Type $0.13
Walnut or Ivory

Dia. 15/16" Ht. 7/16"

No. Tenite List
60 Knurl Type $0.13
Walnut or Ivory
1/2" Shank Extension

Dia. 3/4" Ht. 1/2"

No. Tenite List
70 Knurl Type $0.13
70SS $0.15
Set Screw Type
Walnut or Ivory

Dia. 15/16" Ht. 7/16"

No. Tenite List
80 Knurl Type $0.13
Walnut or Ivory

Dia. 15/16" Ht. 7/16"

No. Tenite List
90 Knurl Type $0.13
90S Spring Type $0.13
Walnut or Ivory

Dia. 11/16" Ht. 7/16"

No. Tenite List
100 Knurl Type $0.13
1/8" Shank Only
Walnut or Ivory

Dia. 1 1/16" Ht. 7/16"

No. Tenite List
110 Knurl Type $0.13
110S Spring Type $0.15
110SS $0.17
Set Screw Type
Walnut or Ivory

Dia. 1 1/16" Ht. 7/16"

No. Tenite List
120 Knurl Type $0.13
Walnut or Ivory
1/4" Shank Extension

Dia. 11/16" Ht. 25/64"

No. Tenite List
130 Knurl Type $0.13
130S Spring Type $0.15
Walnut or Ivory

Dia. 1 1/4" Ht. 5/16"

No. Tenite List
140 Knurl Type $0.15
140S Spring Type $0.17
140SS $0.20
Set Screw Type
Walnut or Ivory

Dia. 1 1/4" Ht. 9/32"

No. Tenite List
150 Knurl Type $0.15
Walnut or Ivory
1/2" Shank Extension

Dia. 1 1/8" Ht. 11/16"

No. Tenite List
165 Knurl Type $0.13
Crystal Clear

Dia. 11/16" Ht. 33/64"

No. Bakelite List
170SS $0.17
Set Screw Type
171SS $0.23
Set Screw Type w. Arrow
Walnut, Blk., Red, Ivory

Dia. 1" Ht. 1/2"

No. Bakelite List
175SS $0.22
Set Screw Type
Walnut, Black, Red
or Ivory

Dia. 15/16" Ht. 7/16"

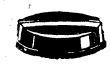
No. Bakelite List
180 Knurl Type $0.13
Walnut Only

Dia. 11/16" Ht. 7/16"

No. Tenite List
200 Knurl Type $0.13
200SS $0.15
Set Screw Type
Walnut or Ivory

Dia. 3/4" Ht. 11/32"

No. Bakelite List
210SS $0.15
Set Screw Type
Walnut, Black or Ivory


Dia. 1 1/4" Ht. 11/32"

No. Tenite List
220 Knurl Type $0.13
Walnut or Ivory
1/4" Shank Extension

Dia. 1" Ht. 7/16"

No. Tenite List
230 Knurl Type $0.13
Walnut or Ivory
1/4" Shank Extension

Dia. 3/4" Ht. 7/16"

No. Tenite List
240 Knurl Type $0.13
240SS $0.15
Set Screw Type
Walnut or Ivory

Dia. 3/4" Ht. 7/16"

No. Tenite List
250 Knurl Type $0.13
Walnut or Ivory
1/2" Shank Extension

Dia. 15/16" Ht. 5/8"

No. Tenite List
270 Knurl Type $0.13
Walnut or Ivory
1/2" Shank Extension

Dia. 1 3/16" Ht. 1/2"

No. Tenite List
280 Knurl Type $0.13
Walnut or Ivory

Dia. 1 3/16" Ht. 1/2"

No. Tenite List
290 Knurl Type $0.13
Walnut or Ivory
1/4" Shank Extension

Dia. 1 1/16" Ht. 1/2"

No. Tenite List
300 Knurl Type $0.13
300S Spring Type $0.15
Walnut or Ivory

Dia. 1" Ht. 7/16"

No. Tenite List
310 Knurl Type $0.13
Walnut or Ivory

Dia. 1 3/8" Ht. 7/16"

No. Tenite List
320 $0.13
Knurl Type
Walnut or Ivory

Dia. 1" Ht. 5/8"

No. Tenite List
330 $0.13
Knurl Type
Walnut or Ivory

Dia. 1 3/4" Ht. 7/16"

No. Tenite List
340 $0.15
Knurl Type
Walnut or Ivory

Dia. 1 5/8" Ht. 1/2"

No. Tenite List
350 $0.13
Knurl Type
350S $0.15
Spring Type
Walnut or Ivory

Dia. 3/4" Ht. 3/4"

No. Bakelite List
360 $0.13
Knurl Type
360S $0.13
Spring Type
360SS $0.15
Set Screw Type
Walnut, Black
or Ivory

Dia. 7/8" Ht. 7/8"

No. Bakelite List
370 $0.15
Knurl Type
370S $0.15
Spring Type
370SS $0.17
Walnut, Black
or Ivory

Dia. 7/8" Ht. 1/2"

No. Bakelite List
380SS $0.17
Set Screw Type
Walnut, Black
or Ivory

Dia. 15/16" Ht. 7/16"

No. Tenite List
390 $0.13
Knurl Type
Walnut or Ivory

Dia. 7/8" Ht. 1"

Tenite Needle Cups
No. List
400 $0.11
Per 1000 $77.00
Walnut

Dia. 1 3/8" Ht. 11/16"

No. Bakelite List
410SS $0.33
Set Screw Type
Walnut or Ivory

Dia. 1 3/4" Ht. 3/4"

No. Bakelite List
420SS $0.33
Molded Hole
420BSS $0.46
Brass Insert
Set Screw Type
Black or Walnut

Dia. 1 1/2" Ht. 3/4"

No. Bakelite List
430SS $0.33
Molded Hole
430BSS $0.38
Brass Insert
Set Screw Type
Black or Walnut

Dia. 1 1/4" Ht. 5/8"

No. Bakelite List
440SS $0.28
Molded Hole
440BSS $0.38
Brass Insert
Set Screw Type
Black or Walnut

Dia. 1 1/16" Ht. 9/16"

No. Bakelite List
450SS $0.20
Set Screw Type
Walnut or Ivory

Dia. 1" Ht. 7/16"

No. Bakelite List
460SS $0.20
Set Screw Type
Walnut or Ivory

Dia. 15/16" Ht. 7/16"

No. Bakelite List
470SS $0.18
Set Screw Type
Walnut or Ivory

Dia. 1 3/16" Ht. 7/16"

No. Bakelite List
480SS $0.20
Set Screw Type
Walnut or Ivory

Dia. 1" Ht. 7/16"

No. Bakelite List
490SS $0.20
Set Screw Type
Walnut or Ivory

Dia. 1 1/4" Ht. 3/4"

No. Tenite List
495 $0.15
Knurl Type
Ivory Only
1/4" Shank Ext.

Dia. 1" Ht. 11/32"

No. Tenite List
510 $0.13
Knurl Type
Walnut or Ivory

Dia. 1" Ht. 11/16"

No. Tenite List
520 $0.13
Knurl Type
520S $0.15
Spring Type
Walnut or Ivory

Dia. 1 3/16" Ht. 1/2"

No. Tenite List
530 $0.13
Knurl Type
Walnut or Ivory

Dia. 7/8" Ht. 5/8"

No. Bakelite List
531SS $0.20
Set Screw Type
Walnut or Ivory

Dia. 7/8" Ht. 5/8"

No. Bakelite List
532SS $0.20
Set Screw Type
Walnut or Ivory

Dia. 2 3/4" Ht. 3/8"

Tenite Dial Knob
No. Walnut List
560 $0.22
1/4" Shank Exten-
sion to fit 1/4"
Knurl Shaft

Dia. 1 3/4" Ht. 7/8"

No. List
533SS $0.55
Set Screw Type
Black Bakelite with
molded white
arrow, brass
bushing

Dia. 1" Ht. 7/16"

No. Bakelite List
534SS $0.20
Set Screw Type
Walnut or Ivory

Dia. 3/4" Ht. 7/16"

No. Bakelite List
536SS $0.20
Set Screw Type
Walnut or Ivory

All Knobs for 1/4" Shafts — Distributors' Standard Package 12 Knobs of a Type to a Box

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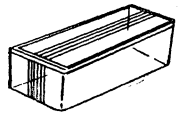
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

Gee-Lar RADIO AND TELEVISION PRODUCTS

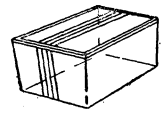
GEE-LAR PLASTIC BOXES — MADE OF CLEAR, TRANSPARENT, RIGID PLASTIC



GEE-LAR PLASTIC BOX

Handy box for all types of parts, knobs, condensers, controls, etc. Keep everything handy on the shelf. Supplied with cover. Size: 4" x 4" x 2½" deep.

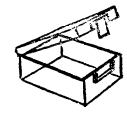
No.		List
3650	Plastic Box	$0.60



GEE-LAR STOCK BOX

Handy box for servicemen's bench, shelves. Also used for jobbers' display shelves. Ideal for displaying knobs, resistors, condensers, etc. Supplied with cover. Size: 4" x 8" x 2½" deep.

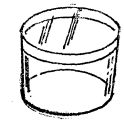
No.		List
3651	Plastic Box	$1.20



GEE-LAR MIDGET BOX

Ideal plastic box for small screws, nuts, springs, grommets and other small essential parts. Hinged cover with snap on lock. Handy to carry in your tool kit or for the work bench. Size: 2½" x 1¼" x ¾" deep.

No.		List
3693	Plastic Box	$0.12



GEE-LAR BENCH BOX

Handy round container for holding small parts on the bench while working on the set. Keeps parts from getting lost. Supplied with cover. Size: 5¼" dia. x 5⅛" deep.

No.		List
3653	Bench Box	$1.25

GEE-LAR PARTITION BOX

Handy box with 12 sections and a hinged cover. Keeps all small parts such as screws, nuts, springs, etc. just where you can find them. Handy to carry with you. Size: 7" x 3½" x 1⅛".

No.		List
3654	Partition Box	$1.65

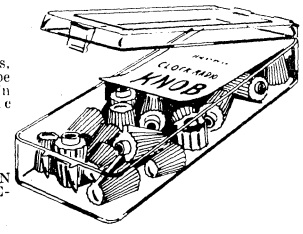
NEW GEE-LAR CLOCK-RADIO KNOBS

CLOCK-RADIO KNOB KIT

Assortment of 25 knobs, all colors to fit any type of shaft. Packed in convenient plastic storage box.

Kit No. 1630
List $3.75

KEEP A KIT ON HAND FOR ALL REPLACEMENTS.



INDIVIDUAL CLOCK-RADIO KNOBS

METAL JACKET GOLD TYPE
(Double Barrier)

No. 1585 List $0.35
(Packed 10 to Plastic Box)

Colored Plastic
(Single Barrier)

No.		List
1600	25 Asst.	$3.75
1601	Brown, ea.	.15
1602	Ivory, ea.	.15
1603	Red, ea.	.15
1604	White, ea.	.15
1605	Blue, ea.	.15
1606	Green, ea.	.15

Colored Plastic
(Spring Type)

No.		List
1610	25 Asst.	6.25
1611	Brown, ea.	.25
1612	Ivory, ea.	.25
1613	Red, ea.	.25
1614	White, ea.	.25
1615	Blue, ea.	.25
1616	Green, ea.	.25

Colored Plastic
(Double Barrier)

No.		List
1620	25 Asst.	3.75
1621	Brown, ea.	.15
1622	Ivory, ea.	.15
1623	Red, ea.	.15
1624	White, ea.	.15
1625	Blue, ea.	.15
1626	Green, ea.	.15

Individual colors packed 10 per box.

ASSORTED RADIO KNOBS

A plastic bag containing 35 assorted popular knobs, knurl, spring and set screw types.

No.		List
1200	Kit	$1.65

MARKED RADIO KNOBS

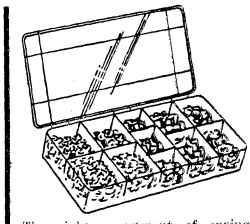
Another plastic bag kit containing 50 assorted marked radio knobs. They include volume, off, tune, etc.

No.		List
1201	Kit	$1.65

GEE-LAR PLASTIC TELEVISION PLIERS

Made of high-impact bakelite will stand high voltage. An insulated long nose plier that is absolutely shock proof. Handy in picking up nuts and bolts or parts when set is "hot."

No.		List
3689	Plastic Pliers	$1.65
3689-D	Display of 12	19.80

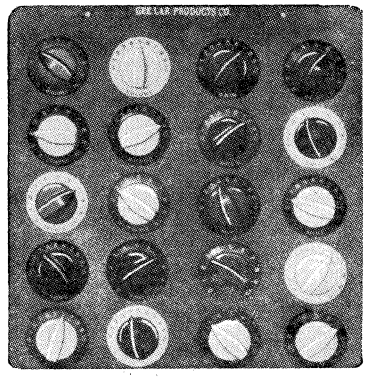


GEE-LAR TELEVISION AND RADIO KNOB SPRING KIT
Springs for New TV and Radio Knobs

The right assortment of springs for the serviceman. Over 12 different knob springs for all types of knobs. Plastic box 7" x 3½" x 1⅛", with hinge covers.

No.		List
3658	100 Springs, Plastic Box	$3.50

KNOB AND PLATE COMBINATIONS



JOBBERS' DISPLAY BOARD #905

Display board is made up of modern knob and plate combinations in various colors.

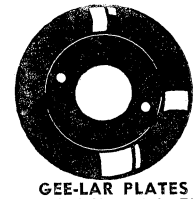
No. 905 — List $16.00

Knob and Plate Display Board, Complete with Knobs

JOBBERS' KNOB AND PLATE — STOCK DEAL WITH DISPLAY BOARD — DEAL #906

A starting stock deal that gives you a display board and assorted plates and knobs in various colors. All knobs packaged in marked boxes for easy stocking.

Deal Includes:	List
125 Assorted Marked Plates — 55¢ ea.	$ 68.75
125 Assorted Color Knobs for Plates — 33¢ ea.	41.25
1 Display Board with 20 Knobs and 20 Plates	16.00
Deal No. 906	126.00



GEE-LAR PLATES ARE AVAILABLE IN THE FOLLOWING MARKINGS:

Permanently Heat-Stamped in Either 180° or 270° — Volume, Treble, Phono, Gain, Mike, Tone, Bass. Special wording available on payment of special stamping die charges.

NOT MARKED PLATE ONLY

Bakelite, Dia. 1⅞", Ht. 3/32". Colors: Red, White, Black, Walnut.

No.		List
1060	Plain Plate (Specify Color)	$0.33

180° MARKED PLATE ONLY

Bakelite, Dia. 1⅞", Ht. 3/32". Colors: Red, White, Black, Walnut.

No.		List
1070	180° Plate (Specify Color and Marking Wanted)	$0.55

270° MARKED PLATE ONLY

Bakelite, Dia. 1⅞", Ht. 3/32". Colors: Red, White, Black, Walnut.

No.		List
1080	270° Plate (Specify Color and Marking Wanted)	$0.55

Dia. 1¼" Ht. 9/16"

MATCHING POINTER KNOB FOR PLATES

Bakelite, to fit all plates. Colors: Red, White, Black, Walnut.

No.		List
910SS	Set Screw Type (Specify Color)	$0.33

Dia. 1¼" Ht. 9/16"

MATCHING TRI-GRIP POINTER FOR PLATES

Bakelite, to fit all plates. Colors: Black and Walnut.

No.		List
920SS	Set Screw Type (Specify Color)	$0.33

Dia. 1¼" Ht. 9/16"

MATCHING TWO-GRIP POINTER FOR PLATES

Bakelite, to fit all plates. Colors: Black and Walnut.

No.		List
930SS	Set Screw Type (Specify Color)	$0.33

All Knobs for ¼" Shafts — Distributors' Standard Package 12 Knobs of a Type to a Box

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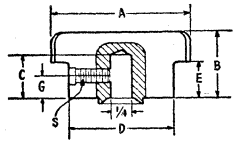
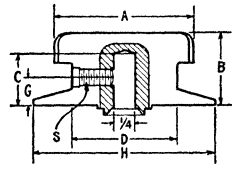
Instrument Knobs
Heavy Duty, Crank Handle, Dial and Spinner Knobs



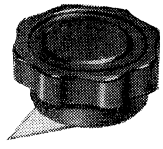
J-308, J-385, J-309, J-310, J-619

part no.	a	b	c	d	e	g	h	s
J-308	1⅛	⅝	7/16	13/16	11/32	7/32	—	# 8-32
J-385	1⅜	1 1/16	9/16	1 1/16	⅜	¼	—	#10-32
J-309	1⅝	¾	½	1 3/16	13/32	¼	—	#10-32
J-310	2⅜	⅞	41/64	1¾	7/16	¼	—	#10-32
J-619	1	⅝	7/16	¾	11/32	7/32	—	# 8-32
J-311	1⅝	⅞	41/64	1 3/16	—	⅜	2 1/16	#10-32
J-312	2⅜	1 5/16	41/64	1⅞	—	13/32	3	#10-32
J-380	1⅛	13/16	41/64	13/16	—	⅜	1½	#10-32
J-381	1⅜	27/32	41/64	⅞	—	⅜	1¾	#10-32



J-311, J-312, J-380, J-381

Molded of black phenolic plastic to Spec. MIL-P-14D (CFG). All knobs with heavy brass inserts to fit ¼" shaft, complete with two slotted-head setscrews @ 90°. (Socket-head available on special order.)

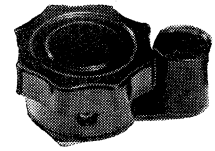


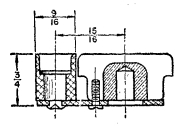
POINTER KNOBS — J-308-309-310-385, and 619 available with white vinylite or brass nickel plated pointers.

DIAL INDICATOR ASSEMBLIES—Dials available in 2", 2¾" and 4" diameters. Satin finish, heavy grade aluminum — or black anodized.

Readings clockwise or counter-clockwise.
O-100, 100-O, 180°, 270° and 360°. Can be assembled to J-309, 310, 385, 453, 648, 654, 311, 312, 380 and 381. *Specify knob and describe dial when ordering.*

CRANK HANDLE KNOB ASSEMBLIES
Crank handles are available in style shown; also in accordance with ASESA specification MS-91531. Made of Stainless steel or aluminum, black anodized. Assembled to J-309, 310, 311, 312, 380 and 654. *Specify crank handle style and knob when ordering.*





SPINNER KNOB— Handware made of heavy gauge aluminum, black anodized. Available on J-309 (assembly #J-8133), 385 (assembly #J-8132).

J-8132 and J-8133

Colors and variations on request. Write for catalog #106.

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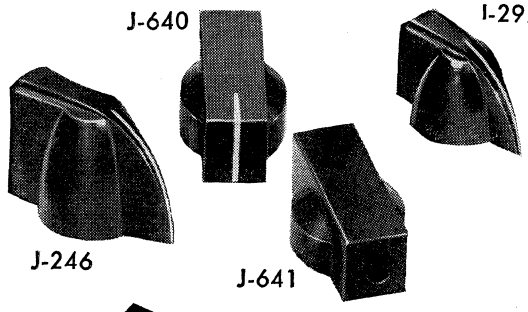
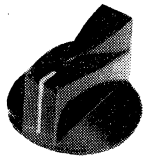
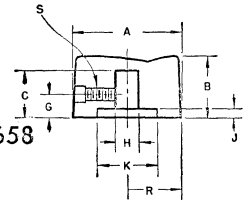
Standard Parts Division — Dayton 1, Ohio

POINTER and BAR KNOBS





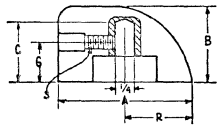


part no.	a	b	c	g	j	k	r	s
*J-292	1¼	⅝	½	9/32	3/32	⅝	⅝	#8-32
**J-246	1½	⅞	23/32	15/32	5/16	23/32	¾	#10-32
†J-626	1½	⅝	⅝	9/32	3/32	⅝	¾	#8-32
J-640	1¼	21/32	½	¼	3/32	⅝	⅝	#8-32
J-641	1¼	21/32	½	¼	3/32	⅝	⅝	#8-32
†J-658	1⅛	11/16	½	¼	3/32	⅝	9/16	#8-32

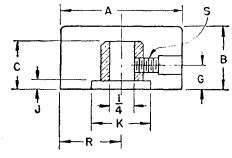
* Also supplied per spec. AN-3219-1

** Also supplied per spec. AN-3220-2-3

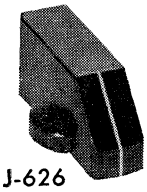
† J-626 and J-658 do not have inserts but are furnished with one slotted head setscrew. All other above knobs have brass bushings for ¼" shafts complete with one setscrew. All depressed indicator lines, where pictured, are paint-filled. Socket head setscrews on special order.



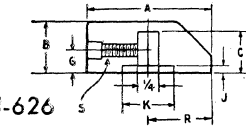
J-292 and J-246



J-640 and J-641



J-626

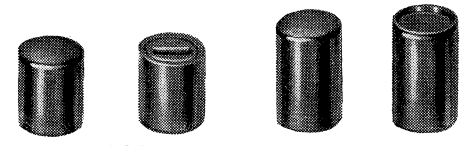


J-626

PUSH BUTTONS

part no.	Diameter	Height	Depth Hole
J-328	½	15/32	⅜ (tapered sides)
*J-332			
J-330	7/16	15/32	⅜
J-343	7/16	⅝	⅜
*J-345	7/16	⅝	⅜

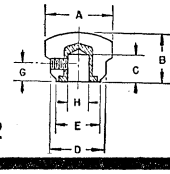
* Top recessed for selector tab. All flatted for .052" x 3/1 shaft—complete with spring.



J-330 J-343 J-345

TERMINAL NUTS

J-76 J-82 J-222



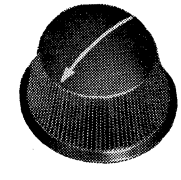
part no.	a	b	c	d	e	f	insert
J-76-3	¾	9/16	5/16	⅝	½	#10-32	Flanged
J-76-2	¾	9/16	5/16	⅝	½	8-32	Flanged
J-82-2	⅝	17/32	5/16	31/64	7/16	8-32	Flanged
J-222-2	½	7/16	9/32	⅜	—	8-32	No Flange

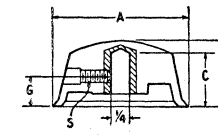
Terminal nuts furnished with threaded brass inserts—flanged or unflanged as indicated.

Miscellaneous Knobs

part no.	a	b	c	d	e	f	g	insert	s
J-76-18-CC-A	¾	9/16	—	⅝	½	⅛	—	flanged	#6-32
J-76-18-H-M	¾	9/16	—	⅝	½	3/16	—	flanged	#6-32
J-76-18-B-M	¾	9/16	—	⅝	½	¼	—	flanged	#6-32
J-82-18-CC-A	⅝	17/32	—	31/64	7/16	⅛	—	flanged	#6-32
J-82-18-H-M	⅝	17/32	—	31/64	7/16	3/16	—	flanged	#6-32
J-82-18-B-M	⅝	17/32	—	31/64	7/16	¼	—	flanged	#6-32
J-17	¾	9/16	7/16	—	—	—	15/64	flush	#8-32
J-18	1⅛	9/16	7/16	—	—	—	¼	dial	#8-32
J-230	1½	¾	⅝	—	—	—	11/32	flush	#8-32

J-76, 82, and 230, furnished with brass inserts and two slotted head setscrews. (Socket head furnished on special order). J-17 and J-18 with brass bushings to fit ¼" shaft complete with one slotted head setscrew. (Socket head on special order). Arrow does not appear on J-230.





J-17 J-18 J-230

Colors and variations on request.

Write for catalog #106

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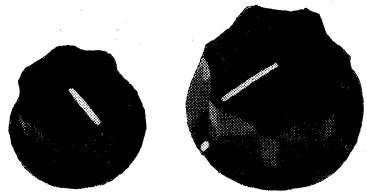
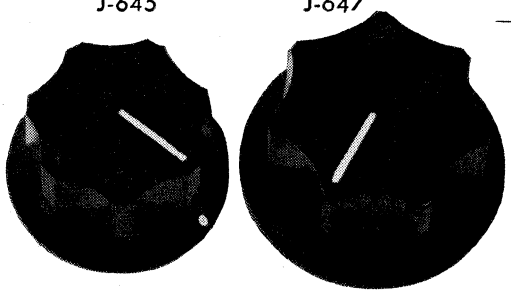
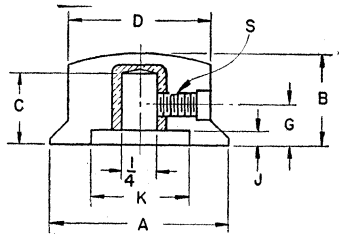
Instrument knobs
functional family series



J-645 J-647



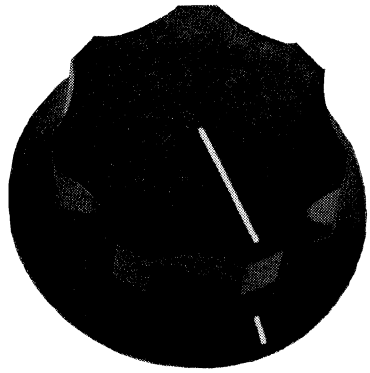
J-648 J-653



J-645, J-647, J-648, J-653, J-649, J-642, J-654

DIMENSION IN INCHES

part no.	a	b	c	d	g	j	k	r
J-645	3/4	7/16	3/8	5/8	1/4	1/16	9/16	
J-647	1	19/32	1/2	13/16	9/32	3/32	11/16	
J-648	1 1/4	21/32	1/2	1	9/32	3/32	11/16	
J-642	1 1/2	3/4	9/16	1 1/4	11/32	5/32	31/32	
J-653	1 1/2	3/4	9/16	1 1/4	11/32	5/32	31/32	
J-649	2	7/8	21/32	1 5/8	13/32	3/32	13/16	
J-654	2	7/8	21/32	1 5/8	13/32	3/32	13/16	
J-656	1	39/64	1/2	1	9/32	3/32	11/16	
J-657	1 1/8	5/8	1/2	—	1/4	3/32	11/16	9/16



J-649

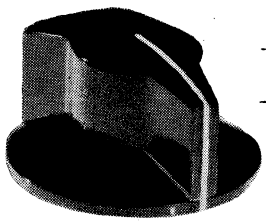
Knobs molded of black phenolic plastic to U. S. Gov't specifications MIL-P-14 (CFG).

All bushings are brass, flush type to fit 1/4" shafts. Knobs supplied with two slotted head setscrews 103° apart. Socket head setscrews available on special order.

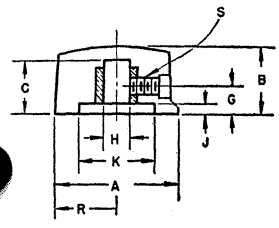
White filler in all depressed indicator lines. J-642 and J-654 furnished plain without depressed paint lines.

J-645 when used as top of dual control knob equipped with brass bushing for 1/8" shaft.

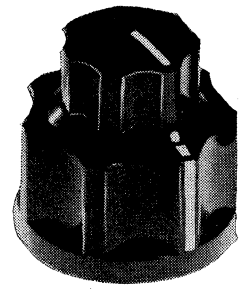
DUAL CONTROL



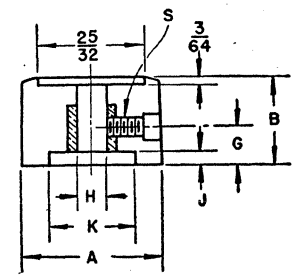
J-657



J-657



J-656 with J-645



J-656

(J-645 furnished with 1/8" shaft hole when used with dual control)

Colors and variations on request. **Write for catalog #106.**

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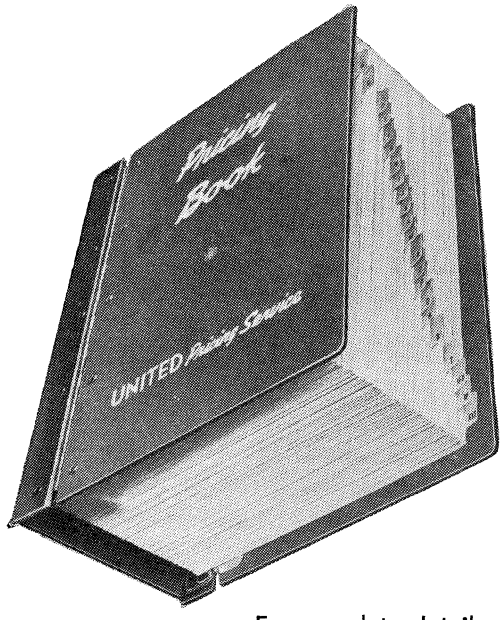

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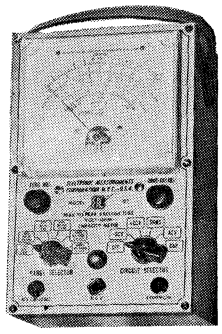


Accessory Probes Available

EMC MODEL 107
Peak-to-Peak Vacuum Tube Volt-Ohm-Capacity Meter

Directly measures capacity, resistance and complex waveforms peak to peak. This new multi-function meter contains an exclusive combination of features never before offered for less than $100. Expanded scale meter cannot burn out . . . measures capacity from 50 MMFD to 5000 MFD . . . inductance from 1.4 henries to 140,000 henries in 4 ranges . . . uses an electronic balanced push-pull circuit and peak to peak rectification . . . 1% multipliers for voltage capacity and resistance measurements . . . has zero center position for FM discriminator alignment.

SPECIFICATIONS:

PEAK TO PEAK AC VOLTAGES—6 RANGES: 0 to 4, 28, 84, 280, 840, 2800 volts. Input resistance 1.5 megohms.

AC RMS VOLTAGES—6 RANGES: 0 to 1.5, 10, 30, 100, 300, 1000 volts. Input resistance 1.5 megohms.

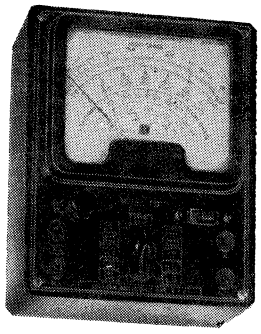
CAPACITY—6 RANGES: .00005 MFD to .005 MFD, .005 to .05, .005 to .5, .05 to 5, 5 to 500, 50 to 5000 MFD.

RESISTANCE—6 RANGES: 0-1000, 10,000, 1 meg, 10 MEG, 1000 MEGS, 10 MEGS center on 1000 MEGS range.

DC VOLTS—6 RANGES: 0 to 1.5, 10, 30, 100, 300, 1000 volts (up to 30,000 volts with accessory probe). Input resistance 16.5 megs or 1⅔ megohms per volt. 1 meg isolating resistor in probe.

DB RANGES: −24 DB to +55 DB in 5 ranges.

Model 107 Complete with Leads **$48.90**
Model 107 Kit Form **$34.50**



EMC MODEL 103
VOLOMETER*

EMC's economy line offers another accurate and efficient instrument housed in a molded-bakelite case. This model features a 4½ inch, accurate to within 2%—800 microamperes D'arsonval-type meter with three AC current ranges; and the same zero adjustment for both resistance ranges.

SPECIFICATIONS:

AC VOLTAGE—5 RANGES: 0 to 12-120-600-1200-3000 volts.

DC VOLTAGE—5 RANGES: 0 to 6-60-300-600-3000 volts.

FIVE DB RANGES: −4 to +64 DB.

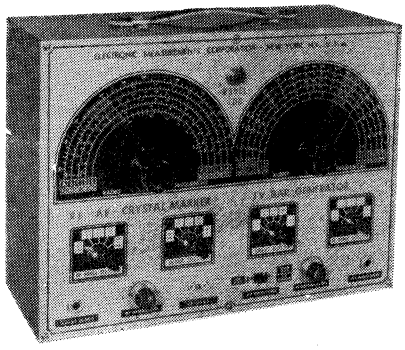
AC CURRENT—3 RANGES: 0 to 30-150-600 ma.

DC CURRENT—4 RANGES: 0 to 6-30-120 ma.: 0 to 1.2 amps.

TWO RESISTANCE RANGES: 0 to 1000 ohms, 0 to 1 megohms.

MODEL 103—Weight 2 lb. 3 oz. Size: 5¼" x 6¾" x 2⅞" **$18.75**
MODEL 103-S: with plastic carrying strap **19.25**

*Reg. trade mark for volt-ohm miliameter.

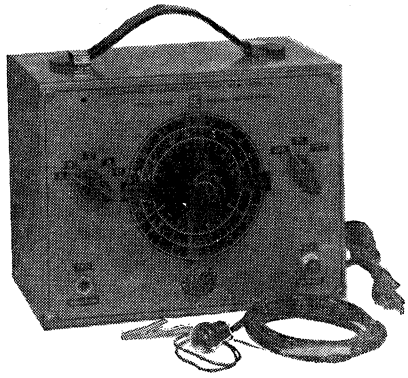


EMC MODEL 700
RF-AF-Crystal Marker — TV Bar — Generator

Only the EMC Model 700 gives you all of these outstanding features:

1. Complete coverage from 18 cycles to 108 megacycles on fundamentals.
2. Bar generator for TV adjustment with a variable number of bars available for horizontal or vertical alignment.
3. Square Wave Generator to 20 kilocycles.
4. Wien Bridge AF oscillator with sine wave output from 18 cycles to 300 kilocycles.
5. Crystal marker and amplitude control.
6. Individually tuned coils.
7. Constant RF output impedance.
8. Stepped RF attenuator.
9. Electrostatically shielded transformer.
10. Thorough shielding.
11. Colpitts RF oscillator from 300 KC to 108 megacycles on fundamentals — up to 216 megacycles on 2nd harmonic.
12. Variable percentage of modulation.

MODEL 700 ..... **$55.90**



EMC MODEL 501
R.F. Signal Generator

This precision-engineered instrument, recognized as the leader in its class, offers the following high quality features:

● Electrostatically shielded transformer. ● 400 cycle sine wave modulation covers range from 115 kc to 110 mc on fundamentals, and up to 220 mc on the first harmonic. ● 400 cycle sine wave variable depth output. ● Two-tone gray hammertone panel and case: 14" x 10" x 5".

MODEL 501 Illustrated **$37.90**

MODEL 501 In Kit Form **24.90**

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NEW YORK 12, N. Y.

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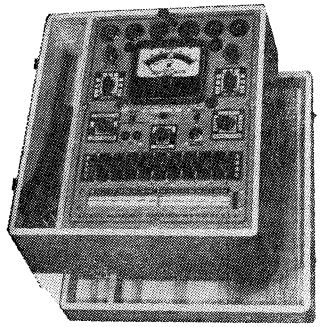
save MORE... service BETTER with EMC precision instruments



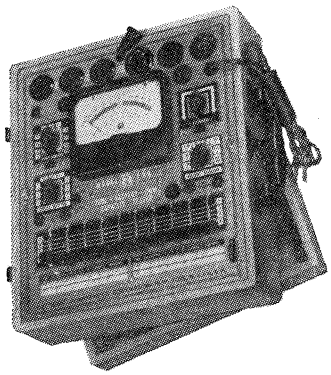
MUTUAL CONDUCTANCE TUBE TESTER EMC MODEL 206

This completely flexible model using lever-type switches offers extremely accurate results with ease of operation. It represents the finest in tube testing equipment at a price comparing favorably with emission-type testers.

CHECK THESE FEATURES:

● Checks mutual conductance on a calibrated micrombo and "reject-good" scale ● Checks 5 element tubes as pentodes ● Checks tubes for gas content ● Sufficient plate current to check both emission and mutual conductance ● Detects both shorted and open elements ● Complete switching flexibility allows all present and future tubes to be tested, regardless of location of elements on tube base ● Tests tubes for radio frequency and other noise ● Tests all tubes from .75 volts to 117 filament volts ● Tests all loctal, octal, and miniature tubes ● Tests cold cathode, magic eye, voltage regulator, ballast resistors ● Instrument fuse is easily replaced from panel front ● Individual sockets for each tube base type eliminates possible errors ● Checks individual sections of multi-purpose tubes ● Checks 9-prong miniature tubes ● Checks subminiature tubes ● Attractive four-color panel with durable hardwrinkle finish ● Built-in roll chart.

MODEL 206P—With hand-rubbed oak carrying case $83.50
MODEL 206C—Sloping counter case 79.50
MODEL CTA—Cathode ray tube adaptor for MODEL 206 ..... 6.50



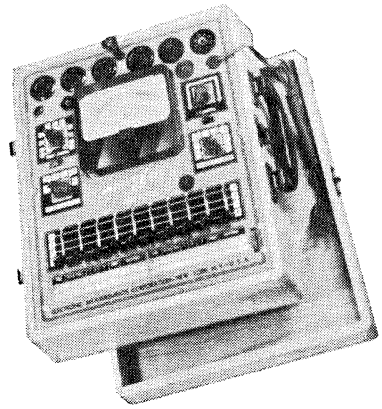
TUBE-BATTERY-OHM CAPACITY TESTER EMC MODEL 204

In this model EMC offers a durable, accurate instrument that gives easy, direct readings for all tubes through the standard emission method of testing. It uses four-position lever-type switches and is housed in a hand-rubbed, portable oak carrying case with removable hinged cover.

CHECK THESE FEATURES:

● Tests all tubes including Noval and subminiatures ● Completely flexible switching arrangement ● Checks batteries under rated load on "reject-good" scale ● Individual sockets for each type of tube base ● Tests all tubes from .75 volts to 117 filament volts ● Tests cold cathode, magic eye, voltage regulator and ballast tubes ● Has pilot light indicator ● Checks for shorts and leakages ● Line voltage control compensates for line variations between 105 and 135 volts ● Built-in roll chart protected by non-breakable transparent plastic ● Checks condenser leakage to 1 megohm ● Checks resistance up to 4 megohms ● Checks capacity from .01 to 1 mfd. ● Three color hammertone panel

MODEL 204C—Sloping counter case $54.90
MODEL 204P—With hand-rubbed oak carrying case (illustrated) 55.90
MODEL CRA—Cathode ray tube adaptor 4.50



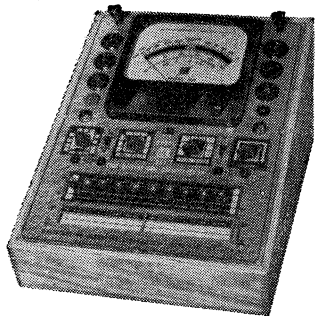
TUBE TESTER EMC MODEL 205

In this durable, accurate instrument EMC offers a model that gives easy, direct readings for all tubes through the standard emission method of testing. It uses four-position lever-type switches and is housed in either a hand-rubbed, portable oak carrying case with removable hinged cover; or in a sloping counter case.

CHECK THESE FEATURES:

● Tests all tubes including Noval and subminiatures ● Completely flexible switching arrangement ● Individual sockets for each type of tube base ● Tests all tubes from .75 volts to 117 filament volts ● Tests all cold cathode, magic eye, voltage regulator and ballast tubes ● Has pilot light indicator ● Line voltage control compensates for line variations between 105 and 135 volts ● Checks for shorts and leakages ● Three color hammertone panel

MODEL 205C—Sloping counter case $46.50
MODEL 205P—With hand-rubbed oak carrying case (illustrated) 47.50
MODEL CRA—Cathode ray tube adaptor 4.50



EMC MODEL 207

Tube-Battery-OHM-Capacity-Tester

Features large, easy to read, 7½" meter for counter use. In this model EMC offers a durable, accurate instrument that gives easy, direct readings for all tubes through the standard emission method of testing. It uses four-position lever-type switches and is housed in a hand-rubbed, portable oak carrying case with removable hinged cover.

CHECK THESE FEATURES:

● Tests all tubes including Noval and subminiatures ● Completely flexible switching arrangement ● Checks batteries under rated load on "reject-good" scale ● Individual sockets for each type of tube base ● Tests all tubes from .75 volts to 117 filament volts ● Tests all cold cathode, magic eye, voltage regulator and ballast tubes ● Has pilot light indicator ● Checks for shorts and leakages ● Line voltage control compensates for line variations between 105 and 135 volts ● Built-in roll chart protected by non-breakable transparent plastic ● Checks condenser leakage to 1 megohm ● Checks resistance up to 4 megohms ● Checks capacity from .01 to 1 mfd. ● Three color hammertone panel

MODEL 207C—Sloping counter case (illustrated) $65.90
MODEL 207P—Portable case, removable cover 69.50
MODEL CRA—Cathode ray tube adaptor 4.50

EMC

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FOR EMC'S COMPLETE LINE OF QUALITY TEST EQUIPMENT SEE PAGE G-97

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NOTES

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CAMDEN — WO 4-8383, WO 4-8393, WO 4-8394

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